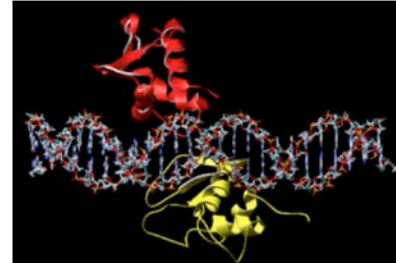


Fall 2013

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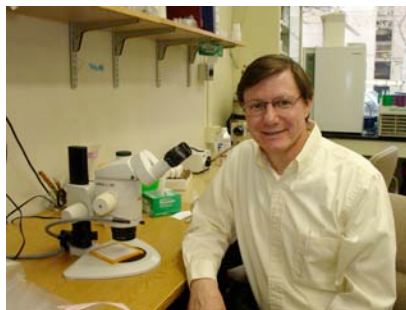


Dear VMD-PhD Alumni,

Greetings from the Penn VMD-PhD program! As usual, the Fall has been very busy. The annual Combined Degree Retreat was held in August at Villanova University and included a keynote address by Dr. Michael Hayden from University of British Columbia, as well as student posters, and student talks. VMD-PhD students Irene Bukh and Samra Zelman (Elser) were included as speakers. In September we held the annual Penn Vet Student Research BBQ at the Biopond and a good time was had by all. We are entering a new admissions cycle and have received a record number of applications this year, matching last year's record number of 47. Admissions interviews will be held on January 23, 2014. In late August we welcomed three new VMD-PhD students into the program and their information is included here.

We have also included some alumni and current student updates, promotions, publications, and life events (marriages, engagements, babies) in this letter. We are proud of our alumni and current students. Finally, the annual Dinner Party at my home for current students and local alumni will be on Saturday, December 7 at 5PM. We wish you the best as 2013 comes to a close.

Wishing you the best,
Michael Atchison, Ph.D.
Director, VMD-PhD Program

**Alumni are Online!**

Check out:

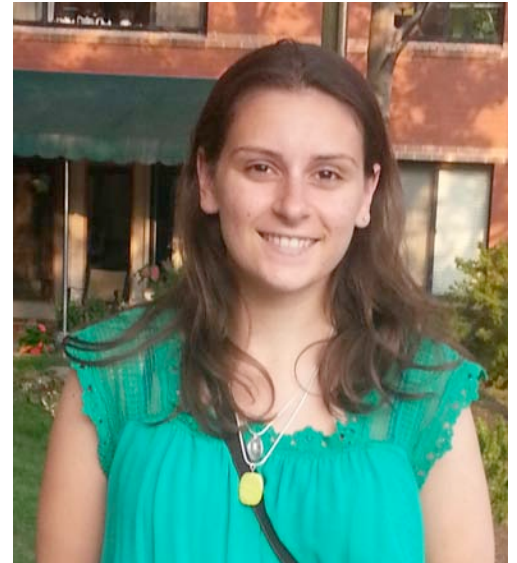
<http://www.vet.upenn.edu/education/academics-and-training/vmd-phd-program/vmd-phd-alumni-profiles>

Find your profile, and send us feedback!

Incoming VMD-PHD Students: Bailey Baumann, Amanda Samuels, and Sherrie Xie

Bailey Baumann (Year 1)

Bailey graduated from Bryn Mawr College in May 2011. After graduation, Bailey worked as a research technician at The Children's Hospital of Philadelphia in the laboratory of Dr. David Lynch. She was responsible for developing and implementing an independent research project on the interaction between calpain, a calcium-dependent cysteine protease, and the NMDA receptor. While an undergraduate student at Bryn Mawr, she worked as a summer intern in Dr. Karen Greif's lab studying the role of synaptotagmin-I in early neurite outgrowth in chicken embryo forebrain. She also worked for a year with Drs. Peter Brodfeher and Tamara Davis examining the role of AMPA receptors in motor circuits of the medicinal leech. Bailey has numerous volunteer experiences involving animals, as well as many involving the community. She worked several years as a VITA volunteer, helping low income individuals file taxes, and providing financial education and counseling. She also volunteered to tutor high school students struggling with biology and chemistry courses, and volunteered at a women and children shelter. Bailey is in the Neurosciences Graduate Group.



Amanda Samuels (Year 3)

Amanda (Mandie) graduated from Colgate University in May 2007. She has completed two years of Vet Medicine courses and is entering the VMD-PhD Program as a third year student. Mandie worked for three years with Dr. Clifton Barry, III at the National Institute of Health, National Institutes of Allergy and Infectious Disease. Her research explored a novel iron acquisition pathway in Mycobacterium tuberculosis using both in vitro and in vivo methods. She also worked on the enzyme, NadE synthetase. In addition, Mandie worked with Dr. Kenton Swartz on voltage gated ion channels at the National Institute of Neurological Diseases and Stroke. Her undergraduate research experience include working with Dr. Richard Geier on synthesis of building blocks for novel porphyrinoid species, and with Dr. Lawrence Brody working on genetics behind neural tube defects. During the Summer of 2012 Mandie worked with Dr. Jim Collins at Boston University as part of the Howard Hughs Medical Institute Summer Program, and used a systems biology approach to study bacterial defense mechanism and the emergence of antibiotic resistance. Her most recent research experience was with Dr. Ron Harty at Penn this past summer investigating the role of microtubules and molecular motors in Ebola Virus Budding. Mandie is an avid equestrian and has competed in competitions since she was ten years old. She is also a marathon runner. Mandie is in CAMB-Microbiology, Virology and Parasitology graduate group.



Xiaoyue (Sherrie) Xie (Year 1)

Sherrie graduated from the University of Chicago in June 2012. She majored in Biochemistry, Biology and Chemistry. Her research work at the University of Chicago began with Dr. Chuan He. She conducted independent research on the cysteine oxidization of AgrA, a *Staphylococcus aureus* transcription regulator. Her work led to two publications in the Proceedings of the National Academy of Sciences (PNAS). Subsequently she moved to a different research field with Dr. Greg Dwyer at the University of Chicago. In these studies, Sherrie investigated nuclear polyherosis virus (NPV) transmission in *Lymantria dispar*, the gypsy moth. She used that experience to work on an independent project modeling NPV transmissions in gypsy moth populations in fragmented forest environments. The modeling required the use of mathematical methods as well as coding in the programming language R. Sherrie has an interest in photography and currently holds the prestigious position as one of the first year class Beer Barons. Sherrie is in the Epidemiology and Biostatistics graduate group.

**Recent and Upcoming Student Thesis Defenses****Student: Spencer Shelly****Date:** May 29, 2013**Title:** Defining a Regulatory Role For the HSV Glycoprotein B Membrane Proximal Region in Membrane Association**Mentors:** Gary Cohen, PhD and Roselyn Eisenberg, PhD
CAMB MVP**Student: Brittany Gregory****Date:** November 15, 2013**Title:** Natural variation in the histone demethylase, KDM4C, influences cell proliferation through the regulation of specific genes.**Mentor:** Vivian Cheung
CAMB GGR**Student: Catherine Brinkley****Date:** November 18, 2013**Title:** Fringe Benefits: quantitative and qualitative study of urban form on farmland functions.**Mentor:** Tom Daniels
City and Regional Planning (School of Design)**Student: Laurel Redding****Date:** January 30, 2014**Title:** Antibiotic use in dairy cattle on small farms in rural Peru.**Mentor:** Sean Hennessy
Epi/Biostats

Alumni Awards, Accomplishments, and Honors

Congratulations go out to all of our alumni listed below:



Stephanie Murphy

As of July 1, 2013 Dr. Murphy was promoted to Professor with tenure at the Oregon Health Science University.

Steve Suter

In Spring 2012 Dr. Suter was promoted to Associate Professor at North Carolina State University College of Veterinary Medicine. He is also the Medical Director of the Canine Bone Marrow Transplant & Apheresis Unit. Steve and his wife celebrated the birth of their second child (another girl) born February 2013. Their eldest daughter is now three years old.

Significant recent publications are below:



Willcox, J.L., Pruitt, A., **Suter, S.E.** Autologous peripheral blood hematopoietic cell transplantation in dogs with B-cell lymphoma. *J. Vet. Intern. Med.* 26:1155-1163 (2012).

Smallwood, T.L., Small, G.W., **Suter, S.E.**, Richards, K.L. Expression of Asparagine Synthetase Predicts in vitro Response to L-asparaginase in Canine Lymphoid Cell Lines. *Leuk. Lymphoma.* 2013 Sep 16. [Epub ahead of print]

Richards, K.L., Motsinger-Reif, A.A., Chen, H.W., Fedoriw, Y., Fan, C., Nielsen, D.M., Small, G.W., Thomas, R., Smith, C., Dave, S.S., Perou, C.M., Breen, M., Borst, L.B., **Suter, S.E.** Gene profiling of canine B-cell lymphoma reveals germinal center and postgerminal center subtypes with different survival times, modeling human DLBCL. *Cancer Res.* 73:5029-5039 (2013).

Thalheim, L., Williams, L.E., Borst, L.B., Fogle, J.E., **Suter, S.E.** Lymphoma Immunophenotype of Dogs Determined by Immunohistochemistry, Flow Cytometry, and Polymerase Chain Reaction for Antigen Receptor Rearrangements. *J. Vet/ Intern/ Med.* 2013 Sep 20. doi: 10.1111/jvim.12185. [Epub ahead of print]

Jessica Bertout

Family news:

Charlie (Charles William Bertout Crooks) was born on August 14th, 2013. He is now just over 2 months old and his sister Isabelle and brother Sam are still very excited to have a new baby in the family. Jessica is now back at work at the Hutch.

New publication:

Laurie, M.T., **Bertout, J.A.**, Taylor, S.D., Burton, J.N., Shendure, J.A., Bielas, J.H. Simultaneous digital quantification and fluorescence-based size characterization of massively parallel sequencing libraries. *Biotechniques.* 55:61-67 (2013).



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Joyce Knoll

Congratulations to Dr. Knoll who has been promoted to the Associate Chair of the Department of Biomedical Sciences at the Tufts Cummings School of Veterinary Medicine.

Duncan Ferguson

Dr. Ferguson is currently on a six month Fulbright Teaching/Research Fellow in Hannover, Germany at the Hannover University of Veterinary Medicine. He is one of the 21 Professors to visit Germany funded by the Fulbright Foundation during the current year. There he is co-teaching elective courses in clinical pharmacology and endocrinology with German colleagues, interacting with clinicians at the small animal clinic as a clinical pharmacologist and internist, and conducting educational research on improving the way we move students from basic science concepts to critical clinical thinking. They are using case-based formats and a heavy emphasis on evidence-based medicine, but also looking at more general aspects such as inductive and deductive logic, that is, thinking like a scientist! They will be comparing results with similar approaches in Hannover as well as with first year students at the University of Illinois. They hypothesize some differences given the different educational pathways of veterinarians in the two countries. Dr. Ferguson is translating all case and teaching materials into German (with colleagues correcting his terminology, spelling and grammar) and interacting with students in German where possible. Suffice to say, his spoken and written German are, by necessity, improving by leaps and bounds by the immersion there. Dr. Ferguson will also be interacting with colleagues at the Institute of Pharmacology and Toxicology in Germany, giving a research seminar or two in Hannover and at the school in Giessen, and will be visiting the veterinary school in Utrecht, Netherlands as well.



Joan Hendricks

Dr. Hendricks, Dean of the Penn School of Veterinary Medicine, recently celebrated the opening of the Center for Host-Microbe Interactions at the Vet School by participating in a symposium hosted by the School of Veterinary Medicine. This exciting new initiative draws on expertise from many people and includes significant investment by Dean Hendricks.

Kim Blackwell

Dr. Blackwell is PI of a recently renewed NIH grant 2R01AA016022-06A1 CRCNS: Spatio-Temporal Dynamics of Dopamine Activated 2nd Messenger Pathway
07/01/2013 through 06/30/2018





Todd Strohlic

Dr. Strohlic recently accepted his first faculty position as an Assistant Professor at the Drexel University College of Medicine. His new contact information is:

Todd I. Strohlic, V.M.D., Ph.D.

Assistant Professor of Biochemistry and Molecular Biology

Dept. of Biochemistry and Molecular Biology

Drexel University College of Medicine

245 N. 15th Street, MS 497

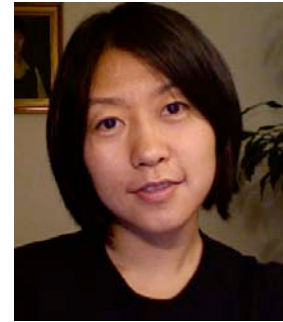
Philadelphia, PA 19102

Tel: 215-762-3664

Fax: 215-762-4452

Xuan Pan

Dr. Pan recently completed her residency in oncology at Wisconsin and has now accepted a position as Assistant Professor at the University of Wisconsin.



We want to know....

New position, promotion, patent, publication, etc.? Please share your news!
vmstp@vet.upenn.edu

Student Publications

2012-2013

Artim, S.C., Mendrola, J.M., and Lemmon, M.A. Assessing the range of kinase autoinhibition mechanism in the insulin receptor family. *Biochem. J.* 448:213-220 (2012) PMID: PMC3492919

Brinkley, C. Evaluating the Benefits of Peri-urban Agriculture. *Journal of Planning Literature.* 27: 259-269 (2012).

Brinkley, C. Avenues into the food system: a review of scholarly food system research. *International Planning Studies.* 5: 243-266 (2013).

Brinkley, C., Chrisinger, B., and Hillier, A. Tradition of Healthy Food Access in Low-income Neighborhoods: Price and Variety of Produce Vending Compared to Conventional Retail. *Journal of Agriculture Food Systems and Community Development* (in press)

Brinkley, C. and Vitiello, D. From Farm to Nuisance: Animal Agriculture and the Rise of Planning Regulation. *Journal of Planning History* (in press)

Brinkley, C. Decoupled: successful planning policies in countries that have reduced per capita GHG emissions with continued economic growth. *Environment and Planning C* (in press)

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- Vonderheide, R.H., Bajor, D.L., Winograd, R., **Evans, R.A.**, Bayne, L.J., and Beatty, G.L. CD40 immunotherapy for pancreatic cancer. *Cancer Immunology and Immunotherapy*. 62: 949-954 (2013).
- Li, Y., Myers, J.L., Bostick, D.L., Sullivan, C.B., **Madara, J.J.**, Linderman, S.L., Liu, Q., Carter, D.M., Wrammert, J., Esposito, S., Principi, N., Plotkin, J.B., Ross, T.M., Ahmed, R., Wilson, P.C., Hensley, S.E. Immune history shapes specificity of pandemic H1N1 influenza antibody responses. *The Journal of Experimental Medicine* 210:1493-1500 (2013).
- Khan, A.*, **Miller, N.***, Roos, D.S., Dubey, J.P., Ajzenberg, D., Dardé, M.L., Ajioka, J.W., Rosenthal, B., Sibley, L.D. A monomorphic haplotype of chromosome 1a is associated with widespread success in clonal and nonclonal populations of *Toxoplasma gondii*. *MBio*, 2011 Nov 8;2(6):e00228-11. PMID: PMC3215432 (* indicates co-first authors)
- Qu, F.**, Lin, J.M., Esterhai, J.L., Fisher, M.B., and Mauck, R.L. Biomaterial-mediated delivery of degradative enzymes to improve meniscus integration and repair. *Acta Biomaterialia*. 9: 6393-6402 (2013).
- Qu, F.**, Fisher, M.B., and Mauck, R.L. Basic Science of Meniscus Repair: Limitations and Emerging Strategies. In "Meniscal Injuries: Management and Surgical Techniques". p89-104, John D. Kelly IV, Ed., Springer, New York, 2014. (www.amazon.com/Meniscal-Injuries-Management-Surgical-Techniques/dp/1461484855).
- Redding, L.E.**, Barg, F.K., Smith, G., Galligan, D.T., Levy, M.Z., Hennessy, S. The role of veterinarians and feed-store vendors in the prescription and use of antibiotics on small dairy farms in rural Peru, *Journal of Dairy Science*, 96:7349-7354 (2013).
- Redding, L.E.**, Cubas-Delgado, F., Sammel, M.D., Smith, G., Galligan, D.T., Levy, M.Z., Hennessy, S. The use of antibiotics on small dairy farms in rural Peru. *Preventive Veterinary Medicine*, Available online 21 October 2013, ISSN 0167-5877, <http://dx.doi.org/10.1016/j.prevetmed.2013.10.012>.
- Redding, L.**, Chetri, D.K., Lamichhane, D.K., Chay, Y., Aldinger, L., Ferguson, J. Animal production systems of small farms in the Kaski district of Nepal. *Tropical Animal Health and Production*. 44: 1605-1613 (2012).
- Perkins, G.A., den Bakker, H.C. Burton, A.J, Erb, H.N., McDonough S.P., McDonough, P.L., Parker, J., **Rosenthal, R.L.**, Wiedmann, M., Dowd, S.E., Simpson, K.W. Equine stomachs harbor an abundant and diverse mucosal microbiota. *Applied Environmental Microbiology*. 78: 2522-2532 (2012).
- Shearin, A.L.**, Hedan, B., Cadieu, E., Erich, S.A., Schmidt, E.V., Faden, D.L., Cullen, J., Abadie, J., Kwon, E.M., Gröne, A., Devauchelle, P., Rimbault, M., Karyadi, D.M., Lynch, M., Galibert, F., Breen, M., Rutteman, G.R., André, C., Parker, H.G., and Ostrander, E.A. The MTAP-CDKN2A locus confers susceptibility to a naturally occurring canine cancer. *Cancer Epidemiol. Biomarkers Prev*. 21:1019-1027 (2012). PMID: PMC3392365
- Nakamoto, M., Moy R.H., Xu J., Bambina S., Yasunaga A., **Shelly S.S.**, Gold B., Cherry S. Virus Recognition by Toll-7 Activates Antiviral Autophagy in *Drosophila*. *Immunity* 36:658-667 (2012). PMID: PMC3334418
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Shelly, S.S., Cairns, T.M, Whitbeck, J.C., Lou, L., Krummenacher, C., Cohen, G.H., Eisenberg, R. J.
The Membrane-Proximal Region (MPR) of Herpes Simplex Virus gB Regulates Association of
the Fusion Loops with Lipid Membranes. mBio. 2012 Nov-Dec; 3(6): e00429-12.
PMCID:PMC350943

Student Engagements and Weddings

Jonathan Madara and Meghan Noelle Knight

Feini Qu and Peter Gebhard

Samra Zelman and Jeremy Elser

Irene Bukh and David

Steve Artim and Ashley

New Kids on the Block

To Nikkita Patel and Neel Dey



Premal ("Prem") Dey, born November 15, 2013 at 8:36 AM at 6 lbs 1 oz and at 20 inches in stature (both exactly the same as his older sister Kiskoli).

To Jessica Bertout and Steve Crooks

Charlie (Charles William Bertout Crooks) was born on August 14th, 2013. He is now just over 2 months old and his sister Isabelle and brother Sam are still very excited to have a new baby in the family.



Upcoming Events



VMD-PhD Christmas Party

Make sure to save the date for the annual VMD-PhD Christmas party to be held at Dr. Atchison's home on Saturday, December 7th at 5pm. Please RSVP by emailing: atchison@vet.upenn.edu
All current students and alumni are invited.

Contact Us

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