

## CURRICULUM VITAE

### NEIL DURIE TSUTSUI

University of California, Berkeley  
Department of Environmental Science,  
Policy & Management  
130 Mulford Hall, #3114  
Berkeley CA 94720-3114

EMAIL: [ntsutsui@berkeley.edu](mailto:ntsutsui@berkeley.edu)  
PH: (510) 642-9012  
FAX: (510) 643-5947  
WEB: <http://nature.berkeley.edu/tsutsuilab>

### EDUCATION

Boston University	Biology (Marine Science)	B.A., 1994
UC San Diego	Biology	Ph.D., 2000
UC Davis	Center for Population Biology/ Dept. of Evolution & Ecology	Post-doctoral, 2000-2003

### PROFESSIONAL APPOINTMENTS

2010-2012, 2014-present	Vice Chair for Instruction, ESPM, UC Berkeley
2014-present	Full Professor, UC Berkeley
2007-present	Faculty Curator, Essig Museum of Entomology
2009-2014	Associate Professor, UC Berkeley
2007-2009	Assistant Professor, UC Berkeley Department of Environmental Science, Policy & Management
2003-2007	Assistant Professor, UC Irvine Department of Ecology and Evolutionary Biology

### SELECTED PUBLICATIONS (of 55 total)

- Tsutsui, N. D.** 2013. Dissecting ant recognition systems in the age of genomics. *BIOLOGY LETTERS* **9**:20130416.
- Emery, V. J. and **N. D. Tsutsui**. 2013. Recognition in a social symbiosis: Chemical phenotypes and nestmate recognition behaviors of Neotropical parabiotic ants. *PLOS ONE* **8**(2): e56492.
- Choe, D.-H., D. B. Villafuerte and **N. D. Tsutsui**. 2012. Trail pheromones of the Argentine ant, *Linepithema humile* (Mayr) (Hymenoptera: Formicidae). *PLOS ONE* **7**(9):e45016.
- Choe, D.-H., S. R. Ramírez and **N. D. Tsutsui**. 2012. A silica gel-based method for extracting insect surface hydrocarbons. *JOURNAL OF CHEMICAL ECOLOGY*. DOI 10.1007/s10886-012-0074-1.
- Ramírez, S. R., T. Eltz, M. K. Fujiwara, G. Gerlach, B. Goldman-Huertas, **N. D. Tsutsui** and N. E. Pierce. 2011. Asynchronous diversification in a specialized plant-pollinator mutualism. *SCIENCE*. **333**: 1742-1746.
- van Wilgenburg, E., A. Felden, D.-H. Choe, R. Sulc, J. Luo, K. J. Shea, M. A. Elgar and **N. D. Tsutsui**. 2011. Learning and discrimination of cuticular hydrocarbons in a social insect. *BIOLOGY LETTERS*.
- Johnson, B. R. and **N. D. Tsutsui**. 2011. Taxonomically restricted genes are associated with the evolution of sociality in the honey bee. *BMC GENETICS* **12**:164.
- Suen, G., *et al.* 2011. The genome sequence of the leaf-cutter ant, *Atta cephalotes*, reveals insights into its obligate symbiotic lifestyle. *PLOS GENETICS* **7**:e1002007.

- Smith, C. R., *et al.* 2011. A draft genome of the red harvester ant, *Pogonomyrmex barbatus*: a model for reproductive division of labor and social complexity. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA **108**:5667-5672.
- Smith, C. D., *et al.* 2011. The draft genome of the globally widespread and invasive Argentine ant (*Linepithema humile*). PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA **108**:5673-5678. \* **N. D. Tsutsui** – corresponding author.
- Franks, S. J., P. D. Pratt, and **N. D. Tsutsui**. 2010. The genetic consequences of a demographic bottleneck in an introduced biological control insect. CONSERVATION GENETICS **12**:201-211.
- van Wilgenburg, E., C. W. Torres and **N. D. Tsutsui**. 2010. The global expansion of a single ant supercolony. EVOLUTIONARY APPLICATIONS **3**:136-143.
- Suarez, A. V., T. McGlynn and **N. D. Tsutsui**. 2010. Biogeographic patterns of invasive species. In: Lach, L., C. Parr, and K. Abbott, eds., ANT ECOLOGY, pp. 233-244.
- van Wilgenburg, E., J. Clémencet and **N. D. Tsutsui**. 2010. Experience influences aggressive behaviour in the Argentine ant. BIOLOGY LETTERS **6**:152-155.
- Brandt, M., E. van Wilgenburg, R. Sulc, K. J. Shea and **N. D. Tsutsui**. 2009. The scent of supercolonies: The discovery, synthesis and behavioral verification of ant colony recognition cues. BMC BIOLOGY **7**:71.
- Brandt, M., E. van Wilgenburg, and **N. D. Tsutsui**. 2009. Global-scale analyses of chemical ecology and population genetics in the invasive Argentine ant. MOLECULAR ECOLOGY **18**:997-1005.
- Cooper, M. L., K. M. Daane, E. H. Nelson, L. G. Varela, M. C. Battany, **N. D. Tsutsui**, and M. K. Rust. 2008. Liquid baits manage Argentine ants in coastal vineyards. CALIFORNIA AGRICULTURE **62**:177-183.
- Suarez, A. V., D. A. Holway and **N. D. Tsutsui**. 2008. Genetics and behavior of a colonizing species: The invasive Argentine ant. AMERICAN NATURALIST **172**:S72-S84.
- Tsutsui, N. D.**, A. V. Suarez, Spagna, J. C. and J. S. Johnston. 2008. The evolution of genome size in ants. BMC EVOLUTIONARY BIOLOGY **8**:64.
- Suarez, A. V.\* and **N. D. Tsutsui**\*. 2008. The evolutionary consequences of biological invasions. MOLECULAR ECOLOGY **17**:351-360. \**these authors contributed equally*.
- Thomas, M., C. M. Payne-Makrisa, A. V. Suarez, **N. D. Tsutsui**, and D. A. Holway. 2006. When supercolonies collide: Territorial aggression in an invasive and unicolonial social insect. MOLECULAR ECOLOGY **15**:4303-4315.
- The Honeybee Genome Sequencing Consortium. 2006. Insights into social insects from the genome of the honeybee *Apis mellifera*. NATURE **443**:931-949.
- Whitfield, C. W., S. K. Behura, S. H. Berlocher, A. G. Clark, S. Johnston, W. S. Sheppard, D. Smith, A. V. Suarez, D. Weaver, and **N. D. Tsutsui**. 2006. Thrice out of Africa: Ancient and recent expansions of the honey bee, *Apis mellifera*. SCIENCE **314**:642-645.
- Suarez, A. V. and **N. D. Tsutsui**. 2004. The value of museum collections for research and society. BIOSCIENCE **54**:66-74.
- Tsutsui, N. D.**, S. N. Kauppinen, A. F. Oyafuso, and R. K. Grosberg. 2003b. The distribution and evolutionary history of *Wolbachia* infection in native and introduced populations of the invasive Argentine ant (*Linepithema humile*). MOLECULAR ECOLOGY **12**:3057-3068.
- Tsutsui, N. D.** and A. V. Suarez. 2003. The colony structure and population biology of invasive ants. CONSERVATION BIOLOGY **17**:48-58.
- Tsutsui, N. D.**, A. V. Suarez, and R. K. Grosberg. 2003a. Genetic diversity, asymmetrical aggression, and recognition in a widespread invasive species. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA **100**:1078-1083.
- Suarez, A. V., D. A. Holway, D. Liang, **N. D. Tsutsui**, and T. J. Case. 2002. Spatio-temporal patterns of intraspecific aggression in the invasive Argentine ant. ANIMAL BEHAVIOUR **64**:697-708.

Tsutsui, Neil D.  
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Holway, D. A., L. Lach, A. V. Suarez, **N. D. Tsutsui**, and T. J. Case. 2002. The ecological causes and consequences of ant invasions. *ANNUAL REVIEW OF ECOLOGY AND SYSTEMATICS* **33**:181-233.

**Tsutsui, N. D.**, A. V. Suarez, D. A. Holway, and T. J. Case. 2001. Relationships among native and introduced populations of the Argentine ant, *Linepithema humile* and the source of introduced populations. *MOLECULAR ECOLOGY* **10**:2151-2161.

**Tsutsui, N. D.** and T. J. Case. 2001. Population genetics and colony structure of the Argentine ant (*Linepithema humile*) in its native and introduced ranges. *EVOLUTION* **55**:976-985.

**Tsutsui, N. D.**, A. V. Suarez, D. A. Holway and T. J. Case. 2000. Reduced genetic variation and the success of an invasive species. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, USA* **97**:5948-5953.

### **GRANT SUPPORT**

>\$2,000,000 since 2004, from private foundations, federal and state agencies.

### **TEACHING EXPERIENCE, AWARDS & MENTORSHIP**

#### **GRADUATE STUDENTS ADVISED:**

Candice Torres (Ph.D.; 2005–2012)

Kaitlyn Mathis (Ph.D.; 2009–2015)

Rebecca Sandidge (Ph.D.; 2008–present)

Kelsey Scheckel (Ph.D.; 2014-present)

Virginia Emery (Ph.D.; 2009–2013)

Tara Madsen-Steigmeyer (Ph.D.; 2011-2014)

Maria Tonione (Ph.D.; 2012–present)

#### **POST-DOCTORAL RESEARCHERS ADVISED:**

Dr. Megan McPhee (2003–2005)

Dr. Johanna Clemencet (2006–2007)

Dr. Dong-Hwan Choe (2009–2011)

Dr. Santiago Ramirez (2008–2013)

Dr. Miriam Brandt (2005–2007)

Dr. Ellen van Wilgenburg (2006–2010)

Dr. Brian Johnson (2009–2011)

Dr. Kaustubh Gokhale (2014-present)

**GRADUATE COMMITTEE MEMBER.** 33 since 2003.

**UNDERGRADUATES MENTORED.** ~100 since 2003.

#### **COURSES TAUGHT:**

##### **UC-Berkeley**

**Molecular Approaches to Environmental Problem Solving** (ESPM 192), 2015.

**Advanced Chemical Ecology** (ESPM290), 2014.

**Insect Chemoreception and Chemical Ecology** (ESPM290), 2014.

**Senior Seminar-Conservation & Resource Studies** (ESPM194), 2011, 2012.

**Genetics and Genomics of Insect Behavior** (ESPM290), 2009.

**Environmental Science Forum** (ESPM 201C), 2008.

**Insect Behavior** (ESPM150, ESPM142), 2008-2011.

##### **UC-Irvine**

**Graduate Core in Evolution**, 2007.

**Advanced Evolutionary Biology** (BS168), 2004-2006.

**Freshman Seminar** (BS2B), “Social behavior of ants”, 2004-2007.

### **INVITED PRESENTATIONS**

57 departmental seminars and symposia since 2000

### **SERVICE**

#### **PANEL MEMBER:**

NATIONAL SCIENCE FOUNDATION – 2007, 2008, 2011, 2013.

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U.S. DEPARTMENT OF AGRICULTURE –2007, 2009 (twice).

**EDITORIAL BOARDS:**

BMC ECOLOGY. Associate Editor, 2011–present.

BIOLOGICAL INVASIONS. Associate Editor, 2011–present.

PLoS GENETICS. Guest Editor, 2013.

AUSTRALIAN JOURNAL OF ZOOLOGY. Associate Editor, 2007–2012.

**REVIEWER** (manuscripts and grant proposals, excluding panel service above):

>100 total from July 2003-present

Journals, including: *The American Naturalist, Animal Behaviour, Annals of the Entomological Society of America, Behavioral Ecology, Behavioral Ecology & Sociobiology, Biology Letters, BMC Ecology, Conservation Biology, Diversity & Distributions, Ecology, Ecology Letters, Evolution, Evolutionary Applications, Evolutionary Ecology Research, Genetics, Insectes Sociaux, Journal Chemical of Ecology, Naturwissenschaften, Molecular Ecology, Oecologia, PLoS One, Proceedings of the National Academy of Sciences.*

Funding agencies, including: *The National Science Foundation, US Department of Agriculture, National Institute for Climate Change Research (US Dept of Energy), Natural Environment Research Council.*

**OUTREACH**

Ask a Scientist Night, Irvine Unified School District, Oct. 2003.

UC–Irvine Minority Biomedical Research Support program. February 2004.

California Alliance for Minority Participation (CAMP) Summer Science Academy. July 2004, July 2005.

UC–Irvine, Teacher Professional Development program on Science Fair Projects as Tools for Investigation & Experimentation, School of Biological Sciences Outreach Program. August 2004.

UC–Irvine, Minority Graduate Research Conference in Biomedical Sciences. November 2005.

UC–Irvine, High School Science Fair Initiative, School of Biological Sciences Outreach Program. 2004–2005.

Southern California Junior Science and Humanities Symposium. 2004, 2006.

UC–Irvine, Excellence in Research, Biological Sciences Symposium. 2004–2005.

UC–Irvine, Minority Science Program, Theory & Research Seminar Series. May 2006, May 2007.

Girls, Inc., Eureka Day, UC–Irvine. July 2006.

NIH-Bridges to the Baccalaureate, UC–Irvine Minority Science Program, "Careers in Biomedical Sciences" (Santa Ana College). Faculty panel. October 2006.

UC President’s Post-doctoral Fellowship Program. Led workshop on “Grant writing in the sciences”. October 2009.

Congressional Education Day on Invasive Species, Washington, D.C. May 2010.

**PRESS:**

Magazine: Nature–News and Views (405:519-520), Science–Editor’s Choice (288:1549), New Scientist (166:9), Science News (157:346; 161:245), California Wild (55:4-5), California Agriculture (56:4), Conservation (Jan-Mar 2010), Discover Magazine (March 18, 2014), Wired Magazine (April 10, 2014), many others.

Newspaper: The New York Times (1 August 2000, Science Times p. D1), The Los Angeles Times (16 May 2000, p. A1; 15 Sept. 2006, p. B1), The San Francisco Chronicle (15 Sept. 2006; 28 October 2009), The Washington Post, National Geographic News (22 Sept. 2006), The Orange County Register (May 2000; 15 Sept. 2006), The San Diego

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Union-Tribune (10 Feb. 2003), The Sacramento Bee (26 June 2003, p. A3),  
Sacramento News and Review (27 Feb. 2003), many others.

**Television:** CNN Headline News, San Diego affiliates of NBC, ABC, and FOX, Orange  
County affiliate of ABC; KQED-Quest, “Ants: The Invisible Majority” (July 2010).

**Radio:** National Public Radio (“Radiolab”, “All Things Considered”), BBC World Service  
 (“Science in Action”), Canadian Broadcasting Corporation (“Quirks and Quarks;  
As It Happens”), Earthwatch Radio, This Week in Science (KVDS).

**Internet:** National Geographic News, Discovery on-line, The Environmental News  
Network, many others.