

ACME Newsletter

OCTOBER 2019

VOLUME 7, ISSUE 1



ACME participation at the ASTMH 68th Annual Meeting, Nov. 20-24, 2019, National Harbor, MD:

This year, ACME will be sponsoring two symposia, networking events for trainees, and an informal social time between symposia. We hope that you can make it to these events!

American Committee of Medical Entomology (ACME) Symposium I: Annual Business Meeting, Awards, Hoogstraal Medal Presentations and Networking Reception

Location: Potomac D (Ballroom Level)

Time: Thursday, November 21, 2019, 8:00 AM - 9:45 AM

This symposium provides a forum for exchange of information among people interested in research on arthropod vectors of disease. This session features a short ACME business meeting followed by presentation of the 2019 SC Johnson (SCJ) Innovation Award. This serves to highlight the next generation of medical entomologists. The session features the presentation of the Hoogstraal medal and associated lecture, and culminates with a social/networking session.

8:00 AM - 9:45 AM - Symposium Organizer
Matt Thomas, Penn State, University Park, PA, United States

8:00 AM - 9:45 AM - Co-Chair
Ellen Dotson, Centers for Disease Control and Prevention, Atlanta, GA, United States

8:00 AM - 8:15 AM - ACME Annual Business Meeting and Awards
Matt Thomas, Penn State, University Park, PA, United States

8:15 AM - 8:30 AM - SC Johnson (SCJ) Innovation Award
Stephanie James, Foundation for the National Institutes of Health, Bethesda, MD, United States

8:30 AM - 8:35 AM - Harry Hoogstraal Medal Presentation and Mini-Symposium:
Introduction
Introduction by Tom Burkot, Australian Institute of Tropical Health and Medicine, Stratford, Australia

8:35 AM - 8:45 AM - Frank Collins' Contributions to Field Studies
Patricia M. Graves, James Cook University, Cairns, Qld, Australia

8:45 AM - 8:55 AM - Refractoriness to malaria in mosquitoes
Carolina Barillas-Mury, Mosquito Immunity and Vector Competence Section, NIH, Rockville, MD, United States

8:55 AM - 9:05 AM - rDNA Assay
Alessandra Dellatorre, Universita di Roma "La Sapienza", Rome, Italy

9:05 AM - 9:15 AM - Gambiae Genome/vectorbase
Catherine A. Hill, Department of Entomology, Purdue University, West Lafayette, IN, United States

9:15 AM - 9:45 AM - Networking and Social Time

ACME Executive Council

Matthew Thomas
Chair, Councilor

Ellen Dotson
Chair-elect, Councilor

Philip Armstrong
Past-chair, Councilor

Alvaro Molina-Cruz
Secretary/Treasurer, Councilor

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Diana Ortiz

Christopher Barker

Ellen Dotson

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Molly Duman Scheel

Audrey Lenhart

Douglas Norris

Student Representative:

Andrew Golnar



American Committee of Medical Entomology (ACME) Symposium II: Will History Repeat Itself? Lessons Learned from Previous Vector Control Efforts

Potomac D (Ballroom Level)

Time: Thursday, November 21, 2019, 10:15 AM - 12:00 PM

Vector control interventions in the prevention and control of vector-borne diseases, such as Yellow Fever, dengue, malaria, and Chagas disease, are more important than ever. This symposium will provide a review of some historic vector control projects against several vector borne diseases (Garki Project and Rhodesian copper mining companies for malaria control, Yellow Fever elimination in the Americas and the Central American Initiative for Chagas disease control). Multiple methods have been used in the past and some are being reconsidered today (eg. House modifications, larval source management, biological control, insecticidal control). This symposium will provide attendees with a historical background to work in these areas, as well as considering how these experiences might better inform present-day vector control.

10:15 AM - 12:00 PM - Symposium Organizer

Ellen M. Dotson, Centers for Disease Control and Prevention, Atlanta, GA, United States

10:15 AM - 12:00 PM - Co-Chair

Matthew Thomas, Pennsylvania State University, University Park, PA, United States

10:15 AM - 10:35 AM - Malaria control in the copper belt: Lessons from Malcolm Watson's work in central Africa

Seth Irish, Centers for Disease Control and Prevention, Atlanta, GA, United States

10:35 AM - 10:55 AM - Malaria Vector Control in Nigeria, learning from the historic Garki Project

Samson Awolola, Nigerian Institute of Medical Research, Lagos, Nigeria

10:55 AM - 11:15 AM - *Aedes aegypti* control: still stuck in the Yellow Fever Program?

Amy Morrison, University of California, Davis, CA, United States

11:15 AM - 11:35 AM - Chagas Disease Vector Control in Guatemala (Central America): domicialiated vs sylvatic species

Celia Cordon-Rosales, Universidad del Valle, Guatemala City, Guatemala

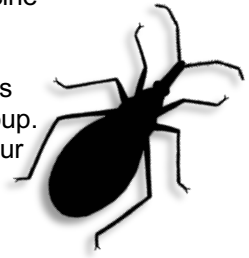
11:35 AM - 12:00 PM - Discussion



ACME Networking Lunch Thursday, November 21 from noon-1:30 pm in National Harbor 8. Participants should pick up their lunch at the poster session and then join us for some informal networking.

7th Annual 'Speed Networking with the Experts' Session. The speed networking session will be held at the **ASTMH 68th Annual Meeting at the Gaylord National Resort and Convention Center in National Harbor, Maryland USA on Friday, November 22, 2019, 5:00 - 6:45PM in Riverview Ballroom 1/2/3.**

The goal of this session is to provide students and trainees with important information on career paths in the fields of global health and clinical tropical medicine. The session is designed to facilitate interaction between senior scientists and physicians with students/trainees in an informal way, while offering students the opportunity to meet leaders in the field of tropical medicine research and practice. Pre-registered attendees are asked to come prepared with questions for the experts regarding their career path, opportunities and challenges faced in pursuit of a tropical medicine career. The 7th annual Speed-Networking session includes each of the five ASTMH subgroups; ASTMH Committee on Global Health (ACGH), the American Committee on Clinical Tropical Medicine and Travelers' Health (ACCTMTH), the American Committee on Medical Entomology (ACME), the American Committee on Arthropod-Borne Viruses (ACAV) and the American Committee of Molecular, Cellular and Immunoparasitology (ACMCIP). The event will include an open networking session for trainees and experts, as well as a formal speed-networking session where students and experts are divided into tracks for each subgroup. Pairs of students are granted time with each expert for approximately 5 minutes, where you can then share your story and insight on tropical medicine career paths, options and opportunities.



ACME Awards

At this year's ASTMH annual meeting, we will announce the recipients of the following awards.

ACME Breakthroughs in Medical Entomology Award

ACME seeks to award funding of \$1,000 to outstanding recent contributions (within the past 5 years) to the study and/or practice of Medical Entomology that ultimately will contribute to reducing the burden of human diseases transmitted by arthropods. This award is designed to encourage and acknowledge significant advances in the field by investigators at any career stage. Examples of such advances include breakthrough research findings in vector biochemistry, molecular biology, genetics, genomics, ecology, evolution or significant advances in technologies for vector surveillance or control.

ACME Future Leaders Fellowship in International Medical Entomology

The Future Leaders fellowship is a competitive award that will be offered to an outstanding junior medical entomology researcher (must be at the undergraduate to post-doctoral level) to showcase individuals that have matched interests to ACME's objectives of promoting medical entomology and reducing the burden of human diseases transmitted by arthropods globally. Applicants must be a non-US citizen from an LMIC.

Up to two awardees will receive \$2,000 each to be used towards attending the ASTMH annual conference and/or research supplies. The awardee must present their research at ASTMH and acknowledge the ACME Future Leaders Fellowship in their presentation and when publishing research supported by the fellowship. This award is supported by a generous donation from SC Johnson to the American Committee of Medical Entomology. Women are encouraged to apply.

ACME Travel Awards for Young Investigators

ACME now offers three Young Investigator Travel Awards: Masters, Doctoral and Post-doctoral and International. All research must involve arthropods of medical importance. Recipients will receive a complimentary registration to the Annual Meeting and up to \$900 to support travel and accommodation costs.

Hoogstraal Award

The Harry Hoogstraal Medal for Outstanding Achievement in Medical Entomology. Nominations for the Harry Hoogstraal Medal for outstanding Achievement in Medical Entomology may be submitted online during the Call for Nominations. Each year, the Executive Council shall consider all nominations so submitted as well as any nominations submitted during the previous three years, and decide whether to make an award at the business meeting to be held during the current year Annual Meeting. Any living medical entomologist not serving on the Executive Council is eligible to be selected to receive the award.

News from NIH: National Institute of Allergy and Infectious Diseases

1. The NIAID Bioinformatics Resource Centers (BRCs) for Infectious Diseases program was initiated in 2004 with the main objective of collecting, archiving, updating, and integrating a variety of research data and providing such information through user friendly interfaces and computational analysis tools to be made freely available to the scientific community.

The main areas of focus of the BRCs include:

- To store, update, integrate, and display the following types of data and associated metadata: genome sequence and annotation, functional genomics, proteomics, metagenomics, other, “-omics,” epidemiology, surveillance, population genetics, genotype/phenotype association, antimicrobial resistance, antigenic expression, host-pathogen interactions, host response, basic and clinical
 - To make available analytical resources, bioinformatics tools, workspaces and services for data analysis
 - To offers bioinformatics training at the BRC sites, scientific conferences, or at the requesting institution or laboratory
 - To collaborate with and support data generated by the scientific community including NIAID-funded programs such as the Centers of Excellence for Influenza Research and Surveillance (CEIRS), International Centers of Excellence for Malaria Research (ICEMR), Functional Genomics Program, Genomic Centers for Infectious Diseases, and Systems Biology for Infectious Diseases Research
 - To respond rapidly to new and emerging pandemic threats
2. In September 2019, awards were made to 2 BRCs: VeuPathDB (https://eurekaalert.org/pub_releases/2019-10/uop-nat101519.php) that includes VectorBase (vectors) and EuPathDB (eukaryotic organisms); and BV-BRC (<https://www.cs.uchicago.edu/news/article/bioinformatics-hub/>) that includes PATRIC (bacterial) and ViPR (viral) databases.

Reminder: VectorBase's Population Biology (PopBio; <https://www.vectorbase.org/popbio>) resource: a database and associated tools for visualisation, search and analysis of a wide range of population data, including genotypes, insecticide resistance and other phenotypes, and field collection metadata. You can interactively query all geo-tagged data (>99% of samples) using the map interface. Text-based search and browse is also available.



Workshop Opportunities

**BIOLOGY OF
VECTOR-BORNE
DISEASES**

The 2nd Annual Biology of Vector-borne Diseases Six Day Course was held on June 23-28, 2019. This course is hosted by the Center for Health in the Human Ecosystem at the University of Idaho in Moscow, Idaho and directed by Shirley Luckhart, sluckhart@uidaho.edu and Ed Lewis, eelewis@uidaho.edu. ACME co-sponsored 2 participates from Ghana to join this workshop. The 2020 course will be held on June 21-26 and details can be found here: <http://www.uidaho.edu/vector-borne-diseases>



Regional Centers of Excellence in Vector-Borne Diseases – Regional Program Highlights



The five Regional Centers for Excellence in Vector-Borne Diseases were established in 2017 to strengthen our nation's ability to prevent and rapidly respond to current and emerging vector-borne disease threats. We combine innovative applied research programs with public health expertise and practice to support the vector-borne disease workforce through workshops, resources, and networks.



**Midwest Center
of Excellence**
VECTOR-BORNE DISEASE

- Immersive research fellowship training program and public health entomology certificate program, supporting capacity building for vector-borne disease outbreaks and building the next generation of public health entomologists
- Operational research initiatives to assess the impact of mosquito control on West Nile virus activity and transmission, and develop affordable tick control options for homeowners
- New tools to understand the role of human behavior in vector-borne disease risk, to capture surveillance data, and to enhance capacity to identify vector species



NORTHEAST REGIONAL CENTER FOR
EXCELLENCE IN VECTOR-BORNE DISEASES

- Rapid response to the invasive Asian longhorned tick, providing open-access resources and initiating applied research projects to understand this tick's impact on human health
- Over \$1 million in funding for academic trainees, supporting an innovative graduate training program in vector biology and public health in the Northeast
- 23 applied research initiatives, measuring the impact of vector control efforts on human disease risk and identifying training gaps and needs for our nation's vector-borne disease workforce
- Established a region-wide pesticide resistance monitoring program, serving state and county mosquito control districts



PACIFIC SOUTHWEST CENTER OF
EXCELLENCE IN
VECTOR-BORNE DISEASES

- CalSurv Gateway – a scalable system for rapid data reporting that services 117 US vector control and public health agencies
- Annual open call for training grants, providing over \$3.2 million in funding dedicated to students in the Pacific Southwest
- 27 research and development projects examining new and existing ways to detect, characterize, and control threats from mosquito- and tick-borne diseases



**CDC Southeastern
Center of Excellence in
Vector Borne Diseases**
The Gateway Program

- Effective collaboration between academic and public health institutions through close working ties with 12 departments of health, dozens of vector control districts, and six academic institutes, enabling studies of new, cutting-edge vector control approaches
- Trained over 400 individuals through academic projects, operational internships, and existing and newly established workshops across the Southeast and Caribbean, addressing identified gaps from vector biology to leadership development
- Online Mosquito Training Program for Pest Managers to provides CEUs and brings the commercial pest management workforce into the public health entomology fold



**Western Gulf Center of Excellence
for Vector-Borne Diseases**

- Diverse projects evaluating interventions using traditional and innovative vector control techniques to reduce yellow fever mosquito abundance in South Texas
- Newly developed online courses in fundamentals of public health entomology, with inter-institutional graduate student exchange experiences among partnering universities
- Trained 2,309 individuals from vector control, animal control, and public health fields through 1-day workshops and 3-day Master of Vector Borne Disease Management Certification workshops throughout Texas, Louisiana, and Mississippi

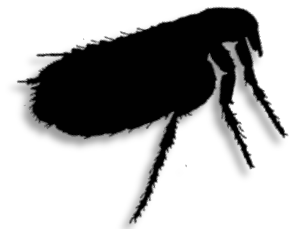
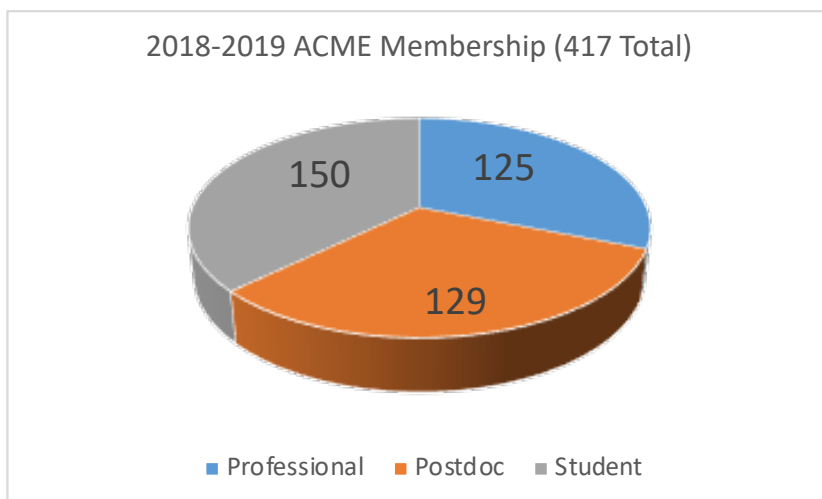
ACME welcomes new council members Dr. Marco Neira (Pontificia Universidad Católica del Ecuador), Dr. Eleanore Sternberg (Liverpool School of Tropical Medicine), Dr. Jennifer Stevenson (Johns Hopkins Malaria Research Institute), and student council member- Ms. Olivia Winokur (UC-Davis). This year, Dr. Kate Aultman, Dr. Alvaro Molina-Cruz, and Dr. Jason Richardson will finish their terms on the ACME council. We thank all the members of the Executive Council (new, current and existing) for their service to ACME!

Get Involved!

If you are interested in learning more about ACME activities or serving on the ACME Executive Council, please contact Matthew Thomas (mbt13@psu.edu)

Renew your membership

RENEW YOUR MEMBERSHIP! Your membership dues of \$25 are vital to support ACME activities including the ACME Young Investigators Travel Awards program and the ACME Symposia at the annual meeting. Look to the ASTMH website for full membership dues information. Membership in ACME connects you to a global community of Medical Entomologists both at the ASTMH annual meeting and throughout the year. Membership gives you access to ACME communications, including our bi-annual newsletter and email communications that include job postings and announcements about happenings that impact our research and practice as Medical Entomologists. Membership is free for students and post-doctoral trainees. We take great pride in fostering community for our trainees; through your membership, you will be kept in the loop on meeting events for trainees, job openings, and opportunities for awards to participate in the ASTMH meeting.

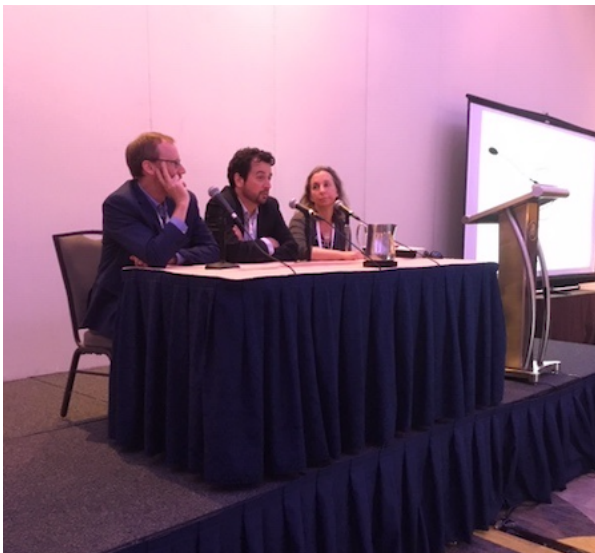


Support the ACME booth during 2019 ASTMH!

ACME sponsors a booth at the ASTMH meeting to promote its initiatives, raise funds, and attract new members. Take the opportunity to meet fellow medical entomologists or catch up with friends, stop at the ACME booth in National Harbor, Maryland!

The total net assets for all ACME funds were \$24,801 for the period ending in June 30, 2019. The revenue from memberships and member donations for the period July 2018- June 2019 was \$5,325. The ASTMH Board donated a \$10,000 grant to ACME toward its initiatives during 2018-2019, as it did in the previous year. The Board donation was used to cover three 2018 ACME Student Travel Awards (\$2,700), 2018 ACME Future Leaders Fellowship in International Medical Entomology (\$2,000), the publication of the Arthropod Containment Guidelines (\$3,200), scholarship funds for the 2019 Biology of Vector-borne Diseases course at U. of Idaho (\$1,712.93) and the 2018 Speed Networking Event (\$387.07). ACME received a generous contribution (\$10,000) from S.C. Johnson & Son Inc. toward the Breakthrough in Medical Entomology Award and Future Leaders Fellowship. ACME continued to avoid expenses associated with the council meeting from \$406.80 in 2017 to \$0.00 in 2018. We thank the parent Board for their continued support and all of our donors that enable awards for outstanding trainees to attend the meeting and for researchers that have made important contributions in medical entomology!

ACME in Action



ACME members Gonzalo Vasquez-Prokopec (Past Chair), Philip Armstrong (Past Chair), and Maria Diuk-Wasser (Past Councilor) held a symposium titled "Knowledge Bites About Bugs" in partnership with ASTMH and the International Society of Travel Medicine in Washington DC on June 6. The symposium was designed for clinicians and other healthcare professionals in tropical medicine and travel medicine to increase their awareness about risks posed by arthropod vectors and how to advise their patients about the risks and preventive measures against biting insects and ticks. Dr. Vasquez-Prokopec spoke about the environmental risks associated with common vector-borne diseases and the implications for global health, one health, and travelers' health. Dr. Armstrong talked about the biology and behavior of the most important mosquito vectors and reviewed current recommendations for personal protection against these insects. Dr. Diuk-Wasser gave a talk about the ecology and vector biology of ticks and the recommended strategies for disease prevention.



Undergraduate student Stephen Levert (current DVM student) collects a female *Amblyomma americanum* while drag sampling at Sam Houston National Forest (Texas A&M University).

