



Penn Vet Research News

News during the Coronavirus crisis of 2020 —

Research Restart Team

When the laboratories at Penn were closed in March due to the pandemic, we immediately had to institute a way to identify and track personnel who would be performing essential and life-saving clinical and research activities. To simplify the process, three groups were defined: 1) personnel associated with activities at Ryan Hospital; 2) personnel associated with activities at New Bolton Center (NBC); and 3) personnel associated with research and core laboratories in Philadelphia. Almost overnight, essential personnel were identified, and a tracking system was established. A Penn Vet **Research Restart Team** (Drs. Phillip Scott, James Lok, Ellen Puré, Oliver Garden, Katrin Hinrichs, Hannah Galantino-Homer, William Beltran, Boris Striepen, Igor Brodsky, Christopher Hunter, Montserrat Anguera with Chris Phillips, Robert Schieri, Bryan Isola, Kim Kopple and Gayle Joseph) was established to develop plans to ensure a safe return to research at Penn Vet. Two research Town Halls addressed the plans for resumption of research at Penn Vet and were attended by more than 240 individuals. The Restart Team developed a robust plan which was approved by the Vice Provost for Research & Academic Resources to allow a defined number of individuals to safely return to the laboratories in Phase

I. Penn Vet's restart plan and all things related to COVID-19 may be found at: <https://research.upenn.edu/resources/resumption/>. On June 8th Phase 1 began, with a maximum of 20% personnel density for laboratory spaces (laboratory floors or buildings) for both PHL and NBC. Currently, 64 laboratory plans have been approved by department chairs and the Vice Dean for Research & Academic Resources. While there is no date for phase 2, plans are underway to ensure that we can go from 20% to 50% density safely when the time comes.

Penn Vet Cores

Penn Vet Cores re-opening in Phase I

Transgenic Core Facility

Drs. Jeremy Wang and Nicolae (Adrian) Leu (410) 952-6191
nleu@upenn.edu

Extracellular Vesicle Core

Dr. Rachel DeRita (267) 575-0161
rmderita@vet.upenn.edu

Penn Vet Imaging Core

Drs. Bruce Freedman and Gordon Ruthel (215) 746-0471
goruthel@vet.upenn.edu

Comparative Pathology Core

Drs. Amy Durham and Enrico Radaelli
Contact: Juli Burns (jmburns@vet.upenn.edu) and Brona Ranieri (brona@vet.upenn.edu) to arrange drop off/pick up

Comparative Orthopedic Research Laboratory

Dr. Tom Schaer. 610-925-6237
tpschaer@vet.upenn.edu

Referral Center for Animal Models of Human Genetic Disease

Dr. Charles Vite
[LOG in form](#)

Veterinary Clinical Investigations Center (VCIC). Clinical Trials

Michael DiGregorio
215 573-0302. [Log in form](#)

Having a lab is a little like a farm; you cannot shut down the farm. It's a living thing....B Striepen

Honors



Jeremy Wang, M.D./Ph.D., Professor of Department of Biomedical Sciences, has received the 2020 Society for the Study of Reproduction Research Award (<https://www.ssr.org/awards-scholarships/awards2020>). This award recognizes an active, regular member of the Society for outstanding research published over the previous six years. Dr. Wang will be presented with the award on August 4, 2021 during the 2021 Annual Meeting in St. Louis, MO, US.

Ottawa, Ontario, Canada.



Urs Giger, DrMedVet, Department of the Department of Clinical Sciences and Advanced Medicine for the School of Veterinary Medicine, has won the 2020 International Canine Health Lifetime Achievement Award – one of the largest and most distinguished veterinary awards in the world. Professor Giger was awarded the accolade in recognition

of his work, which spans across four decades and has been dedicated to the study of clinical hematology, hereditary diseases and genetic predispositions in dogs, and veterinary transfusion therapy, the results of which have impacted diagnostic testing and therapies among many canine breeds. Dr. Giger retired in December 2019.

ZOETIS AWARD—Katrin Hinrichs, Chair of the Department of Clinical Studies, New Bolton Center, announced **Dr. Dipti Pitta** as the winner of the 2020 **Zoetis Prize** for Excellence in Research in Veterinary Medicine. Dr. Pitta has established the successful Agricultural Systems and Microbial Genomics Laboratory at NBC, aimed at understanding complex microbial ecosystems such as the rumen in dairy cows. Her work links the rumen microbiome to animal health and productivity. She is



currently focusing on reducing methane emissions in dairy cattle. Moreover, Dr. Pitta is a collaborator with many of the clinicians on campus, adding depth to our ongoing research by applying these concepts to diverse animal species and organ systems.

Changes in events due to the Coronavirus Lockdown

The Office of Research and Academic Resources regretfully announced the postponement of the **Annual Student Research Day** on [March 19](#) and the **Faculty Research Retreat** on [June 8](#). Both events will be rescheduled in one form or another. Unfortunately, arrangements were canceled with the invited illustrious keynote speakers for both events—Theresa Alenghat VMD, PhD, Cincinnati Children’s Hospital & Medical Center, for the Student Research Day and Audrey R. Odom John, MD, PhD, Children’s Hospital of Philadelphia for the Annual Faculty Research Retreat.

Departure



Carolina López, PhD, an associate professor of pathobiology at the University of Pennsylvania School of Veterinary Medicine, has been named a BJC Investigator and will join the faculty of the Department of Molecular Microbiology at Washington University School of Medicine in St. Louis. López is an internationally recognized expert on viral infections. She will begin her new role at Washington University in the spring of 2020. Carolina López, PhD, recognized internationally for her

research on viral infections, has been named a BJC Investigator and will join the faculty of the Department of Molecular Microbiology at Washington University School of Medicine in St. Louis. She also will join the school’s Center for Women’s Infectious Disease Research. The BJC Investigators Program recruits to the School of Medicine scientists who will have a transformational impact on overall research programs by bringing innovative approaches to major biological questions and new ways to understand disease and develop treatments. Those in her laboratory at Penn Vet who will join her at Washington University are postdoctoral fellow, Sebastien Felt and graduate student, Lavinia Gonzalez. Penn Vet faculty are sad to see Dr. López leave but happy for her appointment to this illustrious position.

There's no stopping us

The [Center for Host-Microbial Interactions](#) continues with current activities and advancement

- 'Single Cell Seq Week' featured a set of three virtual presentations by 10X Genomics. 50-70 people in attendance for each of the sessions
- 8-week, intensive and for-credit virtual bioinformatics course. 130 students enrolled
- A virtual seminar on spatial transcriptomics run by [ReadCorr](#) took place on June 8th with over 30 scholars in attendance

Loss

Dr. Roselyn J. Eisenberg 4/26/40-3/14/20 of Haddonfield, New Jersey, passed away weeks from her 80th birthday, after a fall and short illness. Roz, as she was known, was a beloved professor in the Department of Pathobiology. She earned her A.B. from Bryn Mawr College and her Ph.D. from the University of Pennsylvania.



She completed her post-doctorate at Princeton University before being hired by the University of Pennsylvania as a microbiologist. She earned a worldwide reputation for her groundbreaking research on herpes simplex virus, in the laboratory she led for decades. She worked in close collaboration with Dr. Gary H. Cohen, professor and chair of the Department of Microbiology at Penn

Dental Medicine. She was elected to the American Academy of Microbiologists and the American Association of the Advancement of Science. She served on the editorial board of the Journal of Virology; she herself was an author of over 260 articles. As a woman in science who also chose to have children; she faced and overcame significant hurdles early in her career. Roz Eisenberg was a mentor and friend of many at the University of Pennsylvania.

On May 27, former IRM Director **Dr. John Gearhart** passed away following a long battle with gastric cancer. John was an extremely talented and adventurous scientist, a relentless defender of embryonic stem cell research for the public, and a trusted

mentor to the IRM community. John is best known for leading the research team that first identified and isolated human pluripotent stem cells from primordial germ cells during his time as a Professor at Johns Hopkins. These studies— together with James Thomson’s contemporaneous derivation of pluripotent stem cells from human blastocysts— revolutionized and literally defined what our field could do. Soon after, he became Director of the recently formed IRM, succeeding our co-founders Jon Epstein and Ralph Brinster. John also never shied away from opportunities to share the importance of stem cell research in the popular press. Though these activities were occasionally risky— John received death threats and needed police protection in the early days of this work— he persevered due to his unwavering confidence in the potential of stem cells. John strongly promoted efforts to expand the reach of stem cells and regenerative medicine. He was instrumental in founding the International Society for Stem Cell Research (ISSCR).



Publications

Stefanovski, D., Shih, P.-A.B., Hammock, B.D., Watanabe, R.M., & Youn, J.H. (2020) Assessment of soluble epoxide hydrolase activity in vivo: A metabolomic approach. *Prostaglandins and Other Lipid Mediators* 148: Article number 106410

Shepley-McTaggart A, Fan H, Sudol M, & **Harty R** (2020) Viruses Go Modular. *J Biol Chem* 295(14):4604-4616.

Xu Z, Takizawa F, Casadei E, Shibasaki Y, Ding Y, Sauters TJC, Yu Y, Salinas I, **Sunyer JO.** (2020) Specialization of mucosal immunoglobulins in pathogen control and microbiota homeostasis occurred early in vertebrate evolution. *Sci Immunol.* 7:5(44):eaay3254.



Lipschutz E, Dasgupta A, Guan Y, Kistler WS, **Wang PJ.** (2020) A rat H1t-GFP transgene recapitulates endogenous H1t expression pattern in mouse. *Genesis*. 58(5):e23355.

Guan Y, Leu NA, Ma J, Chamatal L, Ruthel G, Bloom JC, Lampson MA, Schimenti JC, Luo M, and **Wang PJ.** (2020) SKPI drives the prophase I to metaphase I phase transition during male meiosis. *Science Advances*. 6(13);eaaz2129.

Ardanuy J, Scanlon K, Skerry C, **Fuchs SY** and Carbonetti NH (2020) Age-dependent effects of Type I and Type III IFNs in the pathogenesis of bordetella pertussis infection and disease. *J Immunol* 204(8): 2192-2202.

Odnokoz O, Yu P, Peck AR, Sun Y, Kovatich AJ, Hooke JA, Hu H, Mitchell EP, Rui H, & **Fuchs SY** (2020) Malignant cell-specific pro-tumorigenic role of type I interferon receptor in breast cancers. *Cancer Biol Ther* 21(7):629-636.

Edgerton EB, McCrea AR, Berry CT, Kwok JY, Thompson LK, Watson B, Fuller EM, **Nolan TJ, Lok JB, & Povelones M.** (2020) Activation of mosquito immunity blocks the development of transmission-stage filarial nematodes. *Proc Natl Acad Sci U S A*. 117(7): 3711-3717.

Gardiner KL, Cideciyan AV, Swider M, Dufour VL, Sumaroka A, Komáromy AM, Hauswirth WW, Iwabe S, Jacobson SG, **Beltran WA, & Aguirre GD.** (2020) Long-Term Structural Outcomes of Late-Stage RPE65 Gene Therapy. *Mol Ther*. 28(1):266-278.

Carvalho AM, **Novais FO**, Paixão CS, de Oliveira CI, Machado PRL, Carvalho LP, **Scott P**, Carvalho EM. (2020) Glyburide, a NLRP3 Inhibitor, Decreases Inflammatory Response and Is a Candidate to Reduce Pathology in Leishmania braziliensis Infection. *J Invest Dermatol*. 140(1):246-249.

Recent awards

Direct costs

Mark Oyama

NIH

Affordable Oral Delivery of Human Therapeutics Proteins Bioencapsulated in Plant Cells

\$160,311 9/01/2020 – 8/31/2022

Andrew Vaughan

NIH

Solitary chemosensory / tuft cells in lung regeneration and inflammation

\$1,235,467 6/1/20-5/31/25

Montserrat Anguera

Lupus Research Alliance

Targeting the inactive X for correcting dosage imbalances in lupus

\$524,616 5/15/2020—5/15/2023

COVID Pilot Grants

A call for proposals for pilot grants, to study various aspects of SARS-CoV2 and COVID-19, went to Penn Vet researchers in May. The following projects were selected for funding (funding range of \$25K-50K):

Dr. Christopher Hunter Department of Pathobiology	The Role of IL-27 in Limiting the Development of Cytokine Storms
Dr. Michael May Department of Biomedical Sciences	Targeting Lymphatic Endothelial IKKa: A Novel Therapeutic Strategy for Treatment of COVID-19
Drs. Montserrat Anguera/ Andrew Vaughan Department of Biomedical Sciences	Investigation of the genetic and hormonal contributions for male-biased COVID-19 disease using a novel humanized ACE2 mouse model
Dr. Ron Harty Department of Pathobiology	SARS-CoV-2 Virus-Host Interactions and Therapeutic Intervention
Dr. Ellen Puré Department of Biomedical Sciences	Defining the cellular and molecular basis of the fibro-inflammatory response to SARS-CoV2 infection
Dr. Elizabeth Lennon Department of Clinical Sciences & Advanced Medicine	SARS-CoV-2: Role of Housecats as a Reservoir for Human Infection
Dr. De’Broski Herbert Department of Pathobiology	Cross-species SARS-CoV-2 transmission

Press Releases

Current press release links featuring Penn Vet Faculty:

<https://immunology.sciencemag.org/>

<https://penntoday.upenn.edu/news/answers-microbiome-mysteries-gills-rainbow-trout>

https://www.eurekalert.org/pub_releases/2020-03/uop-ace032520.php

<https://penntoday.upenn.edu/news/coming-together-solve-many-scientific-mysteries-covid-19>

The Penn Vet Research Newsletter—a digital edition during the COVID-19 pandemic (June 2020).
Suggestions, comments, requests and story ideas may be directed to: resnews@vet.upenn.edu

Phillip Scott, PhD
Vice Dean for Research & Academic Resources

Editor: Gayle Joseph
[Research News Link](#)

