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Education

- 1993-1998 Institute of Applied Mathematics, University of British Columbia, Vancouver, Canada.
Ph.D., Applied Mathematics, August, 1998. Supervisor: C.W. Clark.
Thesis title: Culture, Economic Structure, and the Dynamics of Ecological Economic Systems.
M.Sc., Applied Mathematics, October, 1996.
- 1992-1993 Department of Mathematics, Colorado School of Mines, Golden, CO, USA.
Non-degree student in mathematics in preparation for Ph.D. program at UBC.
- 1983-1987 Department of Petroleum Engineering, Colorado School of Mines, Golden, CO, USA. B.Sc., Petroleum Engineering, May, 1987.

Awards & Fellowships

- 2014 Faculty Achievement Award for Defining Edge Research in Natural Sciences/Math, Arizona State University.
- 2008 Promotion and Tenure Exemplar, Arizona State University.
- 2007 Early Career Development (CAREER) Award. National Science Foundation.
- 2006 Dean’s Distinguished Teaching Award, College of Liberal Arts and Sciences, Arizona State University.
- 1997-1998 University Graduate Fellowship, University of British Columbia.
- 1997 Excellence in Teaching Prize, University of British Columbia.
- 1996 Graduate Teaching Award, Mathematics Department, University of British Columbia.
- 1993-1995 University Graduate Fellowship, University of British Columbia.

Professional Experience

- 06/14- *Professor*, School of Human Evolution and Social Change and School of Sustainability, Arizona State University, Tempe, Arizona.
- 08/08-06/14 *Associate Professor*, School of Human Evolution and Social Change and School of Sustainability, Arizona State University, Tempe, Arizona.
- 01/07-07/08 *Assistant Professor*, School of Sustainability (50% appointment), Arizona State University, Tempe, Arizona.
- 08/05-07/08 *Assistant Professor*, School of Human Evolution and Social Change (50% appointment), Arizona State University, Tempe, Arizona.

- 08/02-07/08 *Affiliated Assistant Professor*, Department of Mathematics and Statistics, Arizona State University, Tempe, Arizona.
- 08/02-08/05 *Assistant Professor*, School of Life Sciences, Arizona State University, Tempe, Arizona.
- 7/99-7/02 *Postdoctoral Research Fellow*, Division of Sustainable Ecosystems, Commonwealth Scientific and Industrial Research Organization, Canberra, Australia. Advisor: Brian Walker.
- 9/98-7/99 *Postdoctoral Research Fellow*, Peter Wall Institute for Advanced Studies, University of British Columbia. Advisor: Priscilla Greenwood.
- 9/93-8/98 *Doctoral Student*, Department of Mathematics, University of British Columbia. Advisor: Colin W. Clark.
- 6/95-9/97 *Mathematics Instructor*, Mathematics Department, University of British Columbia.
- 9/93-5/96 *Teaching Assistant and Computer Lab Instructor*, Mathematics and Biology Departments, University of British Columbia.
- 1/91-7/92 *Teacher of Technical English*, Harvard University's WorldTeach Program, People's Republic of China (12 months) followed by extensive travel throughout China, Siberia, Russia, and Europe (6 months).
- 8/87-11/90 *Production Engineer*, Oryx Energy Company, Valencia, California.

Research Activities

Sponsored Research Projects

NSF - NNA Track 1: Collaborative Research: ARC-NAV: Arctic Robust Communities-Navigating Adaptation to Variability **Role: Co-PI**. PI: Abigail York. Other Co-PIs: S. Burnsilver, S. Pfirman. \$1,415,570. Start date: 09/18/2019. Duration: 60 months.

NSF - CNH2-L: Transition Dynamics in Integrated Urban Water Systems. **Role: Co-PI**. PI: Margaret Garcia. Other Co-PIs: E. Koebele, A. Deslatte, G. Hornberger. \$1,599,992. Start date: 08/01/2019. Duration: 54 months.

NSF - IBSS: The Evolution of Social Networks and the Robustness of Human Societies to Population Growth and Climate Change: A Deep Time Perspective **Role: PI of ASU subcontract**. Total project: \$998,350. ASU subcontract: \$42,239. Start date: 08/31/2015. Duration: 48 months.

NSF- Belmont Forum: Multi-scale adaptations to global change and their impacts on vulnerability in coastal areas. **Role: PI of ASU subcontract**. Total project: ≈\$1,450,000. ASU subcontract: \$211,508. Start date: 08/31/2013. Duration: 36 months.

NSF-Biocomplexity CNH: When Strengths Can Become Weaknesses: Emerging Vulnerabilities in Coupled Natural Human Systems under Globalization and Climate Change. **Role: PI**. Co-PIs: M. Janssen, R. Aggarwal, R. Muneeppeerakul. \$1,499,093. Start date: 09/13/2012. Duration: 48 months.

NSF-Biocomplexity CNH: The Complexities of Ecological and Social Diversity: A Long-Term Perspective. **Role: Co-PI.** PI: Margaret Nelson. Other Co-PIs: J. Norberg, M. Hegmon. \$1,425,000. Start date: 09/01/2012. Duration: 42 months.

NSF RCN-SEES: Sustainability of Marine Renewable Resources in Subarctic Systems Under Incumbent Environmental Variability and Human Exploitation. **Role: Co-PI.** PI: Lorenzo Ciannelli. Other Co-PIs: C. Webb, K. Bailey. Start date: 09/15/2012. Duration: 48 months.

NOAA: Risk perception, Institutions, and Water Conservation: Enhancing Agricultural Adaptation to Future Water Scarcity in Central Arizona. **Role: Co-PI.** PI: Hallie Eakin. Other Co-PIs: A. York, T. Lant. \$300,000. Start date: 09/15/2012. Duration: 24 months.

NSF-Biocomplexity CNH: Collaborative Research: Determinants of Grassland Dynamics in Tibetan Highlands: Livestock, Wildlife, and the Culture and Political Economy of Pastoralism. **Role: Co-PI.** PI: A. Smith, . \$293,390. Start date: 09/15/2008. Duration: 60 months.

NSF-CAREER: Local Context and the Dynamics of Social-Ecological Systems: Beyond One-size-fits-all Solutions to Environmental Problems. **Role: PI.** \$407,809. Start date: 03/01/2007. Duration: 60 months.

NSF-HSD: AOC: Integrated Analysis of Robustness in Dynamic Social Ecological Systems. **Role: PI.** Co-PI's: C. Perrings, M. Janssen, A. Kinzig, and A. Rodriguez. \$749,000. Start date: 09/01/2005. Duration: 42 months.

NSF-Biocomplexity CNH: Long-Term Coupled Socioecological Change in the American Southwest and Northern Mexico. **Role: Co-PI** and Co-Director. PI: Margaret Nelson. Other Co-PI's: M. Hegmon, K. Kintigh, B. Nelson. \$536,000. Start date: 11/01/2005. Duration: 24 months.

NSF-Biocomplexity CNH: Urban Landscape Patterns: Complex Dynamics and Emergent Properties. **Role: Co-PI** on ASU subcontract. PI: Marina Alberti, University of Washington. PI on ASU subcontract: J. Wu. Other Co-PI's: C. Redman. \$430,000. Start date: 09/15/2005. Duration: 36 months.

NSF: UBM: Interdisciplinary Training For Undergraduates In Biological And Mathematical Sciences At ASU. **Role: Co-PI** and Co-Director. PI: Yang Kuang. Other Co-PI's: J. Elser, C. Castillo-Chavez, H. Smith. \$640,000. Start date: 09/15/04. Duration: 48 months.

NSF: Enabling The Study Of Long-Term Human And Social Dynamics: A Cyberinfrastructure For Archaeology. **Role: Co-PI.** PI: Keith Kintigh. Other Co-PI's: K. S. Candan, P. McCartney, M. Nelson. \$100,000. Start date: 9/15/2004. Duration: 12 months.

CLAS Multi-Investigator Proposal Development Grant: Sociopolitical complexity and human-environment relations. **Role: Co-Pi.** PI: M. Nelson. \$20,000. Start date: 02/31/2003. Duration: 1 year.

Peer-Reviewed Journal Articles

Conventions: In my field, first authors are listed first. Publications involving students and postdoctoral researchers are indicated with superscripts † and ‡, respectively. Publications for which my role was that of lab leader in which I provided intellectual leadership in framing the question and providing theoretical and methodological support for conducting the research are indicated with superscript †. *Bibliometrics (Google Scholar) as of January, 2022:* Citations: 21,029 h-index: 52, i10-index: 107.

- (117) †Shin, H. C., Vallury, S., Abbott, J. K., **Anderies, J. M.**, and David, J. Y. (2022). Understanding the effects of institutional diversity on irrigation systems dynamics. *Ecological Economics*, 191:107221.
- (116) Sumaila, U. R., Skerritt, D. J., Schuhbauer, A., Villasante, S., Cisneros-Montemayor, A. M., Sinan, H., Burnside, D., Abdallah, P. R., Abe, K., Addo, K. A., et al. (2021). Who must ban harmful fisheries subsidies. *Science*, 374(6567):544–544.
- (115) York, A. M., Otten, C. D., BurnSilver, S., Neuberg, S. L., and **Anderies, J. M.** (2021). Integrating institutional approaches and decision science to address climate change: a multi-level collective action research agenda. *Current Opinion in Environmental Sustainability*, 52:19–26.
- (114) Freeman, J., Hard, R. J., Mauldin, R. P., and **Anderies, J. M.** (2021b). Radiocarbon data may support a malthus-boserup model of hunter-gatherer population expansion. *Journal of Anthropological Archaeology*, 63:101321.
- (113) Freeman, J., **Anderies, J. M.**, Beckman, N. G., Robinson, E., Baggio, J. A., Bird, D., Nicholson, C., Finley, J. B., Capriles, J. M., Gil, A. F., et al. (2021a). Landscape engineering impacts the long-term stability of agricultural populations. *Human Ecology*, 49(4):369–382.
- (112) Deslatte, A., Helmke-Long, L., **Anderies, J. M.**, Garcia, M., Hornberger, G. M., and Ann Koebele, E. (2021). Assessing sustainability through the institutional grammar of urban water systems. *Policy Studies Journal*.
- (111) Therville, C., **Anderies, J. M.**, Lecoq, M., and Cease, A. (2021). Locusts and people: Integrating the social sciences in sustainable locust management. *Agronomy*, 11(5):951.
- (110) Epstein, G., Gurney, G., Chawla, S., **Anderies, J. M.**, Baggio, J., Unnikrishnan, H., Tomas, S. V., and Cumming, G. S. (2021). Drivers of compliance monitoring in forest commons. *Nature Sustainability*, 4(5):450–456.
- (109) Levin, S. A., **Anderies, J. M.**, Adger, W. N., Barrett, S., Bennet, E. M., Cárdenas, J.-C., Carpenter, S. R., Crepin, A.-S., Ehrlich, P., Fischer, J., et al. (2021). Governance in the face of extreme events: Lessons from evolutionary processes for structuring interventions, and the need to go beyond. *Ecosystems*.
- (108) Eppinga, M. B., Siteur, K., Baudena, M., Reader, M. O., van't Veen, H., **Anderies, J. M.**, and Santos, M. J. (2021). Long-term transients help explain regime shifts in consumer-renewable resource systems. *Communications Earth & Environment*, 2(1):1–12.

- (107) Cox, M., Gurney, G., Anderies, J., Coleman, E., Darling, E., Epstein, G., Frey, U., Nenadovic, M., Schlager, E., and Villamayor-Tomas, S. (2021). Lessons learned from synthetic research projects based on the ostrom workshop frameworks. *Ecology and Society*, 26(1).
- (106) Munepeerakul, R. and **Anderies, J. M.** (2020). The emergence and resilience of self-organized governance in coupled infrastructure systems. *Proceedings of the National Academy of Sciences*, 117(9):4617–4622.
- (105) Barrett, S., Dasgupta, A., Dasgupta, P., Adger, W. N., **Anderies, J. M.**, van den Bergh, J., Bledsoe, C., Bongaarts, J., Carpenter, S., Chapin, F. S., et al. (2020). Social dimensions of fertility behavior and consumption patterns in the anthropocene. *Proceedings of the National Academy of Sciences*, 117(12):6300–6307.
- (104) Adger, W. N., Crépin, A.-S., Folke, C., Ospina, D., Chapin III, F. S., Segerson, K., Seto, K. C., **Anderies, J. M.**, Barrett, S., Bennett, E. M., et al. (2020). Urbanization, migration, and adaptation to climate change. *One Earth*, 3(4):396–399.
- (103) Cumming, G., Epstein, G., **Anderies, J. M.**, Apetrei, C., Baggio, J., Bodin, Ö., Chawla, S., Clements, H., Cox, M., Egli, L., et al. (2020). Advancing understanding of natural resource governance: a post-ostrom research agenda. *Current Opinion in Environmental Sustainability*, 44:26–34.
- (102) †Vallury, S., Abbott, J. K., Shin, H. C., and **Anderies, J. M.** (2020). Sustaining coupled irrigation infrastructures: Multiple instruments for multiple dilemmas. *Ecological Economics*, 178:106793.
- (101) †**Anderies, J. M.**, Smith-Heisters, S., and Eakin, H. (2020). Modeling interdependent water uses at the regional scale to engage stakeholders and enhance resilience in central arizona. *Regional Environmental Change*, 20(3):1–16.
- (100) Shin, H. C., David, J. Y., Park, S., **Anderies, J. M.**, Abbott, J. K., Janssen, M. A., and Ahn, T. (2020). How do resource mobility and group size affect institutional arrangements for rule enforcement? a qualitative comparative analysis of fishing groups in south korea. *Ecological Economics*, 174:106657.
- (99) Freeman, J., Robinson, E., Beckman, N. G., Bird, D., Baggio, J. A., and **Anderies, J. M.** (2020). The global ecology of human population density and interpreting changes in paleo-population density. *Journal of Archaeological Science*, 120:105168.
- (98) Barreteau, O., **Anderies, J. M.**, Guerbois, C., Quinn, T., Therville, C., Mathevet, R., and Bousquet, F. (2020). Transfers of vulnerability through adaptation plan implementation: an analysis based on networks of feedback control loops. *Ecology and Society*, 25(2).
- (97) †Rubinos, C. and **Anderies, J. M.** (2020). Integrating collapse theories to understand socio-ecological systems resilience. *Environmental Research Letters*.
- (96) York, A. M., Eakin, H., Bausch, J. C., Smith-Heisters, S., **Anderies, J. M.**, Aggarwal, R., Leonard, B., and Wright, K. (2020). Agricultural water governance in the desert: Shifting risks in central arizona. *Water Alternatives*, 13(2):418–445.

- (95) Mathias, J.-D., **Anderies, J. M.**, Baggio, J., Hodbod, J., Huet, S., Janssen, M. A., Milkoreit, M., and Schoon, M. (2020). Exploring non-linear transition pathways in social-ecological systems. *Scientific Reports*, 10(1):1–12.
- (94) Folke, C., Österblom, H., Jouffray, J.-B., Lambin, E. F., Adger, W. N., Scheffer, M., Crona, B. I., Nyström, M., Levin, S. A., Carpenter, S. R., **Anderies, J. M.**, et al. (2020). An invitation for more research on transnational corporations and the biosphere. *Nature Ecology & Evolution*, 4(4):494–494.
- (93) †Janssen, M. A., **J. M. Anderies**, Baeza, A., Breetz, H. L., Jasinski, T., Shin, H. C., and Vallury, S. (2019). Highways as coupled infrastructure systems: an integrated approach to address sustainability challenges. *Sustainable and Resilient Infrastructure*, 0:1–12.
- (92) Freeman, J., **Anderies, J. M.**, Mauldin, R. P., and Hard, R. J. (2019). Should I stay or should I go? The emergence of partitioned land use among human foragers. *PloS one*, 14(7):e0218440.
- (91) Schill, C., **Anderies, J. M.**, Lindahl, T., Folke, C., Polasky, S., Cárdenas, J. C., Crépin, A.-S., Janssen, M. A., Norberg, J., and Schlüter, M. (2019). A more dynamic understanding of human behaviour for the anthropocene. *Nature Sustainability*, 2:1075–1082.
- (90) Folke, C., Österblom, H., Jouffray, J.-B., Lambin, E. F., Adger, W. N., Scheffer, M., Crona, B. I., Nyström, M., Levin, S. A., Carpenter, S. R., **Anderies, J. M.**, et al. (2019). Transnational corporations and the challenge of biosphere stewardship. *Nature ecology & evolution*, 3(10):1396–1403.
- (89) **Anderies, J. M.** and Barretueu, O. (2019). Governance principles for robust and resilient coastal systems in the face of global change. *Regional Environmental Change*, 19(7):1831–1833.
- (88) †**Anderies, J. M.**, Barreteau, O., and Brady, U. (2019a). Refining the robustness of social-ecological systems framework for comparative analysis of coastal system adaptation to global change. *Regional Environmental Change*, 19(7):1891–1908.
- (87) †Naylor, L. A., Brady, U., Quinn, T., Brown, K., and **Anderies, J. M.** (2019). A multiscale analysis of social-ecological system robustness and vulnerability in Cornwall, UK. *Regional Environmental Change*, 19(7):1835–1848.
- (86) Van Strien, M. J., Huber, S. H., **Anderies, J. M.**, and Grêt-Regamey, A. (2019). Resilience in social-ecological systems: identifying stable and unstable equilibria with agent-based models. *Ecology and Society*, 24(2):8. [online] URL: <https://www.ecologyandsociety.org/vol24/iss2/art8/>.
- (85) Zhou, B.-B., Wu, J., and **Anderies, J. M.** (2019). Sustainable landscapes and landscape sustainability: A tale of two concepts. *Landscape and urban planning*, 189:274–284.
- (84) Brown, K., Adger, W. N., Devine-Wright, P., **Anderies, J. M.**, Barr, S., Bousquet, F., Butler, C., Evans, L., Marshall, N., and Quinn, T. (2019). Empathy, place and identity interactions for sustainability. *Global Environmental Change*, 56:11–17.

- (83) **Anderies, J. M.**, Mathias, J.-D., and Janssen, M. A. (2019b). Knowledge infrastructure and safe operating spaces in social–ecological systems. *Proceedings of the National Academy of Sciences*, 116(12):5277–5284.
- (82) Freeman, J., Baggio, J. A., Robinson, E., Byers, D. A., Gayo, E., Finley, J. B., Meyer, J. A., Kelly, R. L., and **Anderies, J. M.** (2018). Synchronization of energy consumption by human societies throughout the holocene. *Proceedings of the National Academy of Sciences*, 115(40):9962–9967.
- (81) Mathias, J.-D., **Anderies, J. M.**, and Janssen, M. (2018). How does knowledge infrastructure mobilization influence the safe operating space of regulated exploited ecosystems? *Earth’s Future*.
- (80) †Homayounfar, M., Muneeppeerakul, R., **Anderies, J. M.**, and Muneeppeerakul, C. P. (2018). Linking resilience and robustness and uncovering their trade-offs in coupled infrastructure systems. *Earth System Dynamics*, 9(4):1159–1168.
- (79) Mathevet, R., Allouche, A., Nicolas, L., Mitroi, V., Fabricius, C., Guerbois, C., and **Anderies, J. M.** (2018). A conceptual framework for heuristic progress in exploring management regime shifts in biodiversity conservation and climate change adaptation of coastal areas. *Sustainability*, 10(11):4171.
- (78) Lade, S. J., Donges, J. F., Fetzer, I., **Anderies, J. M.**, Beer, C., Cornell, S. E., Gasser, T., Norberg, J., Richardson, K., Rockström, J., et al. (2018). Analytically tractable climate–carbon cycle feedbacks under 21st century anthropogenic forcing. *Earth System Dynamics*, 9(2):507–523.
- (77) †del Mar Mancha-Cisneros, M., Castillo, A. N. S., Torre, J., **Anderies, J. M.**, and Gerber, L. R. (2018). The role of stakeholder perceptions and institutions for marine reserve efficacy in the Midriff Islands Region, Gulf of California, Mexico. *Ocean and Coastal Management*, 162:181–192.
- (76) †Tellman, B., Bausch, J. C., Eakin, H., **Anderies, J. M.**, Mazari-Hiriart, M., Manuel-Navarrete, D., and Redman, C. L. (2018). Adaptive pathways and coupled infrastructure: seven centuries of adaptation to water risk and the production of vulnerability in Mexico City. *Ecology and Society*, 23(1):1. [online] URL: <https://www.ecologyandsociety.org/vol23/iss1/art1/>.
- (75) Muneeppeerakul, R. and **Anderies, J. M.** (2017). Strategic behaviors and governance challenges in social-ecological systems. *Earth’s Future*, 5(8):865–876.
- (74) Cárdenas, J.-C., Janssen, M. A., Ale, M., Bastakoti, R., Bernal, A., Chalermphol, J., Gong, Y., Shin, H., Shivakoti, G., Wang, Y., and **Anderies, J. M.** (2017). Fragility of the provision of local public goods to private and collective risks. *Proceedings of the National Academy of Sciences*, 114(5):921–925.
- (73) Mathias, J.-D., **Anderies, J. M.**, and Janssen, M. A. (2017). On our rapidly shrinking capacity to comply with the planetary boundaries on climate change. *Nature Scientific Reports*, 7:42061.
- (72) Nyborg, K., **Anderies, J. M.**, Dannenberg, A., Lindahl, T., Schill, C., Schlüter, M., Adger, W. N., Arrow, K. J., Barrett, S., Carpenter, S., et al. (2016). Social norms as solutions. *Science*, 354(6308):42–43.

- (71) **Anderies, J. M.**, Janssen, M. A., and Schlager, E. (2016). Institutions and the performance of coupled infrastructure systems. *International Journal of the Commons*, 10(2):495–516.
- (70) [†]Baggio, J., Barnett, A., Perez-Ibarra, I., Brady, U., Ratajczyk, E., Rollins, N., Rubiños, C., Shin, H., Yu, D., Aggarwal, R., **Anderies, J. M.**, and M.A., J. (2016). Explaining success and failure in the commons: The configurational nature of ostrom’s institutional design principles. *International Journal of the Commons*, 10(2):417–439.
- (69) [†]Barnett, A. J., Baggio, J. A., Shin, H. C., Yu, D., Pérez-Ibarra, I., Rubinos, C. A., Brady, U., Ratajczyk, E., Rollins, N., Aggarwal, R., **Anderies, J. M.**, and Janssen, M. A. (2016). An iterative approach to case study analysis: insights from qualitative analysis of quantitative inconsistencies. *International Journal of the Commons*, 10(2):467–494.
- (68) [†]Ratajczyk, E., Brady, U., Baggio, J. A., Barnett, A. J., Perez-Ibarra, I., Rollins, N., Rubiños, C., Shin, H. C., Yu, D. J., Aggarwal, R., **Anderies, J. M.**, and Janssen, M. A. (2016). Challenges and opportunities in coding the commons: problems, procedures, and potential solutions in large-n comparative case studies. *International Journal of the Commons*, 10(2):440–466.
- (67) Pérez, I., Janssen, M. A., and **Anderies, J. M.** (2016). Food security in the face of climate change: Adaptive capacity of small-scale social-ecological systems to environmental variability. *Global Environmental Change*, 40:82–91.
- (66) [†]David, J. Y., Shin, H. C., Pérez, I., **Anderies, J. M.**, and Janssen, M. A. (2016). Learning for resilience-based management: Generating hypotheses from a behavioral study. *Global Environmental Change*, 37:69–78.
- (65) Abel, N., Wise, R., Colloff, M., Walker, B., Butler, J., Ryan, P., Norman, C., Langston, A., **Anderies, J. M.**, Gorddard, R., et al. (2016). Building resilient pathways to transformation when “no one is in charge”: Insights from Australia’s Murray-Darling Basin. *Ecology and Society*, 21(2).
- (64) Eakin, H., York, A., Aggarwal, R., Waters, S., Welch, J., Rubiños, C., Smith-Heisters, S., Bausch, C., and **Anderies, J. M.** (2016). Cognitive and institutional influences on farmers’ adaptive capacity: insights into barriers and opportunities for transformative change in central arizona. *Regional Environmental Change*, 16(3):801–814.
- (63) **Anderies, J. M.** (2015a). Managing variance: Key policy challenges for the Anthropocene. *Proceedings of the National Academy of Sciences*, www.pnas.org/cgi/doi/10.1073/pnas.1519071112.
- (62) [†]Yu, D. J., Qubbaj, M. R., Muneeppeerakul, R., **Anderies, J. M.**, and Aggarwal, R. M. (2015). Effect of infrastructure design on commons dilemmas in social-ecological system dynamics. *Proceedings of the National Academy of Sciences*, 112(43):13207–13212.
- (61) Perez, I., Yu, D. J., Janssen, M. A., and **Anderies, J. M.** (2015). Social roles and performance of social-ecological systems: Evidence from behavioral lab experiments. *Ecology and Society*, 20(3):23. <http://dx.doi.org/10.5751/ES-07493-200323>.

- (60) [◊]Qubbaj, M. R., Muneeppeerakul, R., Aggarwal, R. M., and **Anderies, J. M.** (2015). How does a divided population respond to change? *PloS One*, 10(7):e0128121.
- (59) [†]Freeman, J., Peeples, M., and **Anderies, J. M.** (2015). Toward a theory of non-linear transitions from foraging to farming. *Journal of Anthropological Archaeology*, 40:109–122.
- (58) [†]Freeman, J. and **Anderies, J. M.** (2015b). The socioecology of hunter–gatherer territory size. *Journal of Anthropological Archaeology*, 39:110–123.
- (57) [†]Freeman, J. and **Anderies, J. M.** (2015a). A comparative ethnoarchaeological analysis of corporate territorial ownership. *Journal of Archaeological Science*, 54:135–147.
- (56) **Anderies, J. M.** (2015b). Understanding the dynamics of sustainable social-ecological systems: Human behavior, institutions, and regulatory feedback networks. *Bulletin of Mathematical Biology*, 77(2):259–280.
- (55) Janssen, M. A., **Anderies, J. M.**, Pérez, I., and Yu, D. J. (2015). The effect of information in a behavioral irrigation experiment. *Water Resources and Economics*, 12:14–26.
- (54) Barrett, S., Lenton, T. M., Millner, A., Tavoni, A., Carpenter, S., **Anderies, J. M.**, Chapin III, F. S., Crépin, A.-S., Daily, G., Ehrlich, P., et al. (2014). Climate engineering reconsidered. *Nature Climate Change*, 4(7):527–529.
- (53) [◊]Barnett, A. J. and **Anderies, J. M.** (2014). Weak feedbacks, governance mismatches, and the robustness of social-ecological systems: an analysis of the south-west Nova Scotia lobster fishery with comparison to Maine. *Ecology and Society*, 19(4):39. <http://dx.doi.org/10.5751/ES-06714-190439>.
- (52) [†]Yu, D. J., **Anderies, J. M.**, Lee, D., and Ibarra, I. P. (2014). Transformation of resource management institutions under globalization: The case of Songgye community forests in South Korea. *Ecology and Society*, 19(2):2. <http://dx.doi.org/10.5751/ES-06135-190202>.
- (51) **Anderies, J. M.** (2014). Embedding built environments in social–ecological systems: resilience-based design principles. *Building Research & Information*, 42(2):130–142.
- (50) [†]Freeman, J., **Anderies, J. M.**, Torvinen, A., and Nelson, B. A. (2014). Crop specialization, exchange and robustness in a semi-arid environment. *Human Ecology*, 42(2):297–310.
- (49) Ciannelli, L., Hunsicker, M., Beaudreau, A., Bailey, K., Crowder, L. B., Finley, C., Webb, C., Reynolds, J., Sagmiller, K., **Anderies, J. M.**, et al. (2014). Transdisciplinary graduate education in marine resource science and management. *ICES Journal of Marine Science: Journal du Conseil*, page fsu067.
- (48) **Anderies, J. M.**, Carpenter, S. R., Steffen, W., and Rockström, J. (2013). The topology of non-linear global carbon dynamics: From tipping points to planetary boundaries. *Environmental Research Letters*, 8(4):044048.
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- (36) Janssen, M. A. and **Anderies, J. M.** (2011). Governing the commons: Learning from field and laboratory experiments. *Ecological Economics*, 70(9):1569–1570.
- (35) **Anderies, J. M.**, Janssen, M., Bousquet, F., Cardenas, J., Castillo, D., Lopez, M., Tobias, R., Vollan, B., and Wutich, A. (2011). The challenge of understanding decisions in experimental studies of common pool resource governance. *Ecological Economics*, 70(9):1571–1579.
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- (25) **Anderies, J. M.**, Nelson, B., and Kinzig, A. (2008). Analyzing the impact of agave cultivation on famine risk in arid pre-hispanic northern Mexico. *Human Ecology*, 36(3):409–422.
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- (20) Janssen, M., **Anderies, J. M.**, and Ostrom, E. (2007). Robustness of social-ecological systems to spatial and temporal variability. *Society and Natural Resources*, 20(4):307–322.
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- (17) Abel, N., Cumming, D., and **Anderies, J. M.** (2006). Collapse and reorganization in social-ecological systems: questions, some ideas, and policy implications. *Ecology and Society*, 11(1):Article 17.
- (16) **Anderies, J. M.**, Walker, B., and Kinzig, A. (2006b). Fifteen weddings and a funeral: case studies and resilience-based management. *Ecology and Society*, 11(1):Article 21.
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- (11) **Anderies, J. M.**, Janssen, M., and Ostrom, E. (2004). A framework to analyze the robustness of social-ecological systems from an institutional perspective. *Ecology and Society*, 9(1):Article 18.
- (10) Janssen, M., **Anderies, J. M.**, and Walker, B. (2004). Robust strategies for managing rangelands with multiple stable attractors. *Journal of Environmental Economics and Management*, 47(1):140–162.
- (9) Pezzey, J. and **Anderies, J. M.** (2003). The effect of subsistence on collapse and institutional adaptation in population–resource societies. *Journal of Development Economics*, 72(1):299–320.
- (8) **Anderies, J. M.** (2003). Economic development, demographics, and renewable resources: a dynamical systems approach. *Environment and Development Economics*, 8(2):219–246.
- (7) Walker, B., Carpenter, S., **Anderies, J. M.**, Cumming, G., Janssen, M., Norberg, J., and Pritchard, L. (2002). Resilience management in social-ecological systems: a working hypothesis for a participatory approach. *Conservation Ecology*, 6(1):14. URL: <http://www.consecol.org/vol6/iss1/art14/>.
- (6) **Anderies, J. M.**, Janssen, M., and Walker, B. (2002). Grazing management, resilience, and the dynamics of a fire-driven rangeland system. *Ecosystems*, 5(1):23–44.
- (5) Carpenter, S., Walker, B., **Anderies, J. M.**, and Abel, N. (2001). From metaphor to measurement: resilience of what to what? *Ecosystems*, 4(8):765–781.

- (4) **Anderies, J. M.** and Beisner, B. (2000). Fluctuating environments and phytoplankton community structure: a stochastic model. *The American Naturalist*, 155(4):556–569.
- (3) **Anderies, J. M.** (2000). On modeling human behavior and institutions in simple ecological economic systems. *Ecological Economics*, 35(3):393–412.
- (2) **Anderies, J. M.** (1998). Culture and human agro-ecosystem dynamics: the Tsembaga of New Guinea. *Journal of Theoretical Biology*, 192(4):515–530.
- (1) **Anderies, J. M.** (1996). An adaptive model for predicting kung reproductive performance: A stochastic dynamic programming approach. *Ethology and Sociobiology*, 17(4):221–245.

Books

Anderies, J. M. and Janssen, M. A. (2013). *Sustaining the Commons*. <https://sustainingthecommons.asu.edu/>, 2nd edition.

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Peer-Reviewed Chapters in Edited Volumes

Briske, D. D., Illius, A. W., and **Anderies, J. M.** (2017). Nonequilibrium ecology and resilience theory. In Briske, D. D., editor, *Rangeland Systems*, pages 197–227. Springer.

Schlüter, M., Biggs, R., Schoon, M. L., Robards, M. D., and **Anderies, J. M.** (2015). Reflections on building resilience—interactions among principles and implications for governance. In Schlüter, M., Biggs, R., and Schoon, M., editors, *Principles for Building Resilience: Sustaining Ecosystem Services in Social-Ecological Systems*, chapter 10, pages 251–260. Cambridge University Press.

Bohensky, E. L., Evans, L. S., **Anderies, J. M.**, Biggs, D., and Fabricius, C. (2015). Principle 4—foster complex adaptive systems thinking. In *Principles for Building Resilience: Sustaining Ecosystem Services in Social-Ecological Systems*, chapter 6, page 251. Cambridge University Press.

Eakin, H., Tompkins, E. L., Nelson, D., and **Anderies, J. M.** (2009). Hidden costs and disparate uncertainties: trade-offs involved in approaches to climate policy. In Adger, W., Lorenzoni, I., and O’Brien, K., editors, *Adapting to Climate Change: Thresholds, Values, Governances*, pages 212–226. Cambridge University Press.

Anderies, J. M. and Norberg, J. (2008). Observing, understanding, and acting: Information processing for navigating social-ecological systems. In Norberg, J. and Cumming, G., editors, *Complexity theory for a sustainable future*, pages 155–178. Columbia University Press New York.

Janssen, M. A. and **Anderies, J. M.** (2007b). Stylized models to analyze robustness of irrigation systems. In Kohler, T. and Van der Leeuw, S., editors, *The Model-based Archaeology of Socionatural Systems*, pages 157–173. School for Advanced Research Press.

Anderies, J. M. (2002). The transition from local to global dynamics: A proposed framework for agent-based thinking in social-ecological systems. In Janssen, M., editor, *Complexity and ecosystem management—the theory and practice of multi-agent systems*, Edward Elgar, Cheltenham, Northampton, pages 13–34. Edward Elgar Publishers, Cheltenham UK/Northampton USA.

Janssen, M. A., **Anderies, J. M.**, Stafford-Smith, M., and Walker, B. H. (2002). Implications of spatial heterogeneity of grazing pressure on the resilience of rangelands. In Janssen, M. A., editor, *Complexity and ecosystem management: The theory and practice of multi-agent systems*, pages 103–123. Edward Elgar Publishing, Cheltenham UK/Northampton USA.

Walker, B., Peterson, G., **Anderies, J. M.**, Kinzig, A., and Carpenter, S. (2005). Robustness in ecosystems. In Jen, E., editor, *Robust Design: A Repertoire of Biological, Ecological, and Engineering Case Studies*, pages 173–190. Oxford University Press.

Book Reviews

Anderies, J. M. (2014). The Sustainable Economics of Elinor Ostrom: Commons, Contestation and Craft. By Derek Wall. New York & London: Routledge. *International Journal of the Commons*, 8(2):686–687.

Anderies, J. M. (2005). Why We Do It: Rethinking Sex and the Selfish Gene. By Niles Eldredge. W. W. Norton & Company, N.Y. *The Quarterly Review of Biology*, 80(2):264–265.

Anderies, J. M. (2002). Institutions, Ecosystems, and Sustainability. Edited by Robert Costanza, Bobbi Low, Elinor Ostrom, and James Wilson. *Ecological Economics*, 42(3):498–499.

Anderies, J. M. (2001). Simple Heuristics That Make Us Smart. By G. Gigerenzer, P. M. Todd, and the ABC Research Group. Oxford University Press, Oxford, UK. *Conservation Ecology*, 5(2):4. [online] URL: <http://www.consecol.org/vol5/iss2/art4/>.

Anderies, J. M. (1998). Making Sense of Sex: How Genes and Gender Influence Our Relationships. By David Barash and Judith Lipton. Island Press, Washington, D.C. *Quarterly Review of Biology*, 73(4):486.

Presentations and Workshop/Conference Participation:

“Opening Remarks for the IASC Mini Conference Series: Commoning the Anthropocene”, IASC Mini Conference Series, April 21, 2021.

(Invited) “Reflections on the Commons across space and time: Challenges and opportunities for governing shared resources in the Anthropocene”, Stanford Sustainability Research and Education Speaker Series, April 16, 2021.

(Invited) “Existential Risk and Collapse”, Workshop on Historical Collapse. Princeton University, December 4, 2020.

(*Invited*) “Surprises from the Inside: Navigating the interplay of fast and slow change in system dynamics”, Panel III: Adapting to Shocks and Surprise, US National Academies Sustainability Science Workshop, December 1, 2020.

(*Invited*) “Are ‘Social-Ecological-Technical Systems’ Fundamentally Plagued by Dynamic Instabilities?”, Sustainability Research Seminar, ASU, October 14, 2020.

(*Invited*) “Robust Governance for Global Change: Tools for Navigating Uncertainty in the Anthropocene”, Departmental Seminar, URPP Global Change & Biodiversity Program, University of Zurich, March 26, 2019.

(*Invited Panelist*) “Sequential Investment Decisions and Robustness-Fragility Trade-offs”, Departmental seminar, Historical Collapse Workshop, Princeton University, April 26, 2019.

(*Invited*) “Knowledge infrastructure and Safe Operating Spaces in Coupled Human-Natural Systems”, Departmental Seminar, Potsdam Institute for Climate Impact Research, Potsdam, Germany, May 29, 2019.

“Polycentric Governance of Shared Resources in the Anthropocene: Knowledge, Institutions, and Human Behavior”, IASC 2019 Biennial International Conference - In Defense of the Commons, Lima Peru, July 2, 2019.

“Governance in Natural Resource Systems”, ASU Food for Thought Seminar, Arizona State University, October 18, 2019.

(*Invited*) “What are the weird (non-intuitive) trade-offs we face in the Anthropocene?” Sackler Colloquium, National Academy of Sciences, Irvine California, January 17, 2018.

(*Invited*) “Governance of Shared Resources in the Face of Global Change: Some Experimental and Theoretical Reflections .” STEP seminar, Princeton Environment Institute, Princeton University, February 19 , 2018.

(*Invited*) “The Challenge of Good Environmental Governance: Insights from a Dynamical Systems Perspective”, Distinguished Alumni Lecture, Institute of Applied Mathematics, University of British Columbia, Vancouver, Canada, March 19, 2018.

(*Invited Keynote*) “Governance of Shared Resources in the Face of Global Change: Some Experimental and Theoretical Reflections”, Asia Region Biennial IASC Meeting Asian Institute of Technology, Thailand, July 14, 2018.

(*Invited*) “Governing our shared natural resources in the Anthropocene: Knowledge, institutions, and human behavior ”, Forestry Department Seminar, Northern Arizona University, October 3, 2018.

(*Invited*) “Resilience Theory and Social Ecological Systems.” Paleoclimate-Resilience Workshop for Pre-Modernists, Princeton University, September 9, 2017.

(*Contributed*) “The SES Library: A tool for comparative case study analysis and model development” Biennial Conference, International Association for the Study of the Commons, Utrecht, Netherlands, July, 14, 2017.

(*Invited*) “Smallholder agricultural systems, food security, and the provision of local public goods.” Stockholm seminar, The Royal Swedish Academy of Sciences, Stockholm May 9, 2017.

(*Invited*) “Institutions and the Performance of Coupled Infrastructure Systems.” IRSTEA Occasional Lecture, Clermont Ferrand, March 21, 2017.

(*Invited*) “Exploring Robustness Fragility, and Change in Human Societies: A View through the Lens of Coupled Infrastructure Systems.” Departmental Lecture, Utrecht University History Department, Utrecht, Netherlands, March 17, 2016.

(*Invited*) “Understanding the Configural Nature of Institutions and Effective Natural Resource Governance.” Departmental Lecture, Tsinghua University School of Public Policy and Management, Beijing, China, June 13, 2016.

(*Invited*) “Landscape change, carbon dynamics, and planetary boundaries.” The 4th International Forum on Landscape Sustainability Science, Beijing, China, June 7, 2016

(*Invited*) “The Robustness of Small Scale Agricultural Systems: Food Security in the Face of Global Change.” ASU Morrison School of Agribusiness Seminar Series, February 2015.

(*Invited*) “Commons Dilemmas in Coupled Infrastructure Systems: Governance challenges, complexity, and scale.” JRC Roundtable on CAS and Energy Conservation Policy, Ispra, Italy, February 2015.

(*Contributed*) “Understanding Persistence and Change in Social-Ecological Systems through a Coupled Infrastructure Systems Lens.” 15th Biennial International Association for the Study of the Commons Conference, Edmonton, CA, May 25-29 2015.

(*Invited*) “Scaling up Governance in the Anthropocene.” Ecosystem Science and Management Departmental Seminar, Texas A & M University, November 17, 2015.

(*Invited*) “Robustness - Fragility Tradeoffs in Coupled Infrastructure Systems and Design Principles for Resilient FEWS.” Human Adaptation to Climate Change: Impacts on the Resilience of Regional Food, Energy, and Water Systems, Ohio State University, November 2015.

(*Invited*, with Catherine Tucker) “Understanding Human - Environment Interactions Through the Institutional Analysis and the SES Framework Lens.” MtnClim 2014, Meeting of the Consortium for Integrated Climate Research in Western Mountains, Midway UT, USA, September 17, 2014.

(*Invited*) “Institutions, Biophysical Context, and the Robustness of Small - Scale Mountain Irrigation Systems.” MtnClim 2014, Meeting of the Consortium for Integrated Climate Research in Western Mountains, Midway UT, USA, September 17, 2014.

(*Contributed*) “Robustness, vulnerability and adaptive capacity of small-scale irrigated irrigation systems: The Pampa System in Nepal.” Workshop on the Workshop 5, Indiana University, Bloomington, Indiana, USA, June 21, 2014.

(*Contributed*) “Social Network Structure and Collective Action in Uncertain Commons Dilemmas.” Resilience 2014, Montpellier, France, May 4-8, 2014.

(*Invited*) “Exploring Tipping Points and Planetary Boundaries using a Stylized Climate Model.” 2013 ICMS Tipping Points Workshop, Edinburgh, Scotland, UK, September, 2013.

(*Invited*) “The Topology of Non-Linear Global Carbon Dynamics: From Tipping Points to Planetary Boundaries.” 2013 SIAM Conference on Dynamical Systems Snowbird, UT, USA, May, 2013.

(*Contributed*) “Changing context and the Adaptive Capacity of Small-Scale Irrigated Agricultural Systems.” IASC 2013: Commoners and the Changing Commons Kita Fuji, Japan June, 2013.

(*Contributed*) “Global Change, Water Scarcity, and the Adaptive Capacity of Small-Scale Irrigated Agricultural Systems.” Water for Food Global Conference, Lincoln, Nebraska, USA, May, 2013.

(*Invited*) “Sustainable Livelihoods: Robustness-Fragility Trade-offs in Coupled Social-Ecological Systems.” Science of Sustainability Colloquium University of Michigan Institute for Complex Adaptive Matter and the University of Michigan Energy Institute, Ann Arbor, Michigan, USA, February, 2013.

(*Invited*) “Embedding Built Environments in Social-Ecological Systems.” Resilience and the Built Environment Workshp ETH, Zurich, January 2013.

(*Invited*) “Governance and the Capacity of Small-Scale Social-Ecological Systems to Adapt to Global Change.” National Academy of Science Sustainability Symposium: Science, Innovation, and Partnership for Sustainability Solutions. The National Academy of Science, Washington, D.C., USA, May 11, 2012.

(*Invited Participant*) “The SES Framework and Public Policy”, Workshop on New Policy Theories at the School of Public Affairs at UC Denver, Denver Colorado, USA, October 5, 2012.

(*Invited*) “Current Directions in Resilience Research: Perspectives from the Resilience Alliance.” Annual Natural Hazards Research and Applications Workshop, Natural Hazards Center, University of Colorado, Broomfield, CO, USA, July 11, 2011.

(*Invited*) “Assessing the capacity of small-scale agricultural systems to cope with climate change: A multiple methods approach.” Dartmouth Decisions Seminar Series, Hanover, NH, USA, May 17, 2011.

(*Invited*) “Design Principles for Robust Governance Systems.” Joint seminar sponsored by the Duke Center for Sustainability & Commerce at the Nicholas Institute for Environmental Policy Solutions and the Nicholas School of the Environment Division of Earth and Ocean Sciences. Duke University, Durham, NC, USA, March 22, 2011.

(*Invited Panelist*) “Comments on Lost at Sea: Putting people in the loop.” AAAS Annual Meeting, Washington, DC, USA, February 20, 2011.

(*Invited*) “Robbing Peter to pay Paul: Managing difficult trade-offs in uncertain resource management situations.” Stockholm Seminar, Stockholm, Sweden, May 4, 2010.

(*Contributed*) “Complexity, Conservation of Fragility, and Institutional Change.” CIRAD, Montpellier, France, July 10, 2010.

(*Invited Panelist*) “Socio-ecological Resilience and Disaster Risk Reduction: Prioritizing the Gaps in a Changing World.” Yale School of Forestry and Environmental Studies Spring Forum. Yale University, New Haven, CT, USA, April 23-24, 2009.

(*Invited*) “Niche Construction and Food Production Strategies in Arid Environments.” Dynamic Deserts: Resource Uncertainty in Arid Environments, ASU, USA, February 26, 2009.

(*Invited*) “Coordination and Cooperation in Asymmetric Commons Dilemmas.” Tragedy of the Commons 40th Anniversary Retrospective, Adrian College, Adrian, Michigan, USA, November 21, 2008.

(*Invited Panelist*) “Resilience Thinking: Adapting to System-Shifting Social and Ecological Change.” Bioneers Conference, San Rafael, California, USA, October 16-19, 2008.

(*Invited*) “Adaptation, resilience, and capacity to cope with environmental change.” 8th Annual Syracuse Symposium on Environmental and Energy Systems: “Creating Resilience in Sustainable Communities.” Syracuse Center of Excellence in Environmental and Energy Innovations, Syracuse, NY, USA, September 29-30, 2008.

(*Invited Commentator*) “Protecting a Natural Resource Legacy While Promoting Resilience: Can It Be Done?.” Environmental Resilience & Law Symposium, University of Nebraska, Lincoln, Nebraska, USA, September 25, 2008.

“Ecological variation, institutional adaptation, and long-term social-ecological change: Lessons from the past.” 93rd Ecological Society of America Annual Meeting, Milwaukee, Wisconsin, USA, August 3-8, 2008.

“Uncertainty and the evolution of local institutions.” International Association for the Study of the Commons Conference 2008, University of Gloucestershire, Cheltenham, England, July 14-18, 2008.

“Uncertainty, Robustness, and learning in Sustainable Resource Management.” 13th International Symposium on Society & Resource Management, Park City, Utah USA, June, 2007

(*Invited participant*) Resilience and Adaptation to Climate Change: Linkages and a new Agenda. Hosted by Tyndall Centre for Climate Change Research and the Resilience Alliance. Blakeney, Norfolk, UK, April 2007.

(*Invited*) “Living in an uncertain world: Robustness-vulnerability trade-offs in natural resource management.” Stockholm Seminar Series, Stockholm, Sweden, September, 2006.

(*Invited*) “Diversity in Subsistence Strategies and Transformation: The Hohokam of the Phoenix Basin.” Paper presented in the invited session: Transformation and Stability in Socioecological Systems: Archaeological Perspectives on Resilience Theory at the Annual Meeting of the American Anthropological Association, Washington, D.C., December, 2005.

(*Invited*) “Agave as Infrastructure: Vulnerability and Crop Diversity in Northern Mexico.” Co-presented with Ben Nelson, SHESC, ASU, in the invited session: Transformation and Stability in Socioecological Systems: Archaeological Perspectives on Resilience Theory at the Annual Meeting of the American Anthropological Association, Washington, D.C., December, 2005.

(*Contributed*) “Loss of resilience, crisis, and institutional change: Lessons from an intensive agricultural system in southeastern Australia.” Paper presented at the 6th

Open Meeting of the Human Dimensions of Global Environmental Change Research Community, Bonn, Germany, October, 2005.

(*Contributed*) “Institutional Design: Directions for the 21st Century.” Annual Meeting of the American Association for the Advancement of Science, Washington, D.C., February, 2005.

(*Contributed*) “Robustness and Large-Scale Change in Social-Ecological Systems: The Hohokam of the Phoenix Basin.” Workshop on the Workshop of Political Theory and Policy Analysis, Bloomington Indiana, June, 2004.

(*Contributed*) “Living in the city: population dynamics when resources are predictable and predators few.” Annual Meeting of the Ecological Society of America, Portland OR, Aug. 2004.

(*Contributed*) “A framework to analyze the robustness of social-ecological systems from an institutional perspective.” Tenth Biennial Conference of the International Association for the Study of Common Property, Oaxaca Mexico, August, 2004.

(*Invited*) “Robust strategies for managing rangelands with multiple stable attractors.” Stochastic Modeling Seminar Series, ASU, April, 2003.

(*Invited*) “Subsistence constraints and institutional adaptation in a simple population/resource society, a dynamical systems perspective.” Mathematical Biology Seminar, Mathematics Department, ASU, March, 2003.

(*Invited participant*) Adaptation and resilience in rangeland social-ecological systems. Workshop sponsored by CSIRO Australia. Townsville, Australia, July, 2003.

(*Invited participant and manuscript co-author*) “Design Principles for Robustness of Institutions in Social-Ecological Systems.” The Robustness in Coupled Natural and Human Systems Workshop, Santa Fe Institute, Santa Fe, New Mexico, May, 2003.

(*Invited participant and manuscript co-author*) “Robustness of Social-Ecological Systems to Spatial and Temporal Disturbance Regimes.” The Resiliency and Change in Ecological Systems Workshop, SFI, Santa Fe, New Mexico, October, 2003.

(*Invited*) “Resilience and robust management in a managed, fire driven rangeland system.” ASU Department of Geography Colloquium, November, 2002.

(*Invited*) “Economic growth, demographics, and renewable resources: A dynamical systems approach.” Workshop on Population, Economy and the Environment: Modeling and Simulating their Complex Interaction, Max Planck Institute for Demographic Research, Rostock Germany, May, 2001.

(*Contributed*) “Demographics, natural resources and economic development.” International Society of Ecological Economics Conference, Canberra, Australia, July 2000.

(*Contributed*) “Complex adaptive systems as an integrative framework for ecological economic systems.” International Society of Ecological Economics Conference, Canberra, Australia, July 2000.

(*Contributed*) “The effects of environmental harshness and noise on phytoplankton competition.” Rocky Mountain Mathematics Consortium Summer Conference on Models in Population Biology and Epidemiology, University of Wyoming, July 1998.

Teaching Activities

Courses Taught:

Arizona State University: SOS 510–Perspectives on Sustainability, BIO 320–Fundamentals of Ecology, BIO 424–Mathematical Models in Ecology (6), BIO 311–Biology and Society (3), BIO 591–Institutions, Governance, and Ecosystem Management, BIO 591–Economics, Ecology, and the Environment, BIO/ASB 591–Institutional Analysis, BIO 394–Numeracy in the Life and Social Sciences. SOS 511–Quantitative Methods in Sustainability, BIO 424/ASM 591–Dynamic Modeling in Social and Ecological Systems (8), ASB 394–Rules, Games, and Society (8), SOS 494–Decision Making and Collective Action for Sustainability (2), AML 100–Introduction to Applied Mathematics for the Life and Social Sciences, SOS 591–Dynamic Modeling for Sustainability Science (2).

University of British Columbia: MATH 100 - Calculus for the Life Sciences (differential), MATH 101 - Calculus for the Life Sciences (integral), MATH 140 - Calculus for Business and Economics (differential), MATH 141 - Calculus for Business and Economics (integral).

Undergraduate Student Mentoring:

Spencer Perillo, Sustainability Undergraduate Research Experience (SURE), School of Sustainability, Spring 2018.

Sarah Schultz, Honors Thesis Advisee, School of Life Sciences. “Indigenous Land Rights and Institutional Nesting: The Sami of Sweden and Norway”. Spring 2009.

Leslie Padrnos, UBM: Interdisciplinary Training For Undergraduates In Biological And Mathematical Sciences At ASU participant. Project: “Mathematical Modeling and the Decisions that Influence the Mode of delivery in America”. Spring 2007.

Paula Piedrahita, UBM: Interdisciplinary Training For Undergraduates In Biological And Mathematical Sciences At ASU participant. Project: “Climatic Affects of over harvesting in Tropical Rain forests: A Mathematical Model Approach”. Spring 2007.

Katherine Mason, UBM: Interdisciplinary Training For Undergraduates In Biological And Mathematical Sciences At ASU participant. Project: “Simple mathematical models of parasitism: Applications to human disease”. Fall 2006.

Brian Webb, Honors thesis advisee, Biology and Society Program, School of Life Sciences. Thesis title: “An ecological footprint analysis of energy use patterns in Arizona”. Spring 2006.

Graduate Student Mentoring:

Adam Weichman, Ph.D. in progress, School of Sustainability, Committee Chair.

Sola Kim, Ph.D. in progress, School of Sustainability, Committee Chair.

Kelly Clayborn, Ph.D. in progress, School of Human Evolution and Social Change, Committee Member.

Yiran Wang, Ph.D. in progress, School of Human Evolution and Social Change, Committee Co-Chair.

Tashi Gurung, , Ph.D. in progress, School of Human Evolution and Social Change, Committee Co-Chair.

Juan Renova, Ph.D. in progress, School of Human Evolution and Social Change, Committee Chair.

Jack Pringle, Ph.D. in progress, School of Human Evolution and Social Change, Committee Chair.

Brenna Jungers, Ph.D. in progress, School of Sustainability, Committee Member.

Jagadish Parajuli, Ph.D. Spring 2021, School of Sustainability, Committee Member. Dissertation Title: Governing Farmer-Managed Irrigation Systems in a Rapidly Changing World.

Ute Brady, Ph.D. Spring 2020, School of Human Evolution and Social Change, Committee Chair. Dissertation title: Robust Conservation Anarchy: Comparing Treaty Institutional Design For Evidence Of Ostrom'S Design Principles, Fit, And Polycentricity. Completed postdoc at the Maxwell School of Public Policy, Syracuse University, now Postdoc at ASU.

Hoon Shin, Ph.D. Spring 2020, School of Human Evolution and Social Change, Committee Chair. Dissertation title: Internal Stresses and Social Feedback Mechanisms in Social-Ecological Systems: A Multi-Method Approach to the Effectiveness of Exit and Voice. Now Postdoc at the Lee Kwan Yew School of Public Policy, National University of Singapore.

Bingbing Zhou, Ph.D. Spring 2020, School of Sustainability, Committee Member. Scientific Foundations and Problem-Driven Studies of Landscape Sustainability: Sustainability of Human-Environment Systems Through the Lens of the Landscape.

Sechindra Vallury, Ph.D. Spring 2019, School of Sustainability, Committee Co-Chair. Institutions for Provision of Shared Infrastructure: Insights from Irrigation Systems in South India. Now Postdoctoral Associate in the W.A. Franke College of Forestry & Conservation at the University of Montana.

Nicolas Gauthier, Ph.D. Spring 2019, School of Human Evolution and Social Change, Committee Member. Dissertation title: Agricultural food transfers in a dynamic environment: A computational modeling approach.

Elicia Ratajczyk, Ph.D. Fall 2018, School of Human Evolution and Social Change, Committee Chair. Dissertation title: From Design Principles to Principles of Design: Resolving Wicked Problems in Coupled Infrastructure Systems Involving Common-Pool Resources. Now Researcher and Project Manager, Institute for the Built Environment, Colorado State University.

Christine Sturm, Ph.D. Spring 2018, School of Sustainability, Committee Member. Dissertation title: Germany's Energy Transition Experiment: A Case Study about Guiding Decisions and Steering Large Socio-Technical Systems in Desired Directions.

Cathy Rubinos, Ph.D. Fall 2017, School of Sustainability, Committee Chair. Dissertation title: Commons Governance for Robust Systems: Irrigation Systems Study Under a Multi-Method Approach.

Miran Bozicevic, Ph.D. Summer 2017, School of Human Evolution and Social Change, Committee Chair. Dissertation title: The Semiotic Nature of Power in Social-Ecological Systems.

Mar Mancha, Ph.D. Spring 2017, School of Life Sciences, Committee Member. Dissertation title: Going Beyond Paper Parks Towards Effective Management: The Role of Institutions and Governance of Marine Reserves in the Gulf of California, Mexico. Now Postdoctoral Researcher, Duke University.

Michael Bernstein, Ph.D. Spring 2016, School of Sustainability, Committee Member. Dissertation title: Responsible Innovation and Sustainability: Interventions in Education and Training of Scientists and Engineers. Now Research Scientist at at Genok Centre for Biosafety in Tromso, Norway.

David Yu, Ph.D. Spring 2015, School of Sustainability, Committee Chair. Dissertation title: Robustness of social-ecological system under global change: Insights from community irrigation and forestry systems. Now Assistant Professor at Purdue University.

Jennifer Ripplinger, Ph.D. Spring 2015, in progress, School of Life Sciences, Committee Member. Dissertation title: Ecology and the City: A Long-Term Social-Ecological Examination of the Drivers and Diversity of Urban Vegetation. Now Postdoc at UC Riverside.

Allain Barnett, Ph.D. Spring 2014, School of Human Evolution and Social Change, Committee Chair. Dissertation title: From policy instruments to action arenas: toward robust fisheries and adaptive fishing households in southwest Nova Scotia. Now postdoc at the Institute for Water and the Environment, School of International and Public Affairs, Florida International University.

Jacob Freeman, Ph.D. Spring 2014, School of Human Evolution and Social Change, Committee Co-Chair. Dissertation title: Feedbacks, Critical Transitions and Social Change in Forager-Resource Systems: An Integrated Modeling and Ethnoarchaeological Analysis. Now Assistant Professor at Utah State University.

Michael Merrill, Ph.D. Spring 2014, School of Human Evolution and Social Change, Committee Co-Chair. Dissertation title: Increasing Scales of Social Interaction and the Role of Lake Cahuilla in the Systemic Fragility of the Hohokam System (A.D. 700-1100). Now County Archaeologist, Riverside County, California.

Marie Fujitani, Ph.D. Spring 2014, School of Life Sciences, Committee Member. Dissertation title: Marine Reserves With Fisheries Management: Regulations Aimed At People To Hit Biological Targets.

Auriane Koster, Ph.D. Spring 2013, School of Sustainability, Committee Chair. Dissertation title: An Institutional Approach to Understanding Energy Transitions.

Kenny Salau, Ph.D. Spring 2013, School of Human Evolution and Social Change, Committee Member. Dissertation title: Assessing the Effects of Institutional and Spatial Arrangements in Analytical and Computational Models of Conservation.

Penny Langhammer, Ph.D. Fall 2013, School of Life Sciences, Committee Member. Dissertation title: Chytridiomycosis In The Direct-Developing Frogs Of Puerto Rico.

David Murillo, Ph.D., Fall 2012, School of Human Evolution and Social Change, Committee Co-Chair. Dissertation title: Cities in Ecology: Settlement Patterns and Diseases.

Oliver Hyman, Ph.D., Spring 2012. School of Life Sciences, Committee Member. Dissertation title: The Ecology Of Chytridiomycosis In Boreal Chorus Frogs (*Pseudacris maculata*)

Haley Paul, M.Sc., Spring 2010. School of Sustainability, Committee Chair. Thesis Title: Agricultural water use and the 1980 Groundwater Management Act: institutional change and water conservation in South-Central Arizona, USA.

Lisa Dirks, M. Sc., Fall 2010. School of Sustainability, Committee Member. Thesis Title: The past and future of biofuels a case study of the United States using the institutional analysis and development framework.

Brigitte Hogan, Ph.D., Fall 2010. School of Life Sciences, Committee Member. Dissertation title: The Plateau Pika: A keystone engineer on the Tibetan Plateau.

Libby Larson, Ph.D., Fall 2010. School of Life Sciences, Committee Member. Dissertation title: Water and Nitrogen in Designed Ecosystems: Biogeochemical and Economic Consequences.

Christopher Bang, Ph.D., Fall 2010. School of Life Sciences, Committee Member. Dissertation title: Effects of Urbanization on Arthropod Diversity, Community Structure and Trophic Dynamics.

Nathan Moorehouse, Ph.D., Spring 2009. School of Life Sciences, Committee Member. Dissertation title: Limiting nutrients, female choice, and male color in progress.

Jennifer Rupnow, M.Sc., Fall 2007. School of Life Sciences, Committee Member. Thesis title: Recreational fisheries and the ecology and management of targeted resources in the northern gulf of California, Mexico.

James Heffernan, Ph.D., Spring 2007. School of Life Sciences, Committee Member. Dissertation title: Wetland establishment, disturbance response, and patch interactions.

Marea Baggetta, M.Sc., Spring 2005. School of Life Sciences, Committee Co-chair. Thesis title: Elegy for the Salt River: Successional Tales of a Social-Ecological System.

Postdoctoral Associate Mentoring:

Oguzhan Cifdaloz, Ph.D. Robustness-vulnerability trade-offs in social-ecological systems.

Madhu Katti, Ph.D. Local knowledge, traditional institutions and biodiversity reserve management in India. Now Associate Professor at North Carolina State University.

Eyal Shochat, Ph.D. Productivity, inequality, and biodiversity loss in human-dominated ecosystems.

Ashok Regmi, Ph.D. Governance of irrigation and forestry systems in Nepal.

Professional Service and Activities**Editorial Activities:**

Associate Editor - *Ecology and Society*, *Ecosystems*

Guest Editor - *Proceedings of the National Academy of Sciences*

Editorial Board Member - *Nature Scientific Reports*, *Regional Environmental Change*, *Sustainability*

Manuscript referee:

Science, *Proceedings Of The National Academy of Sciences*, *Plos One*, *Nature Energy*, *Water Economics and Policy*, *Sustainability Science*, *Marine Policy*, *Nature Communications*, *Political Studies*, *Geography and Sustainability*, *Journal of Rural Studies*, *World Development*, *Environmental And Resource Economics*, *Ecological Economics*, *Journal Of Environmental Economics And Management*, *Conservation Ecology*, *Journal Of Economic Behavior And Organization*, *The American Naturalist*, *Journal Of Environmental Management*, *Journal Of Vegetation Science*, *Siam Journal Of Applied Mathematics*, *Australian Journal Of Botany*, *Journal Of The History Of Biology*, *Canadian Journal Of Economics*, *Ecosystems*, *Journal Of Theoretical Biology*, *Rangeland Ecology & Management*, *Natural Resource Modeling*, *International Journal Of The Commons*, *Theoretical Population Biology*, *Regional Environmental Change*, *Ecological Applications*, *Frontiers In Ecology And The Environment*, *Marine Resource Economics*, *Human Ecology Review*, *American Journal Of Agricultural Economics*, *Land Economics*, *Water Resources Research*.

Departmental service:

SHESC: Executive Committee, Fall 2021-

SOS: Graduate Director, Fall 2012-Spring 2020

SOS: Graduate Committee, Fall 2020-Spring 2021

SOS: Personnel committee, Fall 2020-Spring 2021

SOS: Chair, Promotion And Tenure Committee, Fall 2012

ASU: Triple Helix Faculty Review Board, Fall 2012-

SOS: Personnel committee, Fall 2011-Spring 2012

Environment, Technology, and Society approach convener, Fall 2009-Spring 2011

SOS: Undergraduate curriculum committee, Fall 2008-Spring 2009
SHESC: Personnel committee, Fall 2007-Spring 2009
SOS: Co-chair, undergraduate committee, Fall 2007-Spring 2008
SHESC: Affirmative action committee, Fall 2006-Spring 2009
SHESC: Chair, computer committee, Fall 2005-Spring 2007
SHESC: Undergraduate committee, Fall 2005-Spring 2006
SOLS: Graduate programs committee, 2003-2005
Service on faculty search committees (10)
Chair faculty search committees (1)
Second and third reader on honors theses (3)

University service:

Faculty Advisory Committee, College of Global Futures
University Senate, Spring 2012-Spring 2017
Regent's Professor Selection Committee, Fall 2015 and 2016.
Associate Director, Center for Behavior, Institutions, and the Environment, Fall 2009-

National Service:

Research Grant Proposal Reviewer, National Science Foundation, 2006-2021.
Research Grant Review Panel Member, National Science Foundation, EPSCoR Program. 2016.
Research Grant Review Panel Member, National Science Foundation, NSF SEES Fellows - Marine Ecosystems, 2014.
Research Grant Review Panel Member, National Science Foundation, EPSCoR Program, 2011.
Research Grant Proposal Reviewer, National Science Foundation, Geography And Spatial Sciences Program, 2011.
Research Grant Review Panel Member, National Science Foundation, IGERT Preproposals, 2009.
Research Grant Review Panel Member, National Science Foundation, HSD competition, 2008.
Peer Review Panel Member, United States Environmental Protection Agency, Office of Research and Development: Collaborative Science and Technology Network for Sustainability: Industrial Ecology and Organizational Behavior Competition, August 30-31, 2006.

International Service:

Program Director, Behavior, Economics, and Nature (BEN) Program, Beijer Institute of Ecological Economics, Royal Swedish Academy of Sciences, Stockholm, Sweden. Spring 2013- .
Chair, Organizing Committee. *Commoning the Anthropocene*, IASC Virtual Conference, April 21 - 23, 2021, 2021anthropocene.iasc-commons.org.

- External Ph.D. Dissertation Examiner, University of New South Wales Sydney, Sydney Australia, 2021.
- Research Grant Proposal Reviewer, Leibniz Institute for Resilience Research (LIR), Berlin, Germany, 2020.
- Member of the Science Board, Beijer Institute of Ecological Economics, Royal Swedish Academy of Sciences, Stockholm, Sweden. Spring 2013-2019.
- Conference Science Program Chair, *Conference on Complex Systems 2015*, Tempe, AZ, Fall 2015.
- Chair, Organizing Committee. *Resilience 2011: Resilience, Innovation and Sustainability: Navigating the Complexities of Global Change*, 2nd International Science and Policy Conference, ASU. Fall 2009-Spring 2011.
- Ph.D. Dissertation External Examiner, University of Melbourne, Melbourne Australia, 2009.
- Ph.D. Dissertation External Examiner, Asian Institute of Technology, Pathumthani, Thailand, 2009.
- Research Grant Proposal Reviewer, Austrian Science Fund and Federal Ministry of Science, 2007.
- Ph.D. Project Proposal Reviewer, Wageningen University, The Netherlands, 2007.