

# Jacopo Alessandro Baggio

## Personal Data

Born in Milan, Italy: February 3rd, 1980

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## Position:

**2015 – Present** Assistant Professor, Department of Environment and Society, College of Natural Resources, Utah State University

2011 – 2015 Postdoctoral Research Associate at the Center for Behavior, Institutions and the Environment, Arizona State University (formerly known as the Center for the Study of Institutional Diversity)

## Education:

- PhD in International Development (2011). University of East Anglia, School of International Development, Norwich, UK. (Supervisors: Prof. Katrina Brown and Dr. Elissaios Papyrakis)
- MA in Development Economics (2007). University of East Anglia, School of Development Studies, Norwich, UK. (Supervisor: Dr. Elissaios Papyrakis)
- Bsc in Economics and Social Sciences (2005). University of Milano-Bicocca, School of Economics, Milan, Italy (Supervisors: prof. L. Bruni, prof. L. Stanca).
- Classical high school diploma (Maturità classica, 1999). Liceo Ginnasio Statale G. Parini, Milan, Italy.

## Grants and Funding

- **2017-2021**: USDA-AFRI: co-PI with Kari Veblen (PI), Mark Brunson (co-PI) and David Pyke (co-PI): A pre-emptive rangeland restoration approach to improving biodiversity and provision of ecosystem services (\$499,212.92)
- **2016-2020**: NSF INFEWS Track 1: co-PI for Utah State University sub-award (\$423,899) with Christopher Lant (co-PI). Proposal PI: Ben Ruddell, Arizona State University: Mesoscale Data Fusion to Map and Model the U.S. FEWS system (INFEWSion) (\$3,000,000) (other co-Pi: Kevin R Gurney, Michael Hanemann, John L Sabo, Shade T Shuttters, Tara J Troy, Alfonso I Mejia, Kristen Averyt, Megan Konar)
- **2016-2019**: NSF IBSS: co-PI with Jacob Freeman (PI) and Thomas Coyle (co-PI): Diversity, Intelligence and Robust Cooperation in Social Ecological Systems (\$465,893)
- **2015-2016**: SPARC Seed Grant from Utah State University, co-PI with Jordan Smith (PI) and Sarah Null (co-PI): Developing a coupled socio-hydrological agent-based model to examine the demand for and supply of outdoor recreation and tourism opportunities under future climate scenarios (\$35,000)
- **2015**: Seed Grant from the Center for Biodiversity Outcomes, Arizona State University, co-PI with Michael Schoon, Candice Carr Kelman and Dara Wald: Collaborative Governance for Improving Biodiversity Outcomes (\$7,000)
- **2015**: Consortium for Biosocial Complex Systems, co-PI with Michael Schoon, Ken Abbot, Erik Johnston and Jose Lobo: Working across Scales in the Governance of Social-Ecological Systems, seed grant (\$1,000)

- **2014-2015:** Haynes Foundation, consultant, with Prof. Hal Nelson (PI): Power Struggles: Improving Energy Infrastructure Project Siting, Outcomes in the Los Angeles Region (\$127,940)
- **2007-2011:** ESRC PhD scholarship (Economic and Social Research Council, UK)

## Awards

- **2017** Utah State University, SJ & Jessie E. Quinney College of Natural Resources Researcher of the Year

## Publications (Peer Reviewed Journals)

(\* = graduate student, # = postdoctoral research associate, #\* = work initiated when graduate students and finished when postdoctoral research associate)

- 2017** Janssen, M.A. & Baggio, J.A. Using Agent-Based Models to Compare Behavioral Theories on Experimental Data: Application for Irrigation Games. *Journal of Environmental Psychology*, <http://dx.doi.org/10.1016/j.jenvp.2016.04.018>, **in press**
- #\*Sayles, J., Baggio, J.A. (2017). Social-Ecological network analysis of scale-mismatches in estuary watershed restoration. *Proceedings of the National Academy of Sciences*, *114*(10), E1776-E1785
- Schoon, M.L., York, A., \*Sullivan, A., Baggio, J.A. (2017) The Emergence of an environmental governance network: the case of the Arizona Borderlands. *Regional Environmental Change*, *17*(3), 677-689.
- #\*Sayles, J., Baggio J.A. (2017). Who collaborates and why: Assessment and diagnostic of governance network integration for salmon restoration in Whidbey Basin, Puget Sound, WA. *Journal of Environmental Management*, *186*, 64-78
- 2016** Baggio, J.A., Burnsilver, S., Arenas, A., Magdanz, J., Kofinas, G., DeDomenico, M. (2016). Multiplex social ecological network analysis reveals how social changes affect community robustness more than resource depletion *Proceedings of the National Academy of Sciences*, *113*(48),13708-13713
- Baggio J.A., #Barnett A., #Perez-Ibarra I., \*Brady U., \*Ratajczyk E., \*Rollins N., \*Rubiños C., \*Shin H.C., \*Yu D.J., Aggarwal R., Anderies J.M., Janssen M.A. (2016). Explaining Success and Failure in the Commons: The Configural Nature of Ostrom's Institutional Design Principles. *International Journal of the Commons*, *10*(2), 417-439.
- #Barnett A., Baggio J.A., #Perez-Ibarra I., \*Brady U., \*Ratajczyk E., \*Rollins N., \*Rubiños C., \*Shin H.C., \*Yu D.J., Aggarwal R., Anderies J.M., Janssen M.A. (2016). An iterative approach to Large-N case studies: insights from qualitative analysis of quantitative inconsistencies. *International Journal of the Commons*, *10*(2), 467-494.
- \*Ratajczyk E., \*Brady U., Baggio J.A., #Barnett A., #Perez-Ibarra I., \*Rollins N., \*Rubiños C., \*Shin H.C., \*Yu D.J., Aggarwal R., Anderies J.M., 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.

Freeman, J., Coyle, T., Baggio, J.A. (2016). The Functional Intelligence Proposition. *Journal of Personality and Individual Differences*, 99, 46-55

#Wu, L., Baggio J.A., Janssen M.A. (2016). The role of diverse strategies in the sustainability of online communities. *PLoS ONE*, 11(3), e0149151

**2015** Baggio, J.A., \*Rollins N.D., #Pérez I., Janssen M.A. (2015). Irrigation experiments in the lab: trust, environmental variability, and collective action. *Ecology and Society*, 20(4), 12

Baggio, J.A., Brown, K., #Hellebrandt, D. (2015). Boundary Object or Bridging Concept? A Citation Network Analysis of Resilience. *Ecology and Society*, 20(2), 2

**2014** Moore, M.-L., Tjornbo, O., Enfors, E., Knapp, C., Hodbod, J., Baggio, J.A., Norström, A., Olsson, P., Biggs, D. (2014). Studying the complexity of change: toward an analytical framework for understanding deliberate social-ecological transformations. *Ecology and Society*, 19(4), 54

Sikor, T., & Baggio, J.A. (2014). Can smallholders engage in tree plantations? An entitlements analysis from Vietnam. *World Development*, 64(Supp1), S101-S112.

Hill, K.R., Wood, B.M., Baggio, J., Hurtado A.M., Boyd R.T. (2014). Hunter-Gatherer Inter-Band Interaction Rates: Implications for Cumulative Culture. *PLoS ONE* 9(7): e102806.

Schoon, M.L., Baggio, J.A., \*Salau, K. & Janssen, M. (2014). Insights for Managers from Modeling Species Interactions across Multiple Scales in an Idealized Landscape. *Environmental Modeling and Software*, 54, 53-59.

Short summary available at: <http://www.conservationcorridor.org/>

Baggio, J.A., & Papyrakis, E. (2014). Agent Based Simulations of Subjective Well-Being. *Social Indicators Research*, 115(2), 623-635.

**2012** \*Salau, K., #Schoon, M.L., Baggio, J.A., Janssen, M.A. (2012). Varying Effects of Connectivity and Dispersal on Interacting Species Dynamics. *Ecological Modelling*, 242, 81-91.

**2011** Baggio, J.A., \*Salau, K., Janssen, M.A., #Schoon, M.L., & Bodin, Ö. (2011). Landscape connectivity and predator-prey population dynamics. *Landscape Ecology*, 26(1), 33-45.

**2010** Baggio, J.A., & Papyrakis, E. (2010). Ethnic Diversity, Property Rights and Natural Resources. *The Developing Economies*, 48(4), 473-495.

## **Publications (Peer Reviewed Book Chapters and Books)**

**2017** Baggio, J.A., Calderon-Contreras, R. (2017). Socioecosistemas y Resiliencia. Fundamentos para un Marco Analítico. In Calderon-Contreras, R. (Ed), *Los Sistemas Socioecológicos y su Resiliencia: Casos de Estudio* (Chapter II), Mexico City, Mexico: UAM Press, *in press*

- 2015** Dakos, V., Quinlan, A., Baggio, J.A., Bennett, E., Burnsilver, S., Bodin, Ö. (2015). Principle 2: Manage Connectivity. In Biggs O., Schlüter, M., and Schoon, M. (Eds), *Principles for Building Resilience: Sustaining ecosystem services in social-ecological systems* (Chapter IV) Cambridge University Press.
- 2013** Baggio, R., & Baggio, J.A. (2013). Modeling Information Asymmetries. In , M. Kozak, L. Andreu, J. Gnoth, S. S. Lebe , & A. Fyall (Eds.), *In Tourism Marketing: On Both Sides of the Counter* (pp. 156-174), Newcastle, UK: Cambridge Scholars Publishing.
- 2011** Baggio, J.A. (2011). Agent-Based Modelling and Simulations. In R. Baggio & J. Klobas (Eds.), *Quantitative research methods in tourism: a handbook* (pp. 99-219). Bristol: Channelview.

### **Publications (Peer Reviewed Proceedings)**

- 2016** Baggio, J.A., & Hillis, V. (2016). Success bias imitation increases the probability of effectively dealing with ecological disturbances. In T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick (Eds.), *Proceedings of the 2016 Winter Simulation Conference*, (pp.1702-1712). Piscataway: IEEE
- 2013** Baggio J.A., & Janssen M.A. (2013). Comparing agent-based models on experimental data of irrigation games. In R. Pasupathy, S.-H. Kim, A. Tolk, R. Hill, and M. E. Kuhl (Eds.), *Proceedings of the 2013 Winter Simulation Conference* (pp. 1742-1753).

### **Conference Presentations**

(\*\* = undergraduate student, \* = graduate student, # = postdoctoral research associate)

- 2017** Session chair: Social-Ecological Networks current and future research frontiers for Resilience 2017, Stockholm, Sweden (August 21-24) – confirmed
- Baggio, J.A., \*Valury S., Schoon, M., *Modelling the management of networked landscapes: the importance of learning and strategy diversity*. Paper to be presented at the 2017 International Association for the Study of the Commons Conference, Utrecht, Netherlands (July 10-14) – confirmed
- Freeman J., \*\*Nabity S., \*Nguyen, T., Baggio J. A., *Cognitive abilities and group adaptability in a common pool resource game*. Paper to be presented at the 2017 International Association for the Study of the Commons Conference, Utrecht, Netherlands (July 10-14) – confirmed
- University of Victoria *invited presentation*: Assessing potential drivers of Social-Ecological system robustness: networks, institutional design principles and agent based modelling, Victoria, BC, Canada (April 5th)
- Utah Valley University *invited presentation*: Identifying drivers of Socio-Ecological System's resilience: integrating networks and agent based modelling, Orem, UT, USA (January, 23<sup>rd</sup>)
- 2016** Track program committee for The Environmental and Sustainability Applications track at the 2016 Winter Simulation Conference, Washington, DC, USA (December 11-14)

Baggio J. A., #Hillis V., *Success biased imitation increases the probability of effectively dealing with ecological*. Paper presented at the 2016 Winter Simulation Conference, Washington DC, USA (December 11-14)

Baggio J. A., *Striving for a Successful Management of Biodiversity Conservation and Ecological Disturbances*. Paper presented at the UDWR-USU Brown Bag Luncheon Seminar Series, Salt Lake City, UT, USA (October 11). Video available at: [http://qcnr.usu.edu/research/centers/usgs\\_seminars](http://qcnr.usu.edu/research/centers/usgs_seminars)

Baggio J.A., *Conservation on private landscapes: social learning and social networks*. Paper presented at the North American Congress for Conservation Biology, Madison, WI, USA (July 17-20)

Invited expert for the workshop on “Synthesizing Coding Efforts for SES Research”, SESYNC, Annapolis, MD, USA (July 6-7)

#Sayles, J., Baggio J.A. *Social-ecological network analysis of scale mismatches in estuary watershed restoration*. Paper presented at the 2016 Spring Runoff Conference, Logan, UT, USA (April 5 – 6)

## 2015

Baggio, J.A. y Calderon R., *Que es un Ecosistema*, Presented at the 2015 Taller de Elaboracion de Seminarios Virtuales de la Red de Socio-Ecosistemas y Sustentabilidad, Cuernavaca, Mexico (November 17 – 19) (Given in Spanish)

Baggio J.A. *Elementos de Socio-Ecosistemas*. Presented at the 2015 Taller de Elaboracion de Seminarios Virtuales de la Red de Socio-Ecosistemas y Sustentabilidad, Cuernavaca, Mexico (November 17 – 19) (Given in Spanish)

Schoon, M.L., Baggio J.A., Anderies, J.M., Janssen M.A.. *The Robustness of Coupled Infrastructure Systems and Complexity*: Satelite Session organized for the 2015 Conference on Complex Systems, Tempe, AZ, USA (28 September – 2 October)

#Hodobod, J., Baggio, J.A., #Milkoreit, M., Schoon, M.L.. *Concepts, Methods and Measurements of Social Tipping Points*: Satelite Session organized for the 2015 Conference on Complex Systems, Tempe, AZ, USA (28 September – 2 October)

Baggio J.A., *Analyzing Design Principles to diagnose Common Pool Resources: methodological challenges and possible solutions*. Paper presented at the 2015 Biennial Global Conference of the International Association for the Study of the Commons, Edmonton, Alberta, Canada, May 25-29.

#Hillis, V. and Baggio J.A. *A cultural evolutionary model of crop disease prevention in a networked social-agroecological system*. Paper presented at the 2015 Biennial Global Conference of the International Association for the Study of the Commons, Edmonton, Alberta, Canada, May 25-29.

Janssen, M.A. and Baggio, J.A. *Using Agent-Based Models to Compare Behavioral Theories on Experimental Data: Application for Irrigation Games*. Paper presented at the 2015 Biennial Global Conference of the International Association for the Study of the Commons, Edmonton, Alberta, Canada, May 25-29.

- 2014** Baggio J.A., *Modeling robustness and resilience to climate change: assessing effects of microclimate on agricultural production and the social system*. Simposio sobre las Aproximaciones y metodologías para la evaluación de cambio ambiental: experiencias desde los sistemas de monitoreo climático, Fundación Natura, Bogotá, Colombia (29 October). (Given in Spanish).
- Baggio J.A. *The origins of Resilience: Is it a bridging concept?* Coloquio Internacional: Resiliencia: Una aproximación multidisciplinaria al Cambio Climático, UAM Cuajimalpa, Mexico City, Mexico (18-19 June). (Given in Spanish)
- Baggio, J.A., \*Galafassi D., Bodin, Ö., Janssen M.A., Schoon M.L.. *Social-Ecological Connectivity in the Lab*. Paper Presented at the 2014 Resilience Conference, Montpellier, France (4-8 May).
- Baggio, J.A., Burnsilver S., Bodin, Ö. *Networks and Cooperation: are social network characteristics generalizable or specific to the environment in which they are embedded?* Session organized for the 2014 Resilience Conference, Montpellier, France (4- 8 May)
- Burnsilver, S., Baggio, J.A., DeDomenico, M., Arenas, A., Kofinas, G. (2014) *Multiplexity in food sharing and cooperative networks: Implications for household vulnerability in the Alaskan North*. Paper presented at the 2014 Resilience Conference, Montpellier, France (4-8 May)
- Baggio, J.A., Nelson, H. (2014) *Linking social networks to opinion formation: how social networks influence social opposition to large infrastructure development in Southern California*. Paper presented at the 2014 Resilience Conference, Montpellier, France (4-8 May)
- \*Sayles, J., Baggio, J.A.(2014). *A social-ecological approach to estuary restoration planning: integrating social networks into landscapes*, 2014 Salish Sea Ecosystem Conference, Seattle, Washington, USA (April 30 – May 2).
- 2013** Baggio, J.A.. (2013). *Synchronization of Management Strategies*. Paper presented at the 2013 Computational Social Science Society of America Annual Conference, Santa Fe, New Mexico, USA (22 – 25 August).
- Baggio, J.A., (2013). *Agent Based Modelling of lab experimental data: Cooperation in asymmetric commons dilemma*. Presented at Claremont Graduate University. Invited Guest Lecture.
- 2012** Schoon, M.L., Baggio, J.A., \*Salau, K. & Janssen, M. (2012). *Modeling Decision-making across Habitat Patches: Insights on Large-Scale Conservation Management*. Paper presented at the 2012 Computational Social Science Society of America Annual Conference, Santa Fe, New Mexico, USA (18 – 21 September).
- 2011** \*Salau, K., Schoon, M. L., Baggio, J. A., & Janssen, M. (2011). *Assessing the role of connectivity and dispersal in interacting species dynamics*. Paper presented at the 2011 Computational Social Science Society of America Annual Conference, Santa Fe, New Mexico, USA (9 – 12 October).

Baggio, R., & Baggio, J. A. (2011). *Experiencing information asymmetries in tourism*. Paper presented at the 4th Advances in Tourism Marketing Conference (ATMC), Maribor, Slovenia (6-9 September).

\*Salau K., Baggio J. A., Schoon M.L., & Janssen, M. A. (2011). *Management and Dynamics in a Predator-Prey Metapopulation*. Paper presented at the Resilience Conference, 2011, Arizona State University, Tempe, USA (11 – 16 March, 2011)

Baggio, J.A. (2011). *Multiple managers and heterogeneous landscapes: an integrated social-ecological network modelling approach*. Paper presented at the Resilience Conference, 2011, Arizona State University, Tempe, USA (11 – 16 March, 2011)

**2009**

Baggio, J. A., #Schoon, M. L., \*Salau, K., & Janssen, M. A. (2009). *Managing Networked Landscapes*. Paper presented at the 2009 North American Association for Computational Social and Organization Sciences Annual Conference, Arizona State University, Tempe, USA (23-24 October, 2009).

Baggio, J. A., & Papyrakis, E. (2009). *The Curse of Natural Resources: Ethnic Fractionalization vs Polarization*. Paper presented at the 8<sup>th</sup> International Conference of the European Society for Ecological Economics, Ljubljana, (29 June – 2 July).

Baggio, J. A., & Papyrakis, E. (2009). *Ethnic Diversity, Property Rights and Natural Resources*. Paper presented at the European Association of Environmental and Resource Economists 17th Annual Conference, Amsterdam (24 - 27 June 2009),

Baggio, J. A., \*Salau, K., Bodin, Ö., Janssen, M. A., & #Schoon, M. L. (2009). *Landscape connectivity, patch centrality and predator-prey population dynamics*. Paper presented at the The Center for the Study of Institutional Diversity's weekly Wednesday afternoon lecture series, Arizona State University, Tempe, USA (29 April).

## Teaching Experience

### *Graduate Level:*

- Research Approaches to Human-Environment Systems (Spring 2017) (Utah State University)
- Introduction to Modelling Human-Environment Systems (Fall 2015, Fall 2016) (Utah State University)
- Modelling Human-Environment Systems (Spring 2016) (Utah State University)

### *Undergraduate Level:*

- Introduction to Modelling Human-Environment Systems (Fall 2015, Fall 2016) (Utah State University, Logan, UT, USA)
- Modelling Human-Environment Systems (Spring 2016) (Utah State University, Logan, UT, USA)
- Social Simulations (with Marco Janssen) (Spring 2014, Spring 2015) (Arizona State University, Tempe, AZ, USA)
- Macroeconomics (Teaching Assistant) (Spring 2009, Spring 2010) (University of East Anglia, Norwich, UK)
- Introduction to Development Studies (Teaching Assistant) (Fall 2007, Fall 2008) (University of East Anglia, Norwich, UK)

### *Independent Studies*

- Spring 2016: Modelling food or fuel choices in Iowa with Michelle Arnold
- Spring 2016: Modelling urban sprawl with Lindy Perry

### *Honors Courses and Labs*

- Fall 2016: Honors Book Lab on Resilience of Social-Ecological Systems

### *Invited Lectures -*

- Course Level: Undergraduate; Course Title: System Thinking; Guest Lecture on Complex Systems and Agent Based Models (October 2014) (Arizona State University, Tempe, AZ, USA)
- Course Level: Undergraduate; Course Title: System Thinking; Guest Lecture on Complex Systems and Modelling; Guest Lecture on Agent Based Models (October 2013) (Arizona State University, Tempe, AZ, USA)
- Course Level: Graduate and Post-PhD: Lectures on:
  - Comparing different modelling approaches (system dynamics vs agent based models)
  - Modelling decision making in complex ecological systems
  - Representing synthetic population and social networks (with Ingrid Van Putten)IMBER ClimEco3 Summer School, Ankara, July 2012



## **Graduate Advising and Student Activities at since 2016 Utah State University**

- Riana Gayle (co-Chair with Jordan Smith) – MS student – Riana was admitted to a competitive winter simulation school held at Arizona State University (<https://complexity.asu.edu/CBIEWinterSchool2017>)
- Tam The Nguyen (Graduate Research Assistant) – PhD Student– submitted one abstract to Resilience 2017, the most renown and important conference to present results relating to social-ecological systems (acceptance decisions will be made in April).
- Gwendwr Meredith (committee member) – PhD Student – Gwendwr has submitted two abstracts to Resilience 2017, the most renown and important conference to present results relating to social-ecological systems (acceptance decisions will be made in April)
- Brett Miller (committee member) – PhD Student – Brett also submitted an abstract to Resilience 2017 (acceptance decisions will be made in April)
- Michelle Arnold (committee member) – PhD Student – Michelle has been invited and participated at a workshop in Cuernavaca, Mexico, financed by the Consejo Nacional de Ciencia y Tecnologia – Conacyt, Mexican funding agency) in November 2015
- Lyndi Perry (committee member) – MS Student – Lyndi has been invited and participated at a workshop in Cuernavaca, Mexico, financed by the Consejo Nacional de Ciencia y Tecnologia – Conacyt, Mexican funding agency) in November 2015
- Jeffrey Haight (committee member) – MS Student – just started advising
- Ryan James (committee member) – MS Student
- Sandra Attwood (committee member) – PhD Student – (on leave this semester)

## **Undergraduate Advising and Student Activities since 2016 at Utah State University**

- Samantha Marie Nabity – Major in Anthropology – Undergraduate Research Assistant. Samantha has submitted an abstract to Resilience 2017, the most renown and important conference to present results relating to social-ecological systems (acceptance decisions will be made in April)
- Erica Hawvermale – Major in Anthropology – Undergraduate Research Assistant.

**Reviewer for the following journals:**

PNAS

Philosophical Transaction B

Global Environmental Change

Oikos

Landscape Ecology

Ecosystems

Journal of Theoretical Biology

Ecology and Society

International Journal of the Commons

Policy Studies Journal

Social Indicators Research

Journal of Happiness Studies

Physica A

PlosOne

Utilities Policy

Landscape and Urban Planning

Ecological Economics

**Languages:**

Italian – Mother Tongue

English and Spanish – Full proficiency

German – Working Knowledge

**Professional Society Membership**

- Complex Systems Society
- Society for Conservation Biology
- Red de Socio-ecosistemas y sustentabilidad ( <http://redsocioecos.org> )