Dear VMD-PhD Alumni and Students,

Greetings from the Penn VMD-PhD program! It has been an outstanding year as the program celebrated 50 years of existence! Learn in this newsletter about:

- Our celebration in March 2019 of the VMD-PhD Program’s 50th Anniversary!!!
- Information on our three incoming VMD-PhD students.
- Updates on PhD defenses, recent student publications, and recent student awards.
- Many fantastic updates from our alumni.

In other activities, the annual Combined Degree Retreat was held last August at Villanova University and included a keynote address, as well as student posters and student talks. In September we held the annual Penn Vet Student Research BBQ at Dr. Michael May’s home and a good time was had by all. We are now entering a new admissions cycle and admissions interviews will be held in January 2020. Upcoming is also the annual December Dinner Party at my home.

We wish you the best as 2019 comes to a close, and we look forward to a fantastic 2020!

Sincerely,
Michael Atchison, Ph.D.
Director, VMD-PhD Program

Alumni are Online!
Check out:
http://www.vet.upenn.edu/education/academics-and-training/vmd-phd-program/vmd-phd-alumni-profiles
Find your profile, and send us feedback!
VMD-PhD 50th Anniversary Symposium!
Penn Vet Student Research Day
Thursday, March 21, 2019

11:30 am –12:30 pm  Poster Session I and Buffet Lunch    Hill Lobby
12:30—12:40 pm  Opening Remarks    131 Billhardt Auditorium

Andrew M. Hoffman, DVM, DVSc
The Gilbert S Kahn Dean of Veterinary Medicine

Student Presentations

Introduction of VMD students: Sabina I. Hlavaty, HHMI-BWF Research Fellow
Talks: 10 min + 5 min Q & A

12:45 —1:00 pm  Mariel Covo: Optimization of Canine CAR T Cell Production for Re-Directed T Cell Therapy  (mentor: Dr Nicola Mason)

1:00—1:15 pm  Katherine Neupauer-Geating—Influenza Induces Robust Vascular Regeneration Mediated by Both Canonical and Non-canonical Progenitor Cells (mentor: Dr Andrew Vaughan)

1:15—1:30 pm  John Cain—Molecular Dissection of Mosquito Resistance to Heartworm Infection (mentor: Dr. Michael Povelones)

1:30—2:15 pm  Break with Poster Session II

Introduction of VMD/PhD students by Gregory Sousa

2:15—2:30 pm  Robyn Allen—Novel BMP-Smad1/5 Signaling Interactions Revealed in a Zebrafish Model of FOP (mentor: Dr. Eileen Shore & Mary Mullins)

2:30—2:45 pm  Rebecca Rosenthal—T-bet Expression Marks a Tissue Restricted Memory B Cell Subset (mentor: Dr. Michael Cancro)

2:45—3:00 pm  Ian Penkala—Cellular Plasticity in Lung Development (mentor: Dr. Edward E Morrisey)

3:00—3:50 pm  Break with Poster Session III    Hill Lobby
3:50 pm—3:55 pm  Keynote Speaker introduction by Bailey Baumann    Billhardt Auditorium
3:55 pm—4:45 pm  The Class of 66 Lectureship    40 min talk with 10 min Q & A

Towards Understanding How Lipid Metabolism Influences Immunity

Steven Bensinger, VMD, PhD
Associate Professor, Microbiology, Immunology and Molecular Genetics
and Molecular and Medical Pharmacology
David Geffen School of Medicine at UCLA

4:45 pm  Awards for Oral Presentations, Best Posters, and Inspiration Awards
Presented by Phillip Scott, Vice Dean for Research and Academic Resources

5:00 pm  Reception for all and Welcome to Penn Vet Alumni    132 and Hill Lobby

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Penn Vet: Advancing Research and Medical Synergies  
VMD PhD 50th Anniversary Symposium  
Friday, March 22, 2019

8:30 AM  Welcome: Dean Andrew Hoffman, DVM, DSc  
MD-PhD Program Director Comments: Lawrence Brass, MD PhD  
VMD PhD Program Director Comments: Michael Atchison, PhD

Session 1: VMD PhD Alumni Presentations

Introductions by current VMD PhD students: Jaclyn Carlson, Suna Li, Ian Penkala, Brinkley Raynor

9:00  Jaime F. Modiano, VMD, PhD; Alvin and June Perlman Professor of Animal Oncology; Director, Animal Cancer Care and Research Program, University of Minnesota
Dogs, Kids, and Elephants – How We Answered Peto’s Paradox and Developed Next-Generation Solutions for Cancer Prevention

9:25  LaTasha K. Crawford VMD, PhD, DACVP
Assistant Professor, Pathobiological Sciences, University of Wisconsin-Madison School of Veterinary Medicine
Exploring the Role of “Touch” Neurons in the Pathophysiology of Pain

9:50  Dr. Catherine Brinkley, VMD, PhD
Assistant Professor in Community and Regional Development in the College of Agriculture and Environmental Sciences, University of California, Davis
One Health and Land-Use

10:15 Coffee Break / Posters / Career Locations
Posters from the Vet Student Research Day (Thursday March 21) will remain in place in the Hill Lobby throughout the Symposium

10:35 Director comments: Dr. Richard Miselis, VMD, PhD

10:45 Theresa Alenghat, VMD, PhD
Assistant Professor
Division of Immunobiology
University of Cincinnati, Cincinnati Children's Hospital Medical Center
Epigenomic regulation of the host-microbe relationship in health and disease

11:10 Alexander J. Travis VMD, PhD
Director, Cornell University Master of Public Health Program
Associate Dean for International Programs and Public Health, Professor of Reproductive Biology & Wildlife Conservation, Cornell University College of Veterinary Medicine
A Tale of Twenty Years: Developing a Male Fertility Diagnostic Assay

11:35 Comments by Dr. Joan Hendricks, VMD, PhD (Dean of PennVet 2006-2018)

11:45 Lunch Break (Hill Pavilion Lobby)

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Student-Alumni Networking Lunch
Alumni Participants: All academic speakers from the morning session and the following alumni from NIH, Industry, government, and academia

Jessica Bertout, VMD, PhD; Director of Clinical Research, Presage Biosciences
Kate Masek Hammerman, VMD, PhD; Associate Research Fellow/Veterinary Pathologist, Pfizer
James Kehler, Founder, One Health Scientific LLC
Albee Messing, VMD, PhD: Professor Emeritus, Director Waisman Center, Univ. Wisconsin Madison
Natalie Miller, VMD, PhD; Veterinary Medical Officer, FDA
James Kehler, Founder, One Health Scientific LLC
Stephanie Murphy, VMD, PhD; Director, Division of Comparative Medicine, NIH
Xuan Pan, VMD, PhD: Assistant Professor, University of Wisconsin, School of Veterinary Medicine
Gregory Rak VMD, PhD; Senior Research Investigator, Bristol-Myers Squibb
Sarah Ralston, VMD, PhD: Professor Emerita, Fulbright Scholar, Rutgers University
Abigail Shearin, VMD, PhD; Veterinary Medical Officer, FDA
Todd Strochlic, VMD, PhD: Assistant Professor, Drexel University

Session 2: Research and Medical Synergies

Chair: Joan Hendricks, VMD, PhD

1:00  The Microbiome in Human and Animal Disease
Moderator: Christopher Hunter, PhD

Speaker 1:  Robert Baldassano, MD
Children’s Hospital of Philadelphia

Speaker 2:  Daniel Beiting, PhD
Assistant Professor, PennVet
IBD, Diet and the Microbiome

1:40  Collaborations in Immunotherapy
Moderator: Oliver Garden, BVetMed, PhD

Speaker 1:  Nicola Mason B.Vet.Med, PhD, DACVIM (Internal Medicine)
Paul A. James and Charles A. Gilmore Endowed Chair Professorship
Associate Professor of Medicine
Genetically engineered T cells for dogs with cancer and autoimmunity

Speaker 2:  Aimee S. Payne, MD, PhD
Albert M. Kligman Associate Professor of Dermatology
University of Pennsylvania
CAAR T cells: finding synergy in approaches to cancer and autoimmune disease therapy in canines and humans

2:20  Coffee Break / Posters/ Career Locations

2:40  Director Comments: John Wolfe, VMD, PhD

2:50  Cancer Center Synergies
Moderator: Kenneth Zaret, PhD

Speaker 1:  M. Celeste Simon, Ph.D.
Scientific Director and Investigator, Abramson Family Cancer Research Institute University of Pennsylvania Perelman School of Medicine
Symbioses in the Tumor Microenvironment
Speaker 2, Ellen Pure, Ph.D. Grace Lansing Lambert Professor and Chair
Department of Biomedical Sciences, School of Veterinary Medicine, Professor, Department of Systems Pharmacology and Translational Therapeutics, Perelman School of Medicine, Director, Penn Vet Cancer Center University of Pennsylvania
Penn Vet: Where cutting-edge research meets compassionate care

3:30 **Student Research Programs**
Jennifer Punt, VMD, PhD
Associate Dean of One Health
Professor, Pathobiology
Undergraduate Student Research

Kelly Jordan-Sciutto, PhD
Associate Dean for Graduate Education
Director of Biomedical Graduate Studies
Graduate Student Research

4:00 **New Bolton Center Connections**
Dean Richardson, DVM
Charles W. Raker Professor of Equine Surgery
University of Pennsylvania School of Veterinary Medicine
Chief, Large Animal Surgery, University of Pennsylvania School of Veterinary Medicine
Diplomate, American College of Veterinary Surgeons

**Session 3: Keynote Address**
4:30 Ralph Brinster, VMD, PhD
Richard King Mellon Professor of Reproductive Physiology, School of Veterinary Medicine, University of Pennsylvania
Understanding and Modifying the Mammalian Genome

5:30 Closing Comments
6:15 Closing Banquet: City Tap House
3925 Walnut Street (second floor)

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Incoming VMD-PHD Students

Kay Foos (Year 1)
UCLA
CAMB Cancer Biology

Kay graduated from the University of California, Los Angeles in June 2018. She previously performed research at UCLA studying breast cancer and the regulatory effects of IGF2 on gene expression in triple negative breast cancer cell lines and tumors, and subsequently at La Jolla Institute for Immunology studying the roles of novel regulators of the cGAS-STING pathway. Kay is also a patient advocate for adolescent cancer patients and participates in focus groups. In addition, she was selected to serve as a consumer reviewer for the Department of Defense’s Peer Reviewed Cancer Research Program. She speaks fluent German, since both her parents are academics from Germany.

Martha Stone (Year 1)
Brandeis University
Neurosciences

Martha graduated from Brandeis University in May 2004 with Bachelors and Masters degrees. Before joining the VMD-PhD Program, Martha worked as Research Support Specialist at Stony Brook University where she worked on the synaptic basis of cortical taste processing. She has several papers published in neuroscience journals such as Frontiers in Integrative Neuroscience, and Society for Neuroscience. She also previously worked at Columbia University studying autism by imaging brains of children and adults in a nationwide genetic study. Martha’s hobbies include modern dance as she was a company dancer at Prometheus Dance in Framingham Massachusetts for three years.

Sabina Hlavaty (Year 2)
Princeton University
CAMB Cancer Biology

Sabina graduated from Princeton University in June 2013. Her prior research included efforts at Princeton on fetal Marmoset mouth and head movements, and at NIH on function of transcriptional regulatory protein BRD4. She entered Veterinary School at Penn in 2016, but was then awarded a prestigious Howard Hughes Medical Research Fellowship in the laboratory of Dr. Oliver Garden studying the phenotypic and transcriptomic characterization of canine myeloid-derived suppressor cells (MDSCs), and antimicrobial peptides as myeloid-derived suppressor cell effector molecules in cancer. After two years she re-entered Penn Vet and was admitted into the VMD-PhD program in 2019.

http://www.vet.upenn.edu/education/academics-and-training/vmd-phd-program
Recent PhD Defenses

Student: Elinor Willis  
**Date:** November 29, 2018  
**Title:** The effect of maternal antibodies on anti-viral immunity in infant mice.  
**Mentor:** Scott Hensley  
CAMB-MVP

Student: Mandie Samuels  
**Date:** February 18, 2019  
**Title:** Non-canonical Functions of the Bacterial SOS Response  
**Mentor:** Rahul Kohli  
CAMB-MVP

Student: Bailey Baumann  
**Date:** July 17, 2019  
**Title:** Pathways to pathologic retinal iron accumulation: blood, guts, and the immune system.  
**Mentor:** Joshua Duniaef  
NGG

Student: Robyn Allen  
**Date:** November 21, 2019  
**Title:** FOP-ACVR1 Signals by Multiple Modalities in the Developing Zebrafish.  
**Mentor:** Eileen Shore and Mary Mullins  
CAMB-DSRB

http://www.vet.upenn.edu/education/academics-and-training/vmd-phd-program
Graduations

Jeffrey Carey
Thesis Title: All the right noises: Causes and consequences of stochastic trimethylamine oxide reductase expression in *Escherichia coli*.
Mentor: Mark Goulian
Graduate Group: BMB

Jeffrey is moving to Seattle, Washington to do a Postdoc at the University of Washington. He plans to continue his work in microbiology with co-mentors Matt Parsek and Ajai Dandekar.

Jeffrey’s Awards and Honors

The **Frazer Award** for Excellence in Microbiology was given to Jeffrey Carey.
Jeffrey also won the **Saul Winegrad Award** for best thesis in Biomedical Graduate Studies.

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Student Honors, Awards, Publications

Megan Clark

Megan won a prestigious Blavatnik Fellowship in Biomedical Research, an award for top students in one of the Biomedical Graduate Studies graduate groups. Megan is in the Immunology Graduate Group.

Elisabeth Lemmon

Beth will be presenting her work from her rotation in the Mauck laboratory at the Orthopedic Research Society meeting in February, 2020. The title of her work is “Inflammatory Challenge Alters Cytoskeletal Networks and Transiently Inhibits Meniscus Cell Migration. Beth is in the CAMB DSRB graduate group.

Current Student 2018-2019 Publications

2018


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2019


http://www.vet.upenn.edu/education/academics-and-training/vmd-phd-program


ALUMNI UPDATES

Stephanie Murphy VMD, PhD, (1996) DACLAM  
Director of the Division of Comparative Medicine,  
Office of Research Infrastructure Programs,  
Division of Program Coordination, Planning, and Strategic Initiatives  
Office of the Director,  
National Institutes of Health.  
Stephanie received one of the 2019 NIH Director’s Awards last July as part of the Chimpanzee Facility Program Oversight and Regulatory Reform Activities Team. The award was specifically “for outstanding program oversight of chimpanzee facilities and exemplary execution of regulatory reform review activities.”

Warren Douglas Sheffield (VMD 1975, PhD 1977)  
Chief Scientific Officer  
Cadence Neuroscience  
Warren recently co-founded a company, Cadence Neuroscience, to commercialize a novel neuromodulation epilepsy therapy that was licensed from the Mayo Clinic. The therapy is for pediatric and adult patients with drug resistant focal epilepsy. The Mayo Clinic has clinical data on 21 patients demonstrating promising safety and effectiveness data. He hopes to close Series A fund raising shortly. He will be the Chief Scientific Officer.

Todd Strochlic VMD, PhD (2008)  
Assistant Professor  
Department of Biochemistry and Molecular Biology  
College of Medicine, Drexel University  
Todd has a recent publication:  

Richard Jimenez  
Cuyamaca College  
San Diego, CA

Richard started a new tenure-track position at Cuyamaca College in San Diego, CA. He attained a full-time instructor position with an emphasis in Anatomy beginning the Fall 2019 semester.

Steve Bensinger  
Professor  
Microbiology, Immunology, and Molecular Genetics and Medical Pharmacology  
University of California, Los Angeles

Steve was promoted to full professor effective July 1 in the Dept of Microbiology, Immunology and Molecular Genetics. He was also Keynote Speaker for the 2019 Penn Vet Student Research Day

Mary Robinson  
VMD (2010) PhD 2009  
Director, PennVet Equine Pharmacology Lab  
Assistant Professor  
Clinical Studies, New Bolton Center  
University of Pennsylvania

Mary was recently appointed tenure-track Assistant Professor in Pharmacology at Penn Vet in the Department of Clinical Studies New Bolton Center
Laurel Redding  
Assistant Professor  
Clinical Studies, New Bolton Center  
University of Pennsylvania  

Laurel recently passed her boards, and is now DACVPM.  
She has some recent Publications:  
**L.E. Redding**, S. Lavigne, H. Aceto, R. Nolen-Walston. Antimicrobial prescribing patterns of clinicians at a large animal veterinary teaching hospital. Accepted for publication – AJVR.  
A.S. Berry, D. Barnhart, B.J. Kelly, D.J. Kelly, D.P. Beiting, R.N. Baldassano, **L.E. Redding**. Gut microbiome features associated with *Clostridioides* difficile colonization in puppies. Accepted for publication, Plos One.  

And, some recent Grants:  
University Research Foundation  
Veterinarian Perspectives on Antimicrobial Stewardship Metrics.  

Firestone/ Tamworth/ Raker/ Tulleners Research Grant  
Switching it up: understanding the reasons for polypharmacy in antibiotic prescribing.  

McCabe Fellowship  
The role of pets as a reservoir for *Clostridioides* difficile.  

Jaime Modiano  
VMD/PhD (1991)  
Perlman Professor of Oncology and Comparative Medicine, College of Veterinary Medicine  
University of Minnesota  

Jaime, along with Andrea Fahrenkrug, launched Half Moon Bay Biotechnology (HMBB) in March 2019. HMBB will operate in the Animal Health Diagnostics space.
Theresa Alenghat  
VMD: 2003 PhD: 2007  
Assistant Professor, Department of Pediatrics  
University of Cincinnati College of Medicine  

Theresa won the Burroughs Wellcome 2019 Investigators in the Pathogenesis of Infectious Disease Award.

Upcoming Events:

December Dinner Party at the Program Director’s Home.  
December 13, 2019 at 6PM  

VMD-PhD Admissions Interviews  
January 23, 2020  

Penn Vet Student Research Day  
March 19, 2020

We want to know....  
New position, promotion, patent, publication, etc.? Please share your news!  
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