

# CURRICULUM VITAE

**ERIC J. HAAS-STAPLETON, PHD**

Phone: 510.398.2848

Email: Eric.Haas@mosquitoes.org

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## EDUCATION

Ph.D. from University of California Berkeley: Environmental Science, Policy, and Management: Insect Biology

Dissertation Title: Role of Occlusion Derived Virus Binding and Fusion to Midgut Cells in *AcMNPV* and *SfMNPV* Pathogenesis in Noctuid Larvae.

B.A. from University of California, Berkeley: Molecular and Cellular Biology

## RESEARCH INTERESTS

Mosquito ecology and physiology

Insect immunity and virology

Molecular Diagnostics

## PROFESSIONAL EXPERIENCE SUMMARY

2022-Current **Associate Editor** for *Wetlands Ecology and Management*

2015-Current **Laboratory Director**, Alameda County Mosquito Abatement District, Hayward CA

2007-2015 **Associate Professor** (with tenure) and **Assistant Professor**, Department of Biological Sciences, California State University, Long Beach CA

2015 **Panel Manager**, US Department of Agriculture, Division of Plant Systems Protection, Sub-Organismal Grant Panel

2003-2007 **Instructor**, Department of Basic Sciences, University of California Berkeley Extension, Berkeley CA

2007 **Postdoctoral Research Fellow**, Tokyo University of Agriculture and Technology, Fuchu, Tokyo JAPAN

2006-2007 **Postdoctoral Research Fellow**, Department of Inflammation and Immunology, Bayer Healthcare Pharmaceuticals, Richmond CA

2003-2006 **Postdoctoral Research Fellow**, Department of Cell and Tissue Biology, University of California, San Francisco CA

1996-2003 **Graduate Student Researcher**, Department of Environmental Science, Policy and Management, University of California, Berkeley CA

## PROFESSIONAL EXPERIENCE

### Laboratory Director

2015 - Current

Alameda County Mosquito Abatement District

- ◆ Supervise mosquito environmental arbovirus monitoring program for the district.
- ◆ Analyze the outcomes of surveillance and research conducted by the lab using a range of statistical methods and data visualization software packages. A complete list of skills is provided below.
- ◆ Independently prepare monthly laboratory report for Board of Trustees and regularly

- present at the meeting.
- ◆ Established the District aerial drone program and molecular biology lab that tests mosquitoes for the presence of arboviruses using quantitative reverse-transcription PCR and insecticide resistance
  - ◆ Mentor research internships of UC Berkeley Masters of Public Health and Masters of Public Administration students.
    - Project outcomes include:
      - Quantitative RT-PCR assay that detects a biomarker for insecticide resistance in all *Culex spp.* tested to date
      - Program assessment of our mosquito monitoring efforts that correlated mosquito abundance, trapping effort, population and equity factors (e.g. income, education, household composition).
      - Program assessment to determine new work zones for Operations using pesticide application and service request data.
  - ◆ Initiated an information sharing agreement with Alameda County Public Health Department for human cases of arbovirus infection that served as a model for a State-wide agreement between vector control agencies and public health departments.
  - ◆ Developed the District plans for responding to locally occurring arbovirus infections and invasive *Aedes* mosquitoes.
  - ◆ Developed a risk-based invasive *Aedes* mosquito trap network for Alameda County.
  - ◆ CDC / AMCA Certified Train-the-Trainer for Best Practices in Mosquito Control, with a focus on invasive *Aedes* species.
  - ◆ Collaborate on research projects with UC Berkeley, Chan Zuckerberg Biohub, San Mateo County Mosquito and Vector Control District, and Madera County Mosquito and Vector Control District.
  - ◆ Lead Guest Editor (2020 – 2022) for Special Issue on Mosquito Control and Wetlands Management in *Wetlands Ecology and Management*.
  - ◆ Reviewer of grant proposals submitted to the Pacific Southwest Center of Excellence in Vector Borne Diseases (2018, 2019, 2020).
  - ◆ Guest Lecturer at UC Berkeley in Comparative Virology (2017 – current) and Zoonotic Diseases (2020 - current) courses.
  - ◆ Served on Panel Discussion for the UC Berkeley Zika Symposium: Frontline Update (2016).
  - ◆ Chair of the Vector Control Research Committee (2016-2018), Laboratory Technologies Committee (2018-2021) and *ad hoc* Drone Committee (2021 – current) for the Mosquito and Vector Control Association of California.
  - ◆ Mosquito and Vector Control Association Committee Service
    - Vector Control Research Committee: 2016 – current (Chair from 2016 – 2018)
    - Laboratory Technologies Committee: 2018 – current (Chair from 2018 – 2021)
    - *ad hoc* Drone Committee: 2021 – current (Founding Chair from 2021 – current)
    - CalSurv Steering Committee: 2020 – current
    - Information Technology: 2021 – current

## Panel Manager

2015

US Department of Agriculture: Division of Plant Systems Protection

- ◆ Recruited 18 scientists to serve on a joined Organismal and Sub-Organismal Grant Review Panel.
- ◆ Reviewed and ranked 94 grant applications.
- ◆ Managed the three and a half day Panel discussions of the grants to ensure that consensus was reached on the ranking of each grant.
- ◆ Supported the National Program Leader in deciding funding levels for the grants that were

awarded (total program funds of \$5.5 million USD).

**Associate Professor** 2013-2015  
**Assistant Professor** 2007-2013

California State University, Long Beach  
Department of Biological Sciences

- ◆ Co-Director of Biomedical Research for the NIH-funded Building Infrastructure Leading to Diversity (BUILD) Initiative (\$22.5 million to CSU Long Beach for 5 years).
  - Responsible for recruiting, interviewing and placing over 60 students in university research labs.
- ◆ New Investigator Award, USDA-CSREES (2009).
- ◆ Secured over \$410,000 in competitive research funds (total direct costs).
- ◆ Established a dynamic independent research program aimed at understanding how microorganisms manipulate the immune response by:
  - Utilizing baculoviruses to discover fundamental molecular mechanisms of insect immunity and viral pathogenesis.
  - Discovering mimetics of human lipid mediators that are produced by microorganisms to modulate the immune response in humans.
- ◆ Conducting HIV diagnostics using the APTIMA assay for evaluating at-risk populations residing in Long Beach, California and estimating local HIV transmission dynamics.
  - Inter-college collaboration with the Center for Behavioral Research and Services at California State University, Long Beach.
- ◆ Mentor undergraduate and master's students (total of 49 and 7 from 2007 - 2015, respectively). Guided each through their research project process, while taking an active role in conducting research at the bench.
  - Cultivate a creative learning space that fosters intellectual curiosity, collaborative efforts and research experience.
  - Each Master's student from my lab entered a PhD program.
- ◆ Collaborate on research projects with colleagues at California State University Long Beach, University of Arizona, UC San Francisco, UC Berkeley and UC Irvine.
- ◆ Independently developed and taught semester-length courses in: Biological Sciences I Laboratory (2007), Virology (2007- 2015), Molecular Cell Biology (2008 - 2015), Introductory Molecular Cell Biology (2009 - 2015), Molecular Cell Biology Lab (2011 - 2015)
- ◆ Participant in the Bridges to Baccalaureate outreach program, which brings local community college students to the university for 2-month summer research internships (supervised 8 students over three summers).
- ◆ Peer-reviewer for: *Virology*, *Journal of General Virology*, *Yeast*, *Insect Biochemistry and Molecular Biology*, *PLoS ONE*, *Bulletin of Insectology*, *Journal of Invertebrate Pathology*, *Viruses*, and *Pest Management Sciences*.

**Postdoctoral Research Fellow** 2007

Tokyo University of Agriculture and Technology  
Laboratory of Biological Control: Yasuhisa Kunimi Lab

- ◆ Proved that resistance in several species of tortricid tea pests to oral infection by the baculovirus *Adho*NPV is due to reduced virus binding to midgut epithelial cells

**Postdoctoral Research Fellow** 2006-2007

Bayer Healthcare Pharmaceuticals  
Inflammation and Immunology

- ◆ Analyzed the contributions of immunological memory and heterologous immunity to

inflammatory diseases in murine models of multiple sclerosis, inflammatory bowel disease and psoriasis using flow cytometry, immunohistochemistry and quantitative PCR.

- ◆ Supervised the research activities of a technician (direct report).
- ◆ Coordinated research projects with several departments, including Animal Pharmacology, Pathology, Enabling Technologies and Computational Biology.

### **Postdoctoral Research Fellow**

2003-2006

University of California, San Francisco

Cell and Tissue Biology: Nina Agabian Lab

- ◆ Made the unique discovery that the human pathogen, *Candida albicans* produces the anti-inflammatory lipid, resolvin E1 and described the impact of this lipid mediator on human neutrophils. Resolvin E1 is a signaling molecule that promotes the resolution of inflammation in humans and may be produced by *C. albicans* to facilitate its persistence in human tissues.
- ◆ Established and maintained collaborations with scientists at UC San Francisco, Harvard and Free University of Berlin (Germany) for lipid research in the Agabian lab.
- ◆ Transcriptional profiling of human neutrophils and *C. albicans* using microarrays and quantitative PCR.
- ◆ Generated and characterized knockouts of acetyl-coenzyme-A dehydrogenase (ACD99) and multifunctional enzyme (MFE1) in *C. albicans* in order to research lipid mediator biosynthesis.

### **Instructor**

2003-2007

University of California Berkeley Extension, Berkeley CA

Department of Basic Sciences

- ◆ Developed the curriculum and taught Medical Virology to undergraduate and post-graduate students.

### **Graduate Student Researcher**

1996-2003

University of California, Berkeley

Environmental Science, Policy and Management: Loy Volkman Lab

- ◆ Proved that the *AcMNPV* envelope protein P74 mediates specific binding of the virus to epithelial tissue.
- ◆ Determined that the restricted host range of a baculovirus is due to inefficient binding of the viral envelope to epithelial tissue.
- ◆ Contributed to demonstrating that a robust cellular immune response confers resistance to baculovirus infection.
- ◆ Characterized the *in vivo* pathogenesis of an economically important baculovirus.
- ◆ Developed a novel method for quantifying *ex vivo* virus binding and fusion to epithelial tissue.
- ◆ Supervised and coordinated the research activities of 19 undergraduate researchers.

### **Undergraduate Student Researcher**

1994-1996

University of California, Berkeley

Molecular and Cellular Biology: Loy Volkman Lab

- ◆ Characterized the mode of action in lepidopteran larvae for chemical enhancers of baculovirus infectivity.

### **SKILLS**

***Arthropod and Animal.*** Survey arthropod populations using adult and larval traps;

Taxonomic keys (arthropod and bird); Insect colony maintenance (mosquito, fly and lepidoptera); CDC bottle bioassay (insecticide resistance); Droplet size analysis; Small animal care, bleeding, tail vein injection, immunization, dissection, euthanize.

**Molecular and Cellular.** Nucleic acid and protein purification and quantitation; PCR; Quantitative PCR; RNA-Seq; Proteomics; Cloning (bacteria and yeast); Enzyme activity assays; Gel electrophoresis; Northern and western blot; ELISA; Flow cytometry; MALDI-TOF and liquid chromatography mass spectrometry (lipid and peptide); Bioinformatics; Microscopy (dissection, compound, epifluorescence, confocal, and electron (TEM and SEM)); Immunohistochemistry (cell and tissue); Cell and tissue culture (bacteria, yeast, insect and mammalian); Virus isolation and characterization (ultracentrifugation, plaque assay).

**Analytical, Visualization, and Editing Software.** MapVision (geospatial data visualization and management); SlantView and DroneDeploy (drone image analysis); Prism (graphical and statistical); MS Excel (including pivot tables); Tableau and Power BI (data visualization and dashboards); FlowJo (flow cytometry); Quantity One (gel imaging and analysis), ImageJ (image processing); DNASTar Lasergene (bioinformatics); MS Word, MS PowerPoint; Windows Server 2012 (administrator); Adobe Illustrator, Photoshop, Premier Pro, Acrobat, and Lightroom.

#### PEER-REVIEWED PUBLICATIONS

1. Sy ND, Wheeler SS, Reed M, Haas-Stapleton EJ, Reyes T, Bear-Johnson M, Klueh S, Cummings R, Su T, Xiong Y, Shi Q, Gan J, 2022. Pyrethroid insecticides in urban catch basins: A potential secondary contamination source for urban aquatic systems. *Environmental Pollution*. <https://doi.org/10.1016/j.envpol.2022.120220>
2. Hager KM, Gaona E, Kistler AL, Ratnasiri K, Retallack H, Barretto M, Wheeler SS, Haas-Stapleton EJ, 2022. Quantitative reverse transcription PCR assay to detect a genetic marker of pyrethroid resistance in *Culex* mosquitoes. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0252498>
3. Wieland M, Huston J, Clausnitzer R, Haas-Stapleton EJ, 2022. Mr. Mister: Rockin' the *Aedes* of the San Francisco Bay Salt Marshes. *Journal of the American Mosquito Control Association*. <https://doi.org/10.2987/22-7082>.
4. Castillo EB, Clausnitzer RJ, Haas-Stapleton EJ, 2022. Mosquito control opportunities amid regulations within the tidal marshes of the San Francisco Bay Area. *Wetlands Ecology and Management*. <https://doi.org/10.1007/s11273-021-09832-6>.
5. Haas-Stapleton EJ and Rochlin I, 2022. Wetlands and mosquito control in the twenty-first century. *Wetlands Ecology and Management*. [doi.org/10.1007/s11273-022-09860-w](https://doi.org/10.1007/s11273-022-09860-w)
6. Batson J, Dudas G, Haas-Stapleton EJ, Kistler AL, Li LM, Logan P, Ratnasiri K, Retallack H, 2021. Single mosquito metatranscriptomics identifies vectors, emerging pathogens and reservoirs in one assay. *eLife*, 10:e68353 doi: 10.7554/eLife.68353
7. Ary F, Haas-Stapleton EJ, Sorensen B, Scholl M, Goodman G, Buettner J, Schon S, Lefkow N, Lewis C, Fritz B, Hoffman C, Williams G, 2021. Toys or Tools? Utilization of Unmanned Aerial Systems in Mosquito and Vector Control Programs. *Journal of Economic Entomology*, 114(5) 1896-1909. <https://doi.org/10.1093/jee/toab107>.
8. Esterly AT, Alemayehu D, Rusmisl B, Busam J, Shelton T, Sebay T, Zahiri N, Haas-Stapleton EJ, 2020. *Culex erythrothorax* (Diptera: Culicidae): Activity periods, insecticide susceptibility, and control in California (USA). *PLOS ONE*. [doi.org/10.1371/journal.pone.0228835](https://doi.org/10.1371/journal.pone.0228835).
9. Haas-Stapleton EJ, Barretto MC, Castillo EB, Clausnitzer RJ, Ferdan RL, 2019. Assessing Mosquito Breeding Sites and Abundance Using an Unmanned Aircraft. *Journal of the American Mosquito Control Association*, 35(3), 228-232. [doi.org/10.2987/19-6835.1](https://doi.org/10.2987/19-6835.1)

10. Alemayehu D, Reyes T, Haas-Stapleton EJ, 2018. Field Evaluation of a Redesigned Oviposition Trap to Monitor Gravid Invasive *Aedes* Mosquitoes in a Suburban Environment. *Journal of the American Mosquito Control Association*, 34(1), 67-69. doi.org/10.2987/17-6647.1
11. Kento I, Haas-Stapleton EJ, Kunimi Y, Inoue MN, Nakai M, 2017. Midgut-based resistance to oral infection by a nucleopolyhedrovirus in the laboratory-selected strain of the smaller tea tortrix, *Adoxophyes honmai* (Lepidoptera: Tortricidae). *J of General Biology*, 98:296-304.
12. Stephens KD, Chikhalya A, Archie, J, Haas-Stapleton EJ, 2013. Pathogenesis of *Autographa californica* M nucleopolyhedrovirus in fourth instar *Pseudoplusia includens* larvae. *Biological Control*, 65(1):101-108
13. Beck WHJ, Adams CP, Biglang-awa IM, Patel AB, Vincent H, Haas-Stapleton EJ, Weers PMM, 2013. ApoA-I binding to anionic liposomes and lipopolysaccharides: roles for lysine residues in antimicrobial proteins. *BBA- Biomembranes*, Jun;1828(6):1503-10
14. Moreno-Habel DA, Biglang-awa IM, Dulce A, Luu DD, Garcia P, Weers PMM, Haas-Stapleton EJ, 2012. Inactivation of the budded virus of *Autographa californica* M nucleopolyhedrovirus by gloverin. *Journal of Invertebrate Pathology*, 110, 92-101.
15. Chikhalya A, Luu DD, Carrera M, De La Cruz A, Torres M, Martinez EN, Chen T, Stephens KD, Haas-Stapleton EJ, 2009. Pathogenesis of *Autographa californica* M nucleopolyhedrovirus in fifth instar *Anticarsia gemmatalis* larvae. *Journal of General Virology*, 90 (2009), 2023.
16. Lucas JL, Mirshahpanah P, Haas-Stapleton EJ, Asadullah K, Zollner TM, Numerof RP, 2009. Induction of Foxp3+ Regulatory T Cells with Histone Deacetylase Inhibitors. *Cellular Immunology*; 257(1-2):97-104.
17. Haas-Stapleton EJ, Lu Y, Hong S, Arita M, Favoreto S, Nigam S, Charles N. Serhan CN, and Agabian N, 2007. *Candida albicans* modulates host defense by biosynthesizing the pro-resolving mediator Resolvin E1. *PLoS ONE*; 2(12): e131.
18. Kohler GA, Brenot A, Haas-Stapleton EJ, Agabian N, Nigam, S, 2006. Phospholipase A2 and phospholipase B activities in fungi. *Biochim Biophys Acta*. 1761(11):1391-9.
19. Haas-Stapleton EJ, Washburn JO and Volkman LE, 2005. *Spodoptera frugiperda* resistance to oral infection by *Autographa californica* multiple nucleopolyhedrovirus linked to aberrant occlusion-derived virus binding in the midgut. *Journal of General Virology* 86: 1349-1355.
20. Haas-Stapleton EJ, Washburn JO, Volkman LE, 2004. P74 mediates specific binding of *Autographa californica* M nucleopolyhedrovirus occlusion-derived virus to primary cellular targets in the midgut epithelia of *Heliothis virescens* larvae. *Journal of Virology* 78(13):6786.
21. Haas-Stapleton EJ, Washburn JO, Volkman LE, 2003. Pathogenesis of *Autographa californica* nucleopolyhedrovirus in fifth instar *Spodoptera frugiperda* larvae. *Journal of General Virology* 84: 2033-2040.
22. Washburn JO, Trudeau D, Haas-Stapleton EJ, Volkman LE, 2000. *In vitro* hemocyte and tissue assay for assessing baculovirus interactions with their host insects. *In Vitro Cellular and Developmental Biology*. 36(2):15.
23. Washburn JO, Haas-Stapleton EJ, Tan FF, Beckage NE, Volkman LE, 2000. Co- infection of *Manduca sexta* larvae with polydnavirus from *Cotesia congregata* increases susceptibility to fatal infection by *Autographa californica* M Nucleopolyhedrovirus. *Journal of Insect Physiology*. 46(2):179-190.
24. Washburn JO, Lyons EH, Haas-Stapleton EJ, Volkman LE, 1999. Multiplenucleocapsid packaging of *Autographa californica* nucleopolyhedrovirus accelerates the onset of systemic infection in *Trichoplusia ni*. *Journal of Virology*. 73(1):411-416.
25. Washburn JO, Kirkpatrick BA, Haas-Stapleton EJ, Volkman LE, 1998. Evidence that the stilbene-derived optical brightener M2R enhances *Autographa californica* M nucleopolyhedrovirus infection of *Trichoplusia ni* and *Heliothis virescens* by preventing sloughing of infected midgut epithelial cells. *Biological Control*. 11(1): 58-69.

## ABSTRACTS AND PRESENTATIONS

1. Haas-Stapleton EJ, 2022. Implementing sustainable IPM at Alameda County Mosquito Abatement District. Invited presentation to the San Francisco Department of the Environment that provided CDPH and DPR continuing education units to participants.
2. Haas-Stapleton EJ, 2022. A panoply of drone uses for mosquito control. Presented at the 2022 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA.
3. Barretto M, Fang Y, Haas-Stapleton EJ, Kelley K, MVCAC Laboratory Technologies Committee, 2022. Evaluating three kits to isolate RNA for arbovirus testing. Presented at the 2022 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA.
4. Wieland M, Huston J, Clausnitzer R, Haas-Stapleton EJ, 2022. Mr. Mister: rockin the Aedes of the San Francisco Bay salt marshes. Presented at the 2022 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA.
5. Estus E, Clausnitzer, Haas-Stapleton EJ, 2022. Equitable, effective practices for mosquito abatement in Alameda County: challenges and solutions. Presented at the 2022 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA.
6. Haas-Stapleton EJ, 2021. Mr. Mister Rockin' Salt Marsh Aedes. Presented at the 2021 Annual Conference of the Utah Mosquito Abatement Association. Park City, UT
7. Hager KM, Gaona E, Kistler AL, Ratnasiri K, Retallack H, Barretto M, Wheeler SS, Haas-Stapleton EJ, 2020. Development of a Culex kdr assay for the detection of pyrethroid resistance. Presented at the 2020 Annual Meeting of the American Mosquito Control Association. San Diego, CA.
8. Buettner J and Haas-Stapleton EJ, 2020. First live-action drone workshop at MVCAC 2020 Annual Conference. Presented at the 2020 Annual Meeting of the American Mosquito Control Association. San Diego, CA.
9. Alemayehu D, Barretto M, Busam J, Sette J, Wieland M, Haas-Stapleton EJ, 2020. Evaluating mosquito abundance using a New Jersey Light Trap fitted with an LED light bulb and BG Lure. Presented at the 2020 Annual Meeting of the American Mosquito Control Association. San Diego, CA.
10. Barretto M, Ferdan R, Haas-Stapleton EJ, 2020. Design, manufacture, and construction of an inexpensive 3D-printed CO<sub>2</sub>-baited EVS trap. Presented at the 2020 Annual Meeting of the American Mosquito Control Association. San Diego, CA.
11. Alemayehu D, Barretto M, Haas-Stapleton EJ, 2020. Use of a pop-up garden waste bag as a resting mosquito trap for mosquito surveillance. Presented at the 2020 Annual Meeting of the American Mosquito Control Association. San Diego, CA.
12. Haas-Stapleton EJ, 2019. Collaborative opportunities with drones and machine learning for precision mosquito control. Invited seminar at the Chan Zuckerberg Biohub.
13. Haas-Stapleton EJ and Clausnitzer RJ, 2019. Assessing mosquito breeding sites from above. Presented at the 2019 Annual Meeting of the American Mosquito Control Association. Orlando, FL.
14. Barretto M, Alemayehu D, Haas-Stapleton EJ, 2019. Mapping the *kdr* mutation in *Culex pipiens* throughout Alameda County. Presented at the 2019 Annual Meeting of the Mosquito and Vector Control Association of California. Burlingame, CA.
15. Avery A, Barretto M, Busam J, Ebrahimi B, Tietze N, Haas-Stapleton EJ, 2019. Determining the effectiveness of a sticky light trap in trapping and testing mosquitoes for insecticide resistance. Presented at the 2019 Annual Meeting of the Mosquito and Vector Control Association of California. Burlingame, CA.

16. Erspamer S, Avery A, Huston J, Haas-Stapleton EJ, 2019. Unexpected observations in catch basins treated with extended release briquettes. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
17. Haas-Stapleton EJ and Barretto M, 2019. Engagement at the UC Berkeley Henry Wheeler Center for Emerging and Neglected Diseases.
18. Haas-Stapleton EJ and Alemayehu D, 2018. Invasive *Aedes* Surveillance Network in Alameda County. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
19. Roacho J, Esterly A, Haas-Stapleton EJ, 2018. Blood-meal analysis of *Culex erythrothorax* collected in a marsh habitat. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
20. Avila D and Haas-Stapleton, EJ, 2018. Permethrin resistance in *Culex pipiens*. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
21. Alemayehu D, Busam J, Reyes T, Haas-Stapleton EJ, 2018. Mosquito Magnet and BG-Sentinel Traps Baited with BG-Lure for Collecting *Aedes aegypti*. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
22. Erspamer S, Wieland M, Huston J, Haas-Stapleton EJ, 2018. Saving resources by utilizing novel tool to dip for larvae in out-of-reach sources. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
23. Lakha R, Barretto M, Haas-Stapleton, 2018. Insecticide Resistance in *Culex tarsalis*. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
24. Haas-Stapleton EJ, Retallack H, Goo L, Kistler A, DeRisi J, 2018. Metagenomic sequencing of *Culex tarsalis* from the field. Presented at the 2018 Annual Meeting of the Mosquito and Vector Control Association of California. Monterey, CA.
25. Esterly A, Alemayehu D, Sebay T, Shelton T, Zahiri N, Haas-Stapleton EJ, 2017. *Culex erythrothorax*: temporal pattern of adult activity and resistance to pesticides, Presented at the 2017 Annual Meeting of the Mosquito and Vector Control Association of California. San Diego, CA.
26. Alemayehu D and Haas-Stapleton EJ, 2017. Field evaluation of a redesigned oviposition trap to monitor gravid invasive *Aedes* mosquitoes. Presented at the 2017 Annual Meeting of the Mosquito and Vector Control Association of California. San Diego, CA.
27. Haas-Stapleton EJ, Alemayehu D, Macdonald W, Zahiri N, 2016. Comparison of RNA extraction methods for detection of virus in mosquitoes. Presented at the 2016 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA
28. Alemayehu D, Weiland M, Haas-Stapleton EJ, 2016. Mosquito trap modifications for improved utility in abundance monitoring. Presented at the 2016 Annual Meeting of the Mosquito and Vector Control Association of California. Sacramento, CA
29. Haas-Stapleton EJ and Clausnitzer R, 2016. From Global to Local: California's Response to Zika. Panel Discussion for the UC Berkeley Zika Symposium: Frontline Update. Sponsored by the Center for Global Public Health at UC Berkeley. Berkeley, CA
30. Haas-Stapleton EJ, 2016. Mosquitoes and the bugs they spread. Berkeley Community Response Teams Meeting. Berkeley CA.
31. Batugedara H, Chikhalya AY, and Haas-Stapleton EJ, 2013. Identification of Novel Genes for Fatty Acid Metabolism in *Saccharomyces cerevisiae* and the Effects of the Fatty acid Metabolite Prostaglandin E<sub>2</sub> on Neutrophil Effector Functions. Presented at the Presented at the 24<sup>th</sup> Annual CSU Biotechnology Symposium.
32. Embretson K, Lang J, Smith, C, Chu T and Haas-Stapleton EJ, 2012. *Autographa californica* M Nucleopolyhedrovirus (AcMNPV) Pathogenesis in *Trichoplusia ni* Larvae. Presented at the Presented at the Annual Biomedical Research Conference for Minority Students (San Jose,

- CA; winner of 2012 ABCRMS Presentation Award) and CSU Long Beach College of Natural Sciences Annual Student Research Symposium.
33. McMenamy E and Haas-Stapleton EJ, 2012. Putative Latency of *Autographa californica* M Nucleopolyhedrovirus (AcMNPV) Pathogenesis in *Anticarsia gemmatails* Larvae. Presented at the CSU Long Beach College of Natural Sciences Annual Student Research Symposium.
  34. Chikhalya AY, Maltby D and Haas-Stapleton EJ, 2012. *Saccharomyces cerevisiae* produces the immunoregulatory Prostaglandin E2. Presented at the 23<sup>rd</sup> Annual CSU Biotechnology Symposium convened in San Jose, CA.
  35. Moreno-Habel DA, Dulce A, Luu D, Garcia P and Haas-Stapleton EJ, 2012. Antiviral activity of gloverin against the budded virus of *Autographa californica* M Nucleopolyhedrovirus. Presented at the 23<sup>rd</sup> Annual CSU Biotechnology Symposium convened in San Jose, CA.
  36. Moreno-Habel DA, Dulce A, Luu D, Garcia P and Haas-Stapleton EJ, 2012. Gloverin: an antiviral protein induced in *Trichoplusia ni* during baculovirus infection. Presented at the 44<sup>th</sup> Annual Meeting of the Society for Invertebrate Pathology. Halifax, Nova Scotia, Canada.
  37. Haas-Stapleton EJ, 2011. The Bridges to Baccalaureate Program: A path to independent undergraduate research. Presented at Long Beach City College and at Cerritos Community College.
  38. Moreno-Habel DA, Dulce A and Haas-Stapleton EJ, 2010. Antiviral Role of Gloverin in Baculovirus-infected *Trichoplusia ni* Larvae. Presented at the Annual Biomedical Research Conference for Minority Students (Charlotte, NC) and the CSU Long Beach College of Natural Sciences Annual Student Research Symposium.
  39. Vincent H, Myrter C and Haas-Stapleton EJ, 2010. *Autographa californica* M Nucleopolyhedrovirus Stimulates Hemocyte Proliferation in *Manduca sexta* Larvae. Presented at the Annual Biomedical Research Conference for Minority Students (Charlotte, NC) and the CSU Long Beach College of Natural Sciences Annual Student Research Symposium.
  40. Haas-Stapleton EJ, Chen T and Vincent H, 2010. Hemocytes proliferate in response to inactivated baculovirus. Presented at the 43<sup>rd</sup> Annual Meeting of the Society for Invertebrate Pathology. Trabzon, Turkey.
  41. Haas-Stapleton EJ, 2010. Hemocyte responses to baculovirus infection. Presented at the CSU Long Beach College of Natural Sciences and Mathematics Faculty Research Symposium.
  42. Haas-Stapleton EJ, 2010. Balancing Baculovirus Pathogenesis with Insect Immunity. Presented at California State University, Los Angeles and at Cerritos Community College.
  43. Moreno-Habel DA, Nulia MN, Handen E, Malland M and Haas-Stapleton EJ, 2009. RNAi directed against *juvenile hormone esterase* dysregulates development of *Spodoptera exigua* larvae. Presented at the Annual Biomedical Research Conference for Minority Students (Phoenix, AZ) and the CSU Long Beach College of Natural Sciences Annual Student Research Symposium.
  44. Chen T, Luu DD and Haas-Stapleton, 2009. Hemocyte proliferation in response to baculovirus infection. Presented at the Annual Meeting of the Entomological Society of America. Indianapolis, IN.
  45. Haas-Stapleton EJ, de la Cruz A, Martinez EN, Torres M, and Chen T 2009. Systemic pathogenesis of AcMNPV budded virus in *Anticarsia gemmatalis* larvae. Presented at the 42<sup>nd</sup> Annual Meeting of the Society for Invertebrate Pathology. Park City, UT.
  46. Chikhalya A and Haas-Stapleton EJ, 2008. Baculovirus pathogenesis in the velvetbean caterpillar. Presented at The Bench, Beach, Land and Ocean Research Forum at California State University, Long Beach.
  47. Haas-Stapleton EJ, Carrera M, Chen T, Chikhalya A, de la Cruz A, Stephens K, Torres M, 2008. Low oral infectivity of AcMNPV in *Anticarsia gemmatalis* larvae correlates with resistance to hemocyte infection by budded virus. Presented at the 41<sup>st</sup> Annual Meeting of the Society for Invertebrate Pathology. Coventry, United Kingdom.

48. Haas-Stapleton EJ, 2007. Block the bud: Anti-baculovirus defense in lepidopteran larvae midgut. Presented at the Annual Meeting of the Entomological Society of America. San Diego, CA.
49. Haas-Stapleton EJ, 2007. Resistance to baculovirus infection in lepidopteran crop pests. Presented at The Laboratory of Biological Control, Tokyo University of Agriculture and Technology. Fuchu, Tokyo JAPAN.
50. Haas-Stapleton EJ, 2007. Resistance to baculovirus infection in crop pests. Presented at California State University Sonoma.
51. Haas-Stapleton EJ, Brenot A, Kohler G, Agabian N, 2006. *Candida albicans* modulates host defense by synthesizing the anti-inflammatory lipid Resolvin E1. Presented at the 8<sup>th</sup> American Society for Microbiology Conference on *Candida* and Candidiasis. Denver, CO.
52. Haas-Stapleton EJ, 2006. *Candida albicans* modulates host defense by synthesizing the anti-inflammatory lipid resolvin E1. Presented at 21<sup>st</sup> UARP HIV/AIDS Investigators' Meeting. South San Francisco, CA
53. Deva R, Ciccoli R, Haas-Stapleton EJ, Köhler G, Agabian N, Nigam S, 2005. Biosynthesis of 3-HETE in candidiasis: an indicator of hyphal formation and pathogenicity in *C. albicans*-infected epithelial cells. Presented at the 2<sup>nd</sup> International Conference on Nonmammalian Eicosanoids, Bioactive Lipids and Plant Oxylipins. Berlin, Germany
54. Haas-Stapleton EJ, 2005. Lipid mediators produced by *Candida albicans* modulate neutrophil function. Presented at the University of California, San Francisco Microbial Pathogenesis Journal Club. San Francisco, CA
55. Haas-Stapleton EJ, Washburn JO, Volkman LE, 2003. Suboptimal Binding of AcMNPV ODV to the Midgut Epithelia of *Spodoptera frugiperda* Larvae Correlates with Low Oral Infectivity. Presented at the 22<sup>nd</sup> Annual Meeting of the American Society for Virology. Davis, CA
56. Haas-Stapleton EJ, Washburn JO, Volkman LE, 2002. AcMNPV P74 Mediates ODV Binding to the Midgut Epithelium of *Heliothis virescens*. Presented at the 21<sup>st</sup> Annual Meeting of the American Society for Virology. Lexington, KY

## TEACHING EXPERIENCE

2007-2015: California State University, Long Beach

Biological Sciences I Laboratory: BIOL 211A (2007)

Virology: BIOL/MICR 416 (2007- 2015)

Molecular Cell Biology: BIOL340 (2008 - 2015)

Introductory Molecular Cell Biology: BIOL 212 (2009 - 2015)

Molecular Cell Biology Lab: BIOL440L (2011 - 2015)

2003-2007: University of California Berkeley Extension

Medical Virology: X142

## COMPETITIVE FUNDING RECEIVED

Haas-Stapleton EJ (Agency Contact) and Clausnitzer R (Contract Executor) 2017 – 2018  
Centers for Disease Control, Epidemiology and Laboratory Capacity Cooperative Agreement  
Enhanced Surveillance for invasive *Aedes* mosquitoes

The goal of this project is to establish a broad invasive *Aedes* trap network throughout Alameda County comprised of at least 400 traps that are continuously monitored for mosquito abundance. Responsibilities: supervise a Masters of Public Health Intern that will identify risk factors for determining trap density in regions throughout Alameda County, supervise two part time laboratory technicians who will deploy and inspect traps, evaluate the feasibility and sustainability of the invasive *Aedes* trap network.

Haas-Stapleton and Grace Reynolds (co-Principal Investigators) 2012 – 2013  
Office of Research & Sponsored Programs, CSULB  
Incidence testing for HIV-1 in an at-risk population residing in Long Beach, CA  
The goal of this project is to determine whether long term storage of serum specimens affect sample integrity and to gain a preliminary estimate of HIV incidence in an at-risk population residing in Long Beach, CA. Responsibilities: execute experiments, write manuscripts, train and advise a technician.

S011-14-RSCA Haas-Stapleton 2011 – 2015  
CSULB, College of Natural Resources and Mathematics  
Research, Scholarship and Creative Activities (RSCA) Assigned Time Awards,  
Defining the biosynthetic pathway of PGE<sub>2</sub> in *Saccharomyces cerevisiae*.

1SC3GM092298-01 Haas-Stapleton (Principal Investigator) 06/2010 – 06/2015  
NIH  
Bioactive lipids in food and pharmaceutical products  
The goals of this project are to (1) define the biosynthetic pathway of PGE<sub>2</sub> in *Saccharomyces cerevisiae* (2) quantify the PGE<sub>2</sub> content of foods and pharmaceutical products manufactured using *S. cerevisiae* (3) determine the biological effects of PGE<sub>2</sub> on cultured cells isolated with the gastrointestinal tract of humans. Responsibilities: execute experiments, write manuscripts, train and advise a technician.

2008-03990 Haas-Stapleton (Principal Investigator) 01/2009 – 02/2011  
USDA-CREES  
New Investigator Award  
Comparative pathogenesis of the baculoviruses *AcMNPV* and *AgMNPV* in larvae of the soybean pests *Anticarsia gemmatilis* and *Pseudoplusia includens*.  
The goals of this project are to (1) define the pathogenesis of a baculovirus in two insect pests of soybean (2) determine mechanism for immune cell proliferation in response to virus infection in insects (3) develop novel method for quantifying virus levels in insect blood. Responsibilities: Advise M.S. students in experiment design, execution and manuscript preparation. Conduct experiments when required.

S09-SCAC Haas-Stapleton (Principal Investigator) 02/2009-06/2010  
CSULB, College of Natural Resources and Mathematics  
Baculovirus control of soybean crop pests.  
Define the pathways for virus entry into two significant insect pests of soybean.

S08-SCAC Haas-Stapleton (Principal Investigator) 02/2008-06/2009  
CSULB, College of Natural Resources and Mathematics  
Cellular impacts of *Bt* toxin on baculovirus infection in an insect crop pest.  
Evaluate the additive contributions of *Bt* toxin with baculovirus infection in an economically important insect pest of corn.

PE07024 Nakai and Haas-Stapleton (co-PIs) 06/2007-09/2007  
Japan Society for the Promotion of Science  
Postdoctoral Research Fellowship  
Baculovirus resistance in Tortricid pests of tea.  
Determine whether virus attachment and/or fusion limited the infectivity of a baculovirus in an important insect pest of tea.

F04-SF-211                      Haas-Stapleton (Principal Investigator)                      11/2004 – 10/2006  
University-wide AIDS Research Projects  
Postdoctoral Research Fellowship  
Oxylipins may enhance *Candida albicans* in oral lesions.  
    Identify bioactive lipid signaling molecules produced by *Candida albicans* using mass spectrometry and determine the impact of the lipids on cells of the human immune system.

## SERVICE

- ◆ Founding Chair of the *ad hoc* Drone Committee of the Mosquito and Vector Control Association of California (2021- 2023)
- ◆ Chair of the Laboratory Technologies Committee of the Mosquito and Vector Control Association of California (2018 - 2021).
- ◆ Chair of the Vector Control Research Committee of the Mosquito and Vector Control Association of California (2016, 2017).
- ◆ Federal Grant Panels: US Department of Agriculture, Institute of Food Production and Sustainability (Panel Manager (2015), Panelist (2013 and 2014); NSF IOS (2012 *ad hoc*)
- ◆ Editor of the Society for Invertebrate Pathology Newsletter (2011- 2015).
- ◆ Member of the Presidents Campus Tobacco and Smoke-Free Policy Task Force (2015)
- ◆ Member of the Graduate Studies Committee (2011-2015)
- ◆ Member of Curricular Committee for the Department of Biological Sciences (2009-2012).
- ◆ Member of the Executive Committee for the Department of Biological Sciences (2011-2013).
- ◆ Member of the Institutional Biosafety Committee (2011-2015)
- ◆ Member of the Molecular Cell Biologist Search Committee (2010-2011) and Plant Evolutionary Biologist (2014-2015).
- ◆ Thesis committees: chair for 4 Master’s students and member for 9 additional Master’s students.
- ◆ *Ad hoc* committee member for redesigning the introductory biology core courses (2008).
- ◆ Organized Bioinformatics Workshop and Co-chaired a Contributed Research Papers Session at the 2010 annual meeting of the Society of Invertebrate Pathology in Trabzon, Turkey.
- ◆ Co-Organizer of a Symposium entitled “Pathology of Insect Virus Interactions” for the 2011 annual meeting of the Society of Invertebrate Pathology in Halifax, Nova Scotia, Canada.

## HONORS AND AWARDS

2013	National Academies Education Fellow in the Life Sciences
2012	Sony Scholarship Award for Innovative Instruction with Technology, California State University (system-level award).
2009	New Investigator Award, USDA-CSREES.
2008	Scholarly and Creative Activities Award, California State University Long Beach.
2007	Scholarly and Creative Activities Award, California State University Long Beach.
2007	Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship.
2006	BRAVO Award, Bayer HealthCare Pharmaceuticals.
2004	University-wide AIDS Research Project Postdoctoral Fellowship.
2002	Edward Steinhaus Memorial Award, University of California, Berkeley.
2001	Julius H. Freitag Memorial Award, University of California, Berkeley.

## LICENSES AND CERTIFICATIONS

California Department of Public Health: Vector Control Technician, Categories A, B, C, D.  
Federal Aviation Administration: Remote Pilot Certificate for piloting unmanned aircsystems  
(*i.e.* drones).  
California Driver License, Class C M1.

**PROFESSIONAL MEMBERSHIPS**

Entomological Society of America  
Mosquito and Vector Control Association of California  
American Mosquito Control Association  
Sierra Club