

STEVEN A. GRAY

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Education

2010	Rutgers University	PhD	Ecology and Evolution
2006	Texas State University	MS	Geography and Planning
2002	University of Texas at Austin	BA	Anthropology

Positions

2013- present	University of Massachusetts, Boston, <i>Assistant Professor of Human Ecology</i> School for the Environment
2015- present	Public Radio International, <i>Living on Earth</i> Faculty Fellowship (program distributed by NPR and produced by WGBH)
2011 -present	Leibniz-Institute of Freshwater Ecology and Inland Fisheries, <i>Visiting Scientist</i> IGB Fellowship, Berlin Germany
2011-2013	University of Hawaii, <i>Assistant Professor of Human Dimensions of Nat. Res.</i> Department of Natural Resources and Environmental Management Graduate Program in Natural Resources and Environmental Management Head, Socio-economic Division, Water Resources Research Center
2010-2011	Rutgers University/Cary Institute of Ecosystem Studies, <i>Postdoctoral Researcher</i>
2008-2011	Rutgers University, Research Assistant, Institute of Marine and Coastal Science
2008	NSF EAPSI Fellow, NSW Fisheries Research Center, Sydney Australia
2007-2009	NOAA National Estuarine Research Reserve Social Science Fellow
2007-2008	Rutgers University, Research Assistant, Department of Ecology and Evolution
2007	U.S. EPA, Environmental Management Fellow, New York City
2006	U.S. EPA, Chemist, Student Temporary Employment Program, Region 6 Houston
2005-2006	Texas State University, Research Assistant, Department of Geography
2005	U.S. EPA, Environmental Management Fellow, Radiation Laboratory Las Vegas

External Grant and Fellowships (>\$2.4 million in external funding)

2014-2016	BLM <i>Policy Scenarios for fire-adapted communities: understanding stakeholder risk-perceptions</i> (co-PI with A. Jetter and L. Ellsworth)	\$181,093
2014-2016	NOAA UH Sea Grant <i>Forecasting climate change impacts on coastal ecosystem services in Hawaii through integration of ecological and social models</i> (with C. Lepczyk)	\$56,000
2014-2016	NSF (Belmont Forum) <i>Agriculture, Food Security & Climate Change Sustainable Management of Agro-ecological Resources for Tribal Societies</i> (co-PI with C. Chan-Halbrendt, B. Sipes, and T. Idol)	\$299,894
2013-2014	USGS Water Resources Research Institute Programs: <i>Forecasting climate change impacts on watershed-based ecosystem services in Hawaii</i> (PI with A. Fares and C. Lepczyk)	\$28,000
2012-2016	NSF Cyberlearning <i>Sustaining ecological community through citizen science and online collaboration</i> (co-PI with R. Jordan, C. Hmelo-Silver, A. Crall, G. Newman)	\$1,206,384

2012-2014	USDA, <i>Mental Modeler: Developing a software tool to support community-based decision-making</i> (PI with L. Cox)	\$40,000
2012-2014	Leibniz-Institute of Freshwater Ecology and Inland Fisheries <i>Freshwater Understanding the relationship between natural resource decision-maker mental models and sustainable natural resource management in freshwater recreational fisheries</i> (PI with R. Arlinghaus)	\$18,000
2011-2012	NOAA Cooperative Research, Conservation Engineering <i>Evaluation of broad and fine scale models of butterflyfish biomass applied to by-catch reduction in the longfin inshore squid fishery in the Mid-Atlantic Bight</i> (co-PI with J. Kohut)	\$299,999
2010-2012	NOAA Cooperative Research, Conservation Engineering <i>Integrating habitat models and stakeholder knowledge into commercial fishing to reduce by-catch</i> (co-PI with J. Kohut)	\$217,089
2008	NSF Office of International Science and Engineering <i>Improving the management of data-poor fisheries: Evaluating risk and uncertainty in fisheries management in Australia and the United States</i> (PI with J. Scandol)	\$10,500
2007-2009	NOAA National Estuarine Research Reserve Social Science Fellow <i>What do recreational fishermen need to know? Recommendations that foster ecosystem-based management</i> (PI)	\$30,000
2007	U.S. EPA NNEMS Research Fellow, Region 2 New York City, NY <i>Implementing sustainable programs in NYC area schools: Fostering environmental stewardship in school-aged children</i> (PI)	\$16,140
2005	U.S. EPA NNEMS Research Fellow, R&IE Nat'l Laboratory <i>Determining sustainable environmental management programs through community outreach and communication</i> (PI)	\$9,500

Software Packages

Gray, S. Mental Modeler: A fuzzy-logic cognitive mapping software for participatory research and planning. Lead developer, <http://www.mentalmodeler.org/>

Books

Gray, S. Paolisso, M, Jordan, R.C and S. Gray (Eds) *Environmental Modeling with Stakeholders: Theory, methods and applications*. Springer, New York City (release planned: summer 2015)

Peer-reviewed Publications

- (^βgraduate student co-author, [†]K-12 student/teacher co-author, *undergraduate co-author,)
- Gray, S., Gray, S., O'Dwyer, B., Nyaki, A. and R.C. Jordan. Using Fuzzy-Logic Cognitive Mapping as a participatory approach to measure resilience, change, and preferred states of social-ecological systems (in revision, resubmitted) *Ecology and Society*
- Gray, S., McFall, A., Hilsberg, J., Arlinghaus, R. 2015. The impact of specialization and target species choice on the structure of mental models about fish population dynamics (in press) *Journal of Outdoor Recreation and Tourism*
- Barnes-Mauthe^β, M. Gray, S., Arita, S., Lynham, J. and, P. Leung. 2015. What determines social network capital in a social-ecological system? (in press) *Environmental Management*
- Henly-Shepard^β, S., Gray, S., and Cox, L. 2015. Facilitating community adaptation through

- participatory modeling and social learning.. *Environmental Science and Policy*. 45:109-122.
- Hmelo-Silver, C., Liu, L., Gray, S., Jordan, R. 2015. Using representational tools to learn about complex systems. *Journal of Research in Science Teaching*. 52: 6-25.
- *Cover Article for January 2015**
- Halbrendt^β, J., Gray, S., Radovich, T., Crow, S., Kimura, A. 2014. Differences in farmer and expert beliefs about the perceived impacts of conservation agriculture. *Global Environmental Change*. 28: 50-62.
- Halbrendt^β, J., Gray, S., Radovich, T., and Kimura, A., Reed, B., and Tammang, B. 2014 Implications of conservation agriculture for men's and women's workloads among marginalized farmers in the Central Middle Hills of Nepal. *Mountain Research and Development*. 34(3) 214-222.
- Nayaki^β, A., Gray, S., Lepczyk, J. Skibins, D. Rentsch. 2014. Understanding the hidden drivers and local-scale dynamics of the bushmeat trade through participatory modeling *Conservation Biology* 28(5) 1403-1414.
- Punawai^β, N., Canale, L., Haws, M., Potemra, J., and Gray, S. 2014. Development of a GIS-based tool for aquaculture siting. *International Journal of Geo-Information*. 3:800-816.
- Gray, S., D. Mellor, D, RC Jordan, and G. Newman. 2014. Modeling with citizen scientists. *Proceedings of the International Environmental Modelling and Software Society (iEMSs) 7th Intl. Congress on Env. Modelling and Software*, San Diego, CA, USA, Daniel P. Ames, Nigel W.T. Quinn and Andrea E. Rizzoli (Eds.) <http://www.iemss.org/society/index.php/iemss-2014-proceedings>
- Pleasant^β, M, Gray, S., Lepczyk, C. Fernandez*, A., Hunter*, N., and D. Ford* 2014. Managing cultural ecosystem services: Local management yields large-scale benefits. *Ecosystem Services*. 8: 141-147.
- Nicosia K, S. Daaram, B. Edelman, L. Gedrich, E. He, S. McNeilly, V. Sheno, A. Velagapudi, W. Wu ,L. Zhang, A. Barvalia, V. Bokka, B. Chan, J. Chiu, S. Dhulipalla, V. Hernandez, J. Jeon, P. Kanukollu, P. Kravets, A. Mantha, C. Miranda, V. Nigam, M. Patel, S. Praveen, T. Sang, S. Upadhyay, T. Varma, C. Xu, B. Yalamanchi, M. Zharova, A. Zheng ,R. Verma, J. Vasslides, J. Manderson, R.C. Jordan, and S.A. Gray. 2014. Determining the willingness to pay for ecosystem service restoration in a degraded coastal watershed: A ninth grade investigation. *Ecological Economics*. 104: 145–151.
- Gray, S., Gagnon, A., Gray, S., Mahony, C., Muir, D., Falaleeva, M. 2014. Are local coastal managers detecting the problem? Assessing stakeholder perception of climate vulnerability using Fuzzy Cognitive Mapping. *Ocean and Coastal Management*. 94:74-89.
- Sinha, S., Gray, S., Hmelo-Silver, C.E., Jordan, R.C., Eberbach, C., Goel, A., and S. Rugabar 2013. Conceptual representations for transfer A case study tracing back and looking forward. *Frontlines in Learning Research* 1(1) 3-24.
- Jordan, R.C., Brooks, W., Gray, S., Delisi, J., and A. Berkowitz. 2013. Rising to the challenge of 'broader impacts' *Frontiers in Ecology and the Environment* 11(5) 234-235.
- Jordan, R.C., C. Hmelo-Silver, L. Liu, and S. Gray. 2013. Using a complex system ontology to foster ecosystem learning. *Applied Environmental Education and Communication* 12(1) 55-64.
- Jordan, R.C., DeLisi, J., Brooks, W., Gray, S., Alvarado, A., Berkowitz, A. 2013. A

- collaborative model of science teacher professional development. *International Journal of Modern Education Forum* 2(2) 31-41.
- Jordan, R.C., Gray, S., Brooks, W., Hemlo-Silver, C.E., Honwad, S. 2013. Process-based thinking in ecological science. *Natural Sciences Education* 42(1): 68-74
- Barnes-Mauthe, M., S. Arita, S. D. Allen, S. A. Gray and P. Leung. 2013. The influence of ethnic diversity on social network structure in a common-pool resource system: Implications for collaborative management. *Ecology and Society* 18 (1): 23. [online] URL: <http://www.ecologyandsociety.org/vol18/iss1/art23/>
- Gray, S. Gray, S., Cox, L., and Henly-Shepard, S. 2013 Mental modeler: A fuzzy-logic cognitive mapping modeling tool for adaptive environmental management. *Proceedings of the 46th International Conference on Complex Systems*. 963-973.
- Gray, S., Nicosia[†], K.; and Jordan, R. C. 2012. Lessons learned from citizen science in the classroom. *Democracy and Education*, 21(1) 14.
- Gray, S., R. Shwom, R. C. Jordan 2012. Understanding factors that influence stakeholder trust of natural resource science and institutions *Environmental Management* 49, 663-674.
- Gray, S., Chan, A.* , Clark, D.* and R.C. Jordan. 2012. Modeling the integration of stakeholder knowledge in social-ecological system decision-making: Benefits and limitations to knowledge diversity. *Ecological Modeling* 229, 88-96.
- Kohut, J. Palarama, L., Bochenek, E., Jenson, O., Manderson, J. Oliver, M., Gray, S., and C. Roebuck 2012. Using ocean observing systems and local ecological knowledge to nowcast butterfly bycatch events in the Mid-Atlantic Bight longfin squid fishery. *Oceans*, 1-6
- Palarama, L., Manderson, J., Kohut, J., Oliver, M., Gray, S. and Goff, J. 2012 Improving habitat models by incorporating pelagic measurements by coastal ocean observatories. *Marine Ecology Progress Series* 447, 15-30.
- Jordan, R.C., S. Gray, D. Howe, W. Brooks, and J. Ehrenfeld. 2011. Knowledge gain and behavior change in citizen-science programs. *Conservation Biology*. (25) 1148-1154.
- Vattam, S., Goel, A., Rugaber, S., Hmelo-Silver, C., Jordan, R., Gray, S., Sinha, S., 2011 Understanding complex natural systems by articulating Structure-Behavior-Function models. *Educational Technology and Society* 14(1) 66-81.
- Gray, S., M. Ives, J. P. Scandol, and R.C. Jordan. 2010. Categorizing the risks in fisheries management. *Fisheries Management and Ecology*. 17(6) 501-512.
- Gray, S. and R.C. Jordan. 2010. Ecosystem-based angling: Incorporating recreational fishermen into ecosystem-based management. *Human Dimensions of Wildlife*. 15(4) 233-246.
- Sinha, S., Gray, S., Hmelo-Silver, C.E., Jordan, R.C., Honwad, S. 2010, Appropriating conceptual representations: A case of transfer among middle school science teachers *Proceedings of the 9th International Conference of the Learning Sciences*.(1) 834-841.
- Jordan, R.C., S. Gray, C. Hmelo-Silver, M. Demeter, and L. Lui. 2009. An assessment of students' understanding of ecosystem concepts: Conflating ecological systems and cycles. *Applied Environmental Education and Communication*. 8(1) 40-48.
- Jordan, R.C., S. Gray, and R. Golan-Duncan. 2008. Teachers and scholarship: Self-definition of teachers in the scientific enterprise. *Education and Society*, 26(3) 33-44.
- Gray, S., C. E. Hmelo-Silver, L. Liu, R.C. Jordan, H. Jeong. 2008. Learning with ecosystem models. *Proceedings of the 8th International Conference of the Learning Sciences* (1) 289-296.

Currently in review

- Jordan, R.C., A.M. Crall, S.A. Gray, and D.T. Mellor. Citizen science can help meet goals for conservation. (in review) *Conservation Biology*.
- Douglas, E., Wheeler, S., Smith, D., Overton, I., Gray, S., Crossman N., and Doody, T. The role of stakeholders in Murray-Darling Basin water management: How do irrigators make water use decisions and how can this influence water policy? (in review) *Journal of Hyrdology*
- Jordan, R.C., S.Gray, A. Sorensen, S. Pasewark, S. Sinha, and C. E. Hmelo-Silver. Modeling with a Conceptual Representation: Is it Necessary? Does it work? (in review) *World Studies in Education*
- Jordan, R.C. Shwom, R., and Gray, S. Bridging science education and science communication: Putting trust, authenticity, and motivation in context (in review). *Frontiers in Ecology and the Environment*.
- Li^β, O., S. Gray and S. Sutton. Mapping recreational fishers' informal learning of fisheries science using a Fuzzy Cognitive Mapping approach to mental modeling (in review). *Proceedings of the 7th World Recreation Fishing Conference*. Eds: R. Arlinghaus, S and Sutton.

Manuscripts In Preparation

- Stier, A., Samhour, J., Levin, P., Gray, S., Martone, R. and Mach., M. Differences in perception, not (necessarily) values can produce conservation conflict. (in preparation) *Proceedings of the National Academy of Science*.
- Helfgott, A., N. Bean, S. Lord, J. Vervoort, M. Wildenberg, S. Gray, S. Gray, K. Kok. Fuzzy cognitive maps, neural networks and system dynamics: Interpretation and use in participatory social and environmental decision-aiding processes (in preparation) *Global Environmental Change*
- Gray, S., Htun, H. and Gray, S. Making environmental change relevant to local communities through 'social-downscaling': Integrating model-based forecasts and trends with stakeholder mental models using a participatory fuzzy-logic cognitive mapping software tool (in preparation) *Environmental Modeling and Software*
- Miller^β, M, Gray, S., Cox, L, and C. Lepczyk. Understanding the influence of participation in scientific research and trust of scientific assessment in the Northeast Cooperative Research Program. (in preparation) *Marine Policy*
- Htun^β, H., Gray, S., and Lepczyk, C. Conant, S., and Titmus, A. Coupling AnnAGNPS and Fuzzy-logic Cognitive Mapping to understand the habitat impacts of climate change (in preparation) *Ecological Applications*
- Gray, S. Hilsberg, J., McFall, A., and Arlinghaus, R. Using mental models to understand conservation behaviors: an empirical study of anglers and stocking (in preparation) *Conservation Biology*

Book Chapters and Other Publications

- Crall, A., Mellor, D., Gray, S. and Newman (in review) Collecting high quality data: begin with the end in mind. In *Citizen Science for Practitioners*. Eds: Lepczyk, C. University of California Press.
- Jordan, R.C., Sorenson, A. and Gray, S. (in review) Undertaking program evaluation. In *Citizen Science for Practitioners*. Eds: Lepczyk, C. University of California Press.
- Gray, S., Gray S., and Zandre, E. 2014. Fuzzy Cognitive Maps as representations of mental

- models and group beliefs: theoretical and technical issues. In *Fuzzy Cognitive maps for Applied Sciences and Engineering –From fundamentals to extensions and learning algorithms* Ed: Elpiniki I. Papageorgiou. Springer Publishing. pp 29-48.
- Jordan, R.C., Ehrenfeld, J., Gray, S., Brooks, W. & C.E. Hmelo-Silver. 2012 Cognitive considerations in citizen science. Eds: R. Bonnie J. Dickenson. In *Citizen Science: Public Participation in Environmental Research*. Cornell University Press
- Gray, S. 2010 Are robots and satellites the future of fisheries management? *Fisheries*. 35(1) 48.
- Gray, S. and L. L. Gray. 2011. LEED Standards. In: *Green Energy Considerations. Green Society: Towards a Sustainable Future*. Eds. D. Mulvaney and P. Robbins. SAGE Publishing. Thousand Oaks, CA. pp 277-283
- McCay, B.J., C.F. Creed, and S. Gray. 2009. Fish or Cut Bait: How to participate in the Fisheries Management System, 3rd revised edition. Fort Hancock, NJ: New Jersey Marine Sciences Consortium. (12pp)
- Gray, S. Ives, M., Scandol, J., and Jordan, R 2009. Classifying the risk in fisheries management in Australia and the U.S. Atlantic coast. In: *Scandol JP, Ives MC and Lockett MM Development of national guidelines to improve the application of risk-based methods in the scope, implementation and interpretation of stock assessments for data-poor species*. Final report to the Fisheries Research & Development Corporation for Project No. 2007/016.3 Industry & Investment NSW Final Report Series No. 115. Cronulla Fisheries Research Centre of Excellence, NSW, Australia pp 164-179.
- Gray, S. 2009. William D. Ruckelshaus. Ed: George Cevalasco. In *The Modern American Environmentalist*. Johns Hopkins University Press. Baltimore MD. Pp 448-452.
- Gray, S., R.C. Jordan, and D. V. Howe. 2008. Oceanic Changes. *The Encyclopedia of Global Warming and Climate Change*. Ed: S. George Philander. Sage Publications.
- Jordan, R.C., S. Gray and D.V. Howe. 2008. Atlantic Ocean. *The Encyclopedia of Global Warming and Climate Change*. Ed: S. George Philander. Sage Publications.
- Hmelo-Silver, C. R. C. Jordan, L. Lui, S. Gray, M. Demeter, S. Rugaber, S. Varrtam, and A. Goel. 2008. Focusing on function: Thinking below the surface of complex natural systems *Science Scope*, 31: 27-35
- Jordan, R.C., S. Gray, M. Demeter, L. Lui, and C. Hmelo-Silver. 2008. Quick fix: Don't forget behavior in systems thinking! *American Biology Teacher*, 70: 329-330.

Presentations

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- 2014 (invited) University of Nebraska. Water Resources Research Institute/Department of Natural Resources: "Using mental models to understand human-environment interactions" Lincoln, NE
- 2014 (invited) Japan Society for International Development "Cognitive considerations in conservation agriculture" Osaka, Japan (part of our Belmont Forum Symposium)
- 2014 Society for Human Ecology "A software-based tool for measuring mental models" Bar Harbor, ME
- 2014 International Symposium on Society and Resource Management, "Using mental models to understand conservation related attitudes and policy preferences: an empirical study of anglers and stocking" Hanover, Germany
- 2014 International Congress on Environmental Modelling and Software (iEMSs) San Diego, CA

- (a) “Predicting local scale climate change impacts on endangered birds by integrating watershed models and expert knowledge-based models for decision-support”.
 - (b) “Modeling with citizen scientists”
- 2014 Resilience 2014: Session Chair/Organizer “Fuzzy-logic Cognitive Mapping as a tool to understand change and transformation in social-ecological systems”
Montpellier, France
 - (a) “What is FCM?”
 - (b) “A FCM software tool for research and planning”
 - (c) “Case study: Coastal sustainability from the waterfront view of homeowners” (Steven Scyphers, lead author)
- 2014 (keynote) NOAA Ecosystem Modeling Workshop “Mixed models/mixed messages”
Seattle, WA.
- 2014 Citizen Cyber-Science Summit, “Modeling with citizen scientists.” London
- 2013 Hawaii Conservation Congress. “Coupling watershed modeling and knowledge-based modeling to understand climate change impacts on endangered birds on Kauai. Honolulu, HI
- 2013 University of Massachusetts, School for the Environment, “Using mental models to understand human-environment interactions.” Boston, MA
- 2013 US Fish and Wildlife. Decision-support software for federal natural resource management agencies. (webinar)
- 2013 International Symposia on Society and Resource Management. “A fuzzy-logic based software tool for resource management.” Estes Park, CO
- 2013 (invited) Colorado State University, Department of Human Dimensions, “Mental models as a human dimension” Fort Collins, CO
- 2013 Hawaii International Conference on Complex Systems, “Mental Modeler: A participatory fuzzy-logic cognitive mapping software for adaptive environmental management, Maui, HI
- 2012 Human Dimensions of Fisheries and Wildlife, Breckenridge CO
 - (a) “Understanding factors that influence stakeholder trust of natural resource science and institutions”
 - (b) “The influence of specialization and target species choice on anglers' mental models of fish ecology”
 - (c) “Mental Modeler: Incorporating individual and group stakeholder understanding into natural resource decision-making through a fuzzy-logic cognitive mapping software tool”
 - (d) “Comparing the structure and function of mental models of fishery scientists and angling experts related to pike (*Esox lucius*) ecology and management”
- 2012 Ecological Society of America annual meeting in Portland OR
 - (a) “Examining the relationship between ecosystem service characteristics and their management: A case study of Hawaii’s watersheds and coasts”
 - (b) “Why and how should high school students learn about the ecology-nature of science?”
 - (c) “Lessons from implementing a model-based pedagogy in the K12 classroom”

- 2012 (invited) Leibniz Institute for Freshwater Ecology and Inland Fisheries: “Toward Collaborative Conservation: Integrating social science, natural science and participation in US fisheries management.” Berlin Germany
- 2012 (invited) University of Massachusetts, Environment, Earth, and Ocean Sciences Department, Boston, MA “Managing the social-ecological ocean”
- 2011 (invited) University College Cork, Department of Geography, Cork, Ireland “Integrating social and natural science to develop natural resource policy”
- 2011 (invited) University of Hawaii, Department of Natural Resources and Environmental Management, Manoa, HI, “What are the human dimensions of natural resources”
- 2011 (invited) State University of New York, Environmental Science and Forestry, Syracuse, NY, Department of Environmental Studies “Developing methods for integrating stakeholder knowledge in participatory management”
- 2011 American Educational Research Association, New Orleans, LA “Understanding learning as an outcome of modeling”
- 2011 (invited) Saint Peters College, Department of Biology, Jersey City, NJ “Managing marine fisheries as a social-ecological system”
- 2011 Resilience 2011: Resilience, Innovation, and Sustainability, Tempe, AZ “Integrating stakeholder knowledge into social-ecological decision-making”
- 2011 International Council for the Exploration of the Seas (ICES) Halifax, NS “Integrating social datasets into an ecosystem assessment for the North Atlantic”
- 2011 (invited) University of Illinois, Department of Natural Resources and Environmental Science, Urbana, IL, “Managing marine fisheries as a social-ecological system”
- 2011 (invited) Science and Policy Advisory Panel for the Barnegat Bay Partnership, Tom’s River, NJ, “Developing an integrated social-ecological assessment model for Barnegat Bay”
- 2010 (invited) American Geophysical Union, San Francisco, CA, “Structure, Behavior, Function as a conceptual framework for teaching and learning about complexity in ecosystems”
- 2010 (invited) Ecosystem Planning Committee, Mid-Atlantic Fisheries Management Council, Norfolk, VA, “What makes some parts of the ocean sticky to fish? Ocean observing for marine habitat science and ecosystem management”
- 2010 (invited) Colby College Department of Environmental Studies, Waterville, ME “Integrating natural and social science to develop marine policy”
- 2010 Human Dimensions of Fisheries and Wildlife, Estes Park, CO, “Benefits and limitations to knowledge diversity in social-ecological decision-making”
- 2010 (invited) NOAA NMFS Howard Marine Laboratory, Sandy Hook, NJ “Integrating stakeholder knowledge into the management of marine fisheries”
- 2009 (invited) NOAA Office of Ocean and Coastal Management, Washington D.C. “Characterizing recreational anglers and as a component of social-ecological systems: friend or foe to conservation?”
- 2009 Mid-Atlantic American Fisheries Society, New Jersey “Developing ecological indicators for fisheries management using IOOS defined habitat characteristics in the mid-Atlantic Bight” (winner, best student presentation)
- 2009 Ecological Society of America Annual Meeting, Albuquerque, NM “Combining fuzzy logic cognitive mapping & resilience theory to understand coupled social-ecological system dynamics: a case study of the summer flounder fishery” poster

- 2009 Ecological Society of America Annual Meeting Albuquerque, NM “Assessment methods for interdisciplinary ecological dissertation research” (workshop)
- 2009 Mid-Atlantic Fisheries Management Council meeting New York City, “Developing ecological indicators for fisheries management using IOOS defined habitat characteristics in the mid-Atlantic Bight”
- 2009 Society for Conservation Biology International Marine Conservation Congress. Washington D.C “Identifying the risks in fisheries management”
- 2009 American Educational Research Association (AERA) Annual Meeting. San Diego, CA, “Modeling practices as function of task structure”
- 2008 (invited) National Estuarine Research Reserve Systems (NERRS) Annual Meeting, Monterey, CA “How can social science help the NOAA NERRS: Implications for ecosystem-based management”
- 2008 North American Association of Environmental Educators Annual Research Symposium. Wichita, KS “A characterization of ecology and ecosystem understanding: a call for targeted instruction”
- 2008 NJ Biology Teachers’ Association at the New Jersey Science Teacher’s Convention. Somerset, NJ, “Thinking below the surface: using aquaria to teach about systems”
- 2008 Proceedings of the International Conference of the Learning Sciences: Utrecht, the Netherlands, “Learning with ecosystem models: A tale of two classrooms”
- 2008 National Science Teacher Association National Conference Boston, MA “Representational tools to support learning about complex systems”
- 2008 American Educational Research Association (AERA) Annual Meeting, New York, NY, “An integrated framework for bridging diverse analytical tools for understanding technology-mediated learning about complex natural systems”
- 2007 (invited) Rutgers Marine Field Station, NOAA Review, Tuckerton, NJ, “Developing costal training programs built around recreational fishermen for the Jacques Cousteau NERR”
- 2005 (invited) U.S. EPA National Radiation and Indoor Environment Laboratory, Las Vegas, NV, “Sustainable environmental management programs through community outreach and web communication”

Teaching Experience

- 2014 University of Massachusetts, EEOS 603: *Coasts and Communities (co-taught)*
University of Massachusetts, EEOS 122: *Introduction to Environmental Policy*
University of Massachusetts, EEOS 476: *Capstone*
University of Massachusetts, EEOS 699: *Special Topics: People and Protected Areas* (4 graduate, 7 undergraduate)
- 2012-2013 University of Hawaii, Capacity Building Grant Awarded (\$50,000 as PI) Creating Virtual Calculus: Distance Learning for NREM 203: *Applied Calculus*
- 2012 University of Hawaii, *Applied Calculus for the Life and Social Sciences*
University of Hawaii, *Environmental and Natural Resource Policy*
- 2010-2011 Rutgers University, *Portal to Academic Student Success (PASS)*
- 2008-2009 Rutgers University, *Politics of Environmental Issues*
- 2006 Manos de Cristo Educational Programs, Volunteer ESL Instructor

Service and Working Groups

NSF Panel Reviewer: Dynamics of Coupled Natural and Human Systems
NSF National Evolutionary Synthesis Center (NaESCent) workshop participant, Anthropogenic Sensory Stimuli as Drivers of Evolution: A conceptual synthesis and roadmap for an integrated citizen-science research network
NSF Socio-Environmental Synthesis Center (SESYNC) workshop participant, Climate Social Science Literacy
NOAA National Ecosystem Modeling working group member
International Council for the Exploration of the Seas (ICES) Social Science Advisory Panel
Reviewer for: *Ecological Modeling, Ecology and Society, Environmental Management, Environmental Modeling and Software, Annals of Fuzzy Mathematics and Informatics, PLoS One, Tropical Ecology, Journal of Agricultural Extension and Rural Development, Environmental Education Research*

Student Advising

Graduate (Chair)

2014-present Alexander Metzger, UMass, PhD
2014-present Maxell Martin, UMass, MS
2012-present Noelani Puniwai, University of Hawaii, PhD
2012-present Hla Htun, University of Hawaii, PhD (co-advised)
2011-2014 Jackie Halbrendt, University of Hawaii, PhD (co-advised)
2012-2014 Molly Miller, University of Hawaii, NREM, MS
2011-2013 Angela Nyaki, University of Hawaii, NREM, MS
2011-2013 Mary Younkin, University of Hawaii, NREM , MS

Graduate (Committee)

2011-present Rusyan Jill-Mamitt (NREM, PhD)
2012-present Michele Barnes (NREM, PhD)
2014 Jennifer Ly (UMass, MS)
2013-2014 Vijaylaxsmi Kesavan, UMass, MS)
2011-2013 Sarah Henly-Shepard (NREM, PhD)
2011-2012 Michele Barnes (NREM, MS)
2011-2012 Kara Miller (NREM, MS)
2011-2012 Cheryl Lohr (NREM, PhD)

Undergraduate

2014-present Emily True, UMass, SFE
2014-present Rachel Robers-Toler, UMass, SFE
2014-present Alexander Berry, UMass, SFE
2014-present Nickolas Faynshteyn, UMass, SFE
2012-2013 Nate Hunter, University of Hawaii, NREM
2011-2013 Anthea Fernandez, University of Hawaii, Biology
2011-2012 Derek Ford, University of Hawaii, NREM
2010-2011 Alicia Raeburn, Rutgers University, Marine Science and Policy (NRDC)
2010-2011 Kathryn Gardella, Rutgers University, Human Ecology (grad student at UMiami)
2010-2011 Samantha Paeswak, Rutgers University, Marine Science and Education

2009-2010	Amanda Gettlefinger, Rutgers University, Environmental Policy
2009-2010	Dan Clark, Rutgers University, Ecology (grad student at Purdue)
2009-2010	Alex Chan, Rutgers University, Mathematics and Biology (matriculated medical school 2010)

Awards

2013	Mentor of the Year, University of Hawaii, NREM Graduate Student Organization
2010	Rutgers University Research Award (\$1000 prize, 1 of 6 students awarded from university-wide competition)
2009	American Fisheries Society Student Writing Award
2009	American Fisheries Society (Mid-Atlantic) Best Student Presentation
2008	Australian Academy of Sciences EAPSI Recipient
2006	U.S. EPA STEP Program (3 month award)
2005	U.S. EPA Environmental Scholar Award, Radiation National Laboratory