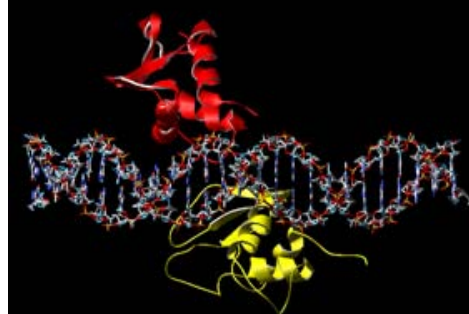


Fall 2012www.vet.upenn.edu/research/programs/vmstp*In This Issue*

1. *Letter from the Program Director*
2. *Brinster Symposium*
3. *Incoming Students*
4. *Alumni Updates*
5. *Student Publications*
6. *Upcoming events*

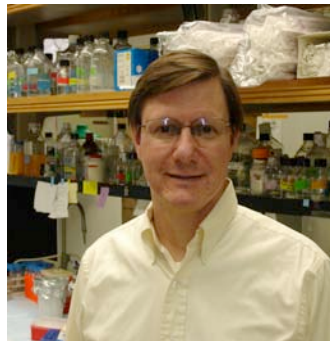


Dear VMD-PhD Alumni,

Fall greetings from the VMD-PhD Program! Much has happened since last spring. We've submitted three large NIH training grants in the past year: the MSTP grant, our NIH T35 grant that supports the summer research program, and the NIH T32 grant that supports VMD-PhD training in infectious disease-related research. Scores are back on the MSTP and T35 grants, receiving spectacular scores of 12 and 17, respectively. We've gone through another admissions season and two outstanding new students, Sondra Calhoun and Robyn Allen, joined the program in the Fall. Information about Robyn and Sondra are included in this newsletter. In August we hosted an International Symposium to honor Dr. Ralph Brinster to celebrate his 50 years of groundbreaking research at Penn-Vet, and his recent award of the National Medal of Science. This symposium had an amazing line-up of speakers.

We have also included some alumni and current student updates 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 8 at 5PM. We wish you the best as 2012 comes to a close.

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



Alumni are Online!

Check out:

www.vet.upenn.edu/Research/ResearchTrainingOpportunities/VMDPhDProgram/OurAlumni/

Find your profile, and send us feedback or updates!

Brinster Symposium

Symposium to Honor Dr. Ralph Brinster

August 24-25, 2012

From August 24 through 25, 2012 Penn Vet hosted a fantastic international symposium to honor Dr. Ralph Brinster's 50 year association with the University of Pennsylvania, and his winning of the National Medal of Science. The line-up of speakers was truly exceptional with many commenting that such an impressive list of scientists had never gathered at Penn for one symposium. Ralph is the first veterinarian to win the National Medal of Science and numerous prominent scientists from around the world desired to be part of this celebration. The pages that follow contain photographs of the symposium and the two-day schedule of speakers and session chairs. VMD-PhD alumnus Jamie Thomson participated in the symposium and devoted a session at the end of the symposium with current VMD-PhD students to discuss career issues.

Dr. Brinster was also the first Director of the VMD-PhD Program, initiating the program in 1969 and serving as Director for 14 years. Ralph's contributions to the field of reproductive biology, transgenesis and stem cell biology are monumental and unique. Over the past 50 years he has consistently led the field making many pivotal contributions. He has won many National and International awards including the March of Dimes Prize in Developmental Biology, The Bower Award and Prize of Achievement, Pioneer in Reproduction Research Award from NICHD, Ernst W. Bertner Award from the University of Texas, the Wolfe Prize in Medicine, the Gairdner Foundation International Award, and recently, the National Medal of Science.



The Brinster Clan



Dr. Richard Palmiter and Ralph



Ralph, Dr. Michael Brown, Dr. Palmiter, Dr. Fluharty

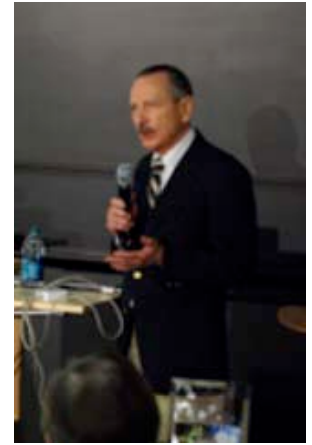




The registration desk (Samantha, Mia, Pat, Pat)



Vice Provost for Research, Dr. Steve Fluharty



Hill Pavilion



Ralph takes a rare turn at the podium.



Break time: Drs. Chris Lengner, Ralph, Rudolf Jaenisch, Janet Rossant, Richard Palmiter, Ken Zaret.



Dr. Jamie Thomson



Dr. Narayan Avadhani, Ralph



Dr. Atchison, Ralph, Nobel Laureate Dr. John Gurdon



Hill Pavilion



Nobel Laureate Michael Brown, Dr. L. and M. Atchison



Cornell Dean Michael Kotlikoff
Drs. Claire and Kurt Hankenson
Former Penn Vet Dean Robert
Marshak (seated)



Keynote Address: Nobel Laureate Michael S. Brown



Drs. John Gearhart, Rudolf Jaenisch,
Janet Rossant.



Schedule

FRIDAY, AUGUST 24TH

7:30AM – 8:30AM

BREAKFAST HILL LOBBY

8:30AM – 8:50AM

OPENING COMMENTS

Vincent E. Price, Ph.D., Provost, Office of the Provost; Professor and Steven H. Chaffee Term Chair in Communication and Political Science

Joan Hendricks, V.M.D., Ph.D., The Gilbert S. Kahn Dean of Veterinary Medicine

Narayan Avadhani, Ph.D., Harriet Ellison Woodward Professor of Biochemistry & Chairman, Department of Animal Biology

Michael Atchison, Ph.D., Professor of Biochemistry, V.M.D./Ph.D. Program Director

8:50AM – 9:40AM

Richard Palmiter, Ph.D., Plenary Speaker Investigator Howard Hughes Medical Institute; Professor of Biochemistry; University of Washington School of Medicine

"An incredible journey from metallothionein to neurobiology of feeding behavior"

MODERATOR

John Gearhart, Ph.D., James W. Effron University Professor; Director, Institute for Regenerative Medicine

9:40AM – 10:10AM

Richard Behringer, Ph.D., Professor of Genetics, The University of Texas, M.D. Anderson Cancer Center

"Reproductive organ formation, homeostasis, and regeneration"

10:10AM – 10:30AM

John Gearhart, Ph.D., James W. Effron University Professor; Director, Institute for Regenerative Medicine; Perelman School of Medicine and School of Veterinary Medicine; University of Pennsylvania

"Remembrance, Gratitude and Cell Conversions"

10:30AM – 10:50AM

COFFEE BREAK

10:50AM – 11:30AM

Rudolf Jaenisch, M.D., Plenary Speaker Professor of Biology, Member, Whitehead Institute for Biomedical Research, and Massachusetts Institute of Technology

"Stem cells, pluripotency and nuclear reprogramming"

MODERATOR

Marisa Bartolomei, Ph.D., Professor of Cell and Developmental Biology, and HHMI Investigator

11:30AM – 12:00PM

Hans Schöler, Ph.D., Professor and Director; Department Cell and Developmental Biology; Max Planck Institute for Molecular Biomedicine, Münster, Germany

"Induction of stem cell multi- and pluripotency"

Schedule

FRIDAY, AUGUST 24TH (continued)

12:00PM – 1:00PM

LUNCH

1:00PM – 1:45PM

John Gurdon, Kt, DPhil, DSc, FRS, Plenary Speaker, Emeritus Professor; University of Cambridge

"Nuclear transfer to eggs and oocytes: the stabilization and reversal of cell differentiation"

1:45PM – 2:15PM

Allan Bradley, Ph.D., FRS, Director Emeritus and Senior Group Leader; Wellcome Trust Sanger Institute

"Genetic screens in embryonic stem cells"

2:15PM – 2:45PM

Robert Hammer, Ph.D., Graydon Heartsill Professorship in Medical Science; Professor in Biochemistry; University of Texas Southwestern Medical Center

"Ribosomopathies, altered tissue homeostasis and cancer-Insights from mice"

2:30PM – 2:50PM

COFFEE BREAK

2:50PM – 3:30PM

Katherine A. High, M.D., William H. Bennett Professor of Pediatrics; Investigator, Howard Hughes Medical Institute; and Director of the Center for Cellular and Molecular Therapeutics, Children's Hospital of Philadelphia

"Genome editing as an approach to treating genetic disease"

3:30PM – 4:00PM

Kenneth Zaret, M.D., Ph.D., Joseph Leidy Professor of Cell and Developmental Biology, Perelman School of Medicine, University of Pennsylvania

"Programming and reprogramming mammalian cell fates"

4:00PM – 5:00PM

KEYNOTE ADDRESS

Michael S. Brown, M.D., W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research; Regental Professor, Paul J. Thomas Chair in Medicine; University of Texas Southwestern Medical School

"Genetically Engineered Mouse Strains (GEMS): Models for Human Disease"

5:00PM

Steven Fluharty, Ph.D., Senior Vice Provost for Research; Professor of Pharmacology, Psychology, and Neuroscience; School of Veterinary Medicine: Presentation to Dr. Ralph Brinster

5:30PM – 7:30PM

RECEPTION HILL LOBBY

MODERATOR

Phil Scott, Ph.D., Associate Dean for Research; Professor of Microbiology and Immunology, Department of Pathobiology

MODERATOR

Christopher Hunter, Ph.D., Chairman and Professor, Department of Pathobiology

INTRODUCTION

Michael Atchison, Ph.D.

Schedule

SATURDAY, AUGUST 25TH

8:00AM – 9:00AM	BREAKFAST HILL LOBBY	
9:00AM – 9:50AM	James A Thomson, V.M.D., Ph.D. , Plenary Speaker, John D. MacArthur Professorship, Jim Kress Endowed Chair, Director of Regenerative Biology at the Morgridge Institute for Research and Professor of Cell and Regenerative Biology at the University of Wisconsin <i>"Human pluripotent stem cells"</i>	MODERATOR Olena Jacenko, Ph.D. , Professor of Biochemistry/Animal Biology & Director, Diversity Program at the Vet School
9:50AM – 10:30AM	Ina Dobrinski, Dr.med.vet., M.V.Sc., Ph.D., DACT. , Professor; Department Head, Comparative Biology & Experimental Medicine; University of Calgary Veterinary Medicine <i>"Of mice, pigs and monkeys: Using transplantation to study germline stem cells and spermatogenesis"</i>	
10:30AM – 10:50AM	COFFEE BREAK	
10:50AM – 11:30AM	Richard Schultz, Ph.D. , Charles and William I. Day Distinguished Professor of Biology; University of Pennsylvania <i>"From egg to embryo: a peripatetic journey"</i>	MODERATOR Narayan Avadhani, Ph.D.
11:30AM – 12:00PM	Marisa Bartolomei, Ph.D. , Professor of Cell and Developmental Biology; Perelman School of Medicine; University of Pennsylvania, and HHMI Investigator <i>"Epigenetic regulation of genomic imprinting"</i>	
12:00PM – 1:00PM	LUNCH	
1:00PM – 1:45PM	Janet Rossant, Ph.D., FRS, FRSC , Plenary Speaker, Senior Scientist; Developmental & Stem Cell Biology; Chief of Research, Research Institute; The Hospital of Sick Children, Toronto <i>"Stem cells & blastocyst development"</i>	MODERATOR Christopher Lengner, Ph.D. , Assistant Professor of Animal Biology/ Cell and Developmental Biology
1:45PM – 2:15PM	Takashi Shinohara, M.D., Ph.D. , Professor; Department of Molecular Genetics; Kyoto University <i>"Reconstruction of germline niche in vitro"</i>	
2:15PM – 2:45PM	CLOSING COMMENTS Ralph Brinster, VMD, PhD , Richard King Mellon Professor of Reproductive Physiology <i>"A 25 Minute Summary of 50 Years - Past and Present"</i>	

Incoming VMD-PHD Students

Two new students entered the VMD-PhD program this fall.



Robyn Allen

Robyn graduated from the St. Mary's College of Maryland in May 2011 and joined the VMD-PhD program after completing a year of Vet School. Her first research experiences were at the National Institute of Health. She first worked as a Summer Research Intern in the lab of Dr. Robert E. Donahue working on hematopoietic stem cell research for three summers. During a fourth summer at NIH, she worked in the lab of Dr. Denis Hickstein on a gene therapy project involving primates. She also worked in the lab of Dr. Karen Crawford at St. Mary's College studying vertebrate limb regeneration and cell positional memory for her senior thesis titled "Cellular Contributions During Affinophoresis in *Ambystoma mexicanum*." Her most recent research experience was in the lab of Dr. Brett Kaufman at the University of Pennsylvania, School of Veterinary Medicine as a NIH-Merial Summer Research Program scholar. Her work in the Kaufman laboratory was entitled, "Mitochondrial DNA as a Determinant of Outcomes after Heart Attack and a Possible Target for Improving Reperfusion Therapy." She also volunteered at the Second Chance Wildlife Center and also at a vet clinic. Robyn plans to work in research with the goal of participating in translational research.

Sondra Calhoun

Sondra graduated from Harvard University in May 2010. Her first research experience at Harvard involved the mating behavior of butterflies. After a summer with the Audubon Nature Institute caring for laboratory and exotic animals, she worked with Drs. Matthew Klooster and Charles Davis at Harvard on population ecology of rafflesiaeae for a year and a half. She independently raised grant funds for her thesis research on the population ecology and breeding system of threatened Rafflesiaceae plants. This work focused on the genetics of individual plants, identification of levels of genetic diversity, and determination of whether the plants exhibit monoecy or dioecy. Sondra's research work was nominated for a Thomas T. Hooper prize for outstanding research or scholarly work. Her most recent research experience was at the Dana-Farber Cancer Institute with Dr. Bruce Spiegelman working on diabetes and metabolic disease. Sondra would like to go into a career in academia where she can teach and participate in research after graduating.



Current Student Honors and Awards



Laurel Redding

Congratulations go to Laurel Redding who received a Sigma Delta Epsilon/Graduate Women in Science, Nell Mondy Fellowship for her dissertation research.

Richard Jimenez

Congratulations to Richard Jimenez who was awarded 3rd Prize in the Trainee Research Award Poster Competition at the Society for the Study of Reproduction's 45th Annual Meeting, August of 2012. Richard was also selected for the Predoctoral Training Grant in Genetics.



Alumni Awards, Accomplishments, and Honors

Congratulations go out to all of our alumni listed below



Kim Blackwell Professor, George Mason University VMD/PhD (1988)

Two new publications:

Koh W and Blackwell KT. Improved spatial direct method with gradient-based diffusion to retain full diffusive fluctuations. *J Chem Phys.* 2012 Oct 21;137(15):154111. doi: 10.1063/1.4758459.

Evans RC, Morera-Herreras T, Cui Y, Du K, Sheehan T, Kotaleski JH, Venance L, Blackwell KT. The effects of NMDA subunit composition on calcium influx and spike timing-dependent plasticity in striatal medium spiny neurons. *PLoS Comput Biol.* 2012;8(4):e1002493. Epub 2012 Apr 19.

LaTasha Crawford Pathology Post-Doctoral Fellow, Johns Hopkins University VMD/PhD (2011)

Contributing author in a book:

Cinemeducation: Using Film and Other Visual Media in Graduate and Medical Education, Volume 2 Editors Matthew Alexander, Patricia Lenahan and Anna Pavlov Radcliffe Medical Press LTD, 2012





Dara Kraitchman Professor in Radiology, Johns Hopkins VMD/PhD (1996)

Congratulations to Dr. Dara Kraitchman who has been promoted to Full Professor in Radiology at Johns Hopkins University. She also has two new publications:

Lauer AM, El-Sharkawy AM, Kraitchman DL, Edelstein WA: MRI acoustic noise can harm experimental and companion animals. *J Magn Reson Imaging* 2012, 36:743-747.

Kedziorek DA, Hofmann LV, Fu Y, Gilson WD, Cosby KM, Kohl B, Barnett BP, Simons BW, Walczak P, Bulte JW, et al: X-ray-visible microcapsules containing mesenchymal stem cells improve hind limb perfusion in a rabbit model of peripheral arterial disease. *Stem Cells* 2012, 30:1286-1296.

Jenny Punt Associate Dean of Student Research, Columbia University VMD/PhD (1991)

Congratulations to Dr. Jennifer Punt who accepted a new position as Associate Dean of Student Research at Columbia University's School of Medicine. Dr. Punt will also have a faculty position in Pathology and will co-run a lab focused on hematopoietic stem cell (and thymocyte) development with her husband, Dr. Stephen Emerson (who is director of the Irving Comprehensive Cancer Center at the medical school at Columbia). Dr. Punt is currently splitting her time between Haverford College and Columbia, but will start at Columbia full time in 2013.



Todd Strohlic Postdoctoral Associate, Fox Chase Cancer Center VMD/PhD (2008)

Theresa Alenghat, Instructor in Microbiology, University of Pennsylvania VMD/PhD (2007)

Congratulations to Dr. Todd Strohlic and Dr. Theresa Alenghat who won first and second place, respectively in the AVMA/AVMF Young Investigator Award. Todd and Theresa were selected from over 60 applicants, five of whom were chosen to give oral presentations at the Merial Veterinary Scholars Symposium in August 20-12 in Colorado. Our Penn alumni took the top two out of three prizes.



We want to know....

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

Student Publications 2011-2012

Brinkley, C. Sustainability unpacked: Food, energy and water for resilient environments and societies. *J. Plan. Ed. Res.* 31:473-475 (2011).

Brinkley, C. (2012) "Evaluating the Benefits of Peri-urban Agriculture." *Journal of Planning Literature.* 0885412211435172, first published on February 10, 2012

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).

Khan, A.*, **Miller, N.***, Roos, D.S., Dubey, J.P., Ajzenberg, D., Dardé, M.L., Ajioka, J.W., Rosenthal, B., Sibley, L.D. 2011, "A monomorphic haplotype of chromosome Ia is associated with widespread success in clonal and nonclonal populations of *Toxoplasma gondii*," *MBio*, Nov 8;2(6):e00228-11. doi: 10.1128/mBio.00228-11. (* indicates co-first authors)

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, Online First™*, 6 March 2012, DOI:10.1007/s11250-012-0114-4

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. (2012). Equine stomachs harbor an abundant and diverse mucosal microbiota. *Appl Environ Microbiol*, 78(8):2522-2532.

Upcoming Events

- VMD-PhD Student Meeting "Applying for grant funding" November 29, 2012 4:30pm in room 131 Hill.
- Director's Holiday Party December 8, 2012 at 5PM.

Contact Us

Michael Atchison, Ph.D.
Director, VMD/PhD Program
215-898-6428
atchison@vet.upenn.edu

Yong No
Coordinator, VMD/PhD Program
215-898-3800
yongno@vet.upenn.edu