

SPECIAL POINTS OF INTEREST:

- Dr. Sidney A. Ewing
- New Boarded Parasitologists
- Spring 2018 NCVP Meeting
- Denver here we come! NCVP at AAVP in 2018

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People

Dr. Sidney Ewing, Colleague and Friend

Dr. Sidney Alton Ewing, extraordinary parasitologist, mentor, and role model, died January 3, 2018 in Stillwater.

An Oklahoman by choice, Sidney was born in Georgia in 1934. He completed his DVM and BSA at the University of Georgia, an MS at the University of Wisconsin, and a PhD in veterinary parasitology with Dr. Wendell Krull at Oklahoma State University. During his career he served on the faculty and administration of 4 different veterinary colleges, including OSU, Kansas State, Mississippi State, and the University of Minnesota.



Dr. Sidney A. Ewing

He was an ardent supporter of veterinary parasitology in general and the NCVP in particular. A true parasitologist's parasitologist, in 2015 he delivered the keynote address at the NCVP board meeting to the awestruck delight of all. Sidney's was a career of many firsts. He was the first to identify *Ehrlichia canis* in North America,



Dr. Sidney A. Ewing surrounded by fans at the 2015 NCVP meeting.

the first to recognize a neutrophilic *Ehrlichia* now known to cause disease in people and dogs, and, together with his collaborators, the first to identify the tick vector of the agent of American canine hepatozoonosis. To date, three organisms have been named in

honor of Dr. Ewing: *Ehrlichia ewingii*, *Tylenchorhynchus ewingii*, a stunt nematode, and *Hepatozoon ewingii*, an Australian apicomplexan.

Sidney was a kind and gentle person, a deeply committed mentor, and a faithful friend. He was married to fellow parasitologist Dr. Margaret Ewing, for more than 54 years and together they had three daughters, Holly, Ann, and Leah. Those who knew him professionally recognized him as a great man and a great parasitologist. We miss him dearly.

2018 ACVM

Boarded Parasitologists



Dr. Jessica Rodriguez



Dr. Yoko Nagamori

Thanks
AVMA!

Two More NCVP Alumni Residents Boarded!

Dr. Jessica Rodriguez, Zoetis Field Specialist in Parasitology and **Dr. Yoko Nagamori**, Clinical Assistant Professor of Parasitology at the Oklahoma Animal Disease Diagnostic Laboratory (OADDL), both passed the Parasitology boards in December 2017.

Dr. Rodriguez served as the inaugural Merial Resident in the NCVP program. She earned her DVM from Texas A&M University in 2009 and completed an internship and practiced prior to returning to TAMU for her residency training and PhD under the direction of Dr. Karen Snowden. After graduating in 2017, she was hired by Zoetis as a Field Specialist and now works to educate veterinarians around the United States on best practices in clinical parasitology.

Dr. Nagamori earned her veterinary degree from Iowa State University before coming to Oklahoma State University for advanced parasitology training. During her residency under Dr. Eileen Johnson at OADDL, Yoko earned an MS degree studying *Cytauxzoon felis* under the advisement of Dr. Mason Reichard, NCVP Co-Director. After graduating, Yoko was hired by OSU as a Clinical Assistant Professor and she continues to conduct clinical research and train veterinary students, and residents in diagnostic parasitology.

Well done Yoko and Jessica!

Look Who's in JAVMA News!

Early this year the NCVP was contacted by Katie Burns, a journalist with the AVMA, who was interested in updating the veterinary community on our activities through a news item. After interviewing NCVP Co-Director Dr. Susan Little and NCVP resident alum and current board member, Dr. Lindsay Starkey, [this article](#) was published.

We are very grateful for the support shown to the NCVP by AVMA and by the Journal.

Enjoy!

Community

Death to parasites; long live parasitology

National Center for Veterinary Parasitology aims to advance discipline

By Katie Burns

Dr. Susan Little finds the lives of parasites to be fascinating. Nevertheless, as a veterinarian, she wants them dead.

Much of veterinary practice revolves around parasitology, but the discipline can get short shrift in the breadth of the curricula at veterinary colleges. The National Center for Veterinary Parasitology at Oklahoma State University seeks to preserve the discipline for the profession, said Dr. Little, NCVP co-director.

"I know that seems like an odd thing to say because the parasites certainly aren't going anywhere, but we had seen trends over 20 or 30 years of decreasing focus on clinical veterinary parasitology at several of the veterinary colleges," Dr. Little said.

She said small animal practitioners derive about a quarter of their practice income from parasitology, and parasites also are important to the health of large animals, so the center's leaders see veterinary parasitology as a core discipline.

specimens and images for teaching and research. The NCVP website features cases of the month. The NCVP started out with a grant from a local private foundation, the Kirkpatrick Foundation. Industry support has built up over the years, with companies sponsoring residents based at various institutions.

The residency program takes about four years. The residents conduct research, earn a doctoral degree, complete clinical training, and study for the board examination. They must work at a

The National Center for Veterinary Parasitology offers a free database of parasite images. At top is a cat flea, *Ctenocephalides felis*, and at bottom are lone star ticks, *Amblyomma americanum*.

Spring 2018 NCVP Board Meeting

Once again, the NCVP faithful gathered in Stillwater, Oklahoma in March of this year to evaluate our progress to date and make plans for the future. We refined our outreach goals for the coming year, including externships and resident training opportunities, and devised some new strategies for making the greatest impact with our available funds.

Look for more exciting NCVP initiatives that support veterinary parasitology (and parasitologists!) in the coming months.

Parasitology—and the NCVP board—rocks!



Megan Wohltjen (NCVP), Dr. Doug Carithers (BI), Dr. Mason Reichard (OSU), Dr. Joe Hostetler (Bayer), Dr. Chris Adolph (Zoetis), and Kellee Sundstrom (OSU) enjoy a casual Shabu-shabu meal at Tokyo Pot in Stillwater during the NCVP meeting.



Denver for AAVP 2018—we'll be there!

Planning is underway for a strong showing at the upcoming 2018 AAVP meeting in Denver, Colorado. The NCVP will again host an informational table (thanks AAVP!), providing parasitology resources to the membership. Be sure to come by to stock up on USB sticks, temporary tattoos, and—new this year—pop sockets!

We'll also have on demonstration some parasitology specimens that we'll be providing to all the veterinary schools this fall so stop by to take a gander and let us know what you think.

As always, our fearless residents will host the annual clicker case session and luncheon on Tuesday at the close of the meeting. Be sure to make travel arrangements that allow you to stay for the fun!

Looking forward to seeing everyone in Denver!

I  **parasites**

A custom NCVP temporary tattoo (above) and swag (below) for the 2018 AAVP meeting in Denver. Stop by and pick some up for your friends!



NCVP Externship Program Thrives



Over the past few years, several 4th-year veterinary students have completed externships with the NCVP at the Center for Veterinary Health Sciences, Oklahoma State University, Stillwater.

Externs spend their time immersed in parasitology diagnostics, research, and teaching, gaining deeper insight into both the importance of parasitology within the veterinary profession and the skills needed to succeed as a parasitologist.

NCVP funds may be available to help defray some travel costs incurred during the course of the externship. Veterinary students interested in exploring careers in veterinary parasitology are encouraged to contact NCVP about externship opportunities.



Kathryn Duncan, University of Tennessee, completed an NCVP externship Summer 2017.



Kamilyah Miller, Tuskegee University, completed an NCVP externship in Spring 2018.



Emily Niedfeldt, Kansas State University, completed an NCVP externship Summer 2017.

NCVP at AAVP-CAPC Educator's Symposium



National Center for Veterinary Parasitology
Developing leaders in the field and supporting clinical research since 2009

Academic and Industry Board Members

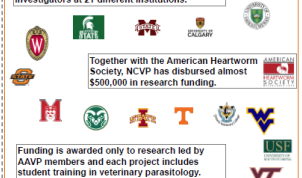


Mission Statement

The mission of the National Center for Veterinary Parasitology is to further the discipline by bringing together partners from academia and industry to address emerging issues. The NCVP seeks to serve the veterinary profession by developing future leaders in veterinary parasitology and by supporting diagnostic and consulting services and clinical research initiatives worldwide.

Small grants program

The NCVP Small Grants Program has supported 38 parasitology research projects by investigators at 21 different institutions.

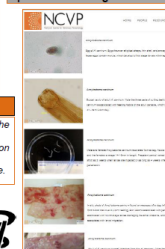


Together with the American Heartworm Society, NCVP has disbursed almost \$500,000 in research funding.

Funding is awarded only to research led by AAVP members and each project includes student training in veterinary parasitology.

Teaching Resources

Open access image database



Case of the month challenge



NCVP Training Opportunities

Residency in clinical parasitology

Provided over \$1,000,000 to support residents in veterinary parasitology at 7 institutions to date.



Program alumni

- Dr. Lindsay Starkey, Bayer Resident (DACVP-Parasit, 2015)
- Assistant Professor, Auburn University
- Dr. Alice Lee, Novartis Resident (DACVP-Parasit, 2015)
- Post-doctoral scientist, Cornell University
- Dr. Chris Adolph, Affiliate Resident (DACVP-Parasit, 2015)
- Veterinary Specialist, Zoetis
- Dr. Brian Harris, BI Fellow (DACVP-Parasit, 2016)
- Assistant Professor, Kansas State University
- Jessica Rodriguez, Merck Resident (DACVP-Parasit, 2017)
- Veterinary Specialist, Zoetis
- Dr. Yoko Nagamori, NCVP Resident (DACVP-Parasit, 2017)
- Clinical Assistant Professor, Oklahoma State University
- Dr. Jennifer Thomas, Affiliate Resident
- Dermatology Resident, Texas A&M University

Current residents

- Dr. Cassan Pulaski, Merck Resident, Louisiana State University
- Dr. Kelley Paras, Elanco Resident, University of Georgia
- Dr. Ashley Steuer, Zoetis Resident, University of Kentucky
- Dr. Jaha Jesudoss Chelladurai, Virbac Resident, Iowa State
- Dr. Ruth Simeaux, Bayer Resident, Oklahoma State University

Image requests



Short courses



In December of 2017, **Dr. Kelly Allen**, Assistant Professor of Parasitology, Oklahoma State University and **NCVP Board Member**, presented on the NCVP programs at the AAVP Educator's Symposium in Columbus, Ohio.

Key facts shared included:

- Over \$1M USD to residents in veterinary parasitology at 7 different universities to date
- Almost \$500k USD in research funding to 38 different projects at 21 different institutions, and counting
- A wealth of parasitology teaching resources, images, and case materials available for use around the world

NCVP has been developing leaders in the field and supporting clinical research since 2009.

Congratulations NCVP! (And thanks Dr. Allen!)

Research



NCVP
National Center for Veterinary Parasitology



NCVP Small Grants Growing Apace

In Fall 2017, we received a **record number** of grant application in the **fifth cycle** of our small grants program to support AAVP researchers. Special thanks to the American Heartworm Society for their continued partnership in this effort.

Student involvement is required for every project along with an expectation that findings will be presented at the annual AAVP meeting. **Researchers and projects supported for the 2017/2018 NCVP Small Grants Program** are listed below. Congratulations everyone!

- **Dr. Anne Conan**, Ross University - Does the importation of cats from St. Kitts pose a risk for increasing the prevalence of subtropical and tropical pet parasites in the US
- **Dr. Sarah Hamer**, Texas A&M University - Clarifying host-vector and vector-host *Trypanosoma cruzi* transmission dynamics to reduce the risk of canine Chagas transmission
- **Dr. Phil Kaufman**, University of Florida - Improved sampling for and determination of seasonal incidence of dog heartworm-infected mosquitoes collected near private homes and dog kennel facilities
- **Dr. Roger Prichard**, McGill University - Pharmacology of ivermectin in *Dirofilaria immitis*
- **Dr. Meriam Saleh**, Oklahoma State University - Whole genome sequencing and comparison of canine and feline *Giardia duodenalis* isolates, assemblages C, D, and F, to genomes of assemblages A, B, and E
- **Dr. Heather Stockdale-Walden**, University of Florida - Natural causes of false negative antigen results for *Dirofilaria immitis* in a high endemic area as assessed by heat pretreatment, and influence of co-infections in sample obtained from necropsy confirmed dogs
- **Dr. Mostafa Zamanian**, University of Wisconsin - Discovery and exploitation of *Dirofilaria immitis* chemosensory receptors for anthelmintic discovery
- **Dr. Sarah Zohdy**, Auburn University - Does canine infection with *Dirofilaria immitis* impact mosquito vector attraction?

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 Center for Veterinary Health Sciences 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 www.ncvetp.org.



Center for Veterinary Health Sciences
Healthy Animals - Healthy People



NCVP
National Center for Veterinary Parasitology

Selected Publications from NCVP Members

Our residents, faculty, and board members are a busy group. Below is a very abridged list of just a few of the recent publications from NCVP members (names of board members and residents are bolded). To request the full list or individual reprints, please send an email to ncvp@okstate.edu. Most importantly if you have suggestions for future continuing education articles, review papers, or topics you think would be of interest to veterinarians and others in parasitology, please send us your suggestions.

2018 TO DATE...

O'Neill M, Njouendou JA, Dzimianski M, Burkman E, Ndongmo PC, Kengne-Ouafo JA, Wanji S, Moorhead A, Mackenzie CD, **Geary TG**. Jan 2018. Potential role for flubendazole in limiting filariasis transmission: observations of microfilarial sensitivity. *Am J Trop Med Hyg*. 98(1):21-26.

Medeiros KL, Lucio-Forster A, **Bowman DD**. Jan/Feb 2018. Evaluation of parasite egg and cyst recovery using devices designed for centrifugal or stationary flotation. *J Am Anim Hosp Assoc*. 54(1):36-45.

Thomas JE, Ohmes CM, Payton ME, **Hostetler JA**, **Reichard MV**. Feb 2018. Minimum transmission time of *Cytauxzoon felis* by *Amblyomma americanum* to domestic cats in relation to duration of infestation, and investigation of ingestion of infected ticks as a potential route of transmission. *J Feline Med Surg*. 20(2):67-72.

Bader C, **Jesudoss Chelladurai J**, Starling DE, Jones DE, Brewer MT. Feb 2018. Efficacy of injectable praziquantel for elimination of trematode metacercariae in bluegills (*Lepomis macrochirus*) and quantification of parasite death by propidium iodide staining. *Parasitol Res*. 117(2):365-370.

Savadelis MD, Roveto JL, Ohmes CM, **Hostetler JA**, Settje TL, Dzimianski MT, Moorhead AR. Feb 2018. Evaluation of heat-treating heartworm-positive canine serum samples during treatment with Advantage Multi® for Dogs and doxycycline. *Parasit Vectors*. 11(1):98.

Little S, Saleh M, Wohltjen M, **Nagamori Y**. Mar 2018. Prime detection of *Dirofilaria immitis*: understanding the influence of blocked antigen on heartworm test performance. *Parasit Vectors*. 11(1):186.

Edmonds MD, Vatta AF, Marchiondo AA, Vanimisetti HB, **Edmonds JD**. Mar 2018. Concurrent treatment with a macrocyclic lactone and benzimidazole provides season long performance advantages in grazing cattle harboring macrocyclic lactone resistant nematodes. *Vet Parasitol*. 252:157-162.

Herrin BH, Beall MJ, Feng X, Papeş M, **Little SE**. Mar 2018. Canine and human infection with *Borrelia burgdorferi* in the New York City metropolitan area. *Parasit Vectors*. 11(1):187.

Bowman DD. Mar 2018. Unsticking from time to create a parasitologic amalgamation. *Vet Parasitol*. 252:98-100.

Barone CD, **Zajac AM**, Manzi-Smith LA, Howell AB, Reed JD, Krueger CG, Petersson KH. Apr 2018. Anthelmintic efficacy of cranberry vine extracts on ovine *Haemonchus contortus*. *Vet Parasitol*. 253:122-129.

Njouendou AJ, Fombad FF, O'Neill M, Zofou D, Nutting C, Ndongmo PC, Kengne-Ouafo AJ, **Geary TG**, Mackenzie CD, Wanji S. Apr 2018. Heterogeneity in the in vitro susceptibility of *Loa loa* microfilariae to drugs commonly used in parasitological infections. *Parasit Vectors*. 11(1):223.

2018 TO DATE, CONTINUED...

Bortoluzzi C, **Paras KL**, Applegate TJ, Verocai GG. Apr 2018. Comparison between McMaster and Mini-FLOTAC methods for the enumeration of *Eimeria maxima* oocysts in poultry excreta. *Vet Parasitol*. 254:21-25.

Steuer AE, Loynachan AT, Nielsen MK. May 2018. Evaluation of the mucosal inflammatory responses to equine cyathostomins in response to anthelmintic treatment. *Vet Immunol Immunopathol*. 199:1-7.

HIGHLIGHTS FROM 2017...

Meadows C, **Guerino F**, Sun F. Jan 2017. A randomized, blinded, controlled USA field study to assess the use of fluralaner topical solution in controlling canine flea infestations. *Parasit Vectors*. 10(1):36.

Paarlberg T, Winkle J, Rumschlag AJ, **Young LM**, Ryan WG, Snyder DE. Feb 2017. Effectiveness and residual speed of kill of a novel spot on formulation of spinetoram (Cheristin®) for cats. *Parasit Vectors*. 10(1):59.

Carithers DS. Apr 2017. Examining the role of macrolides and host immunity in combatting filarial parasites. *Parasit Vectors*. 10(1):182.

George MM, **Paras KL**, Howell SB, Kaplan RM. Jun 2017. Utilization of composite fecal samples for detection of anthelmintic resistance in gastrointestinal nematodes of cattle. *Vet Parasitol*. 240:24-29.

Gruntmeir JM, **Adolph CB**, **Thomas JE**, **Reichard MV**, **Blagburn BL**, **Little SE**. Oct 2017. Increased detection of *Dirofilaria immitis* antigen in cats after heat pretreatment of samples. *J Feline Med Surg*. 19(10):1013-1016.

Saleh MN, **Thomas JE**, Heptinstall JR, Herbein JF, Wolf RF, **Reichard MV**, **Zajac AM**. Nov 2017. Immunologic detection of *Giardia duodenalis* in a specific pathogen-free captive olive baboon (*Papio cynocephalus anubis*) colony. *J Vet Diagn Invest*. 29(6):916-919.

Bader C, **Jesudoss Chelladurai J**, Thompson K, Starling D, Brewer MT. Nov 2017. Outbreak of *Cleidodiscus* in juvenile black crappies (*Pomoxis nigromaculatus*) and bath treatment with praziquantel. *J Fish Dis*. 40(11):1737-1739.

Adolph C, Barnett S, Beall M, Drake J, Elsemore D, **Thomas J**, **Little S**. Nov 2017. Diagnostic strategies to reveal covert infections with intestinal helminths in dogs. *Vet Parasitol*. 247:108-112.

Bowman DD, Drake J. Nov 2017. Examination of the "susceptibility gap" in the treatment of canine heartworm infection. *Parasit Vectors*. 10(Suppl 2):513.

Starkey LA, Bowles JV, Payton ME, **Blagburn BL**. Nov 2017. Comparative evaluation of commercially available point-of-care heartworm antigen tests using well-characterized canine plasma samples. *Parasit Vectors*. 10(Suppl 2):475.