

## ESPP Weekly News Roundup

November 11, 2022

### ESPP News & Announcements

- [ESPP Community Engagement Award | Due November 15, 2022](#)
- [ESPP Competitive Research Grant | Due November 15, 2022](#)
- [ESPP Leadership and Mentorship Award | Due November 15, 2022](#)
- [ESPP Fall Research Colloquium Marathon | 11-16-22 | 1:30-2:30 PM | Snyder Hall, Rm. C202](#)

### Course Announcements

- [ESP 802: Human Systems and the Environment with Dr. Moran | Spring 2023](#)
- [ESP 836 modeling natural resource systems with Dr. Schmitt Olabisi | Spring 2023](#)
- [CAS 892-001: Risk Communication | Spring 2023](#)

### Graduate School Announcements

- [Electronic Theses and Dissertation Deadlines](#)

### Scholarships, Awards, & Fellowships

- [Call for 2023 MAGS Teaching Award Nominations](#)
- [ICPSR Summer Program in Quantitative Methods of Social Research | Opens December 5](#)

### Workshops, Events, & Other Opportunities

- [ETD Formatting Walk-In Help | 11-14-22 | 1:30-3:00 PM | Chittenden Hall, Room 220](#)
- [Negotiating Your Next Best Offer | 11-14-22 | 5:30-7:30 PM](#)
- [Geography Awareness Week Events | November 14-19](#)
- [Talk and workshop by cultural geographer Sarah Kelly | 11-18-22 | 3:30-4:30](#)
- [Immersive Visualization Institute](#)
- [Participate in College DEI climate assessment activities](#)

### Job Opportunities

- [Postdoctoral associate position on Convergence Research | Virginia Tech](#)

## ESPP News and Announcements

### ESPP Community Engagement Award | Due November 15, 2022

The ESPP Community Engagement Award (CEA) is designed to recognize student efforts to directly engage with affected communities. The environmental science and policy-relevant research, creative, or teaching activity within which the engagement occurs need not be led by the student, but the application should detail the student's specific contribution and commitment to community

engagement. Self-nominations are encouraged. Click [here](#) to download the ESPP CEA Call for Nominations.

### **ESPP Competitive Research Grant | Due November 15, 2022**

The ESPP Competitive Research Grant (CRG) is designed to support interdisciplinary student research at the intersection of environmental science and policy. We anticipate awarding two \$4,000 grants to student researchers or research teams. Expenses should directly support the student's research; allowable expenses include travel, software, instrumentation costs, and participant support costs. If travel is included, it must be approved prior to anticipated travel dates. Equipment (e.g., computers, printers, scanners) is not an allowable expense for these funds. Students may not combine these fellowships with other fellowships from the College of Social Science. Click [here](#) to download the CRG Call for Proposals.

### **ESPP Leadership and Mentorship Award | Due November 15, 2022**

The ESPP Leadership and Mentorship Award (LMA) is designed to recognize student leadership or mentorship efforts at the nexus of environmental science and policy. The environmental science and policy-relevant research, creative, or teaching activity within which the leadership or mentorship occurs need not be led by the student, but the application should detail the student's specific contribution and commitment to leadership and mentorship or other students. Self-nominations are encouraged. Click [here](#) to download the ESPP Leadership and Mentorship Award Call for Nominations.

### **ESPP Fall Research Colloquium Marathon | 11-16-22 | 1:30-2:30 PM | Snyder Hall, Rm. C202**

Join us for the annual ESPP Research Colloquium Marathon on Wednesday, November 16, 2022, from 1:30-2:30 PM. We will welcome Ph.D. Candidates Andrew Earle and Shivan GC. This in-person event will take place in Snyder Hall, Rm. C202. Learn more at <https://espp.msu.edu/events/2022-11-16.html>.

## **Course Announcements**

### **ESP 802: Human Systems and the Environment with Dr. Moran | Spring 2023**

Spring 2023 enrollment has begun! One of the courses offered by ESPP and also a required course for the dual major doctoral students is ESP802: Human Systems and the Environment. Attached please find the flyer for the course from Dr. Moran. The class will meet on Tuesdays between 9:10 am to noon in Berkey 115. Students who are interested in the topic but not yet in the dual major degree program should be able to enroll as well, but need to contact Dr. Moran in advance. See attached.

### **ESP 836 modeling natural resource systems with Dr. Schmitt Olabisi | Spring 2023**

During Spring 2023, Dr. Schmitt Olabisi will offer ESP 836 ( Modeling Natural Resources Systems) which is also cross listed as CSUS 836 and FW 836. Enroll in this course to learn systems thinking and system dynamics modeling with a focus on environmental policy applications. We will explore why the atmosphere is like a bathtub, how to keep fisheries from crashing, and will go head-to-head with U of M modeling students in the first ever intra-state SD battle! Attached please find the syllabus for the course. This course is part of the ESPP [Graduate Certificate in Environmental and Social Systems](#)

Modeling program . The certificate program is available to all graduate students on campus, but students need to apply separately. Applications for the Fall Semester are due February 1 and applications for the Spring Semester are due October 15. Even before being admitted to the certificate program, one still can enroll and take the modeling courses. Please contact Dr. Schmitt Olabisi if you have any questions. Interested? Enroll now! Since it is available to all graduate students, feel free to share this with your peers and friends who may not be ESPP students and bring them along. See attached.

### **CAS 892-001: Risk Communication | Spring 2023**

Wednesdays 11:30-2:20. Learn to apply the evidence-based ideas behind effective risk communication practice through small-group discussion, selected readings, and hands-on exercises. This course is suitable for masters' students want to learn how to become better risk communicators and Ph.D. students who want to integrate risk communication theory into their own research or engagement efforts. Key topics to be discussed include the communication of risks and benefits, social norms, self-efficacy, trust, emotion, and framing. See attached.

## **Graduate School Announcements**

### **Electronic Theses and Dissertation Deadlines**

Deadlines for Electronic Theses and Dissertations are coming up:

- Submission Deadline – December 1 at 5 p.m. ET
  - Each semester has a deadline for the initial submission of theses and dissertations to ProQuest.
  - The document submitted to ProQuest is expected to be a final version, meaning it has been successfully defended, corrections the committee wants have been made, and there are no more content changes.
- Final Deadline – December 15 at 5 p.m. ET
  - Documents have been accepted and delivered for publishing, all required paperwork has been turned in, all milestones have been completed and all degree audits have been completed.

For more ETD information and resources please visit <https://grad.msu.edu/etd>

## **Scholarships, Awards, & Fellowships**

### **Call for 2023 MAGS Teaching Award Nominations**

Nominations are being accepted for the [2023 MAGS Excellence in Teaching Award](#) competition. This Teaching Award is very competitive, so we are looking for exceptional PhD and Master's students with great demonstration of teaching competence and knowledge of pedagogy, innovative

teaching/instructional design, and effective mentoring skills and commitment to teaching professional development. Students must be nominated by faculty/deans. [Learn more here.](#)

### **ICPSR Summer Program in Quantitative Methods of Social Research | Opens December 5**

The ICPSR Summer Program in Quantitative Methods offers more than \$150,000 in student scholarships every year. Our goal is to remove financial barriers to participation in the ICPSR Summer Program and increase access to statistical methods training for students of all different backgrounds. ICPSR scholarships provide fee waivers to attend our 2023 summer [three-week sessions](#). The three-week sessions offer a foundational training in research methods, including computation, formal theory, basic statistics, and regression analysis, as well as specialized training in a diverse array of the most advanced, cutting-edge methodological techniques. ICPSR scholarships are open to students in Sociology, Political Science, Public Policy, Education, and several other disciplines. Additionally, we offer diversity scholarships for graduate students from under-represented groups. We will begin accepting applications on December 5, 2022. All application materials must be submitted by Wednesday, February 1, 2023. [Learn more.](#)

### **Workshops, Events, & Other Opportunities**

#### **ETD Formatting Walk-In Help | 11-14-22 | 1:30-3:00 PM | Chittenden Hall, Room 220**

Do you have questions regarding formatting your thesis or dissertation? Stop in during one of our help sessions to talk to Graduate School staff about any specific formatting questions you may have. This is a walk-in session. No registration is required.

#### **Negotiating Your Next Best Offer | 11-14-22 | 5:30-7:30 PM**

This in-person interactive workshop will help you build new skills and put that thinking hat to get the best win-win outcome whenever you are in a negotiation space again. Open for all graduate and professional students at MSU. Limited seats on first come first serve basis. Food/snacks will be provided. [Learn more and register here.](#)

#### **Geography Awareness Week Events | November 14-19**

The Department of Geography, Environment and Spatial Sciences is gearing up for a week-long celebration of Geography Awareness Week with a great lineup of activities including a special evening with internationally acclaimed artist Julie Mehretu on Monday, November 14, 2022 at 7 PM at the Broad College of Business. [Learn more about this and other activities planned.](#)

#### **Talk and workshop by cultural geographer Sarah Kelly | 11-18-22 | 3:30-4:30**

The Political Ecology Lab in the Department of Anthropology will be hosting a talk and a workshop by Dr. Sarah Kelly: <https://www.kellygeolab.com>. Her research will be of interest to people working on water governance, energy justice, Indigenous sovereignty and participatory methodologies. The title of her talk is "Where the Waters meet: Intercultural Science in the Pulewillimapu, Southern Chile." (Friday, Nov 18<sup>th</sup> 3:30-4:30 McDone1 C103) In addition, she will be conducting a workshop on "Participatory Mapmaking across Modalities: From Low Fi to High(er) Tech" on Thursday, November 17<sup>th</sup>, 2022. 10.00 am to 12.00 pm. 455 Baker Hall. Please join this workshop sponsored by the Department of Anthropology & the Office of Engaged Scholarship. Through this workshop participants will a) Gain an

understanding of the potential applications of visualization through mapmaking, b) Conceptualize and draft a workflow for community participation in mapmaking project, and c) Consider how visual analysis and communication fits with your research objectives. Participants are encouraged, but not required, to come with a project or an idea they think would benefit from visualization through maps. This workshop will include a design-based learning approach and be hands on. Intended Audience: Faculty, Staff and graduate students. All levels welcomed. This workshop is capped at 12 people. Registration Link: <https://forms.gle/c9DmtcJwahvyRMJA8>

### **Immersive Visualization Institute**

Since 2019, the annual “Immersive Visualization Institute (IVI)” has brought together diverse groups of graduate students and faculty centered around data visualization. Participants investigate innovative and interdisciplinary ideas for capitalizing on one or more of the platforms within the ecosystem and produce a participation outcome using the technologies. The Immersive Visualization Institute will be offered in Summer 2023 with applications opening in February. [Learn more here.](#)

### **Participate in College DEI climate assessment activities**

A series of focus group sessions organized around social and personal identities have been scheduled for the week of November 14. Please see the attached for dates and descriptions of these sessions.

## **Job Opportunities**

### **Postdoctoral associate position on Convergence Research | Virginia Tech**

The postdoctoral associate will contribute to the study of convergence research processes and outcomes on a National Science Foundation Growing Convergence Research (NSF-GCR) project on inland freshwater salinization. The postdoctoral associate will work on the following research activities. (1) Designing and implementing strategies and tools to facilitate knowledge integration. (2) Planning and executing studies to evaluate the effectiveness of various convergence research approaches on team processes and outcomes. (3) Evaluating the integrative and intellectual qualities of the products generated in this research. (4) Presenting and publishing cutting-edge research on facilitating and evaluating convergence research. Interested applicants are welcome to reach out to Shalni Misra (shalini@vt.edu) for questions. Full position description and all details about how to apply can be found here: <https://careers.pageuppeople.com/968/cw/en-us/job/522436/postdoctoral-associate-on-convergence-research>



## ESPP 2022 FALL RESEARCH COLLOQUIUM MARATHON

### VISITING AMERICA'S BEST IDEA: DEMAND FOR THE U.S. NATIONAL PARK SYSTEM

**Andrew Earle**

PhD Candidate

College of Social Science

Department of Economics

1:30 – 2:00 PM



### THE LOGGING SECTOR IN THE LAKE STATES OF MICHIGAN, MINNESOTA, AND WISCONSIN: STATUS, ISSUES AND ECONOMIC EFFECTS

**Shivan GC**

PhD Candidate

College of Agriculture & Natural Resources

Department of Forestry

2:00-2:30 PM



WEDNESDAY

**NOVEMBER 16 | 1:30-2:30 PM**

SYNDER HALL, RM C202

FOR MORE INFO VISIT: [espp.msu.edu](http://espp.msu.edu)



**Michigan State University**  
**ESP 802**

Prof. Emilio F. Moran  
Spring 2023

Tuesdays 9:10 to noon  
Place: **Berkey 115**

**HUMAN SYSTEMS AND THE ENVIRONMENT**

**Goals:**

1. Introduce the major issues in global environmental change (GEC), focusing on the human dimensions of environmental change. This graduate seminar examines how human-environment research is currently undertaken. This is largely an interdisciplinary enterprise that requires collaboration across the social, natural and engineering sciences.
2. One important focus is on learning what the social sciences have to offer to engineers and natural scientists when we do environmental research. We will look at how to ask questions that are truly interdisciplinary, problem-solving, and with potential to provide solutions and have an impact on policies that affect human communities.
3. The following thematic and methodological areas will be of interest:
  - The socioeconomic and environmental causes and consequences of environmental change
  - Land use and cover change
  - Institutional and governance dimensions of environmental change
  - Coupled human-environment systems
  - Mitigation/adaptation approaches
  - Climate change and food security
  - Resilience of socio-environmental systems
  - Agriculture, Trade, and the global circulation of commodities

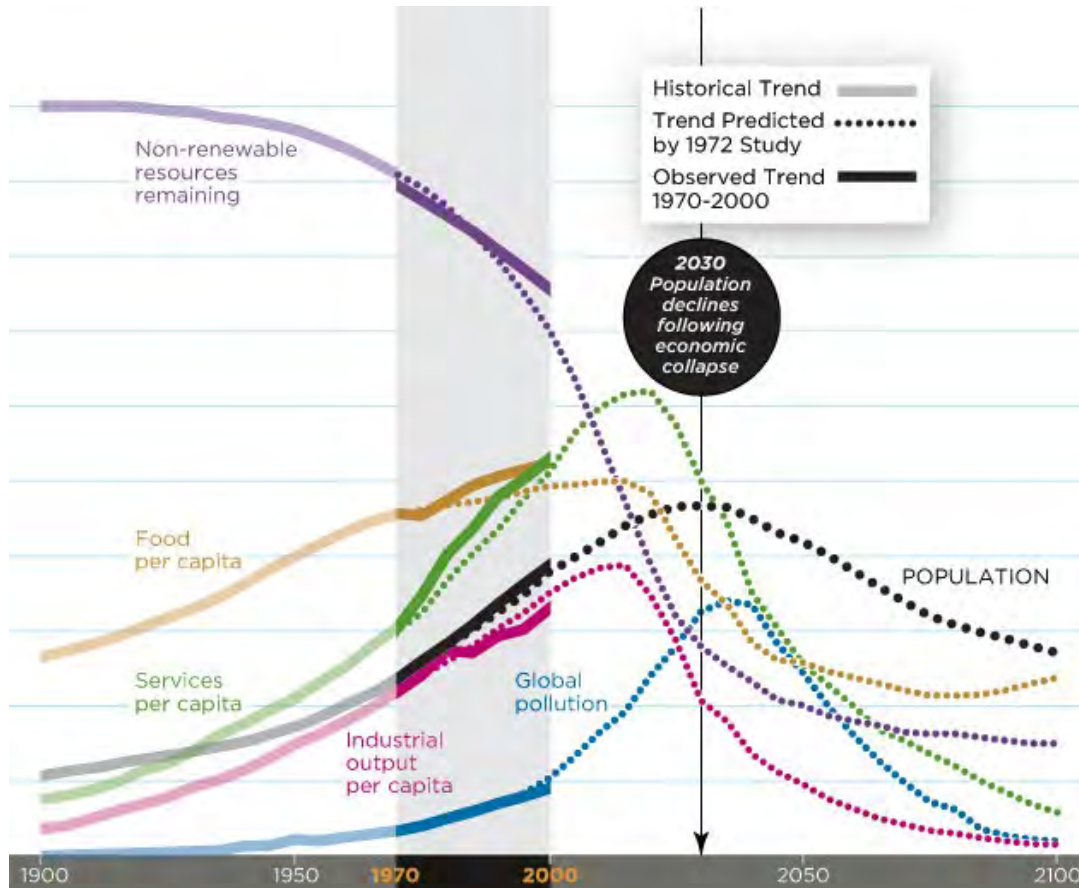
This seminar involves extensive reading and writing, emphasizing scholarly research and encourages problem-solving and delivery of realistic solutions. The instructor encourages the final paper to be either in the format of a research proposal to a funding agency or as a paper that can be submitted to a journal.

It is a core course for the ESPP Certificate and the double major.

The instructor is Prof. Emilio Moran, John A. Hannah Distinguished Professor and a member of the U.S. National Academy of Sciences.



## Syllabus



Trend lines depicting one of the output scenarios from the famous 'Limits to Growth' study. From [thwink.org](http://thwink.org).

### Course Description

Every day, we interact with systems that impact sustainability outcomes—from deciding how to commute, to what to eat for dinner. Some of us—wildlife managers, farmers, engineers, and many others—must make strategic interventions in these systems in order to fulfill personal, societal, or institutional goals. As we navigate environmental and human systems, we use models to predict their behavior and plan interventions, although we may not be aware that we are doing so. Most of the time, the structure of these models stays hidden inside our heads. These mental models are powerful tools which help us to navigate the complex and dynamic systems in which we are embedded, and for some purposes they function quite well. On the other hand, recent research has demonstrated that human beings are not very good at predicting the behavior of complex systems. We as a species are quite bad at intuitively grasping exponential growth, stocks and flows, delayed feedback, and many other common characteristics of systems. Understanding how to effectively use models of complex systems, and how to construct and evaluate these models, is valuable for anyone working within the sustainability arena, which is just about all of us.

There are many approaches to modeling systems. This course is developed around a quantitative, dynamic modeling approach called 'system dynamics' modeling (after Jay Forrester). 'Quantitative' means we'll be using numbers and mathematical relations to describe systems; 'dynamic' means that these relations may change over time, or be influenced by other variables. We will also provide an introduction to participatory modeling approaches.



## **Course Objectives**

This course is intended to introduce quantitative modeling approaches as tools for students interested in addressing real-world problems in complex environmental systems. By the end of this course, you should be able to:

1. Identify the characteristics and behavior of complex systems, and be able to define a problem in a systems context;
2. Explain why we use models to understand systems and what makes a 'good' model;
3. Know the steps involved in formulating a research or management question and building a model to address it;
4. Build and use models of real-world systems (using Stella® software) that display exponential growth; equilibrium-seeking; S-curve growth; and oscillatory behavior
5. Construct quantitative, dynamic models with appropriate, data-derived relations between variables, and evaluate model results against other data
6. Understand why, when and how we might use participatory modeling to address a natural resource problem
7. Build your own model to address a research or management question

## **Instructor**

Laura Schmitt Olabisi (virtual office hours by appointment)

[schmi420@msu.edu](mailto:schmi420@msu.edu)

(973) 901-7070

Natural Resources 138

## **Class Schedule**

Classes will take place on Mondays from 9:10 a.m. to 12 p.m. in Chemistry 183. I will offer a hybrid option for this class, but if you are able to attend in person I encourage you to do so, as this makes working collaboratively with your peers easier. The first third of class (11:30 to approximately 12:30) will usually consist of a lecture/demonstration, while the second two-thirds of class (from 12:30 to 2:20 p.m.) will involve computer lab work.

## **Prerequisites**

This course is designed with upper-level undergraduates and graduate students in mind. There are no prerequisites, but calculus and some familiarity with ecological principles will be an advantage. If you already have some experience with modeling, you will be able to create more advanced versions of the models we'll be using in class. You do not need to know a programming language, but if you do, you should feel free to program your models in the language in which you feel most comfortable.

## **Course Expectations and Policies**

This course is reading-intensive. We lean heavily on the readings to provide you with (1) The theory behind what we do in class and in the lab, and (2) Some of the 'how-to' nuts and bolts of building models, so it is essential that you keep up with the readings. In addition, you will have to spend time outside of class learning how to model—there is no way around this. Think of it as learning a new language; if you are taking a Spanish

immersion course (let's say), and all you do is show up to class once a week, your language skills will not advance very far in a semester. If, on the other hand, you make flash cards with vocabulary and get together with other students to practice, you will see remarkable progress. It's the same thing with learning modeling, which is very much like learning how to translate the 'language' of complex systems into mathematical equations. There are many resources online to help with building your modeling skills, and I have provided links to some of the most important on the course D2L site.

Regarding the programming skills you will be learning in Stella, this course takes a 'learn by doing' approach. Most of your modeling skills will be developed as you work on the labs and on your projects. The modeling 'lab' work is therefore the largest component of this class. The lab assignments are carefully designed to help you build the skills that will allow you to develop, run and analyze your own models. We will start out by modifying and running models that will be provided for you, but by the end of the course you will be designing, building, running and de-bugging your own models for a given lab topic. You will need to take advantage of the lab time to try out your new skills, ask questions, and get help on designing and de-bugging your programs. This is another reason to keep up with the reading assignments, so that you will always be prepared for the lab work! During class time, you should feel free to work with your fellow students and share ideas around the assignments, but you will turn in your assignments individually.

In addition to the lab assignments, you will be required to complete a take-home midterm and a final project. The project will involve working on your own to build a model of a system you are interested in. You might want to use a model to address a research question related to your thesis/dissertation or to a project you are working on for your advisor. I will consult with you to ensure that your modeling question is appropriately formulated, and that your research plan is reasonable given the time limitations of the course. Although we will devote some lab time to working on your projects, you will need to work outside of class to complete the project. You will give a short presentation on your project during the course final exam period.

### **COVID-19 and Accommodations Policy**

We are still in unprecedented circumstances both in our personal lives and in our learning environments due to the ongoing pandemic. Therefore, I will be sensitive to health and family circumstances that arise during the semester. I ask that if you have to turn in an assignment late for any reason, please let me know that and give me a date by which you expect to have it completed. If you fall more than two weeks behind in your assignments during the semester, I may speak to you about taking a deferred grade in the course.

If you require special accommodation due to a disability, please contact the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at [rcpd.msu.edu](http://rcpd.msu.edu). Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). I am happy to work with you to make sure you have the environment and materials necessary for your successful performance in the class. In addition, please feel free to contact me if any of the online materials present accessibility challenges.

### **Grading and Assignments**

Lab writeups	40% (8% each for 5 labs)
Midterm exam	15 %
Final report and presentation	35 % (20% report; 10% presentation; 5% proposal)
<u>Participation and effort</u>	<u>10 %</u>
Total	100 %

Each assignment is graded on a 100-percentage point scale, and weighted according to the course percentage points assigned above. The final course grade is converted to a 4-point scale as follows:

<u>MSU grade points</u>	<u>Composite class points</u>
4.0	93.0 - 100.0
3.5	88.0 - 92.9
3.0	80.0 - 87.9
2.5	75.0 - 79.9
2.0	68.0 - 74.9
1.5	60.0 – 67.9
1.0	50.0 – 59.9
0.0	0 – 49.9

### **Required Materials**

1. Donella Meadows. 2008. *Thinking in Systems: A Primer*. White River Junction, VT: Chelsea Green Publishing.
2. Andrew Ford. 2009. *Modeling the Environment, Second Edition*. Washington, DC: Island Press
3. Marjan Van den Belt. 2004. *Mediated Modeling: A System Dynamics Approach to Environmental Consensus Building*. Washington DC: Island Press.

Optional: Peter Hovmand. 2014. *Community Based System Dynamics*. New York: Springer.

I will also post some readings on Desire2Learn, and some readings will be chosen by your classmates.

Each student will also be **required** to purchase at least a semester license for Stella® Architect or Professional.

### **Academic Integrity**

If an academic integrity violation has taken place, you may receive a failing grade for the course or be referred to appropriate campus authority. Ignorance of the rules is NOT an excuse for an academic integrity violation. In addition, if you are found to be using pirated software in this course, you will receive a 'zero' for assignments you completed using this software. Please see Prof. Schmitt Olabisi if you have any questions about this policy.

### **Provisional Land Acknowledgement**

We collectively acknowledge that Michigan State University occupies the ancestral, traditional, and contemporary Lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa, and Potawatomi peoples. In particular, the University resides on Land ceded in the 1819 Treaty of Saginaw. We recognize, support, and advocate for the sovereignty of Michigan's twelve federally-recognized Indian nations, for historic Indigenous communities in Michigan, for Indigenous individuals and communities who live here now, and for those who were forcibly removed from their Homelands. By offering this Land Acknowledgement, we affirm Indigenous sovereignty and will work to hold Michigan State University more accountable to the needs of American Indian and Indigenous peoples. (from <http://aisp.msu.edu/about/land/> accessed 1/5/19.)

**COURSE SCHEDULE**

WEEK	TEACHING FOCUS	ASSIGNMENTS	LAB WORK
<b>1/9</b>	<b>Introduction to Systems Theory</b> Course overview What are systems? What does 'systems thinking' mean? How is 'systems thinking' important in addressing natural resource issues? Why do we use models to represent systems?	Daniels & Walker 2012	Characteristics of complex systems; feedback loops and delays; introduction to causal loop diagrams
<b>1/16</b>	<b>NO CLASS—MLK DAY</b>		
<b>1/23</b>	<b>System Dynamics Modeling: the Basics</b> How to build a model; how to think about modeling	Meadows ch. 1 Ford ch. 1-2 Silvert	Introduction to Stella: How is the atmosphere like a bathtub?
<b>1/30</b>	<b>Water Systems I</b>  Stocks and flows: the building blocks of systems	Meadows ch. 2 Ford ch. 3-4	Stock and flow modeling; exploring equilibrium
<b>2/6</b>	<b>Water Systems II</b>  Integrating multiple flows; testing policies	Meadows ch. 4-6	Pollutant modeling ( <i>Lab 1</i> )
<b>2/13</b>	<b>Population Dynamics and Limits to Growth; Mathematics of Limits to Growth</b>  Exponential growth: are there limits?	Ford ch. 7 Meadows et al. authors' preface, ch. 2 <b>Lab 1 Due</b>	Population growth modeling, S-curve growth, overshoot and collapse. ( <i>Lab 2</i> )
<b>2/20</b>	<b>Predator-Prey Dynamics</b>  System oscillation	Ford ch. 18, 20-21  <b>Lab 2 Due</b>	Modeling predator-prey dynamics ( <i>Lab 3</i> )
<b>2/27</b>	<b>Renewable Resource Use</b> Managing a resource for human consumption while (hopefully) avoiding collapse and resource degradation	Ford ch. 15  <b>Lab 3 Due</b>	Modeling fish harvest  <i>Take-home midterm assigned</i>
<b>3/6</b>	<b>NO CLASS—SPRING BREAK</b>		
<b>3/13</b>	<b>Sensitivity Analysis</b>  Understanding the system drivers—implications for science and policy	Ford Appendix D Hekimoğlu & Barlas <b>Midterm Due</b>	Sensitivity analysis on fish model ( <i>Lab 4</i> )
<b>3/20</b>	<b>Participatory Modeling Exercise</b>	Van den Belt ch. 1, 5  <b>Project Proposal Due</b>	

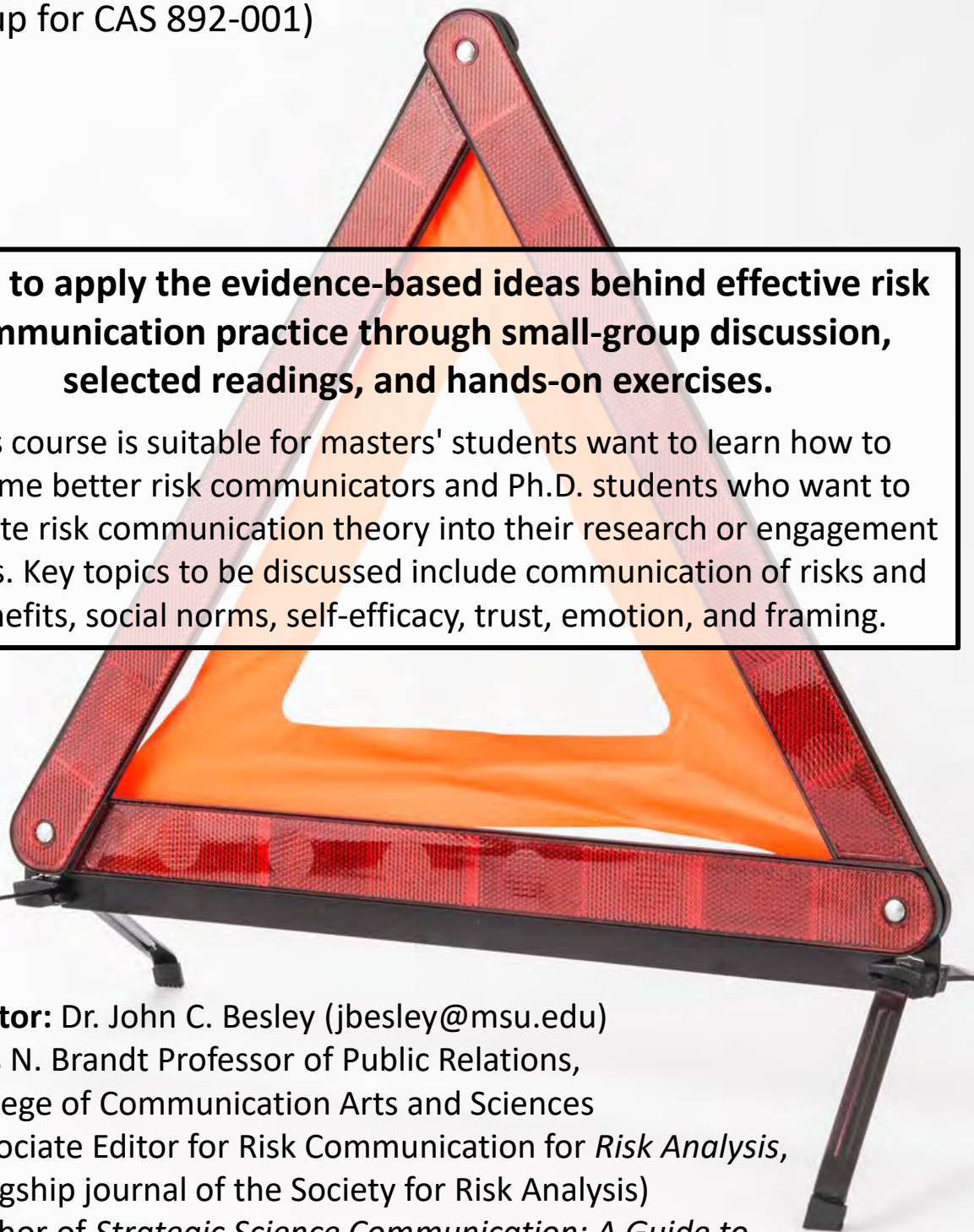
WEEK	TEACHING FOCUS	ASSIGNMENTS	LAB WORK
3/27	<b>Participatory Modeling Exercise</b>	<b>Lab 4 Due</b>	
4/3	<b>Energy and Nonrenewable Resources</b> Nonrenewable resources; energy return on investment	Bardi et al.	Modeling peak oil
4/10	<b>Analyzing Model Results</b> Statistical and scenario methods to better understand model output	Oreskes et al. Ford Appendix D	Validation of peak oil model ( <i>Lab 5</i> )
4/17	<b>Modeling as Learning</b> <i>Guest Lecturer: Dr. Steven Gray</i> How can models facilitate learning and knowledge-sharing?	Readings TBA <b>Lab 5 due</b>	Final project work
4/24	<b>Introduction to Spatial Modeling</b> <i>Guest lecturer: Dr. Moira Zellner</i> Including spatial variables in a model	Ford Appendix G	Course wrap-up
5/1		<b>Final project write-ups due 5 pm</b>	
TBA	<b>Final Presentations</b>		

Spring Semester Seminar:

# Risk Communication

Wednesdays 11:30-2:20

(Sign up for CAS 892-001)



**Learn to apply the evidence-based ideas behind effective risk communication practice through small-group discussion, selected readings, and hands-on exercises.**

This course is suitable for masters' students who want to learn how to become better risk communicators and Ph.D. students who want to integrate risk communication theory into their research or engagement efforts. Key topics to be discussed include communication of risks and benefits, social norms, self-efficacy, trust, emotion, and framing.

**Instructor:** Dr. John C. Besley ([jbesley@msu.edu](mailto:jbesley@msu.edu))

- Ellis N. Brandt Professor of Public Relations, College of Communication Arts and Sciences
- Associate Editor for Risk Communication for *Risk Analysis*, (Flagship journal of the Society for Risk Analysis)
- Author of *Strategic Science Communication: A Guide to Setting the Right Objectives for More Effective Public Engagement* (Johns Hopkins University Press)



College of Social Science  
MICHIGAN STATE UNIVERSITY

## Your Voice Matters

# Everyone plays a role in creating an inclusive environment

## We want YOUR input. Please join our focus groups!

Focus group attendance and level of participation is completely voluntary. You are welcome to attend any focus groups that feel appropriate to you. The intention is to create space for participants with specific social and personal identities to share openly about experiences within their community. We encourage you to participate in these discussions to the level of your comfort, e.g., participating with or without video or providing input via chat.

### HOW TO PARTICIPATE

You should have received an email with directions on how to join the zoom meeting. Please check your email for details.

### SCHEDULE

---

#### Wednesday, 11/16

11:00 AM - 12:00 PM: Perspectives of **Students of Color**  
1:00 - 2:00 PM: Perspectives of **LGBTQIA+ Students**  
3:00 - 4:00 PM: Perspectives of **Students with Disabilities**

#### Thursday, 11/17

2:00 - 3:00 PM: Perspectives of **Undergraduate Students**

#### Friday, 11/18

10:00 - 11:00 AM: Perspectives of **Women Students**  
12:00 - 1:00 PM: Perspectives of **Graduate Students**



### For more information

For more information on SDI, the strategic plan and the process, please visit: [socialscience.msu.edu/diversity/strat-plan](https://socialscience.msu.edu/diversity/strat-plan)





Globally, we are witnessing challenges over stressed water resources. Historical baseline levels are shifting for water quality, precipitation, and flood levels among other expressions of the water cycle. Climate change is exacerbated by water-intensive economic development across sectors. As a result, slow-onset water-related disasters are growing more common. In response, communities around the world are conducting scientific studies of their lands and water. In this talk, I reflect on nearly a decade of collaboration in Mapuche-Williche territory of southern Chile to study waters. I share challenges, innovations, and stories from overlapping methodological engagements with Williche communities and interdisciplinary researchers. Methods include group transect floats, participatory mapmaking, water quality samples, ethnographic inquiry, and policy analysis. Intercultural science, I suggest, provides a way to foster more resilient communities, yet it requires cultural change in our environmental institutions.



## WHERE THE WATERS MEET: INTERCULTURAL SCIENCE IN THE PULEWILLIMAPU, SOUTHERN CHILE

### SARAH KELLY

Dr. Sarah Kelly is a geographer who specializes in interdisciplinary and applied research on water and energy justice in the Americas. Trained as a community-based participatory researcher, she is a postdoctoral scholar in the Department of Geography and a Research Associate at the Irving Institute for Energy and Society at Dartmouth College. Together with Dr. Maron Greenleaf, she founded the Energy Justice Clinic at Dartmouth for engaged scholarship and education. She is also part of CIGIDEN, a disaster research center in Chile.

Friday

**November 18**

3:30- 4:30 PM

McDonel Hall Rm C103  
or

<https://msu.zoom.us/j/99146869800>

Passcode: ANP@MSU

