

# **SOVE Newsletter**

# President's Message



Steve Mulligan

My Dear Friends,

Is truth that elusive? Are facts that indiscernible? What is science and does it matter? It is now commonplace for reality to be questioned/supplanted by the surreal or an alternate reality. You can get anything you want, and more, not at Alice's Restaurant, but on social media, which is, of course, not all that sociable. It is obvious that truth is under assail when we hear certain members of Congress deny the assault on the US Capitol. That physical and deadly attack we actually saw broadcast live as we witnessed those same congressmembers cowering in fear of their lives, while selfprofessed patriots they now support were desecrating and at times defecating in the hallowed halls. Anyone see a parallel with triatomines? Chagas is not a nice disease, neither is insurrection. What can we expect as a society when much of

the public and many elected officials manipulate facts and espouse lies? Why am I bringing this up? Because the inclination to doubt and dispel veracity has impacted public health. SOVE was organized by individuals who considered themselves to be public health professionals and they were. Public health is a most honorable profession. What better motive than to promote health and well-being and provide for protection from vector-borne diseases? Public health concerns the health of the public as a whole and sometimes that comes at the inconvenience or consternation of the individual. That is why we have laws that allow public health agencies to abate health nuisances (and worse) created by individuals, who are unknowing (at best), unconcerned, uncaring or just don't give a damn.

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# President Message cont'd from P.1

If we profess public health, we must be willing to promote it and defend it. For good reason, public health policy has often mandated vaccinations against devastating and debilitating diseases for the common welfare, relying on vaccination to provide immunity at the population level. To paraphrase Spock, the good of the public should outweigh the will of the few. Society versus anarchy. We now have a greater ability to specifically design and rapidly develop vaccines, as shown with COVID-19 vaccines, thank you mRNA. Let's speak the truth, vaccines are an effective public health measure, they reduce hospitalizations and save lives.

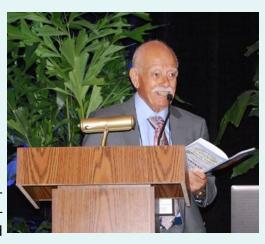
Unfortunately, the topic of public health and vaccination is now vigorously political and based on perceived "rights" as an individual and, of course, subject to disinformation and outright lies at the expense of a confused public. A child's first response is oft "you can't make me do that," and the adult version follows with "I have free will and rights". Heard that at my last Board meeting. As for me, I'm more of a believer in Free Willy, the movie What of the confusion about and the distrust in science? The art of science has a long history going back to well before the ancient Greeks, with much learned, often later overturned. The power of science and scientific discovery is that we learn as we grow and as we discover. What would Mendel think of genetics today, let alone peas? Science is not so much exact as it is exacting. But how do we explain this and of what benefit is science to society without trust? What good is public health without public support? We can only gain public trust with truth and consistent and robust messaging. We as public health adherents need be the messenger RNA for public health. We've been doing the science. The more difficult part might actually be doing the outreach and education.

I have always enjoyed history, I just tire of seeing us constantly relive it, with consequence. Gotta love a soapbox, its loftiness, and haughtiness, but now onward. This is the year we will get back to in-person meetings, conferences and congresses of SOVE. So be prepared to reunite with colleagues for enlightening symposia on current research, fruitful interactions, productive discussions and general conviviality. The Second International Congress of SOVE Indian Region is planned for April 16-19, 2022 in Pondicherry, India, under the guidance of Director Ashwani Kumar. September 19th will see us gathering in Honolulu, Hawai'i for the SOVE International Congress 2022 and Vice President Lyric Bartholomay and Executive Director Michelle Brown are busily preparing for the program and meeting functions. Dr. Christina McCarthy and the Latin American SOVE organizing committees will host the Second Congress of the Latin American SOVE October 29th - November 3rd in La Plata, Argentina. Make plans to attend and participate in these outstanding meetings as we get back on our boards and ride the SOVE wave. Surf's up! Steve



# Mir S. Mulla Distinguished Professor, Emeritus University of California, Riverside, USA

Professor Mir S. Mulla joined the University of California, Riverside in 1956 and retired in December 2006. Affiliated with the department of Entomology for more than 50 years, he has conducted



basic and applied research on arthropods of medical importance. His work as one of the world's leading entomologist in public health entomology has taken him around the globe, tackling vector-borne diseases in California and throughout the world.

Professor Mulla has a long and distinguished record of service to vector-control agencies and health departments in California and numerous international agencies. His work in the lab and in the field has developed practical control strategies for mosquitoes, biting flies, eye gnats, nuisance aquatic midges, and other insects of public concern. He has served as science advisor and member of the expert advisory panel on vectors and vector-borne diseases for the World Health Organization (WHO). As a WHO consultant, he had the opportunity to promote and establish research programs, training courses, and build the research capacity of scientists in numerous developing countries. He spearheaded a research program for 6 years in Colombia and California on house-dust mites (20 families) in relation to atopic allergy (asthma and rhinitis) in humans resulting in publication of many papers and a book in Colombia in Spanish and English.

At UC Riverside, he has taught Medical Entomology courses, instructed graduate students in medical and veterinary entomology, and presented lectures in other courses in entomology for non-majors. Under his supervision, five students have obtained MS degrees and 25 their Ph.D. degree. Many visiting scientists and postdoctoral researchers from both developed and developing countries have also worked in the Mulla Laboratory. He is the author of more than 550 peer reviewed and technical publications with his students, colleagues and visiting scientists.

Professor Mulla's dedication to managing insect vectors of human disease and noxious pests and improving the quality of life of the people everywhere has earned him many accolades. His' honors include elections as a Fellow of the American Association for the Advancement of Science and of the Entomological Society of America. In 1986, Professor Mulla received the Distinguished Service Award from the Society for Vector Ecology and in 2006 their Distinguished Achievement Award. In 2009, his accomplishments were further recognized when the Society for Vector Ecology presented Professor Mulla their first-ever Lifetime Achievement award, the highest award given by the society. In 2018, the Society dedicated their 49th annual meeting at Yosemite in California to Professor Mulla. Earlier, he received the Meritorious Award of the Science Society of Thailand and the Ministry of Science, Technology and Environment. For his extensive work in reducing the number of noxious and pestiferous insects in the Coachella Valley, the Coachella Valley Mosquito and Vector Control District honored Professor Mulla by naming their new state of art biological control facility after him during a dedication ceremony in April 2006. In retirement, he was awarded the UC Endowed Chair Edward A. Dickson Professor Emeritus for 2008-09. In 2010, he was honored by the American Mosquito Control Association bestowing upon him the Medal of Honor, the highest award given by the association.

#### **Professor Mulla**

cont'd from page 3

Born in the village of Zangawat, province of Kandahar, Afghanistan, Professor Mulla came to the United States after high school to continue his education- originally hoping to pursue a medical degree. When he took his first entomology course, he was hooked. In 1952, he earned his B.S. in Entomology and Parasitology from Cornell University and, in 1956, a Ph.D. from Univ of California at Berkeley. He then accepted a position at UC Riverside to develop the research regimen and teaching curriculum for the department's newly formed Medical Entomology program.

Entomology remains Professor Mulla's passion. He continues to be involved in collaborative research with former students and colleagues, and serve scientific and professional societies that strive to improve the health of all people.

Below Dr. Mir Mulla is giving a check for \$50.000 USD to Dr. Michelle Brown, Executive Director of SOVE towards the "Dr. Mir S. Mulla Memorial Lecture Fund". Present at the occasion are Dr. Mulla's daughter Dr. Shireen Mulla Mooers, co-trustee of Dr. Mulla's Revocable Living Trust and Dr. Lal S. Mian, Southwestern Regional Director.







Dear Colleagues and Friends,

When the public thinks about climate change, among the first concerns that come to mind are mosquitoes and ticks, and the diseases they are responsible for. The obvious reason is because of the correlation between weather and "bugs", such as the hordes of floodwater mosquitoes following heavy rains. While this connection is intuitive, the science that supports the precise association can be much more difficult to understand and quantify. This is particularly true when there are multiple contributing factors, for which climate change, and more specifically, seasonal weather patterns, attribute to only a portion of the observation, event, or trend. A good example of this can be seen in the geographic expansion over the last 25 years of the blacklegged tick *Ixodes scapularis* in the U.S. While climate change has almost certainly contributed to northward population expansions, related to the changing limits imposed by minimal temperatures and the effects of temperature on basic reproduction and survival rates, there are a significant number of other factors that are allowing geographic expansion of populations in ALL directions - north, south, east, and west. These can include such drivers as reforestation, increasing deer populations, suburban growth, and other changes in land use patterns and built environ-

# Northwestern Region Ben Beard Regional Director

ments. These observations support the need for long term vector surveillance and increasing research on vector ecology.

In 2021, in response to Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, CDC established an agency-wide Climate and Health Task Force. The stated mission of the Task Force is to, "To detect, investigate, forecast, track, prevent and respond to the public health threats of climate change, addressing health inequities and strengthening community resilience." The Task Force's objective is to reduce the health impacts of climate change by developing a comprehensive approach to integrate climate and health activities across CDC programs, coordinate with external partners, and increase capacity to prepare for and respond to the health impacts of climate change, particularly among those disproportionately affected. Staff in CDC's Division of Vector-Borne Diseases in Fort Collins, CO are significantly engaged in this effort. Some of the priorities that have been discussed related to vector-borne diseases include: (1) expanding human and ecological surveillance and research, including modeling and forecasting, (2) identifying and validating effective prevention and control strategies that address environmental justice and health equity and are tailored for communities that are disproportionately affected, (3) developing and maintaining local, state, and federal capacity to respond to emerging disease threats, and (4) conducting outreach to the public and to ———————-Beard cont'd on p. 7





Thankfully (at least at the time of this update) COVID-19 incidence rates and related fatalities are significantly declining across the United States and throughout most of the world. The past two years of pandemic have been a resounding reminder of the devastating toll a novel virus can have on our modern healthcare and public health infrastructure, as well as on many aspects of our private and professional lives. I am really looking forward to seeing you all in Hawaii...

As we move into the spring and summer seasons (i.e., mosquito, tick and flea season) I would like to provide a brief summary of arboviral disease activity in the South Central Region during 2021. Public health authorities in Arkansas reported two West Nile virus (WNV) disease cases in humans occurring in different counties, and three counties detected eastern equine encephalitis virus (EEEV) in three non-human samples. Kansas public health authorities reported nine WNV disease cases from nine different counties. Public health authorities in **Louisiana** reported 14 cases of WNV disease in humans, and WNV was detected in 15 non-human samples from 15 different parishes. St. Louis encephalitis virus (SLEV) was reported in one human case and in three nonhuman samples. Additionally in Louisiana, there were 21 non-human samples reported positive for EEEV. Oklahoma public health authorities reported only two WNV disease cases in humans from two different counties, and no non-human samples positive for arboviruses. There were 21 WNV disease cases and 13 non-human WNV-positive samples reported from 22 different counties by

# Southcentral Region Steven M. Presley Regional Director

### **Texas**

public health authorities. There were also three non-human SLEV-positive samples and six non-human EEEV-positive samples reported in Texas, as well as 10 imported human cases of dengue virus.

Severe to extreme drought conditions exists throughout much of the South Central Region, and are predicted to persist based on the U.S. Monthly Drought Outlook published by the National Centers for Environmental Predictions, Climate Prediction Center. Drought conditions are expected to persist across the western and southern areas of Kansas, throughout most of the state of Oklahoma, and across the western half of Texas. During previous long periods of drought in the South Central Region, there have been significant focal outbreaks of WNV disease in both humans and horses. Particularly relative to the behavioral and societal changes resulting from the COVID-19 pandemic, I find it interesting to consider the significant decline in arthropod-vectored human disease cases reported during 2020. From a One Health perspective and the interconnectivity and interdependence between human, animal and ecosystem health, it will be very interesting to see how arthropod-vectored disease cases in humans increase or decline during 2022.

Those SOVE members in the South Central Region, please feel free to send me any news relative to your research successes, promotions or changing of jobs, or any other information that you would like to share with our colleagues. My email address is:

steve.presley@ttu.edu

Steve



Since the 4th quarter of last year and the 1st quarter this year, due to COVID-19 pandemic, each state's association/society of mosquitoes and vector control held their annual meeting in virtual or in person, or virtual & persons. Since late January, more associations hold their meeting in persons. The Florida Mosquito Control Association (FMCA) held their annual meeting, Duck Keys in persons with 250 people attendances. The FMCA held their annual Fly In class at Anastasia Mosquito Control District, St. Augustine and attracted more than 150 attendances, and held their annual DODD short course, Gainesville in early Feb and attracted more than 300 registrations. The FMCA will host the AM-CA annual meeting in Jacksonville, Florida, Feb 28-March 4, 2022. The Anastasia Mosquito Control District, USDA/CMAVE, and the FMCA will hold the 17th Annual Arbovirus Surveillance and Mosquito

# Southeastern Region Rui-De Xue Regional Director

Control Workshop in persons, St. Augustine, FL, March 29-31, 2022. The Georgia Mosquito Control Association held their annual meeting, October 20-21, 2021 virtually. The Alabama Vector Management Association will hold their 32nd annual meeting in Orange Beach, Alabama, March 10-11, 2022. The Mississippi Mosquito and Vector Control Association held their annual meeting, January 19-20, 2022. The North Carolina Mosquito and Vector Control Association held their annual meeting in November 9-10, 2021. The Tennessee and South Carolina Mosquito Control Associations held or plan to hold their annual meetings. The Virginia Mosquito Control Association held their annual meeting, January 25-27, 2022 to celebrate their 75th anniversary. For more information about each state association and their annual meeting and activity, please visit their websites.

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**Beard** *cont'd from p. 5*: clinical providers to increase awareness of changing disease patterns and/or exotic pathogens. As these plans continue to develop, CDC/DVBD looks forward to working with SOVE stakeholders, including academic partners, state and local public health departments, vector control districts, other government agencies, and concerned individuals and groups in developing and implementing a comprehensive plan to address the impacts that climate change are expected to have on vector-borne diseases in the U.S. Stay tuned!



# SOVE -ASIAN REGION Hong-Liang Chu Regional Director

Dear Colleagues,

In 2021, as China has demonstrated that the chain of indigenous malaria transmission by *Anopheles* mosquitoes had been interrupted nationally for the past three consecutive years, China has been awarded a malaria-free certification by World Heath Organization (WHO,) which was a notable feat for a country that reported 30 million cases of the disease yearly in the 1940s. And China is the first country in the WHO Western Pacific Region to be awarded a malaria-free certification in more than 3 decades.

According to China CDC Weekly Report (Qiyong Liu, 2020), other vector-borne diseases still caused substantial morbidity in Mainland China, especially scrub typhus, hemorrhagic fever with renal syndrome (HFRS), and dengue. Although dengue morbidity was not significant high in 2018, dengue poses a growing threat in recent years because the distribution range has expanded significantly northward. Japanese encephalitis (JE), severe fever with thrombocytopenia syndrome (SFTS), and HFRS caused significant mortality burdens. The characteristics of the JE epidemic have changed in recent years. Adults have experienced higher incidence and fatality rates than children, and northwestern China has become the

new region of the JE epidemic. Cases with typhus group rickettsiosis (TGR), kala-azar, schistosomiasis, and leptospirosis were sporadic.

According to a WHO report, Bhutan had just two malaria indigenous cases in 2019. In 2020 it reported 22, due to an outbreak near the international border. Nepal reported 73 indigenous cases in 2020. Timor-Leste came close to completing three consecutive years of meeting the malaria-free threshold, reporting zero indigenous cases in 2018 and 2019, but experiencing a small outbreak in 2020. In 2020, large numbers of dengue cases were reported in many Southeast Asian countries, Singapore, etc. However, the situation appears to have improved in 2021. There has been a total of 5, 258 dengue cases reported in Singapore in 2021. This is a significant decrease of 85% compared to 35315 cases reported in 2020. The same situation also happened in Malaysia. Provisional planning for the 8th International Forum for Surveillance and Co ntrol of Mosquitoes and Vector-borne Diseases 2023 will proceed.





# II Congress of the Latin American Society for Vector Ecology

Control of endemic zoonotic and vector-borne emerging and reemerging diseases: Current Challenges in Latin America October 29—November 3, 2022

See more on the website at: https://congresos.unpl.edu.ar/lasove

Christina McCarthy, National University, Le Plata, Argentina

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## Marc Klowden, PhD

Editor, Journal of Vector Ecology

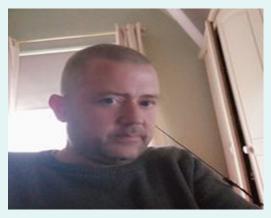


Our journal continued to grow during a very difficult year thanks to the many out standing submissions and incisive reviewers. Our 2020 journal impact factor rose to 1.698 and a five-year score of 1.961, placing us in the second quartile of all entomology journals. We are in the early stages of implementing continuous publication, where once accepted, articles will be immediately uploaded to BioOne rather than waiting for the entire issue to be published. This should increase the visibility and immediacy of your submitted manuscripts. A new Editorial Board has been reappointed and will be discussing the implications and implementation details of this new publication model. Some

SOVE members may have recently been unable to access the journal through SOVE.org. Until we straighten out the protocols for our website's ability to verify SOVE membership to BioOne, JVE access would be easier to obtain through your institutional library subscriptions. Given our very low publication charges to authors, we can no longer afford to remain as a free access publication.

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**Beard** *cont'd from p. 7:* This course provides a stellar opportunity to learn more about vector-borne disease biology and ecology. In terms of other news from the region, long-time SOVE member and two-time retired medical entomologist (Colorado State University and CDC) Chet Moore reports that he and CDC medical entomologist and Entomology & Ecology Team Lead Roxanne Connelly continue to participate in the Fort Collins West Nile Technical Advisory Committee (TAC), which has been in operation since 2004. The TAC provides guidance and consultation to the City and County on their public health response to local vector-borne disease concerns chiefly related to West Nile virus.



# Steve Lloyd-Jones Student Director

# Hello everyone,

Allow me first to introduce myself as the SOVE Student Director for (2022-2023). I am currently a second-year PhD student and part-time lecturer at Staffordshire University researching how larval environment affects the olfactory driven behaviors of the deadly *Aedes aegypti*. At this stage of my career, it is hard to know how to classify my skill set. I see myself as a Bio-scientist, an Ecologist, an Entomologist, a behaviorist and I am fascinated by how the environment is sensed affecting an organism's behaviour. I aim to weaponize these interests to help reduce the disease vector burden.

I am surprised and humbled to serve as this year's student director. I hope to build on the great work done by Bethany McGregor and Professor Michael Kaufman in setting up this position giving students a voice. I would also like to highlight the work of 2020 student director Kyndall Brauman who did a great job last year and has been of great help to me personally.

In the current political and ecological climate, it is hard not to find yourself "standing up for science", something I do in general life and when performing outreach. By extension of our scientific training, an appreciation is developed for the scientific method, repeatable results, and overcoming bias. Combining this with understanding the importance of not presenting personal truths as fact leads to clear ideas of what we can hold as truth. However, the same training reveals, how little of the total of human knowledge one person, however bright and hardworking, can learn.

However, the more my career has progressed, presenting my research at conferences, lecturing, and discussing my work, the more my personal information bubble becomes scientifically biased and less of a public more holistic one. This is a weakness that I believe scientific communication in general suffers and one I strive to avoid.

In the 24-hr media internet age, debates in science have moved beyond the confines of academics and so has their importance. The conversation about what is held as truth is further distorted by beliefs and personal truth's published and delivered in a self-confident manner blurring the line between truth and fact. To counteract this and improve the effectiveness of scientific solutions, I believe that the communication of how repeats, checks, and balances keep science in check. Not only creating the very platforms used for misinformation but that has advanced our understanding and technology more in the last two centuries than in the vast history of humanity. Thus how science has brought us to this point needs to be communicated better. This is where organisations such as SOVE play an important part in conveying this to the general public fighting the misinformation.

Finally, I just want to talk a little about imposter syndrome and the importance of communication. As students and early career researchers, it's easy to feel alone working in your lab, on your computer or in the field. However, as a scientist or someone with a keen interest in science you are part of an amazing set of people and one of the friendliest groups I have ever come across. This is true of my colleagues at Staffordshire University, the great people involved in the SOVE, Royal Entomological Society, the American Society of Entomology or the many researchers that have sent me their papers. I have been so amazed at how much we are willing to help each other. So, when you are feeling lonely, suffering from imposter syndrome or life is getting you down, please remember that you are part of a group of people who not only strive to make the world a better place but also understand what you're going through and the importance of collaboration. After 20 plus years of working in industries, where this is not present it is a pleasure and a privilege to call myself a scientist.

### Resources

BEI Resources for Vector Biology Research NIAID's BEI Resources program (www.beiresources.org) provides Vector Biology resources for free to registered, approved researchers in domestic and foreign institutions with appropriate facilities and containment procedures for vector research. Our widely requested holdings include LIVE arthropod vectors of human disease, including anopheline and culicine mosquitoes, reduviids, ticks and sand flies, associated reagents and genomic materials for entomological research, along with insectary protocols. For the cost of nothing, recipients are only required to acknowledge the use of the individual resources in publications and presentations of the research in which the materials are used. Forguestions please contact:

Adriana Costero-Saint Denis, PhD Vector Biology Program, NIH,

Phone: 240-292-4284 Email: acostero@niaid.nih.gov

https://www.niaid.nih.gov/research/vector-bio

# **Vector-borne Pathogen Workshop**

On behalf of the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH), we would like to invite you to attend a workshop entitled "Incorporating Systems Biology to Vectorborne Pathogen Research: Current Landscape, Challenges and Opportunities" that will take place virtually on May 17-18, 2022.

If you are interested in attending, please register using this link: <a href="https://">https://</a> cvent.meP0R8vr. We strongly encourage that you register as soon as possible. We will be providing additional information and updates for this workshop only to registered individuals and registration by March 15will help us with that process. Feel free to forward this information to colleagues that may have an interest in attending this workshop.

Adriana Costero-Saint Denis, PHD

# **Arbovirus Surveillance and Mosquito Control Workshop**

The 17th Arbovirus Surveillance and Mosquito Control Workshop in conjunction with the Navy Entomology Center of Excellence Equipment Demo will be held inperson at Anastacia Mosquito Control District, 120 EOC Drive, St. Augustine, Florida, March 29-31, 2022. For more information about the workshop, please visit the website at <a href="https://www.amcdsjc.org">www.amcdsjc.org</a> or contact Taylor Ballantyne at tballantyne@amcdfl.org

# **Biology of Vector-BorneDiseases Six-Day Training Course**

Our next annual Biology of Vector-borne Diseases course is scheduled for Monday through Saturday, June 13-18, 2022. Applications will be reviewed starting December 1, 2021. Applicants will be notified of their acceptance and invited to register for the course in Spring 2022. Registration for the course includes lodging, meals, course materials, and social activities

Registration for the Mid-Atlantic Tick Summit 11 is still open (it is free) <a href="https://www.cognitoforms.com/MDH3/">https://www.cognitoforms.com/MDH3/</a> TickSummitRegistration11

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2022 World Malaria Day Symposium malaria.jhsph.edu







# **Job Opportunities**

## **CDPH Senior Public Health Biologist**

The Vector-Borne Disease Section of the California Department of Public Health is recruiting for a Public Health Biologist at the Senior level. Public Health Biologists conduct activities relating to the prevention, surveillance, epidemiology, and control of vector-borne diseases in California. This position serves as the lead Public Health Biologist for the statewide environmental surveillance for mosquito-borne diseases. This position is located in Richmond (San Francisco Bay Area), California. Applications must be submitted by March 24. For more information and to apply, see JC-292288

In addition to submitting your application through Cal-Careers, please also indicate your interest in the position by emailing your CV or resume to Vicki Kramer vicki.kramer@cdph.ca.gov. Please contact Dr. Kramer, Chief, Vector-Borne Disease Section, with any questions. Email or phone (916) 804-2594.

# University of Florida

University of Florida Entomology and Nematology Department is looking for a new Chai: https://explore.jobs.ufl.edu/en-us/job/520377

# POSTDOCTORAL POSITION: VECTOR GENOMICS AND BIOLOGY

January 11, 2022

The Norris laboratory, located in the Department of Molecular Microbiology and immunology at Johns Hopkins Bloomberg School of Public Health in Baltimore, is seeking a highly motivated individual for a postdoctoral position focusing on mosquito vector genomics and biology. The Norris laboratory is interested in understanding genetic diversity and molecular markers/barcodes that can be used to confirm mosquito identity. This involves development and validation of molecular genetic tools, phylogenetic analysis including spatiotemporal population level studies, and association with vector-borne pathogen incidence. This postdoctoral position will work as part of a multi-institutional and crossdisciplinary research team. The research program,

entitled Computing the Biome, funded by the National Science Foundation's Convergence Accelerator program is centered on using mosquitoes as biosensors for detecting the presence of vertebrates, microbes, and viruses in the environment. The NSF-funded effort will be deployed in an urban center and selected mosquito samples will be sequenced and these data will be used to drive studies of mosquito genomics at Johns Hopkins University.

The postdoctoral fellow will be responsible for analyzing genetic barcode data as well as mosquito genomic data from collaborative metagenomic analyses. A thorough understanding of mosquito biology and mosquito genomics is required. The responsibilities include isolation of nucleic acids for sequencing and PCR studies, development of barcode based tools for mosquito identification, assembly and annotation of mosquito genome data as it becomes available, and association of genetic data with biology of interest (i.e. mosquito immunity, microbial load association, ecological associations, etc...). Thus, a combination of computational, programming and molecular bench skills is required. This individual will work closely with collaborators from academic, industry and government partners. The position is available immediately for one year (with the possibility of renewal for a 2nd year contingent on satisfactory performance). We are looking to fill the position as soon as possible and the position will remain open until filled. Salary is based on the NIH postdoc salary scale. Applicants should submit a CV, statement of research interests, writing/publication sample and contact information of three references.

Contact: Douglas Norris: douglas.norris@jhu.edu



# Society for Vector Ecology

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We are on the Web! www.sove.org

# About SOVE .....

The Society for Vector Ecology is a nonprofit professional organization formed in 1968 by a group of individuals involved in vector biology and control programs in California. The membership has since grown to represent an amalgamation of diverse research, operational, and extension personnel from all over the world. The Society is committed to solving many complex problems encountered in the field of vector biology and control. Among these are the suppression of nuisance organisms and disease vectors through the integration of various control options, such as environmental management, biological control, public education, and appropriate chemical or non-chemical control strategy.

The Society publishes the biannual Journal of Vector Ecology that contains research and operational papers covering many phases of vector biology, ecology, and control. The Society also issues a quarterly newsletter and holds an annual conference in September/October.

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