



UC Center Sacramento

“The Future of Mosquito Control: Tracking and Preventing the Spread of Mosquito-Borne Disease in California”

***Professor Chris Barker, UC Davis, and
Dr. Nikolay Kandul, UC San Diego***

**Wednesday,
November 8th**

12:00—1:00pm

In person attendance
or by Zoom webinar

**Please note our
new location:**

1115 11th St,
Sacramento, CA
95814

For catering
purposes, please
RSVP by
November 1st
(uccs.ucdavis.edu)
to ensure that we
have a lunch for you.

In this session, Professor Chris Barker and Dr. Nikolay Kandul will address the critical issue of mosquito control and the prevention of mosquito-borne diseases in California. Professor Barker will present his laboratory's work on tracking and mapping invasive mosquitoes carrying the West Nile virus, dengue, Zika, and chikungunya, which have been increasingly detected in places like southern California and the Central Valley in recent years. His research highlights the need for a better understanding of the fine-scale processes that affect spread and control. Dr. Kandul will then introduce a cutting-edge solution for mosquito control—the Next-Generation Sterile Insect Technique (ngSIT). By crossing two mosquito strains to release ngSIT eggs that develop into sterile male mosquitoes, this innovation offers cost-effective, environmentally friendly mosquito suppression without compromising male mosquito fitness, longevity, or competitiveness in the environment. This holds the potential to work across different mosquito species and multiple species simultaneously, representing a significant advancement in safeguarding California from these disease-carrying insects.

Professor Chris Barker is a professor in the Department of Pathology, Microbiology, and Immunology at the UC Davis School of Veterinary Medicine. Dr. Baker studies the epidemiology and ecology of mosquito-transmitted viruses, and he directs California's central diagnostic laboratory and related data management systems for surveillance of mosquito-borne viruses. Dr. Barker has M.S. degrees in epidemiology and entomology and a Ph.D. in medical entomology.



Dr. Nikolay Kandul is an evolutionary biologist from Harvard and Duke Universities where he dissected genetic origins of new species. Shifting to genetic engineering, he pioneered mitochondrial DNA tech at Caltech, uncovering cell rejuvenation. At UC San Diego, he created innovative tools like pgSIT and CRISPR-driven gene drive for insect control. Co-founding Synvect, he is dedicated to finding practical solutions for mosquito control in real-world settings.



For questions contact Brooke Miller-Jacobs at (916) 319-4835 or UCCS-talks@ucdavis.edu.

The views and opinions expressed during this lecture are those of the speaker and do not necessarily represent the views of UCCS.