

SPECIAL POINTS OF INTEREST:

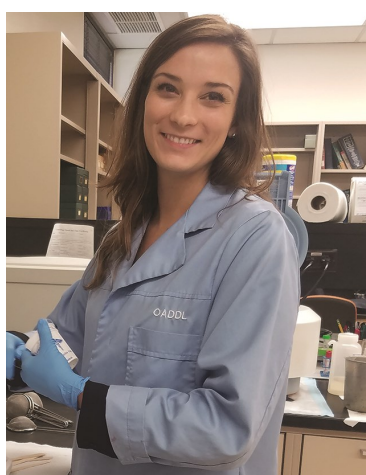
- New Resident Positions Available
- Board Prep Suggestions
- Plans for NCVP at AAVP 2023
- NCVP and the Future of Parasitology

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People

Dr. Kathryn Duncan Joins Merck Animal Health



Above: Kathryn Duncan, DVM, PhD, DACVM (Parasit.), Senior Professional Services Veterinarian, Parasitology Field Specialist, Merck Animal Health



The NCVP is elated to share the news that Dr. Kathryn Duncan has embarked on her career as a parasitologist with the Merck Animal Health Veterinary Insights and Medical Affairs team as a Senior Professional Service Veterinarian, Parasitology Field Specialist.

Kathryn completed her PhD and parasitology residency training at Oklahoma State University as the BI Resident in Veterinary Parasitology under the direction of Drs. Little, Scimeca, Reichard, and Allen. She passed the parasitology board examination offered by the American College of Veterinary Microbiologists in November of 2022 and continues to support OSU as an adjunct faculty member.

As all who have worked with her can attest, Dr. Duncan is an amazing researcher, teacher, veterinarian, and parasitologist and we look forward to following her career for many years to come. We are so excited and happy for you Kathryn!

Congratulations to both Merck and Kathryn!

A “Worm” Welcome to Dr. Pablo Jimenez, Zoetis

We are thrilled to welcome Dr. Pablo Jimenez Castro as the newest member of the NCVP advisory board. Dr. Jimenez is a field veterinary specialist in parasitology with Zoetis and will serve as the Zoetis representative on the advisory board. He brings a wealth of parasitology expertise in research, diagnostics, and clinical medicine, with experience ideally suited to help guide the NCVP in its efforts to promote veterinary parasitology education and research. In November of 2022, Dr. Jimenez became a board certified parasitologist through the ACVM.

Welcome Pablo—we are delighted to have you on the NCVP Board!

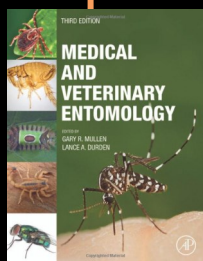
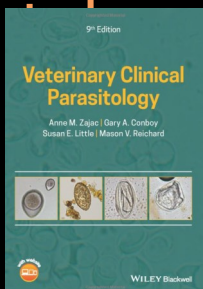
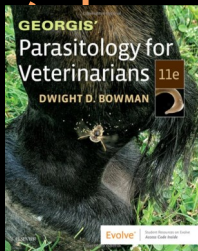


Above: Pablo Jimenez Castro, DVM, PhD, DACVM (Parasit.), Field Specialist in Parasitology, Veterinary Professional Services, Zoetis





Images from CDC.gov



New NCVP Resident Positions Coming Soon!

Do you love veterinary parasites? Thinking about making it a career? Then we have great news! The NCVP is delighted that even with all named residencies filled by veterinarians actively honing their skills in parasitology, we were able to secure funding to name a **new** NCVP resident to begin their program in Fall of 2023, bringing our total number of funded residents to six. Application review is currently underway—stay tuned for an announcement this summer!

In addition, in **Fall 2024**, NCVP expects to have as many as **three open residency positions** available. If you have been considering the field of veterinary parasitology and the American College of Veterinary Microbiologists board exam in Parasitology is on your bucket list then there might never have been a better time to move forward with your plans.

NCVP residency applications are due March 1 each year and full instructions can be found at NCVetP.org.

Thanks for considering NCVP!

ACVM | AMERICAN COLLEGE OF
VETERINARY MICROBIOLOGISTS

5 Ideas to Help You Prepare for Boards

We don't know one weird trick, and everyone has different approaches when it comes to studying, so please do what works for you.

However, the following recommendations might help current residents and other veterinarians who are planning to take the parasitology board examination in the next few years.

1. Connect with at least one other person who is taking the exam at the same time. Success (and motivation and sanity) in numbers!
2. Create a question bank for self review. Send questions to your study partner on a weekly or even daily basis.
3. Dedicate some time to board prep every day, every day. Consistency is key!
4. Read the books (!) but also keep track of current research in peer reviewed journals. Add reviewing journal articles to your regular study schedule.
5. Teaching others is a great way to learn new material and become confident in a subject, so look for opportunities to communicate what you are learning with others.

Have a few board prep suggestions you'd like to share? Email us at ncvp@okstate.edu and we'll include them in future newsletters.

Happy Parasite Studying!

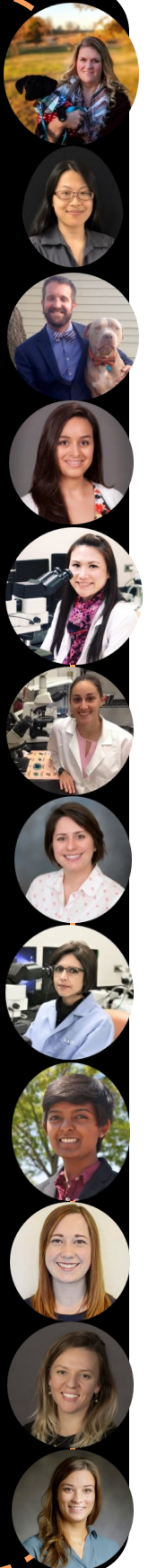
Former Resident Updates

Former Residents Now Leaders in Academia and Industry

It should come as no surprise that the amazing individuals who have completed their NCVP residencies continue to do great things for parasitology. We are beyond proud of all our residents and amazed by the impact these parasitologists are making in veterinary medicine. Thanks to them, parasitology has a very bright future!

- **Dr. Lindsay Starkey:** Completed her residency in 2015 at Oklahoma State University. Dr. Starkey joined the faculty at Auburn University and is currently an Associate Professor. Dr. Starkey also serves on the NCVP Advisory Board.
- **Dr. Alice Lee:** Completed her residency training in 2016 at Cornell University. Dr. Lee joined the faculty at the University of Florida in 2018 and is an Assistant Professor.
- **Dr. Brian Herrin:** Completed his residency in 2016 at Oklahoma State University. Dr. Herrin joined the faculty at Kansas State University in 2017 and is an Assistant Professor of Parasitology.
- **Dr. Jessica Rodriguez:** Completed her residency training in 2017 at Texas A&M University. Dr. Rodriguez is a Senior Principal Scientist with Global Therapeutics - Parasitology at Zoetis.
- **Dr. Yoko Nagamori:** Completed her residency training in 2017 at Oklahoma State University and joined the faculty as a Clinical Assistant Professor that same year. In 2020, Dr. Nagamori accepted a position at Zoetis and currently serves as Head of Parasitology with Zoetis Reference Laboratories, Global Diagnostics.
- **Dr. Cassan Pulaski:** Completed her residency in 2018 at Louisiana State University. Dr. Pulaski joined the faculty at the University of Georgia as a Clinical Assistant Professor and is their acting Director of the Parasitology Diagnostic Lab.
- **Dr. Ruth Scimeca:** Completed her residency training in 2019 at Oklahoma State University. Dr. Scimeca joined the faculty at Oklahoma State University as an Assistant Professor of Parasitology in 2020 as Director of Parasitology at the Oklahoma Animal Disease Diagnostic Laboratory, and currently serves as a Co-director of NCVP.
- **Dr. Kelsey Paras:** Completed her residency training in 2019 at the University of Georgia. Dr. Paras is a veterinarian at For Pet's Sake, The Avian and Exotic Animal Hospital of Atlanta.
- **Dr. Jeba Jesudoss Chelladurai:** Completed her residency in 2019 at Iowa State University. Dr. Chelladurai joined the faculty at Kansas State University the next year and is an Assistant Professor of Parasitology.
- **Dr. Ashely Steuer:** Completed her residency in 2020 at the University of Kentucky and joined the faculty at Texas Tech University. In 2022, Dr. Steuer moved to Michigan and joined the Companion Animal Clinical Research and Development team at Zoetis.
- **Dr. Caroline Soboty de Oliveira:** Completed her residency training in 2022 at Texas A&M. Dr. Soboty de Oliveira is currently an Assistant Professor of Clinical Parasitology at the University of Pennsylvania.
- **Dr. Kathryn Duncan:** Completed her residency training in 2022 at Oklahoma State University. Dr. Duncan joined Merck Animal Health in 2023 and is a Senior Professional Service Veterinarian—Parasitology Field Specialist.

We are so fortunate to have these wonderful alums!



Upcoming Parasitology Events

Looking forward to Lexington!

Please plan to join NCVP and our AAVP colleagues as we enjoy the 68th Annual Meeting of the American Association of Veterinary Parasitologists (AAVP) in Lexington, Kentucky June 10–13, 2023.

For four wonderful days, Lexington will be the center of not only horses and bourbon, but also all things North American veterinary parasitology.

As is our custom, NCVP will host a table with all the great parasitology SWAG you never knew you needed and lots of information about the NCVP including residency opportunities and research funding. And of course, our wildly popular resident-led Parasite Case Discussions—a fun, entertaining, and sometimes humbling experience.



See you in Lexington!



Oh Yes There Will Be Clicking...

AAVP—where veterinary parasitologists come for the great parasitology discussions and stay for the NCVP interactive case session! This year we'll have eight fantastic cases presented by eight fantastic residents. Fun will be had by all.

Cases and accompanying questions will be presented by the following residents:

- Dr. Vishnu Manikantan, Purdue University
- Dr. Ranju Manoj, Cornell University
- Dr. Katy Martin, Iowa State University
- Dr. Kamilyah Miller, Kansas State University
- Dr. Sarah Myers, Oklahoma State University
- Dr. Cameron Sutherland, Kansas State University
- Dr. Nicole Szafranski, University of Tennessee
- Dr. Timothy Wu, Cornell University

This is what they call "Must See Parasitology"

National Center for Veterinary Parasitology
Invites you to attend the annual

Parasite Case Discussions

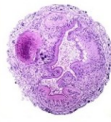

A case-based clinical parasitology experience combining parasite fun and audience participation (anonymously—it's clickers!)

Tuesday, June 13th: 10:00am – noon



Join your parasitology colleagues for some entertaining and challenging clinical case quiz questions

Questions and answers presented by parasitology residents and include material on parasites of several different species

Bring your diagnostic expertise!

Boxed lunches will be provided at the end of the session

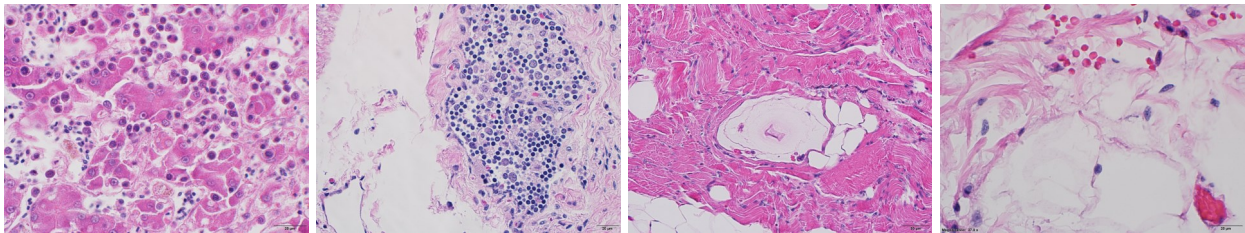





Parasites in Histologic Section

As in previous years, in 2023 the NCVP will provide new parasitology specimen sets to parasitology instructors at veterinary colleges in the US, Canada, and the Caribbean to support their efforts teaching parasitology to the next generation of veterinarians. This year's set includes H&E stained histological sections with tissues stages of several protozoan parasites, including: *Cryptosporidium parvum*, *Cytauxzoon felis*, *Eimeria* sp., *Hepatozoon americanum*, *Histomonas meleagridis*, *Sarcocystis cruzi*, and *Toxoplasma gondii*.

Some of these parasites are less common in certain regions of North America. NCVP's hope is that these parasitology specimens will help our colleagues as they endeavor to foster wider appreciation for these important veterinary parasites.



Above: Left to right. *Histomonas meleagridis* in the liver of a turkey. *Cryptosporidium parvum* in the small intestine of a calf. Onion skin cyst containing meront of *Hepatozoon americanum* in skeletal muscle of a dog. *Toxoplasma gondii* tachyzoites in mouse brain.

A Mit-e Itchy Gerbil!

Since May 2012, the NCVP has been sharing a monthly clinical case through the NCVP website. To date, **131 cases** have been presented thanks to the generous contributions of many parasitologists, pathologists, and students.

Our featured case was presented in October 2022 and provided by Tiana Sanders (DVM 2023, Oklahoma State University) and Dr. Gui Verocai (Texas A&M University). Can you diagnose why this gerbil has an itch?

History: A bushy-tailed jird was presented to Texas A&M CVM with a two-week history of progressive pruritus on the left ear. The gerbil was not on any medication and no other animals in the same cage appeared affected. Several specimens (right) were collected.

What's Your Diagnosis?

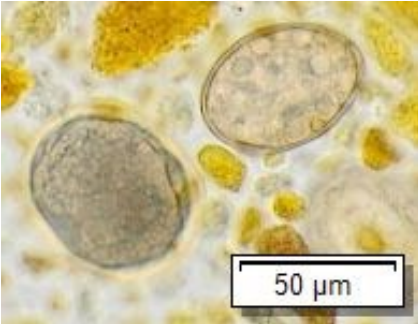
Ornithonyssus bacoti. This bloodsucking mesostigmatid mite is commonly known as the "tropical rat mite" and can be distinguished from *Liponyssoides sanguineus*, another mite that parasitizes rodents, by observing an anterior anus within the anal plate compared to the centrally located anus of *Liponyssoides* sp.

For full case information (and 130 more!) please visit [NCVetP.org](https://www.ncvetp.org) > [Case of the Month](#)



NCVP Grantee Highlight—Dr. Ashley McGrew

Each year, NCVP offers a competitive funding opportunity to members of the American Association of Veterinary Parasitologists (see below for details). One of these grants was awarded to Dr. Ashley McGrew at Colorado State University. Dr. McGrew and her team sought to refine techniques for recovering eggs of helminths of marine mammals. Working with the Marine Mammal Center in



Sausalito, CA, they determined that a sugar solution with a specific gravity of 1.27 with double centrifugal flotation was effective for floating trematode, cestode, and ascarid parasites of California sea lions. They also demonstrated that the specific gravity of these helminth eggs from infected sea lions were quite variable but comparable to closely related parasites in terrestrial hosts. Details of the study can be found in this publication. **Congratulations Dr. McGrew—nicely done!**



Above: Ashley McGrew, DVM, PhD, DACVM (Parasit.), Associate Professor, Colorado State University

Interested in applying for NCVP funding for your research? Keep reading!

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OPTIMIZATION OF FECAL FLOTATIONS IN MARINE PARASITOLOGY AND DETERMINATION OF THE SPECIFIC GRAVITY OF HELMINTH EGGS IN PINNIPEDS

Jacob S. Rodgers, DVM, Paula A. Schaffer, DVM, PhD, DACVP, Cara L. Field, DVM, PhD, DACVM, Lara R. Ballweber, MS, DVM, DACVM, and Ashley K. McGrew, DVM, PhD, DACVM

NCVP Grants Information

As part of NCVP's mission to support parasitology research, we offer an annual request for research proposals (RFP) open to all members of AAVP in good standing with preference for applicants at AVMA-accredited schools in the Americas.

The **NCVP grants program** affords **AAVP members** the opportunity to conduct important research that directly benefits veterinary parasitology. Priority is given to proposals that focus on clinical veterinary parasitology and are considered unlikely to be funded through other channels (e.g., NIH). To date, NCVP has provided almost \$850,000 to support research at 27 different institutions on parasites of veterinary concern.

In 2023, one-year awards of **up to \$25,000** each will be disbursed. Through collaboration with the American Heartworm Society, a portion of the funds are reserved specifically for research on *Dirofilaria immitis* but projects that focus on any veterinary parasite are welcomed.

Proposals are due by September 1 each year. For more information, please see NCVetP.org.



Due by September 01, 2023

Invitation to Submit Research Proposals in Veterinary Parasitology

The **National Center for Veterinary Parasitology (NCVP)** supports training, research, and service in veterinary parasitology. As part of our mission to support parasitology research, we offer an annual request for research proposals (RFP). We are delighted to once again collaborate with the American Heartworm Society (AHS; www.heartwormsociety.org) to provide support for this initiative, allowing us to increase the amount of available funding. This RFP is open to all members of the American Association of Veterinary Parasitologists in good standing with preference for applicants at AVMA-accredited schools in the Americas.



Research proposals will be evaluated on scientific merit and relevance to clinical or basic veterinary parasitology. Some level of student involvement in the proposed research is expected. Priority will be given to proposals that focus on clinical veterinary parasitology and are considered unlikely to be funded through other channels, such as the National Institutes of Health. One-year awards up to \$25,000 each will be disbursed in December 2023. Because of additional support provided by AHS, some funding will be reserved for projects focused on *Dirofilaria immitis*. Only one proposal from a principal investigator (PI)/research lab will be considered for each funding cycle. NCVP board members are not eligible to serve as PIs on NCVP grants but may serve as co-investigators (CoI).

Guidelines to Submit Research Proposals. Applicants and prior award recipients who do not follow NCVP instructions or reporting requirements will not be considered for funding. All proposals must be prepared using a sans serif font of size 11 or larger, single spaced with minimum 1" (25.4 mm) top, bottom, and side margins. Proposals must not exceed the indicated page limitations and should closely follow the format outlined below.

Title Page – limit 1 page. Include the project title, principal investigator's name and contact information where potential awards will be disbursed, amount requested, dates of the proposed project, and date submitted.

Abstract – limit 500 words. Provide a brief description of the proposed research.

Research Plan – limit 5 pages. Include the following:

- Background and significance of the research
- Purpose/specific aims/hypothesis(es)
- Experimental design and methods
- Data analyses that critically address the proposed hypothesis(es)
- Expected results and outcome(s)

References – limit 1 page. List important and/or relevant literature cited in the proposal.

Detailed Budget and Justification – limit 1 page. The following budget items are not allowed: travel; publication costs; salary for faculty and staff; tuition, fees, and benefits for students; and indirect costs (i.e., overhead). Student salary is allowed and may comprise up to 50% of the budget. Budget cannot be used as matching funds for other projects.

- Identify all costs that are necessary and reasonable to accomplish all the proposed research
- Justify all costs with a brief description

Personnel – limit 1/2 page. List all personnel and explain their role on the proposed project.

Timeline – limit 1 page. Provide a timeline denoting key dates and activities necessary to complete the research. A maximum of 12 months is allowed for each research project.

Current and Pending Support – no page limit. List all current and pending financial resources for key personnel.

Final Report – due within 6 months of the completion date of an award. This report should include dates in which the project was active, total funding, introduction, materials and methods, results, discussion, and outcomes (e.g., publications, external grants submitted, presentations). Presentation of results at an AAVP annual meeting and publication in a peer-reviewed journal are expected.

Submit proposals – Upload your proposal as a single, collated pdf file to the NCVP Grant Portal at <http://www.ncveto.org> by September 01, 2023. Address specific questions regarding proposals to ncvp@ahvetsociety.edu.

About the National Center for Veterinary Parasitology

Veterinary parasites impact human health and society in many ways. With the generous support of our sponsors, the National Center for Veterinary Parasitology works to promote greater understanding and control of parasitic diseases in animals through innovative partnerships between academia and industry. Housed in the College of Veterinary Medicine at Oklahoma State University, the Center strives to create future generations of veterinary parasitologists, conduct targeted research, and provide diagnostic and consulting services worldwide. To learn more, please visit ncvetp.org.



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Select Publications from NCVP Residents and Grant Recipients

Below and on the following page is an abridged list of recent publications from current or former **NCVP residents¹** and **grant recipients²**. To request the full list or individual reprints, please send an email to ncvp@okstate.edu. Most importantly, feel free to send us your suggestions for future continuing education articles, review papers, or topics you think would be of interest to veterinarians and others in parasitology.

- Bezerra-Santos MA, de Macedo LO, Nguyen VL, **Manoj RR¹**, Laidoudi Y, Latrofa MS, Beugnet F, Otranto D. *Cercopithifilaria* spp. in ticks of companion animals from Asia: new putative hosts and vectors. *Ticks Tick-borne Dis.* 2022;13:101957.
- Bowman DD, **Wu TK¹**. Canine filariasis (heartworm)-disease and current gaps, Chapter 4. In: Human and Animal Filariases: Landscape, Challenges, and Control. 2022:75–96.
- **Duncan KT¹**, Sundstrom KD. Three ways to protect your horse from ticks. *Equus*. October 13, 2022.
- **Duncan KT¹**, Sundstrom KD. The growing threat of ticks. *Equus*. October 13, 2022.

Select Publications from NCVP Residents and Grant Recipients

Continued list of recent publications from current or former **NCVP residents¹** and **grant recipients²**.

- Gruntmeir J, Long M, Blagburn B, **Walden H²**. Improved antigen detection of male-only *Dirofilaria immitis* infections in canine serum after heat treatment for immune complex dissociation. *Parasitologia*. 2023;3:79–86.
- Kolapo TU, Hay A, Gesy KM, Frey CF, Rothenburger JL, Joffe DJ, Spotswood T, Huang Y, Massolo A, **Peregrine AS²**, Hill JE. Canine alveolar echinococcosis: an emerging and costly introduced problem in North America. *Transbound. Emerg. Dis.* 2023;5224160.
- Loftus JP, Acevedo A, Bowman DD, Liotta JL, **Wu T¹**, Zhu M. Elimination of probable praziquantel-resistant *Dipylidium caninum* with nitroscanate in a mixed-breed dog: a case report. *Parasit. Vectors*. 2022;15:438.
- **Manoj RR¹**, Latrofa MS, Louni M, Laidoudi Y, Fenollar F, Otranto D, Mediannikov O. In vitro maintenance of the endosymbiont *Wolbachia* of *Dirofilaria immitis*. *Parasit. Res.* 2023;122:939–943.
- **Manoj RR¹**, Latrofa MS, Bezerra-Santos MA, Sgroi G, Samarelli R, Mendoza-Roldan JA, Otranto D. Molecular detection and characterization of the endosymbiont *Wolbachia* in the European hedgehog flea, *Archaeopsylla erinacei*. *Infect. Gen. Evol.* 2022;97:105161.
- **Martin KA¹**. Investigation of compounds with activity against *Tritrichomonas foetus* trophozoites (Doctoral dissertation, Iowa State University).
- Mendoza-Roldan JA, Latrofa MS, Tarallo VD, **Manoj RR¹**, Bezerra-Santos MA, Annoscia G, Iatta R, Otranto D. *Leishmania* spp. in Squamata reptiles from the Mediterranean basin. *Transbound. Emerg. Dis.* 2022;69:2856–66.
- **Pulaski CN¹**. Drug resistance in the canine filarial parasite, *Dirofilaria immitis*: emergence and clinical epidemiology in the Lower Mississippi River Alluvial Valley (Doctoral dissertation, Louisiana State University and Agricultural & Mechanical College).
- Quintana TA, Johnson WL, Ritchie D, Smith V, **Martin KA¹**, McMahan K, Brewer MT, **Jesudoss Chelladurai JR¹**. Genetic characterization of the zoonotic parasite *Ancylostoma caninum* in the central and eastern USA. *bioRxiv*. 2022:12.
- Reynolds S, Hedberg M, Herrin B, **Jesudoss Chelladurai JR²**. Mitochondrial genomes of the American dog tick (*Dermacentor variabilis*) isolated from horses in the midwestern United States. *Microbiol. Res. Announc.* 2023;12:e00330–22.
- Zhang Y, Abdu A, **Wu T¹**, Forzán MJ, Hammer K, Lejeune M. *Taenia crassiceps* cysticercosis in a wild muskrat and a domestic dog in the northeastern United States. *Pathogens*. 2023;12:204.

