

TIMOTHY M. WARING

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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

10th 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 6th 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.

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| | <i>Human Behavior and Evolution Society Conference, Kyoto, Japan</i> | <i>June, 2008</i> |
| ▪ | An introduction to experimental economics
<i>Tamil Nadu Agricultural University, Coimbatore, India</i> | <i>February, 2007</i> |
| ▪ | Yellow Starthistle: Problems and Solutions
<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
<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
<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
<i>Bounded Rationality Summer Institute. Max Plank Institute, Berlin, Germany.</i> | <i>August, 2004</i> |
| ▪ | Human influence in and responsibility for ecological systems.
<i>Kodaikanal Christian College, Tamil Nadu, India.</i> | <i>March, 2002</i> |
| ▪ | Everglades Landscape Model: a tool for evaluating ecological management, Contributor
<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