

# TIMOTHY M. WARING

2900 SOLANO PARK CIRLCE, APT 3214 • DAVIS, CA • 95616  
TWARING@UCDAVIS.EDU • PHONE (530) 902-4870

## POSITIONS

---

### **Fellow, UC Davis Professors for the Future**

*University of California, Davis*

*Sept 2009—Jun 2010*

- Awarded UC Davis Professors for the Future Fellowship for academic advocacy and leadership.

### **Fellow, National Science Foundation Graduate Research**

*University of California, Davis*

*Jul 2007—Present*

- 2005 NSF Graduate Research Fellowship for research on socio-ecological coevolution in South India.
- 2008 NSF Doctoral Dissertation Improvement Grant for research on the influence of caste on cooperative irrigation management in Tamil Nadu, India.
  - Conducted ethnographic, survey and experimental economic research in Tamil, across 10 rural hill villages.
  - Designed and enhanced a mobile web-based system for experimental economics research.
  - Selected, trained, and managed 11 assistants for over 4 months.

### **Fellow, National Science Foundation Biological Invasions IGERT**

*University of California, Davis*

*Jun 2005—Jun 2007*

- Studied social management of the invasive yellow starthistle, *Centaurea solstitialis*, in the Sierra Nevada foothills.
  - Collaborated with five graduate student colleagues on two year project.
  - Interviewed and surveyed over 220 ranchers.
- Organized a symposium on the social processes of biological invasion management.
  - Garnered participation of ranchers, cooperative extension, and CA Dept. of Food and Agriculture.
  - Produced white paper designed to aid policy-makers in crafting effective invasive species legislation.

### **Graduate Researcher**

*University of California, Davis*

*Nov 2003—Aug 2004*

- Tested models of human social learning in variable ecological circumstances.
  - Programmed experimental software system, for social learning experiments.
  - Analyzed data with maximum likelihood techniques.
- Researched institutional effects on cooperation in religious communities.
  - Coordinated with diverse religious groups to sample distinct institutional cultures.
  - Administered experimental economic games measuring cooperation within and between groups.

### **Environmental Science Teacher**

*Kodaikanal International School, Tamil Nadu, India*

*July 2001—May 2003*

- Taught International Baccalaureate (I.B.) Environmental Science, Biology, and Information Technology.
  - I.B. Environmental Systems 2 class achieved highest I.B. scores of all science courses in 2002 and 2003.
  - Developed new Biology curriculum using an evolutionary framework.
  - Developed new Environmental Science units: Environmental Ethics, Human Systems Efficiency
- Created a database of Environmental Science questions as a teaching and testing resource for future teachers.
- Managed department budgets, and supervised two lab assistants.

### **Environmental Scientist**

*South Florida Water Management District, West Palm Beach, Florida*

*August 1999—May 2001*

- **Ecological Modeler:**
  - Worked on the Everglades Landscape Model, a biogeochemical ecological simulation model designed to aid Everglades ecosystem restoration.
  - Created a core-code translation program, tested initial conditions, and parameterized ecological variables.
  - Developed automated post-processing routines for model output.
- **Field Ecologist:**
  - Designed and implemented water-level measuring system using data loggers on the Everglades tree-islands.
  - Contributed to avian mist-netting projects.
  - Studied the interspecific competition between Sawgrass (*Cladium* spp.) and Cattail (*Typha* spp.) stands.
  - Aided the testing of a flocculent layer instrument for testing landscape-maintenance hypotheses.

## AWARDS & HONORS

---

- **Fellow:** Professors for the Future Program, UC Davis *March, 2009*
  - *Enhancing graduate research with a collaborative, open-source research engine*
  - \$3,000 stipend
- **Grant Recipient:** National Science Foundation Doctoral Dissertation Improvement Grant *Sept, 2008*
  - *Caste, Cooperation, and Irrigation Management in the Western Ghats, Tamil Nadu*
  - \$12,000 research grant
- **Grant Recipient:** UC Davis Biological Invasions IGERT *March, 2007*
  - \$5,000 research grant
- **Fellow:** National Science Foundation - UC Davis, Biological Invasions IGERT *2005-2007*
  - *Social and Economic forces and the Rangeland Management of Yellow Starthistle*
- **Fellow:** National Science Foundation Graduate Research Fellowship *2005-2010*
  - *Cultural and Environmental effects on Conservation Behavior in the Palni Hills, India*
- **Second Place, Best Poster:** Bounded Rationality Summer Institute, Max Planck Institute, Berlin *July, 2004*
- **Honorable Mention:** Graduate Research Fellowship, National Science Foundation *April, 2004*

## SERVICE

---

### **Student Organizer, Software Methods for Social Network Analysis**

*University of Trento, Italy*

*August 2009*

- Organized a voluntary meeting on the software tools and methods for social network analysis.

### **Graduate Student Mentor**

*University of California, Davis*

*2006–2009*

- Mentored younger IGERT students and human ecology students with an eye toward making their progress through their research and degrees more predictable, engaging and enjoyable.

### **Student Representative, Human Ecology**

*University of California, Davis*

*2007–2008*

- Represented Human Ecology student concerns to the Graduate Student Association and Dept. of Environmental Science and Policy.

### **Organized Symposium**

*University of California, Davis*

*May 2006*

- Cooperative solutions to invasive weed management: Yellow Starthistle.
- *In attendance:* CA Dept. of Ag., CA Dept of Transportation, Cooperative Extension, CA Ranchers, scientists.

### **Recycling Project Leader**

*Kodaikanal International School, Tamil Nadu, India*

*July 2001–May 2003*

- Analyzed school waste-resource handling procedures, trained and managed staff, students and faculty in recycling.
- Developed profitable recycling and composting system for community of 600, utilized profit to fund new facilities.
- Encouraged community recycling through partnerships with local entrepreneurs.

### **Volunteer Work**

- *Davis, California* - Mondavi Center for the Performing Arts, usher
- *Kodaikanal, India* - Hiking leader, Ultimate Frisbee coordinator
- *Lake Worth, Florida* - Community Food Redistribution Project, Earth Keeper's Nature Club, Lake Worth Friends Meeting, Arts for Everyone, Kids on the Go project volunteer

## EDUCATION & TRAINING

---

### **University of California, Davis**

*Aug 2004–present*

*Davis, California*

- Social Science Internship with The Nature Conservancy, 2005
- Presenting Science to the Media: Workshop, UC Davis Media Relations, 2005
- PhD program in Human Ecology, GPA: 3.91

### **10<sup>th</sup> Trento Summer School: Social Networks and Innovation**

*Aug 2009*

*Trento, Italy*

- Organized session on tools for social network research

### **Bounded Rationality Summer School 2004**

*Aug 2004*

*Berlin, Germany*

## Haverford College

Sept 1995—May 1999

Haverford, Pennsylvania

- B.S. Biology, Overall GPA: 3.3, Major GPA: 3.45

## Cornell Nepal Study Program

Spring Semester 1998

Kirtipur, Nepal

- Studied human impact on stream health, Royal Bardiya National Park.
  - Interviewed villagers, farmers, and park officials on the human use of water bodies.
  - Measured stream health using genus level water quality indices and benthic macro invertebrate diversity.
  - Managed two research assistants in sampling and identification.

## Invasive Biological Species Research at Cornell University

May 1998—July 1998

Ithaca, New York

- Awarded Bryn Mawr College undergraduate biological research grant.
- Studied wetland invasive species interactions on three trophic levels using laboratory experiments and field surveys.
  - Designed and completed laboratory foraging behavior experiments and in situ survivorship studies on selected invasive and native beetle species.

## PUBLICATIONS

---

### HUMAN COOPERATION & SOCIAL LEARNING

- Timothy M. Waring. New Evolutionary Foundations: theoretical requirements for a science of sustainability, *Ecological Economics*, Special Edition on Coevolution, in press. Published Online: December 6<sup>th</sup> 2008, DOI: 10.1016/j.ecolecon.2008.10.017.
- Timothy M. Waring, and Richerson, P.J. Coupling ecological and cultural processes: Methods for the analysis of socio-ecological coevolution, *Geografiska Annaler*, Series B, forthcoming.
- McElreath, R., Bell, A. V., Efferson, C., M. Lubell, Richerson, P. J., & Waring, T. (2008). Beyond existence and aiming outside the laboratory: Estimating frequency-dependent and payoff-biased social learning strategies. *Philosophical Transactions of the Royal Society, B*, (363) 3515-3528.
- Efferson, C., Richerson, P. J., McElreath, R., Lubell, M., Edsten, E., Waring, T. M., B. Paciotti et al. (2007). Learning, Productivity, Noise: An Experimental Study of Cultural Transmission on the Bolivian Altiplano. *Evolution and Human Behavior* 28:11-17.
- McElreath, R., Lubell, M., Richerson, P., Waring, T., Baum, W., Edsten, E., et al. (2005). Applying evolutionary models to the laboratory study of social learning. *Evolution and Human Behavior*, 26(483-508).

### INVASIVE SPECIES

- Epanchin-Niell, Hufford, Aslan, Sexton, Port, Waring, (2009) Controlling invasive species in complex social landscapes. *Frontiers in Ecology and the Environment*. DOI:10.1890/090029 in press.
- Aslan, C., Hufford, M., Niell, R., Port, J., Sexton, J., Waring, T. (2009) Practical Challenges in Private Stewardship of Rangeland Ecosystems: Yellow Starthistle Control in Sierra Nevada Foothills. *Rangeland Ecology and Management*. 62(1):28-37.
- Niell, R., Hufford, M., Aslan, C., Port, J., Sexton, J., & Waring, T. (2007). Yellow Starthistle Management and Reality. *Noxious Times*, 9(1).
- Niell, R., C. Aslan, M. Hufford, J. Port, J. Sexton, and T. Waring. (2006). Yellow starthistle symposium: The need for regional approaches to invasion management in Sierra Nevada foothill rangelands. *Noxious Times*.

### EVERGLADES RESTORATION

- Fitz, C. H., F. Sklar, A. A. Voinov, T. M. Waring, R. Costanza, and T. Maxwell. (2003). Development and application of the Everglades Landscape Model, Pages 143-171 in R. Costanza, and A. A. Voinov, eds. *Landscape Simulation Modeling: A Spatially Explicit, Dynamic Approach*. New York, Springer Verlag.

## PRESENTATIONS

---

- Using the Mobile Lab for Experimental Economics - a hands-on workshop  
*Tamil Nadu Agricultural University, Coimbatore, India* January, 2009
- Cooperation, Irrigation and Caste  
*Institute for Social and Economic Change, Bangalore, India* June, 2008
- Can cooperation overcome ethnic boundaries? A case study from Tamil Nadu, India.

- |   |   |                        |
|---|---|------------------------|
|   | <i>Human Behavior and Evolution Society Conference, Kyoto, Japan</i>  | <i>June, 2008</i>      |
| ▪ | An introduction to experimental economics<br><i>Tamil Nadu Agricultural University, Coimbatore, India</i>   | <i>February, 2007</i>  |
| ▪ | Yellow Starthistle: Problems and Solutions<br><i>UC Davis Biological Invasions IGERT annual symposium. Davis, California.</i>   | <i>September, 2007</i> |
| ▪ | Socio-economic influences on yellow starthistle control in Sierra Nevada rangeland, Contributor<br><i>California Invasive Plant Council, 15th Annual Symposium, Rohnert Park, California.</i> | <i>October, 2006</i>   |
| ▪ | Wheat and Potatoes: social learning in simulated agricultural decision making<br><i>Human Behavior and Evolution Society Conference. Austin, Texas.</i>                                       | <i>June, 2005</i>      |
| ▪ | Wheat and Potatoes: strategic use of social cues in agricultural decision-making<br><i>Bounded Rationality Summer Institute. Max Plank Institute, Berlin, Germany.</i>                        | <i>August, 2004</i>    |
| ▪ | Human influence in and responsibility for ecological systems.<br><i>Kodaikanal Christian College, Tamil Nadu, India.</i>  | <i>March, 2002</i>     |
| ▪ | Everglades Landscape Model: a tool for evaluating ecological management, Contributor<br><i>International Association for Landscape Ecology, Fort Lauderdale, Florida.</i>                     | <i>April, 2000</i>     |

#### SKILLS & INTERESTS

---

- *Computer skills:* Unix, Mac, Windows - C, PHP, MySQL, HTML, NetLogo, Berkeley Madonna, zTree – Workflow automation, Web Design, JMP, SAS, R, GIS, LaTeX.
- *Recreational:* Backpacking, hiking, ultimate frisbee, soccer, any kind of outdoor fun,
- *Language Competencies:* French, Nepali, Tamil