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Mission Statement

We are dedicated to excellence in educating and training veterinarians and comparative biomedical scientists, furthering health care and wellness through discovery and clinical research, providing outstanding and compassionate medical care to a diverse range of animal patients, effectively engaging animal-owning public, government and industry partners, and providing leadership in integrating biomedical sciences to advance One Health.

Instructional Program

The Clinical Sciences faculty continued to provide key instructional offerings. In addition to acting as course coordinators for the courses in the list below, faculty also provide instruction in a number of other DVM and graduate courses.

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<td>Careers in Veterinary Medicine (VMC-910)</td>
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<td>Group Communication in Veterinary Medicine (VMC – 914)</td>
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<td>Introduction to Companion Animal Behavior (VMC-927)</td>
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<td>Principles of Surgery (VMC-932)</td>
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<td>Special Topics in Theriogenology (VMC - 941)</td>
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<td>Principles of Medicine (VMC - 942)</td>
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<td>Laboratory Animal and Zoological Species Health and Disease I (VMC - 943)</td>
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<td>Introduction to Clinical and Professional Communication (VMC - 944)</td>
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<tr>
<td>Companion Animal Medicine Surgery I (VMC-951)</td>
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<td>Equine Medicine &amp; Surgery (VMC-952)</td>
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<td>Introduction to Clinical Practice (VMC-957)</td>
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<td>Companion Animal Medicine and Surgery II (VMC-961)</td>
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<td>Advanced Principles of Surgery (VMC-965)</td>
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<td>HARDIE</td>
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<td>Advanced Equine Theriogenology (VMC-991)</td>
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<td>Advanced Companion Avian Medicine (VMC-991)</td>
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<td>Advanced Ferret Medicine (VMC - 991)</td>
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<td>Advanced Fish Medicine (VMC-991)</td>
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<td>Equine Colic (VMC-991)</td>
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<td>Equine Endoscopy (VMC-991)</td>
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<td>Extramural Experience in Lab Animal Medicine (VMC-992)</td>
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<td>Extramural Experience in Zoo Medicine (VMC-992)</td>
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<tr>
<td>Extramural: Live Oak Experience (VMC - 991)</td>
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<td>SNYDER</td>
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<td>Feline Oncology (VMC-991)</td>
<td>FALL</td>
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<td>Galápagos Zoology &amp; Medicine (VMC - 991)</td>
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<td>Health &amp; Safety in the Third World (VMC-991)</td>
<td>FALL</td>
<td>STOSKOPF/LOOMIS</td>
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<td>Invertebrate Medicine (VMC - 991)</td>
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<td>Lab Animal Medicine(VMC-991)</td>
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<tr>
<td>Large Animal Practice Experience (VMC-992)</td>
<td>FALL/SPRING</td>
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<td>COURSE NAME</td>
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<td>Marine Mammal (VMC - 991)</td>
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<td>Mindful Veterinary Practice (VMC-991)</td>
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<td>Primate Medicine (VMC - 991)</td>
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<td>Professional Meeting (VMC-991)</td>
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<td>Psychomotor Skills (VMC-991)</td>
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<td>Raptor Medicine and Rehabilitation (VMC-991)</td>
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<td>Small Animal Clinical Neurology (VMC-991)</td>
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<td>Small Animal Practice Experience (VMC-992)</td>
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<td>Small Animal Theriogenology (VMC - 991)</td>
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<td>Success in Veterinary Practice (VMC-992)</td>
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<td>Veterinary Acupuncture in China (VMC-992)</td>
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<td>Veterinary Medicine and Farriery (VMC-991)</td>
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<td>REDDING</td>
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<td>Veterinary Illustration (VMC-991)</td>
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<td>STOSKOPF</td>
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<td>Virtual Reality Clinic (VMC-991)</td>
<td>FALL</td>
<td>BIRKENHEUER/LUNN</td>
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<td><strong>ELECTIVES:</strong></td>
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<td>Applications in Reproductive Physiology (CBS - 711)</td>
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<td>Reproductive Management and Disease in Domestic Animals (CBS - 712)</td>
<td>SPRING</td>
<td>BAILEY</td>
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<tr>
<td>Special Topics in Theriogenology I (CBS-810)</td>
<td>FALL</td>
<td>BAILEY</td>
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<tr>
<td>Special Topics in Theriogenology II (CBS-810)</td>
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<tr>
<td>Advanced Topics in Zoological Medicine (CBS-817/818)</td>
<td>FALL/SPRING</td>
<td>KENNEDY-STOSKOPF</td>
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<td>Ethics in Fisheries &amp; Wildlife Sciences (FW-730)</td>
<td>FALL</td>
<td>STOSKOPF</td>
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<td>Advanced Topics in Equine Medicine &amp; Surgery (VMC-911)</td>
<td>SPRING</td>
<td>DAVIS</td>
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<td>Special Topics in Zoological Medicine (VMC - 921)</td>
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<td>Veterinary Acupuncture in China (elective) (VMC-922)</td>
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<td>Research in Zoological Health (VMC – 923)</td>
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<td>Chelonian Medicine &amp; Surgery (VMC-928)</td>
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<td><strong>CLINICAL ROTATIONS:</strong></td>
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<td>Rehabilitation and Mobility (VMC-930)</td>
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<td>DUNNING/SIMS</td>
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<td>General Limited Small Animal Practice (VMC-939)</td>
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<td>STEVENS/TAYLOR</td>
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<td>Clinical Theriogenology (VMC-940)</td>
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<td>Clinical Rotation in Veterinary Radiation Oncology (VMC-948)</td>
<td>FALL/SPRING</td>
<td>GIEGER</td>
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<td>Equine Primary Care (VMC-949)</td>
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<td>Sea Turtle Medicine &amp; Rehabilitation (VMC-950)</td>
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<td>HARRIS</td>
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<td>Companion Animal Medicine for Food Animal Students (VMC-954)</td>
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<td>Extramural Experiences in Laboratory Animal Medicine (VMC-955)</td>
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<td>Small Animal Emergency Service (VMC-960)</td>
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<td>MUSULIN</td>
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<td>Extramural Experiences in Zoological Medicine (VMC-963)</td>
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<td>Zoological Husbandry and Nutrition (VMC-964)</td>
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<td>Equine Emergency &amp; Critical Care (VMC-966)</td>
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<td>Clinical Veterinary Dentistry (VMC-967)</td>
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<td>Clinical Small Animal Veterinary Cardiology (VMC-972)</td>
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<td>ROE/RISSELADA</td>
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<td>Small Animal Orthopedic Surgery (VMC-973O)</td>
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<td>ROE/RISSELADA</td>
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<td>Equine General Surgery (VMC-975)</td>
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<td>Veterinary Critical Care (VMC-976)</td>
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<td>Veterinary Clinical Oncology (VMC-980)</td>
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<td>Dermatology (VMC-983)</td>
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<td>Introduction to Clinical Neurology(VMC-984)</td>
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<td>Advanced Companion Animal Internal Medicine (VMC-986)</td>
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<td>Exotic Animal Medicine (VMC-988)</td>
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<td>Zoological Medicine (VMC-989)</td>
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<td>Musculoskeletal Ultrasound in the Horse (VMC-990)</td>
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<td>Special Problems Equine Medicine &amp; Surgery (VMC-993)</td>
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Clinical Sciences Faculty Introduced a Number of Innovations in their courses:

Courses:

C. Adin - Developed a new instructional course in Healthcare Communications for house officers at the NCSU CVM. The course involved 3 evening sessions and included instruction from myself, Dr. Kedrowicz and Jeannine Moga on Disclosing Medical Errors, Competent communications techniques and End of life/sustainability issues.

In support of these communication skill training efforts, I also attended the FRANK communications course in Colorado, adding to my previous Bayer Communications training and giving me more experience in simulated client interactions. I have already taken back some of these ideas and incorporated them into student and HO instruction at NCSU.

Birkenheuer - New lectures for VMB 932, VMB 922, VMC 942

Bizikova - The newly proposed elective dermatology course was accepted and will start in 2017

Blikslager - Colic Selective: Teaching colic from anatomy and physiology to clinical management in practice. Developed teaching models for rectal palpation and intestinal anastomosis. Used a series of interactive presentations and case series. This included an interactive session with a referring veterinarian (Dr. Rebecca Stinson, Carolina Equine Hospital, Gibsonville NC)

Breuhaus
- VMC 952 – Cut course from 4 credits to 3 credits
- VMC 900 - Developed new Advanced Equine Medicine elective
- TAU 916 - Increased what will be taught in the Fall semester. Instead of simply horse handling skills, will now also introduce physical exams and estimating weight and body condition score.
- TAU 956 – Reformatted lab – Instead of spending the whole lab passing a nasogastric tube, students will rotate through 3 stations. 1) Rectal Exams – discuss procedure and perform on model 2) Nasogastric tubing – discuss procedure and perform on model or
cadaver  3) General nutrition and identification of feedstuffs – will need more instructors to help teach this lab

Davis
- Developed 10 instructional videos depicting clinical signs of horses with specific neurologic diseases.
- Developed videos for use in VMC 956 and Equine Primary Care depicting equine field anesthesia and castrations.
- Developed 4 instructional videos for the Advanced Respiratory Diagnostics laboratory in VMC 956.
- Developed simulated transtracheal wash model for the Advanced Respiratory Diagnostics laboratory in VMC 956.

DeFrancesco
- Incorporating more video into VMC 937. Cardiopulmonary video is about 75% completed.
- On line quiz for VMC 937

Degernes - All lectures and notes are reviewed and updated each year. In addition, I revised and updated all of the teaching lab SOPs. I am working with Drs. Flammer, Harrison, and Applegate to insure a smooth transition for taking over the core, clinical and elective avian lectures and labs.

Ferris
- VMB 952 - Specialized Problem-Solving in Veterinary Medicine working group to develop course for Fall 2016. With Seth Faith, developed forensic veterinary problem-solving case
- Forensic Veterinary Medicine Selective: Partnering with members of forensic sciences working group, selective is tentatively scheduled for Spring 2017

Fish - As a section (led by April Kedrowicz), discussed and practiced Assertion Evidence approach to lectures; starting applying to some lecture material in VMC 953.

Fogle
- Developed a preventative care plan for horses in the Teaching Animal Unit, that will be integrated into the new Equine Field Skills Elective, VMC 906.
- Co-developed and co-taught two new lectures, on CPR and trauma (large animal), for the newly developed VMC 942 Principles of Medicine course.
- Co-coordinating and teaching a new fourth year clinical rotation consisting of one week of equine dentistry education (from previous dentistry selective) and one week of podiatry.
- Applied for and received approval for purchase of various equine simulators that will improve the teaching of critical equine skills such as: rectal palpation, equine emergency and disaster management techniques, haltering, venipuncture, intravenous medication administration, intramuscular injection, transtracheal wash, nasolacrimal duct lavage, and nerve block techniques of the equine head.
- Developed four rectal palpation simulators for use in VMC 956/VMC 906.
- Developed two mini-Clinical Evaluation Exercises, for use in VMP 956/VMC 906 and for use in clinical Equine Surgery rotations. These exercises assist clinicians in providing students with specific, instant feedback on their history taking and physical examination skills.
Gieger - VMC 991 (feline oncology selective) – modified course based on student evaluations from the first year of the course (2014)- added more interactive discussions and a wet lab

Gookin - VMB 932 Veterinary Medical Decision Making (Course Lecturer)

Hanel
- I initiated a new selective last year which encompassed applied skills and group projects. I made some modifications this year based on feedback. I also lectured in the advanced medicine course and incorporated Dr. Callie Fogle as a partner. This was an excellent experience. Everything we did was case based and we incorporated videos as well as web-based interactive questions.

Hansen
- Took over as course coordinator for VMC 937 and undertook complete revision of the 4 sessions I taught directly (2 pairs of sessions each for physical examination and clinical procedures). I transitioned much of the course resources to electronic media that were made available at every station in the laboratory.
- In VMC 942 we timed my lectures to come after relevant topics in their clinical pathology and physiology courses and I strove to integrate what they had learned there with my subjects.

Harms
- Two selectives courses (Advanced Fish Medicine, Marine Mammal Medicine) now hosted at CMAST, capitalizing on coastal resources and marine sciences expertise.
- Two new zoological medicine resident research projects derived from selectives courses (parathyroid hormone reference values for ferrets, gross and histological response of three skin closure methods for American eels).

Harrell - For VMC 954, 971, 986: With the new division of teams, I have been able to involve the students a great deal more in case discussions from the beginning to the end of the hospital stay. I instituted cage side rounds and other separate rounds (used to be closed to the students) that the can now join whenever they have time.

Harrison
- Initiated a new lecture for theriogenology in combining avian and small mammal reproduction.
- Gave a new lecture in the felid oncology selective on big cat neoplasia.
- Gave lectures that guide knowledge engagement in a manner comparable to training for board-certification for use in CBS 817 and CBS 818.

Hauck - I rewrote (with assistance!) the student handout for VMC980 to reflect our current rotation. It will need to be updated again next year with the change in faculty, but otherwise is now current

Jones - Introduced a new professional development lunch meeting for the CMTRTP

Keene - Re-vamped all of the lectures & labs for CV Physiology (VMB923); Developed 2 new lectures and 2 labs for VMC947.

Kennedy-Stoskopf - Continue to participate in undergraduate courses as a guest lecturer to introduce students to concepts related to One Health and skills necessary for Conservation
Biology (e.g. field immobilizations, proper necropsy techniques to collect usable samples).
Developed a One Health case study that was used in the One Health class; well-received.

Lewbart
- We completed the assimilation of VMC-931 and VMC-953 to form a new Spring, 2016 course (VMC-943). The process went very well and all seem content with the new core exotics/lab animal structure.
- Successful implementation of the first Galápagos Selective/Elective (it will be an Elective, VMC-924, in the future).

Lunn
- VMB 912 (Introduction to Clinical Problem Solving in Veterinary Practice): I continued to work closely with Dr. Schoenfeld to improve and develop course for this course, which was in its second year. I created and grade new homework assignments. I presented new material in my lectures as we modified the content from previous years. This included recording and presenting several small video clips of clinicians “thinking out loud”. The course was assigned letter grades this year and this created significantly more hours of grading of assignments (in the first year it was pass/fail).
- VMP 922 (Small Group Problem Solving in Veterinary Practice): I significantly revised one of the 3 cases used in this class. I also provided worked examples for 2 of the 3 homework assignments and assisted with questions about grading.
- VMC 944 (Introduction to Clinical and Professional Communication): I created a new 2-hour lecture in this class on the subject of informed consent.
- Resident Lectures: I created 1 new lecture for SAIM resident didactic teaching. I have also created an entirely new boards preparation course (approximately 30 hours) for all ACVIM-associated residents and have recruited instructors. This will begin in Fall 2016.
- Feline Medicine Elective: my proposal for a feline medicine elective was accepted and this course will begin in Spring 2017.

Lyle – VMC 901

Mariani - Coordinating an effort to redesign the neurology section of VMC 961 as a blended, team-oriented and mastery-based course module. Due to some unexpected obstacles, implementation of these changes has been delayed for one year but is planned for Spring 2017.

Mathews - VMC 932 – replacing lost teaching technician, posting group preop PE schedules, adding filled out form examples to web site – these were the only recommendations from FCHOP review 2016

Munana - Revised and updated course material for VMP 962.

Murphy - VMC 951 (Lab): Students assigned themselves to groups of 12 or 13. They were supplied with the clinical cases during the first lecture, which allowed them to work through the cases as they went through the lectures. One clinician was then assigned to each group (over 2 labs) and went through the cases with the students, not as lecture but in a small group (give and take) setting. Positive feedback from the students.

Musulin - VMC 960 (Emergency Clinical Rotation): Updated the student assessment outcome measures for all first-time students. Created an advanced student assessment sheet for those enthusiastic students taking the rotation a second time.
Nolan - I continued to develop an innovative online module for the laboratory component of VMC951, which teaches students about canine multicentric lymphoma using a virtual clinic.

Olby

VMC961:
- I modified my lectures further based on the changes I made last year, shifting away from localization based lectures to acute versus chronic presentations. I added a lecture this year due to scheduling issues giving as an additional slot. These changes and the extra time made my lectures much easier to deliver and I refined points of persistent confusion for the students.
- I changed my approach to the laboratory significantly – in the past we went through 5 – 6 cases whereas this time I chose 3 cases to highlight major presentations and simply used those. I had much better student attention throughout and will stick with this format next year.
- I revamped the examination. We had moved to an on line format exam that we gave open book over a weekend in the last 3 years. However, this had posed a number of problems related to timing of the exam, student studying, and grading questions that followed clinical cases (a format we have used traditionally as the most appropriate way to test what we aim to teach). I oversaw the formatting on the paper exam, combined with on line videos of cases, I arranged the rooms, the proctoring and final examination compilation. I felt the exam was very direct in terms of what it was testing, it did require appropriate levels of study and hopefully enhanced retention of information and it was easier to grade. Students did well while not losing the ability to discriminate between students performing at different levels.

Resident General Examination Preparation: currently NCSU does not offer a specific course to help ACVIM residents study for their general board examinations at the end of their first year. While they do attend a number of rounds, many of them are aimed at interns and are not specific for assistance with board preparation. To this end, I called a meeting of faculty currently involved with ACVIM residents and we discussed:
  a) Whether there was a need for an appropriate course, and if so,
  b) When it could be arranged.

The group agreed a course would be beneficial and it was decided and it was scheduled for Wednesday mornings in place of medicine rounds from September to May and was targeted to second year residents. This allows appropriate support of internal medicine rounds on Wednesday mornings, and appropriate exposure of no medicine residents to the internal medicine rounds during their first year. All the services agreed upon this (cardiology, oncology, neurology, SA internal medicine and ECC) and Dr. Kathy Lunn organized a schedule of lecture topics and speakers.

Prange

- VMP 936: After creation of an instructional video for the course last year, I added a supplemental document that outlines the various aspects of the lameness examination in more detail. This proved to be helpful for the students when preparing for lab and final exam.
- VMC 965: Based on the feedback I received from students of previous classes, I made minor changes to the content of the labs and completely updated the presentations, including several new videos in the lecture and the lab itself. In the lab, hard copies of the presentations helped the students to complete the procedures correctly.
- VMC 978: A new syllabus was introduced, combining lectures given by various faculty members, private practitioners and a farrier, with subsequent lab exercises that were
instructed by the same people. In order to meet the demands of modern equine practice, we have started to include rehabilitation lectures and labs in this course. We also sent students to two practices on the last day of the 2 week block, where they had a chance to work up lame horses under private practice conditions.

Qurollo - VMP-978 Clin Path, Lab Med and Nutrition – I developed a section of instruction covering vector-borne disease (VBD) for this rotation. The content is based on many of the questions we get through the VBDDL from veterinarians related to interpretation of results and treatment. The students are given detailed power point slides addressing VBD diagnostic choices, results interpretation and treatment recommendations for them to keep as a reference when they are practicing. The content reinforces information about VBDs taught to them throughout their veterinary education and includes the most up-to-date recommendations in VBD diagnostics and treatment. During the two hour meeting, we discuss specific points covered in the power point slides.

Risselada - VMC 994 has moved to an online course (registration, experience reports, case logs and supervisor evaluations) rather than the current all paper course.

Roe
- Co-coordinator of VMC942 Principles of Medicine, developed Moodle site and online exam
- Developed a new orthopaedic lab to adjust to Dentistry schedule
- Online delivery of a lecture to Gonzaga University
- New lecture in UNC Chapel Hill graduate program
- Developing bandage pressure assessment device

Schnabel - I continue to revise and refine the lameness lectures in VMC 952, especially now that they are getting condensed and am working on better audiovisual aids and case examples in both VMC 952 and VMC 903, the new elective for this fall.

Sheats
- In terms of course design, this past year I have introduced equine faculty to the station rotation format that works well for large student labs. I have also familiarized some faculty with ways to balance faculty/HO facilitated stations with independent learning stations and peer-peer learning stations.
- I also contributed to Dr. Schoenfeld’s clinical skills course by writing an equine clinical case and then participating in filming of the teaching video. I devoted approximately three days of effort to help create this teaching material.

Sherman – VMC 927
- Moodle in-class exams (3)
- Small group video Case Discussion & Facilitation, Rubrics (4)
- Training Project with Rubric to teach behavior methods and writing skills (1)

Stevens
- VMC 939 and VMC 957: utilized newer technology to allow for medical discharges to be written and edited in a more timely fashion.
- VMC 939: additional dentistry lab and rounds topic, updated current dental charting sheet
- VMC 939: developed and will implement the advanced GP rotation
Stoskopf - Continued development of online distance graduate course to be taught 2015

Tate- VMC 968 developed additional instrumentation procedures and techniques for equine Laparoscopic surgery. Note LA Hospital has performed over 22 procedures this year compared to an average of 5 for previous years. Innovation has significantly cut cost and thus added cases. Second we (LA Hospital) has performed 6 equine standing Laryngoplasty surgeries procedure I have been the pioneer for at this institution.

Taylor
- GP (VMC 939): Implementation of quiz form of rounds to increase interest and encourage participation of all students: flash card quiz for parasitology rounds, introduction to use of clinical skills models from SimLab into GP rotation.
- VMC 932: Obtained TIG grant to allow all students in class of 2019 to have access to their own NCSU SimSpay OVH model for self-directed practice prior to their first live OVH procedure, produced video for this model to help construction at home, Inversion of neuter surgery teaching videos to ease spatial learning, Distributed survey as part of OVH timing research to help improve surgical teaching in future years.
- VMC 957: Design of a feline neuter model for practice prior to live procedure, member of team developing an eye model for use with tonometry unit
- VMC 965: Member of teams developing a small intestinal anastomosis model.

Vaden
- Co-developed VMC 942 with Simon Roe.
- Revised 951 per the required reduction in the revised curriculum. For my session in VMC 951, I added an extra credit option. Students were asked to watch one episode of My Cat From Hell and report back to me on what they learned about environmental modification that could be applied to cats with idiopathic cystitis. The students enjoyed the process and seemed to learn a lot from the activity.
- Developed VMC 901 to ensure that small animal focus students receive the content that is necessary for success.

Westermeyer
- Developed a moodle tutorial for VMC 937
- Developed 2 of 5-6 modules of a moodle tutorial for VMC 982

Curricula:

Blikslager – Adding additional lecturers for CBS764 from main campus to cover nutrition (Odle/Jacobi). This also fulfills an educational commitment as part of the CALS-CVM grant. In addition, adding lectures from MDs from UNC and Duke.

Davis - Currently involved in the re-organization and updating of the TAU laboratory curriculum, and planning for the new equine electives.

Degernes - We are currently mid-way through the course revisions for spring VMC 931 (now called VMC 943) and fall VMC 953 courses. The reptile, amphibian, and fish medicine topics were taught in spring second year course, and the avian and small mammal (+ lab animal) lectures will be combined into one fall course for the third year class. The course action form for revisions in the fall course is at the university level for review, and the group of faculty involved in that course have met to discuss faculty coverage in that course after my retirement. I provided input for areas to change (additions and deletions in lecture and lab content), and
provided past course content. As noted above, I am working with Drs. Flammer and Harrison to facilitate a smooth transition.

**Fogle** - Led an ongoing effort to evaluate our equine skills curriculum. Results of this effort have been used to revise the lameness elective, used to guide development of new stations for the Equine Primary Care Course, will be used to develop additional laboratories within the VMC 906 Equine Field Skills Elective Course, to revise the content in the first and second year TAU labs, and to guide the equine surgical skills revisions in VMC 965.

**Gookin** - VMB 932 Veterinary Medical Decision Making (2 new lectures and 1 Moodle laboratory)

**Harrison** - Involved with the restructuring of the Laboratory Animal Medicine course, specifically VMC 953.

**Hawkins** - Serve on the Simulation Laboratory Committee

**Jones** - Overseeing review and revision of CBS Popmed and Cell Biology curricula

**Lyle** - Syllabus for VMC 901 submitted and approved.

**Kedrowicz** - I developed and taught the second course in the communication curricula—Introduction to Clinical and Professional Communication.

**Kennedy-Stoskopf** - Offer 3 long-established, elective courses for DVM students. These will continue as currently structured as true electives and are not expected to satisfy “required” elective time.

**Mowat** - Working with Gail Druley and Abi Taylor to develop a practical teaching tool to be used in the clinical skills lab during didactic years. Can also be applied to the clinical rotations when students request more practical guidance

**Musulin** - VMB 912 (Intro into Clinical Problem Solving): This was the second year for this new course for 1st year students that complements VMP 922. I gave a new lecture this year on 'Creating a Therapeutic Plan'.

**Qurollo** - VMP-978 Clin Path, Lab Med and Nutrition (started in February 2016)

**Vector-Borne Disease Diagnostics Learning Objectives:**
- At the end of the 2 hour lecture, students will be able to:
  - Utilize diagnostic laboratory services for diagnosis and management of vector-borne disease infections, including which clinical samples to test, how to properly store and transport samples, and which tests to choose.
  - Interpret diagnostic results and understand current treatment recommendations for Anaplasma/Ehrlichia, Bartonella, Rickettsia, Babesia, Cytauxzoon, Leishmania, Hepatozoon, Borrelia burgdorferi, and Hemotropic mycoplasma infections
- **Lecture Outline**
  - Briefly review clinical signs associated with Anaplasma/Ehrlichia, Bartonella, Rickettsia, Babesia, Cytauxzoon, Leishmania, Hepatozoon, Borrelia burgdorferi, and Hemotropic mycoplasma infections.
  - Which VBD tests to order, which samples to send, and how to store and transport.
How to interpret results
• Current treatment methods

Redding - Teach the latest advances in advanced imaging, regenerative medicine, equine sports medicine and rehabilitation and equine orthopedic surgical techniques

Roe - Developing modified VMC961 and VMC908 elective

Schnabel - I have continued to teach the latest advances in regenerative medicine and now also in equine sports medicine and rehabilitation. These subjects were not in the curriculum previously.

Sheats - Through my role on the Equine Curriculum Committee I have provided feedback on student performance on Equine Primary Care rotation that has influenced earlier integration of key clinical skills and reasoning exercises into courses taught by other equine group faculty. Dr. Fogle and I have pushed very hard to acquire several key equine teaching models and now that those models are being purchased they will have significant impact on curricular innovations in equine teaching here at the CVM.

Sherman
• Course Coordinators Group, Member and attendee
• Attended CVM lectures on veterinary medical education
• DOCS Reading Circle, “Specifications Grading,” Spring 2016

Tate - Designed a new course (Advanced Surgery and Lameness) to provide additional information beyond core in VMC952 to those students with an equine focus. Additionally I am an active member of the CVM curriculum committee.

Taylor
• Development of a non-credit program for PY 1 (fall 2015 term) and PY 1 & 2 (spring 2016 term) to introduce psychomotor and clinical skills practice concepts early on in the curriculum. 3 x 1hr sessions available per week for PY1 and 2 x 2hr for PY2. Initially held outside of SimLab prior to completion of the Lab. Expansion to PY3 next year.
• Ongoing development of additional non-credit and credit curriculum ideas for the Simulation Lab. E.g.: developing models for practicing required core clinical skills prior to performance on live patients including a model training correct us of surgical suture scissors including accuracy in measurement, introduction of a video game model for communication under pressure mimicking communication during surgery, fine motor and palpation model involving non-visual construction of Lego models using picture or verbal instructions from peers.

Vaden - Worked on the Curriculum Committee to oversee the changes in courses that were needed to address the new and revised curriculum of the College.

Programs:

Early - Regular Cadaver labs for Neurology and Surgery residents.

Elfenbein - Implemented an in-depth journal club for equine house officers/graduate students.

Gonzalez - Dissertation Mentoring Fellowship - The aims of this program are to catalyze discussion, develop knowledgeable faculty advocates, and spark department initiatives to
increase the diversity of doctoral students choosing and successfully embarking on academic careers. Faculty selected as Dissertation Mentoring Fellows (DMF) will participate in a year-long program of reading and discussing topics such as cross-cultural mentoring, the experience of graduate students from underrepresented groups, graduate student socialization and career choice, and how faculty advisors affect the experience and options available to graduate students. In addition to becoming more knowledgeable advisors themselves, the Fellows will serve as a resource for their departments to develop strategies for diversifying the pipeline to the professoriate in their own disciplines.

Activities of the DMF Program
The Dissertation Mentoring Fellows will be expected to make the following commitments:

- Actively participate in a monthly reading and discussion group from August 2015 through April 2016. The first meeting of the 2015-16 Pipeline Fellows will be on Thursday, August 27, 2015.
- Read one to two papers per month for discussion and complete a few associated activities, such as talking with colleagues or attending an optional lecture.
- Develop and launch a small initiative to enhance diversity in the graduate pipeline to the professoriate in their department or discipline.

**Hansen** - Recruited outside lecturers for our resident board prep course to enhance coverage of topics required to pass the ACVECC credentialing exam.

**Harms** - Participating in content delivery for launch of undergraduate Semester at CMAST

**Harrison** - Compiled all of the materials and submitted the application for training of Diplomates at the NCSU College of Veterinary Medicine. This is specifically for a Zoological Companion Animal Residency program. We were approved as a compliant program for the American College of Zoological Medicine based upon the first version of our application.

**Hawkins** - Endoscopy orientation: arranged rental of endoscopy simulator for 2015 training

**Kedrowicz** - I continued work with the graduate student teaching certificate program, including the addition of a newly developed session, “Delivering Information with Confidence: Dynamic Lecturing for Maximum Impact”.

**Kennedy-Stoskopf** - Zoological Teaching Animal Unit: This program is modeled off TAU and currently includes the Wild Carnivore Team that has been functioning since 2011. This is a voluntary endeavor that provides interested students with the opportunity to manage and care for 7 red wolves. The objective is to provide students interested in working with non-domestic animals in practice settings an opportunity to gain practical, hands-on experience so they can work safely around these animals and advise clients accordingly. The red wolves serve as a model species. The number of students in any given semester can range from 45-63 students from the first-third year classes. Students are responsible for the daily care and feeding, preventive medicine, and enrichment of the wolves. The students gain confidence in their abilities to assess animal well-being by visual observations; develop communication skills to ensure all team members know what needs to be done daily; make decisions on management and husbandry; repair fences, hotwires, feeders, hoses, etc. April 20th, 2014, three pups were born, and students gained valuable experience managing pododermatitis, a life-threatening condition in red wolf newborns (Carnivore Team members writing a case report; in final draft stage).

Took eight students to Alligator River to conduct annual physicals on the red wolves at the US Fish and Wildlife Facilities, January 4th and 5th. Dr. Freya Mowat accompanied us to
conduct eye examinations; have identified blindness in male red wolves that may be hereditary; samples have been collected to conduct genetic studies this summer; could possibly lead to a NIH R01.

To provide additional opportunities, we partner with the Conservators’ Center to allow student participation on ongoing cases at the Center in Mebane and those that are presented to EAMS for diagnostic work-up (EAMS intern preparing a paper on a binturong case, submitted). Many animals are geriatric and have necessitated euthanasia. As a direct consequence, students have organized Wildlife and Exotic Necropsy Team (WENT) through Path Heads, and I, in turn, am the liaison between the organizations submitting the animals and necropsy. My role is to get back to the facilities and explain the necropsy findings to help manage their animals better.

Resident Training: I continue to spend more time with our residents at the NC Zoo. Mike Loomis retired end of January 2016, and Jb Minter, who boarded in October 2015, is currently the only veterinarian. I meet with residents on a weekly basis via videoconferencing and occasionally on a daily basis depending on the situation. This has been a positive for the program. I bring different perspectives to case management, which allows our residents to consider other options. Also gets me more involved with the residents, other than the didactic course, and has lead to a serval cystinuria study with Dr. Cannizzo (manuscript in final draft stage).

Lewbart - Continuing to find and support creative ways to sustain and improve the Turtle Rescue Team.

Musulin - ECC Residency Training – The ECC faculty have developed a 3-year course curriculum for resident training. Each DACVECC faculty is responsible for ~8 months of the curriculum.

Qurollo
- Tutoring Program for First and Second year veterinary students in all course work except anatomy. From April 1, 2015 through March 31, 2016, I have tutored 18 students, whose grade-point average in a particular class dropped below a D+. During this time period, I taught students, either one-on-one or in small groups (2 or 3), more than 78 hours in the following courses: VMB-923 Veterinary Physiology II (30 hours), VMB-913 Veterinary Physiology I (27 hours), VMP-942 Clinical Pathology (15.5 hours) and VMB-943 Pharmacology (6.25 hours).
- Created a document for a Summer Remediation Program: Because I tutor students, I was approached by a faculty member who suggested I put together a document outlining a potential program that could help students remediate a class where they received a grade of a D or lower. Based on programs implemented in human medical schools, I constructed a document outlining a primarily self-directed, remediation program with the goals of raising a student’s competency level in a class. It would be done over the winter or summer break with minimal to no effort on the part of the course coordinators, except in approving students for remediation and approving their new competency level. The document was given to Dr. Flammer for consideration earlier this year. This program is only currently being discussed by the Academic Performance Committee.

Royal
- I have developed a plan for “house system” model for the CVM that intends to help accomplish intellectual, social, mental/emotional, cultural and physical wellness goals. This program is expected to be unveiled during the Summer of 2016.
I have been working on numerous teaching opportunities for faculty development, including workshops on test item writing, grading, understanding cheating in medical/health programs, etc. I hope to offer multiple opportunities for faculty development in the coming year.

Schnabel - New Equine Sports Medicine and Rehabilitation Service and equipment

Sheats - As the primary instructor for the newly developed Equine Primary Care at NC State CVM, I helped design and execute this 4-week long clinical rotation. In this distribution model of primary care training, fourth year students spend an initial intensive week training in the application of clinical reasoning and technical skills, as well as client communication. I have created a client list for this boot camp week consisting of student, staff and faculty owned horses as well as horses owned by 501 C3 nonprofits. I have also written at least 10 mock case scenarios and assembled all associated teaching materials for students to rotate through 4-5 different case stations on two days of boot camp week. To conduct these case stations I organize equine group faculty volunteers to facilitate the immersive learning exercises in a one on one student-instructor format. The capstone evaluative exercise for boot camp week is a mock equine prepurchase exam which is graded with a rubric developed specifically for this exercise. Initial impressions of the rubric, along with faculty feedback on the use of the exercise and rubric, will be presented by Dr. Callie Fogle at the VEC in June 2016. The students spend the final three weeks training in one of five designated regional private practices. Student evaluation during distribution weeks is performed through a combination of:
1. Student case log of cases seen and procedures performed
2. Two clinical case presentations using remote conferencing (i.e. Blackboard Collaborate)
3. Private practitioner evaluation.
I am submitting a DELTA Blended Learning grant to provide funding and DELTA staff assistance for the design and development of instructional materials and strategies for environments combining face-to-face and online learning best practices. If I receive this grant my goal will be to create an online learning platform so that students, NC State Equine Faculty and EPC Private Practice Partners can interact seamlessly to stay up to date on best learning and teaching practices for veterinary student training in Equine Primary Care, access to and timelines for performance evaluations for community-based learning sites, access to required student skills checklist and competency evaluation rubrics, etc. The goal will be to have the hybrid distributive model of Equine Primary Care in complete compliance with AVMA COE requirements prior to the next accreditation visit.

Stoskopf - Assist accreditation of new ACZM ZCA residency

Suter - Medical Oncology faculty continue to put a significant amount of time and energy into revamping the HO Cancer Class

Research

Volume of Activity

- Extramural Grants as Primary Investigator and/or Co-Investigator - $2,295,919
- CVM/NCSU Grant Funding - $122,487.77
- DoCS Firestone Canine Research – $3000
- DoCS Veterinary Practice Plan Research – $3000
Extension

Extension and Public Service

Clinical Sciences faculty average nearly 50% FTE teaching in the Veterinary Hospital. The majority of the patients are referred from veterinarians in North Carolina and the surrounding 5-state area (in excess of 30,000 accessions/year). Faculty and clinical residents provide expert advice on a multitude of medical and surgical problems.

Selected Innovations in Clinical Service in the NC State Veterinary Hospital

C. Adin - Introduced the use of the Subcutaneous Ureteral Bypass System in cats with inoperable ureteral calculi and successfully implanted two in one cat, Fall, 2015.

Bailey - Established clinical cryobank for gamete storage

Blikslager - Approved clinical trial, funded by Grayson Jockey Club: Flunixin or firocoxib in postoperative colic patients. Reached 50% of recruitment goal (41 of 82 cases)

DeFrancesco
- Use of early TPA in cats with saddle thrombus
- Use of low dose hydralazine CRI for management of acute HF
- Use of POC Lung US in dyspneic dogs and cats
- Use of BNP snap test in cats to refute or support dx of heart failure
- Use of BNP snap test on pleural fluid in cats with pleural effusion
- Delivery and assessment of cardiosphere-derived stem cells in Doberman Pinschers with dilated Cardiomyopathy
- Pre-operative checklist to improve catheter-based surgeries (in collaboration with NCSU Human Factors psychology).

Fogle - Developed a new technique for approach to the equine horizontal ear canal

Gieger - In 8/2015, I organized a “Radiation Safety Day” in service for the members of the radiation oncology team. This consisted of having a Varian representative as well as the assistant campus radiation safety officer speak to everyone who works in radiation oncology. We reviewed safety features of our linac and how to act in emergency situations. This training was documented in the radiation safety manual housed in the vault, and will be repeated annually or as needed as future team members are added to our service.

Gilger- Developed stem cell therapy for IMMK in horses

Gines
- Effect of PRP on pro-inflammatory cytokines
- Small dog TPLO

Hanel
- We have expanded TEG to include different modes of activation for evaluation of hemostasis
- Development of aggregometry for clinical use –now available.
• Developing nomogram for use in monitoring heparin – this was completed and is now instituted

**Hansen** - Continued to work towards upgrading our benchtop chemistry analyzers/blood gas machines (equipment purchase decision for 2016-17 still pending)

**Harms**
- New methods for sedating ferrets, anesthetizing sea turtles, and treating bacterial diseases in echinoderms.
- Continuing transition of NC Aquariums clinical service to a new model with a full time clinical veterinarian while continuing partnership with NCSU CVM Zoological Medicine residency program and access to aquatic animal medicine specialists and VTH specialty services.

**Harrell**
- Fecal transplantations for difficult GI cases
- Better use of Pre and Probiotics
- Work to establish the best treatment protocol for thyroid ACA in cats and optimal dosing for all hyperthyroid cats.
- IMHA grant-use of TEG for monitoring heparin effectiveness

**Harrison** - Added cold laser therapy to the EAMS service for treatment during post-operative procedures, infectious, inflammatory or arthritic conditions.

**Hauck** - Phase III double-blinded placebo controlled masitinib study (site PI); offering an old drug as a targeted therapy for TCC due to collaboration with pharmacologist at Duke (and submitting for funding for a clinical trial).

**Hawkins**
- Created content for canine influenza information for the CVM website: cvm.ncsu.edu/canineflu (as listed above in VI.A.6)
- Major revision of bronchoscopy report template to match overall formatting of GI reports, to facilitate completion, and improve data collection.
- Created nasopharyngeal stenosis dilation procedure sheet, references, and detailed pricing considerations and distributed to SAIM and Surgery.
- Attended laser safety training (8/31/15)

**Hess** - We have introduced a new clinical trial into the Medical Oncology service, funded by the MAF, that hopefully will one day change the way chemotherapy is administered to canine lymphoma patients. We are using next-generation Illumina sequencing quantify (with extreme sensitivity) the microscopic tumor burden that circulates in the blood of T-cell lymphoma patients receiving CHOP: this permits an in vivo estimation of the evolving chemoresistance of cancer cells during therapy. In the future, the analogous real-time determination should allow clinicians to make on-the-fly drug substitutions, thus producing customized, adaptive, and hopefully, highly-effective treatment protocols.

**Jones** - Discovered new potential anti-inflammatory use for misoprostol in horses.

**Keene**
- Facilitated accomplishment of a formal task analysis in the cath lab, and initiated the use of a task analysis based check list to improve patient safety and outcomes in the cath lab.
• Supervised bidding and purchasing of electrophysiologic monitoring equipment that has allowed us to begin invasive electrophysiologic diagnostic and therapeutic procedures.

Lewbart - Collaborated with Dr. Jeff Applegate on two unusual fish surgeries (both species and lesions). One was presented as a scientific case report at the Eastern Fish Health Workshop (April, 2016) and the other should mature into a case report with an intern as first author.

Lyle
• Submitted business plan for equipment request (POC progesterone analyzer); under consideration
• Upgrading currently microscope and manipulators to incorporate new technology for research and clinical service (intracytoplasmic sperm injection, embryo vitrification, embryo biopsy); plan to begin testing of system in July of 2016

Marcellin - First adjustable linear fixator used for femoral deformity correction

Mathews - Clinical trials ongoing:
• Mathews KG, Brown J. Evaluation of swallowing function in dogs undergoing surgery for the treatment of laryngeal paralysis, hyperparathyroidism or thyroid neoplasia.
• Vaden S, Mathews KG, Piedrahita J, et al. Striated muscle progenitor cell urethral injections for the treatment of medically unresponsive canine urethral sphincter mechanism incompetence.

Mowat
• Adopting our research ERG machine for use in clinical patients at owner’s request/medical need (1 ERG performed this year).
• Developing a new ophthalmology examination form which is now exclusively used in the clinic (equine and small animal)
• Adopting chromatic PLR testing into the clinical protocols for retinal evaluation. An excellent teaching tool for students and a useful adjunctive diagnostic tool.

Munana
• Initiation of clinical trial evaluating the use of accelerometry to detect seizure activity in dogs
• Completion of clinical pharmacokinetic study evaluation disposition of extended release levetiracetam when given in conjunction with phenobarbital and/or zonisamide.

Musulin
• Expansion of the canine blood donor program to include DEA 1(-) and DEA 1 (+) donors.
• Incorporating a novel microaggregate filtration process for small dog/small volume canine transfusions.

Nolan - Jet ventilation for intrathoracic radiotherapy in pet dogs.

Olby
• Initiated a clinical trial comparing intensive and conservative post operative rehabilitation for dogs with acute intervertebral disc herniations. This has involved development of a standard protocol for post-operative care of all dogs undergoing back surgery for acute intervertebral disc herniations, and addition of expanded scoring of hind limb gait.
• Initiated a clinical trial evaluating electromagnetic fields in spinal cord injury – again targeting dogs with acute (severe) intervertebral disc herniations. This clinical trial has
involved developing detailed protocols for administration of the EMF, and evaluation of biomarkers of injury severity.

- All dogs that enter one of the above clinical trials now transfer to my spinal cord injury program post operatively and are managed by my research fellow, Natalia Zidan and technician with my oversight. At any time, we have 2 – 6 dogs hospitalized in our program, reducing the work load on our residents.

**Prange**

- We performed cervical epidural steroid injections in a horse with signs of neurologic dysfunction that likely originated from the neck (only one report in the literature before)
- I completed a cervical epidural endoscopy in a horse in Palm Beach, FL, a procedure that has not been reported before in a clinical case
- We have started to perform standing laryngoplasty surgeries on patients

**Redding** - Continued use of elastography and Doppler to assess tendon/ligament injury and healing. Use of MR fusion to assist the injection of regenerative therapies in musculoskeletal injuries in the horse. Development of bursagraphy/tenoscopy techniques to treat MR confirmed lesions of the distal limb.

**Roe** - Placed one BFX collared stem

**Scharf** - Development of minimally invasive surgical (MIS) package to increase MIS caseload at NCSU and improve resident MIS training.

**Schnabel**

- Continue to run and grow the NCSU CVM Equine Mesenchymal Stem Cell (MSC) Culture Service in the Schnabel Laboratory for NCSU patients as well as for referring veterinarians. Have cultured MSCs from 45 cases to date and at least half of these cases have come back for repeat injections and after care. Have submitted all paperwork to FDA for INAD approval with the aid of Dr. Meurs.
- As a team, Dr. Rich Redding, Ms. Catherine McDonald (LVT), and myself continue to build the Equine Sports Medicine and Rehabilitation Service and NC State. We are working on obtaining more equipment for this purpose and have put together a business plan for Mr. Jim Brawley. We are incorporating the equipment we currently have into our clinical service and are also educating students on the use of such equipment. Now that the aqua treadmill and spa are purchased or in the process of being purchased, respectively, we are also working on starting an Equine Sports Medicine internship and residency here with the hospital administration. I am also representing the interest of this new service on the building committee.

**Sherman**

- Use of oral transmucosal detomidine gel to reduce anxiety in dogs prior to veterinary visits
- Obtained funding and developed plan (with Brenda Stevens) for Cat Friendly Exam Room for General Practice and Behavioral Medicine use

**Stoskopf** - Further improved method for collecting metabolomic samples from clinical patients

**Suter** - 2 COTC clinical trials are running.

**Tou**
• Delivery and assessment of cardiosphere-derived stem cells in Doberman Pinschers with dilated Cardiomyopathy (in collaboration with Dr. Ke Cheng’s lab).
• Application of a pre-operative checklist to improve catheter-based surgeries (in collaboration with NCSU Human Factors psychology).
• Coil embolization of intrahepatic portosystemic shunts in dogs.

Vaden - We are continuing to make progress on the use of regenerative medicine to treat urinary incontinence. Our minimally invasive procedures have become the standard first line treatment for many animals with lower urinary tract disorders. We are investigating if urine aldosterone can be used to optimize management of proteinuric dogs.

Vigani
• The Extracorporeal unit at NC State is now providing hemodialysis for dogs and cats, Slow Dialysate Flow Hemodialysis for cats, hemoperfusion for toxins removal, and therapeutic plasma exchange for immune-mediated diseases and hepatic encephalopathy.
• The introduction of Slow Dialysate Flow Hemodialysis for cats and hemoperfusion for toxin removal, and hemodialysis for treatment of phenobarbital overdose represent new techniques introduced since June 2015.
• Ultrasound guided peripheral Nerve blocks, Continuous catheter nerve blocks, and ultrasound guided vascular access were also innovations introduced since June 2015.
• A new protocol of therapeutic plasma exchange for treatment of Hepatic Encephalopathy was introduced.

Managed a clinical practice that provided effective and efficient service (Information provided for April 1, 2015 – March 31, 2016)

$2,318,663 Total VPP Revenue Generated by Department
$8,599,439 Total Hospital Revenue Generated by Department

Continuing Education (Extension)

Clinical Sciences faculty gave numerous state, national, and international research and continuing education (extension) presentations to scientists, veterinarians, and lay persons (e.g., pet owners, civic groups, public schools, etc.). Numerous Veterinarians participated in observational experiences in the Veterinary Hospital under supervision of DoCS faculty.

Number of Faculty Continuing Education Lectures:

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<th>Name</th>
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<td>C. Adin</td>
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<td>D. Adin</td>
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<td>Bailey</td>
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<td>Birkenheuer</td>
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<td>Bizikova</td>
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<td>Blikslager</td>
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<td>Mathews</td>
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Faculty Achievements:

C. Adin

- Completed majority or lab setup, including equipment purchases, creating IACUC protocols, Chemical hygiene protocol and searched for, hired, and trained a technician to perform new skills required for my research. While this required an enormous amount of time that does not show immediate productivity, it will have a long term payout.
- Established interdisciplinary collaborations with Duke (Julie Sosa, MD Endocrine Surgery), Wake Forest (Emmanuel Opara, PhD, Islet transplantation), UNC (Lola Reid, PhD, insulin producing stem cells) and NCSU (Ke Cheng, Engineering) to strategically advance my research efforts at NCSU through team science. (Aligned with Strategic Plan item 3)
- Had 4 publications in peer reviewed journals and submitted another 3 during this academic year.
- My graduate student from Ohio State won the Resident Research Award in the international Resident competition at the ACVS conference in October of 2015, presenting work performed in my lab while earning her Master’s Degree.
- Wrote 3 new lectures for VMC 932 from scratch, including Powerpoint and written text notes (not PowerPoint printout).
- Introduced house officer communications seminars with the help of April Kedrovich, Jeannine Moga and the support of Steve Marks.
- Effectively integrated into clinical STS service and the greater hospital community.
- Designed a study, created several budgets and obtained verbal commitment from a medical device company for funding a research trial of a device for urinary incontinence.

Bailey - I have made progress in each area of my SME during the past year.

- I have successfully negotiated the outside funding of a residency position in Theriogenology through the AKC and TF (Theriogenology Foundation), totaling $100,000.
- This is in addition to $11,000 in unrestricted gifts (Cryosafe tank + cash donations) and the award of a “coat of excellence” by Setter’s Run Farm, associated with a $10,000 donation.
- I have provided mentorship to the clinical Theriogenology program, which has resulted in a substantial growth in case-load and income from canine Theriogenology without decreasing productivity in equine Theriogenology.
- I am a co-author on an accepted grant to the Michelson Foundation to develop a novel injectable contraceptive.
- I am a mentor for the student chapter of the SFT and facilitated the presentation of 2 case-reports at the national SFT/ACT conference in August 2015, as well as 1 case report at the AAEP in December 2015.
- Both Theriogenology residents successfully passed the certifying examination in August 2015.

**Birkenheuer**
- Enhance the success of our students through educational innovation: Assisted with the development and teaching of new DVM courses.
- Enhance scholarship and research by investing in faculty and infrastructure: Continue to raise funds for companion animal research endowment.
- Enhance interdisciplinary scholarship to address the challenges of society: Member of ACVIM Clinical Immunology Special Interest Group

**Bizikova** - This year has been focused on finalizing started studies and preparing my first resident mentee for his final year. We were able to publish both of his required case reports, present two abstracts as well as submit his research project, which is very close to its acceptance. I was also able to start collaborative research with Dr. Baeumer on canine model of pyoderma and with Dr. Fogle on canine regulatory T cells in atopic dogs. I am also a co-investigator on Dr. White's (dermatologist, UC Davis) resident project about a novel treatment for canine pemphigus foliaceus. I have started more work in the field of equine dermatology by lecturing to students and veterinarians and by being involved in equine case reports with other clinicians. While our equine case-load is not obviously increasing, I have been consulting on numerous equine cases over the last year and provided diagnosis either based on the review of clinical or histological material submitted to me. Moreover, my recent consultation with Tyratech / Smartpak may land in the future a clinical trial testing the safety and efficacy of a new fly repellent.

Thanks to the positive response from my previous lecturing, I was invited to participate in the ECVD resident education workshop, which will be planned every second or third year as a part of resident education program provided by the college (starting Summer 2017).

**Blikslager**
- NCSU-CVM Translational Gastroenterology cluster hire has resulted in 3 positions, all within the 3C renovated lab. The Chancellor was particularly interested in how we had managed to hire a cluster and get them into the same space – this is apparently the biggest challenge on main campus. This cluster hire advances CVM Strategic Plan 2, 3, 4 and 5.
- Feasibility study for the EFVAC completed, with fund-raising to be kicked off May 13th, 2016 with a Dean’s Spring Gala. In addition, equine programs are developing at the Reedy Creek Equine Farm with completion of a feasibility study to include theriogenology. Our goal is to have theriogenology operational January 1, 2018. Primary Care Teaching has already been moved to the Reedy Creek Farm. These plans enhanced CVM Strategic Plan 4 and 5 (including the partnership with CALS)

**Brandes** - Given the previous goals and missions laid out for the Medical Oncology Service I felt that I was a successful contributor to the service. We have successfully created a culture within the clinic that promotes continued learning in a supportive environment. I was able to provide continuity on the clinic floor easing the flow and efficiency of the day-to-day tasks. The culture within in the group has greatly improved and I believe I aided in this transition. I was not able to get a clinical project of my own up and running this year, mostly because I knew relatively early on that I may not be able to complete this.
Breitschwerdt - We were able to get Dr. Barbara Qurollo appointed as a research assistant professor in DOCS. This will allow for a smooth transition of VBDDL leadership to Drs Birkenheuer and Qurollo. I am collaborating with investigators in Brazil, Canada, and Spain.

Breuhaus
- VMC 952 successfully reformatted to a 3 credit course
- VMC 900 paperwork done and lectures planned
- Have enrolled 26 horses into my USEF study so far
- “Molly” case report accepted November 2015 (I am corresponding author with 1st author trainee). So far, I don’t think that it has yet appeared in print.
- “Salsa” case report submitted (I am corresponding author with 1st author trainee)
- Presented talk at BEVA in September 2015

Davidson - All of my sabbatical leave activities were useful. The Will’s Eye Review Course was a highlight, as I attended a similar course at Stanford Univ. in 1987, and considered that to be one of the most valuable parts of my early training, as it provided me with a different perspective on ophthalmology.

Davis
- I have authored or co-authored 2 scientific papers, 2 case reports and 2 review paper with 2 additional papers submitted for publication. Several of these papers involve collaborations with specialists in other Universities.
- I have authored 3 book chapters.
- I am a Co-I or Co-PI on grants totaling $361,819 for this year.
- I was the Equine Program Chair for NCVC and also a presenter.
- I currently serve as committee chair or member for 2 residents and 3 interns, as well as 2 graduate students.

DeFrancesco
- Published 1 peer reviewed original research and invited manuscript as co-author and one invited review as first author.
- Point of Care Lung US manuscript accepted JAVMA (corresponding author)
- Enrolled 10 cats in feline ATE clinical trial (BLASTT study), continued enrollment in pleural effusion BNP SNAP study,
- Matching with #1 rank for next year’s cardiology resident.
- Successfully recruiting and hiring Dr. Hiroto Yoshikawa for radiation oncology position
- Collaborating in stem cell clinical research in Doberman Dilated Cardiomyopathy, ACE-inhibitor and experimental research projects (Furosemide HSS study in dogs and TD pimobendan in cats)
- Invited speaker for Critical Care Meeting and lead instructor for IVECCs on various cardiology based topics. Also invited speaker for regional and state conferences.
- Acceptance of 2 research abstracts for this year’s ACVIM forum (coauthor)

Degernes - I provided senior leadership for the Exotic Animal Medicine Service as it continues to grow and evolve. Our clinical program has expanded significantly with respect to case load, after hours emergencies, and income in the past year, and we added one intern to help meet these demands. We meet regularly for service meetings and recently implemented M&M discussions that are held twice monthly. Looking back over the past 4 years since EAMS was started, I am very proud of the progress we have made to reestablish a top-notch exotics clinical training program.
The development of this service addresses many parts of the CVM Strategic Plan. –

1) enhance success of our students [exotic pets are an important component of small animal general practice, particularly small mammals, and our students are more competitive for jobs with these additional skills];

2) enhance scholarship & research by investing in faculty & infrastructure [the CVM administration has provided extensive funding for building this new clinical service, including addition of personnel, renovation of space, and purchase of equipment – in turn, EAMS has developed an excellent training program for DVM students and house officers and is contributing scholarly publications to the body of literature];

3) enhance interdisciplinary scholarship [EAMS has developed partnerships across the Veterinary Hospital, as well as with many of our partner institutions, including NCMNS, CMAST, NC Aquariums, NC Museum of Life & Sciences, etc.];

4) enhance organizational excellence by creating a culture of constant improvement [EAMS has made huge progress over the past four years through a lot of hard work and effort on the part of many faculty and staff members, current and past].

**Early** - I was invited to speak at 17 Universities, National and International Conferences on neurology and spinal surgery.

**Elfenbein**

- In-depth journal club with equine house officers. This has been a success to train all of the house officers in critical thinking. They are clearly improving in their ability to read and analyze manuscripts and have provided feedback that they are appreciative of the experience.

- Research mentoring. I have mentored two veterinary students, one graduate student, two undergraduate students, and one resident in the laboratory. Each is learning experimental design, hypothesis generation and testing, and data analysis. My resident received the VPP grant to fund research in my laboratory. My intern’s abstract was accepted as an oral presentation to the ACVIM in June. This is an area that I would like to expand in the upcoming years.

- Research and collaborations. I have successfully set up the ligated ileal loop model here at NCSU. This is the 3rd location in the world to use the model and the only one in the US actively using this model. This model has allowed for collaborations with investigators in California, Texas, Washington, and North Carolina and will result in publishable data as well as future collaborations and grant support. In addition to this, I have funded collaborations locally within the College of Science at NCSU.

- Research awards. I won the AVMA-AVMF Young Investigator Award for my translational research on Salmonella. In addition, my student Kim Schreiber, received two grants (AVMA-AVMF Second Opportunity Research Award and George H. Hitchings New Investigator Award in Health Research) to fund a second opportunity in research to study Salmonella in my laboratory.

- Manuscripts. I had a manuscript published in PLoS Genetics. This manuscript was recommended to the F1000, a post-publication peer review mechanism. This is a high honor that recognizes a substantial contribution to the field.

- Clinician-scientist. I was recognized as a clinician-scientist by my specialty college through an invitation to speak at the ACVIM resident’s forum about a career as a large animal clinician-scientist. This indicates national recognition of my career path. I see this as a stepping-stone to becoming a future leader in the college/profession to recruit veterinarians into basic science, filling a terrible void in our research infrastructure.

**Ferris**
- Animal Welfare initiatives: Partnered with NCDA&CS Animal Welfare Section, Hoke County Sheriff’s Department, and ASPCA to investigate, document forensic findings, and provide ongoing shelter medicine services for nearly 700 dogs, cats, birds, and pigs seized from a suspected animal rescue hoarding facility.
- Extension and teaching: Provided 2 Mobile Hospital Feral Cat one-week Selectives in Salisbury, NC and Avon, NC to introduce students to Trap/Neuter/Release spay/neuter protocols and familiarize them with evidence based literature and controversies associated with TNR management strategy.
- Extension and Service Learning and diversity: Mobile Hospital activity partnering with Wendell Fire Dept., Wake County Animal Care, Control and Adoption Services, and Neuse River Animal Hospital to provide rabies vaccination for dogs and cats from underserved community with bilingual event announcements and wellness educational handouts in the local area.

**Fish**
- Effective teaching at professional, graduate and undergraduate levels (Enhance the success of our students through educational innovation)
- Active participation in the LAM residency program, including mentoring of current resident and successful recruiting of a new resident to start this summer (Enhance the success of our students through educational innovation)
- 1 continuing education paper
- Continued efforts to secure research funding from both internal and external sources (Enhance scholarship and research by investing in faculty and infrastructure)
- Co-author of 1 peer-reviewed publication; co-author of 2 poster presentations (mentee first author); 2 manuscripts in preparation as first author or mentee first author (Enhance scholarship and research by investing in faculty and infrastructure)

**Fogle**
- Invited to write the postoperative complications of colic surgery chapter in the Auer & Stick Equine Surgery textbook. This achievement will enhance my regional and national reputation in the area of colic surgery.
- Invited to present a poster and abstract at the Veterinary Educator’s Conference in Calgary, 2016. This achievement will foster new collaborations and generate new ideas and innovations for teaching equine surgical skills and field skills to veterinary students, enhancing the success of new equine and mixed animal veterinarians through educational innovation.
- Developed a preventative care plan for horses in the Teaching Animal Unit, that will be integrated into the new Equine Field Skills Elective, VMC 906. This plan will serve to improve the care that TAU horses receive and will generate additional, critical learning experiences in the area of equine preventative health and podiatry for equine and mixed animal focus students, enhancing the success of new equine and mixed animal veterinarians through educational innovation.
- Coordinating and speaking in the equine section of the American Veterinary Medical Association and North Carolina Veterinary Conferences for 2016. This achievement fosters development of relationships with other equine clinicians, and enhances my regional and national reputation in the area of equine surgery.
- Serving on the search committee for the Associate Dean and Director of Academic Affairs.
- Comparison of lipopolysaccharides and soluble CD14 measurement between clinically endotoxaemic and nonendotoxaemic horses accepted for publication in Equine Veterinary Journal, second author.
• Co-developed and co-taught two new lectures, on CPR and trauma (large animal), for the newly developed VMC 942 Principles of Medicine course. This course fosters collaboration between the small and large animal faculty, and addresses a critical need in the curriculum for reinforcing common principles that are applicable across species.
• Co-coordinating and teaching a new fourth year clinical rotation consisting of one week of equine dentistry education (from previous dentistry selective) and one week of podiatry. This course addresses two critical needs of equine and mixed animal focus students within our curriculum, enhancing the skill set of our students through educational innovation.
• Served as the faculty coordinator for the annual Equine Health Symposium. This symposium continues to directly enhance our local and regional engagement with referring veterinarians, farriers, and with veterinary groups such as the New England Association of Equine Practitioners.
• Participated in a community engagement trip to Tryon, NC, to discuss future collaborations with several groups in western North Carolina, specifically Tryon International Equestrian Center (TIEC), Tryon Equine Hospital, Isothermal Community College, and Foothills Equine and Nature Center (FENCE). This effort is likely the beginning of ongoing collaborations that will serve to enhance local, regional, and national engagement through focused strategic partnerships.
• Organized and led several castration events for horses seized by the ASPCA and county rescue organizations. These events enhance the success and hands on experiences NCSU veterinary students receive, promote community engagement, and improve animal well-being.
• Developed video to demonstrate the utility of the dynamic endoscopy imaging service available through the Equine Soft Tissue Surgery Service, to enhance local engagement with practitioners and promote awareness of one of the many advanced imaging capabilities available at NCSU.
• Organized the annual NCSU Equine Referring Veterinarian Social event, which promotes local and regional engagement with the veterinarians that refer equine cases to the Equine Hospital each year.
• Led a table topic on castration complications at the 2016 American Association of Equine Practitioners Conference, and a discussion session on colic complications at the 2016 American College of Veterinary Surgeons’ Conference. These seminars serve to enhance my regional and national reputation as an equine surgeon.
• Developed and instituted an online method for collection of data in the hospital and for collection of survey data after discharge, as part of the NCSU Equine Colic Database.
• Applied for and received approval for purchase of various equine simulators that will improve the teaching of critical equine skills such as: rectal palpation, equine emergency and disaster management techniques, haltering, venipuncture, intravenous medication administration, intramuscular injection, transtracheal wash, nasolacrimal duct lavage, and nerve block techniques of the equine head. These simulators will enhance the skills of our students through educational innovation.
• Developed four rectal palpation simulators for use in VMC 956/VMC 906, which will additionally enhance the tactile skills of our equine and mixed animal students through educational innovation.
• Collaborated with Michigan equine faculty on a resident project investigating the use of an intra-abdominal adhesion prevention product.
• NCSU Mentor for a Hitchings Young Investigator Award application for Megan Radkin, with development of a collaboration with Dr. Andrew Van Eps, a well-known Australian laminitis researcher.
• Developed two mini-Clinical Evaluation Exercises, for use in VMP 956/VMC 906 and for use in clinical Equine Surgery rotations. These exercises assist clinicians in providing
students with specific, instant feedback on their history taking and physical examination skills, thereby enhancing the skills of our students through educational innovation.

- Led an ongoing effort to evaluate our equine skills curriculum. Results of this effort have been used to revise the lameness elective, used to guide development of new stations for the Equine Primary Care Course, will be used to develop additional laboratories within the VMC 906 Equine Field Skills Elective Course, to revise the content in the first and second year TAU labs, and to guide the equine surgical skills revisions in VMC 965. This effort will result in new equine and mixed animal graduate veterinarians that have enhanced practical skills and are highly desired by future employers.

**Gieger**

- Delivered an invited talk to veterinary technicians about radiation oncology/therapy at the annual/national Veterinary Cancer Society meeting
- Served as Chair of the ACVR, Specialty of Radiation Oncology exam committee
- Resident achievements- Matt Arkans passed ACVR boards; Krista Kelsey presented an abstract at ACVR; Leanne Magestro’s paper was accepted (I was the mentor for this project)
- I submitted a first author paper and am co-authors on a few other submitted publications and am presenting 2 research abstracts and doing a talk at ACVIM 2016

**Gilger**

- I have had several nice publications this year (see bibliography)
- I have been honored as a “Fellow” of the Association for Research in Vision and Ophthalmology (ARVO), the largest ophthalmology research group in the world, and only the second veterinary ophthalmologist to get this honor.

**Gonzalez**

- A large portion of this year was dedicated to setting up my new laboratory. I have bought new equipment, successfully applied for and received the college equipment grant with my GI cluster colleagues, hired a research specialist and I have my first graduate student. In hiring a new Research Associated and graduate student, a lot of time was spent training these individuals on how to conduct the experiments performed in my laboratory. Overall, I believe that I currently have a very effective laboratory team. I expect to have many more manuscript submitted and published this coming year.
- I believe that my diversity endeavors will ultimately enhance the success of our students. I have successfully conducted a survey to the perception of the advising program by all four classes of students. I hope that the results of this survey can be used to improve student advising and therefore improve the student experience.
- I have purchased multiple large pieces of equipment much of which is shared with my fellow GI Cluster Hire faculty. Dr. Dekaney and I, together purchased a top of the line qRTPCR (Quantstudio 6) machine. Together, Dr. Dekaney, Dr. Van Landeghem and I, wrote a $60,000 equipment grant that was funded to purchase a light microscope. This microscope will serve to advance our own research and undoubtedly other researchers here at the CVM.
- I have been an integral part of a collaborative grant, the CALS-CVM grant. This research is done in collaboration with Drs. Blikslager and Odle. Additionally, I have also established collaborative project with faculty in PHP and I am actively mentoring their resident for her research project.
- I have participated in the “K Club” which is organized by Dr. Kate Meurs. This is a group of young faculty that meets monthly to discuss our progress as well as critically critique each other’s grants. The aim of this club is to assist in the transition from K awardee to
R01 recipient. We therefore aim to help each other develop, improve and achieve our goals.

- I have established a strong collaboration with researchers at Michigan State University, as I was the first and continue to be one of the few labs that culture porcine enteroids. Additionally, I have become very active in diversity initiatives both at the veterinary college and down campus.

**Gookin**

- Teaching: Created and delivered lecture and Moodle-based laboratory content for a new DVM Course VMB932 Veterinary Medical Decision Making. An abstract sharing the results of this course was accepted for presentation (Corresponding author = Shoenfeld) at the Veterinary Educator Collaborative, Calgary, Alberta, Canada June 19-22, 2016. (Strategic Plan: Educational Innovation)
- Nominated; Graduate School Outstanding Graduate Faculty Mentor Award
- Research: University Faculty Scholar Award (2016-2020)
- Service: As Chair, led a successful Dean’s Faculty Excellence Cluster Hire that resulted in the hiring of 3 new tenure track faculty positions in Gastroenterology (Dekaney, VanLandeghem, Gonzalez). (Strategic Plan: Enhance Scholarship and Research).

**Hanel** - Our service continues to grow every year, and our ECC training program is known as one of the top programs in the nation. This past year I have focused on my research and teaching endeavors. In alignment with the strategic plan, I hope it is obvious that I have contributed to a culture of constant improvement and research excellence. Dr. Dorman has been invaluable in my professional growth and we are a productive team. I also have strong mentoring ties with my veterinary student mentees and have celebrated their successes. I had a student at risk of dropping out who is now successful, and my senior advisees, Kelsey Arrufat and Adriea Crosdale, have attained their goals and graduated with pride.

**Hansen**

- Taking over VMC 937 and getting the instruction there aligned with other courses, simlab goals, and principles of proper techniques, in part by use of instructional video
- Development of new lectures for VMC 942 and coordinating that material with coursework in clinical pathology and physiology

**Harms**

- AAZV Working Group on Standards of Care for Field Anesthesia and Surgery reports were finalized and published in a special supplement of the Journal of Wildlife Diseases
- Delivered invited continuing education on marine animal veterinary medicine to professional groups in Mexico and Brazil.
- Promotion to full professor finalized.
- A third paper based on backyard hobby science with my dad was published:
Harrell
- One of the biggest highlights of this year was working with Dr. Marks to increase the small animal rotating intern number to 12 total, with that 12th individual being from a minority group. As diversity is an essential goal for the strategic plan, I feel this is an important step forward. This position also was created in response to current concerns within the intern class that the caseload has become unsustainable for 11 interns. I worked with the ER group to establish an additional shift (based on intern concerns) to help cover our rising emergency caseload. I have heard extremely positive feedback for this change. This change enhances organizational excellence by creating a culture of constant improvement. We have also progressed in the more standardized use of fecal transplantation and instituted more consistent use of probiotics supported by research.

- For student teaching, I am excited that we now have adequate faculty numbers. This means I was able to involve the students much more closely in case discussions, including inviting them to attend cage side rounds, having them attend the house officer rounds when time permits and being able to more carefully assess their SOAPs and their understanding of cases. These changes are meant to address the most common complaints from students on our evaluations. I believe this fits with the strategic goal of enhancing student success through educational innovation.

- I was also able to give not only regional, but national continuing education this year, which helps continue to enhance my reach as a recognized internist and enhances the NCSU brand.

Harrison - I have been involved in achieving PETCO foundation support for the treatment of exotic animals with neoplasia. This funding, in partnership with Dr. Stoskopf and Dr. Nolan, will provide $150,000 for the first year and $100,000 for years two and three. This will greatly aid our ability to increase the amount of exotic animals with neoplasia we are able to treat. It will help to enhance our treatment of animals that are our clients, and it will place NCSU at the forefront for treatment of exotic animals with neoplasia nationally. This funded assistance for clients will enhance exotic animal treatments in accordance with the CVM Strategic Plan point number 5, and will allow us to assist in therapies for our local and regional patients that previously could not have afforded neoplastic treatments. Educationally, I have developed a residency program in Zoological Companion Medicine, and am supervising our first resident in this program, which went through the full approval process from the American College of Zoological Medicine as a certified residency. This enhances scholarship for point 2 of the CVM strategic plan.

Hawkins
- Major accomplishments from scholarly leave included:
  - Set up and refined the hardware and software necessary for collection of respiratory function data in awake dogs through tidal breathing spirometry, respiratory inductance plethysmography, and arterial blood gas collection at Texas A&M University where my collaborator, Dr. Joe Kornegay, has a colony of dogs with golden retriever muscular dystrophy (GRMD). Detailed protocols were created to minimize human error. Data is now being collected on-site by Dr. Kornegay’s technical staff and being sent to me in NC for analysis. [Strategic Plan 3: Enhance interdisciplinary scholarship to address the challenges of society]
  - My digital filing system of images and videos was updated for accessibility for teaching. This involved identifying and categorizing a large number of files that were saved without description, reorganizing and renaming files from the Cumulus database that I had used for nearly 15 years, and eliminating duplication. The result is a total of 3,704 files in 367 folders, with meaningful
names, that are now stored on Google Drive. [Infrastructure improvement in support of Strategic Plan 1]

- Gene therapy trial for dogs with GRMD has begun. [Strategic Plan 3: Enhance interdisciplinary scholarship to address the challenges of society]
- Served as Opponent for a PhD candidate at the University of Helsinki in Finland. Area of study: canine idiopathic pulmonary fibrosis. Interactions have resulted in the possibility of future research collaborations through Finnish graduate students. [Strategic Plan 5: Enhance local and global engagement through focused strategic partnerships]
- Co-investigator on $1.9 million NIH Grant application: Regenerative Potential of Lung Spheroid Cells. Ke Cheng, PI. (not funded) [Strategic Plan 4: enhance interdisciplinary scholarship to address the challenges of society]

Hess

- Teaching/mentoring:
  - Received an Undergraduate grant and mentored the recipient student on a summer project culminating in a poster presentation
  - Helped the CBS graduate program/Immunology Concentration by:
    - Mentoring 2 PhD students (of 8 total in the Immunology program)
    - Serving on 6 graduate student committees
    - Teaching 4 seminars in Advanced Immunology IMM783; attending Advanced Topics IMM816
    - Helping with the organization of the NCSU-Novartis Immunology Symposium
- Service:
  - Received funding for, and began implementation of, a clinical trial for measuring minimal residual disease burdens in dogs with T-cell lymphoma undergoing CHOP chemotherapy
- Research:
  - Submitted an invention disclosure regarding our discovery of cancer/testis antigens in canine tumors, which was selected by the NCSU OTT for advancement (ie., gauging commercial interest)
  - Demonstrated that a particular next-generation sequencing technology (PacBio/SMRT) can accurately resolve feline class I genes, paving the way for the next step: a global survey of FLA gene usage

Jones

- Zoetis Research Award
- CBS PhD enrollment increased
- Physiology PhD integration into CBS is on track
- 1 graduate student hired as a tenure track professor at NCSU
- 1 graduate student hired as a clin path resident at NCSU
- 1 graduate student hired as Active Learning Coordinator, University of Maryland, Baltimore County
- 1 graduate student hired as clinical assistant professor at Purdue

Kedrowicz

- I enhanced student success through educational innovation via the development and teaching of the Introduction to Clinical and Professional Communication course.
- I completed nine scholarly projects, six first-author, and engaged with external constituencies by facilitating seven seminars and workshops.
Keene - I taught the CV physiology lectures and labs as well as the CV portion of VMC942 to foster an environment of active learning and participation, hopefully enhancing our student’s success through educational innovation. I published collaboratively and wrote a couple of interdisciplinary grants with faculty from NCSU Human Factors Psychology, NCSU and UNC Mechanical and Biomedical Engineering, and Duke Pediatric Cardiology, where I have been appointed at the rank of adjunct professor. We have expanded our cath lab safety initiative, as well as the interventional capabilities of the lab.

Lascelles - My research achievements advance the College’s Strategic Plan in areas 2 and 3 (2. Enhance scholarship and research by investing in faculty and infrastructure, 3. Enhance interdisciplinary scholarship to address the challenges of society)

Lewbart
- Successful implementation of the Galápagos Selective with 18 Class of ’17 students.
- Continued progress with research in Galápagos including two trips (field work and an international strategic planning meeting).
- Continued growth and success of EAMS
- Planning for the 20-year anniversary celebration of the Turtle Team.
- Helping both an EAMS intern and Zoo resident though a difficult year.

Lunn - Achievements related to the strategic plan are aligned with #1 in the plan. I continue to participate in several courses (detailed above) and I am integrating my teaching of endocrinology across all years in the curriculum. I continue to be significantly involved in the new curriculum, particularly in areas of clinical reasoning/problem-based learning, and communication skills. For #4 in the plan I integrated my roles as residency program director and acting assistant department head to provide leadership in my section. I have also gained agreement from my colleagues in SAIM to provide a new didactic boards preparation course for ACVIM residents.

Maggi
- Improved and expand molecular diagnostic targets for vector-borne pathogens to be available to the VH, and veterinarians nationally and abroad.
- Enhance the success of our undergraduate students through immersion on current research techniques and hands-on experience in laboratory work related to molecular characterization of vector-borne pathogens. A total of 4 students and one international visitor Scientist were trained and collaborating in different projects during this period.

Marcellin - One of the summer research scholars I supervised won the best presentation award at UNC Chapel Hill’s Biomedical Research Imaging Center research symposium.

Mariani - The development of several distance education courses through New Zealand partners would fulfill item 5 of the CVM strategic plan; it certainly engaged a number of practicing veterinarians from around the world.

Mathews
- Plan 1. Addition of nutrition lecture in 932.
- Plan 2. Hired clinical instructor in orthopaedics to increase fracture load.
- Plan 3. Activities surrounding interdisciplinary work with faculty in engineering and other institutions –Dr. Buckner (liver tumor targeting and shape memory alloy stents), Jay Maclennon – Anaplastology Clinic – nasal prosthetics, Julie Hovrath UNC – skin microbiome, Lola Reid UNC – stem cell strategies for liver regeneration.
Mowat - Within my first year, I have begun to establish myself within the NCSU CVM community. My key achievements this year have been in personal academic success, gaining board certification in both the European and American Colleges of Veterinary Ophthalmology. The American Association of Veterinary Clinicians and the National Society of Phi Zeta recognized me with awards for my residency research achievements. I am building key research connections and collaborations within the local community, which will allow my work to be more widely understood and broaden the impact of my research. I have applied for numerous grants during my first year, and have been successful in obtaining extramural funding for my research.

Munana
- Awarded MAF grant to study use of accelerometry to detect seizures in dogs.
- Publication of consensus statements from work on International Veterinary Epilepsy Task Force and ACVIM Consensus Panel.
- Begun research collaboration with Megan Jacob (PHP) on GI homeostasis and epilepsy - awarded pilot grant from AKC.

Murphy
- Enhance the success of our students through educational innovation- Continued changes made to the dermatology laboratory portion of didactic teaching well received by students. Individual student groups of 12-13 students met with one clinician and discussed 4 cases, which had previously been provided to the students.
- Enhance interdisciplinary scholarship to address the challenges of society-continued to implement major changes to the board certification examination for veterinary dermatology candidates in the area of application of knowledge (AOK) questions on the histopathology portion of the certification examination.
- Secured continued funds for the 2 Dermatology senior student awards of $1000 each from Bayer Animal Health. Continued the $500 award from Merck Animal Health

Musulin
- Teaching – I again have expanded my teaching involvement beyond that listed on my original SME (2013). This was the second year that I was a block leader for VMC 976 (Small Animal Emergency & Critical Care). In 2015, Dr. Hanel created an ECC selective (VMC 991 Critical Concepts in Emergency Medicine) with the help of all ECC faculty. I teach a day of lecture and lab on transfusion medicine for this selective. I also taught a new lecture for VMB 912 (Intro into Clinical Problem Solving) on ‘Creating a Therapeutic Plan’. I continue to serve as a facilitator for VMP 922, which now has the additional role of grading three separate written assignments. I helped teach two labs for VMC 937 this year. For VMC 960 (Emergency Medicine Clinical Rotation), I updated the student assessment outcome measures for all first-time students, but also created an advanced student assessment sheet for those enthusiastic students taking the rotation a second time.
- Scholarship/Research – I completed a co-authored chapter on transfusion medicine and am in the midst of writing a chapter on cardiopulmonary resuscitation for a veterinary cardiology textbook.
- Enhance Organizational Excellence – I am very proud of several positive changes I have implemented in the blood bank this past year. I have expanded the canine blood donor program to include DEA 1 (+) canine donors with the goal of ~60 canine donors (previously ~30 donors). This expansion of blood type [DEA 1 (-) and (+)] required extensive planning to educate the entire hospital. As part of this expansion, I worked
with computer resources to update the Blood Bank link in VHC apps, central supply to order necessary supplies, billing to create new billing codes, and ward supervisors to educate technical staff. I also worked with medical records to develop a system for recording blood type in the paper and computer records of our patients. As part of this launch, I created a new Transfusion Administration Form. Finally, I have incorporated a new RBC administration technique for our small canine patients.

• Enhance Local and Global Engagement – I became a board member of the Association of Veterinary Hematology and Transfusion Medicine (AVHTM) in August 2015 and President of the association in March 2016. My involvement with the AVHTM has allowed me to form partnerships with experts in transfusion medicine from academic institutions nationally and internationally as well as work with other blood banks.

Nolan

• Enhanced the success of our students through educational innovation:
  o Continued teaching in VMC951; revised lectures based on 2014 student feedback; also made significant adjustments/improvements to the interactive virtual clinic module I use in the lab section of that course. Unfortunately, there were major technical problems with implementation of the virtual clinic this year, so the students probably didn’t get an amazing experience out of that, but I am optimistic that we can fix those problems for next year. In 2015, I also started working on making new lectures and material for the revamped VMC951 and new VMC901 courses.
  o Dr. Gieger and I made major changes to the Feline Oncology Selective; adding interesting new lecture topics (e.g., large cat oncology) and new interactive lab sessions (e.g., esophagostomy tube placement).

• Enhanced organization excellence by creating a culture of constant improvement
  o In 2015, the radiation oncology service added a 3rd radiation oncologist (Dr. Keara Boss) in a part time position, to aid in clinic workflow. We also began interviewing for a 3rd full-time (tenure track) faculty member in radiation oncology.
  o I continue to hold monthly service meetings with a clinical radiation oncology team members, with the goal of evaluating progress, and identifying gaps where there is room for improvement.

• Enhanced local and global engagement through focused strategic partnerships
  o Began serving on the steering committee for the Consortium for Canine Comparative Oncology, which is developing a formal partnership between the Duke Cancer Institute and NCSU CVM; the C3O is scheduled to host its first annual symposium on March 4, 2016, and will announce a request for proposals to foster collaborative research initiatives between investigators at each institution.
  o Continued support of the developing radiation oncology service at the University of Georgia’s College of Veterinary Medicine, by helping their radiation oncologist learn how to safely utilize their new linear accelerator.
  o Continued supporting the development of the oncology service at Virginia-Maryland College of Veterinary Medicine by hosting their resident for 8 weeks during the 3 year residency, and by visiting Blacksburg to give a lecture in their 3rd year DVM student oncology elective course.
  o Began collaborating with Dr. Ven Subbiah, who runs a small pharmaceutical/chemical company here in North Carolina; we are investigating feasibility assembling an STTR grant proposal, to develop a mouse model of radiation induced lung injury, and use that to test a compound he owns, that might protect against radiation induced lung injury, which is a major cause of
death after accidental and terrorist activity-related whole body radiation exposures.

- Completed a clinical trial in pet dogs, assessing safety of a novel cancer therapy. This work is sponsored by Immunolight, LCC (a local biotech company) and was performed as a collaboration with Duke Cancer Institute. We are now planning follow-on studies that will again be sponsored by Immunolight. In 2015, I was also PI on an unfunded NCI-STTR phase I grant application to further support this work.

- I began working with Dr. Bridget Koontz, who is an MD radiation oncologist at Duke. We have mutual research interests in the realm of radiation-induced normal tissue injury in the pelvis, and are working on a retrospective data analysis related to risk of developing sexual toxicity after prostate tumor irradiation; the goal is to publish this paper together, to demonstrate our existing collaboration, which will strengthen future collaborative grant proposals.

Olby
I have initiated and completed clinical research that reflects my attempts at constant improvement of clinical practice (CVM strategic plan point 4) – these are listed below.

- Awarded funding by Morris Animal Foundation to evaluate post-operative rehabilitation of dogs with acute disc herniations
- Awarded funding by Assisi Animal Health to evaluate the effect of electromagnetic fields on the outcome of acute spinal cord injury in dogs.
- Published the results of a clinical trial evaluating neuroprotective drugs in acute spinal cord injury in JVIM. This paper has been highlighted as being influential in altering opinions on how to treat acute spinal cord injury.

I have worked to enhance interdisciplinary scholarship (CVM strategic plan point 3) in the following ways:

- Founding member of the Canine Spinal Cord Injury Consortium – CANSORT – serving on the leadership committee of this international group.
- Ongoing collaborative work with NCSU BME, statistics and genetics and UNC imaging

Olivry - The increased collaboration with my colleagues of the new “Allergy-Itch” cluster with a joint lab meeting led by Dr. Baeumer and the incorporation of the new hires, Drs. Mishra and Cruse. We are already planning joint projects and grants. I am close to achieving the vision that I always wished to have: NC State research collaborators invested in the same area in which I am interested.

Prange
- Enhance the success of our students through educational innovation
  - In order to prepare students more appropriately for the time after graduation, I took the expectations of equine practitioners who hire new graduates into consideration, when planning my VMC 965 labs. While this changed the contents of the labs I am teaching, I used feedback from the students to adjust my teaching methods: after an introductory lecture, the students perform the surgical procedures on cadaver limbs in the lab, where they have access to a hard copy of the lecture while instructional videos are playing on the screens next to their surgery tables. These additional resources in the lab helped the students to perform the procedures more efficiently.
  - Following the experience of my first year teaching the VMP 936 lameness lab, I created a document for the students that summarizes the equine lameness examination and complements the video we created last year. This combination
of resources made it easier for the students to prepare for the lab and resulted in a more rewarding learning experience.

- Throughout the last years, I have been improving and adjusting the syllabus of the lameness rotation (VMC 978) that I am coordinating. This has resulted in a completely revised syllabus that was first applied to the class of 2016. I considered the reviews I received from students of previous classes, suggestions from our orthopedic faculty members as well as expectations from veterinarians who hire new graduates. The course now involves participation of selected private practitioners who allow students to examine and treat some of their patients. All this is aimed to improve the knowledge and confidence of the enrolled students, only weeks before they graduate from the CVM.

- Enhance scholarship and research by investing in faculty and infrastructure
  - Dr. Shrauner, our third year surgery resident, submitted the manuscript of his residency research project for publication to the Equine Veterinary Journal as a first author, with me as the corresponding author. He also presented the study, funded by the New Investigator and Feasibility Fund, at the 2015 ACVS Surgery Summit, where he won the Resident Large Animal Research Award as well as the Resident Speaker Exchange Program Award. The latter will allow him to present our project at the 2016 ECVS Conference in Portugal. The first part of this study was also published in the Equine Veterinary Journal in the January of 2016. The publication was selected by the editors of the journal to be featured in the monthly podcast of EVJ.
  - Dr. Noll, one of our current interns, submitted a retrospective, multicenter international study on equine tongue-tumors to the AAEP as a scientific abstract. This study was challenging, in particular the data collection, but has now reached a point where the gathered information is ready to be presented and soon to be published.
  - I have been co-author on 2 peer-reviewed papers, one has been accepted for publication and the other manuscript is currently under review. I also published a peer reviewed case report as well as an invited commentary.
  - As a seminar chair at the 2015 ACVS Surgery Summit, I was able to not only present but also to invite other speakers from NCSU CVM to speak at a national meeting. This well received session led to invitations to speak at the ACVS conferences in 2016 and 2017.
  - Our internship program has continued to be successful in graduating all of our three equine medicine and surgery interns. In addition, we were able to accept another house officer into our program, half-way through the academic year, after his position within another internship program was in jeopardy. Out of these four interns, three successfully applied to accredited residency programs in the USA.

Qurollo

- Enhance the success of our students through educational innovation: I have enhanced the success of the students by developing a section of instruction covering VBD for VMP-978 Clin Path, Lab Med and Nutrition. In addition to tutoring those students who struggle to learn and retain the core course work taught to them during their first two years, I wrote a proposal outlining a solution to how the college could raise the competency levels of students who fail a core course in their first or second year through a self-directed study program, that would not involve holding them back a year and would require minimal involvement from course coordinators.
- Enhance local and global engagement through focused strategic partnerships: This year I partnered with a scientist and veterinarian working in Duke’s Biology Department to write a proposal that would enhance global engagement using a cross-disciplinary
(researches studying evolutionary biology, vector-borne disease, and veterinarians in Madagascar) approach for testing the prevalence of tick-borne pathogens and tick species across areas of both undisturbed and anthropogenically disturbed habitat in eastern Madagascar and to determine the zoonotic potency of newly discovered tick-borne pathogens found in Lemurs from disturbed habitats. The outcome of the study would illustrate how anthropogenic disturbance influences the prevalence of tick-borne pathogens and tick species, and inform veterinarians and medical professionals in Madagascar of new tick-borne diseases prevalent in their community, addressing the potential for zoonotic transmission and disease in humans.

**Redding** - Achieved diplomate status in the American College of Veterinary Sports Medicine and Rehabilitation (ACVSMR) now need to organize and develop the program with Dr. Schnabel. The first step will be to develop a residency position to utilize the installation of a salt water spa and aqua-treadmill this year and then to develop protocols for their use.

**Risselada** - Research: Submitted an intramural grant in May 2015 (NCSU, $23000; not funded). In addition, I submitted two collaborative extramural grants in February 2016: Eshelman institute for Innovation, UNC School of Pharmacy ($200,000) and NCTraCS 4D pilot grant ($50,000).

I completed two online professional improvement modules (certificates attached). I improved my student evaluation scores in the clinic, for the SA extramural course (that I moved online in February 2016) and for my participation in the didactic course.

**Roe** - Took the Faculty Educators Program with AONA, developed a lecture evaluation instrument, developed a Wire Tying station in the Skills Lab, Teaching Innovation grant for developing a model to provide feedback during bandaging. Co-ordinated a new 2nd year course. Three lectures in the undergraduate BME field. Completed two projects on tension band wiring, abstracts submitted. Three papers published by residents where I was primary mentor. Maintained Orthopaedic Service with departure of Dr Lascelles and mentoring Dr Gines is his growth as a clinician and teacher. Both residents that completed in 2015 achieved board certification, Dr Korani passed 2/3. Leading VetView development team, Anatomy search (2 positions)

**Royal** - With regard to the strategic plan: #1: I helped enhance the success of our students by developing a “house system” model to ensure comprehensive wellness and the attainment of intellectual, social, emotional/mental, cultural and physical health outcomes. #2: I helped enhance scholarship and research by publishing (or having accepted) 29 articles. #3 I helped enhance interdisciplinary scholarship by collaborating with faculty and students at numerous universities throughout the United States and Canada. #4 I helped enhance organizational excellence by creating a culture of constant improvement by way of outcomes assessment activities.

**Scharf** - I was able to achieve several goals, including presentation of a scientific abstract at the ACVS Surgical Summit. I was also able to begin collaborating with researchers at Duke University in pursuit of grant application to further translational research into canine cancer as a comparative model for studying the relationship between environmental exposure and cancer. I helped enhance the success of our house officers through mentorship of a rotating intern and submission of a case report with another rotating intern. I also worked with the administration to introduce a new laparoscopic device and develop a minimally invasive surgery package to increase our minimally invasive surgery caseload and thus enhance resident training. I provided additional outreach to the community via training of military human trauma surgeons during two K9 Down labs.
Schnabel
- Tiffany and Randy Ramsey Equine Sports Medicine Program Gift - this gift marks the start of our Sports Medicine and Rehabilitation Program and has helped us do more fundraising and allowed us to purchase more equipment through the CVM to offer this new service to clients and also to educate our students in this new field.

- Established productive collaborations with colleagues from my department (Dr. Gilger) as well as other departments (Dr. Matthew Fisher from BME/COE). These collaborations have resulted in two funded grants with projects underway as well as a submitted R01.

Sheats - I contributed to advancement of the College’s Strategic Plan #1 through my leadership efforts in the Equine Primary Care program (educational innovation). Now that I am in a permanent position to oversee the continued improvement and growth of this program I am soliciting feedback from students, engaged faculty members and private practice partners to lead this program into compliance with all AVMA guidelines for distributive clinical veterinary teaching and learning. I have also contributed to educational innovation through my involvement in the simulation lab committee. I personally submitted requests to fund 4 different equine models and have worked closely with this group to plan future teaching space to incorporate these models into student skills labs. I am also contributing significantly to the planning of elective equine courses (Equine Surgery Elective) that will hopefully build stronger relationships with the TAU, improve student experiential learning in equine primary health care and provide needed health care to our teaching horses. I contributed to advancement of the CVM Strategic Plan #4 by beginning or conducting several research projects aimed at informing student educational strategies. These projects include: a survey study on student attitudes toward the Equine Primary Care program, a telephone communication research project and an equine owner focus group study. I also contributed to the “constant improvement” effort by inviting and co-hosting equine behaviorist Sue McDonnell to spend two days speaking to faculty and staff on low-stress horse handling techniques. Her presentations and advice have reformed (and I believe improved) how I teach the equine physical exam TAU lab to first year veterinary students. I contributed to CVM Strategic Plan #5 through my involvement with community outreach in Rutherford/Polk counties (Tryon Equine Hospital, TIEC, ICC) and my continued efforts to strengthen relationships with Equine Primary Care private practice partners.

Sherman
- Enhance the success of our students through educational innovation
  Goal 1: In order to advance training of veterinary students in clinical animal behavior, I implemented educational innovations in the core course, VMC 927, Introduction to Companion Animal Behavior. These were 3 Moodle exams reviewed by exam specialist to improve assessment, 4 small group case discussions, each with a self-assessment rubric, assignment of student projects requiring application of behavior principles and writing skills, and grading rubrics for case discussions and projects. I am working with the Behavior Technician to enhance hands-on behavior instruction in General Practice and a Low-Stress Handling program for the Terry Center.

- Enhance scholarship and research by investing in faculty and infrastructure
  Goal 2. I have actively engaged in collaborative scholarly research projects with faculty at UNC, Duke, and on the NCSU Campus, thereby advancing the Strategic Plan of the College. I have attempted to invest in faculty by writing a proposal for a faculty position.
in Behavioral Medicine that was presented to the DOCS department and was highly ranked.

- Enhance interdisciplinary scholarship to address the challenges of society
  Goal 3. I have helped develop collaborative, NIH- and NSF-funded interdisciplinary research projects with colleagues in DOCS and MBS, in NCSU Computer Science and Computer Engineering, Duke Canine Cognition, and the UNC Department of Neurology.

- Enhance organizational excellence by creating a culture of constant improvement
  Goal 4. I recruited a donor to fund a Cat Friendly exam room in HWC and arranged a visiting professor to demonstrate low-stress handling techniques to the Equine Faculty and Staff, With our Behavior Technician, we are extending these practices throughout the VH. Working with the VM Foundation and the CVM Library, I have obtained extramural private funding for teaching enhancements in the Behavioral Medicine Service, such as an on-site reference library and web-cam video equipment, creating a culture of constant improvement in clinical behavior. I initiated a “Lean” review of the Behavioral Medicine Service to increase our efficiency.

- Enhance local and global engagement though focused strategic partnerships
  Goal 5. I am part of a team conducting research on machine learning for communication between collaborators in NC State Computer Science and Engineering and funded by NSF, will use computers and robotics to harness the physical and cognitive capacities of dogs for search and rescue in disasters, and other applications.

Snyder
- Leading initiative to change the business training our students receive. – Advances the College’s Strategic Plan to enhance the success of our students.
- Part of team which successfully acquired the college’s first director of career services. - Advances the College’s Strategic Plan to enhance the success of our students.
- Part of team seeking to fill 2 positions in the college’s dentistry service. – Advances the College’s Strategic Plan to enhance the success of our students
- Successfully introduced as series of professional development lectures in VMC 995 – Clinical Conference.

Stevens
- We have successfully increased our dental procedures for the GP rotation, giving each student the hands on opportunity desired.
- We will be rolling out the advanced GP rotation, blocks 23 and 24. In this I have also instituted a dental wet laboratory including examination and simple extractions.

Stoskopf
- Enhance the success of our students through educational innovation
  - Successful completion of the CoD Design Build project in the summer of 2015 as part of the ZTAU development with on time within budget design and construction of new facilities in the wild carnivore facility.
  - Beta tested a new online course targeted to Zoological Medicine post DVM students.
- Enhance scholarship and research by investing in faculty and infrastructure
  - Despite major efforts to encourage investment, only a replacement in the clinical realm was forthcoming from the college.
- Enhance interdisciplinary scholarship to address the challenges of society
- Supported and participated in first American College of Animal Welfare Short Course
- Improved methods of clinically sampling for metabolomic analysis of animals in the field.
- Enhance organizational excellence by creating a culture of constant improvement
  - Facilitated the successful relocation, refurbishment and replacement of the lobby coral reef.
  - Hosted first Jim Wright Visiting Scholar Lectures - speaker - Dr. Bill Murray
- Enhance local and global engagement though focused strategic partnerships
  - Successfully facilitated hiring the replacement for the NC Zoo Senior Veterinarian position
  - Successful facilitated hiring of first full time veterinarian for the NC Aquariums.

**Suter**
- Continued overhaul of the clinical oncology service to the benefit of 4th year students and house officers as described above. Our aim was to create a culture of inclusiveness and constant improvement.
- Continued talks with Dr. Marks, Jim Brawley, Dean Lunn and ICU faculty re: opening an extracorporeal treatment unit to include dialysis and apheresis. I have extended an offer to an excellent BMT Fellowship applicant for a 2-year BMT Fellowship. We plan to start accepting dogs in September 2016.
- We were able to hire an excellent clinical instructor who brought stability to the clinical service.

**Tou**
- Near completion of my MAF-funded research project
- Successful resident training program and match outcome
- Cohesive cardiology department and busy clinic caseload
- Several successful research collaborations

**Tate** - Advanced both Laparoscopic surgery and standing Laryngoplasty technique. Have blended new curriculum into additional courses to be advanced above the new core.

**Taylor**
- Enhance the success of our students through educational innovation
  - NCSU Sim Lab (psychomotor skills):
    - Opened the NCSU Simulation Laboratory for student use as Director of the lab.
    - Directed SimLab committee in expanding clinical skills models inventory for student use.
    - Obtained TIG grant for expansion of OVH teaching model availability to all freshman students between their first and second years. Began study monitoring effectiveness of availability of this model for self-directed practice.
    - Developed a feline neuter model for use by third year students.
    - Developed a model training correct us of surgical suture scissors including accuracy in measurement.
    - Instigated a video game model for high-stress communication within surgery.
    - Continued to build a portfolio of clinical skills resources for use in designing teaching models for the Sim Lab
Co-designed an advanced General Practice rotation for the last 2 blocks of the clinical year comprising increased expectations of students in terms of caseload, efficiency, dentistry skills and an introduction to rounds leadership.

Continued inversion of surgical teaching videos for students to ease spatial learning

Production of teaching videos for NCSU OVH surgery model, syringe handling.

Enhance organizational excellence by creating a culture of constant improvement

Circulated VMC 932 surgical teaching survey and began distribution of OVH model usefulness survey to assess how we can future assist the students with surgical teaching

Began study evaluating the efficacy of the new OVH surgical simulation model in clinical skills training

Developed guidelines (in consultation with other GP staff) on expectations of House Officers visiting the General Practice Service to help provide structure and accountability.

Improved my veterinary educational skills via:

- NCSU National Coalition for Building Institution - Diversity Workshop attendance

Furthered my education in general practice topics and towards ABVP certification:

- NCVC 2015
- Shadowed the NCSU Dentistry Service during a rotation to improve general dentistry knowledge
- BSAVA 2015 – attended as an officer on the BVRSMA committee which organized a 1 day rehabilitation and sports medicine lecture stream.

Other achievements

Presented lecture with NCSU CVME in conjunction with World Veterinary Association on Canine mobility wellness – available online

Vigani - The ECC training program at NC State is known as one of the top programs in the nation. Now it also includes direct exposure of the trainees to extracorporeal blood purification strategies. This represents a unique opportunity in the nation. There is an excellent interaction between the ECC seniors, and we push each other to succeed. The personal cooperation in research with anesthesia faculty helped at maintaining a positive interaction between the ECC and Anesthesia services in the hospital.

Westermeyer - I have started to develop a moodle based tutorial made up of modules that will cover the most important topics that we routinely cover in rounds during the ophthalmology clinical rotation. Thus far I have completed 2 of an estimate 5-6 modules.

Faculty Honors, Awards and Recognitions

- See bibliography
Faculty served as officers for their specialty colleges, which are the national certifying organizations for clinical disciplines, and for other national and international organizations. Many faculty members served as reviewers for national and international journals.

Faculty appointments and promotions:

Promotions made effective July 1, 2015
- Dr. Scott Bailey - promoted to Associate Professor with Tenure
- Dr. Craig Harms - promoted to Professor
- Dr. Brenda Stevens - promoted to Clinical Associate Professor

Reappointments to be effective July 1, 2015
- NONE

New Faculty Appointments (since April 1, 2015):
- Dr. Alessio Vigani - Clinical Assistant Professor of Small Animal Emergency Critical Care and Extracorporeal Medicine – June 29, 2015
- Dr. Liara Gonzalez – moved into an Assistant Professor of Gastroenterology and Equine Surgery position – June 29, 2015
- Dr. Sara Lyle – Associate Professor of Theriogenology – July 6, 2015
- Dr. Katie Sheats – Moved into an Assistant Professor of Equine Primary Care position – July 13, 2015
- Dr. Tara Harrison – Clinical Assistant Professor in Exotic Animal Medicine – July 20, 2015
- Dr. Barbara Qurollo – Research Assistant Professor of Small Animal Internal Medicine – August 28, 2015
- Dr. Ashley Brandes – Clinical Assistant Professor of Medical Oncology - August 31, 2015
- Dr. Karen Tefft - Clinical Assistant Professor of Small Animal Internal Medicine – January 18, 2016

Faculty Departures (since April 1, 2015):
- Dr. Betsy Coffman – May 15, 2015
- Dr. Mike Whitacre – Retiring June 30, 2015
- Dr. Vanessa Grunkemeyer – June 30, 2015
- Dr. Slava Eroshin – November 16, 2015
Graduate Students

There are 27 graduate students with a PI in DoCS. DoCS faculty participate as committee members on numerous other training programs.

House Officers

Faculty supervised the training of 44 residents and 20 interns in 17 specialty areas.

<table>
<thead>
<tr>
<th># of applications for DoCS residency programs</th>
<th># of applications for DoCS internship programs</th>
<th>Residents finishing w/in the last 5 years passed certification exams w/in 4 years of finishing residency</th>
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<tbody>
<tr>
<td>905</td>
<td>369</td>
<td>45</td>
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Honors and other measures of quality (students, graduate students, house officers with whom faculty have advised, mentored and or served on committees)

C. Adin - Dr. Bronwyn Fullagar, a Surgery Resident and a Master’s Degree student in my lab at Ohio State completed her Master’s Thesis (NANOENCAPSULATION OF BILIRUBIN AND ITS EFFECTS ON ISOLATED MURINE PANCREATIC ISLET CELLS) and graduated in 2015 with an MS degree. Dr. Fullagar presented the research in the ACVS Resident competition in Oct. 2015 and won first prize, securing a trip to present the work at the ECVS meeting in July 2016.

D. Adin - Dr. Aona has was awarded an ACVIM Cardiology Resident grant

Bailey

- Kristina Baltutis – Poster case presentation SFT – 3rd place
- Natalie Palumbo – Poster case presentation SFT – 4th place
- Jennine Lection – Poster/Oral case presentation AAEP
- Theresa Beachler – Passed national certifying exam for ACT
- Katherine McKelvey - Passed national certifying exam for ACT, successfully completed residency

Bizikova

- Dr. Tham presented his case report at the national dermatology meeting in Spring 2016
- Dr. Tham’s both case reports (ACVD requirements) have been accepted for publication
- The abstract of Dr. Tham’s research project has been accepted for presentation at the Dermatology World congress this Spring
- Dr. Tham was able to secure his new job as a dermatologist at Virginia Tech University (starting this Summer)

Blikslager

- Amanda Ziegler, DVM, PhD Candidate, Elaine Klein Career Development Award, Grayson Jockey Club Research Foundation, 2016
- Jenna Scott, CALS Undergraduate Honors Student, Outstanding Poster Award, NC State Undergraduate Research Symposium, 2015

Breitschwerdt

- Taylor McCoy- Undergraduate research award recipient.
- Nandu Balakrishnan- DOCS postdoc of the year last year.
Barbara Quinnolo - now research assistant professor DOCS

Breuhaus - Tonje Saetra submitted case report as 1st author. Review pending.

DeFrancesco

- Dr. Ward passed the ACVIM certification exam for cardiology and is faculty at Iowa St. University.
- Drs. Green and Woodruff passed ACVIM general exam, will sit for certifying exams this year and both have job offers in specialty private practice.
- Dr. Harashak is now ECC resident at Colorado State University
- Dr. Saki Kodatoni is now Cardiology Resident at University of Illinois (currently at Ohio St Univ doing a SA internship)
- Dr. Will Goff is doing a SA internship at Purdue and is pursuing a job in private practice.
- Erin Zepp won Cardiology Award this year. Will be going to Cornell Univ for SA Internship.

Degernes - Dr. Adamovicz started a PhD program in epidemiology and conservation biology at the Univ of Illinois in summer 2015.

Elfenbein

- Kimberly Schreiber – Recipient of 2016 AVMA-AVMF 2nd Opportunity Research Award; Recipient of George H. Hitchings New Investigator Award in Health Research for 2016
- AJ Manship – Abstract accepted for oral presentation at 2016 ACVIM Forum; matched to Equine Medicine residency at NCSU
- Tonje Saetra – Recipient of 2016 DoCS VPP Resident Grant
- Charlene Noll – Matched to Equine Surgery residency at UC Davis

Ferris - Kat Pankratz, Behavior Resident has completed the data collection for resident project, Use of single-dose gabapentin to attenuate anxiety in confined community cats. With Dr. Sherman, serve as co-advisor on this project. Anticipated completion, Fall 2016.

Fish

- Adam Werts (c/o 2015) received 2015 ASLAP Veterinary Student Award
- Entered LAM residencies in 2015:
  - Adam Werts (c/o 2015)
- ACLAM Certification 2015:
  - Laura Wilding (c/o 2012)
- Morika Williams:
  - Award of Excellence, Oral Transmucosal Detomidine Gel in New Zealand White Rabbits, Poster Session Presentation, 2015 CVM Research Forum, September 18, 2015
  - American College of Animal Welfare Short Course Travel Award 2015, CVM, NCSU - $250
  - Health and Colony Management of Laboratory Fish Workshop Fellowship Award 2015, Fish Vet Group, Salisbury, Maine - $1000.
- Completion of LAM residencies in 2015:
  - Lexxy Jay (c/o 2013)
  - Sara Andux (c/o 2013)

Gieger
• Matt Arkans completed his residency in 7/2015 (he was the first resident that completed
the program at NCSU under the current faculty members). He passed his ACVR-RO
boards in 9/2015 and is now a diplomate of the ACVR, specialty of radiation oncology.
• Leanne Magestro completed a first-author publication in 2015 (I was the sole mentor for
this project; in press in the Vet Comp Oncology journal) and I presented this work as a
poster at the Veterinary Cancer Society meeting. She is now working on a prospective
study regarding radiation positioning/imaging.
• Krista Kelsey presented an abstract at the ACVR meeting reviewing her work on a
retrospective study about SRT for canine brain tumors. Dr. Nolan and I are co-mentors
on this project.

Gilger
• Dr. Joey Gerding passed 2015 ACVO boards (first attempt) – started practice in NYC
• Mentored and Advised Dr. Elizabeth Schaefer – Ophthalmology Research Scholar; will
be starting as a first year resident at Univ of Missouri

Gonzalez
• Dr. Amy Stuart won the Center for Gastrointestinal and Biological Disease Research
Competition in September 2015. Her research has also been accepted for presentation
at the 2016 Digestive Disease Conference in San Diego, CA.
• Cecilia Kucera (Second Research Summer Experience 2016): George H. Hitching New
Investigator Award in Health Research. ($5000)

Gookin
• Victoria Watson - Oral abstract award, 2015 CVM Research Forum; Travel Grant Award,
2016 American Society of Microbiology
• Jenessa Winston - DACVIM (2015), 1st place oral abstract award, International Society
Companion Animal Infectious Disease (ISCAID); 2015 ACVIM Forum
• Sophie Amirisultan - Oral abstract award, 2015 CVM Research Forum
• Alyssa Chandler - SA Intern of the Year 2015; Residency in SA Internal Medicine
(Cornell)
• Elizabeth Lennon - Tenure-track Assistant Professor, University of Tennessee

Hanel
• Brittany Enders secured a position as our 1st year ECC resident at NCSU
• Nicole Trenholme accepted a position as a 1st year ECC resident at the University of
Missouri
• Becca Walton accepted a clinical faculty position at the Iowa State University
• Chris McLaughlin is entering private practice in Florida

Harms
• Emily Christiansen (Resident, 2014), boarded ACZM 2015.
• Larry Jb Minter (Resident, 2013), boarded ACZM 2015.
• Jenessa Gjeltema (Resident, 2015), credentialed for ACZM examination, and
Veterinarian, Sacramento Zoo.

Harrell
• Sarah Wilson- obtained internship
• Ashley Karoly- obtained internship
• Grace Oldfield- obtained small animal position
• Georgia Bosscher-surgery residency-Wisc
• Monica Chwala- medicine residency-Wisc
• Lauren Hamil- surgery residency- CSU
• Mel Hanson- ophthalmology residency- NCSU
• Kari Kurtz- cardio residency- NCSU
• Katie Nadolny- cardio residency- Wisc
• Akshaya Maller- shelter residency- Wisc
• Carrie Muller- surgery fellowship- NCSU
• Tarini Ullal- medicine residency- CSU
• Greg Brethel- internship
• Laura Greene-passed general medicine boards, will sit for certifying exam in June

Harrison
• Kim Thompson’s, Binturong manuscript has been accepted for publication (listed below, in press). I am the corresponding author.
• Justin Schlanser, has a manuscript on collecting blood from a facial vein in a black rhinoceros that is in press (listed below). I am the corresponding author.

Hauck - Dr. Mastromauro passed his qualifying board exam; Dr. Mastromauro was a co-investigator in a Phase III double-blinded clinical trial (Industry sponsored); Dr. Evans submitted at least 3 grants to study SDMA as a marker of Carboplatin toxicity (Internal resident; ACVIM foundation; MAF); Dr. Hallman is working on a retrospective on the incidence of doxorubicin induced cardiotoxicity in dogs receiving a slow bolus.

Hawkins - Jenessa Winston passed her Specialty Examination and became board-certified.

Hess
• Graduate students: Farah Alayli (I was committee member) successfully defended her PhD, and accepted a post-doctoral fellowship position at the NIH, Bethesda, MD.
• Finishing House Officers: Former resident (I was advisor) Meg Musser passed her Medical Oncology Certifying Exam. Jenessa Winston (I was committee member) completed her Small Animal Internal Medicine residency.
• Off-shore student Cory Woliver (I advised) graduated from his DVM program.

Jones
• Katie Sheats hired as tenure track assistant professor
• Laura Ott hired as Active Learning Coordinator, University of Maryland, Baltimore County
• Eui Jae Sung hired as clin path resident

Keene
• Jessica Ward passed cardiology boards and is now an assistant prof. at Iowa State U.
• Kate Woodruff passed general medicine exam

Kennedy-Stoskopf
• Former residents Jb Minter (2010-2013) and Emily Christiansen (2011-2014) passed ACZM boards in 2015.
• Jenessa Gjeltema banked 3 of 5 Day 1 exams.

Lascelles
• Margaret Gruen:
  o Leroy Coggins Graduate Fellowship Award 2015
Lewbart
- Dr. Gjeltema obtained a position at UC Davis.
- Dr. Adamovicz is in a PhD program at the University of Illinois.
- Dr. Parkinson obtained a residency.

Lunn
- Dr. Winston successfully completed her residency and began her PhD studies in 2015.
- Dr. Devine successfully passed the ACVIM General Examination in 2015
- Dr. Nadolny matched for a residency in Cardiology in 2016

Lyle - Theresa Beachler, Diplomate, American College of Theriogenologists

Marcellin - Mischa McDonald-Lynch passed her ACVS boards.

Mariani
- Dr. Rennie Waldron achieved ACVIM Diplomate status and accepted a position in private specialty practice.
- Carolyn Nye finished veterinary school and was selected to a small animal rotating internship program at Red Bank Veterinary Hospital.
- Carolyn Nye won the AnimalScan clinical veterinary neurology award.

Mathews
- Drs. McDonald-Lynch and Kapler passed ACVS board exam.
- Dr. Tomas hired as clinical instructor.

Mowat
- Whitney Young was successful in her ACVO resident grant application ($5000) for research into a pilot project to treat SARDS in dogs. I am a co-principal investigator on this grant.
- Ariana Lopez was selected for an NIH T35 training program for summer internship

Munana
- Rennie Waldron became a diplomate of ACVIM (Neurology) and is employed in a specialty practice in South Carolina.
- Mischa McDonald-Lynch became a diplomate of ACVS and is employed at Veterinary Specialty Hospital in Cary.
- Arturo Otamendi is currently in a Neurology residency training program at Texas A&M.

Murphy - Dr. Ben Tham has been hired as clinical track dermatology faculty, Assistant Professor, at Virginia Tech University veterinary college.

Musulin
- Dr. Cavanagh passed her board examination and became a Diplomate of the American College of Veterinary Emergency & Critical Care (DACVECC) in 2015. Dr. Cavanagh is at Colorado State University.
- Drs. Walton and Long were both selected to attend the 2015 AAVC Resident’s Leadership Conference (April 10th-11th 2015).
- Dr. Long presented an abstract at the Veterinary Trauma & Critical Care Symposium 2016 (March 19th-20th 2016).
• Drs. Walton and McLaughlin both presented abstracts at IVECCS 2015.
• Drs. Walton and McLaughlin will be credentialing in 2016 and are expected to sit board September 2016.
• Drs. Walton, McLaughlin, and Long all completed prospective research projects. Dr. Fick is in the process of creating a prospective project.
• Dr. Walton has accepted a faculty position at Iowa State.
• Dr. McLaughlin has accepted a private practice position in south Florida.
• Dr. Enders will be advancing to our ECC residency this July 2016.

Nolan
• Dr. Kelsey was awarded $3000 through a DOCS Veterinary Practice Plan Grant (2015) for a project entitled: “A placebo controlled pilot study of NSAID use in dogs with acute radiation induced dermatitis”.
• Dr. Kelsey presented an oral research abstract at the ACVR-RO meeting in 2015
• Dr. Magestro published a paper with Dr. Gieger in VCO in 2015
• Dr. Arkans completed his residency and passed specialty boards; he now practices in Sacramento, CA.

Olby
• Dr. Renny Waldron passed her examinations to become a board certified Neurologist in July 2015.
• Dr. Ji-Hey Lim – started neurology residency at UFI.

Olivry
• Dr. Tamamoto-Mochizuki: Best short communication presentation by resident at 2015 Asian Meeting of Animal Medicine Specialties, Kuala Lumpur, Malaysia
• Dr. Frane Banovic (ex-resident and post-doc) obtained a tenure-track faculty position at UGA. Nine of 17 of our past trainees now hold positions in academia.

Prange
• Dr. Shrauner presented the our research project at the 2015 ACVS Surgery Summit, where he won the Resident Large Animal Research Award as well as the Resident Speaker Exchange Program Award. The latter will allow him to present our project at the 2016 ECVS Conference in Portugal. Subsequently, he submitted the study for publication to the Equine Veterinary Journal as a first author, with me as the corresponding author.
• Dr. Noll submitted a scientific abstract of a retrospective, multicenter study about tongue tumors in horses to be considered as a presentation in the scientific program of the 2016 AAEP conference.

Qurollo
• Alexander Caudill is an undergraduate (sophomore) who started volunteering with us through the Undergraduate Research Program in January 2016. He has been helping with a project to better characterize clinical disease in dogs positive for E. ewingii infections. He created an excel database compiling clinical signs in dogs PCR for E. ewingii and has learned how to perform PCR. Alexander is hoping to gain molecular diagnostics experience, learn about vector-borne disease and intends to apply to medical school.
• Jeffrey Tyrell was in the Baccalaureate program at Meredith College who volunteered to help with a collaboration between OSU-CVM and the VBDDL to identify tick-borne pathogens in a group of horses from Nicaragua. He is currently writing a manuscript to
publish his results and also presented a poster at the annual NCSU-CVM Research Forum. Jeffrey’s goals were to gain experience in veterinary diagnostics by working in our laboratory. He was a lawyer and is changing careers to become a veterinarian. I am happy to report he was accepted to NCSU’s Veterinary program to begin in August.

- Nikole Archer was an undergraduate (senior) who helped to validate a new Babesia genus PCR assay that was implemented in the VBDDL. The assay is significantly better than the previous diagnostic assay and we are currently working on a manuscript. She did make and present a poster at the annual NCSU-CVM Research Forum. Her goals for volunteering were to learn more about veterinary diagnostics and vector-borne diseases and intends to apply to veterinary school in the near future.

- Daniel Wright was an undergraduate (senior) who worked with me to learn molecular biology techniques (PCR and cloning). Her goal was to gain laboratory experience to better position herself for a job as a research technician upon graduating with a degree in Biology. She performed PCR on DNA from dogs from Nicaragua for a research project and assisted with cloning of PCR amplicons. I am happy to report that before she ended her volunteer position, she obtained a job as a research technician with Labcorp in Raleigh.

**Redding**
- Dr. Claudia Reyner will be submitting an abstract of the Effects of Laser & PRP on SDF tendon injury to the ACVS for the 2017 meeting.
- Dr. Jessica Partlow presented poster/abstract at 2016 ACVS on the use of US to evaluate hair contamination of wounds to synovial structures. The US of Hair paper has been submitted and is in the final editing stages in Vet Rad & US.

**Risselada**
- Dr. Boscher has matched and will start a SA Surgery Residency next year in Wisconsin.
- Drs Kapler and McDonald Lynch passed the ACVS Board examination in February 2016

**Roe**
- Drs. Kapler & Macdonald-Lynch passed ACVS Boards. Dr. Korani passed 2/3 portions.
- Drs. Kapler and Korani had publications accepted with myself as corresponding author

**Scharf**
- Lauren Hamil successfully matched for the small animal surgery residency at Colorado State University. She has also submitted a case report for publication and will be submitting a retrospective paper evaluating effect of radiation therapy on thymomas by the end of her internship.
- Carrie Muller, another rotating small animal intern, has also submitted a case report for which I am the corresponding author.

**Schnabel**
- Dr. Alix Berglund was awarded a 2-year Morris Animal Foundation Training Fellowship.
- House Officers that I am specific advisor of:
Dr. Charlene Noll obtained an Equine Surgery Residency at UC Davis
Dr. Bennett Deddens obtained a Radiology Residency at NC State
Dr. Reyner continues to do an exceptional job on her research project with Dr. Lustgarten and myself on evaluating the effect of laser therapy on the healing of tendon lesions in the horse despite the problems surrounding Dr. Lustgarten’s departure. She is currently analyzing the data and preparing the manuscript. She will also submit an abstract from this project for ACVS next year. Dr. Reyner did submit an abstract this year to ACVS resident’s Forum on a retrospective study performed with Dr. Jock Tate.

- House Officers that I train in hospital/rounds:
  - Dr. Arlie Manship obtained an Equine Medicine Residency at NC State
  - Dr. Britton Nixon obtained a Radiology Residency at UC Davis

**Sherman** - First Year Resident, Dr. Kat Pankratz, completed data collection for research project

**Stoskopf**
- Former DVM students
  - Kate Archibald – match – rotating internship – Omaha ZOO
  - Lori Westmoreland – match – aquatic residency – NCSU
- Former Graduate Students
  - Major Scott Willens, DVM, PhD – pentagon appointment, Diplomate American College of Veterinary Preventative Medicine
  - John C. Beier, Sc.D., is Professor and Director of the Division of Environment and Public Health in the Department of Public Health Sciences.
- Former Residents
  - Emily Christiansen – passed ACZM boards
  - JB Minter – passed ACZM boards
  - Emily Christiansen – appointed full time veterinarian NC Aquariums
  - Brianne Phillips - 2nd place post DVM presentation award 2015 CVM research forum

**Suter**
- Ashley Brandes (finished Med Onc Residency 6/2015): Hired as clinical faculty member - NCSU 8/20/15
- Rhiannon Doka (Oncology intern): matched to NSCU Oncology Program

**Tou** - All trainees are progressing well in their training programs and have met requirements as outlined by their specific residency programs and specialty colleges. All trainees have received biannual evaluations, and overall evaluations that meet or exceed standards. All ACVIM residents (Woodruff, Mastromauro, Aicher and Devine) successfully passed their ACVIM qualifying examinations. Dr. Petrovich successfully passed his preliminary ACVR examination.

**Tate** - I have worked with the two equine residents in regards to retrospective and case study projects and with one inter in preparing a case report for publication.

**Vaden**
- JS Palerme accepted a faculty position at University of Iowa
- Jenessa Winston – completed program and became board certified in SA Internal Medicine
- Jessica Pritchard - completed program and became board certified in SA Internal Medicine
- Lauren Devine – passed qualifying SAIM boards
Laura Greene – passed qualifying SAIM boards
Kate Aicher – passed qualifying SAIM boards

Vigani
Brittany Enders secured a position as our 1st year ECC resident at NCSU
Kari Kurts secured a position as 1st year Cardiology resident at NCSU
Rebecca Walton accepted an Assistant Professor position at the Iowa State University
Christopher McLaughlin accepted a criticalist position in private practice

2015 CVM Research Forum Awards:

Oral Presentation Winners

<table>
<thead>
<tr>
<th>Name</th>
<th>Mentor</th>
</tr>
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<tbody>
<tr>
<td>Adeline Noger</td>
<td>Birkenheuer</td>
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<tr>
<td>Brianne Phillips</td>
<td>Harms</td>
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<tr>
<td>Sophia Amirsultan</td>
<td>Gookin/Jacob</td>
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<tr>
<td>Victoria Watson</td>
<td>Gookin</td>
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Poster Presentation Winners

<table>
<thead>
<tr>
<th>Name</th>
<th>Mentor</th>
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<tr>
<td>Morika Williams</td>
<td>Fish</td>
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CVM Awards Banquet 2016:

<table>
<thead>
<tr>
<th>Award</th>
<th>Winner / Recipient</th>
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<tbody>
<tr>
<td>Best Small Animal Intern</td>
<td>Katie Nadolny</td>
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<tr>
<td>Best Small Animal Resident</td>
<td>Genna Atiee</td>
</tr>
<tr>
<td>Best Large Animal Resident</td>
<td>Claudia Reyner</td>
</tr>
<tr>
<td>Leroy Coggins Graduate Fellowship Endowment</td>
<td>Alix Bergland</td>
</tr>
<tr>
<td>Best Large Animal Faculty Member</td>
<td>Callie Fogle</td>
</tr>
<tr>
<td>Class of 2016 CVM Faculty Award</td>
<td>Karyn Harrell</td>
</tr>
<tr>
<td>Phyllis Edwards Service Award</td>
<td>Kelli Ferris</td>
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<tr>
<td>DOCS Outstanding Small Animal Intern Award</td>
<td>Georgia Bosscher</td>
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<tr>
<td>NCSU Outstanding Resident Award</td>
<td>Kathleen Aicher</td>
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New EHRA Non-Faculty and SHRA Appointments
- Alexa King – Research Specialist in the Clinical Studies Core – June 1, 2015
- Nikki Wagner – Research Specialist with Dr. Marlene Hauck – June 22, 2015
- Masataka Enomoto – Research Assistant with Dr. Duncan Lascelles – June 29, 2015
- Jennifer Harrison – Research Specialist with Dr. Laurie Degernes – August 3, 2015
- Jonathan Hash – Research Assistant with Dr. Freya Mowat – September 28, 2015
• Jennifer Sollinger – moved into a Research Assistant with Dr. Chris Adin – September 29, 2015
• Ashley Busada – Admin Support Specialist in DoCS Admin – November 9, 2015

Staff Awards and Recognitions
• Andrea Thomson – 2015 Sarah Joyner Memorial Staff Excellence Award
• Lyndy Harden – CVM 2015 Awards for Excellence Recipient
<table>
<thead>
<tr>
<th>Departmental Listing as of March 1, 2016</th>
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<tbody>
<tr>
<td><strong>Professor</strong></td>
</tr>
<tr>
<td>Blikslager, A.T., DVM, PhD, Professor, Equine Surgery</td>
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<tr>
<td>Breitschwerdt, E.B., DVM, Professor, Small Animal Internal Medicine</td>
</tr>
<tr>
<td>Davidson, M.G., DVM, Professor, Ophthalmology</td>
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<tr>
<td>De Francesco, T.C., DVM, BS, Professor, Cardiology/Critical Care</td>
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<tr>
<td>Degernes, L.A., DVM, MPH, BS, BA, Professor, Avian Medicine and Epidemiology</td>
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<tr>
<td>Flammer, K., DVM, Professor, Non-domestic Avian Medicine &amp; Assoc Dean, Academic Affairs</td>
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<tr>
<td>Gilger, B.C., DVM, MS, Professor, Ophthalmology</td>
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<tr>
<td>Hardie, E.M., DVM, PhD, Professor &amp; Department Head, Small Animal Surgery</td>
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<tr>
<td>Harms, C.A., DVM, Professor, Small Animal Internal Medicine</td>
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<tr>
<td>Hauck, M.L., DVM, PhD, Professor, Oncology</td>
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<tr>
<td>Hawkins, E.C., DVM, Professor, Small Animal Internal Medicine</td>
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<tr>
<td>Jones, S., DVM, PhD, Professor, Equine Medicine</td>
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<tr>
<td>Keene, B.W., DVM, MS, Professor, Cardiology</td>
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<tr>
<td>Lascelles, B.D., BVSc, PhD, BS, Associate Professor, Small Animal Surgery</td>
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<tr>
<td>Lewbart, G.A., VMD, MS, Professor, Aquatics, Wildlife &amp; Zoo Medicine</td>
</tr>
<tr>
<td>Lunn, D.P., BVSc, PhD, MS, Professor, Equine Medicine and Dean of CVM</td>
</tr>
<tr>
<td>Marcellin, D.J., DEDV, Professor, Small Animal Surgery</td>
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<tr>
<td>Mathews, K.G., DVM, MS, DACVS, Professor, Small Animal Surgery</td>
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<tr>
<td>Meurs, K., DVM, PhD, Professor &amp; Assoc Dean for Research &amp; Graduate Studies, Cardiology</td>
</tr>
<tr>
<td>Munana, K.R., DVM, MS, Professor, Neurology</td>
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<tr>
<td>Oby, N.J., VetMB, PhD, Professor, Neurology</td>
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<tr>
<td>Olivry, T.J., DVM, PhD, Professor, Immunodermatology</td>
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<tr>
<td>Roe, S.C., PhD, BVSc, MVS, MS, Professor, Small Animal Surgery</td>
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<tr>
<td>Stokoskopf, M.K., DVM, PhD, Professor, Aquatics, Wildlife &amp; Zoo Medicine</td>
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<tr>
<td>Tate, L.P., VMD, Professor, Equine Surgery</td>
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<tr>
<td>Vaden, S.L., DVM, PhD, BSA, Professor, Small Animal Internal Medicine</td>
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<tr>
<td><strong>Associate Professor</strong></td>
</tr>
<tr>
<td>Adin, C., DVM, Associate Professor, Small Animal Soft Tissue and Oncologic Surgery</td>
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<tr>
<td>Bailey, S., DVM, Associate Professor, Theriogenology</td>
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<tr>
<td>Birkenheuer, A.J., PhD, DVM, BS, Associate Professor, Small Animal Internal Medicine</td>
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<tr>
<td>Breuhaus, B.A., DVM, PhD, Associate Professor, Equine Medicine</td>
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<tr>
<td>Davis, J., DVM, PhD, Associate Professor, Equine Medicine</td>
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<tr>
<td>Fish, R.E., DVM, PhD, MS, BS, Assoc. Prof. &amp; Director of University Animal Resources</td>
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<tr>
<td>Gookin, J., DVM, PhD, Associate Professor, Small Animal Internal Medicine</td>
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<tr>
<td>Hansen, B.D., DVM, Associate Professor, Critical Care/Emergency Medicine</td>
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<td>Hess, P.R., DVM, Associate Professor, Oncology</td>
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<td>Lunn, K., BVMS, MS, PhD, Associate Professor, Small Animal Internal Medicine</td>
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<td>Lyle, S.K., DVM, MS, PhD, Associate Professor, Theriogenology</td>
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<tr>
<td>Mariani, C.L., DVM, Associate Professor, Neurology</td>
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<td>Suter, S.E., VMD, MS, BS, Associate Professor, Oncology</td>
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<tr>
<td><strong>Assistant Professor</strong></td>
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<tr>
<td>Bizikova, P., DVM, Assistant Professor, Dermatology</td>
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<tr>
<td>Elfenbein, J., DVM, PhD, Assistant Professor, Equine Medicine</td>
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<tr>
<td>Gonzalez, L., DVM, PhD, Assistant Professor, Gastroenterology &amp; Equine Surgery</td>
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<tr>
<td>Hanel, R., DVM, Assistant Professor, Emergency Medicine</td>
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<tr>
<td>Kedrowicz, A., PhD, Assistant Professor, Communication Education</td>
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<tr>
<td>Mowat, F., BVSc, PhD, MRCVS, Assistant Professor, Ophthalmology</td>
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<tr>
<td>Nolan, M., DVM, Assistant Professor, Radiation Oncology</td>
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<tr>
<td>Risselada, M., DVM, Assistant Professor, Small Animal Soft Tissue and Oncologic Surgery</td>
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<tr>
<td>Royal, K., PhD, MSEd, Assistant Professor, Educational Assessment and Outcomes</td>
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<tr>
<td>Schnabel, L., DVM, Assistant Professor, Equine Surgery</td>
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<tr>
<td>Sheats, M.K., DVM, PhD, Assistant Professor, Equine Primary Care</td>
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<tr>
<td>Westermeyer, H., DVM, Assistant Professor, Ophthalmology</td>
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<tr>
<td><strong>Clinical Assistant, Clinical Associate, Clinical Professor</strong></td>
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<tr>
<td>Adin, D., DVM, Clinical Assistant Professor, Cardiology</td>
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<tr>
<td>Brandes, A., DVM, Clinical Assistant Professor, Oncology</td>
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<tr>
<td>Dunning, D., DVM, MS, DiPh, Clinical Assoc Prof &amp; Director, Animal Welfare/Ethics/Public Policy Program, Interim Assoc Dean, Advancement</td>
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<tr>
<td>Early, P., DVM, Clinical Associate Professor, Neurology</td>
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<tr>
<td>Ferris, K.K., DVM, BS, Clinical Assistant Professor, General Practice</td>
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<tr>
<td>Fogle, C., DVM, Clinical Associate Professor, Equine Surgery</td>
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<tr>
<td>Gieger, T., DVM, Clinical Assistant Professor, Radiation Oncology</td>
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<tr>
<td>Gines, A., DVM, Clinical Assistant Professor, Small Animal Orthopedic Surgery</td>
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<tr>
<td>Harrell, K.A., DVM, Clinical Assistant Professor, Small Animal Internal Medicine</td>
</tr>
<tr>
<td>Harrison, T.M., DVM, MPVM, Clinical Assistant Professor, Exotic Animal Medicine</td>
</tr>
<tr>
<td>Marks, S.L., BVSc, MS, Clinical Professor, Small Animal Internal Medicine &amp; Associate Dean/Director VH</td>
</tr>
</tbody>
</table>
Murphy, K. M., DVM, Clinical Assistant Professor, Dermatology
Musulin, S., DVM, Clinical Assistant Professor, Emergency/Critical Care
Peirce, T., DVM, Clinical Assistant Professor, Equine Surgery
Redding, W.R., DVM, MS, Clinical Professor, Equine Surgery
Scharf, V., DVM, MS, Clinical Assistant Professor, Small Animal Soft Tissue Surgery
Sherman B.S., PhD, DVM, MS, Clinical Professor, Animal Behavior
Snyder, A., DVM, MBS, Clinical Assistant Professor, General Practice
Stevens, B., DVM, Clinical Associate Professor, General Practice
Taylor, A., DVM, Clinical Assistant Professor, General Practice
Tefft, K. DVM, MVSc, Clinical Assistant Professor, Small Animal Internal Medicine
Tou, S., DVM, Clinical Assistant Professor, Cardiology
Vigan, A., DVM, PhD, Clinical Assistant Professor, Small Animal Emergency Critical Care & Extracorporeal Medicine

Research Assistant, Associate, Professor
Kennedy-Stoskopf, S., DVM, PhD, Research Professor, Aquatics, Wildlife & Zoo Medicine
Maggi, R.G., PhD, MS, Research Associate Professor, Small Animal Internal Medicine
Qurolo, B., DVM, MS, Research Assistant Professor, Small Animal Internal Medicine

Visiting Assistant Professor, Clinical Veterinarian, Visiting Clinical Instructor, Research Associate Postdoc, and EPA Professional
Balakrishnan, N., Postdoc Research Scholar, Internal Medicine (Breitschwerdt)
Bogan, J., Research Associate, CCMTR/Clinical Services (Lascelles)
Breen, T., Research Assistant, Neurology (Olby)
Cowie, T., Research Assistant, Small Animal Surgery (Lascelles)
Enomoto, M., Research Assistant, Small Animal Surgery (Lascelles)
Harden, L., Research Assistant, Clinical Studies Core (Lascelles)
Hegarty, B., Research Associate, Small Animal Internal Medicine (Breitschwerdt)
Jin, Younggeon, Research Associate Postdoc, Equine Surgery (Blikslager)
Linnhean, R.M., Visiting Asst. Professor, Aquatics, Wildlife & Zoo Medicine
Martel, B., Research Scholar Postdoc, Dermatology (Olivry)
Neugebauer, M., Research Assistant, Equine Medicine (Elfenbein)
Priggen, T., Research Associate, Equine Surgery (Blikslager)
Shroff, V., Research Assistant, Oncology (Suter)
Sollinger, Jennifer, Research Assistant, SA Surgery (C. Adin)
Stauffer, S., Research Assistant, Small Animal Internal Medicine (Gookin)
Zidan, Natalia, Postdoc Research Scholar, Neurology (Olby)

Adjunct Professor, Associate Professor, Assistant Professor
Abrams, Frank, Assoc Status, Professor Emeritus Bio & Ag Engineering, Ortho Surgery
Adams, Allison, Adjunct Assistant Professor, Cardiology
Akilu, Nagatu, Adjunct Professor, Equine (working with Dean Lunn on project)
Ames, Marisa, Adjunct Assistant Professor, Cardiology
Atkins, Clarke, Professor Emeritus, Cardiology
Atlee, Barbara, Adjunct Assistant Professor, Dermatology
Baden, Daniel, Adjunct Professor, Aquatics, Wildlife & Zoo Medicine
Baker, Shannon, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Barker, Piers, Adjunct Professor, Cardiology
Bergyl, Richard, Adjunct Lecturer, Aquatics, Wildlife and Zoo Medicine
Bowman, Karl, Associate Professor Emeritus, Equine Surgery
Brown, Virginia, Adjunct Assistant Professor, Special Species Medicine
Burkett, Richard, Adjunct Assistant Professor, Avian Medicine
Chang, Sha, Adjunct Associate Professor, Radiation Oncology
Chappell, Kim, Adjunct Assistant Professor, Clinical Studies/Dermatology
Chinnadurai, Sathy, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Christiansen, Emily, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Coffier, Natalie, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Deresinski, Diane, Adjunct Asst Professor, Aquatics, Wildlife & Zoo Medicine
Devoe, Ryan, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
DeYoung, David, Adjunct Professor, Small Animal Surgery
Dombrowski, Daniel, Adjunct Lecturer, Aquatics, Wildlife & Zoo Medicine
Dye, Janice, Adjunct Associate Professor, Internal Medicine
Eckerman-Ross, Christine, Adjunct Assistant Professor, Nondomestic Avian Medicine
Edling, Thomas, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Eward, William, Adjunct Assistant Professor, Small Animal Surgery
Falk, Ronald, Adjunct Professor, Small Animal Internal Medicine
Flannigan, Gerrard, Adjunct Assistant Professor, Behavior Medicine
Ford, Richard, Professor Emeritus, Small Animal Internal Medicine
Frazier, Matthew, Adjunct Assistant Professor, Equine Medicine
Gardner, Sarah, Adjunct Associate Professor, Equine Medicine
Gee, Melanie, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Godfrey, Matthew, Adjunct Associate Professor, Aquatics, Wildlife & Zoo Medicine
Hammer, Douglas, Adjunct Associate Professor, Occup. Health/Zoonotic Disease
Hanlon, David, Adjunct Assistant Professor, Theriogenology
Harling, David, Adjunct Assistant Professor, Ophthalmology
Haulena, Martin, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Hennessy, Catharine, Adjunct Assistant Professor, Equine Medicine and Surgery
Hinshaw, Jeff, Adjunct Status, Associate Professor, Zoology and Aquatic Medicine
Hollinshead, Fiona, Adjunct Assistant Professor, Theriogenology
Howard, James, Adjunct Professor, Neurology
Hutchins, Rae, Adjunct Assistant Professor, Internal Medicine
Johnson, Daniel, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Kapler, Meredith, Adjunct Assistant Professor, Small Animal Surgery
Kornegay, Joe, Adjunct Professor, Neurology
Kruse, Meghan, Adjunct Assistant Professor, Small Animal Surgery
Labens, Raphael, Adjunct Assistant Professor, Equine Surgery
Larsen, Scott, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Levine, David, Adjunct Professor, Small Animal Surgery
Little, Dianne, Adjunct Assistant Professor, Small Animal Surgery
Loeffler, Ingrid, Adjunct Assistant Professor, Avian Medicine
Loomis, Michael, Adjunct Associate Professor, Zoological Medicine
Mansmann, Richard, Professor Emeritus, Equine Surgery
Matthews, Charles, Adjunct Professor, Equine Surgery
McCashin, Frederick, Adjunct Clinical Professor, Equine Medicine and Surgery
McDonald-Lynch, Mischia, Adjunct Assistant Professor, Small Animal Surgery
McMullen, Richard, Adjunct Assistant Professor, Ophthalmology
Mozzachio, Kristie, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Mulcahy, Daniel, Adjunct Associate Professor, Aquatics, Wildlife & Zoo Medicine
Nader, Paul, Adjunct Assistant Professor, Small Animal Surgery
Norton, John, Adjunct Associate Professor, Laboratory Animal Medicine
Olivry, Michael, Associate Professor Emeritus, Theriogenology
Powers, Lauren, Adjunct Assistant Professor, Avian Medicine
Preston, Gloria, Adjunct Associate Professor, Small Animal Internal Medicine
Ruslander, David, Adjunct Assistant Professor, Oncology
Sabin, Leilani, Adjunct Assistant Professor, Cardiology
Schopler, Robert, Adjunct Assistant Professor, Avian Medicine
Scott, David, Adjunct Assistant Professor, Avian Medicine
Settle, Katherine, Adjunct Assistant Professor, Theriogenology
Sharp, Nicholas, Adjunct Associate Professor, Neurology
Shuler, Jack, Adjunct Assistant Professor, Equine Health Program
Simson, Betsy, Adjunct Assistant Professor, Internal Medicine
Simpson, Wendy, Adjunct Assistant Professor, Internal Medicine
Sontakke, Sushama, Adjunct Assistant Professor, Internal Medicine/Microbiology
Spodnick, Gary, Adjunct Assistant Professor, Surgery
Stroud, Cheryl, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Taylor, Brian, Adjunct Assistant Professor, Equine Surgery
Taylor, Karen, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Tocidowski, Mary Ann, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Trumpatori, Brian, Adjunct Assistant Professor, Small Animal Surgery
Tuttle, Allison, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Vasbinder, Mary-Anne, Adjunct Assistant Professor, Laboratory Animal Medicine
Wheeler, Simon, Adjunct Professor, Small Animal Surgery
Whitacre, Michael, Associate Professor Emeritus, Theriogenology
Wilkinson, Stacey Leonatti, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Williams, Cathy, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine
Williams, Laurel, Adjunct Professor, Oncology
Wood, Michael, Adjunct Assistant Professor, Internal Medicine
Zalutsky, Michael, Adjunct Associate Professor, Oncology

Support Staff
Beaston, Joy, Department Accountant – DoCS Administration
Bradley, Julie, Research Technician – Breitschwerdt/Hegarty
Broadhurst, Heather, Research Technician – Harms
Busada, Ashley, Administrative Support Specialist – DoCS Administration
Cook, Eva, Executive Assistant – DoCS Administration
Courtright, Diana, Medical Laboratory Technician - Mathews
Dreis, Gall, Research Associate – Taylor
Dunston, Stan, Research Specialist – Olivry
Freund, John, Research Specialist - Gonzalez
Hammond, Sarah, Research Technician – Kedrowicz
Haney, Kaitlin, Research Technician – Hegarty
Hanley, Amanda, Medical Laboratory Technician - Mathews
Harris, Tonya, Research Specialist – Vaden
Hedgpeth, Mari-Wells, Assessment and Testing Manager - Royal
Holmes, Jennifer, Research Specialist – Hess
King, Alexa, Research Specialist - Bogan
Klein, Allison, Research Specialist – DeFrancesco
Long, Julie, Research Specialist – Schnabel
Mamo, Lisa, Research Specialist – K. Lunn
Marr, Henry, Research Specialist – Birkenheuer
Marcus, Karen, Research Technician - Nolan
Nettifee-Osborne, Julie, Research Specialist – Munana
Paps, Judy, Research Technician – Olivry
Passingham, Kent, Research Specialist – Lewbart
Ruterbories, Laura, Research Technician - Hanel
Salmon, Beth, Research Specialist – Gilger
Schirmer, Jenna, Research Specialist – Davis
Thomas, Brittany, Research Technician – Hegarty
Thomason, Andrea, Research Specialist – Hansen
Wagner, Nikki, Research Specialist - Hauck
Wall, Sarah, Research Specialist – Lascelles
Williams, Kimberly, Laboratory Supervisor – Olby

Residents – House Officers
Aicher, Kathleen, Small Animal Medicine
Aona, Brent, Cardiology
Atiee, Genna, Small Animal Medicine
Beachler, Theresa, Theriogenology
Blake, Jocelin, Small Animal Surgery
Bray, Kathryn, Neurology
Cannizo, Sarah, Zoological Medicine
Castel, Aude, Neurology
Curto, Elizabeth (Liz), Ophthalmology
Devine, Lauren, Small Animal Medicine
Dunlap, Anna, Small Animal Surgery
Evans, Brolin, Oncology
Fick, Meghan, Emergency/Critical Care
Greene, Laura, Small Animal Medicine
Hallman, Briana, Oncology
Hartley, Ashley, Small Animal Medicine
Hoortje, Willemsijn, Small Animal Surgery
Kelsey, Krista, Radiation Oncology
Laprais, Aurore, Dermatology
Lashnits, Erin, Clinical Investigator (Small Animal Medicine)
Long, Erin, Emergency/Critical Care
Magestro, Leanne, Radiation Oncology
Martin, Colleen, Oncology
Mastromauro, Michael, Oncology
McLaughlin, Christopher (Chris), Emergency/Critical Care
Panis, Fernanda, Theriogenology
Pankratz, Katherine (Kat), Clinical Behavior
Pastina, Bethany, Neurology
Phillips, Brianne, Zoological Medicine
Purswell, Emily, Small Animal Medicine
Reina-Doreste, Yamir, Cardiology
Reynier, Claudia, Equine Surgery
Saetra, Tonje, Equine Medicine
Sherman, Amanda, Ophthalmology
Shrauner, Benjamin (Ben), Equine Surgery
Tham, Heng Leet (Ben), Dermatology
Thompson, Elizabeth, Small Animal Surgery
Tomas, Andrea, Small Animal Surgery
Walton, Rebecca, Emergency/Critical Care
Westmoreland, Lpri, Zoological Medicine
Wiley, Claire, Clinical Investigator
Williams, Monika, Laboratory Animal Medicine
Woodruff, Kathleen (Kate), Cardiology
Young, Whitney, Ophthalmology

Interns
Bosscher, Georgia, Small Animal Rotating
Chwala, Monica, Small Animal Rotating
Darling, Muray, Small Animal Rotating
DeMembiela, Francisco, Emergency/Critical Care
Doka, Rhiannon, Oncology
Enders, Brittany, Emergency/Critical Care
Hamil, Lauren, Small Animal Rotating
Hanson, Melissa, Small Animal Rotating
Jones, Susan, Small Animal Surgery
Kurtz, Kari, Small Animal Rotating
Maller, Akshaya, Small Animal Rotating
Manship, Arlie (AJ), Equine Medicine and Surgery
Muller, Carrie, Small Animal Rotating
Nadolny, Katherine (Katie), Small Animal Rotating
Noll, Charlene, Equine Medicine and Surgery
Trosclair, Macy, Exotic Animal Medicine
Tuttle, Robert (Emerson), Small Animal Rotating
Ullal, Tarini, Small Animal Rotating
Walters, Bethany, Exotic Animal Medicine

Graduate Students
Adrian, Derek, CBS (Lascelles)
Beachler, Theresa, CBS (Bailey)
Bernebenek-Bailey, Stasia, Fisheries Wildlife and Conservation Biology (Stoskopf)
Berglund, Alix, CBS (Schnabel)
Boss, Mary-Keara, CBS (Hauck)
Ferguson, Sylvia, CBS (Gookin)
Friedenberg, Steven, CBS (Meurs)
Gruen, Margaret, CBS (Lascelles)
Kapatos, Alex, CBS (Hess)
Kruger, Leandi, CBS (Blikslager)
Lewis, Melissa, CBS (Olby)
Long, Erin, Specialized Vet Med (Musulin)
Medlin, Emily, CBS (Jones)
Minnema, Laura, CBS (Lascelles)
Nemec, Paige, CBS (Hess)
Niemuth, Jennifer, Fisheries Wildlife and Conservation Biology (Stoskopf)
Pritchard, Jessica, CBS (Birkenheuer)
Ray, Cara, CBS (Jones)
Rousse, Courtney, CBS (Olby)
Silfer, Zachary, CBS (Blikslager)
Stieler, Amy, CBS (Gonzalez)
Till, Rebecca, CBS (Jones)
Tuohy, Joanne, CBS (Lascelles)
Walters, Bethany, Fisheries Wildlife and Conservation Biology (Stoskopf)
Watson, Victoria, CBS (Gookin)
Westermann, Trina, CBS (Elfenbein)
Ziegler, Amanda, CBS (Blikslager)
Departmental Bibliography

1. Original research articles published in peer-reviewed journals


8. Bizikova P, Olivry T. A randomized, double-blinded crossover trial testing the benefit of two hydrolyzed veterinary diets in dogs with spontaneous pruritic chicken allergies. Veterinary Dermatology. Accepted.


12. Nighot MP, Nighot PK, Ma TY, Malinowska DH, Shull GE, Cuppoletti J, **Blikslager AT**. Genetic Ablation of the ClC-2 Cl- Channel Disrupts Mouse Gastric Parietal Cell Acid Secretion. Plos one 2015;10:e0138174


45. Istvan SA, Walker JM, Hansen BD, Hanel RM, Marks SM. Hemoperitoneum and


58. Kedrowicz, AA. The impact of a group communication course on students' communication competence and communication apprehension. Journal of Veterinary Medical Education. (In Press)


interdisciplinary approach. J Ecology Env Sci. 3(4); 31-37.


71. Tuohy J, Lascelles BDX, Griffith E, Fogle J. Canine osteosarcoma influences monocyte phenotype and chemotactic function. Accepted, March 2016, Journal of Veterinary Internal Medicine, July 2015


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84. George J, Van Wettere, Cain D, Michaels B, Lewbart GA. Histopathologic evaluation of postmortem autolytic changes in bluegill (Lepomis macrochirus) and crappie (Pomoxis anularis) at varied time intervals and storage temperatures. Accepted PeerJ, March, 2016


87. Phillips BE, Posner LP, Lewbart GA, Christiansen EF, Harms CA. Assessment of the effects of three doses of intravenous alfaxalone on yearling loggerhead


118. Berg NG, Pearce BL, Snyder PJ, Rohrbaugh N, Nolan MW, Prajesh Adhikari, Khan SA, Ivansevic A. Interfaces with tunable mechanical and radiosensitizing properties. ACS Appl Mater Interfaces. Published Online, February 16, 2016 (DOI: 10.1021/acsmati.5b11639).

119. Yoshikawa H, Roback DM, LaRue SM, Nolan MW. Dosimetric consequences of using

120. Yoshikawa H, Nolan MW, Lewis DW, LaRue SM. Retrospective evaluation of interfraction ureteral movement in dogs undergoing radiation therapy to elucidate appropriate setup margins. Veterinary Radiology and Ultrasound. Published Online, October 2015 (DOI: 10.1111/vru.12309).


140. Risselada M, KG Mathews. Comparison of clinically planned and histologically obtained margins in subcutaneous mast cell tumor resections. Accepted, JAVMA, in press.


147. Royal KD. (accepted). Why veterinary medical educators should embrace cumulative examinations. Journal of Veterinary Medical Education.

148. Royal KD. (accepted). Robust (and ethical) educational research designs. Journal of Veterinary Medical Education.

149. Royal KD, Kedrowicz AA, Snyder AM. (accepted). Do All Dogs Go to Heaven? Investigating the Association between Demographic Characteristics and Beliefs about Animal Afterlife. Anthrozoos


151. Royal KD, & Rinaldo JCB. (accepted). There’s Education, and then there’s Education in Medicine. Journal of Advances in Medical Education and


159. **Royal KD, Kedrowicz AA, Snyder A.** (accepted). Investigating the association between demographic characteristics and beliefs about animal afterlife: Results from a national study. Anthrozoos.


166. **Royal KD**, Neel J. Uniform and individualized learning outcomes: A


168. Schoenfeld-Tacher R, Royal KD, Flammer K. Differences among veterinary students’ and faculty members’ perceptions of appropriate interactions with corporate entities. Medical Science Educator. 2015


170. Royal KD, Hecker KG. Rater errors in clinical performance assessments: What they are and what you can do to address them. Journal of Veterinary Medical Education, 2015; 42(5).

171. Royal KD. A cautionary note about focus groups in medical education. Education for Primary Care, 2015; 26(6), 449-449


178. Schnabel L, Redding WR. Fractures of the Proximal Sesamoid Bones in the Horse. Eq Vet Education. In press


187. Stevens B. The use of trazodone to reduce feline travel anxiety and improve veterinary exam tractability. Accepted JAVMA expected Summer 2016 Publication


195. Fogle JE, Tarigo JL, Thalheim L, Williams LE, English LB, Suter SE. CD45+ and CD45- lymphocyte populations identified by flow cytometry from dogs with lymphoma exhibit similar morphology and the same clonal (B cell or T cell) lineage. Vet Immunol Immunopathol. 2015 Dec 15;168(3-4):242-8. (Senior Author)


197. Schneider SM, Coleman AE. Guo LJ, Tou SP, Keene BW, Kornegay JN. Suspected acute myocardial infarction in a dystrophin-deficient dog. Submitted to Neuromuscular Disord.


2. Case Reports in peer-reviewed journals


4. Tham HL, Jacob M, Bizikova P. Molecular confirmation of shampoo as the putative source of Pseudomonas aeruginosa-induced postgrooming furunculosis in a dog. Veterinary Dermatology, accepted


8. Breitschwerdt EB. Did Bartonella henselae contribute to the deaths of two veterinarians? Parasit Vectors 2015;8:e317


23. Applegate JA, Drapp R, **Lewbart GA**. Non-Fatal Traumatic Gastric Evisceration in Two Box Turtles (*Terrapene carolina carolina*). Accepted JHMS, March, 2016.


3. **Research review articles, medical consensus statements in peer-reviewed journals**


11. **Blikslager AT.** Gastric impaction and large colon volvulus: can one lead to the other? Equine Vet Educ 2015;27:460-461

12. **Cook VL, Blikslager AT.** Should we use NSAIDs in Critically Ill Horses? J Vet Emerg Crit Care 2015;25:76-88


4. **Refereed articles - pedagogy or extension-related**


5. Research abstracts


5. Sloboda C, Chico S, Smith B, Gordon J, Bailey CS, Zwetsloot K, Mowa CN. Echinacea purpurea down regulates LPS-induced expression of pro-
inflammatory and angiogenic factors in an ex vivo model of equine placentitis. FASEB J April 2016 30:921.3


19. **Fogle C**, Sheats MK. Development of a capstone assessment instrument for evaluation of fourth year veterinary student history and examination skills. Accepted, VEC 2016, Calgary.


21. Magestro L, **Gieger T**. Detection of synchronous primary tumors and previously undetected metastases in 736 dogs undergoing CT scans for radiation treatment planning. Veterinary Cancer Society 2015, Vienna, VA.


27. Gerding JC, **Gilger BC**. Prognosis and impact of equine recurrent uveitis. American College of Veterinary Ophthalmologists, October 2015; Coeur d'Alene, ID.

28. Curto EM, **Gilger BC**. Aqueous humor cytokine analysis of horses with ERU. American College of Veterinary Ophthalmologists, October 2015; Coeur d'Alene, ID.

29. Walsh K, **Gilger BC**. Evaluation of a novel device for intracorneal, intrascleral, and suprachoroidal injections. American College of Veterinary Ophthalmologists, October 2015; Coeur d'Alene, ID.

30. Jinks M, **Gilger BC**. Etiology of uveitis in cats from North Carolina. American College of Veterinary Ophthalmologists, October 2015; Coeur d'Alene, ID.


34. McMullen RJ, Davidson MD, **Gilger BC**. Prevalence and differences in naturally occurring refractive errors in the normal adult equine eye in Germany and North Carolina and potential correlation to breed, age, coat and iris color, or gender. International Equine Ophthalmology Consortium Symposium, June 2015, Savannah, GA.


37. **Gilger BC**, Borras T, Hirsch M. Ocular transduction following suprachoroidal


41. Ziegler A, Gonzalez LM, Odle J, Blikslager AT. Neonates have a reduced ability to repair jejunal mucosal injury as compared to juveniles in a pig model of ischemia reperfusion injury. Digestive Disease Week, San Diego, CA 2016.


43. Stewart AS, Gonzalez LM. Critical response of intestinal epithelial stem cells in ischemia reperfusion repair. 2015 CGIBD Research Competition. UNC, Chapel Hill, NC


45. Kucera CR, Gonzalez LM. A critical number of intestinal progenitor cells determine viability in cases of large colon volvulus. Merial-NIH Veterinary Scholars Symposium. Davis, CA, 2015


47. Gonzalez LM, Magness ST, Lund PK, Blikslager AT. Reserve intestinal epithelial stem cells show increased resistance to ischemia-reperfusion injury.


49. Scott JA, Pridgen T, **Gonzalez LM**, Kouprianov V, **Blikslager AT**. Intestinal ischemic injury and recovery in nursery-grower pigs. NC State Spring Undergraduate Research Symposium, Raleigh, NC 2015


64. Medlin EG, Jones SL. Investigation of mPGES-1 as a Novel Anti-Inflammatory Target in Equine Leukocytes. Society of Leukocyte Biology Annual Conference. Raleigh, NC. 2016


71. Barbar M, Butler RK, Thomas J, Hughes MA, **Lascelles BDX**. Relationship of activation of phenotypically-distinct neuronal populations in the central amygdala with the expression of acute pain, conditioned fear, and fear-conditioned analgesia. Oral presentation, NCSU CVM Research Forum, Raleigh, NC, 19th September 2015


94. Knazovicky D, Freire M, Case B, Jiamachello K, Innes JF, Gearing DP, Lascelles BDX. A canine-specific anti-nerve growth factor antibody is effective for the alleviation of osteoarthritis-associated pain in dogs. BSAVA Congress, April 9-12, 2015, Birmingham, UK

95. Knazovicky D, Tomas A, Motsinger-Reif A, Lascelles BDX. Pain relief improves sleep in dogs with osteoarthritis. BSAVA Congress, April 9-12, 2015, Birmingham, UK


117. Harvey JB, Mamo LB, Borst LB, **Prange T**, **Bizikova P**, Linder KE. Phaeohyphomycosis of the upper respiratory tract in 4 horses. American College of Veterinary Pathology Annual Meeting 2015, Minneapolis, MN, USA


120. Tyrrell JD, **Qurollo BA**, Bradley J, Tornquist SJ, SChlaich KG, Kelsey J, **Breitschwerdt EB**. PCR prevalence of tickborne organisms in Nicaraguan horses. CVM Research Forum, Raleigh, NC, September 18, 2015.

121. Hegarty BC, **Qurollo BA**, Tyrrell JD, **Breitschwerdt EB**. Questing for Vector-Borne Diseases in Horses. CVM Research Forum, Raleigh, NC, September 18, 2015.


compound in a rodent model. ACVS Surgery Summit, Nashville, TN October 2015.


129. Sheats MK, Fogle C. Student perspectives on a newly implemented community-based model of clinical training in equine primary care: “What’s working and what could be better?”. Accepted, VEC 2016, Calgary.


131. Sherman A, Schnabel L, Gilger B. Bone marrow derived autologous mesenchymal stem cells (BM-MSCs) for therapy of immune mediated keratitis. International Equine Ophthalmology Consortium Symposium, June 2015, Savannah, GA.


139. Kapatos A, Holmes JC, Gojanovich GS, Ross P, Buntzman AS, Suter SE, Hess PR. Peptides contained within the TCRβ-derived idiotype region of canine T cells are capable of binding the DLA-88*50801 allele but are not naturally processed & presented. NCSU-Novartis Immunology Symposium, Raleigh, NC, June 2015.


141. Long E, Vigani A. Reversal of Naturally Occuring Hyperfibrinolysis Using Tranexamic Acid in the Dog. 19-20 March, 2016; Las Vegas, NV; 2nd Annual ACVECC Vetcot Veterinary Trauma & Critical Care Symposium

6. **Books and Book Chapters**


23. Smith FWK and **Keene BW**. Congestive Heart Failure, Right Sided in Tilley LP and Smith FWK, Blackwell’s Five-Minute Veterinary Consult, pp 308-10; John Wiley & Sons, 2016.


28. **Lyle SK**. The 5-Minute Veterinary Consult: Canine and Feline, 6th ed. Section editor for Theriogenology topics.


32. **Redding WR**. Infectious Diseases Associated with the Hoof, Editors: O’Grady & Turner T: Equine Podiatry

33. **Redding WR**. Use of Neurectomy in Management of Lameness. Editors: Easley & Prange: Neurological Diseases In the Horse


7. Invited and contributed research presentations


13. **Hess PR.** Manipulating MHC molecules to modulate CD8+ T-cell responses in autoimmunity and cancer, Comparative Medicine Branch, NIEHS, September 2015.


19. **Marcellin-Little DJ.** 3D printing for orthopedic clinicians; the NCSU experience. UNC/NCSU Biomedical Engineering Department seminar, October 2015.


22. **Mowat FM.** NCSU CVM Industry seminar: “For your eyes only: how ophthalmologists are moving treatments from mouse to man.” September 2015.

23. **Mowat FM.** Invited faculty research seminar, Duke University Ophthalmology Center: “The "macula" of man's best friend”, 10/23/15


31. Stoskopf MK. Pan African Zoological Veterinary Symposium, Durban, South Africa. 2015


8. Non-peer reviewed continuing education review papers/articles

1. Breitschwerdt EB. Guest Editor, Veterinary Parasitology, Sarolaner: a novel isoxazoline that addresses the need for enhanced flea and tick control. 2016


5. Gallagher MA, **Sherman BL, Fish RE**. Canine College: Socialization of teaching dogs for animal and human welfare, Poster presented to the AALAS 66th National Meeting, November 1-5, 2015, Phoenix, Arizona.

9. **Continuing education lectures with proceedings given to professional audiences**

1. **Adin CA.** The Other Crucial Skill for Success- Communication. ACVS Symposium, Oct 2015, Nashville, TN.

2. **Adin CA.** Kidney and ureteral stones: cut stent or bypass; The Canine Artificial Sphincter; Urinary Ostomies: make ‘em hole again; Spay/Neuter Complications: where did I go wrong? AVMA Conference, July 2015, Boston MA.

3. **Adin CA.** Calcium oxalate ureteroliths in cats: Big kidney-little kidney; Practice pearls for performing perineal urethrostomies; To pee or not to pee: Artificial urethral sphincters in dogs; Rears of joy: Anorectal surgery made easy; Cancer reconstructive surgeries; Oncologic surgery interactive cases: Know when to walk away and know when to run. CVC Conference, April 23-24, 2015, Washington, DC.

4. **Bailey CS.** Affect of spay-status on canine health: Neoplasia; NCVC 2015

5. **Bailey CS.** Risk and benefit evaluation of neutering dogs; Symposium on Canine Reproduction, 2015

6. **Bailey CS.** Medical and surgical management of dystocia in the bitch; NCVC 2015

7. **Birkenheuer AJ.** South Carolina Association of Veterinarians Conference. Infectious Disease. 10/18/15

8. **Birkenheuer AJ.** North Carolina Academy of Small Animal Medicine. Infectious Disease. 2/3/16


15. **Bizikova P.** Specific therapeutic targeting of selected autoimmune skin diseases. (2015) ESVD Immunology workshop proceedings, York, UK


17. **Bizikova P.** Immune-mediated diseases of hair follicle. (2015) ESVD Immunology workshop proceedings, York, UK

18. **Bizikova P.** Autoimmune blistering skin diseases. (2015) ESVD Immunology workshop proceedings, York, UK

19. **Bizikova P.** Canine pemphigus. (2015) ESVD Immunology workshop proceedings, York, UK


21. **Blikslager AT.** Control of pain in horses with colic. XVI Conferencia ABRAVEQ, Agua de Lindoia, SP, Brazil, June 2015.

22. **Blikslager AT.** Early Detection of Strangulating Colic in Horses. XVI Conferencia ABRAVEQ, Agua de Lindoia, SP, Brazil, June 2015.

23. **Blikslager AT.** Critical decision-making in horses with acute colic. XVI Conferencia ABRAVEQ, Agua de Lindoia, SP, Brazil, June 2015.

24. **Blikslager AT.** Management of chronic and non-healing wounds. XVI Conferencia ABRAVEQ, Agua de Lindoia, SP, Brazil, June 2015.

25. **Breitschwerdt EB.** Bartonellosis: One Health Approach to an Emerging Infectious Disease. Western Veterinary Conference, Las Vegas, NE, March 7, 2016.


28. Breitschwerdt EB. Bartonellosis: One Health Approach to an Emerging Infectious Disease. American College of Veterinary Internal Medicine Annual Forum, Indianapolis, IN, June 3-6, 2015.


33. Breitschwerdt EB. Tick Borne Diseases in North America: Clinical and Zoonotic Implications. Detroit, MI. April 1, 2015


42. **DeFrancesco TC.** Echocardiography in the Emergency Department and ICU. Proceedings of the 45th Critical Care Congress (Pre Congress Educational Session hosted by the American College of Veterinary Emergency and Critical Care), Orlando, FL, February 19, 2016.

43. **DeFrancesco TC.** Cardiac biomarkers. Proper use in the Emergency Department and ICU. Proceedings of the 45th Critical Care Congress (Pre Congress Educational Session hosted by the American College of Veterinary Emergency and Critical Care), Orlando, FL, February 19 2016.

44. **DeFrancesco TC.** Feline heart disease: etiology and therapeutics. Proceedings of the 45th Critical Care Congress (Pre Congress Educational Session hosted by the American College of Veterinary Emergency and Critical Care), Orlando, FL, February 19, 2016


49. **Gieger TL.** Veterinary Cancer Society Technician Symposium, October 2015, 2 hours (stereotactic radiation therapy)

50. **Gines A.** Orthopedics, forelimb and hindlimb. Improve international, Mexico, January 2016.


55. **Hansen B.** “Respiratory emergencies” (2 hours x 2), “Severe sepsis and septic shock” (1 hour). New York City Veterinary Medical Association (NYCVMA) and The Animal Medical Center (AMC) Continuing Education Program. December 2-3, greater NYC metro area.

56. **Hansen B.** Cardiac Output monitoring laboratory: 4 hour live dog training laboratory providing training on methods of invasive and noninvasive cardiac output measurement; Severe Sepsis and Septic Shock: 4 hour limited enrollment session on a protocol-driven approach to management; Fluid Therapy: a 4 hour limited enrollment session on advanced fluid therapy issues. IVECCS 2015, September 17-21, Washington, DC.

57. **Harrell KA.** ACVIM 2015 Highlights. Care first Animal hospital and Clayton Animal hospital, AMC (NYC) and the NYC VMA.

58. **Harrell KA.** Hyperthyroidism in Cats. CVM.

59. **Harrell KA.** IMHA-What do we Know. CVM.


61. **Hauck ML.** AVMA, July 10-14, 2015, Boston MA.


63. **Hauck ML.** Czech Republic Small Animal Veterinary Association Congress, Hradec Kralove, CZ, Oct. 10, 2015: Overview of Feline Injection Site Sarcomas.

64. **Hauck ML.** Czech Oncology Society meeting, Hradec Kralove, CZ, Oct. 11, 2015.


66. **Kedrowicz AA.** (2015). Navigating difficult conversations through competent communication. Presented at the annual meeting of the American Veterinary Medical Association, Boston MA.


71. **Lascelles BDX.** OA Exam: Live assessment and tips for assessing various stages of OA; OA Management: Keys to effectively treating patient-specific stages of OA; Post-operative pain in dogs and cats: New advances for extended pain relief. Western Veterinary Conference, 7th & 8th March 2016

72. **Lascelles BDX.** Feline pain - what are we missing? CE Seminars, Pacific Northwest region (Seattle, Portland), 14th-17th February 2016

73. **Lascelles BDX.** OA Exam: Live assessment and tips for assessing various stages of OA; OA Management: Keys to effectively treating patient-specific stages of OA; Post-operative pain in dogs and cats: New advances for extended pain relief; Pain Management: Top Questions from Practitioners; Advances in Feline Pain Management; Case Studies in Pain Management: Perspectives from Academia and Primary Care; Effectively Treating Feline Acute Pain; What are Joint Health Supplements Doing for Dogs and Cats? North American Veterinary Conference, 16th – 20th January 2016


75. **Lascelles BDX.** NSAIDs in OA management: Risk-Benefit Evaluation. AVMA Conference, Boston, MA, 10th-12th June 2015

76. **Lewbart GA.** Bony fish reproduction and reproductive disorders. Eleventh Annual Shark Reef Aquatic Medicine Seminar. Shark Reef, Mandalay Bay Hotel, Las Vegas, NV, March 5, 2016.


78. **Lewbart GA.** Marine invertebrate medicine. WAVMA Webinar. October 5, 2015

79. **Lewbart GA.** Swim bladder and buoyancy disorders of ornamental fishes. American Association of Fish Veterinarians 2nd Annual Conference, Chicago, IL, April 11, 2015.


82. Marcellin-Little DJ. Keynote presentation on the management of osteoarthritis in companion animals over the last 50 years and the next 50 years, at the ACVS Surgical Summit. Nashville, TN

83. Marcellin-Little DJ. Management of osteoarthritis, with Duncan Lascelles, at the North American Veterinary Conference and the Western States Conference

84. Marcellin-Little DJ. Lectures at the ACVS Surgical Summit (Nashville, TN), the British Small Animal Veterinary Association Meeting (Birmingham, UK), the AOVet Course (San Diego, CA)


100. **Mariani CL**. Inflammatory CNS Disease: More Common than You Think! Proceedings of the North Carolina Veterinary Medical Association Destination Education Meeting, Manchester Village, VT, 2015.


106. **Mariani CL.** Is it Orthopaedic or Neurologic? Sorting our Lameness, Paresis and Dogs that Won’t Get Up. Proceedings of the 26th Annual Convention of the Association des Medecins Veterinaires du Quebec en Pratique des Petits Animaux, Montreal, Quebec, 2015.

107. **Mariani CL.** Seizures – Etiologies and Developing a Diagnostic Plan. Proceedings of the 26th Annual Convention of the Association des Medecins Veterinaires du Quebec en Pratique des Petits Animaux, Montreal, Quebec, 2015.


111. **Murphy K.** Primary Secretory Otitis Media in the Cavalier King Charles Spaniel. What’s New in Dermatology CE Seminar, North Carolina State University, February 2016.


118. **Olivry T.** Canine autoimmune skin diseases: 30 years later – Part II: selected topics on pemphigus foliaceus. British Veterinary Dermatology Study Group, Stansted, United Kingdom, November 2015.

119. **Olivry T.** Canine autoimmune skin diseases: 30 years later – Part III: selected topics on subepidermal blistering skin diseases. British Veterinary Dermatology Study Group, Stansted, United Kingdom, November 2015.

120. **Olivry T.** Canine autoimmune skin diseases: 30 years later – Part IV: selected topics on cutaneous lupus erythematosus. British Veterinary Dermatology Study Group, Stansted, United Kingdom, November 2015.

121. **Olivry T.** Canine autoimmune skin diseases: 30 years later – Part V: challenging clinical conundrums. British Veterinary Dermatology Study Group, Stansted, United Kingdom, November 2015.

122. **Olivry T.** Canine autoimmune skin diseases: 30 years later – Part VI: selected topics on immunosuppression. British Veterinary Dermatology Study Group, Stansted, United Kingdom, November 2015.

123. **Olivry T.** What’s new in the treatment of canine atopic dermatitis. NC State University College of Veterinary Medicine, Raleigh, NC, February 2016.

124. **Prange T.** Tumors or the Oral Cavity. ACVS Surgery Summit, Nashville, TN, 2015.

125. **Prange T.** Acute Upper Airway Obstructions. NCVC, Raleigh, NC, 2015.


129. **Redding WR.** What has MRI Taught us about the Fetlock; University of Tennessee Sports Medicine Meeting, February 2016.
130. **Redding WR.** Diagnosis and Treatment of Musculoskeletal Injuries in the Horse, University of Tennessee Sports Medicine Meeting, February 2016.


135. **Schnabel LV.** Platelet-rich plasma products: Not all are equal - what we know and where field is going. North American Veterinary Conference, Orlando, FL 2016.


140. **Sherman BL.** Handling aggressive dogs in the clinic: (2) Reduce anxiety to reduce aggression. Proceedings of the NCVC, November 6-8, 2015.

141. **Sherman BL.** Handling aggressive dogs in the clinic: (1) Interpret behavior to optimize safe management. Proceedings of the NCVC, November 6-8, 2015.


147. **Suter S.** ACVIM, Indianapolis, IN: Apheresis and Canine Bone Marrow Transplantation. 2015

148. **Tate LP.** Tumors of the female urogenital tract. 2015 ACVS Symposium, The Surgical Summit Proceedings, October 2015, pp 529-541.


10. Continuing education lectures without proceedings given to professional audiences


2. Birkenheuer AJ. University of Tennessee Comparative Experimental Medicine Seminar 4/13/15


4. Bizikova P. Mechanism of action of cyclosporine, oclacitinib and glucocorticoids. (2015) Elanco: USA key-opinion leader meeting; Chicago, IL, USA


14. **Degernes L.** Avian anesthesia, emergency support and diagnostic surgical techniques (1, 4-hr lecture and lab). Annual Conference of the Association of Avian Veterinarians, San Antonio, TX. 2015.


17. **Fogle C.** “Castration Complications” table topic, 2016 American Association of Equine Practitioners Conference, Las Vegas Nevada

18. **Fogle C.** “Colic Complications” panel discussion, moderator and panelist 2015 American College of Veterinary Surgeons’ Conference, Nashville TN


20. **Gilger BC.** Equine ophthalmology, show and tell. NCVMA conference. 8 hours, Pinehurst, NC. February 20, 2016. Invited.


23. **Gookin JL.** Mortality in kittens and the role of intestinal enterococci. Clinical Pathology Rounds North Carolina State University, College of Veterinary Medicine, May 1, 2015.

24. **Hanel R.** Trauma M&M; Panel Discussion of “How I Treat.” ACVECC Veterinary Committee on Trauma (VetCOT) Veterinary Trauma & Critical Care Conference, Caesar’s Palace, Las Vegas, NV, 2016.

26. **Hanel R**. IMHA in the canine; possible model for pulmonary thromboembolism. Invited presentation at Duke University, Durham, NC, November 2015.

27. **Hanel R**. IMHA in the canine and the use of TEG in veterinary medicine. Invited presentation at University of North Carolina at Chapel Hill. Chapel Hill, NC, December 2015.


32. **Harms CA**. 2015. Euthanasia of sea turtles, pinnipeds, and cetaceans. Workshop for training veterinarians involved in the Projeto de Monitoramento de Praias – Bacia de Santos (Santos Basin Beach Monitoring Project), Universidade do Vale do Itajaí (UNIVALI), Itajaí, Santa Catarina, Brazil, 9 – 11 November.

33. **Harms CA**. Large Whale Euthanasia Training for Maryland Marine Mammal Stranding Response Staff, Smithsonian Institution, Museum Support Center, Suitland, MD, 21 August 2015. Presentation and wet lab, 2 hr each.


37. **Harms C**. 2015. Blood gases in wild bird research. AMMVEZOO Asociación Mexicana de Médicos Veterinarios Especializados en Animales de Zoológico,
Exóticos y Silvestres, International Conference, Playa del Carmen, Quintana Roo, Mexico, 30 June – 4 July 2015, invited speaker.


39. **Harrell KA.** Is an Internship for You?


41. **Hawkins EC.** Treating respiratory infections in dogs: from the nose to the alveoli. Westchester-Rockland VMA, NY, NY. May 5, 2015. (Handout vs proceedings)

42. **Hawkins EC.** Treating respiratory infections: from nose to the alveoli. Veterinary Medical Association of New York City, NY, NY. May 6, 2015. (Handout vs proceedings)

43. **Hawkins EC.** Kennel cough (CIRDC): what you might not know. Animal Medical Center, House officer seminars, NY, NY. (Handout vs proceedings)

44. Dannels DP, **Kedrowicz AA**, Gaffney A, Roth DA (2015). Embracing opportunities with Communication Across the Curriculum and General Education. Presented at the annual meeting of the National Communication Association, Las Vegas, NV.

45. **Kedrowicz AA.** (2015). Workplace Wellness Panel Discussion. Presented at the annual meeting of the American Veterinary Medical Association, Boston MA

46. **Kedrowicz AA.** (2015). Leveraging Competent Communication for Successful Conflict Resolution. Presented at the annual meeting of the American Veterinary Medical Association, Boston MA.

47. **Kedrowicz AA.** (2015). Presenting with Impact. Presented at the National Veterinary Accreditation Program Module Delivery Certification Course. Olympia, WA.

48. **Kedrowicz AA.** (2015). Delivering Presentations with Confidence. Presented at the National Veterinary Accreditation Program Module Delivery Certification Course. Olympia, WA.

49. **Kedrowicz AA.** (2015). Building Effective PowerPoint presentations. Presented at the National Accreditation Program Module Delivery Certification Course, Olympia, WA.

50. **Lewbart GA.** Sea turtle phlebotomy; a laboratory demonstration. Eleventh Annual Shark Reef Aquatic Medicine Seminar. Shark Reef, Mandalay Bay Hotel, Las Vegas, NV, March 5, 2016.

51. **Lewbart GA.** Accomplishments and challenges related to wild invertebrates and fishes in the Galápagos. Health Contributions To Conservation In The


60. Mariani CL. Cerebrospinal Fluid Collection and Muscle Biopsy. Contact Course Practical Session, Part of Canine and Feline Neurology Course 118.756, Massey University, North Palmerston, New Zealand, 2015.


64. Mariani CL. Advanced Neurodiagnostics. Contact Course Lecture, Part of Canine and Feline Neurology Course 118.756, Massey University, North Palmerston, New Zealand, 2015.

65. Mathews KG. Morning lectures and afternoon laboratories covering the acute abdomen; surgical disasters; decision making in gastrointestinal, urological and respiratory surgery; surgery of the airways and thorax, ureter, gastrointestinal tract.

66. Muñana KR. ACVIM Consensus Statement Draft on Management of Seizure Disorders. (1 hour). 2015 American College of Veterinary Internal Medicine Forum, Indianapolis, IN June 2015. (One of 7 panel members who developed material, presented by M. Podell)

67. Muñana KR. The Neurological Examination; Canine Epilepsy Research. (1 hour). Meeting of the Evolutionary & Comparative Medicine Interest Group for the Triangle, Raleigh NC, August 2015.


69. Olivry T. An overview of pemphigus in animals. Dermatology Grand Rounds, Duke University School of Medicine, Durham, NC, May 2015

70. Olivry T. Journal Club. European Society and European College of Veterinary Dermatology Annual Congress, Krakow, Poland, September 2015.


76. Suter S. Preston Animal Hospital, Morrisville, NC, Lymphoma diagnosis and treatment.

77. Taylor A. Canine Mobility Wellness – A life-stage based approach to reducing musculoskeletal disease and injury in pet dogs.


80. Vigani A. Use of mechanical ventilation in large animal exotic species. Utah Hogle Zoo. Salt Lake City UT; 2016

81. Vigani A. General anesthesia in bears. Utah Hogle Zoo. Salt Lake City UT; 2016


83. Vigani A. Update on Acute Kidney Injury. University of Zurich Veterinary Teaching Hospital; Zurich CH; 2015

84. Vigani A. Update on Management of hemorrhagic shock. University of Zurich Veterinary Teaching Hospital; Zurich CH; 2015


11. Continuing education presentations given to lay audiences


2. Bailey CS. Dystocia and Managed Delivery in the Bitch, Great Dane National Specialty Show, October 2015


5. Degernes L. Book discussion review – H is for Hawk, at Cameron Village Regional Library, Raleigh, NC, 2016. (adult audience)

6. Degernes L. Common household toxins and hazards that every parrot owner should know. 2016 Wellness Retreat – the Nature of Parrots, Asheville, NC, 2016 (adult audience, parrot owners)


8. Gonzalez LM. Building Future Faculty Program Table Topic Host, Developing a career advisory network for peers and mentors, April 2016


11. **Harms CA.** Brad Sneeden Marine Science Academy, 35 Carteret County middle school students, sea turtle comparative anatomy laboratory, CMAST, Morehead City, NC, 22 June 2015.


18. **Nolan MW.** January 7, 2016: gave presentation to Cary Chamber of Commerce (at CVM, organized by Dr. Meurs).


23. **Sheats MK.** Creating an Emergency Preparedness Plan for Your Farm. Equine Health Symposium, North Carolina State University, College of Veterinary Medicine, Raleigh, NC. 3/2016
24. **Sherman BL.** Lecturer to Adults: Oshner Lifelong Learning Institue (OLLI) 
   Course “Animal Behavior,” 6/10/15

12. **Bulletins, booklets and other education media**

1. **Davis JL.** NCSU Veterinarians Treat Corolla Foal. The Horse.com Jun 29, 2015

2. **Nolan MW.** Developed 2 new brochures for the clinical service’s webpage 
   (general RT info, and a brochure about SRT). Also worked with April Norris’ 
   office to publish/distribute the second annual edition of “Radiating Hope”, which 
   is a development-oriented newsletter/update to RadOnc clients.

13. **Works prepared and distributed through electronic media**

1. **Breitschwerdt EB.** Purina Pro Club DOG UPDATE: Fund Raising for Tick Borne 
   Diseases In Dogs, American Kennel Club Research Initiative. Barbara Fawver 
   (ed), Winter 2016

2. **Breitschwerdt EB.** (News interview) Bartonella: Zoonotic Risks for Pets and 

3. **Breitschwerdt EB.** Canine Vector Borne Disease Webinar, Broadcast to over 
   100,000 attendees world-wide. Case-based presentations and panel discussion. 
   Filmed in multiple locations. Panel discussion and presentation Atlanta, GA. April 
   22, 2015.

4. Hirsch M, **Gilger BC.** AAV gene therapy for immune tolerance in the cornea. 
   UNC. (Submitted Jan 2016).

5. Hirsch M, **Gilger BC.** AVV gene therapy for immune tolerance in the eye, UNC 
   (Submitted Feb 2016).

6. **Keene BW.** Cardiology Care Network [www.cardiologycarenetwork.org](http://www.cardiologycarenetwork.org)

7. **Mariani CL.** Developed and delivered “Canine and Feline Neurology”, a distance 
   education course through Massey University (July 2015-February 2016)

8. **Mariani CL.** Developed and delivered “Seize the Day! Mastering Seizure 
   Management in Small Animals”, a distance education course through the New 
   Zealand Veterinary Association (6 weeks; April-May)

9. **Taylor A.** BVRSMA (British Veterinary Rehabilitation and Sports Medicine 
   Association) 
   Continued publishing of an online sports medicine and rehabilitation research 
   abstract database available for members to search and view.

10. **Vigani A.** Sepsis and Septic Shock. Online Webinar organized by University of 
    Milan (IT); 2016 (250 attendees)
11. **Vigani A.** Management of respiratory emergencies in small animals. Online Webinar organized by University of Milan (IT) 2016 (250 attendees)

12. **Vigani A.** Pathophysiology of Shock. Online Webinar organized by University of Milan (IT); 2016 (250 attendees)

13. **Vigani A.** Controversies in Emergency Medicine. Online Webinar organized by CMV Association of Veterinarians (Italy) 2015 (500 attendees)

14. **Westermeyer HD.** Restructured the ophthalmology service’s website. Currently working on creating more client friendly content and prioritizing content that is important for the general public to know regarding the service.

14. **Awards and other contributions (teaching, research, prizes/competitions, extension, service)**

1. **Bailey CS.** Setter Run Farm White Coat of Excellence.

2. **Blikslager AT.** Nominated: Alumni Association Distinguished Graduate Professorship, 2016

3. **Gookin JL.** Nominated: Graduate School Outstanding Graduate Faculty Mentor Award 2016

4. **Gookin JL.** University Faculty Scholar (2016-2020)

5. **Harrison TM.** Inducted into the Farm Lane Society of Michigan State University, College of Agriculture and Natural Resources. March 2016.

6. **Kennedy-Stoskopf S.** 2016 Faculty International Travel Assistance Award to extend my stay in Mongolia to identify and build potential collaborations.

7. **Mowat FM.** 2015 Phi Zeta Research Award: National Society for Phi Zeta

8. **Mowat FM.** 2015 Resident Award, American Association of Veterinary Clinicians

9. **Musulin SE**, Auburn University College of Veterinary Medicine’s Young Achiever Award - 2014

10. **Olivry T.** Dechra award for best abstract presentation for laboratory research (established investigator) at the 2015 ESVD-ECVD congress, Krakow, Poland.


12. **Sherman BL.** NC State University Libraries Faculty Award (2015)
## 15. Submitted Grants

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Investigator(s)</th>
<th>SP</th>
<th>PI Department</th>
<th>Direct Sponsor</th>
<th>Amount</th>
<th>Type</th>
<th>Category</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-175</td>
<td>Adin, Christopher</td>
<td></td>
<td>Department of Clinical Sciences</td>
<td>Precision Medical Devices, Inc.</td>
<td>$135,959</td>
<td>New</td>
<td>Research</td>
<td>Precision Medical Devices</td>
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<td>2016-0700</td>
<td>Adin, Darcy Davidson, Gigl</td>
<td></td>
<td>Department of Clinical Sciences</td>
<td>American College of Veterinary Internal Medicine</td>
<td>$16,411</td>
<td>New</td>
<td>Research</td>
<td>Determination of Long-Term Stability of Compounded Oral Suspensions of Torsemide</td>
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<td>2015-3230</td>
<td>Bailey, Christopher</td>
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<td>Department of Clinical Sciences</td>
<td>UNC - UNC Chapel Hill (Michelson Prize &amp; Grants)</td>
<td>$19,688</td>
<td>New</td>
<td>Research</td>
<td>Long-term suppression of rat GnRH activity by a single intravenous dose of novel adeno-associated virus vectors</td>
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<td>2015-2645</td>
<td>Bilskager, Anthony Odle, Jack</td>
<td></td>
<td>Department of Clinical Sciences</td>
<td>US Dept. of Agriculture (USDA) - National Institute of Food and Agriculture</td>
<td>$499,191</td>
<td>New</td>
<td>Research</td>
<td>Mechanisms Of Intestinal Injury And Repair In Porcine Heat Stress</td>
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<tr>
<td>2016-0058</td>
<td>Bilskager, Anthony Gonzalez, Liara</td>
<td></td>
<td>Department of Clinical Sciences</td>
<td>Ethicon Endo-Surgery, Inc</td>
<td>$216,838</td>
<td>New</td>
<td>Research</td>
<td>GI Leak Animal Model Development</td>
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<td>2016-1239</td>
<td>Bilskager, Anthony</td>
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<td>Department of Clinical Sciences</td>
<td>Grayson Jockey Club Research Foundation, Inc.</td>
<td>$15,000</td>
<td>New</td>
<td>Research</td>
<td>Flunixin and Fincoib in post-surgical colic patients</td>
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<td>2016-0701</td>
<td>Ellenbein, Johannu</td>
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<td>Department of Clinical Sciences</td>
<td>Duke University (National Institutes of Health (NIH))</td>
<td>$113,018</td>
<td>New</td>
<td>Research</td>
<td>Gut Microbiota and Oxygen After Antibiotic Treatment</td>
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<td>2016-1995</td>
<td>Ellenbein, Johannu</td>
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<td>Department of Clinical Sciences</td>
<td>American Veterinary Medical Association Foundation</td>
<td>$6,000</td>
<td>New</td>
<td>Individual Fellowship/Stipend</td>
<td>Evaluation of the Functional Region(s) of Multicopy Single-Stranded DNA in Salmonella</td>
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<td>2016-2390</td>
<td>Ellenbein, Johannu</td>
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<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New</td>
<td>Research</td>
<td>George H. Hitchings New Investigator Award - Kimberly Schreiber</td>
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<tr>
<td>2016-2344</td>
<td>Fish, Richard Williams, Monika Messenger, Krista Luff, Jennifer Griffith, Emily</td>
<td>Joint Coll.</td>
<td>Department of Clinical Sciences</td>
<td>American College of Laboratory Animal Medicine Foundation</td>
<td>$20,000</td>
<td>New</td>
<td>Research</td>
<td>Exposure and Safety of Transmammary-Delivered Meloxicam in the Pre-Weaning Rat</td>
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<td>2016-2306</td>
<td>Fogle, Collie</td>
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<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New</td>
<td>Research</td>
<td>Triangle Community Foundation George H. Hitchings Proposal for Megan Radkin</td>
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<td>2016-1679</td>
<td>Giegler, Tracy Nolan, Michael</td>
<td>Joint Coll.</td>
<td>Department of Clinical Sciences</td>
<td>Winn Feline Foundation</td>
<td>$21,536</td>
<td>New</td>
<td>Research</td>
<td>Treatment Of Feline Gastrointestinal Lymphoblastic Lymphoma With Cobalamin</td>
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<td>Year</td>
<td>Name</td>
<td>Department</td>
<td>Institution/Location</td>
<td>Amount</td>
<td>Funding Type</td>
<td>Project Title</td>
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<td>2016-1580</td>
<td>Gilger, Brian</td>
<td>Department of Clinical Sciences</td>
<td>UNC - UNC Chapel Hill (National Institutes of Health (NIH))</td>
<td>$906,872</td>
<td>New</td>
<td>Research into AAV-Mediated Immune Tolerance to Prevent Cornea Transplant Rejection</td>
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<td>2016-1916</td>
<td>Gious Zarza, Jose Lescelles</td>
<td>Department of Clinical Sciences</td>
<td>e5 Pharma, LLC</td>
<td>$150,503</td>
<td>New</td>
<td>Research into PILOT PROOF OF CONCEPT STUDY TO ASSESS THE EFFICACY OF TRAMADOL AS A POST-OPERATIVE ANALGESIC OVER A 72-HOUR PERIOD IN DOGS UNDERGOING CRANIAL CRUCIATE LIGAMENT (CCL) SURGERY</td>
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<td>2016-2349</td>
<td>Gonzalez, Luisa</td>
<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New</td>
<td>Research into The George H. Hitchings New Investigator Award - Cecilia Kuecra Biomarkers of Intestinal Viability and Patient Survival in Equine Large Colon Volvulus</td>
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<td>2016-1999</td>
<td>Gookin, Jody Papich, Mark</td>
<td>Department of Clinical Sciences</td>
<td>Winn Feline Foundation</td>
<td>$24,583</td>
<td>New</td>
<td>Research into Efficacy of a new gold standard for treatment of cats with resistazole-resistant Trichomonas foetus infection</td>
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<td>2016-3107</td>
<td>Harms, Craig Papich, Mark</td>
<td>Department of Clinical Sciences</td>
<td>SC Aquarium Society</td>
<td>$8,957</td>
<td>New</td>
<td>Research into Ketoprofen Pharmacokinetics in Loggerhead Sea Turtles</td>
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<td>2016-1816</td>
<td>Harrison, Tara Lewbart, Gregory Applegate Jr, Jeffrey Troeschutz, Macy Meichner, Cristina</td>
<td>Department of Clinical Sciences</td>
<td>American Association of Zoo Veterinarians (AAZV)</td>
<td>$8,200</td>
<td>New</td>
<td>Research into Comparison of a Portable Hand-Held Analyzer and Laboratory Chemistry Unit for Evaluation of Normal Values, Evaluation of Small Blood Volume, and Determination of Plasma Protein Electrolytes Values in Eastern Box Turtles (Terrapene carolina carolina)</td>
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<td>2016-2459</td>
<td>Harrison, Tara Troeschutz, Macy Lewbart, Gregory Meichner, Cristina</td>
<td>Department of Clinical Sciences</td>
<td>John Ball Zoo Wildlife Conservation Fund</td>
<td>$1,800</td>
<td>New</td>
<td>Research into Comparison of a Portable Hand-Held Analyzer and Laboratory Chemistry Unit for Evaluation of Normal Values and Evaluation of Small Blood Volume in Eastern Box Turtles (Terrapene Carolina Carolina)</td>
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<td>2016-2390</td>
<td>Hauck, Marlene Brandes, Ashley Mastromassaro, Michael</td>
<td>Department of Clinical Sciences</td>
<td>Animal Cancer Foundation</td>
<td>$49,896</td>
<td>New</td>
<td>Research into A Phase II trial of TM in Dogs with Transitional Cell Carcinoma</td>
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<td>2016-2392</td>
<td>Hauck, Marlene Vaden, Shelly Papich, Mark Evans, Brolin</td>
<td>Department of Clinical Sciences</td>
<td>American College of Veterinary Internal Medicine</td>
<td>$49,896</td>
<td>New</td>
<td>Research into Plasma SDMA as a Predictor of Toxicity in Dogs Receiving Carboplatin</td>
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<td>2015-2881</td>
<td>Hess, Paul Brandes, Ashley</td>
<td>Department of Clinical Sciences</td>
<td>American Kennel Club Canine Health Foundation, Inc.</td>
<td>$68,870</td>
<td>New</td>
<td>Research into Tracking the evolution of CHOP chemoresistance in canine T-cell lymphoma by next-generation sequencing of minimal residual disease</td>
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<td>2016-2422</td>
<td>Jones, Samuel</td>
<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New</td>
<td>Research into George H. Hitchings New Investigator Award - Emily Mackey</td>
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<td>Grant Year</td>
<td>Applicant(s)</td>
<td>Joint College</td>
<td>Department/Institution</td>
<td>Amount</td>
<td>Type</td>
<td>Description</td>
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<td>2016-0933</td>
<td>Kedrowsicz, April Dockert, Alper Lunn, Katherine Roberts, David Royal PhD, Kenneth Sherman, Barbara</td>
<td>Microsoft Research</td>
<td>Department of Clinical Sciences</td>
<td>$100,000</td>
<td>New</td>
<td>Research</td>
<td>The Impact of Hololens Technology on Veterinary Student Education, Human-Animal Interaction, and Client Communication and Compliance</td>
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<td>2016-2134</td>
<td>Keene, Bruce Aoun, Brent Seiler, Gabriela</td>
<td>American College of Veterinary Internal Medicine</td>
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<td>$5,684</td>
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<td>Pilot Evaluation of a Commercial Echocardiographic Contrast Agent to Accurately Define the Coronary Artery Anatomy in Dogs with Pulmonary Stenosis</td>
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<td>2015-2592</td>
<td>Lascelles, Duncan</td>
<td>Nexvet Biopharma Pty Ltd.</td>
<td>Department of Clinical Sciences</td>
<td>$189,989</td>
<td>New</td>
<td>Research</td>
<td>Monoclonal Antibody Clinical Research Pain Program Development - Task Order No. 6</td>
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<td>2016-1534</td>
<td>Lascelles, Duncan</td>
<td>Nexvet Biopharma Pty Ltd.</td>
<td>Department of Clinical Sciences</td>
<td>$80,093</td>
<td>New</td>
<td>Research</td>
<td>TASK ORDER #7 NV-08 for canine OA pain. Stage I: Exploratory evaluation of the pain alleviating effects and pharmacokinetics of intra-articular injection of NV-08 in dogs suffering from osteoarthritis-associated pain</td>
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<td>2016-2044</td>
<td>Lascelles, Duncan, Williams, Morlka Fish, Richard</td>
<td>American Association of Laboratory Animal Science (AALAS)</td>
<td>Department of Clinical Sciences</td>
<td>$7,500</td>
<td>New</td>
<td>Research</td>
<td>Establishment of a Neonatal Rat Pain Scale Using the Repetitive Needle Prick Injury Model</td>
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<td>2016-2045</td>
<td>Lascelles, Duncan</td>
<td>Virbac, Inc.</td>
<td>Department of Clinical Sciences</td>
<td>$105,286</td>
<td>New</td>
<td>Other</td>
<td>Randomized Pilot Trial of MovofleX™ Supplementation on Inflammation Biomarkers in Dogs with Degenerative Joint Disease</td>
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<td>2016-2058</td>
<td>Lascelles, Duncan</td>
<td>Biological Prospects</td>
<td>Department of Clinical Sciences</td>
<td>$200,857</td>
<td>New</td>
<td>Other</td>
<td>PILOT ASSESSMENT OF THE PAIN ALLEVIATING AND MOBILITY ENHANCING EFFECTS OF RESVERATROL IN DOGS WITH OSTEOPOROSIS</td>
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<td>2016-2137</td>
<td>Lascelles, Duncan</td>
<td>Vetz Petz.</td>
<td>Department of Clinical Sciences</td>
<td>$33,724</td>
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<td>Public Service/Extension</td>
<td>User Experience Study of a Nutritional Supplement, Antiinol, in Cats Suffering from Degenerative Joint Disease (DJD)-Associated Pain</td>
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<td>2016-2347</td>
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<td>Department of Clinical Sciences</td>
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<td>MAF Fellowship Training: Development of objective measures of central sensitization in cats with degenerative joint disease (DJD)-associated pain</td>
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<td>2016-2359</td>
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<td>2016-1332</td>
<td>Lewbart, Gregory</td>
<td>University of South Alabama (Morris Animal Foundation)</td>
<td>Department of Clinical Sciences</td>
<td>$4,536</td>
<td>New</td>
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<td>Short- and Long-Term Health and Disease Consequences of El Niño on Galápagos Marine Iguanas (Amblyrhynchus cristatus)</td>
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<td>2016-2289</td>
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<td>Triangle Community Foundation</td>
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<td>New</td>
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<td>George H. Hitchings New Investigator Award - Paige Harreson Evaluation of the Effectiveness of Blood Gas, Biochemical and Hematological</td>
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<td>Analysis in Determining the Physiological Status of Sick and Injured Chelonian Species</td>
<td>Lewbart, Gregory</td>
<td>Triangle Community Foundation</td>
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<td>George H. Hitchings New Investigator Award - John Griffioen</td>
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<td>2016-1880</td>
<td>Cancer anorexia cachexia syndrome (CACS) and associated biomarkers in dogs with lymphoma</td>
<td>Lunn, Katharine Allen, Julie Messenger, Kristen</td>
<td>Animal Cancer Foundation</td>
<td>$50,000 New Research</td>
<td>Cancer Anorexia Cachexia Syndrome (CACS) and Associated Biomarkers in Dogs with Lymphoma</td>
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<td>2016-2446</td>
<td>Cancer Anorexia Cachexia Syndrome (CACS) and Associated Biomarkers in Dogs with Lymphoma</td>
<td>Lunn, Katharine Allen, Julie Messenger, Kristen</td>
<td>Morris Animal Foundation</td>
<td>$65,508 New Research</td>
<td>Cancer Anorexia Cachexia Syndrome (CACS) and Associated Biomarkers in Dogs with Lymphoma</td>
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<td>2016-1422</td>
<td>Mechanical Assessment of Textured 3-D Printed Free-Form Collateral Ligament Reattachment Devices for Use in Conjunction with Limb-Sparing Metal Endoprosthetic Implants</td>
<td>Marcellin-Little, Denis Roe, Simon Harryson, Ola Horn, Timothy Dunlap, Anna</td>
<td>American College of Veterinary Surgeons Foundation</td>
<td>$13,669 New Research</td>
<td>Mechanical Assessment of Textured 3-D Printed Free-Form Collateral Ligament Reattachment Devices for Use in Conjunction with Limb-Sparing Metal Endoprosthetic Implants</td>
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<td>2016-2375</td>
<td>Three-Dimensional Assessment of the Shape of the Canine Radius Using Computer Aided Design Software</td>
<td>Marcellin-Little, Denis</td>
<td>Triangle Community Foundation</td>
<td>$5,000 New Research</td>
<td>Three-Dimensional Assessment of the Shape of the Canine Radius Using Computer Aided Design Software</td>
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<td>2016-1415</td>
<td>Conformational Differences Influence Tarsal Joint Motion: Comparisons of German Shepherd Dogs and Labrador Retrievers</td>
<td>Mathews, Kyle Marcellin-Little, Denis Harryson, Ola Horn, Timothy Hoomrje, Willemijn</td>
<td>American College of Veterinary Surgeons Foundation</td>
<td>$4,520 New Research</td>
<td>Conformational Differences Influence Tarsal Joint Motion: Comparisons of German Shepherd Dogs and Labrador Retrievers</td>
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<td>2016-1642</td>
<td>Therapeutic Efficacy of Myophenolate Mofetil in the Treatment of SARDS in Canine Patients</td>
<td>Mowat, Freya Young, Whitney Lunn, Katharine</td>
<td>American College of Veterinary Ophthalmologists</td>
<td>$5,000 New Research</td>
<td>Therapeutic Efficacy of Myophenolate Mofetil in the Treatment of SARDS in Canine Patients</td>
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<td>2016-1883</td>
<td>The Microbiota-Gut-Brain Axis in Canine Epilepsy: Determining the Role of Lactobacilli</td>
<td>Munana, Karen Jacob, Megan</td>
<td>American Kennel Club Canine Health Foundation, Inc.</td>
<td>$14,995 New Research</td>
<td>The Microbiota-Gut-Brain Axis in Canine Epilepsy: Determining the Role of Lactobacilli</td>
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<td>2016-1762</td>
<td>Immunolight Therapy for Dogs with Solid Tumors: Evaluation of Booster Strategies to Enhance Clinical Outcomes</td>
<td>Nolan, Michael Gieger, Tracy</td>
<td>Immunolight LLC</td>
<td>$76,675 New Research</td>
<td>Immunolight Therapy for Dogs with Solid Tumors: Evaluation of Booster Strategies to Enhance Clinical Outcomes</td>
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<td>Nolan, Michael Glearg, Tracy Suter, Steven</td>
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<td>Nolan, Michael Glearg, Tracy Suter, Steven</td>
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<td>2016-1861</td>
<td>Nolan, Michael Glearg, Tracy Suter, Steven</td>
<td>Department of Clinical Sciences</td>
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<td>New Research</td>
<td>Open-Label, Phase-2 Trial of Immunolight Therapy for Dogs with Solid Tumors</td>
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<td>2016-0891</td>
<td>Olby, Natasha</td>
<td>Department of Clinical Sciences</td>
<td>Assisi Animal Health</td>
<td>$138,480</td>
<td>New Research</td>
<td>The Effect of Electromagnetic Fields on Post-operative Pain and Recovery of Locomotion in Dogs with Acute Intervertebral Disc Herniations</td>
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<td>2016-2350</td>
<td>Olby, Natasha</td>
<td>Department of Clinical Sciences</td>
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<td>New Research</td>
<td>George H. Hitching's New Investigator Award - Courtney Rousse</td>
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<td>2015-2683</td>
<td>Olivry, Thierry</td>
<td>Department of Clinical Sciences</td>
<td>LEO Pharma A/S</td>
<td>$16,681</td>
<td>New Research</td>
<td>Pilot Studies Involving the Validation of Cytokine ELISA Using Skin Biopsies in Dogs Task Order No 3</td>
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<td>Olivry, Thierry</td>
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<td>LEO Pharma A/S</td>
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<td>Development and Validation of Canine Specific ELISAS Task Order No. 05</td>
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<td>LEO Pharma A/S</td>
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<td>Sample Collection for Establishment of Biomarkers in Dogs with Atopic Dermatitis (Task Order 4)</td>
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<td>2016-2411</td>
<td>Quorrello, Barbara Breitschwerd, Edward</td>
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<td>Triangle Center for Evolutionary Medicine (TriCEM)</td>
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<td>New Research</td>
<td>Prevalence and Zoonotic Potential of Emerging Tick-borne Pathogens in Madagascar</td>
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<td>2016-1923</td>
<td>Risselada, Matthew, Marjorie Messenger, Kristen Hauck, Marilene Marcellin-Little, Denis Linder, Keith</td>
<td>Joint Dept. of Clinical Sciences</td>
<td>UNC - UNC Chapel Hill</td>
<td>$102,360</td>
<td>New Research</td>
<td>Implantable Dual Sustained Release Theranostic ChemoTherapeutic Formulation of Carboplatin (IDSR-carboplatin) with Cell Specific Targeting Component for Diagnosis and Treatment of Residual Cancer and Lymphatic Metastatic Spread</td>
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<td>2016-1967</td>
<td>Royal PhD, Kenneth Noel, Jennifer</td>
<td>Joint Dept. of Clinical Sciences</td>
<td>International Association of Medical Science Educators (IAMSE)</td>
<td>$2,933</td>
<td>New Research</td>
<td>Using Salivary Biomarkers to Investigate the Role of Stress on Students' Academic Performance</td>
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<td>2016-1292</td>
<td>Schnabel, Lauren Fisher, Matthew</td>
<td>Joint Coll. of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>New Research</td>
<td>Effects Of TGF-β2 And 3D Culture On Equine Bone Marrow-derived Mesenchymal Stem Cell Immunogenicity</td>
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<td>2016-2046</td>
<td>Schnabel, Lauren Fisher, Matthew Gu, Zhen Messenger, Kristen</td>
<td>Joint Coll. of Clinical Sciences</td>
<td>National Institutes of Health (NIH)</td>
<td>$1,852,700</td>
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<td>Use of a Unique and Clinically Relevant Equine Model to Study the Impact of Mesenchymal Stem Cell Immunogenicity in the Context of Tendinopathy Treatment</td>
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<td>2015-2678</td>
<td>Stoktoff, Michael</td>
<td>Department of Clinical Sciences</td>
<td>National Evolutionary Synthesis Center (National Science Foundation (NSF))</td>
<td>$15,500</td>
<td>New Research</td>
<td>An Evolutionary Model of Physiologic Adaptations to Hypothermia and Reperfusion</td>
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<td>2016-002</td>
<td>Stoskopf, Michael</td>
<td>Department of Clinical Sciences</td>
<td>NC Aquarium Society</td>
<td>$32,520</td>
<td>New Research</td>
<td>Investigation of the Metabolome Following Different Capture Techniques of the Bonsmead Shark (Sphyrna tiburo)</td>
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<td>2016-1082</td>
<td>Stoskopf, Michael, Bembenek-Bailey, Stasal Harris, Craig</td>
<td>Department of Clinical Sciences</td>
<td>University of California - Davis (California State Department of Fish and Wildlife)</td>
<td>$10,720</td>
<td>New Research</td>
<td>Crude Oil and Dispersant Impacts on Hatchling Loggerhead Sea Turtles (Caretta caretta) (previous title: Crude Oil and Dispersant Impacts on Hatchling Loggerhead Sea Turtles (Caretta caretta) Liver, Bile, Heart)</td>
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<td>2016-1394</td>
<td>Stoskopf, Michael, Harris, Craig, Lewbart, Gregory, Kennedy, Stoskopf, Suzanne</td>
<td>Department of Clinical Sciences</td>
<td>NC Dept. of Natural &amp; Cultural Resources formerly NC Dept of Env. &amp; Natural Resources (DENR)</td>
<td>$130,000</td>
<td>New Research</td>
<td>Aquarium Health Management (2015-2016)</td>
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<td>2016-2306</td>
<td>Stoskopf, Michael</td>
<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New Research</td>
<td>George H. Hitchings New Investigator Research Award - Kyle Farmier Assessment of Markers for Capture Stress in Yellowfin Tuna (Thunnus alaloores)</td>
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<td>2016-1327</td>
<td>Suter, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>$190,512</td>
<td>New Research</td>
<td>Evaluation of Orally Administered mTOR inhibitor Rapamycin in Dogs in the Adjuvant Setting with Osteosarcoma</td>
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<td>2016-1552</td>
<td>Suter, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>$112,320</td>
<td>New Research</td>
<td>A Contemporaneous Controlled Study of the Standard of Care (SOC) in dogs with Appendicular Osteosarcoma</td>
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Department of Clinical Sciences (195001): $6,794,303 | 67 projects

COLLEGE OF VETERINARY MEDICINE Total: $6,794,303 | 67 projects

Grand Total: $6,794,303 | 67 projects

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## 16. Awarded Grants

### COLLEGE OF VETERINARY MEDICINE

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Investigator(s)</th>
<th>PI Department</th>
<th>Direct Sponsor</th>
<th>Amount</th>
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<td>Birkenheuer, Adam</td>
<td>Department of Clinical Sciences</td>
<td>University of Missouri - Columbia (Wiin Felin Foundation)</td>
<td>$3,918</td>
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<td>Prospective Comparison of Two Treatments Options for Cytomegalovirus</td>
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<td>2014-1448</td>
<td>Billsagter, Anthony</td>
<td>Department of Clinical Sciences</td>
<td>UNC - UNCP Chapel Hill (National Institutes of Health (NIH))</td>
<td>$59,608</td>
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<td>2015-0793</td>
<td>Billsagter, Anthony Davis</td>
<td>Department of Clinical Sciences</td>
<td>Grayson Jockey Club Research Foundation, Inc.</td>
<td>$122,601</td>
<td>New</td>
<td>Research</td>
<td>Flutamide or Fluridex in Postoperative Colon Patients</td>
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<td>2015-0503</td>
<td>Billsagter, Anthony</td>
<td>Department of Clinical Sciences</td>
<td>Michigan State University (National Institutes of Health (NIH))</td>
<td>$8,392</td>
<td>New</td>
<td>Research</td>
<td>Neuronal-Mechanisms in Early Life Stress-Induced Gastrointestinal Disease</td>
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<td>2016-0058</td>
<td>Billsagter, Anthony Davis</td>
<td>Joint Dept.</td>
<td>Department of Clinical Sciences</td>
<td>$103,548</td>
<td>New</td>
<td>Research</td>
<td>GI Leak Animal Model Development</td>
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<td>2015-1956</td>
<td>Early, Peter</td>
<td>Department of Clinical Sciences</td>
<td>PerPace LTD</td>
<td>$0</td>
<td>New</td>
<td>Other</td>
<td>Music as an adjunct therapy for refractory canine epilepsy: A pilot study</td>
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<td>2016-1963</td>
<td>Elenkon, Johanna</td>
<td>Department of Clinical Sciences</td>
<td>American Veterinary Medical Association Foundation</td>
<td>$6,000</td>
<td>New</td>
<td>Fellowship</td>
<td>Evaluation of the Functional Region(s) of Hairpin Single-Stranded DNA in Salmonella</td>
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<td>Gonzales, Laura</td>
<td>Department of Clinical Sciences</td>
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<td>Intestinal Stem Cell Responses to Ischemic Injury in a Large Animal Model</td>
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<td>Harms, Craig</td>
<td>Joint Dept.</td>
<td>Department of Clinical Sciences</td>
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<td>Research</td>
<td>Pharmacokinetics of Enrofloxacin and its Metabolite Ciprofloxacin in the Green Sea Urchin (Strongylocentrotus Purpuratus) Following Intracocular and Bath Administration</td>
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<td>2015-0107</td>
<td>Harms, Craig</td>
<td>Joint Dept.</td>
<td>Department of Clinical Sciences</td>
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<td>Ketoproteins Pharmacokinetics in Loggerhead Sea Turtles</td>
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<td>2015-2249</td>
<td>Hess, Paul</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>$64,964</td>
<td>New</td>
<td>Research</td>
<td>D16CA-156: Quantitative Assessment of Minimal Residual Disease Kinetics During CHOP Chemotherapy for Canine T-cell Lymphoma via Next-Generation TCRVBI Sequencing</td>
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<td>2015-1772</td>
<td>Keene, Bruce</td>
<td>Department of Clinical Sciences</td>
<td>University of Pennsylvania (American College of Veterinary Internal Medicine)</td>
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<td>New</td>
<td>Research</td>
<td>Effect of 5-adenosine/5-methylisine on Myocardial Hypertrophy in Cats with Hypertrophic Cardiomyopathy</td>
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<td>2016-2134</td>
<td>Keene, Bruce</td>
<td>Joint Dept.</td>
<td>Department of Clinical Sciences</td>
<td>$5,484</td>
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<td>Research</td>
<td>Pilot Evaluation of a Commercial Echocardiographic Contrast Agent to</td>
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<td>Accurately Define the Coronary Artery Anatomy in Dogs with Pulmonic Stenosis</td>
<td>Seller, Gabrielia</td>
<td>Sciences</td>
<td>American College of Veterinary Surgeons Foundation</td>
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<td>New Research</td>
<td>Nanoparticle Therapy Inhibits Canine Osseosarcoma Growth by Stimulating Anti-tumor Immunity</td>
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<td>TASK ORDER #7 NV-08 for canine OA pain. Stage I: Exploratory evaluation of the pain alleviating effects and pharmacokinetics of intra-articular injection of NV-08 in dogs suffering from osteoarthritis-associated pain</td>
<td>Lascoff, Duncan, Jonathan Tuohy, Jeanne</td>
<td>Department of Clinical Sciences</td>
<td>Neveol Biopharma Pty Ltd.</td>
<td>$189,989</td>
<td>New Research</td>
<td>Monoclonal Antibody Clinical Research Pain Program Development - Task Order No. 6</td>
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<td>DePuy Synthes</td>
<td>Lascoff, Duncan, Jonathan Tuohy, Jeanne</td>
<td>Department of Clinical Sciences</td>
<td>Neveol Biopharma Pty Ltd.</td>
<td>$80,093</td>
<td>New Research</td>
<td>Agreement for the Fabrication of Custom Cutting Guides and Custom Bone Plates for Companion Animals with Bone Deformities</td>
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<td>Fluoroscopic and Ultrasoundographic Evaluation of Diaphragmatic Motion in Dogs Affected by Gastric Dilatation-Volvulus</td>
<td>Matthews, Kyle Soller, Gabriela</td>
<td>Department of Clinical Sciences</td>
<td>Cote Health Foundation</td>
<td>$3,888</td>
<td>New Research</td>
<td>Defining the Effect of Immune-Mediated Damage to the Pileal Gland in the Etiopathogenesis of Sudden Acquired Retinal Degeneration Syndrome (SARDS) in Dogs</td>
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<td>American College of Veterinary Ophthalmologists</td>
<td>Mowat, Freya Lunn, Katherine Olby, Natasha</td>
<td>Department of Clinical Sciences</td>
<td>ACVO Vision for Animals Foundation</td>
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<td>New Research</td>
<td>Therapeutic Efficacy of Mycophenolate Mofetil in the Treatment of SARDS in Canine Patients</td>
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<td>Morris Animal Foundation</td>
<td>Munna, Karen Early, Peter</td>
<td>Department of Clinical Sciences</td>
<td>Immunolight LLC</td>
<td>$104,511</td>
<td>New Research</td>
<td>D16CA-025: Use of Accelerometry to Detect Seizure Activity in Dogs with Idiopathic Epilepsy</td>
<td></td>
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<td>Immunolight Therapy for Dogs with Solid Tumors: Evaluation of Booster Strategies to Enhance Clinical Outcomes</td>
<td>Nolan, Michael Gieger, Tracy Suere, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Immunolight LLC</td>
<td>$55,675</td>
<td>New Research</td>
<td>Immunolight Therapy for Dogs With Non-Hodgkin’s Lymphoma: Evaluation Of Booster Strategies To Enhance Clinical Outcomes</td>
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<td>Open-Label, Phase-2 Trial of Immunolight Therapy for Dogs with Solid Tumors</td>
<td>Nolan, Michael Gieger, Tracy Suere, Steven</td>
<td>Department of Clinical Sciences</td>
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<td>Open-Label, Phase-2 Trial of Immunolight Therapy for Dogs with Solid Tumors</td>
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<td>The Effect of Post-Operative Rehabilitation on Recovery from Acute Thoracolumbar Intervertebral Disc Herniations</td>
<td>Nolan, Michael Gieger, Tracy Suere, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>$124,173</td>
<td>New Research</td>
<td>Open-Label, Phase-2 Trial of Immunolight Therapy for Dogs with Solid Tumors</td>
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<td>Quantification of Sensory Thresholds in Cavailler King Charles Spaniel Dogs with Chiari-like Malformation</td>
<td>Nolan, Michael Gieger, Tracy Suere, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
<td>$5,000</td>
<td>New Research</td>
<td>The Effect of Electromagnetic Fields on Post-operative Pain and Recovery of Locomotion in Dogs with Acute Intervertebral Disc Herniations</td>
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Intramural Grants Awarded

**NCSU Grants**

**Adin CA**, Cheng K, Starly B. Islet-CDC Spheroids: Regenerative Medicine to Cure Diabetes. Comparative Medicine Institute FTE Seed Grant Award. 02/2016-06/2016 $10,000

**Blikslager AT**, Odle, **Gonzalez LM**, Jacobi. The developmental nature of gut integrity in swine. CALS-CVM 03/2016 $150,000

Pierce JG, **Elfenbein JR**, Fourches D. Development of Novel Therapeutics to Modulate Bacterial Biofilms. NCSU RISF. 01/2016 $25,000

Piedrahita J, **Lunn K**, Starly B. Regenerative Medicine Approaches for the Treatment of Diabetes. NCSU Research and Innovation Seed Funding Program 2015. $13,500


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<tr>
<th>Year</th>
<th>Investigator(s)</th>
<th>Department</th>
<th>Grantor</th>
<th>Amount</th>
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<th>Type</th>
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<td>2015-2663</td>
<td>Olivry, Thierry</td>
<td>Department of Clinical Sciences</td>
<td>Leo Pharma A/S</td>
<td>$16,681</td>
<td>New</td>
<td>Research</td>
<td>Pilot Studies Involving the Validation of Cytokine ELISA Using Skin Biopsies in Dogs Task Order No 3</td>
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<td>2016-0009</td>
<td>Olivry, Thierry, Baumert, Wolfgang</td>
<td>Department of Clinical Sciences</td>
<td>Oasis Pharmaceuticals, LLC (National Instruments Corporation)</td>
<td>$0</td>
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<td>Research</td>
<td>Collaborative research involving the use of PAR2-peptides in dogs</td>
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<td>Department of Clinical Sciences</td>
<td>Leo Pharma A/S</td>
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<td>Development and Validation of Canine Specific ELISA Task Order No. 05</td>
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<td>Leo Pharma A/S</td>
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<td>Schnabel, Lauren Fisher, Matthew</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>Effects of TGF-α2 and 3D Culture On Equine Bone Marrow-derived Mesenchymal Stem Cell Immunogenicity</td>
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<td>2015-0403</td>
<td>Sherman, Barbara</td>
<td>Department of Clinical Sciences</td>
<td>Duke University (The Stanton Foundation)</td>
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<td>Stoskopf, Michael</td>
<td>Department of Clinical Sciences</td>
<td>NC Biotechnology Center</td>
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<td>Research</td>
<td>Marine Magnetic Resonance Facility Cryogen Conservation and Sustainability</td>
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<td>Stoskopf, Michael</td>
<td>Department of Clinical Sciences</td>
<td>National Evolutionary Synthesis Center (National Science Foundation (NSF))</td>
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<td>New</td>
<td>Research</td>
<td>An Evolutionary Model of Physiologic Adaptations to Hypothermia and Reperfusion</td>
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<td>2016-0027</td>
<td>Stoskopf, Michael</td>
<td>Department of Clinical Sciences</td>
<td>NC Aquarium Society</td>
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<td>New</td>
<td>Research</td>
<td>Investigation of the Metabolome Following Different Capture Techniques of the Bonnethead Shark (Sphyra lilio)</td>
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<td>Suter, Steven</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>Evaluation of Onally Administered mTOR Inhibitor Rapamycin in Dogs in the Adjacent Setting with Osteosarcoma</td>
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<td>New</td>
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<td>A Contemporaneous Controlled Study of the Standard of Care (SOC) in dogs with Appendicular Osteosarcoma</td>
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Department of Clinical Sciences (195001) $2,295,919 39

COLLEGE OF VETERINARY MEDICINE Total $2,295,919 39

Grand Total $2,295,919 39 39 projects
Taylor A. Provision of a take home, low fidelity canine ovariohysterectomy model motivates repetitive deliberate practice of surgical skills by DVM students in a low stakes environment. NCSU Teaching Innovation Grant. 2015 $5,873

**NCSU-CVM Department of Clinical Sciences Grants**

Adin D, DeFrancesco T, Atkins C, Keene B, Tou S. Furosemide Continuous Rate Infusion vs. Furosemide Continuous Rate Infusion with Salt Supplementation in Normal Adult Dogs: A Pilot Study. 7/6/15 $20,751

Hanel R, Vigani A, Hansen B. A Swine Model of Venous Thrombosis; A Pilot Study. CVM Intramural Grant. 05/04/15 $24,931.

Dekaney, Gonzalez LM, Van Landehem, Blikslager AT. Equipement grant. NCSU-CVM 03/2016 $60,000


Lunn K, Pritchard J, Ghneim G, Glickman L. Canine leptospirosis in north carolina: Seroprevalence, urine shedding, and reservoir hosts. NCSU CVM Intramural Grant 2015. $16,599

Shive H, Marcellin-Little D, Keene B, Tou S. Evaluation of three-dimensional models as an educational tool for teaching congenital cardiovascular disease in the veterinary curriculum. 2015 $4,300

Mathews KG, Buckner G. Development of a remotely actuated stent for enhanced treatment of obstructive biliary dz. 2015 $20,000

Blake JS, Mathews KG. Evaluation of functional degradation of a vascular sealing device. DOCS Firestone. 2015 $2,500

Mowat FM, Breen M. Clinical and genetic characterization of a possible x-linked retinal disorder in North Carolina red wolves. NCSU CVM Comparative Medicine Institute 2016. $4,500

Mowat FM, Cowley M. The role of hypoxia-inducible factors in the retinal response to oxidative injury. NCSU CVM Comparative Medicine Institute 2016. $4,500

Scharf VF, Mathews KG, Marcellin-Little DJ. Effects of post-operative wound dressings on skin inflammation in dogs undergoing abdominal laparotomy. NCSU CVM Research Intramural Grant Program. 05/2015 $3,047

Lustgarten, Schnabel, Redding. The effect of low level laser therapy used in combination with platelet-rich plasma on neovascularization of lesions of the equine superficial digital flexor tendons. 2015 $21,416
### 17. Currently Active Grants

#### Project Details

**Search Results (71 projects)**

Project active between 04/01/2015 and 03/31/2016;

Department, Descending order

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<tr>
<th>Project ID</th>
<th>Title</th>
<th>Investigator(s)</th>
<th>PI Department</th>
<th>Sponsor</th>
<th>Status</th>
<th>Amount Awarded/Contract Number</th>
<th>Current Award Period</th>
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<td>(1950) 2016-2134</td>
<td>Pilot Evaluation of a Commercial Echocardiographic Contrast Agent to Accurately Define the Coronary Artery Anatomy in Dogs with Pulmonic Stenosis</td>
<td>Keene, Bruce W., Anna, Brent Douglas, Gabriela S.</td>
<td>Department of Clinical Sciences</td>
<td>American College of Veterinary Internal Medicine</td>
<td>Awarded</td>
<td>$5,484.00/00 (0.0% - A)</td>
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<td>(1950) 2016-1861</td>
<td>Open-Label, Phase-2 Trial of Imunoglobin Therapy for Dogs with Solid Tumors (Confidential)</td>
<td>Nolan, Michael Warren, Gieger, Tracy Lyn</td>
<td>Department of Clinical Sciences</td>
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<td>$214,607.00/16-1861 (28.0% - D -)</td>
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<td>(1950) 2016-1776</td>
<td>Open-Label, Phase-2 Trial of Immunoglobin Therapy for Dogs with Non-Hodgkin's Lymphoma (Confidential)</td>
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<td>Immunoglobin LLC</td>
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<td>Department of Clinical Sciences</td>
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<td>Immunoglobin LLC</td>
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<td>(1950) 2016-1642</td>
<td>Therapeutic Efficacy of Mycophenolate Mofetil in the Treatment of SARDs in Canine Patients</td>
<td>Mowat, Freya Margaret, Young, Whitney Marie, Lunn, Katherine Fiona</td>
<td>Department of Clinical Sciences</td>
<td>American College of Veterinary Ophthalmologists</td>
<td>Awarded</td>
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<td>(1950) 2016-1552</td>
<td>A Contemporaneous Controlled Study of the Standard of Care (SOC) in dogs with Appendicular Osteosarcoma</td>
<td>Suter, Steven E.</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>$11,232.00/E16CA-518 (8.0% - D - A)</td>
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<td>TASK ORDER #7 NV-08 for canine OA pain. Stage I: Exploratory evaluation of the pain alleviating effects and pharmacokinetics of intra-articular injection of NV-08 in dogs suffering from osteoarthritis-associated pain</td>
<td>Laseelles, Duncan</td>
<td>Department of Clinical Sciences</td>
<td>Nexvet Biopharma Pty Ltd.</td>
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<td>Evaluation of Orally Administered mTOR Inhibitor Rapamycin in Dogs in the Adjuvant Setting with Osteosarcoma</td>
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<td>2016-0891</td>
<td>The Effect of Electromagnetic Fields on Post-operative Pain and Recovery of Locomotion in Dogs with Acute Intervertebral Disc Herniations</td>
<td>Oltby, Natasha</td>
<td>Department of Clinical Sciences</td>
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<td>06/30/2017</td>
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<td>2016-0859</td>
<td>Effect of 3D culture and inflammatory conditions on equine mesenchymal stem cell immunophenotype and scrotome stability - A Pilot Study</td>
<td>Schnabel, Lauren V Fisher, Matthew Bruce</td>
<td>Department of Clinical Sciences</td>
<td>NCSU Research and Innovation Seed Funding Program</td>
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<td>2016-0951</td>
<td>Sample Collection for Establishment of Biomarkers in Dogs with Atopic Dermatitis (Task Order 4)</td>
<td>Olivery, Thierry J.</td>
<td>Department of Clinical Sciences</td>
<td>LEO Pharma A/S</td>
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<td>2016-0459</td>
<td>Defining the Effect of Immune-Mediated Damage to the Pineal Gland in the Etiopathogenesis of Sudden Acquired Retinal Degeneration Syndrome (SARDS) in Dogs</td>
<td>Movat, Freya Margarette Lunn, Katharine Fiona Olivery, Natasha</td>
<td>Department of Clinical Sciences</td>
<td>ACVO Vision for Animals Foundation</td>
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<td>Effects of TGF-b2 and 3D Culture on Equine Bone Marrow-derived Mesenchymal Stem Cell Immunogenicity</td>
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<td>2016-0508</td>
<td>GI Leak Animal Model Development</td>
<td>Bilkslager, Anthony T. Gonzalez, Lisa</td>
<td>Department of Clinical Sciences</td>
<td>Ethicon Endo-Surgery, Inc</td>
<td>$103,548.00</td>
<td>11/01/2016</td>
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<td>2016-0027</td>
<td>Investigation of the Metabolome Following Different Capture Techniques of the Bonnethead Shark (Sphyra tiburo)</td>
<td>Stoskopf, Michael K.</td>
<td>Department of Clinical Sciences</td>
<td>NC Aquarium Society</td>
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<td>Ketoprofen Pharmacokinetics in Loggerhead Sea Turtles</td>
<td>Harms, Craig A. Papich, Mark G.</td>
<td>Department of Clinical Sciences</td>
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<td>Monoclonal Antibody Clinical Research Pain Program Development - Task Order No. 6</td>
<td>Lascelles, Duncan</td>
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<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>09/30/2018</td>
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<td>2016-0226</td>
<td>Quantification of Sensory Thresholds in Cavalier King Charles Spaniel Dogs with Chiari-like Malformation</td>
<td>Oltby, Natasha</td>
<td>Department of Clinical Sciences</td>
<td>Triangle Community Foundation</td>
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<td>2016-0249</td>
<td>D16CA-056: Quantitative Assessment of Minimal Residual Disease Kinetics During CHOP Chemotherapy of Canine T-cell Lymphoma via Next-Generation TCRVB Sequencing</td>
<td>Hess, Paul R</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
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<td>10/01/2015</td>
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<td>2016-0226</td>
<td>The Effect of Post-Operative Rehabilitation on Recovery from Acute Thoracolumbar Intervertebral Trauma</td>
<td>Oltby, Natasha, Corf, Shay</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>$124,173.00</td>
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<td>01/01/2016</td>
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| Disc Herniations | Dunning, Dianne Moxi, Christopher L. Early, Peter Joseph Munana, Karen R. | Michigan State University (Prime-) National Institutes of Health (NIH)) | $8,392.00  
RC104615NCSU  
(51.5% - B -) | 05/01/2015 through 04/30/2016 |
| Neuro-immune Mechanisms in Early Life Stress-Induced Gastrointestinal Disease | Blükschager, Anthony T. | Department of Clinical Sciences | Awarded |
| Fluoroscopic and Ultrasonographic Evaluation of Diaphragmatic Motion in Dogs Affected by Gastric Dilatation-Volvulus | Mathews, Kyle G. Seiler, Gabriela S. | Department of Clinical Sciences | Awarded  
$3,888.00  
(8.0% - D - A) | 03/01/2015 through 06/30/2016 |
| Post-doctoral Fellowship to Study Experimental Mite-induced Atopic Inflammation in the Skin of Mite-Sensitized Dogs Task Order No. 02 | Ottivy, Thierry J. | Department of Clinical Sciences | Awarded  
$173,335.00  
(51.5% - B -) | 03/01/2015 through 03/30/2017 |
| Testing of Novel Anti-Allergic Drugs in a Dog Model of Acute Atopic Dermatitis Task Order No. 01 | Ottivy, Thierry J. Rausen, Wolfgang | Department of Clinical Sciences | Awarded  
$81,035.00  
(51.5% - B -) | 02/01/2015 through 03/31/2017 |
| Effect of Bone Marrow-derived Mesenchymal Stem Cells and Stem Cell Supernatant on Equine Corneal Wound Healing In Vitro | Gilger, Brian C. Schmiele, Lauren V. Sherman, Amanda B. | Department of Clinical Sciences | Awarded  
$5,000.00  
VAF2015-04  
(0.0% - A) | 06/30/2016 |
| Intestinal Stem Cell Responses to Ischemic Injury in a Large Animal Model | Gonzalez, Liara Blükschager, Anthony T. | Department of Clinical Sciences | Awarded  
$121,635.00  
IK010001991-01A1  
(8.0% - B - A) | 08/01/2015 through 04/30/2016 |
| Nanoparticle Therapy Inhibits Canine Osteosarcoma Growth by Stimulating Anti-tumor Immunity | Lascelles, Duncan Flyke, Jonathan E. Toohy, Joanne L. | Department of Clinical Sciences | Awarded  
$25,000.00  
2385  
(0.0% - A) | 04/01/2015 through 12/31/2016 |
| Marine Magnetic Resonance Facility Cybernetic Conservation and Sustainability | Stoxkopr, Michael K. | Department of Clinical Sciences | Awarded  
$72,500.00  
2015-DG-1100  
(0.0% - A) | 08/01/2015 through 04/30/2016 |
| Fluorocine or Fiocicob in Postoperative Colic Patients | Blükschager, Anthony T. Davis, Jennifer L. Flyke, Callic | Department of Clinical Sciences | Awarded  
$122,601.00  
14-F2  
(10.0% - D - A) | 03/31/2017 |
| Early Use of Tissue Plasminogen Activator for Thrombolysis in Feline Aortic Thromboembolism | Hand, Rita DeFrancesco, Teresa C. | Department of Clinical Sciences | Awarded  
$20,520.00  
60044706  
(8.0% - D - A) | 10/31/2016 |
| ACVIM Foundation Fellowship in Advanced Clinical Training | Lanu, Katharine Fiona Royal PhD, Kenneth Darrell Schooinfeld, Regina M. | Department of Clinical Sciences | Awarded  
$27,000.00  
14-F2  
(8.0% - D - A) | 07/31/2016 |
<table>
<thead>
<tr>
<th>(1950) 2015-0525 Details</th>
<th>Functional Dissection of the Retrov St-85 of Salmonella Typhimurium</th>
<th>Elfenbein, Johanna Rebecca</th>
<th>Department of Clinical Sciences</th>
<th>National Institutes of Health (NIH)</th>
<th>Awarded</th>
<th>$280,956.00 7X08A11008794-02 Revised (8.0% - B -)</th>
<th>09/02/2014 through 04/30/2016</th>
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<tr>
<td>(1950) 2015-0219 Details</td>
<td>Evaluation of Inflammatory Mediator Profiles in Cats with Pain Associated with Naturally-Occurring Degenerative Joint Disease</td>
<td>Lancelles, Duncan Vanden Velden, Shelly L. Messenger, Kristen Gross, Margaret E. Griffith, Emily Holmester</td>
<td>Department of Clinical Sciences</td>
<td>Winn Feline Foundation</td>
<td>Awarded</td>
<td>$22,815.00 WZ14-005 (0.0% -- A)</td>
<td>08/01/2014 through 08/31/2016</td>
</tr>
<tr>
<td>(1950) 2015-0192 Details</td>
<td>DISEQ-018: Evaluation of Mitoprotect as a Novel Anti-inflammatory Drug in Horses</td>
<td>Jones, Samuel L. Davis, Jennifer L.</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>Awarded</td>
<td>$145,308.00 DISEQ-018 (8.0% - D -)</td>
<td>03/01/2015 through 02/28/2017</td>
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<tr>
<td>(1950) 2015-0169 Details</td>
<td>Prospective Comparison of Two Treatments Options for Cystine Xanthosis</td>
<td>Birkenheuer, Adam</td>
<td>Department of Clinical Sciences</td>
<td>University of Missouri - Columbia (Prime-Winn Feline Foundation)</td>
<td>Awarded</td>
<td>$3,918.00 C0047544-1 (0.0% -- A)</td>
<td>12/01/2016 through 06/30/2016</td>
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<tr>
<td>(1950) 2015-0060 Details</td>
<td>Investigation of Quantitative Trait Loci and Sensory Thresholds in Chronic-like Malformations and Synkinesias in Cavalier King Charles Spaniels</td>
<td>Gily, Natasha</td>
<td>Department of Clinical Sciences</td>
<td>American Kennel Club Canine Health Foundation, Inc.</td>
<td>Awarded</td>
<td>$37,530.00 G0162 (8.0% - D -)</td>
<td>01/01/2015 through 06/30/2016</td>
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<tr>
<td>(1950) 2014-3022 Details</td>
<td>Immunolight Therapy for Canine Malignancies: A Feasibility Study</td>
<td>Nolan, Michael Warren Giger, Tracy Lyn</td>
<td>Department of Clinical Sciences</td>
<td>Immunolight LLC</td>
<td>Awarded</td>
<td>$69,723.00 2014-3022 (28.0% - D - A)</td>
<td>07/01/2014 through 06/30/2016</td>
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<td>(1950) 2014-2721 Details</td>
<td>Prospective, Multicentre, Randomised, Double-Blind, Placebo-controlled, 2-Parallel Groups, Phase 3 Study to Compare Efficacy and Safety of Mastinib to Placebo in the Treatment of Grade 2-3 Non-Reseetable Mast Cell Tumors in Dogs Not Previously Treated by Chemotherapy (other than Corticosteroids) or Radiotherapy</td>
<td>Hauck, Marlene L.</td>
<td>Department of Clinical Sciences</td>
<td>AB Science</td>
<td>Awarded</td>
<td>$82,082.00 A870076 (28.0% - D - A)</td>
<td>06/26/2014 through 07/30/2016</td>
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<td>(1950) 2014-2474 Details</td>
<td>Interdisciplinary Biomedical Research Training Program</td>
<td>Jones, Samuel L.</td>
<td>Department of Clinical Sciences</td>
<td>National Institutes of Health (NIH)</td>
<td>Awarded</td>
<td>$145,249.00 7T35OD011070-27 (8.0% - B - A)</td>
<td>09/01/2014 through 06/30/2016</td>
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<td>(1950) 2014-2232 Details</td>
<td>Development of an MHC class I tetramer to study virus- and tumor-</td>
<td>Hess, Paul R</td>
<td>Department of Clinical</td>
<td>Morris Animal Foundation</td>
<td>Awarded</td>
<td>$45,887.00 D15CA-015 (8.0% - D - A)</td>
<td>09/01/2014 through 06/30/2016</td>
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<tr>
<td>Details</td>
<td>specific CD8+ T-cell responses in dogs</td>
<td>Sciences</td>
<td>(8.0% - D - A)</td>
<td>08/31/2016</td>
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<td>2014-2034</td>
<td>Lutropin Stimulation of Stem Cell Recovery in Hypoxic Enteroids</td>
<td>Blissinger, Anthony T.</td>
<td>Department of Clinical Sciences</td>
<td>Sustempo Pharma Inc. Formerly Sustempo Pharmaceuticals, Inc.</td>
<td>Awarded</td>
<td>$99,322.00</td>
<td>05/01/2014 through 04/30/2016</td>
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<td>2014-1756</td>
<td>Proposal for Veterinary Medical Services Rendered to the NC Museum of Natural Sciences</td>
<td>Lessert, Gregory A.</td>
<td>Department of Clinical Sciences</td>
<td>NC Dept. of Natural &amp; Cultural Resources formerly NC Dept. of Parks &amp; Natural Resources (DENR)</td>
<td>Awarded</td>
<td>$65,000.00</td>
<td>07/01/2014 through 06/30/2017</td>
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<td>2014-1715</td>
<td>Activation of the Remin-Angiotensin-Aldosterone System in Horses with Mitral or Aortic Valve Regurgitation</td>
<td>Breuch, Babetta A.</td>
<td>Department of Clinical Sciences</td>
<td>US Equestrian Federation</td>
<td>Awarded</td>
<td>$25,000.00</td>
<td>09/15/2014 through 09/14/2016</td>
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<td>2014-1648</td>
<td>Improving Outcome in Dogs With Glomerular Disease Via Pharmacodynamic-Based Dosing of Enalapril</td>
<td>Viden, Shelly L.</td>
<td>Department of Clinical Sciences</td>
<td>Morris Animal Foundation</td>
<td>Awarded</td>
<td>$124,825.00</td>
<td>03/01/2014 through 03/01/2017</td>
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<td>2014-1616</td>
<td>Enteropathogenic E.Coli infection in Kittens-Evidence for a Pathogenic Role in Diarrheal Death and Protective Effect of Probiotics</td>
<td>Goochkin, Jody L.</td>
<td>Department of Clinical Sciences</td>
<td>Winn Feline Foundation</td>
<td>Awarded</td>
<td>$22,011.00</td>
<td>06/01/2014 through 06/30/2016</td>
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<td>2014-1596</td>
<td>MARCS as a Therapeutic Target for Neutrophil Inflammation in Cardiovascular Disease</td>
<td>Jones, Samuel L., Medlin, Emily Gray</td>
<td>Department of Clinical Sciences</td>
<td>American Heart Association</td>
<td>Awarded</td>
<td>$50,000.00</td>
<td>07/01/2014 through 06/30/2016</td>
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<td>2014-1448</td>
<td>Center for Gastrointestinal Biology and Disease</td>
<td>Blöksläger, Anthony T. Gonzalez, Liara</td>
<td>Department of Clinical Sciences</td>
<td>UNC - UNC Chapel Hill (Primbsites-Institutions of Health (NIH))</td>
<td>Awarded</td>
<td>$113,250.00</td>
<td>02/20/2015 through 11/30/2016</td>
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<td>2014-1184</td>
<td>Evaluation of the Efficacy and Safety of Omsior (tobamoxico) Tablets Versus Placebo using Activity Monitors in Cats with Chronic Musculo-skeletal Disorder; a Randomized, Blinded Clinical Trial (Confidential)</td>
<td>Lasselle, Duncan</td>
<td>Department of Clinical Sciences</td>
<td>Novartis Animal Health Inc.</td>
<td>Awarded</td>
<td>$567,297.00</td>
<td>05/01/2014 through 07/31/2017</td>
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<td>2014-0529</td>
<td>A Randomized Controlled Trial of the Benefit of Royal Canin Anallergenic Veterinary Diet in Dogs with Spontaneous Pruritic Chicken Hypersensitivities</td>
<td>Buzikova, Petra Olivia, Thierry J.</td>
<td>Department of Clinical Sciences</td>
<td>Royal Canin R &amp; D</td>
<td>Awarded</td>
<td>$28,599.00</td>
<td>09/23/2013 through 07/31/2016</td>
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<td>2014-0434</td>
<td>Equine iPS Cells and Their Ability to Enhance Tendon Regeneration In Vivo</td>
<td>Schmabel, Lauren V</td>
<td>Department of Clinical Sciences</td>
<td>National Institutes of Health (NIH)</td>
<td>Awarded</td>
<td>$358,023.00</td>
<td>08/15/2013 through 04/30/2016</td>
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<td>2014-0317</td>
<td>Sea Turtle Cold Stress Pathogenesis</td>
<td>Stoskopf, Michael K.</td>
<td>Department of Clinical Sciences</td>
<td>The Bernice Barbour Foundation</td>
<td>Awarded</td>
<td>$18,000.00</td>
<td>12/01/2013 through 11/30/2016</td>
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<td>2014-0116</td>
<td>Evaluation of Bed-Side Lung Ultrasound for Emergencies (the Vet BLUE Protocol) for Emergency Evaluation of Dyspnea in Dogs and Cats</td>
<td>DeFrancesco, Teresa C. Ward, Jessica Lynn</td>
<td>Department of Clinical Sciences</td>
<td>American College of Veterinary Internal Medicine</td>
<td>Awarded</td>
<td>$8,500.00</td>
<td>06/01/2013 through 05/30/2016</td>
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<tr>
<td>(1950) 2013-3077</td>
<td>Boehringer Ingelhein Vetmedica Post-Doctoral Scholar 2013</td>
<td>Birkenheuer, Adam, Breuschwitz, Edward B., Prichard, Jessica Christine</td>
<td>Department of Clinical Sciences</td>
<td>Boehringer Ingelhein Vetmedica, Inc. (BIVI)</td>
<td>Awarded</td>
<td>$150,000.00</td>
<td>08/01/2013 through 07/31/2016 (0.0% - -)</td>
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<td>(1950) 2013-2964</td>
<td>Metabolic and Transcriptional Biomarkers of Cholesterol and Lipid Imbalance in Dogs With and Without Diagnosis of a Gallbladder Mucoce</td>
<td>Goosin, Jody L., Cullen, John M., Matthews, Kyle G., Griffith, Emily, Hohmeister Seiler, Gabriela S., Dunn, Katharine Fiona</td>
<td>Department of Clinical Sciences</td>
<td>American Kennel Club Canine Health Foundation, Inc.</td>
<td>Awarded</td>
<td>$135,354.00</td>
<td>01/01/2014 through 12/31/2016 (8.0% - B - A)</td>
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<tr>
<td>(1950) 2013-0969</td>
<td>Master Agreement with LEO Pharma, Inc.</td>
<td>Olivry, Thierry, J.</td>
<td>Department of Clinical Sciences</td>
<td>LEO Pharma A/S</td>
<td>Awarded</td>
<td>$0.0</td>
<td>10/01/2014 through 03/30/2017</td>
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<tr>
<td>(1950) 2013-0022</td>
<td>Functional Tissue Engineering for Cartilage Repair (Hybrid Composite Scaffolds for Cartilage Tissue Engineering)</td>
<td>Lacelles, Dianan</td>
<td>Department of Clinical Sciences</td>
<td>Cynex Therapeutics, Inc (Prime- National Institutes of Health (NIH))</td>
<td>Awarded</td>
<td>$501,647.00</td>
<td>07/24/2013 through 06/30/2016 (51.5% - B -)</td>
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<tr>
<td>(1950) 2012-2686</td>
<td>Regenerative Medicine Approaches To The Treatment Of Urinary Incontinence</td>
<td>Vaden, Shelly L., Mathews, Kyle G., Piedrahita, Jorge A., Reynolds, Hannah Manning, Kristin Kay</td>
<td>Department of Clinical Sciences</td>
<td>American Kennel Club Canine Health Foundation, Inc.</td>
<td>Awarded</td>
<td>$116,184.00</td>
<td>01/01/2013 through 12/31/2016 (8.9% - B - A)</td>
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<td>(1950) 2012-2205</td>
<td>Clinical Study Protocol US/CJ1/C65/101: Evaluation of C65, In Comparison To Benazepril, In Dogs with Heart Failure Caused By Left Atrio-Ventricular Valvular Insufficiency (AVVI)</td>
<td>DeFrancesco, Teresa C., Koene, Bruce W., Mears, Kathryn Montgome Teu, Sandra Pei-Hui Woodruff, Kathleen Atkins, Clarke E., Ames, Marisa Koyo</td>
<td>Department of Clinical Sciences</td>
<td>AlcheraBio LLC (Prime--Ceva Sante Animale S.A.)</td>
<td>Awarded</td>
<td>$48,840.00</td>
<td>05/21/2012 through 05/20/2016 (28.9% - D - B)</td>
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<tr>
<td>(1950) 2012-1790</td>
<td>Prevention of Cyttoxzoa Felis Infections in Domestic Cats</td>
<td>Birkenheuer, Adam Bird, David M., Levy, Michael G.</td>
<td>Department of Clinical Sciences</td>
<td>ALSAM Foundation</td>
<td>Awarded</td>
<td>$50,000.00</td>
<td>07/01/2012 through 06/30/2016 (0.0% - - A)</td>
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<td>(1950) 2012-0903</td>
<td>Studies into the Presence of and Measurement of Central Sensitization Associated With Chronic Painful Disease in Dogs: Phase I</td>
<td>Lacelles, Dianan</td>
<td>Department of Clinical Sciences</td>
<td>Boehringer Ingelhein Vetmedica, Inc. (BIVI)</td>
<td>Awarded</td>
<td>$124,940.00</td>
<td>06/01/2012 through 12/31/2016 (28.0% - D - B)</td>
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<tr>
<td>(1950) 2012-0816</td>
<td>Targeting the Muc13-Family Proteins to Inhibit Neutrophil Migration</td>
<td>Sheats, Mary Katherine Jones, Samuel L.</td>
<td>Department of Clinical Sciences</td>
<td>National Institutes of Health (NIH)</td>
<td>Awarded</td>
<td>$501,382.00</td>
<td>08/01/2012 through 07/31/2016 (8.0% - B - A)</td>
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<tr>
<td>Year</td>
<td>Grant Number</td>
<td>Title</td>
<td>Principal Investigator(s)</td>
<td>Institution</td>
<td>Type</td>
<td>Amount Awarded</td>
<td>Start Date</td>
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<tr>
<td>2011</td>
<td>2011-2594</td>
<td>Prevention and Treatment of Cystinosis</td>
<td>Birkenheuer, Adam; Bier, David M.; Breitschwerdt, Edward B.; Levy, Michael G.; Scholl, Elizabeth; Terigo, Jaime; Lynn</td>
<td>ALSAM Foundation</td>
<td>Awarded</td>
<td>$50,000.00 (0.0% - A)</td>
<td>07/01/2011 through 06/30/2016</td>
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<td>2011</td>
<td>2011-2536</td>
<td>Evaluation of Pimobendan in Dogs with Cardiomyopathy Caused by Preclinical Mitral Valve Disease: EPIC</td>
<td>Keene, Bruce W.; DeFrancesco, Teresa C.; Tso, Sandra; Pei-Hui; Atkins, Charles E.</td>
<td>Department of Clinical Sciences</td>
<td>Awarded</td>
<td>$30,650.00 (15.0% - D -)</td>
<td>09/01/2011 through 06/30/2016</td>
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<td>2011</td>
<td>2011-2218</td>
<td>Exposing the &quot;Genomic Landscape&quot; of Canine Soft Tissue Sarcomas</td>
<td>Hauke, Marlene L.</td>
<td>Department of Clinical Sciences</td>
<td>Awarded</td>
<td>$802,475.00 (8.0% - D -)</td>
<td>10/01/2011 through 07/31/2016</td>
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<td>2011</td>
<td>2011-0322</td>
<td>Validation of a Novel NF-kB Inhibitor in Inflammatory Bowel Disease (previous title: Development of a Novel NF-kB Inhibitor in IBD)</td>
<td>Bilska-Sager, Anthony T.</td>
<td>Department of Clinical Sciences</td>
<td>Awarded</td>
<td>$375,115.00 (49.0% - B -)</td>
<td>08/01/2012 through 07/31/2016</td>
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<tr>
<td>2009</td>
<td>2009-2155</td>
<td>The Identification of a Metastatic Signature in Canine Soft Tissue Sarcomas</td>
<td>Hauke, Marlene L.; Nielsen, Dahlia</td>
<td>Department of Clinical Sciences</td>
<td>Awarded</td>
<td>$141,751.00 (8.0% - D -)</td>
<td>10/01/2009 through 05/31/2016</td>
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<td>2008</td>
<td>2007-1137</td>
<td>Comparative Medicine and Translational Research Training Program</td>
<td>Joncke, Samuel L.; Piedrahita, Jorge A.; Dean, Gregg A.</td>
<td>Department of Clinical Sciences</td>
<td>Awarded</td>
<td>$2,656,766.00 (8.0% - B -)</td>
<td>08/01/2008 through 07/31/2016</td>
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<td>2006</td>
<td>2006-0543</td>
<td>Clinical Manifestations of Dogs with Co-Infections and Co-Exposures to Vector-Borne Pathogens</td>
<td>Bresehoff, Edward B.; Qureshi, Barbara A; Correa, Maria T.; Díaz, Pedro</td>
<td>IDEXX Laboratories, Inc.</td>
<td>Awarded</td>
<td>$572,766.00 (25.0% - D - A)</td>
<td>11/01/2005 through 12/31/2016</td>
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</table>

Total Amount Awarded: $10,470,381.00
ADJUNCT AND ASSOCIATE FACULTY ACHIEVEMENTS

Dr. Marisa K. Ames, Adjunct Assistant Professor, Cardiology

Publications

Ames MK and Atkins CE. Beyond furosemide: torsemide and spironolactone – Part II. Today’s Vet Pract 2016; fully accepted, in press


Book Chapters


Grants Received

Incidence of aldosterone breakthrough (ABT) in client-owned dogs receiving angiotensin converting enzyme-inhibitors (ACEI) and/or angiotensin II receptor blockers (ARB) for proteinuric chronic kidney disease (CKDP), (co-principal investigator) Morris Animal Foundation, Funded at $101,332.00, Collaboration with Drs. Atkins and Vaden

Prevalence of aldosterone breakthrough in client-owned dogs receiving, ACE-inhibitors for cardiac and glomerular disease. (principle investigator), CEVA Sante Animale, 8/2013, Completed in 2015, Funded at $13,870, Collaboration with Dr. Atkins
Dr. Clarke Atkins, Professor Emeritus, Cardiology

Publications


Ames MK and Atkins CE. Beyond furosemide: torsemide and spironolactone – Part II. Today's Vet Pract 2016; in press


Book Chapters


**Atkins CE.** Heartworm Disease (Dirofilarosis, Dirofilariosis) Merck Veterinary Manual, in Press.

**Case Reports**

**Abstracts**

**Grants Received**
Atkins CE. Incidence of aldosterone breakthrough (ABT) in client-owned dogs receiving angiotensin converting enzyme-inhibitors (ACEI) and/or angiotensin II receptor blockers (ARB) for proteinuric chronic kidney disease (CKDP), (co-investigator; PIs are Vaden and Ames) Morris Animal Foundation, Funded at $101,332.00.
Atkins CE. Furosemide Continuous Rate Infusion (FCRI) versus FCRI combined with Hypertonic Saline Solution Infusion (HSSI) in Normal Adult Dogs: A Pilot Study (co-investigator; PI - D. Adin), NCSU internal grant. $20,000.00.
Atkins CE. Identification of myxomatous mitral valve disease DNA variants and development of a DNA-based preventative and therapeutic management plan, (co-investigator; PI - Meurs), Morris Animal Foundation, $638,098.
Atkins CE. Non-Arsenical Heartworm Adulticidal Therapy (co-investigator; PI - Ames) American Heartworm Society, 2016, $7,325.00 (pending).

**Dr. Piers Barker, Adjunct Professor, Cardiology**

**Publications**

Wisotzkey BL, Hornik CP, Green AS, Barker PC. Comparison of invasive and non-invasive pressure gradients in aortic arch obstruction. Cardiol Young. 2015;25:1348-57


Dr. Richard Bergl, Adjunct Lecturer, Aquatics, Wildlife and Zoo Medicine

Publications


Dr. Sha Chang, Adjunct Associate Professor, Radiation Oncology

Grants Received

NCTraCS Design and Manufacturing of High Precision Recyclable Radiation Modulation Devices for Radiation Therapy (04/2015-04/2016)

C-CCNE Pilot Grant Enhance Tumor Delivery of Carrier-Mediated Agents Using Microbeam Radiation Therapy (12/2015 – 12/2016)

Eshelman Institute for Innovation award on Enhancing Tumor Delivery of Nanoparticle Anticancer Agents using Microbeam Radiation Therapy (October 2015 - September 2016)

Dr. Sathya K. Chinnadurai, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine

Publications


Chinnadurai, S. K., & Williams, C. (2015). The minimum alveolar concentration of sevoflurane in ring-tailed lemurs (Lemur Catta) and Aye-ayes (Daubentonia Madagascariensis). Veterinary anesthesia and analgesia.


Dr. Daniel Dombrowski, Adjunct Lecturer, Aquatics, Wildlife & Zoo Medicine

Publications


**Grants Received**
North Carolina Veterinary Medical Association: NCVMA High Five Grant for development and staff support of Museum Veterinary Medicine program to educate citizens and improve the care of animals in NC through the North Carolina Museum of Natural Sciences Window on Animal Health $5000. 2016.

**Dr. Janice Dye, Adjunct Associate Professor, Internal Medicine**

**Publications**


**Presentations**


Dr. Joe Kornegay, Adjunct Professor, Neurology

Publications


Book Chapters


**Invited Presentations**


**Kornegay JN:** Translational lessons learned from a canine model of Duchenne muscular dystrophy: One man’s view of one health. CST*R Grand Rounds. Texas A&M Health Sciences Center, College Station, TX (2015).

**Kornegay JN:** Exercise Physiology Seminar Series. Department of Health and Kinesthesiology, Texas A&M University, College Station, TX (2015).


**Kornegay JN, KR Wagner.** Comparative medicine team approach: Muscular dystrophies. One Health: Integrating the Veterinarian Scientist into the Biomedical Research Enterprise. NIH (Office of Research Infrastructure Programs [ORIP]). Bethesda, MD (2015).


**Kornegay JN:** Biomarkers in dog models of DMD. Relevance for clinical studies. Update on standard operating procedures in preclinical research for DMD and SMA Amsterdam, NETHERLANDS (2015).

**Grants Received**

Assessment of safety /biodistribution/efficacy of IV AAV-micro-dystrophin construct using GRMD dogs. Solid GT. JN Kornegay, Principal Investigator, 10% effort; 09-01-2015-08-31-2018; $521,488 Total; $441,150 Direct.

Safety and efficacy of systemic gene therapy in informative models for DMD. NIH (NINDS) (1 R01NS094705-01). Stedman HH, Principal Investigator, University of Pennsylvania; JN Kornegay, Principal Investigator on the Texas A&M University subcontract; 10% effort; 12/1/2015-11/30/2020; $890,910 Total; $567,343 Direct. This grant scored at the 5th percentile and is pending counsel review.
Derivation of muscle progenitors from hPSCs to transplant in a dog model of DMD. Muscular Dystrophy Association. JN Kornegay, Principal Investigator. Foundation Grant from Southwest National Primate Research Center, Texas Biomedical Research Institute 5% effort); 04/01/2016-03/31/2017; $90,000 Total; $90,000 Direct.

Image and histopathologic assessment of GRMD dogs treated with AAV-microdystrophin constructs. Solid GT. Fellowship for Dr. Sharla Birch. 10/01/15-09/30/17; $179,010 Total; $149,237 Direct.

Glycosyltransferase therapies for myopathies. NIH (NIAMS) (R01 AR049722). Paul T. Martin, Principal Investigator, Nationwide Children’s Hospital and Ohio State University, Columbus, OH. Nationwide Children’s Hospital, Columbus, OH; Ohio State University. JN Kornegay, Principal Investigator on the Texas A&M subcontract; 10% effort; 8/1/2016-7/31/2019; $622,737 Total; $444,248 Direct (GRMD studies begin in Year 3 of the parent grant).

Laminin protein therapy for congenital muscular dystrophy. NIH (NIAMS) (R01) DJ Burkin, Principal Investigator, University of Nevada-Reno. JN Kornegay, Principal Investigator on the Texas A&M University subcontract; 5% effort; 04/1/2017-03/31/2018 (Year 4 of parent grant); $54,567 Total; $37,503 Direct.

Development of a porcine model of Duchenne muscular dystrophy. NIH (NIAMS) (2R44AR061900-02A1). C Rogers, Principal Investigator, Exemplar Genetics, Coralville, IA. Subcontract to Texas A&M University; JN Kornegay, Principal Investigator on the Texas A&M subcontract; 10% effort; 12/01/13-11/30/15; $547,196 Total; $406,511 Direct.

Cardiomyopathy in the golden retriever model of muscular dystrophy. Morris Animal Foundation. Fellowship for Dr. Sarah Schneider. 01/01/14-12/31/17; $160,000 Total; $147,200 Direct.

Advanced gene therapy for treatment of cardiomyopathy and respiratory insufficiency in Duchenne muscular dystrophy. US Department of Defense (DoD), Congressionally Directed Medical Research Programs (CDMRP), Duchenne Muscular Dystrophy Research Program (DMDRP) Investigator-Initiated Research Award (MD120087). BJ Byrne, Principal Investigator, University of Florida; JN Kornegay, Principal Investigator on the Texas A&M University subcontract; 10% effort; 07/01/14-06/30/16; $348,640 Total; $238,794 Direct.

Dr. Raphael Labens, Adjunct Assistant Professor, Equine Surgery

Publications


**Invited Presentations**

Labens R. Comparative imaging of the proximal suspensory ligament. 2015 Congress of the British Equine Veterinary Association, Liverpool.

**Dr. David Levine, Adjunct Professor, Small Animal Surgery**

**Publications**


**Invited Presentations**


Dr. Richard J. McMullen, Adjunct Assistant Professor, Ophthalmology

**Book Chapters**

**Invited Presentations**

Equine Uveitis – A rational approach to treatment. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)

Recent developments in equine ophthalmic diagnostics and therapeutics. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)

Interpreting equine ophthalmic findings as part of the pre-purchase examination. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)

Handheld slit lamp photography. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)

Photographic techniques - External macrophotography. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)

Digital infrared macrophotography. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)


Intravitreal injection of low-dose gentamicin in horses for treatment of chronic recurrent or persistent uveitis: preliminary results. Faculty Recruitment Seminar, UC Davis, Davis, California, USA (2016)

Handheld slit lamp photography. Danish Society of Veterinary Ophthalmology, Hindsgavl Slot, Denmark (2016)


Intravitreal injection of low-dose gentamicin in horses for treatment of chronic recurrent or persistent uveitis: preliminary results. Faculty Recruitment Seminar, University of Florida, Gainesville, FL, USA (2016)

Common eye diseases in horses (3 hour seminar). National Association of Veterinary Practitioners (Germany), International Congress Center Munich, Germany (2015)

Constant challenges associated with ocular discharge. Equine Clinic Aschheim Continuing Education Series, Aschheim, Germany. (2015)

Dr. Daniel Mulcahy, Adjunct Associate Professor, Aquatics, Wildlife & Zoo Medicine

Publications

Dr. Robert Schopler, Adjunct Assistant Professor, Avian Medicine

Publications
Blanco, Marina; Dausmann, Kathrin; Faherty, Sheena; Hilbig, Susan; Klopfer, Peter; Krystal, Andrew; Parent, David; Schopler, Robert; Schopler, Eric; Schopler, Sam; Yoder, Anne. Hibernation in a Primate: Does sleep occur? In press

Dr. Nicholas Sharp, Adjunct Associate Professor, Neurology

Publications
Dr. Maryanne Tocidlowski, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine

Publications


Dr. Brian Trumpatori, Adjunct Assistant Professor, Small Animal Surgery

Publications


Dr. Cathy Williams, Adjunct Assistant Professor, Aquatics, Wildlife & Zoo Medicine

Publications


Chinnadurai SK, Williams CV. The minimum alveolar concentration of sevoflurane in ring-tailed lemurs (Lemur catta) and aye-ayes (Daubentonia madagascariensis). Veterinary Anaesthesia and Analgesia. 2016. 43(1):76–80.

**Book Chapters**


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**Dr. Michael Wood, Adjunct Assistant Professor, Internal Medicine**

**Publications**

**Invited Presentations**
Wood MW. Modifying urine glycosaminoglycan concentrations by intramuscular injection of polysulfated glycosaminoglycans in dogs. Journal of Veterinary Internal Medicine, 29:1212, 2015 Oral Presentation ACVIM Forum 2015, Indianapolis, IN

**Grants Received**
IL-6 Signaling Mediates Urothelial Production of Glycosaminoglycans (K12). Urologic Research Career Development Program.

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**Dr. Michael Zalutsky, Adjunct Associate Professor, Oncology**

**Publications**


Invited Presentations
Zalutsky M.R. Targeted Radiotherapy with Protein Based molecules - Large and Small, Nordic Nanovector, Oslo, Norway, 2015.


Awards
Hogge-Baer Visiting Professor, Department of Radiology and The University of Chicago Comprehensive Cancer Center, University of Chicago, Chicago, IL

Distinguished Investigator, Academy of Radiology Research, Washington, DC