

PEROTIMES



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THE NEWSLETTER OF THE PEROMYSCUS GENETIC STOCK CENTER

Editorial

Dear *Peromyscus* users,

Welcome to the third issue of *Perotimes*, the newsletter of the Peromyscus Genetic Stock Center.

This Newsletter co-insides with the decision of Janet Crossland, the Center's colony manager for more than 30 years, to retire at the end of this March. Since January, Janet works closely with Vimala Kaza, the new colony manger, an overlap that warrants the smooth transition in the Center's operation.

I personally met Janet less

than a year ago and very soon I realized that she represented one of these very few examples at which it is not the job that gives credit to the individual but rather the other way around: It is Janet that gives the value and credit to the position of the Colony manager of the PGSC.

With this Editorial I originally wanted to talk about her knowledge, her love for *Peromyscus*, her dedication, her reliability, her precision and her willing to help and teach everybody that requested her to do so. But it is rather awkward for me to say all these to the PGSC's users, who for many years now they know it and have

appreciated it in more than one occasion. All I can say is that Janet has established a Legacy that we will all feel in the years to come in any aspect of *Peromyscus*-related work.

On Tuesday March 7, Janet's family and friends had lunch together to celebrate her retirement and honor her contribution to the Center. Pictures from this event as well as various older pictures in the Center are included below.

Hippokratis Kiaris

PGSC Director

1. Phylosymbiosis: Relationships and Functional Effects of Microbial Communities across Host Evolutionary History. Brooks AW, Kohl KD, Brucker RM, van Opstal EJ, Bordenstein SR. *PLoS Biol.* 2016 Nov 18;14(11):e2000225. doi: 10.1371/journal.pbio.2000225. Erratum in: *PLoS Biol.* 2017 Jan 9;15(1):e1002587.

2. Female White-Footed Mice (*Peromyscus leucopus*) Trade Off Offspring Skeletal Quality for Self-Maintenance When Dietary Calcium Intake is Low. Schmidt CM, Hood WR. *J Exp Zool A Ecol Genet Physiol.* 2016 Nov;325(9):581-587. doi: 10.1002/jez.2051.

3. The genetic basis and fitness consequences of sperm midpiece size in deer mice. Fisher HS, Jacobs-Palmer E, Lassance JM, Hoekstra HE. *Nat Commun.* 2016 Dec 2;7:13652. doi: 10.1038/ncomms13652.

4. Cascading effects of predation risk determine how marine predators become terrestrial prey on an oceanic island. Thomsen SK, Green DJ. *Ecology.* 2016 Dec;97(12):3530-3537. doi: 10.1002/ecy.1614.

5. What can animal research tell us about the link between androgens and social competition in humans? Fuxjager MJ, Trainor BC, Marler CA. *Horm Behav.* 2016 Dec 1. pii: S0018-506X(16)30083-6. doi: 10.1016/j.yhbeh.2016.11.014.

6. The ultimate and proximate mechanisms driving the evolution of long tails in forest deer mice. Kingsley EP, Kozak KM, Pfeifer SP, Yang DS, Hoekstra HE. *Evolution.* 2017 Feb;71(2):261-273. doi: 10.1111/evo.13150.



From *J. Heredity* 1993:84(4)

FROM THE RECENT LITERATURE

7. Stable Transmission of *Borrelia burgdorferi* Sensu Stricto on the Outer Banks of North Carolina. Levine JF, Apperson CS, Levin M, Kelly TR, Kakumanu ML, Ponnusamy L, Sutton H, Salger SA, Caldwell JM, Szempruch AJ. *Zoonoses Public Health.* 2016 Dec 14. doi: 10.1111/zph.12302

8. Occurrence of Triclocarban and Triclosan in an Agro-ecosystem Following Application of Biosolids. Sherburne JJ, Anaya AM, Fernie KJ, Forbey JS, Furlong ET, Kolpin DW, Dufty AM, Kinney CA. *Environ Sci Technol.* 2016 Dec 20;50(24):13206-13214.

9. Acclimation to hypoxia increases carbohydrate use during exercise in high-altitude deer mice. Lau DS, Connaty AD, Mahalingam S, Wall N, Cheviron ZA, Storz JF, Scott GR, McClelland GB. *Am J Physiol Regul Integr Comp Physiol.* 2017 Jan 11;ajpregu.00365.2016. doi: 10.1152/ajpregu.00365.2016

10. *Amblyomma auricularium* (Ixodida: Ixodidae) in Florida: New Hosts and Distribution Records. Mertins JW, Vigil SL, Corn JL. *J Med Entomol.* 2017 Jan;54(1):132-141. doi: 10.1093/jme/tjw159.

11. Co-feeding transmission facilitates strain coexistence in *Borrelia burgdorferi*, the Lyme disease agent. States SL, Huang CI, Davis S, Tufts DM, Diuk-Wasser MA. *Epidemics.* 2016 Dec 26. pii: S1755-4365(16)30076-7. doi: 10.1016/j.epidem.2016.12.002.

12. The Prevalence of *Trypanosoma cruzi*, the Causal Agent of Chagas Disease, in Texas Rodent Populations. Aleman A, Guerra T, Maikis TJ, Milholland MT, Castro-Arellano I, Forstner MR, Hahn D. *Ecohealth.* 2017 Jan 13. doi: 10.1007/s10393-017-1205-5

13. Thyroid pathology in deer mice (*Peromyscus maniculata*) from a reclaimed mine site on the athabasca oil sands. Movassehgi A, Rodríguez-Estival J, Smits JE. *Environ Pollut.* 2017 Mar;222:42-49. doi: 10.1016/j.envpol.2017.01.008.

14. Experimental evaluation of *Peromyscus leucopus* as a reservoir host of the *Ehrlichia muris*-like agent. Lynn GE, Oliver JD, Cornax I, O'Sullivan MG, Munderloh UG. *Parasit Vectors.* 2017 Jan 28;10(1):48. doi: 10.1186/s13071-017-1980-4.

15. Modeling Powassan virus infection in *Peromyscus leucopus*, a natural host. Mlera L, Meade-White K, Saturday G, Scott D, Bloom ME. *PLoS Negl Trop Dis*. 2017 Jan 31;11(1):e0005346. doi: 10.1371/journal.pntd.0005346.

16. Closely-related *Borrelia burgdorferi* (*sensu stricto*) strains exhibit similar fitness in single infections and asymmetric competition in multiple infections. Rynkiewicz EC, Brown J, Tufts DM, Huang CI, Kampen H, Bent SJ, Fish D, Diuk-Wasser MA. *Parasit Vectors*. 2017 Feb 6;10(1):64. doi: 10.1186/s13071-016-1964-9.

17. Microsatellite markers reveal low frequency of natural hybridization between the white-footed mouse (*Peromyscus leucopus*) and deer mouse (*Peromyscus maniculatus*) in southern Quebec, Canada. Leo SS, Millien V. *Genome*. 2016 Dec 10. doi: 10.1139/gen-2016-0163.

18. The development of repetitive motor behaviors in deer mice: Effects of environmental enrichment, repeated testing, and differential mediation by indirect basal ganglia pathway activation. Bechard AR, Bliznyuk N, Lewis MH. *Dev Psychobiol*. 2017 Feb 9. doi: 10.1002/dev.21503

19. Characterization of vocalizations emitted in isolation by California mouse (*Peromyscus californicus*) pups throughout the postnatal period. Johnson SA, Painter MS, Javurek AB, Murphy CR, Howald EC, Khan ZZ, Conard CM, Gant KL, Ellersieck MR, Hoffmann F, Schenk AK, Rosenfeld CS. *J Comp Psychol*. 2017 Feb;131(1):30-39. doi: 10.1037/com0000057

20. Hypothalamic transcriptomic alterations in male and female California mice (*Peromyscus californicus*) developmentally exposed to bisphenol A or ethinyl estradiol. Johnson SA, Spollen WG, Manshach LK, Bivens NJ, Givan SA, Rosenfeld CS. *Physiol Rep*. 2017 Feb;5(3). pii: e13133. doi: 10.14814/phy2.13133.

21. Effects of repeated pup exposure on behavioral, neural, and adrenocortical responses to pups in male California mice (*Peromyscus californicus*). Horrell ND, Perea-Rodriguez JP, Harris BN, Saltzman W. *Horm Behav*. 2017 Mar 3;90:56-63. doi: 10.1016/j.yhbeh.2017.02.008.

22. Intraspecific functional diversity of common species enhances community stability. Wood CM, McKinney ST, Loftin CS. *Ecol Evol*. 2017 Feb 8;7(5):1553-1560. doi: 10.1002/ece3.2721.

Why Peromyscus from PGSC

PGSC is the only *Peromyscus* Center in the US and indeed the in world

PGSC maintains and can supply truly outbred animals from a number of different species reflecting naturally occurring wild type populations

All animals are pedigreed and can be traced back to the time that the populations had been established in captivity

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NEWS AND NOTES

NOTICE

Perotimes, the PGSC newsletter is not a formal scientific publication. Therefore, information and data should not be cited or used without permission of the contributor.

PERO-RESEARCHERS

PIs are welcome to indicate postdocs and graduate students that recently published on Peromyscus or defended a Thesis, in order to promote their work in Perotimes.

Grant applications

The PGSC will be happy to assist you in your grant proposals by providing quotes that will help you justify your budget as well as letters for the availability of specific stocks.

e-mailing list

If you want to be included in our email list and receive future Perotimes editions, email Vimala Kaza at Kaza@mailbox.sc.edu

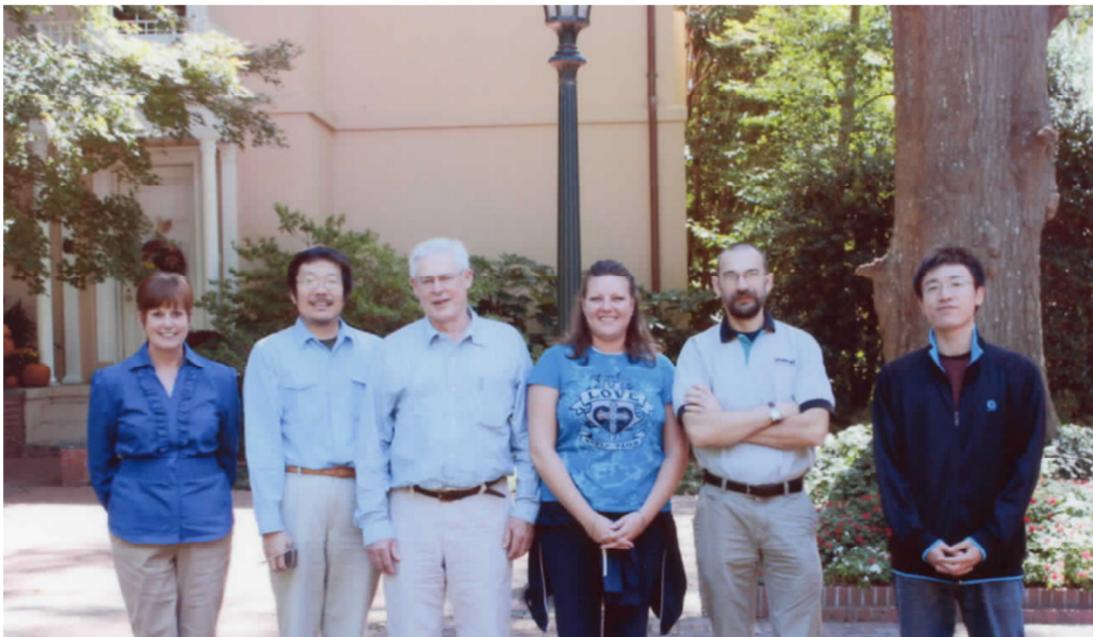
FROM THE CENTER'S PAST



With Dr Dawson in 1998



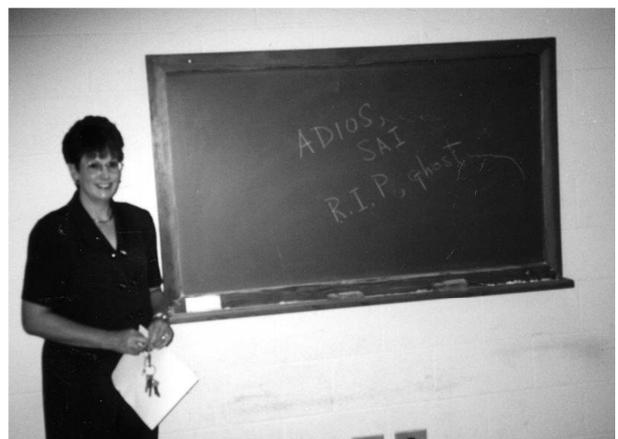
With Dr Knapp in 1989



With Drs Shinohara, Felder, Lewandowski, Szalai, and Eto in 2009.



With Dr Dewey in 2004



Janet in 2000 when animals moved to the new facility

FROM JANET'S RETIREMENT PARTY



Janet with her husband Ralph



Clockwise: Janet, Ralph, Hippokratis, Prof. Nagarkatti VP for Research, and Clin. Asst. Professor Dr Chatzistamou



Family and friends: Janet's son Brian Crossland (1), grandson Timmy Speers (2), daughter Shelley Crossland (3), grandson Nick Speers (4), brother Steve (5), sister in law Deloris Patterson (6), Vimala (7), Elena (8) and Amanda (9)



Janet & Vimala



Family and friends: Clockwise from Janet (10) is her husband (1), Dr Chatzistamou (2), Dr Davis (3), Dr Felder (4), brother in law Ben McFaddin (5) and his wife and Janet's sister Charlotte Joyner (6), Teresa Gibson (7), brother in law Charles Bushee (8) and (9)



From Left: Elizabeth Thames, Charlotte Joyner (Janet's sister), Teresa Gibson, Dr Mike Felder, Vimala, Tia Davis, Hippokratis, Janet, Amanda Havighorst, Dr Shannon Davis and Dr Elena Farmaki



Front row L-R Deloris Patterson, Shelley Crossland, Janet, Charlotte Joyner

Back row L-R Steve Patterson, Timmy Speers, Nick Speers, Brian Crossland, Ralph Crossland, Charles Bushee

Peromyscus Genetic Stock Center

Hippokratis Kiaris PhD Director

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Amanda Havighorst, Graduate student

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Lisa Krugner-Higby, University of Wisconsin – Madison

David W. Threadgill, Texas A&M University

S. Randal Voss, University of Kentucky

eLife Opinion article

An opinion article entitled “The challenges faced by living stock collections in the USA” appeared in eLIFE expressing the concerns of the Living stocks’ community. The article was co-authored by Kevin McCluskey, Kyria Boundy-Mills, Greg Dye, Erin Ehmke, Gregg Gunnell, Hippokratis Kiaris, Maxi Polyhronakis Richmond, Anne D Yoder, Daniel R Zeigler, Sarah Zehr and Erich Grotewold and can be found here:

<https://elifesciences.org/content/6/e24611>