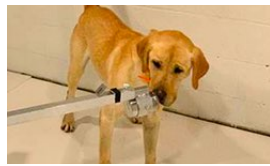




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NEWSLETTER



Diane Gaertner closes book on a career of accomplishments—Retirement of Diane J. Gaertner, DVM, Diplomate ACLAM, Associate Vice Provost for University Laboratory Animal Resources and Professor, Division of Laboratory Animal Medicine, Department of Pathobiology, School of Veterinary Medicine.

Dr. Diane Gaertner has announced her retirement on June 30, 2021, at the conclusion of this academic year after over 17 years of service as Director of University Laboratory Animal Resource (ULAR) for the University and a faculty member leading the Division of Laboratory Animal

Continued on Page 2

Medicine in Pathobiology. Drs. Phillip Scott and Stuart Isaacs (Perelman School of Medicine (PSOM)) have been charged by Dr. Dawn Bonnell, Senior Vice Provost for Research, to serve as Co-Chairs of a Search Committee to select her replacement.

Born in Ohio and growing up mostly in St. Louis, Missouri, Dr. Gaertner is the oldest daughter of two organic chemists. She loved science, especially biology, in high school and went to college with the goal of becoming a veterinarian. She completed 3 years of undergraduate study in pre-vet at the University of Missouri at Columbia and was then accepted into veterinary school at a time when women were only first being admitted. She completed her D.V.M. degree in 1979 at the University of Missouri at Columbia, Missouri.

Following veterinary school, Dr. Gaertner practiced small animal medicine and surgery in Raritan, NJ for three years. However, Dr. Gaertner's comprehensive introduction to comparative medicine and laboratory animal medicine during veterinary school still intrigued her. In 1984, she began a post-doctoral fellowship in Comparative Medicine at the University of Alabama in Birmingham, Alabama in a department led by Drs. J. Russell Lindsey and Henry J. Baker, active researchers who specialized in laboratory animal medicine, pathology, and comparative medicine. After completing her three-year post-doc, Dr. Gaertner joined the Section (now Department) of Comparative Medicine at Yale University as an Assistant Professor, where she joined their active program studying the pathogenesis of rodent viruses. For the next 10 years, Dr. Gaertner worked as a laboratory animal clinician for a very wide range of species and investigated rat parvovirus and the rat coronavirus, *Sialodacryoadenitis* Virus, together with Drs. Robert Jacoby and Abigail Smith. Together with Dr. Jacoby, Dr. Gaertner also started a training program in laboratory animal medicine for veterinarians at Yale, which continues to this day. Dr. Gaertner was promoted to Associate Professor in 1991.

For family reasons, Dr. Gaertner decided to take evening classes in management and took a new position in 1995 at Albert Einstein College of Medicine (AECOM) of Yeshiva University in the Bronx as Director for the Institute for Animal Studies, while also serving as Attending Veterinarian for three Yeshiva University locations and as an Associate Professor in Pathology. At AECOM, Dr. Gaertner led a

Publications



N Mangalmurti & **Christopher A Hunter** (2020) Cytokine Storms: Understanding COVID-19. *Immunity* 53(1):19-25.



J Li, S Yuan, R J Norgard, F Yan, YH Sun, II-K Kim, AJ Merrell, Y Sela, Y Jiang, NV Bhanu, BA Garcia, RH Vonderheide, **Andrés Blanco**, B Z Stanger (2020) Epigenetic and transcriptional control of the epidermal growth factor receptor (EGFR) regulates the tumor immune microenvironment in pancreatic cancer. *Cancer Discov* Nov 6;CD-20-0519. Online ahead of print.



San Antonio JD, **Jacenko Olena**, Fertala A, Orgel JP. (2021) Collagen Structure-Function Mapping Informs Applications for Regenerative Medicine. *Bioengineering*. Jan;8(1):E3. (review)

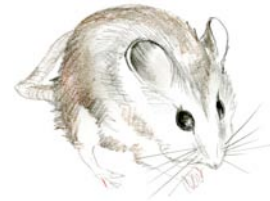
medium-sized academic animal care and use program and resolved many long-standing programmatic problems. It is there that she also gained experience supervising unionized animal care staff, as animal care and veterinary technician staff of AECOM were in Union 1199 of the United Healthcare Workers Union. This experience included managing animal care during 2 strikes and participating as a member of the negotiating team. During this time, Dr. Gaertner vividly remembers walking the gauntlet of protesting workers to get to her office while a giant inflatable rat (which was not under her direct care) decorated Morris Park Avenue. During this time Dr. Gaertner was also the editor of one of the AALAS journals, *Contemporary Topics in Laboratory Animal Science* (now the *Journal of the American Association of Laboratory Animal Science*) and served in a variety of leadership positions in the field of laboratory animal medicine, including as President of the American College of Laboratory Animal Medicine from 2002-2003. Under her leadership, AECOM received a G-20 renovation grant from the NIH to improve the vivarial facilities.

During her time at AECOM, Dr. Gaertner also remembers a time when a goat was found in a housekeeping closet by a faculty member at Yeshiva University in Manhattan. The owner of the goat was not readily identified and Dr. Gaertner was faced with a dilemma, as Yeshiva University in Manhattan was not approved to house United States Department of Agriculture (USDA)-regulated species! It was quickly determined that the goat had been sourced from “Party Pets” by a drama teacher to serve in an upcoming play on campus. In concordance with the old adage “the show must go on”, Dr. Gaertner expedited an IACUC protocol so that the goat could be transported by an Institute truck to the Bronx location, a USDA-approved location, for housing in between performances! AECOM animal caretakers made sure that the goat had lots of visits and treats while the laughter reverberated throughout Yeshiva University’s administrative offices. All in a day’s work for an Attending Veterinarian!

Diane Gaertner arrives at Penn

In 2002, Dr. Gaertner received a phone call from Dr. Harry Rozmiarek, a prior Penn ULAR Director, suggesting that she apply for this currently vacated position. The timing of this call was opportune because Dr. Gaertner’s older daughter, Elana Okrent, had been accepted as an undergraduate at Wharton and Dr. Gaertner herself was ready for some new challenges. After an intensive interview and negotiation process, including a “reverse site visit” to the AECOM vivarium by Dr. Neal Nathanson, Dr. Gaertner accepted the offer to lead ULAR at Penn and to join the Department of Pathobiology in the School of Veterinary Medicine. Her major focus was improving the animal care and use program, improving relations between Penn scientists and ULAR, and re-starting a residency program in Laboratory Animal Medicine at Penn. During her tenure as Director of ULAR, Dr. Gaertner has worked for numerous Vice Provosts for Research, starting with Dr. Neal Nathanson, followed by Dr. Perry Molinoff, then Dr. Steven Fluharty (previously with the University of Pennsylvania School of Veterinary Medicine (SVM) Department of Animal Biology and now Dean of the School of Arts and Sciences (SAS), and currently for Dr. Dawn Bonnell. In her 17 plus years of leading ULAR, Dr. Gaertner has spearheaded many renovations to significantly expand and improve the vivarial facilities, and overseen the expansion of ULAR’s duties to include vivaria and animals

belonging to investigators from numerous schools, including the SAS, PSOM, SVM, the School of Engineering and Applied Sciences, the School of Nursing and the School of Dental Medicine. Twenty-five residents have been or are currently being trained in our Residency program, and we have a very high pass rate for residents taking the ACLAM boards. During this time ULAR has provided continuous support to the Penn Institutional Animal Care and Use Committee (IACUC) and the regulatory programs supporting animal use at Penn, keeping us compliant with all relevant regulations, including those of the USDA. We have also undergone three site visits from the American Association for Accreditation of Laboratory Animal Care (AAALAC), International and expanded the range of School programs that are AAALAC accredited.



Looking Back

In looking back on her years at Penn, Dr. Gaertner is proud of the improvements that have been implemented in Penn’s program for animal care and use and has enjoyed the wonderful interactions with teammates within ULAR and the Schools. ULAR now has six major areas, each led by an outstanding and dedicated Assistant Director, Director or Controller, and all of which are focused on providing outstanding service to Penn’s scientists and the animals that support research. She has also valued her partnership with many School leaders, including Drs. Phillip Scott, Christopher Hunter, James (Sparky) Lok from SVM, and Glen Gaulton and Jon Epstein from PSOM. During her retirement, Dr. Gaertner says that she “plans to spend much more time with her two daughters and four grandchildren and paint a lot of bad watercolors”.

Working Dog Research



A pilot training program utilizing scent detection dogs to discriminate between samples from COVID-19 positive and COVID-19 negative patients is the focus of a new research initiative at the University of Pennsylvania’s School of Veterinary Medicine. “Scent detection dogs can accurately detect low concentrations of volatile organic compounds, otherwise known as VOCs, associated with various diseases such as ovarian cancer, bacterial infections, and nasal tumors. These VOCs are present in human blood, saliva, urine or breath,” said Cynthia Otto, DVM, PhD, professor of Working Dog Sciences and Sports Medicine and director of [Penn Vet’s Working Dog Center](#).

Recent awards (direct costs)

Dipti Pitta

Dept of Agriculture
Deciphering role of individual methanogens and their inhibition on hydrogen metabolism in rumen of dairy cows. \$417,851 1/1/21-12/31/23

Mary Robinson

Zoetis
Pharmacokinetics and Renal Clearance of Oclacitinib in horses
\$27,600. 10/13/20-10/13/21

Meghann Pierdon

PENNAG Industries Assoc.
Poultry Welfare & Production Medicine Fellowship NBC
\$174,979. 4/15/20-1/31/21

Kotaro Sasaki

Open Philanthropy
Establishment of a robust platform for reconstituting human prospermatogonial development through *in vitro* culture and transplantation
\$909,091. 1/1/21—12/31/24

Ellen Puré

Penn-Incyte Adenosine Project Alliance
Impact of FAP-TGFβR2 bispecific on fibroblast activation and cytokine release
\$103,759 7/1/20—12/31/20.

Antonia Rotolo

American Society of Gene and Cell Therapy. Harnessing invariant NKT cells to exploit 'intact' allogeneic CAR-T therapies: a pilot trial in companion dogs with spontaneous solid cancer
\$50,000 11/1/20—12/31/21

Chris Hunter

NIH R01
Infectious *Coryza:Avibacterium paragallinarum* Longevity Study
\$572,675 9/23/20-8/31/25

Lisa Murphy

FDA
Improving Capacity to Increase Throughput and Minimize Cross-Contamination During Sample Processing Utilizing a Bead Mill Homogenizer
\$14,535. 9/20/20-8/31/21

Katelyn Walzer

NIH F32
Elucidating the roles of transcriptional regulators during the *Cryptosporidium* life cycle
\$202,062. 8/1/20-7/31/23

William Beltran

Foundation for Fighting Blindness
Penn Large Animal Model Translational & Research Center
\$2,375,000 7/1/20-6/30/21

William Beltran

Opsis Therapeutics
Equipment SRA: Digital operating ophthalmic microscope
\$213,628. 7/15/20-7/14/21

Karina Guziewicz

IVERIC
SOW#8, Non-clinical efficacy and toxicity IND-enabling study of AAV2/2-BEST1 (IC-200) gene therapy delivered by subretinal injection in a canine model of Best disease.
\$486,303. 11/17/20- 12/31/21

Cynthia Otto

NIH P01
Studies of Physiologic and Pathologic Platelet Plug Formation
\$494,400 5/10/20-4/1/25

Mark Oyama

Nestle Purina
Untargeted plasma and tissue metabolomics in cats with cardiomyopathy. 12/17/20
\$45,722

Charles Vite

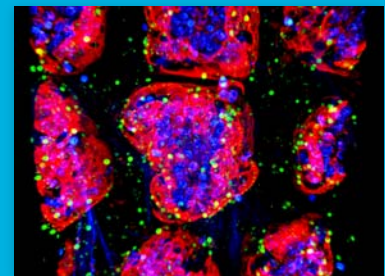
NIH
AAV-mediated gene therapy for CNS disease correction in feline NPC1 disease.
\$1,749,559. 12/15/20-11/30/25



Annual Student Research Day

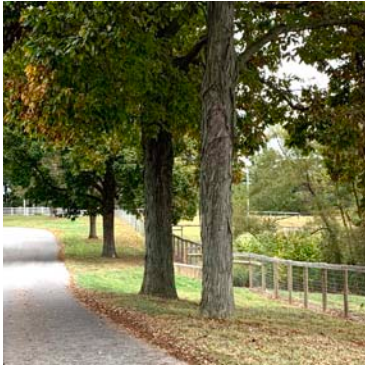


The annual event will be held virtually on Friday, March 19, 2021. Theresa Alenghat, VMD, PhD, University of Cincinnati, College of Medicine will be the keynote speaker. Abstracts are due on February 1, www.vet.upenn.edu/student-research-abstract



BIOMEDICAL POSTDOCTORAL "ART IN SCIENCE" COMPETITION

The first runner up of the award – **Bethan Wallbank** (PI: Boris Striepen) for their image entitled 'Pulling back the curtain on a cryptic lifecycle: *Cryptosporidium* imaging in the gut'.



Congratulations to the recipients of the 2020-21 Raymond Firestone Trust, Raker-Tulleners Fund and Tamworth Fund research grants. The **New Bolton Center** investigators and their projects are listed below:

Olivia Lorello (mentors: Cris Navas, Mutian Niu). The effects of chiropractic adjustments on gait and heart rate during exercise in sports horses

Sam Hurcombe (mentor: Klaus Hopster) Comparison of cervical epidural with systemic morphine administration in adult horses using thermal threshold testing.

Angela Gaesser (mentor: Kyla Ortved) Immunomodulatory properties of extracellular vesicles derived from equine BM-MSCs

Dario Floriano (mentor: Klaus Hopster). Comparison of intranasal and intratracheal oxygen administration in healthy, sedated horses

Kayla Even (mentor: Kyla Ortved). Comparing the immunomodulatory properties of equine BM- MSCs culture expanded in autologous platelet lysate, pooled platelet lysate, fetal bovine serum, and xenogen-free supplemented culture media

Jerrienne Brandy (mentors: Maia Aitken & David Levine) *In vitro* evaluation of the effect of Tris-EDTA and 0.000 5% chlorhexidine solution on the tensile strength of two absorbable sutures: A pilot study

Adriana Barba (mentors: Amy Johnson/Tom Schaer). Is articular process joint OA a singular event? Investigations into equine intervertebral disc degeneration

Andrea Oliver (mentor: Andrew Van Eps) Effects of distal limb cyclic loading on the results of positron emission tomography (PET) in the equine distal limb

AWARDS

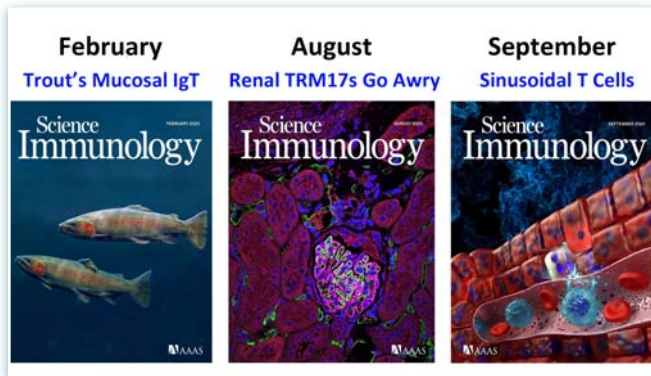


Three University of Pennsylvania researchers have been honored by [The Sanford and Sue Greenberg Prize to End Blindness by 2020](#) for their research, which led to the first Food and Drug Administration-approved gene therapy for a genetic disease. **Gustavo D. Aguirre**, VMD, PhD, of the School of Veterinary Medicine and Jean Bennett and Albert M. Maguire of the Perelman School of Medicine, together with William Hauswirth of the University of Florida, are recipients of the Outstanding Achievement Prize. The scientists share a \$1 million prize to support laboratory and clinical research that advances vision science.

Dean W. Richardson, DVM, DACVS, Chief of Large Animal Surgery at Penn Vet’s New Bolton Center, has been selected as the recipient of the American College of Veterinary Surgeons (ACVS) prestigious *ACVS Founders’ Award for Career Achievement*. The recognition was first announced during the virtual ACVS Diplomates’ Annual Business Meeting held on October 20, 2020.



Rainbow trout immunology



The journal *Science Immunology* ran a **twitter** competition to choose the three best covers of last year (2020). Dr. Oriol Sunyer’s cover was chosen as one of the top three! The competition to vote for the final top cover is still open at the time of this article and will end on January 15. Link to the article: <http://penntoday.upenn.edu/news/answers-microbiome-mysteries-gills-rainbow-trout>. Good Luck to Dr. Sunyer and the Department of Pathobiology.

Cell Mentor’ List



Congratulations to the 22 Penn scientists named to CellMentor’s list of 1000 Inspiring Black Scientists in America. One of these established investigators is Penn Vet’s **De’Broski Herbert, PhD**, Associate Professor in the Department of Pathobiology.

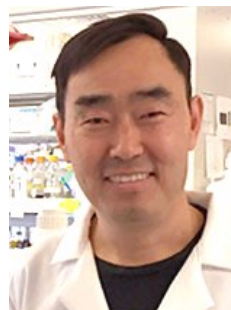
<http://crosstalk.cell.com/blog/1000-inspiring-black-scientists-in-america>



HONOR In December 2020, **Katrin Hinrichs, DVM, PhD**, and chair of the Department of Clinical Studies - New Bolton Center and the Dr. Harry Werner Endowed Professor of Equine Medicine, has been awarded the 2020 AAEP Research Award by the American Association of Equine Practitioners. The AAEP Research Award recognizes an individual who has completed research that has or will make a significant impact on the diagnosis, treatment or prevention of equine disease.

Publication (Journal cover story)

Yang F, Lan Y, Pandey RR, Homolka D, Berger SL, Pillai RS, Bartolomei MS and **Wang PJ**. *TEX15* associates with MILI and silences transposable elements in male germ cells. *Genes Dev* 2020. 34(11-12):745-750.



The Penn Vet Research Newsletter is distributed quarterly. Suggestions, comments, requests, and story ideas may be directed to: resnews@vet.upenn.edu

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