



Yassir AbdelRazig, Ph.D.

Civil & Environmental Engineering

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Research Interests

- Infrastructure Resilience
- High Performance Buildings
- Vulnerable Population Resilience

My Research Background

My research interests include civil infrastructure management, infrastructure resilience and sustainability, vulnerable population-infrastructure nexus, and construction engineering and management. I am interested in using tools such as big data, GIS, artificial intelligence, data mining and emerging technologies such as smart sensors and materials, unmanned aerial vehicles (UAVs), 3D printing. I am also interested in high performance buildings, building energy, building information modeling (BIM), and simulation and optimization of civil systems.

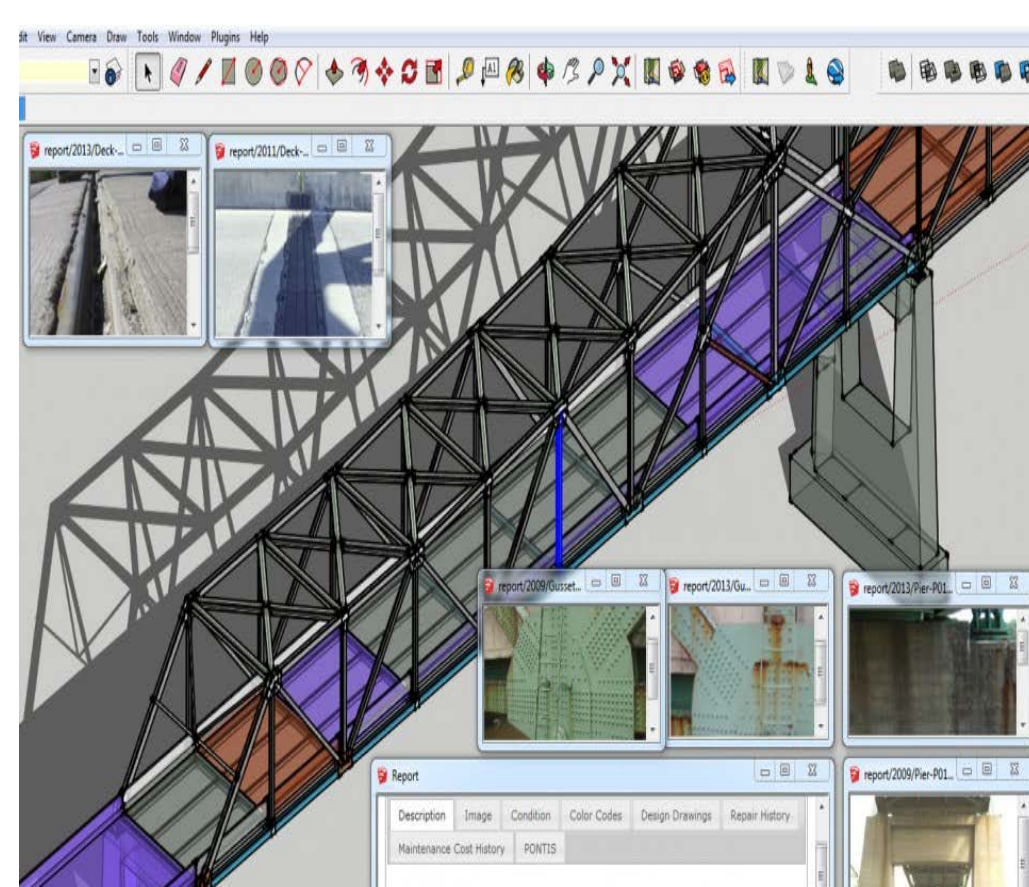
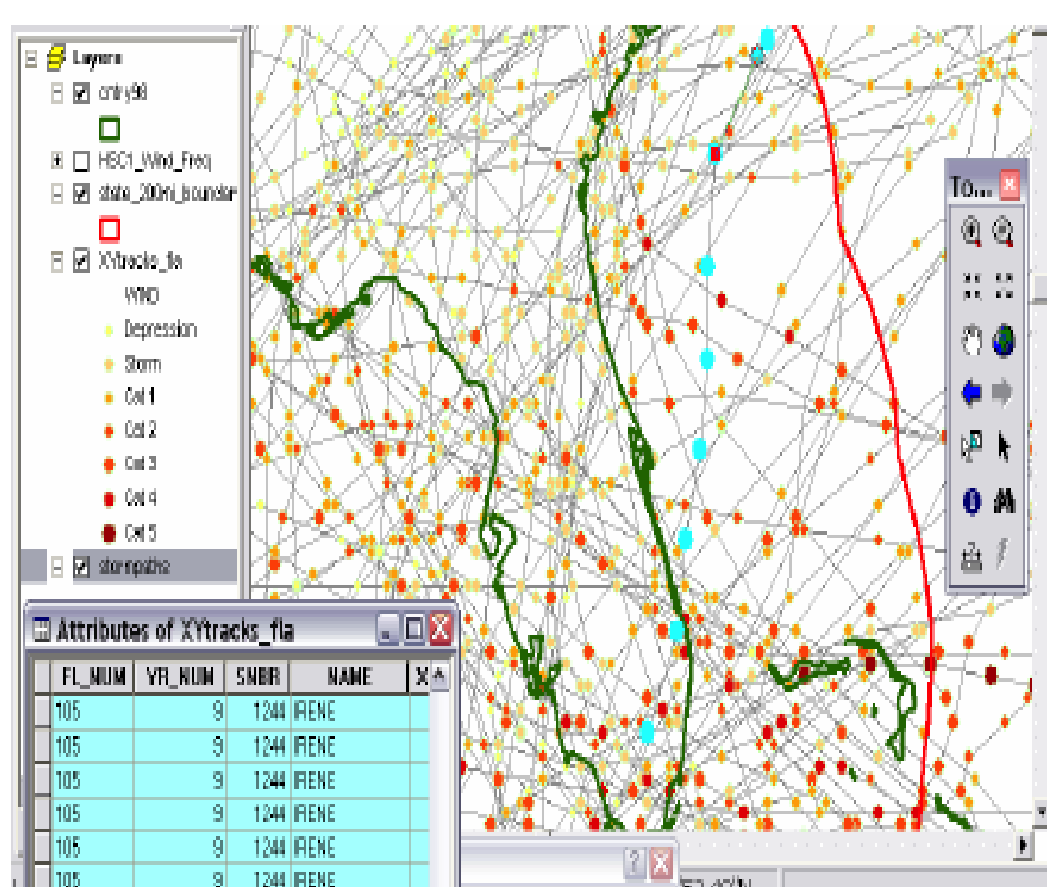
How I Can Help Collaborators

- I am leading a collaborative initiative at the college of engineering for Infrastructure resilience and sustainability
- Focus on interaction between vulnerable population and infrastructure in disaster management context
- Experience in data mining, artificial intelligence, GIS, and emerging technologies
- Experience in buildings' science and engineering and performance context of disaster impacts

How Collaborators Can Help

- Socio-economic impacts of disasters specially for vulnerable population (elderly, minority, and rural).
- Disaster economic losses, risk and insurance, business enterprises recovery after disaster
- Public policies for disasters, government operation of disaster management, prioritization of funding and resource allocation
- Additive manufacturing, smart materials, smart sensors, UAVs

Additional Content





Tarek Abichou

Civil and Environmental Engineering
 abichou@eng.famu.fsu.edu

Research Interests

- Storm Debris Management
- Geotechnics of Coastal Resiliency
- Living Shorelines
- Sustainable Solid Waste Management

My Research Background

I am a Professor of Civil and Environmental Engineering. I received my MS and PhD from the University of Wisconsin in Madison. Some of my research activities include primarily designing, analyzing, and testing different components of landfills and other waste containment infrastructures. I have been involved in research investigating alternative ways to cover solid waste facilities for more than 20 years. I am also known for my research investigating the mitigation of greenhouse gas emissions from landfills using bio-oxidation of methane using Biocells, Biocovers, and Biofilters.

How I Can Help Collaborators

- Good grasp of solid waste management system design and assessment
- Strong soil mechanics and geotechnical engineering background
- Extensive hands-on research experience including field instrumentation and remote data collection
- Numerical modeling experience
- Water balance in the vadose zone and unsaturated flow in soil modeling

How Collaborators Can Help

- Remote sensing and GIS capabilities
- Coastal erosion modeling
- Living shorelines

Additional Content

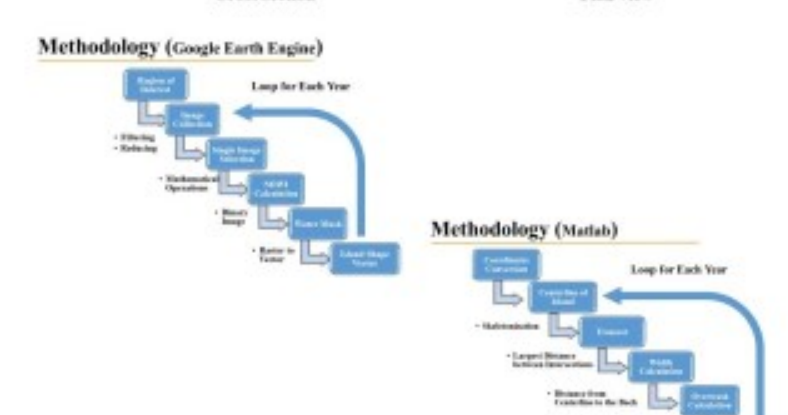
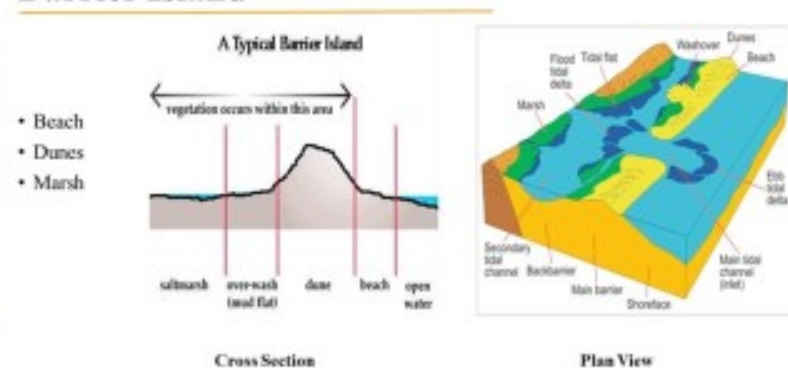
Hazards to Barrier Island (Case Study)



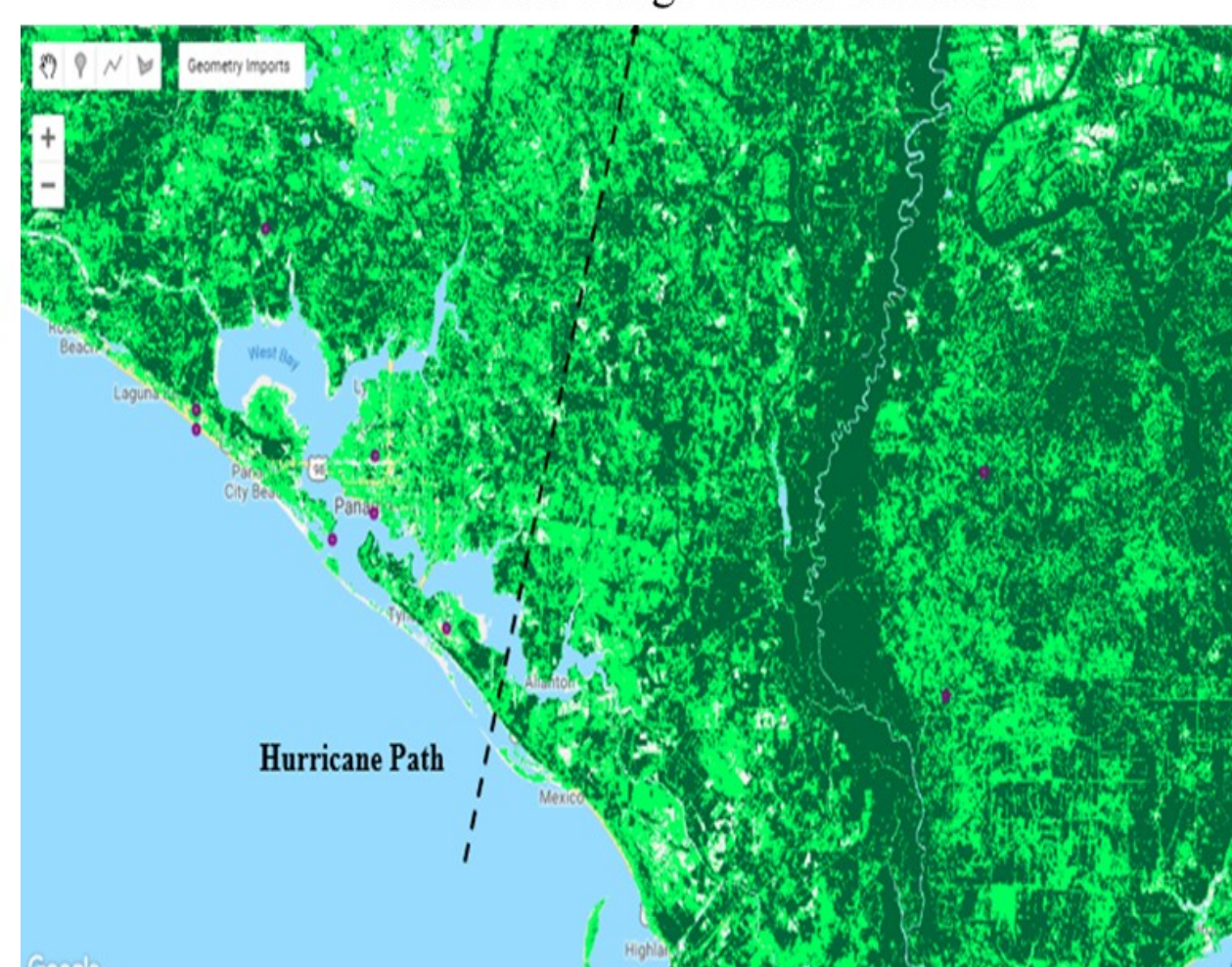
Hazards to Barrier Island



Barrier Island



Classified Image before Hurricane



Classified Image after Hurricane





Amy L Ai

College of Social Work
amyai8@gmail.com

Research Interests

- Disaster and Trauma
- Positive Psychology and Media
- Resilience and Growth

My Research Background

My research interests include interdisciplinary work in mental health, trauma, and disaster. With another PI, Art Raney, PhD, Professor of Communication, we are launching the study on Hurricanes Maria and Michael NOW. The data will help us better understand (a) the disruptive and traumatic impact of Hurricane Maria on participants' mental health; (b) the potential growth and positive gains in the aftermath; (c) the use of personal, social, and information media during the disaster; and (d) the role of media in promoting positive emotions and character strengths and mobilizing social resources as a part of mental health and resilient responses to the disaster. The ultimate goal is to inform mental health providers for improving care and service for disaster victims. We are interested in expanding the study with you on broader focus, e.g., intervention community resilience, etc.

How I Can Help Collaborators

- Interdisciplinary research design
- Experiences in other disasters (911/war and immigration/ Katrina-Rita)
- Experience publishing in top journals
- Successful history of funding from federal agencies

How Collaborators Can Help

- Access to populations/presentations
- Experience with theories and methods
- Study design, e.g., new models
- Exploration of external grant
- Interdisciplinary approaches (e.g., biomarkers, imaging data)

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Olugbenga Moses Anubi

Electrical and Computer Engineering
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Research Interests

- Control Systems
- Machine Learning
- Optimization

My Research Background

Generally, my research develops and merges results from convex optimization, machine learning and soft computing techniques to tackle novel and challenging problems in dynamic systems and control. Specific application and concentration include; Robotics, Controls, Real-time Optimization and Cyber-physical systems. Prior to joining FSU, I spent three years in the industry working at the GE Global Research (GE-GRC) where I was a Lead Control Systems Engineer and heavily involved in research activities on real-time optimization and control with applications to power generation and cyber-security. My work within GE resulted in 12 Patent Applications and several recognitions including the GE Technology Award (Physical+Digital), the Connected Controls Technical Achievement Award, the Whitney Award and the Dushman Technology Award.

How I Can Help Collaborators

- Robust, Adaptive and Resilient Control Design & Analysis
- Physics-based and Data-driven Model Development
- Convex approximation to hard optimization problems
- Cyber-physical Systems
- Real-time Optimization

How Collaborators Can Help

- Access to domain-specific data-sets
- Connection with right agencies
- Interdisciplinary approaches – Computer Science, Mathematics, etc.
- Alternative models
- Experimental platforms

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David Berlan

Reubin O'D. Askew School of Public
Administration & Policy

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Research Interests

- Philanthropy
- Volunteerism
- Networks

My Research Background

My research explores the role of ideas in how voluntary organizations change. I primarily focus on contexts within which nonprofit organizations operate and where less advantaged groups are served. This has included work on global health, human rights, human services, international development, networks or associations, and most recently emergency management. Ideas can include concepts such as mission, identity, culture, or goals. I view myself as a practice-relevant interdisciplinary scholar, with degrees in public administration and business management. Prior to joining academia, I worked in the nonprofit sector, most notably for a landmine eradication organization, and continue to collaborate with nonprofits in my faculty position.

How I Can Help Collaborators

- Current field survey project developing dataset on voluntary assistance after Hurricane Michael
- Experience with nonprofit management research and practice
- Qualitative and mixed methods design and implementation
- Background researching whole networks, organizations, and collaborations
- Engaged with broad range of theories that are relevant for nonprofits, public organizations, networks, and the role of ideas in organizations
- Links to nonprofit organizations

How Collaborators Can Help

- Interdisciplinary collaborations and ability to reach broader range of fields
- Supplementing survey data with other forms of data (GIS, organizational, impact, etc.)
- Follow-up research on relationship between voluntary assistance and recovery outcomes
- Alternative theoretical perspectives or methodological approaches
- Collaborative research grant proposals

Latest project:

Resilience and Volunteerism After Hurricane Michael

After Hurricane Michael ravaged Florida's panhandle and parts of Georgia, a wide range of actors mobilized to respond. Though those such as government agencies and the Red Cross have formal roles in responding to disasters, many other businesses, civic groups, nonprofits, and religious congregations also responded with donations of supplies, services, volunteer time, and money. Through an extensive, community-wide survey, this project seeks to establish how the broader community responded to the storm and continues to support response and recovery efforts. Knowledge from this study is intended to help with continued recovery efforts and to identify lessons for disaster planning and responding to future disasters.

<https://coss.fsu.edu/hurricanesurvey>

Recent publications:

Berlan, David; Shen, Ruowen; Klay, William Earle. (2019). The history and evolution of the Southeastern Conference for Public Administration. *Journal of Public and Nonprofit Affairs*, 5(1), 6-20.

Quissell, Kathryn; Berlan, David; Shiffman, Jeremy; Walt, Gill. (2018). Explaining global network emergence and nonemergence: Comparing the processes of network formation for tuberculosis and pneumonia. *Public Administration and Development*.

Berlan, David. (2018). Understanding nonprofit missions as dynamic and interpretative conceptions. *Nonprofit Management and Leadership*, 28(3), 413-422.

Mitchell, George E; Berlan, David. (2018). Evaluation in nonprofit organizations: An empirical analysis. *Public Performance & Management Review*, 41(2), 415-437.

Berlan, David; (2016). Pneumonia's second wind? A case study of the global health network for childhood pneumonia. *Health Policy and Planning*, 31(suppl_1), i33-i47.

Mitchell, George E; Berlan, David. (2016). Evaluation and evaluative rigor in the nonprofit sector. *Nonprofit Management and Leadership*, 27(2), 237-250.



Patricia Born

Risk Management/Insurance, Real Estate
and Legal Studies

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Research Interests

- Insurance Economics
- Catastrophic Risks
- Health Care and Health Insurance

My Research Background

As a general theme, my research addresses how regulatory and legal environments affect insurance markets and insurer behavior. My objective is to ensure that public policy decisions affecting insurance markets are well-informed as such decisions can have far-reaching implications for consumers and the economy. All of my research is empirical in nature, facilitated greatly by the size and diversity of the insurance industry and the availability of firm-level financial data. The research techniques that I use are derived from the fields of economics, finance, and econometrics; my agenda involves colleagues from universities around the world.

How I Can Help Collaborators

- Access to insurance company financial data, covering the period 1984-2018 for all lines of insurance business
- Expertise with regulatory/legal issues pertaining to insurance markets and insurance products
- Risk/behavioral theory background
- Econometrics experience
- Successful with obtaining research funding from State of FL – FDOT

How Collaborators Can Help

- Access to data from commercial and/or non-profit organizations
- Access to consumer surveys and experiments
- Help with design of experiments, use of experimental laboratory
- Develop interest in pursuing an interdisciplinary research agenda
- Ideas!!

Additional Content

Relevant work in progress:

- Evaluation of insurers' requests for rate changes following state-level catastrophic events; role of rate request approvals/denials in insurer's decision to maintain exposure in the state
- Behavioral analysis of how catastrophic events affect the demand for property insurance; consideration of the relationship between demand and the size of the event, location, type of event, and timing



Mark Bourassa
 EOAS & COAPS
 mbourassa@fsu.edu

Research Interests

- Remote Sensing and In Situ Observations
- Variations in Winds & Precipitation
- Ocean and Atmosphere Coupling

My Research Background

I thrive on interdisciplinary work combining knowledge of in situ and satellite observations with physical models and a wide range of applications. I like to combine air/sea interaction, physics of boundary-layers (ocean and atmospheric), and remote sensing of the ocean. I am now combining all these interests while leading a highly collaborative effort to convince NASA of the value of launching a satellite that will measure ocean surface winds and currents.

My group also worked on the variability of rain (seasonal, monthly and daily) in many regions. My group examines how this variability interacts with variability in winds, ocean temperatures, and currents. We have worked on tropical cyclones and storm surge.

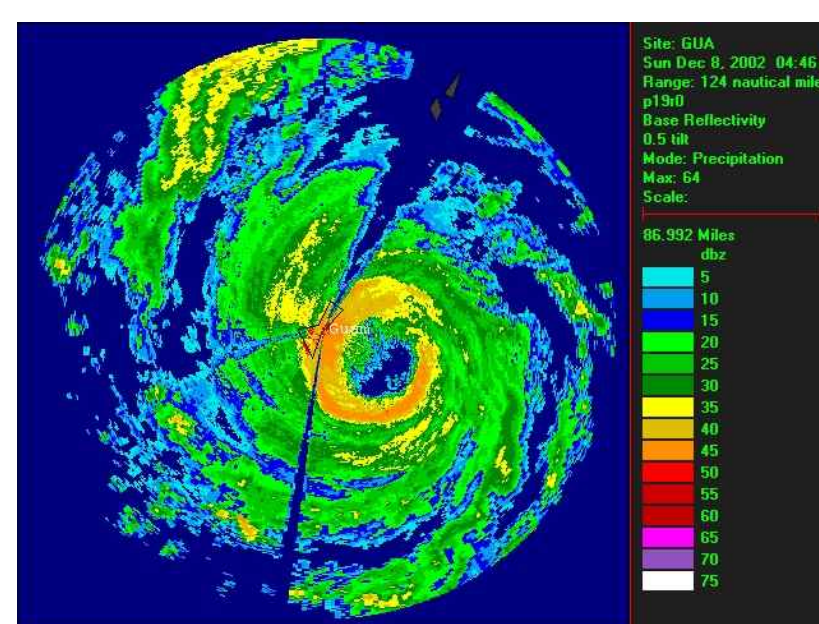
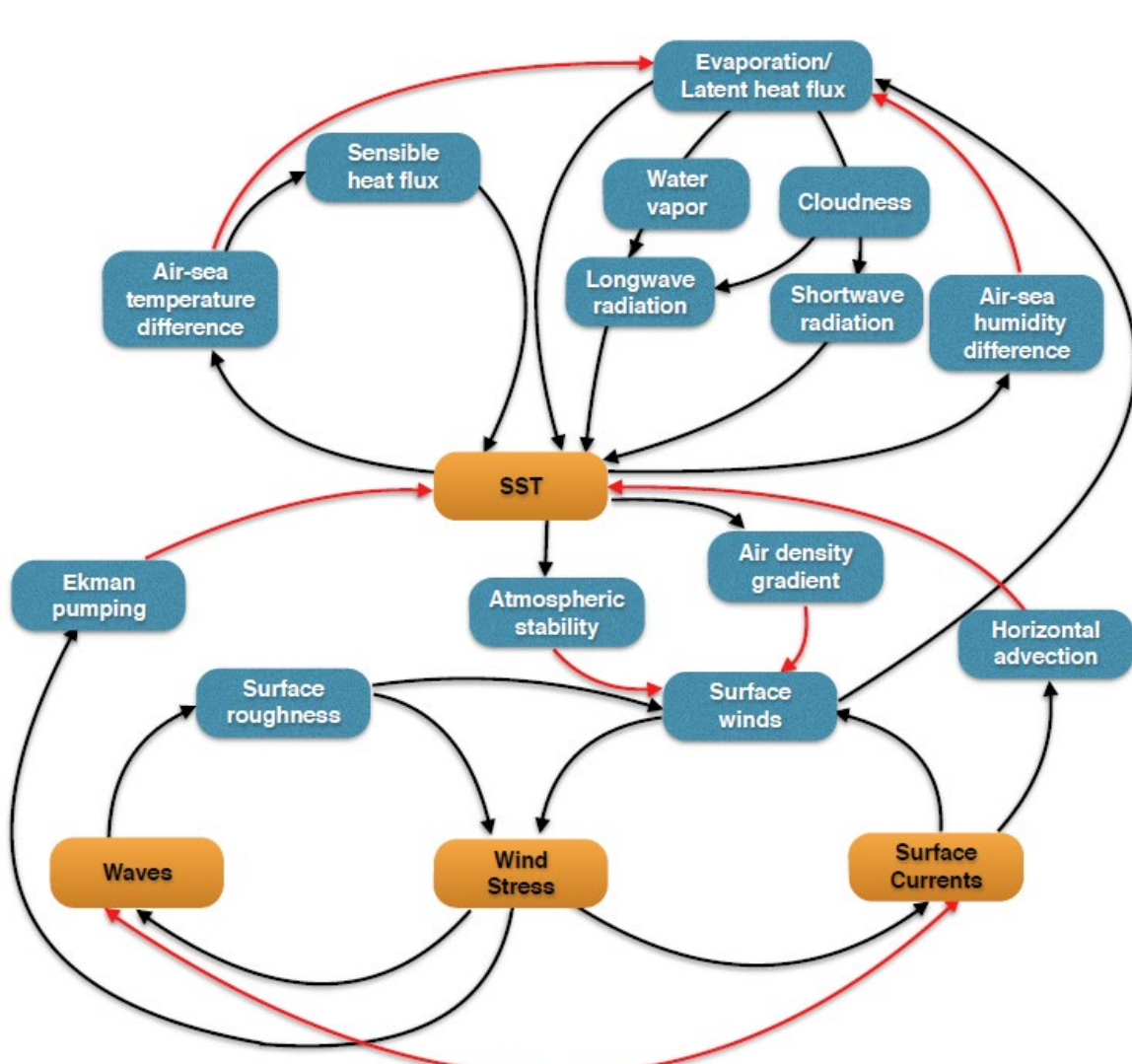
How I Can Help Collaborators

- I am very familiar with the observing systems for the ocean and atmosphere, and know where observations are stored, as well as their strengths and weaknesses.
- Provide modeling expertise for marine storms and storm surge.
- Provide FSU-based data center expertise.
- Calibration of observations for extreme conditions.
- I lead the NASA Ocean Vector Winds Science Team, and access to a wealth of nationally and internationally recognized expertise.

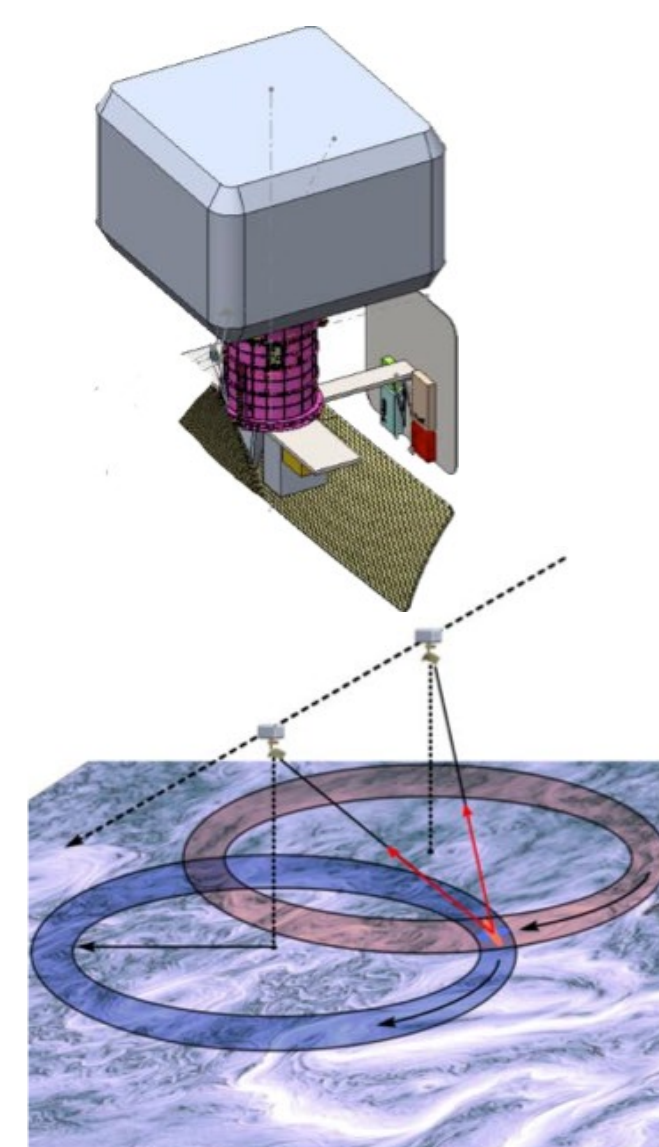
How Collaborators Can Help

- Tell me how combined surface currents and surface winds would help you. Help motivate a satellite mission I am planning.
- Identify applications for high-resolution coupled ocean/wave/atmosphere models.
- Improve concepts on how severe storms cause and have caused human migration.

Additional Content



<https://oceanexplorer.noaa.gov/>





Kristina Buhrman

Religion

kbuhrman@fsu.edu

Research Interests

- Environmental History (Disasters)
- Historical Memory
- History of Science and Religion

My Research Background

I am currently working on a project that investigates historical trends in how local, oral, institutional, archeological, and archival memories about disasters in Japan were recorded, preserved, or forgotten, from the 9th through the 19th centuries. This ranges from examining the reporting processes and information flows that circulated details of regional earthquakes and floods, to looking at local memorial monuments that inscribed warnings about famine and tsunami, paying attention to the ways in which social change and religious traditions shaped these processes of remembering. This can help improve the long-standing local Japanese disaster awareness efforts based upon these records and memorials by focusing awareness on biases in the historical and archeological record. The results of this research are aimed at broadening the temporal scope of discussion of “native hazard knowledge” (ethnoecology) that has become a topic of international concern in disaster risk mitigation, particularly after the 2004 Indian Ocean Tsunami.

How I Can Help Collaborators

- Access to Japanese language resources and research
- Provide insight on historical cases from a historiographical and archive studies-based perspective
- Assist with cultural and historical context for comparative studies
- Knowledge about comparative religion contexts
- Assist with publication in history journals
- Provide material from documentary, archeological, and folklore resources for over 1,000 years of disaster history in Japan

How Collaborators Can Help

- Assist with reconstructing historical weather-related disasters
- Collaborate to compare and evaluate how memories of disaster contribute to local and regional awareness of disaster risk
- Assist with taking conclusions from this historical project and implementing them into policy or education recommendations
- Collaborate towards publication in science and social science journals

Additional Content

Remembering Future Risk: Considering Technologies of the Archive for Discussion of Tōhoku's Seismological Past after 2011

Kristina Buhrman

Technology and Culture, Volume 58, Number 1, January 2017, pp. 159-169 (Article)

Published by Johns Hopkins University Press
DOI: <https://doi.org/10.1353/tech.2017.0006>

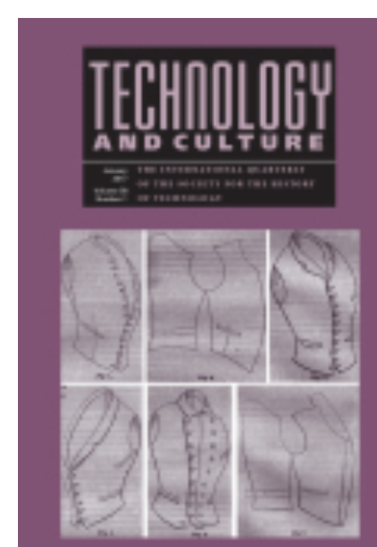


FIG. 3 Neighboring modern monument inscribed with “thanks to the Jōgan monument,” memorializing the successful evacuation of 1,000 people on Miyato Island. (Source: 2015 photo by author.)



FIG. 2 Stone monument that, according to local tradition, marks the highwater mark of the 869 tsunami, Miyato Island. (Source: 2015 photo by author.)



William Butler

Urban and Regional Planning

wbutler@fsu.edu

Research Interests

- Collaborative Environmental Mgmt.
- Sea Level Rise Planning
- Climate Change Adaptation
- Hazards Planning

My Research Background

My research explores how to enhance social-ecological resilience of human-natural systems through collaborative governance. In the realm of natural resources, I have focused on how to engage in collaborative planning and management at multiple spatial scales and levels of governance to enhance social-ecological resilience through ecological restoration. My focus has been on forest management. I also have explored resilience in the face of social and ecological disturbances such as climate change and sea-level rise with a particular focus on the state of Florida. I have a project funded by DEP currently exploring regional responses to SLR. Finally, I seek to identify effective ways to navigate transitions toward more locally oriented food systems and to explore how such systems contribute to community resilience.

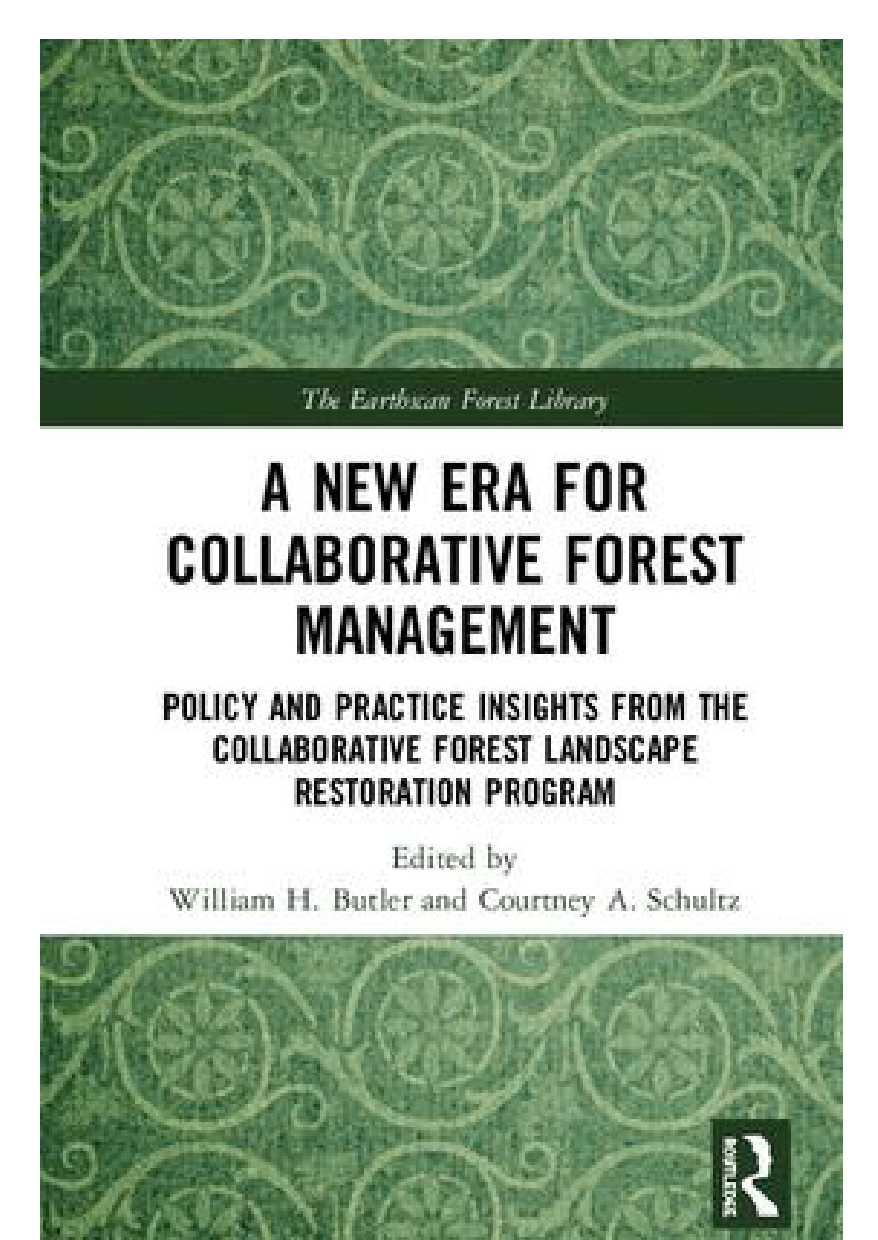
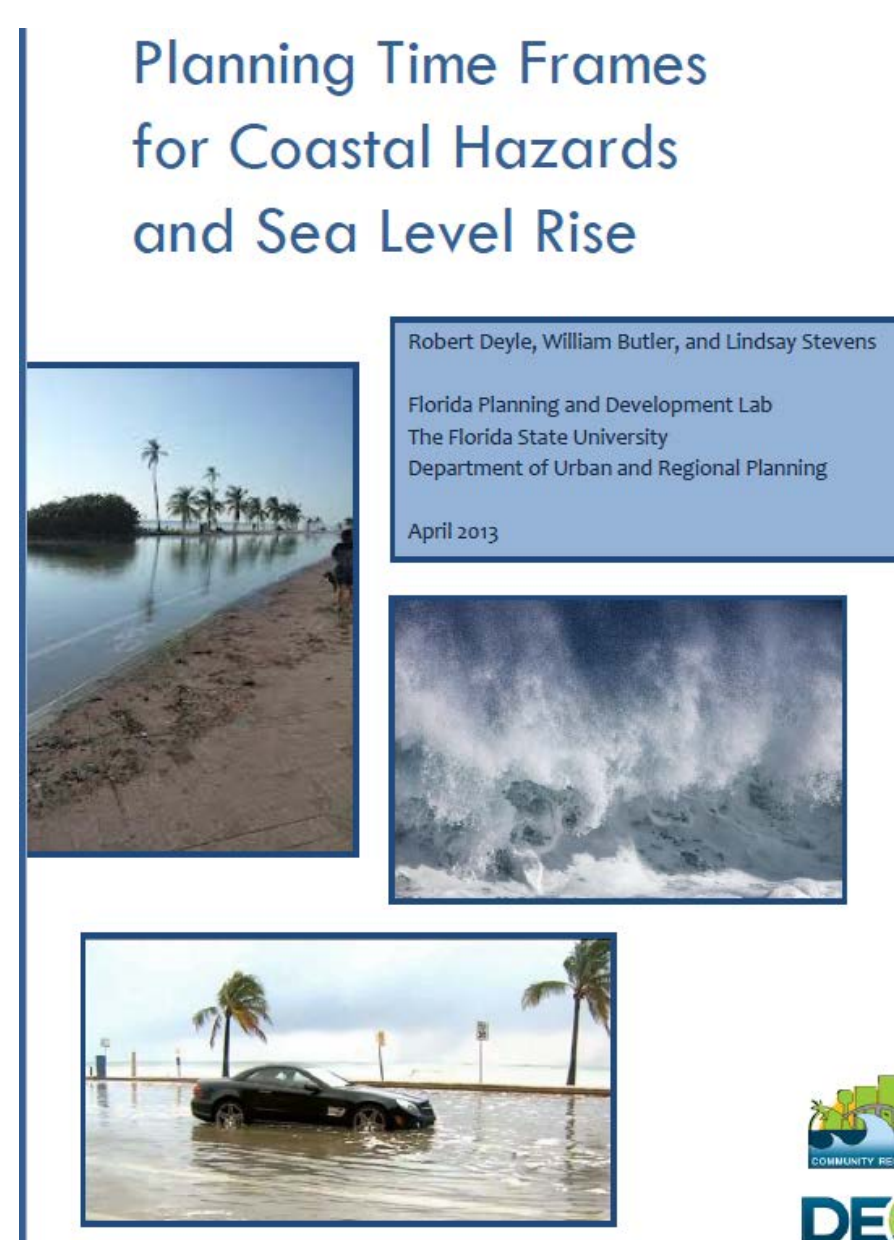
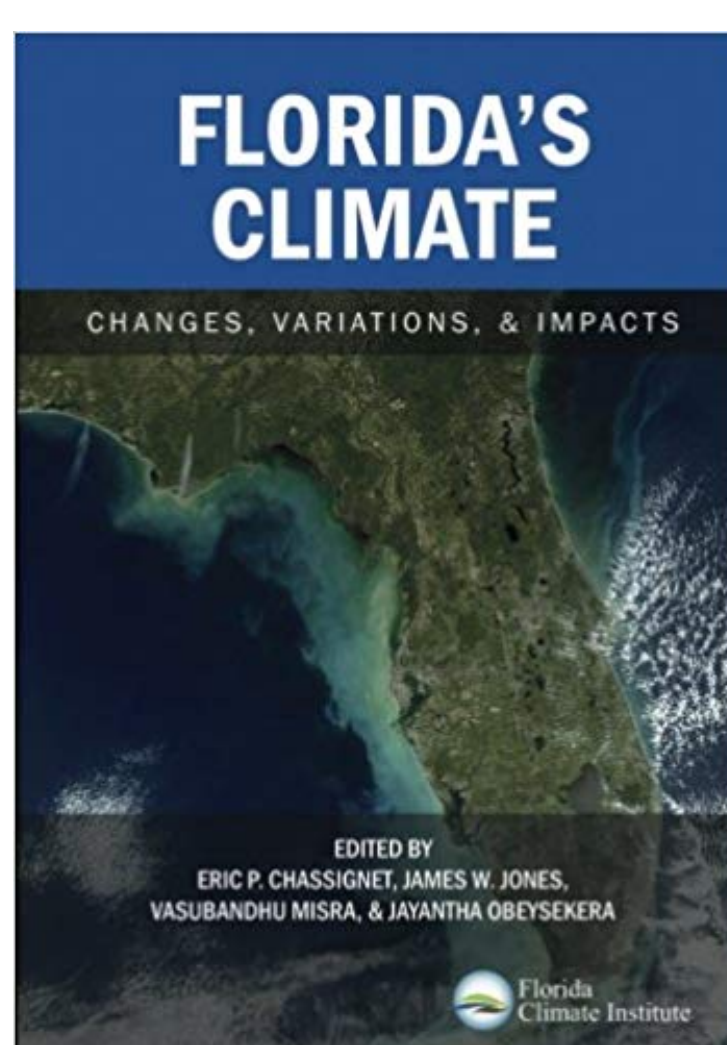
How I Can Help Collaborators

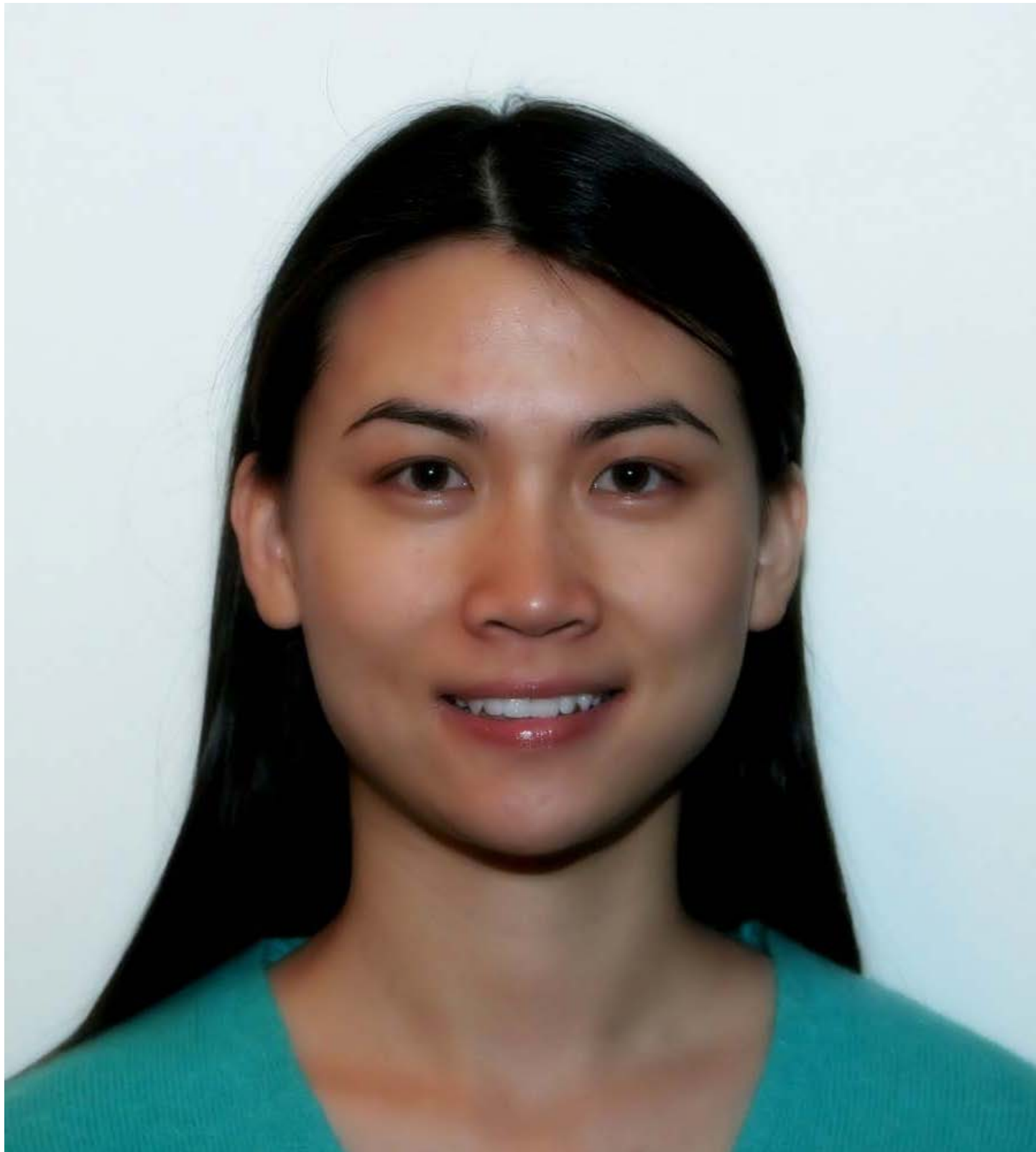
- Qualitative research design and analysis
- Community engagement and outreach
- Connecting science to application and policy
- Bringing social-ecological resilience thinking and collaborative governance scholarship to the analysis of hazards and disasters

How Collaborators Can Help

- Bringing other disciplines and research approaches into a mixed-methods interdisciplinary project
- Quantitative data analysis
- Physical and natural science data sets and information relevant to policy and planning

Additional Content





Hongyuan Cao

Associate Professor of Statistics

hcao@fsu.edu

Research Interests

- Big data analytics and machine learning
- Longitudinal data analysis
- Survival analysis

My Research Background

I got my Ph.D. in statistics from UNC-Chapel Hill in 2010. Between 2010 and 2014, I worked as an assistant professor in the University of Chicago's Health Studies Department. From 2014 to 2018, I worked as an assistant professor in the University of Missouri-Columbia's Statistics Department. I joined FSU's statistics department in fall of 2018 as an associate professor. My main research program includes statistical methodological development and statistical applications in social, biological and medical sciences. Since my time at UNC, I collaborated with clinicians and epidemiologists on study design, statistical modeling, data analysis, manuscript preparation and grant proposal writing. I appreciate the interdisciplinary approach to scientific problems and believe that in order to have impact in science, statisticians have to partner with domain experts.

How I Can Help Collaborators

- Analytical perspective
- Advanced statistical analysis
- Experience publishing in top journals
- Experience in grant proposal writing
- Experience in serving on the review panel
- Access to unique equipment/software

How Collaborators Can Help

- Access to populations/dataset
- Experience with specific methods
- Study design
- Explore challenges in the field
- Interdisciplinary approaches
- Domain knowledge of the scientific problem

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Tim Chapin, Dean

College of Social Sciences & Public Policy
tchapin@fsu.edu

Research Interests

- Florida Land Development Trends
- Post-Disaster Redevelopment
- Community Resilience

My Research Background

Since joining FSU in 1999, Chapin has undertaken research on the effectiveness of Florida's growth management system and the role of sports facilities in the promotion of urban redevelopment. He is a noted expert on land use and comprehensive planning, growth management, and urban redevelopment. Chapin's current research interests revolve around how Florida's demographic trends influence urban patterns and transportation systems in the state. Over his career, he has secured more than \$3 million in outside funding from federal, state, and local governments to support his research.

How I Can Help Collaborators

- Extensive connections with state agencies, regional bodies, and local governments in Florida
- Deep expertise and extensive experience in Florida development and land use issues
- Expertise working in multi-disciplinary teams on state and federally funded projects
- Substantial success in pursuing and securing state funding to support applied project work, including FDOT, FDEM, FDEO, and FDEP

How Collaborators Can Help

- Seeking partners to work on post-disaster redevelopment in North Florida
- Seeking collaborators to work on the impacts of population and economic growth on Florida's environment, infrastructure and communities
- Welcome partnerships to pursue and secure state agency funding to support applied research work

Additional Content

Example Funded Projects

- Florida Department of Transportation. *Envisioning Florida's Future: Transportation and Land Use in an Automated Vehicle World*. T. Chapin and L. Stevens, Pls.
- Florida Department of Transportation. *Assessing the Property Value Impacts of SunRail Stations*. T. Chapin, M. Horner, and M. Duncan, Pls.
- State of Florida Department of Community Affairs-Division of Emergency Management. *State of Florida Local Mitigation Strategy Plan Revision and Update*. T. Chapin, P. Koeppel, and C. Coutts, Pls.
- Federal Emergency Management Agency. *Integrating Hazard Mitigation into MPO Long Range Transportation Planning*. H. Higgins, R. Deyle, and T. Chapin, Pls.



Gang Chen

Civil and Environmental Engineering
gchen@eng.famu.fsu.edu

Research Interests

- Watershed Management/Modeling
- Land Use Change and Climate Change
- Nutrient Management

My Research Background

My principal research interest is in the area of watershed management, land use change and climate change, water flow and physicochemical reactions in the porous media, nutrient cycling, and landfill leachate management. My research is focused on watershed modeling, hydrologic and water flow modeling, fate and transport of non-point source agricultural pollutants, system design and integrated approaches of workable and cost-effective solutions.

How I Can Help Collaborators

- Watershed Modeling
- Water Flow and Management
- Land Use Change Impact
- Nutrient Management
- Greenhouse Gas Emission

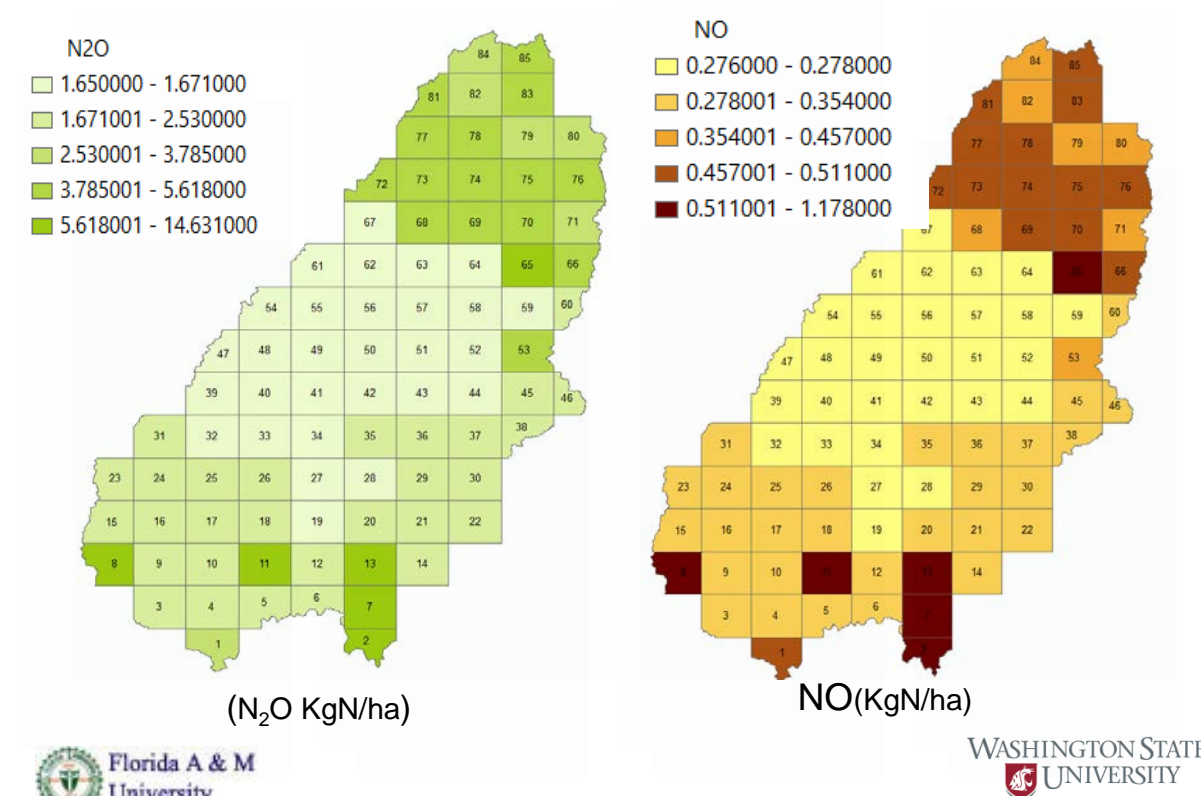
How Collaborators Can Help

- GIS
- Data Acquisition
- Air and Soil Sensors

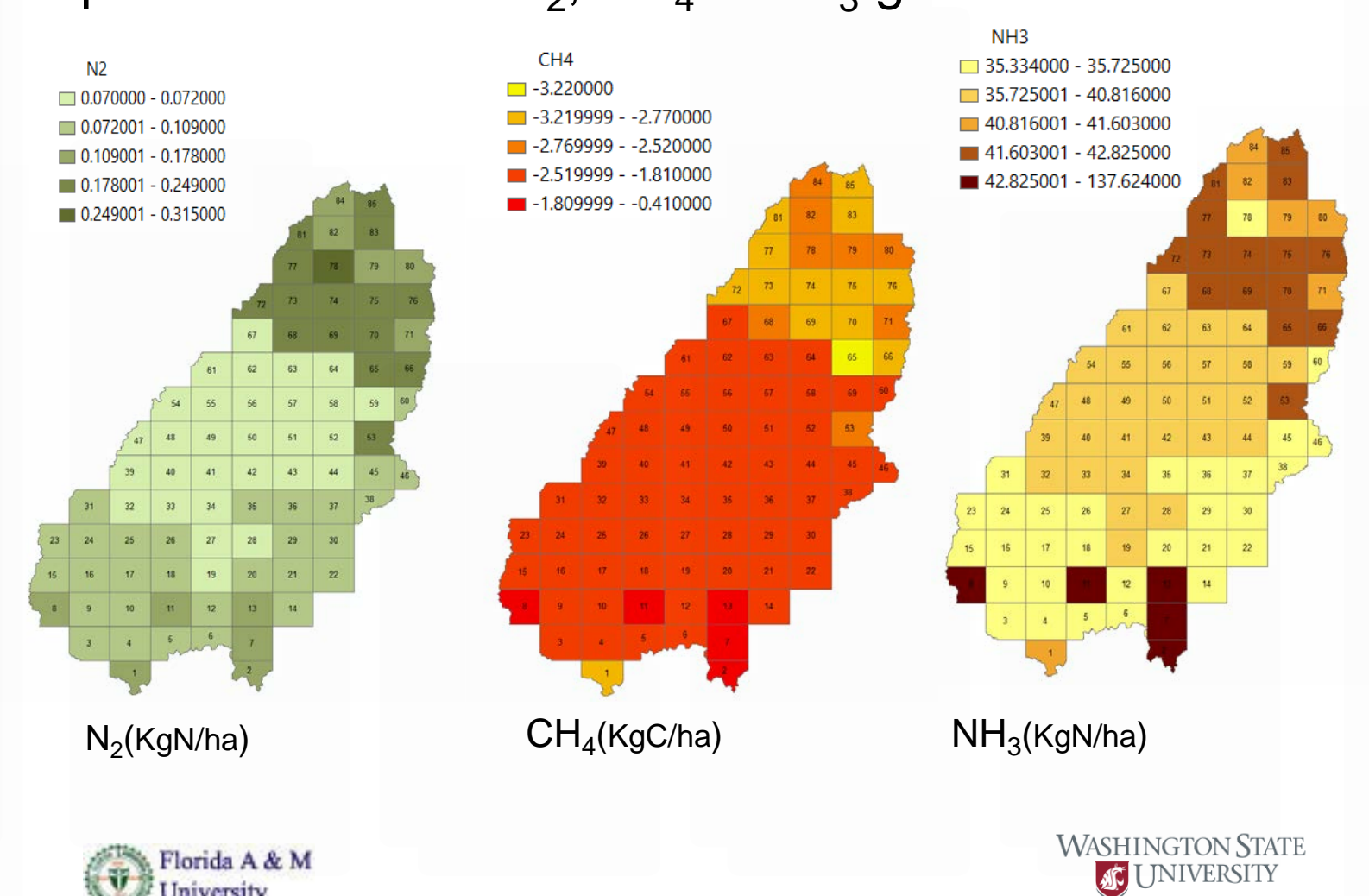
Additional Content



Spatial Variation in N₂O & NO gas emission



Spatial Variation in N₂, CH₄ & NH₃ gas emissions





Juyeong Choi

Department of Civil and Environmental Engineering

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Research Interests

- Infrastructure planning in terms of sustainability and resilience
- Demolition planning
- System-of-systems

My Research Background

My research efforts have been dedicated to understanding how different infrastructure systems affect community functioning during post-disaster recovery. It is important to understand the roles played by multiple domains of critical infrastructure systems (i.e., civil, civic, social, cyber, educational, environmental, and financial system) to meet recovery needs and make a coordinated plan between them. My research helps to collectively evaluate capacity needs of these multiple systems/sectors and make an effective coordinated plan to achieve a feasible resilience.

How I Can Help Collaborators

- Expertise in civil infrastructure planning can help other researchers address the issues within their domain
- Also, I developed a platform where different infrastructure sectors and systems can collectively identify capacity needs to achieve a desired level of community resilience and prioritize them for improvement.

How Collaborators Can Help

- Interdisciplinary collaboration with diverse researchers may refine the framework and help it better reflect their context.

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Cassandra Cole

Risk Management/Insurance, Real Estate, and Legal Studies
ccole@business.fsu.edu

Research Interests

- Impact of disasters on insurers, communities, and consumers
- Disaster preparedness

My Research Background

With the Florida Catastrophic Storm Risk Management Center being located within the FSU College of Business, I have had the opportunity to conduct research related to catastrophe financing and loss modeling. This has led to a number of publications on topics ranging from a review of the role of state-run insurers in providing property insurance in coastal states to the use of post-loss assessments in financing catastrophic risk. I would like to expand upon my research in this area to focus more on the impact of disasters on communities and consumers.

How I Can Help Collaborators

- Knowledge of catastrophe financing
- Knowledge of existing research related to catastrophes

How Collaborators Can Help

- Help expand research into other areas including disaster preparedness and the impact of disasters on communities

Additional Content

Related Publications:

Cole, C. R., D. Macpherson, P. F. Maroney, K. A. McCullough, J. W. Newman, and C. M. Nyce (2011), "The Use of Post-Loss Financing of Catastrophic Risk," *Risk Management and Insurance Review*, 14(2), 265-298.

Cole, C. R., D. Macpherson, and K. A. McCullough (2010), "A Comparison of Hurricane Loss Models," *Journal of Insurance Issues*, 33(1), 31-53.

Cole, C.R., P. F. Maroney, K. A. McCullough, and C. M. Nyce (2009) "The Role of State-Run Insurers in Providing Property Coverage in Coastal States with High Hurricane Exposure" *CPCU eJournal*, 1-11.

Cole, C. R., D. Macpherson, P. F. Maroney, K. A. McCullough, J. W. Newman, and C. M. Nyce (2009). "A Review of the Development of Residual Market Mechanisms in Florida," *Journal of Insurance Regulation*, 24(4), 55-80.



Kevin Curry

Department of Art
kcurry@fsu.edu

Research Interests

- Reclamation of construction-based materials, personal artifacts, histories and memories from disaster sites
- Post-disaster shelter and communication
- Is “Geographic resiliency” a viable alternative to Sustainable retreat?

My Research Background

From my Artist Statement: *“My work involves a mapping of sorts; an exploration centered on the mobility and authorship of memories, language and objects - a dialogue reflective of the intersection and location of place in our lives. I employ sculpture, photography, traditional media and digital fabrication technologies in investigating how we navigate through and within the geography of experiences.”*

My background is as a Graphic Designer, Art Director / Illustrator with an MFA in sculpture and have successfully secured funding for public art commissions, as well as smaller University grants.

How I Can Help Collaborators

- Extensive background in Design and Design Thinking, Illustration and fabrication techniques
- Access to unique equipment/software (and people!)
 - 3D Printers
 - CNC Routers
 - Laser cutters
- Unique outlook and problem-solving capabilities
- Assist in creating presentation materials that won't bore or distract from the topic at hand

How Collaborators Can Help

- Proposal Writing /Finding funding
- Cross discipline work that could lead to additional opportunities
- Drone capabilities
- I'm interested in the overlap of creative thinking from a variety of fields – looking to record dialogues that will be presented as future podcasts through my FAR-Based (Facility for Arts Research) initiative called collab/dialogue box.

Additional Content





James Elsner

Department of Geography
jelsner@fsu.edu

Research Interests

- Tornadoes
- Hurricanes
- Vulnerability & resiliency

My Research Background

My research concerns how tornadoes and hurricanes will change with global warming. It uses methods from statistics and machine learning to make inferences about what has been happening to these storms over the past several decades and how they might change in the future. I am interested in understanding why some communities are particularly vulnerable to the wrath of tornadoes and why some never recover after a storm.

How I Can Help Collaborators

- Advanced statistical models
- Bayesian methods
- Open source tools
- Experience publishing in top journals
- Successful history of funding from the NSF

How Collaborators Can Help

- Access to demographic datasets
- Experience with qualitative methods
- Explore challenges in the field
- Interdisciplinary approaches



Omar Faruque

Electrical and Computer Engineering
faruque@caps.fsu.edu

Research Interests

- Modeling and simulation
- Renewable Energy Integration
- Energy Management

My Research Background

My research focuses on smart grid, renewable energy integration, modeling, simulation and experimental validation of the technologies related to these areas. I use real-time simulation techniques including Hardwar-In-the-Loop (HIL) for studying system interactions in the areas of smart grid, renewable energy, energy management and in other emerging technologies in power engineering. I have also developed interest in using Artificial Intelligence and Machine learning in Power Engineering. Ship power system design and optimal resource allocation is another area I am currently working in.

How I Can Help Collaborators

- Modeling simulation, control and testing of new power systems using hardware-in-the-loop experiments
- Design of power system for terrestrial and moving systems such as ship and electric vehicles
- Design of photovoltaic system integrated with energy storage, modeling of the system and impact analysis
- Design and study of control systems and their testing in HIL environment for performing industrial and residential energy management systems

How Collaborators Can Help

- Social and commercial impact study
- Design of outreach activities
- Resiliency enhancement considering the environmental factors
- Studying the Impact of disasters
- Economic impact studies for technology evolution
- Software engineering
- Cyber physical system security
- Ancillary support for power system restoration after natural calamity
- Interested to work with multidisciplinary teams

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Richard Feiock

Askew School of Public Administration
 Rfeiock@fsu.edu

Research Interests

- Agency/Organization Collaboration in Disaster Response and Recovery
- Collaboration Network post disaster
- Sustainable Urban Infrastructure

My Research Background

- Board of Scientific Counselors, U.S. Environmental Protection Agency, Office of Research and Development HSC, January 2014-2018
- Co-Director: NSF SRN *Integrated Urban Infrastructure Solutions for Environmentally Sustainable, Healthy Cities*, 2016-present, NSF \$12M
- Co-PI: NSF RCN Human Building Ecosystems, 2016-2019, NSF \$652K
- Co-PI: NSF Smart and Connected Cities: “Connecting the Smart-City Paradigm with Sustainable Urban Infrastructure Systems to advance Equity 2018-2021, NSF \$2.4M

How I Can Help Collaborators

- Experience in leading large multidisciplinary federal grants
- Stochastic Network Analysis Modeling
- Expertise in inter-organizational collaboration
- Access to local governments and associations of governments as partners
- Policy design and policy implementation analysis
- Access to data including the Integrated City Sustainability Database
- Not a jerk

How Collaborators Can Help

- Resources
- Engineers and natural scientists with an interest in multi-disciplinary collaborations
- Skill in GIS and spatial analysis
- Interest in building a research team focused on urban or rural resilience that can mobilize for grant opportunities
- Not a jerk

Additional Content

Isolated and Broken Bridges from Interorganizational Emergency Management Networks: An Institutional Collective Action Perspective

Urban Affairs Review
 1-26
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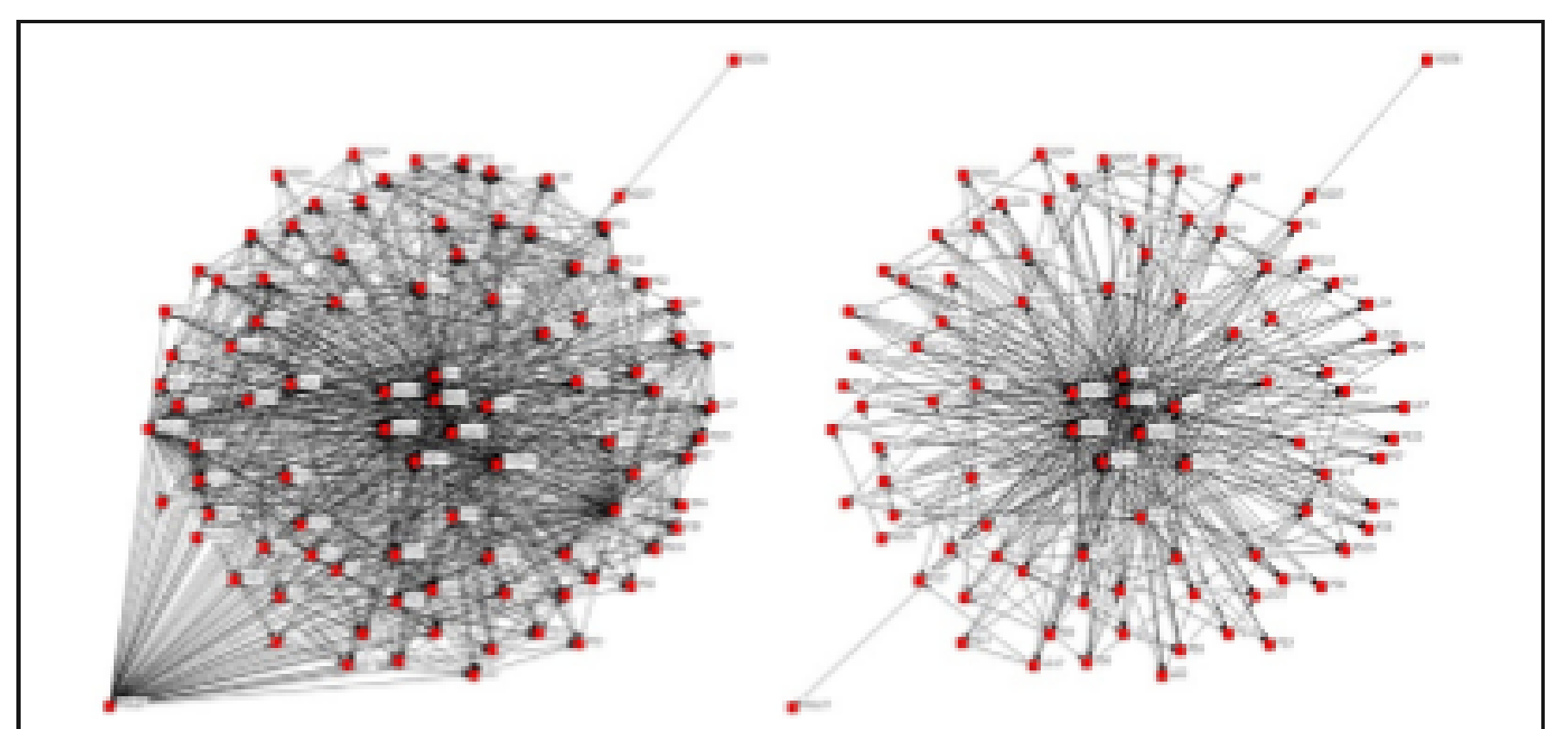


Figure 1. Change in interorganizational emergency management networks.
 Note. LG = local government; FS = fire station; PS = police station; NGO = nongovernmental organization; SEOC = Seoul Emergency Operations Center; SMG = Seoul Metropolitan Government; NEMA = National Emergency Management Agency; MOSPA = Ministry of Safety and Public Administration; NPA = National Police Agency; SFA = Seoul Fire Agency; MOLIT = Ministry of Land, Infrastructure, and Transport.



Jessi Halligan

Department of Anthropology
jhalligan@fsu.edu

Research Interests

- Paleoenvironmental reconstruction and human response
- Sea level rise and archaeological site preservation
- Peopling of the Americas

My Research Background

I am a geoarchaeologist studying the first colonization of Florida and the environmental changes that occurred during the end of the Pleistocene, including sea level rise, megafauna extinction, and major cultural changes. I am working on proposals to collect paleoenvironmental data from numerous archaeological sites dating to the last 15,000 years in this area of Florida. This will include sediment analysis as well as archaeological excavations.

How I Can Help Collaborators

- I will be collecting a great deal more paleoenvironmental data, and since it comes from archaeological contexts, it is at greater resolution than many other similar projects.

How Collaborators Can Help

- Other paleoenvironmental researchers who may be able to look at these data in ways I have not yet considered





Julie Harrington

Center For Economic Forecasting and Analysis (CEFA)

jharrington@cefa.fsu.edu

Research Interests

- Economic Modeling
- Risk Analysis
- Impact Analysis

My Research Background

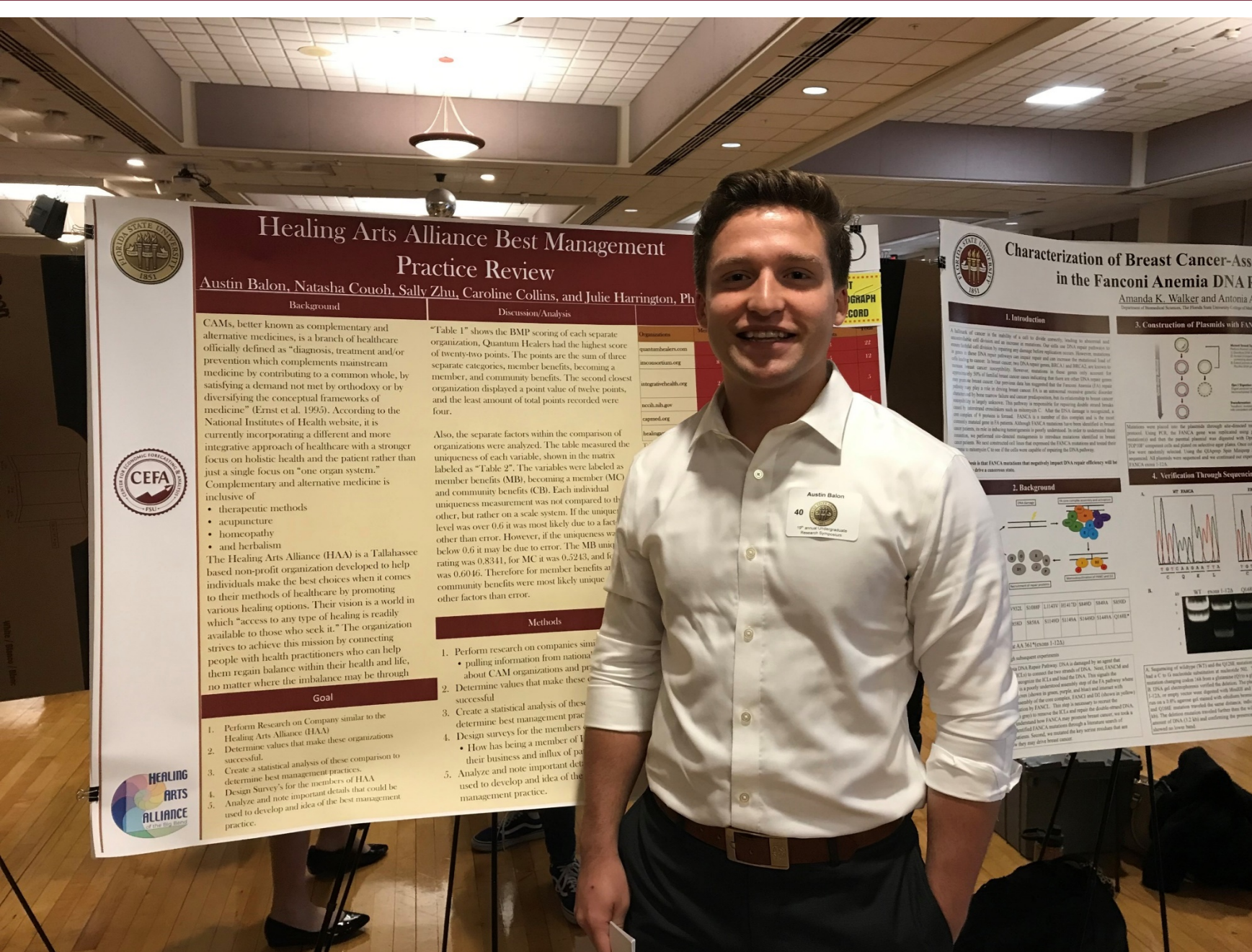
The FSU Center for Economic Forecasting and Analysis (CEFA) specializes in conducting economic research and performing economic analyses to examine public policy issues across a spectrum of research areas. CEFA provides advanced research and training in energy, aerospace, environmental economics, affordable housing and economic development, among other areas. FSU CEFA also serves as a foundation for training students on applied economics, using modeling software and other econometric and statistical tools. Dr. Harrington holds a Doctorate in Economics and an MS in Fisheries from Auburn University and is the Director of CEFA. She has an extensive background in economic, econometric/statistical modeling and natural resources. Her current research interests focus on economic development, energy and real estate economics. Current projects include – An Economic Analysis of the Proposed Impact Fees for the Realtors of the Palm Beaches & Greater Fort Lauderdale (RAPB+GFLR) Region – Economic Contributions of the Florida Housing Finance Corporation – An Economic and Fiscal Analysis of Direct File Reform Proposals – Enhancing Lives, Impacting Communities: The Federal Home Loan Bank System – Economic Impact Analysis of the Small Business Development Center.

How I Can Help Collaborators

- Econometric/Statistical Analysis
- Input Output Modeling Software (REMI and IMPLAN)
- Chmura Economics & Analytics Labor Market JobsEQ Software
- Advanced Research and Training in Economic Development and Environmental Impacts
- Expertise in Public Policy Analysis
- Experience Publishing in Academic Journals & Other Publications; Including Press and Social Media

How Collaborators Can Help

- Access to Datasets and Data Sources
- Data Collection
- Area or Subject Matter Expertise
- Interdisciplinary Project Support
- Research Grant Proposal and Project Funding Support





Tisha Holmes

Urban and Regional Planning/
College of Social Sciences and Public Policy
ttholmes@fsu.edu

Research Interests

- Climate change adaptation
- Disaster risk reduction
- Community participation

My Research Background

My research examines the social and institutional efforts to build resilience to environmental hazards in vulnerable, marginalized communities. I emphasize active community participation in research, education and decision-making processes to address the present and potential impact of climate change risks and disasters. I have a particular interest in exploring the intersections of climate change, disaster risk reduction, health equity and social welfare. I am working on a research project which examines sea level rise adaptation planning in the state of Florida. I am a co-investigator on a collaborative program to support and evaluate climate adaptation projects by county public health departments through the CDC's Building Resilience Against Climate Effects (BRACE) program in Florida.

How I Can Help Collaborators

- Participatory methods
- Qualitative methods
- Stakeholder outreach and engagement

How Collaborators Can Help

- Statistical methods
- Risk / environmental modelling





Wenrui Huang

Department of Civil and Envir. Eng.
FAMU-FSU College of Engineering
whuang@eng.famu.fsu.edu

Research Interests:

- Storm surge modeling
- Flood modeling
- Wave actions on structures

My Research Background

- Expertise in computational modeling of hurricane-induced hazards, such as storm surge, waves, rainfall runoff, and inland floods
- Have conducted research projects funded by NSF, NOAA, USACE, USEPA, DHS, FEMA, DOT, DEP, NFWFMD, SWFWMD, etc.
- Have served as the leading co-author for a book *Coastal Hazards*, published about 90 journal articles, and served as Associate Editors for several journals in coastal areas

How I Can Help Collaborators

- I can conduct research in the area related to the predictions of hurricane-induced coastal storm surge and inland floods, and effects waves on coastal infrastructures.

How Collaborators Can Help

- I look for collaborative research opportunities.

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Tracy A. Ippolito

Center for Ocean-Atmospheric Prediction Studies (COAPS)
and the FSU School of Communication
tippolito@fsu.edu

Research Interests

- Resiliency and adaptation (at the individual and community level)
- Science and health communication
- Experiential learning/interactive interventions

My Research Background

I am a research associate in the PEAKS (**P**articipatory, **E**xperientially-based **A**ppplied **K**nowledge for **S**ocial Change) Lab in the School of Communications, where my work focuses on the impact of emergent communication technologies (e.g., interactive data visualization) on health, with a focus on the dynamics of user interaction and information flow. I have experience conducting research on sensitive health topics. I am currently using a mixed method approach to investigate relapse among alcoholics in treatment in order to identify efficacious interventions that minimize resistance and counteract potential points of reactance.

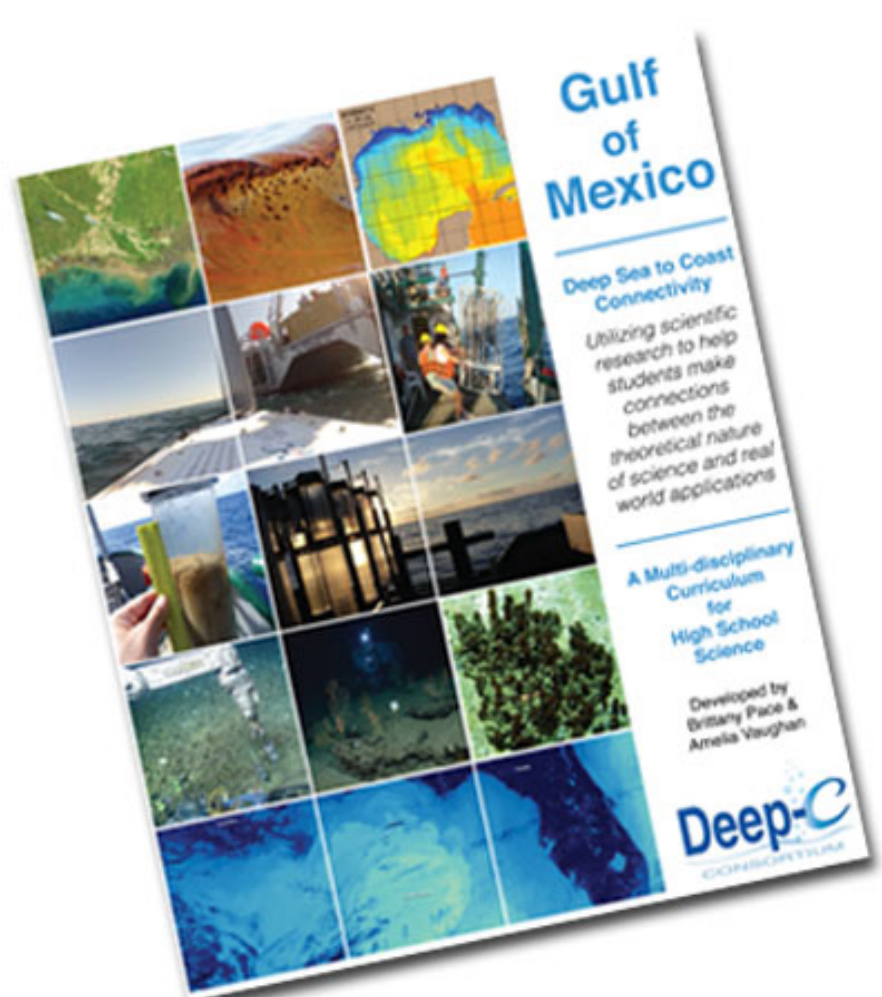
How I Can Help Collaborators

- I am an experienced project coordinator with proven success building and managing long-term collaborative efforts. My experience includes proposal/grant development and submissions, as well as post-award fulfillment of grant requirements (financial reporting, etc.).
- I specialize in developing broader impacts strategies tailored to proposed or active research projects. I can offer technical assistance to multidisciplinary and/or multi-institutional initiatives, including developing communication initiatives, facilitating conferences and workshops, developing social media campaigns, organizing events, writing/editing, and graphic design.

How Collaborators Can Help

- I am looking for opportunities to work on projects that will allow me to investigate issues related to individual or community resiliency.
- Topics of interest include mental health interventions, substance abuse recovery, and mutual help groups.
- I am interested in understanding self-efficacy beliefs and how they might connect with other motivation constructs such as goal-setting, modeling, problem-solving, self-regulation, strategy training, as well as other self-beliefs and expectancy constructs.

Additional Content





Minna Jia

Director, FSU Survey Foundry
Institute of Science and Public Affairs
Minna.jia@fsu.edu

Research Interests

- Public opinion
- Survey method
- Policy evaluation

My Research Background

Dr. Jia has conducted surveys for World Value Surveys, World Health Organization and other agencies. She has also worked closely with the University of Michigan on Survey Research training programs for several years. Dr. Jia spent 4 months at the Carter Presidential Center in 2007 as an intern in the China Program. Dr. Jia's current research interests are public policy evaluation, sino-U.S. relations. Her most recent work is in the area of public opinions and political participation of young generation in China.

How I Can Help Collaborators

- Questionnaire Design
- Survey Review and Improvements
- Mixed Mode Survey: Mail Survey, Phone Survey and Online survey
- Sampling
- Research Method Design
- Data Collection, Data Cleaning and Data Analysis
- Writing Reports

How Collaborators Can Help

- Research Proposal Collaboration
- Specific Field Knowledge

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Faye R. Jones, PhD.

Faye.jones@cci.fsu.edu



Research Interests

- Community resiliency
- Information technology (IT)
- Disaster preparedness & response
- Post-hurricane community impact and resilience

My Research Background

I am currently a faculty researcher for the College of Communication & Information and Senior Research Associate for the FSU Information & Policy Use Institute. The Information Institute has a history of research that focuses on library and community resiliency during and after hurricanes. I am currently Co-PI on an Institute for Museum and Library Services (IMLS) grant that our team was awarded in January 2019. We continue to seek interdisciplinary opportunities that enhance our knowledge of hurricanes in both rural and urban settings.

How I Can Help Collaborators

- Brainstorm ideas and project designs
- Share community resilience data collection instruments
- Draw on past and current works archived at <http://ii.fsu.edu>
- Connect with an established team of researchers at the Information Institute:
 - Marcia A. Mardis, PI
 - Charles R. McClure, Institute Director
 - Curtis S. Tenney, Research Assistant
- Provide introductions to program officers and stakeholders



How Collaborators Can Help

- Contribute interdisciplinary perspectives
- Building methodological capacity
- Partner for complementary and subsequent projects
- Disseminate results to new communities
- Identify fertile areas for new projects

Current project summary: Investigators at Florida State University, in partnership with the University of Texas-Austin, are collaborating on an 18-month IMLS-funded project titled *Rural Libraries and Disasters: Investigating Resiliency in the Digital Environment and Beyond* to examine how rural libraries and community stakeholders demonstrate resiliency in adverse natural events. The results of this study will help library managers plan for disasters and also think more broadly about how they can work with the network of community organizations that responds in a time of disaster. We anticipate our research will alert community organizations to the centrality of public libraries in their endeavors. Using a grounded theory approach, we will investigate the phases and framings of resilience and pay special attention to how libraries coordinate and communicate with other local organizations and their use of information and communication technologies.



Charalambos Konstantinou

Electrical and Computer Engineering
ckonstantinou@fsu.edu

Research Interests

- Cyber-Physical Systems
- Cybersecurity
- Resilience and Control

My Research Background

I am an Assistant Professor of Electrical and Computer Engineering with the Center for Advanced Power Systems (CAPS) at Florida State University (FSU). I received my Ph.D. in Electrical Engineering from New York University (NYU) and the Dipl.-Ing. – M.Eng. degree in Electrical and Computer Engineering from National Technical University of Athens (NTUA) in Greece. My research interests focus on all aspects of cyber-physical and embedded systems security with particular focus on smart grid technologies.

How I Can Help Collaborators

- Cybersecurity expertise
- Red team/blue team approaches to security assessment
- Intrusion detection systems
- Cyber-physical energy systems security
- Resiliency strategies for multi-layer systems
- Software development
- Hardware security
- Reverse engineering

How Collaborators Can Help

- Social impact of security
- Training and awareness
- Hurricane impact to services and the effect from cybersecurity standpoint
- Interdisciplinary approaches
- Datasets for security analysis
- Disaster and Cyberattacks Similarities

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Carla Laroche

College of Law

claroche@law.fsu.edu

Research Interests

- Mass incarceration/criminal justice reform
- Gender justice and family law
- Prison/jail conditions

My Research Background

- My research experience includes: the collateral consequences of incarceration for women and their families; the implicit and explicit bias associated with gender and criminal justice; the impact trauma has on the increasing incarceration rate among women; and prison conditions.
- I am interested in researching what disaster preparedness and responses should look like for jails and prisons. We often hear stories about people who are incarcerated and correctional staff staying in facilities in locations with mandatory evacuation orders.
- I have a JD from Columbia Law School, an MPP from Harvard Kennedy School, and an AB from Princeton University.

How I Can Help Collaborators

- I have established an extensive network of criminal justice advocates including from individuals who are currently or formerly incarcerated, lawyers, and community organizers.
- I have explored what disaster preparedness may mean when in the correctional setting.

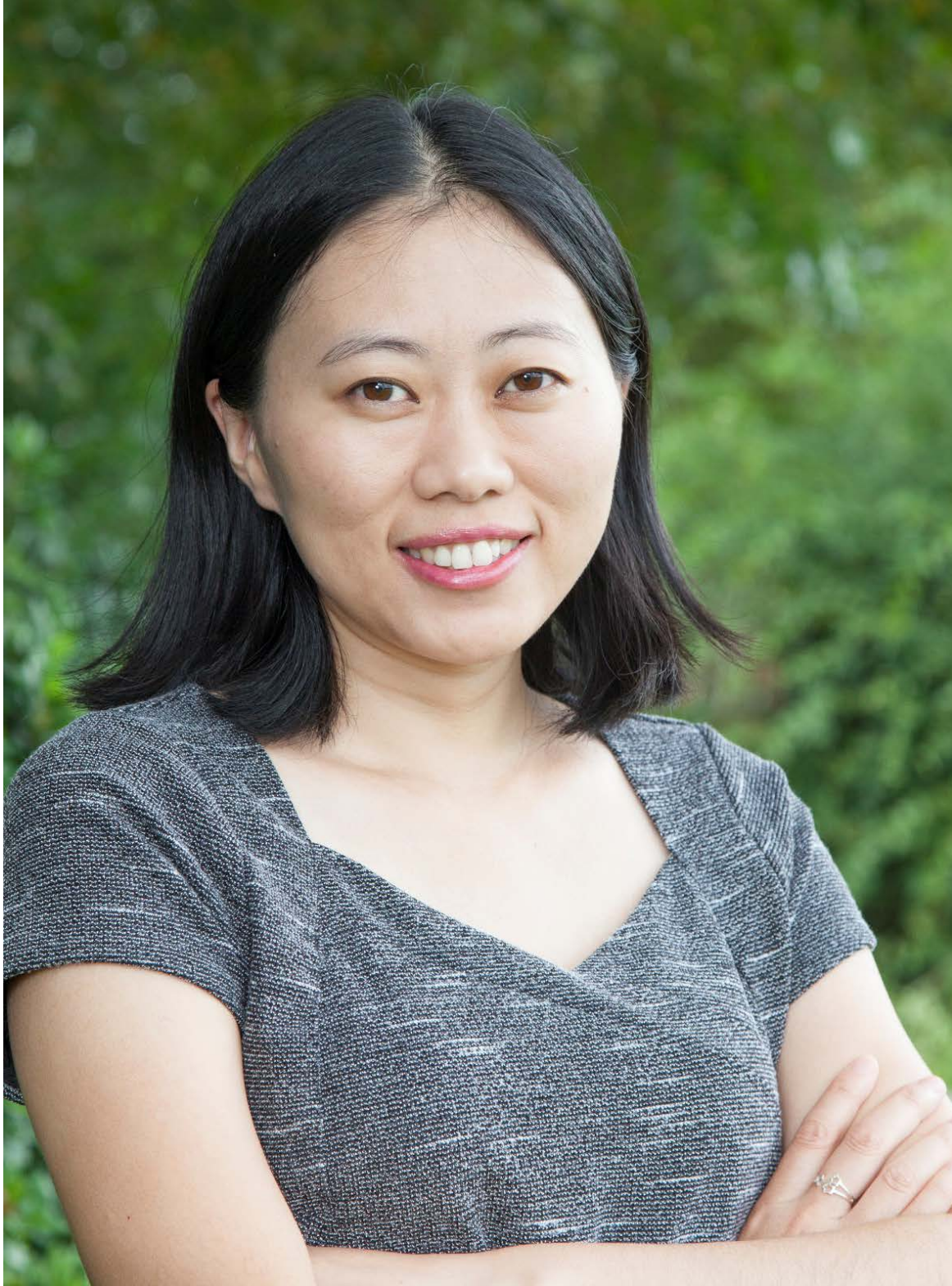
How Collaborators Can Help

- Mixed method design and data analysis
- Understanding of what authorities must consider when establishing disaster notification and preparation procedures

Additional Content

My clinic law students and I go into local prisons and jails to conduct family law workshops for people who are incarcerated.





Lichun Li

Industrial & Manufacturing Engineering
lichunli@eng.famu.fsu.edu

Research Interests

- Game Theory
- Dynamic Programming and Reinforcement Learning
- Control Theory

My Research Background

I joined the IME department at FAMU-FSU college of engineering in August, 2018 as an assistant professor. I did my postdoc at UIUC and Georgia Tech with Professor Langbort and Professor Shamma, respectively, after earning my PhD in the EE department at University of Notre Dame under the advisement of Professor Lemmon.

How I Can Help Collaborators

- Decision making in dynamic and complicated environments
- Mechanism design in multi-agent systems to achieve social welfare
- Resistance and risk analysis in adversary situations

How Collaborators Can Help

- Data collection of traffic, power network, and evacuation behavior in disasters.
- Social media's role before and after disasters.
- Psychology analysis in evacuation behavior

Additional Content



INDUSTRIAL &
MANUFACTURING
ENGINEERING



Meredith Lynn

Museum of Fine Arts

mlynn@fsu.edu

Research Interests

- Visual Art
- Public Art
- Community Development

My Research Background

I am a curator specializing in contemporary art and community development through the arts. One of my primary projects, the reclamation of brownfield space in the Midwest, has been supported by the National Endowment for the Arts through both the Our Town and Art Works programs. I have also received grants from the Indiana Arts Commission, Minnesota State Arts Board, McKnight Foundation, and Jerome Foundation. A current project, an exhibition featuring artists from Florida, Puerto Rico, Louisiana, and Texas who make work dealing with hurricanes, is FSU's 2019 submission to the NEA Art Works program.

How I Can Help Collaborators

- I have experience as both PI and Key Personnel on projects that cross disciplines and departments.
- I often work with public health experts, city planners, and social scientists to find ways to utilize the arts to improve community health.
- The Museum of Fine Arts has resources to produce exhibitions and programs that utilize and enhance research from scholars across the university. Our collections are always available for coursework, research, and other university applications.

How Collaborators Can Help

- I am looking for collaborators who research community development, climate science, and the future of disaster preparedness who are interested in partnering to utilize the arts to engage the public.
- While funding for the hurricane-related project is currently under review by the NEA, I am interested in diversifying funding opportunities through a multi-disciplinary approach.

Additional Content

The Museum of Fine Arts is home to over 6000 objects of historic and contemporary relevance, and the faculty and staff of the Museum are committed to making those collections accessible to all of the students of FSU. We are always happy to host a class visit, pull an object from storage for a student or faculty project, or advise on research.



John Mathias

Department of Social Work
jmathias@fsu.edu

Research Interests

- Vulnerable populations and disasters
- Hurricanes
- Climate change

My Research Background

I am an anthropologist and social work researcher using community-engaged, qualitative methods to understand how communities respond to environmental hazards. I am particularly interested in understanding how vulnerable communities in the Florida panhandle are interpreting and responding to increasingly frequent storms. I want to understand how disaster events exacerbate existing disparities, but also whether and how disasters might present opportunities to address these disparities. I also want to understand how climate change influences how people respond to hurricanes and, relatedly, how preparedness needs to adjust to the “new normal” that climate change will bring. I have also conducted research in India, and would be interested in collaboration possibilities for future research there.

How I Can Help Collaborators

- I can help understand the human side of disasters—both the social causes of vulnerability and the social responses that improve or inhibit resilience.
- As an anthropologist, I can offer a cross-cultural analysis.
- As a social work researcher, I bring experience in community engagement and attention to social inequity.
- As an ethnographer, I can help to understand complex, socially situated processes.

How Collaborators Can Help

- Collaborators who study the physical and infrastructural aspects of disaster, complementing my focus on the social side
- Collaborators studying the health impacts of disasters, especially Hurricane Michael
- Collaborators studying the intersection of natural disasters and climate change in Florida.

Some possible collaborative grant proposal topics:

- Chronically vulnerable populations and Hurricane Michael
- Disaster response in rural areas (e.g., Florida panhandle)
- Hurricane recovery and prisons
- Cross-cultural comparison of how disaster response is adapting to climate change
- Cases of “phoenix effect,” in which disaster is leveraged to address existing social inequity



Preston McLane

Museum of Fine Arts

pmclane@fsu.edu

Research Interests:

- Art & Cultural Heritage Law & Policy
- Environmental Art, Law, & Policy
- Museum Practice

My Research Background

I am the Director of the Florida State University Museum of Fine Arts. Prior to returning full-time to academic work in August 2018, I served as the Deputy Director for the Division of Air Resource Management at the Florida Department of Environmental Protection and worked as an environmental lawyer in private practice. To date, my research and writing projects have been divided equally between environmental and regulatory law (focusing specifically on air quality and greenhouse gas regulation), and narrative and fictitiousness in early modern and contemporary art, Russian and Soviet art, public art, and the application of property theory to cultural resources and heritage sites.

How I Can Help Collaborators

- Develop and implement Museum exhibition opportunities for research projects intersecting environmental and land-use policy and art practice
- I have expertise in environmental and land-use regulatory law and a deep familiarity with state and federal agencies (Florida DEP, EPA), environmental programs (CAA, CWA, RCRA, CERCLA), and substantive and administrative rules addressing air, water, and waste.
- The Museum has resources to produce exhibitions and programs that can advance and enhance the research conducted by scholars from across the University.

How Collaborators Can Help

- I am eager to partner with researchers interested in developing exhibitions, special events, or other related program content that educates university students and community audiences on topics intersecting contemporary art practice with environmental policy and regulation, land use policy and regulation, climate change and greenhouse gas policy and regulation, meteorology, and climate science, among other related topics.

Additional Content

The Museum of Fine Arts is home to over 6000 objects of historic and contemporary relevance, and the faculty and staff of the Museum are committed to making those collections accessible to all of the students of FSU. We are always happy to host a class visit, pull an object from storage for a student or faculty project, or advise on research.



Jayur Mehta

Anthropology

jmehta@fsu.edu

Research Interests

- Climate change
- Archaeology
- Remote sensing

My Research Background

I study Native American archaeology in the Southeast USA. My work focuses on earthen and shell mound villages, sea level rise, deltaic landscapes, flooding, and historic preservation.

How I Can Help Collaborators

- I am excellent at translating esoteric research into concepts and topics understandable by the lay public and younger students.

How Collaborators Can Help

- Ecologists who know remote sensing can help study landscapes and vegetation
- Unmanned aerial systems specialists can help with survey
- Geologists can help with sediments and stratigraphy.
- Satellite and aerial imagery people can help with reconnaissance and studying changes to landscapes.

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Vasu Misra

Earth, Ocean and Atmospheric Science

vmisra@fsu.edu

Research Interests

- Climate and weather extremes
- Climate modeling
- Sectoral applications of climate information

My Research Background

My research interests include examining climate influence on Atlantic tropical cyclones, developing metrics to improve our assessment and prediction of the damage potential of tropical cyclones, understanding the role of the climate variations in affecting human health, agricultural production, and water management.

How I Can Help Collaborators

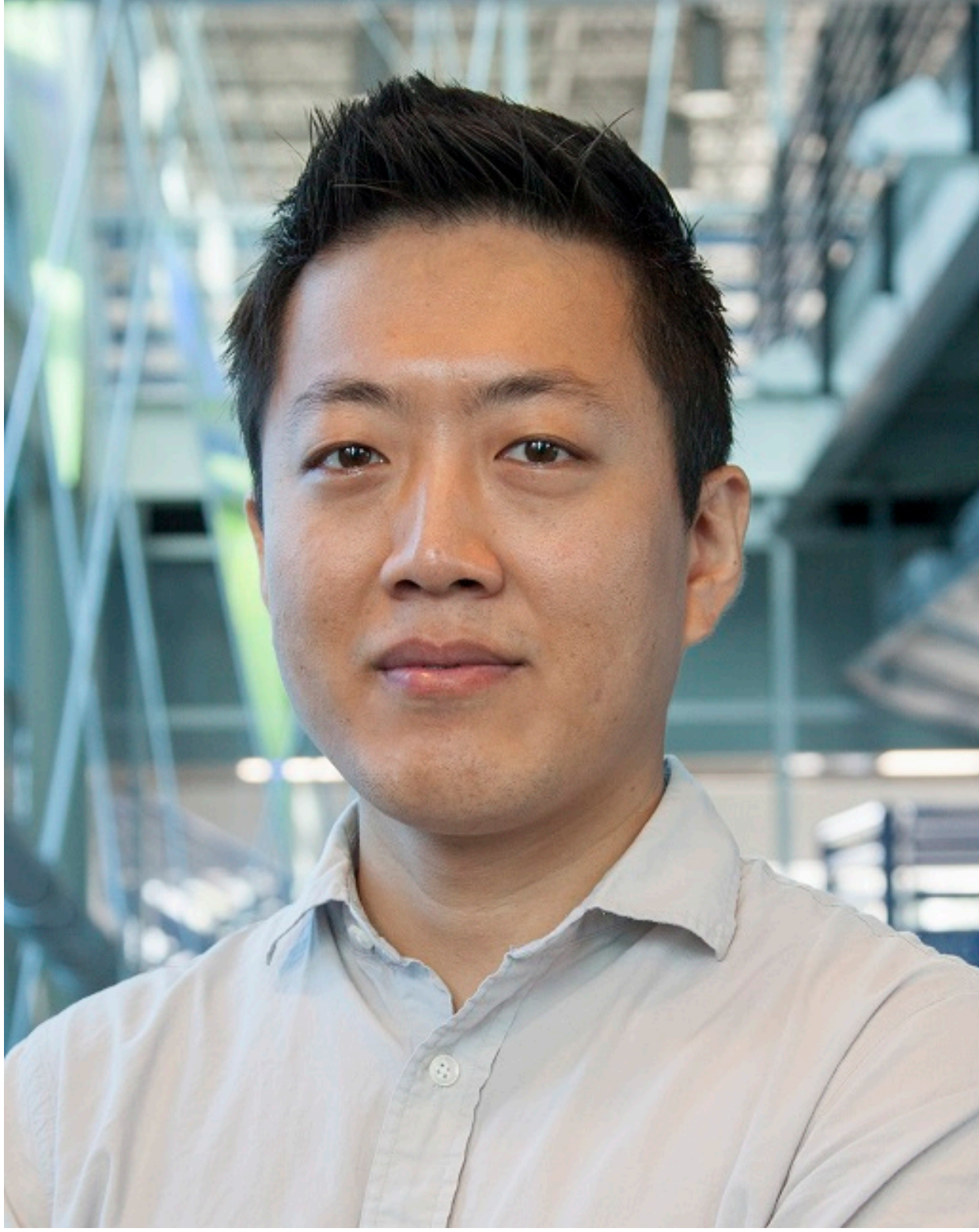
- I am able to provide climate data that could be potentially applicable to various sectors including public health, agricultural production, and water management.

How Collaborators Can Help

- Access to insured/uninsured loss from landfalling tropical cyclones at county level resolution
- Access to water consumption/demand data at county level
- Access to health related data to human respiratory illness and pollen allergy

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Jin Moon

Dept. of Electrical and Computer Engineering
Center for Advanced Power Systems
j.moon@fsu.edu

Research Interests

- Power Electronics
- Energy Harvesting
- Wireless Power Transfer
- IoT, Sensor, Embedded System

My Research Background

I have 6 years of industrial experience in circuit design and power electronics. My research interests are everything about “Power” and “Energy,” such as modeling, design, analysis, and measurement of circuits and systems in those domains. An example of specific research topics currently underway is:

- 1) Very Efficient Power Conversion – 99.5%+ Efficient AC-DC Server Power Supply Unit
- 2) Electromagnetic Energy Harvesting (VAMPIRE) – Self-powered Embedded System for Motor Diagnosis
- 3) Wireless Power Transfer for Electric Vehicles
- 4) Precision Magnetic Power Loss Measurement

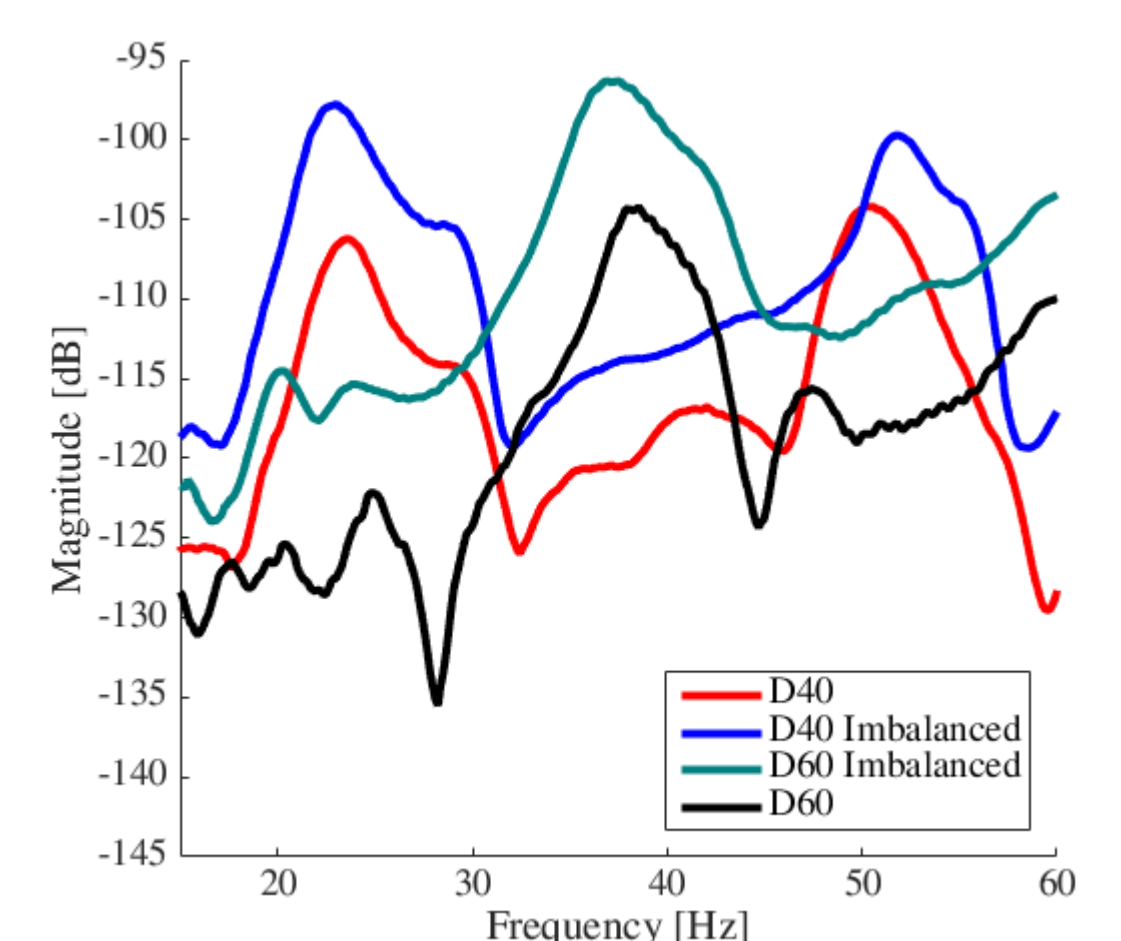
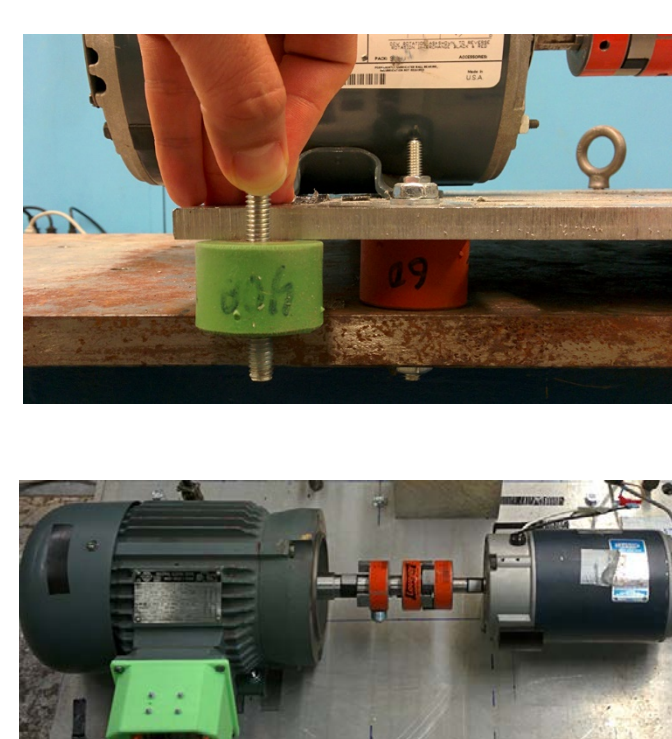
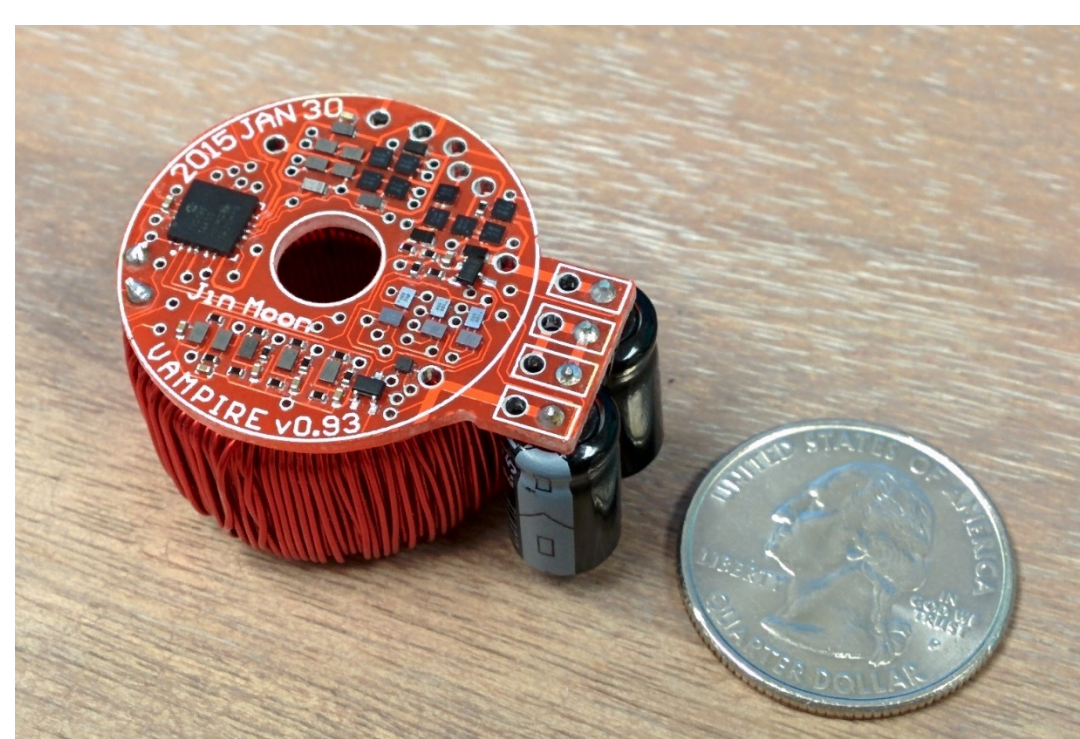
How I Can Help Collaborators

- Resilient Power Electronics
- Efficient Power Electronics
- Energy System Design (Buffer, Storage)
- Self-powering Sensor / IoT / Emb. System
- Wireless Power Transfer

How Collaborators Can Help

- Practical, real world applications and challenges
- Convergence with interdisciplinary approaches
- Any discussion – fun to bounce ideas

Additional Content





Martin Munro

Winthrop-King Institute,
Modern Languages
mmunro@fsu.edu

Research Interests

- Caribbean literature, art, and music
- Cultural responses to disaster
- Haiti

My Research Background

Director of the Winthrop-King Institute, I work on the following areas and have particular interest in cultural responses to disaster: Francophone literature and culture, especially of the Caribbean region; Négritude (African and Caribbean); writing and exile in Francophone Cultures; comparative Francophone literatures; rhythm in Francophone literatures and cultures; exoticism in Francophone cultures; the postcolonial city; food, culture, and identity in the Caribbean; writing disaster in the Caribbean; ethnomusicology; the Caribbean and the U.S. South; the auditory history of the Caribbean.

How I Can Help Collaborators

- Knowledge of cultural responses to disaster
- Connections to artists and authors
- Experience publishing journals and books
- Long experience of conference organization

How Collaborators Can Help

- Explore cultural responses in different areas
- Interdisciplinary approaches

Name

Department

Email Address

Research Interests

- Interest 1
- Interest 2
- Interest 3

My Research Background

Background text box

How I Can Help Collaborators

Collaborators text box

How Collaborators Can Help

Collaborators text box

Additional Content

Optional Content Textbox



Jeannine Murray-Román

Modern Languages and Linguistics

jmurrayroman@fsu.edu

Research Interests

- Comparative Caribbean Literature
- Colonialism as disaster
- Post-María Puerto Rican literature & performance

My Research Background

Trained in Latin American and Francophone literatures and cultures as well as performance studies, I locate my research at multi-lingual and interdisciplinary crossroads. My first book, *Performance and Personhood* examined how Caribbean writers use references to performance events within their texts to depict experiments with radical forms of social organization. Since its publication, I have been focused on a series of articles on walking as a philosophical and political activity, as well as beginning a second book project on reparations movements and self-sufficiency movements in the Caribbean.

How I Can Help Collaborators

- Cultural, textual, performance analysis
- Experience with managing interdisciplinary projects
- Digital Humanities experience, particularly thick description of social media objects and networks
- Developmental editing of manuscripts

How Collaborators Can Help

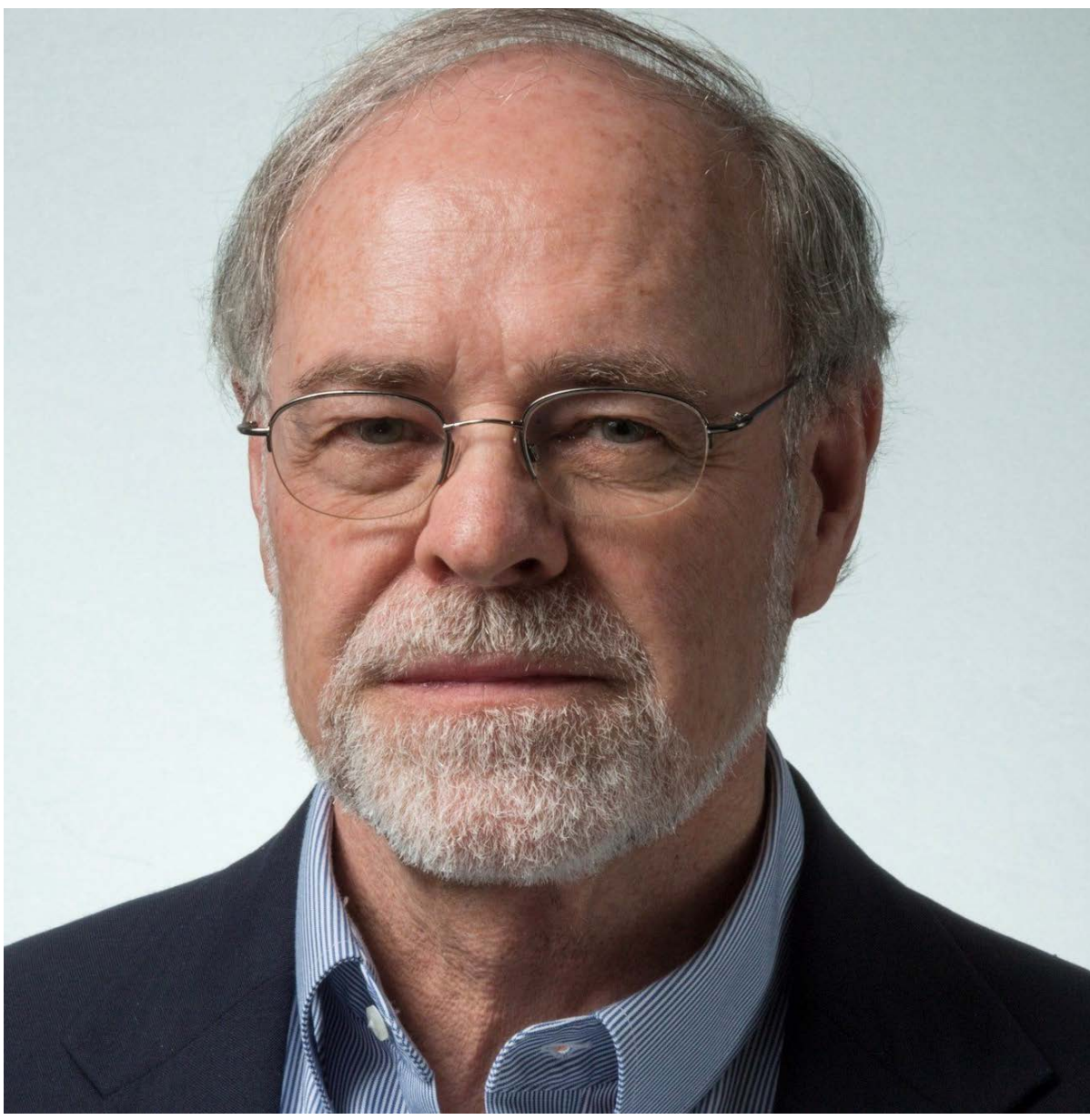
- Experience preparing interviews and surveys + IRB management
- Experience with long-term and long-distance project management

Additional Content

I am one of the co-organizers of a conference at FSU in February 2020 sponsored by the Winthrop-King Institute focused on Disasters in the Circum-Caribbean.

<https://winthropking.fsu.edu/event/katrina-michael-disaster-21st-century-circum-caribbean>

Please email me for more information on collaborating or participating in this event.



Jack E. Nicholson

Director of the Florida Catastrophic Storm Risk Management Center

Risk Management/Insurance, Real Estate, & Legal Studies
Jnicholson@business.fsu.edu

Research Interests

- Catastrophe Insurance
- Hurricane & Flood Modeling
- Catastrophe Risk Financing

My Research Background

Studying insurance and reinsurance markets as well as various state risk financing programs in the U.S. and around the world. Catastrophe risk management for Florida's public risk financing. Evaluating vulnerabilities and risk from both the micro or firm level and from the macro or systems level. Modeling for disasters and the multi-disciplinary evaluation of various types of models. Evaluating mitigation strategies. Understanding loss development from catastrophes and the various factors that drive and inflate insurance claims. Public policy decisions related to catastrophes including the financing and mitigation of losses.

How I Can Help Collaborators

- Long history and knowledge of the insurance and reinsurance markets, of insurance regulation, and of legal and political issues impacting Florida's market
- Access to many of the major decision makers in various government agencies that deal with catastrophes
- Familiarity with insurers, reinsurers, alternative capital providers, investment bankers, and the management of government programs
- Knowledge of the legislative process in Florida and how laws and rules are made

How Collaborators Can Help

- Help with research methodologies and the manipulation of data for evaluating insurer, reinsurer, and state risk financing programs vulnerabilities
- Relating risk management approaches from various academic fields to the area of insurance and reinsurance
- Discussing various disaster modeling approaches and how borrowing from other disciplines can improved modeling approaches
- Collaborate on how to improve insurance systems with both technology and new business model approaches

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Paul Niell

Department of Art History
pniell@fsu.edu

Research Interests

- Spanish Colonial Material Culture
- Colonial Spatiality
- Decolonial Theory

My Research Background

My research examines architecture, space, and material culture in the Spanish Colonial Caribbean in the territories of present-day Cuba, Dominican Republic, and Puerto Rico. I have published on the multivalence of commemorative monuments and fountain sculpture in the city of Havana in the aftermath of independence war and the escalation of slavery. My publications also include a volume on neoclassical and taste in Latin America, 1780-1910. I am now working on a project that studies the colonial landscapes of reform in nineteenth-century Puerto Rico and takes into account a wide array of material culture, chiefly architecture, and its role in constitution of reformed subjectivities, drawing from decolonial theory, spatial analysis, and sensory theory.

How I Can Help Collaborators

- Photogrammetry skills and knowledge of PhotoScan software
- Background in archival research and material culture fieldwork
- Visual and spatial analysis
- International contacts in the Caribbean

How Collaborators Can Help

- Interdisciplinary approaches
- Digital database construction
- Considering challenges in the field
- Identifying opportunities to impact conservation efforts of historic architecture and materiality





Diogo Oliveira
School of Information
diogo.oliveira@cci.fsu.edu

Research Interests

- Cybersecurity
- Disaster Recovery
- Network Infrastructure

My Research Background

My research interests include survivability and recovery schemes against natural disasters and/or man-made attacks, network function virtualization (NFV), software-defined networking (SDN) technology, optimization algorithms, cybersecurity, cyber early warning systems (Cyber-EWS), network performance and network management.

I currently study survivability schemes against EMP attacks and natural disasters. For my First Year Assistant Professor grant, I am studying and proposing network survivability schemes against hurricane stressor events.

How I Can Help Collaborators

- Infrastructure survivability and disaster-recovery methods
- Experience publishing in journals and conferences in the area
- Experience in projects/grants studying resiliency and disaster-recovery
- Access to unique equipment/software

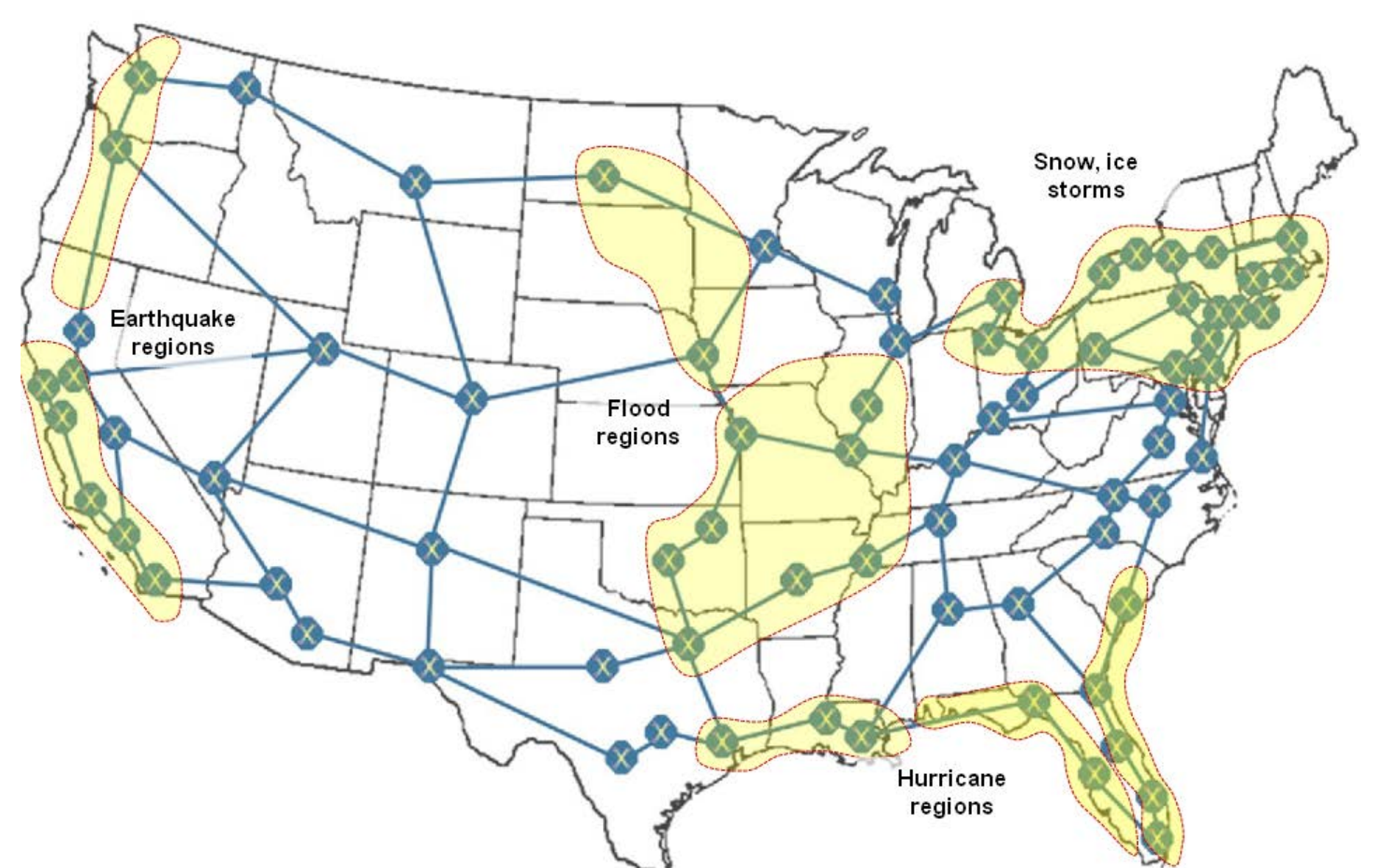
How Collaborators Can Help

- Access to dataset
- Experience with specific methods
- Study design
- Explore challenges in the field
- Interdisciplinary approaches

Additional Content

Research Project:

“Implementation of Paradigms for Survivability of Cyber-Infrastructure Backbone Networks Against WMD Attacks Over Real Network Environments”, US Defense Threat Reduction Agency (DTRA) Fundamental Research Project (HDTRA1-13-C-0027), 2015-2017.





Eren Erman Ozguven

Civil and Environmental Engineering

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Research Interests

- Emergency Evacuations
- Infrastructure Resilience
- Smart Communities

My Research Background

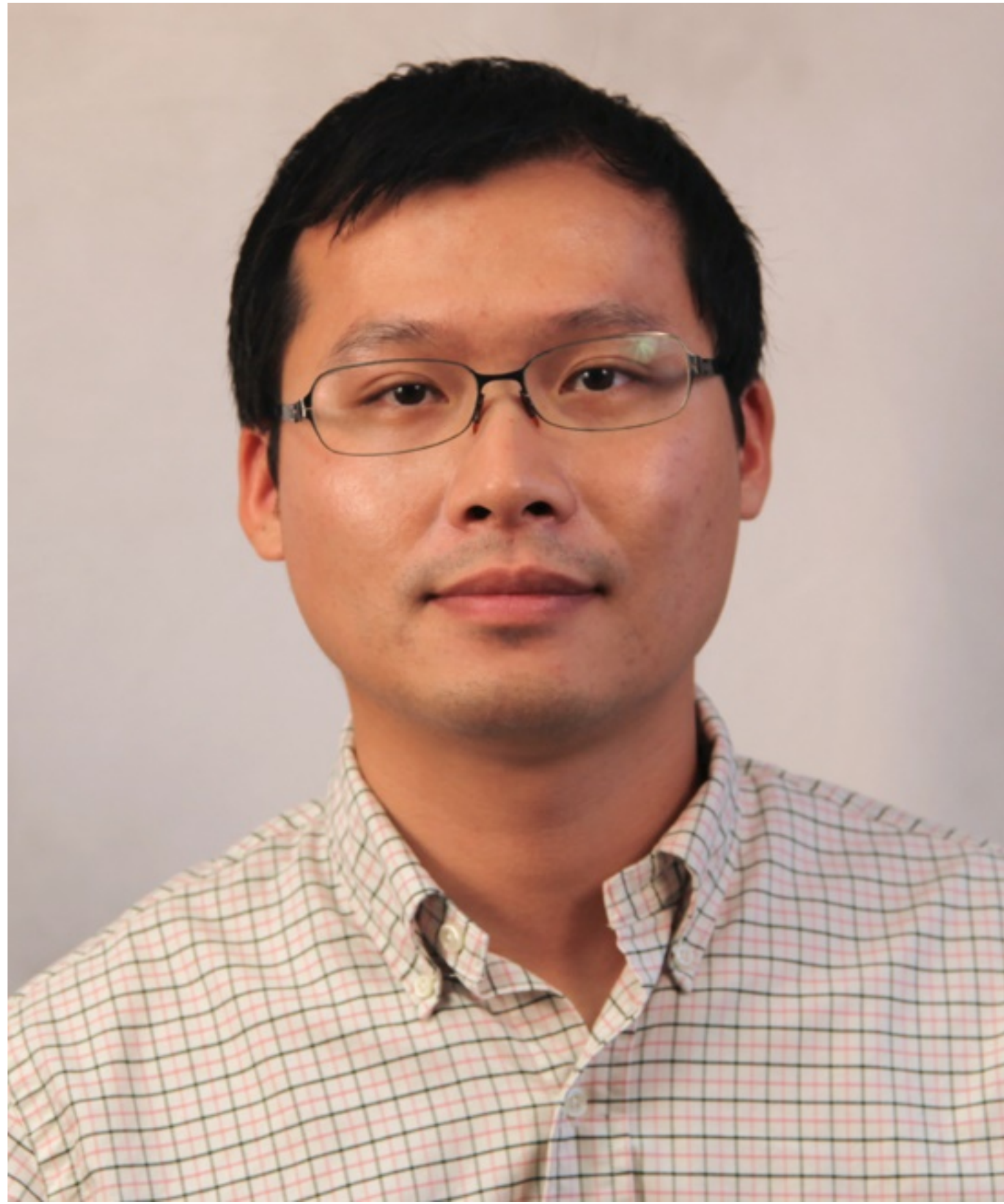
My general research interests include emergency transportation operations, network modeling, infrastructure resilience, transportation accessibility and safety, connected vehicles, intelligent transportation systems, smart cities and urban mobility. My research involves investigating the relationships, interdependencies and dependencies among different infrastructure networks, communities and the environment in the State of Florida in the context of smart infrastructure and cities. My research also focuses on the safety and accessibility needs of at-risk populations such as the aging demographic.

How I Can Help Collaborators

- Traffic Simulation
- Network Modeling
- Evacuations
- Sheltering
- Infrastructure Resilience

How Collaborators Can Help

- Community Impact
- Public Policy and Planning
- Psychological and Sociological Impacts
- Human Factors



Chiwoo Park

Associate Professor of Industrial and Manufacturing Engineering
cpark5@fsu.edu

Research Interests

- Data Science
- Image & Spatial Data Analysis
- Uncertainty Quantification

My Research Background

My field of study, data science and system informatics, concerns transforming large and complex data into useful information for understanding and improving a complex system. I am particularly focusing on image, shape and spatial data analysis and more recently uncertainty quantification. My methodological research has been published in top statistics and computer science journals, including Operations Research, ISE Transactions, Technometrics, Annals of Applied Statistics, Journal of Machine Learning Research, and IEEE T-PAMI. Methodological applications have been published in top high impact science journals, including Nano Letters, ACS Nano, and JACS. The research was well supported. I received seven external grants (\$1,348,000 total) as a Lead PI from NSF, AFOSR, and DOE National Labs.

How I Can Help Collaborators

- Data science
- Uncertainty quantification
- Pre- and Post Disaster Damage prediction
- Optimization of recovery planning
- Experience publishing in top journals
- Successful history of funding from federal agencies
- Access to unique equipment/software

How Collaborators Can Help

- Domain knowledge from experts in disaster management and resilience
- Issues in disaster resilience and recovery
- Existing data sources and future data sources to be exploit
- Interdisciplinary approach

Additional Content

Selective Publications:

Park, C., & Apley, D. (2018). Patchwork kriging for large-scale Gaussian process regression. *Journal of Machine Learning Research*. 19(7): 1-43.

Park, C., & Huang, J.Z. (2016). Efficient computation of Gaussian process regression for large spatial data sets by patching local Gaussian processes. *Journal of Machine Learning Research*. 17(174): 1-29.

Vo, G., & Park, C. (2018). Robust regression for image binarization under heavy noises and nonuniform background. *Pattern Recognition*. 81: 224-239.



Scott M. Pickett, PhD, CBSM

Behavioral Sciences and Social Medicine
Center for Translational Behavioral Science
Scott.pickett@med.fsu.edu

Research Interests

- Psychological Trauma
- Sleep Disruption
- Emotion Regulation

My Research Background

My research examines the influence and interaction of vulnerabilities, such as maladaptive emotion regulation and sleep disruption, on negative mental and physical health outcomes. Primary vulnerabilities of interest are those associated with psychological trauma. My current research aims to develop/modify and implement an intervention(s) to address hurricane-related stress responses in Florida Panhandle residents.

How I Can Help Collaborators

- Mixed-methods design
- Clinical trials experience
- Training in psychotherapy interventions for trauma exposure and traumatic stress
- Psychological trauma expertise

How Collaborators Can Help

- Integration of mixed-methods; possibly neurobiological methods
- Accessing community partnerships in the Florida Panhandle region
- Community-based participatory research

Additional Content

I am currently designing a study that will implement a community-based intervention for the reduction of natural disaster-related stress. An evidenced-based intervention has been chosen, and collaborations are being established with the developers of the intervention.



Ellen Piekalkiewicz

Director, Center for the Study and Promotion of Communities, Children & Families
Epiekalkiewicz@fsu.edu

Research Interests

- University and Community Partnerships
- Substance Abuse and Mental Health
- Impact of Disasters on Vulnerable Communities and Populations
- Knowledge Dissemination

My Research Background

The Florida State University Center for the Study and Promotion of Communities, Families and Children (CFC Center) examines vulnerability to disasters as part of wider societal patterns in order to pinpoint the deep-rooted and underlying causes of disaster vulnerability. The CFC Center works with community partners to analyze when these vulnerabilities expose vulnerable populations to insecure conditions; and to develop solutions to mitigate disaster vulnerability through active community engagement. The CFC Center has extensive experience working with local nonprofits, the City of Tallahassee and Leon County on disaster preparedness, response and recovery research.

How I Can Help Collaborators

- Connecting Faculty to Community Partners
- Facilitating Collaborative Multidisciplinary Teams
- Proposal Development
- Community Based Participatory Research

How Collaborators Can Help

- Study Design
- Theoretical Frameworks
- Conceptualization of Web-based educational platforms and persuasive messages for various populations
- Data Collection utilizing artificial intelligence

Additional Content



FLORIDA STATE UNIVERSITY
CENTER FOR THE STUDY AND PROMOTION
OF COMMUNITIES, FAMILIES AND CHILDREN



Bryan Quaife

Scientific Computing
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Research Interests

- Fire dynamics
- Computational fluid dynamics
- Fast algorithms
- Complex geometries

My Research Background

My research focuses on developing numerical algorithms to simulate complex fluid dynamics. These simulations are then used to address physical questions regarding the flow. As an example, the flow due to wildfires and prescribed fires determine the evolution of the fire line, plume, and embers. Particular challenges related to fire dynamics are resolving complex geometries (fuels, canopy, topography, etc.), resolving turbulent dynamics, coupling the thermal properties of fire with the atmospheric flow, accounting for stochasticity, validation and verification of the models, quantifying uncertainty, and incorporating data into the models. This project is in collaboration with faculty in Mechanical Engineering, Earth Ocean Atmospheric Sciences, Los Alamos National Laboratory, and Tall Timbers Research Station.

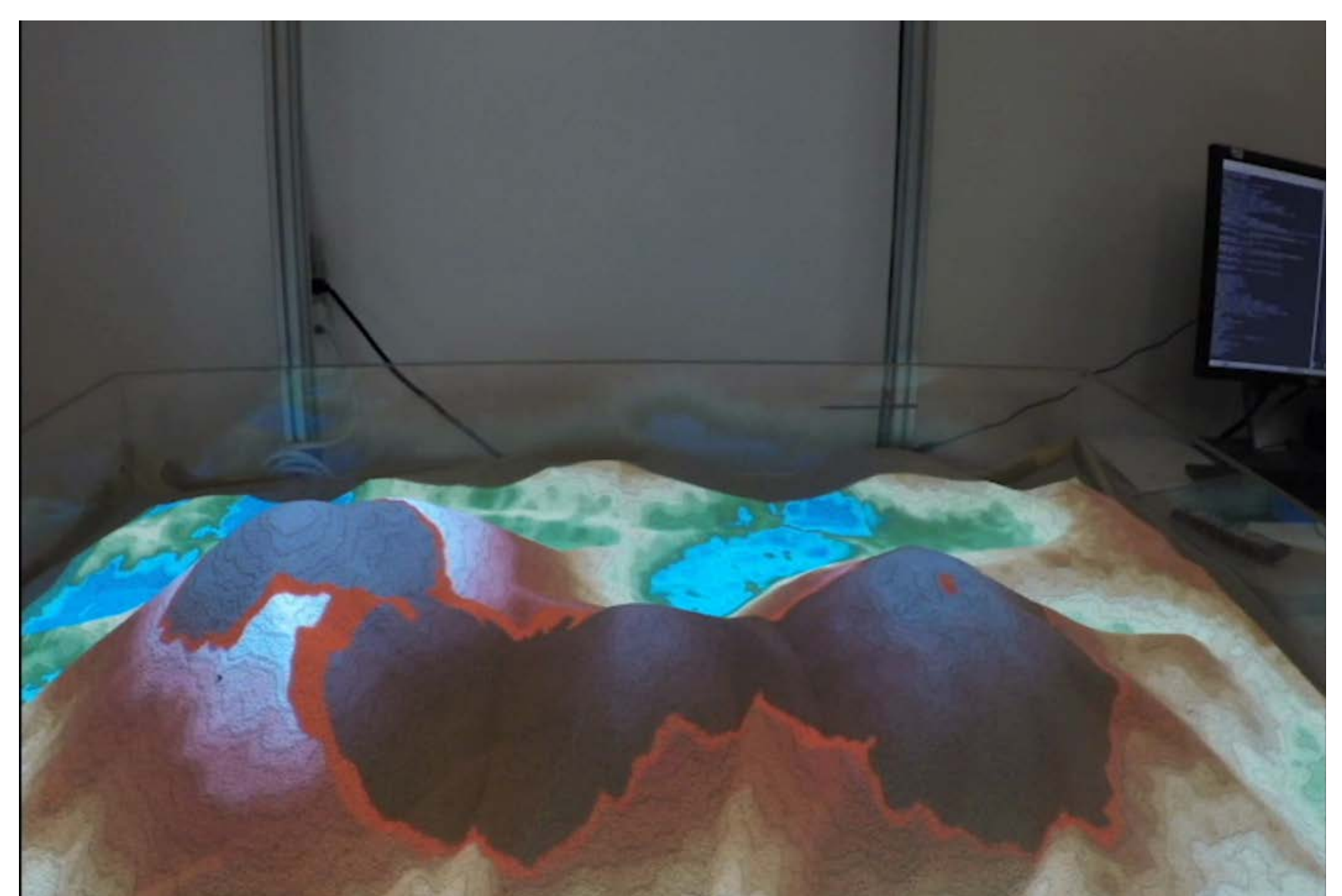
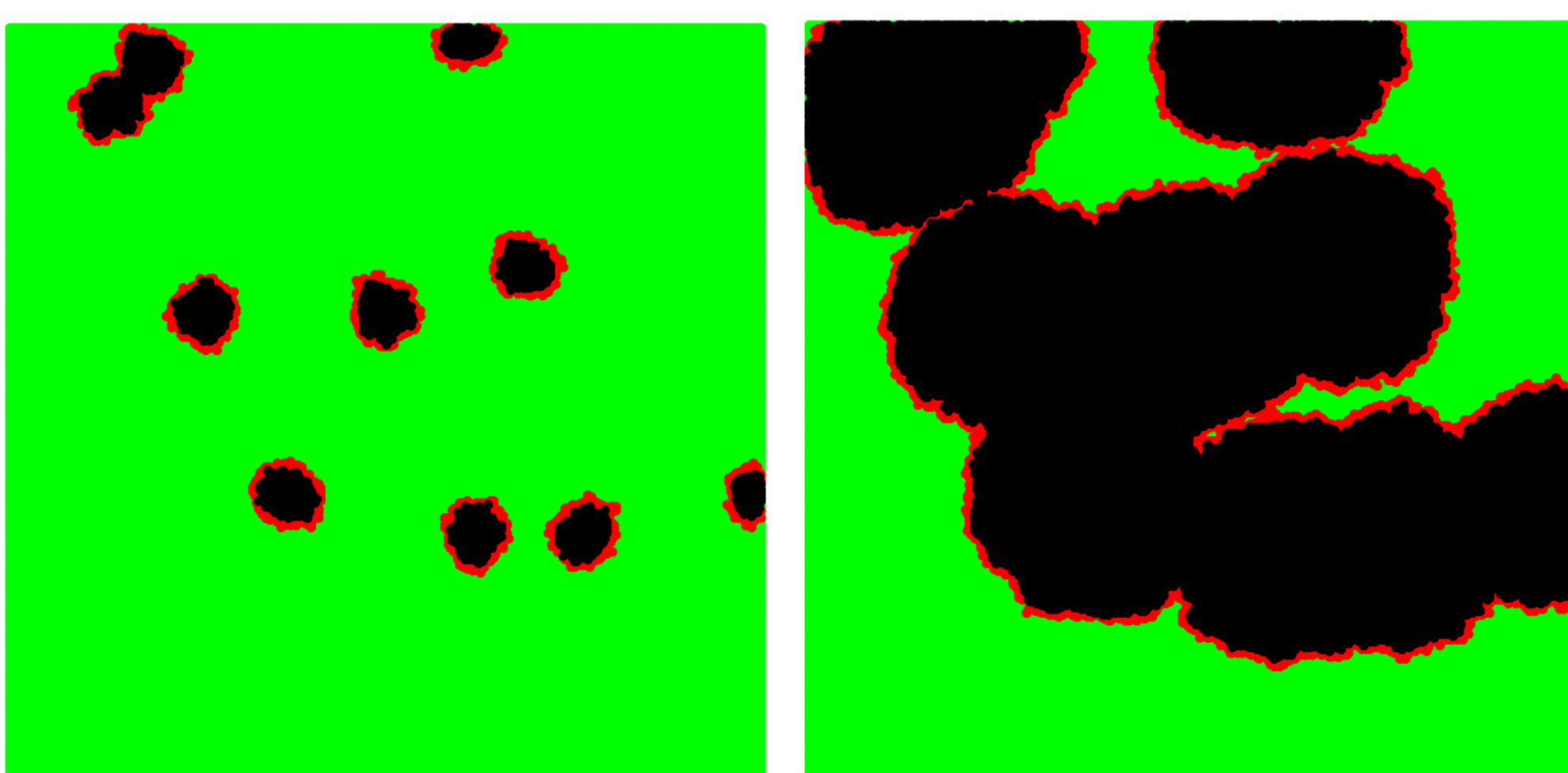
How I Can Help Collaborators

- Computational fluid dynamics
- High-fidelity numerical methods
- Fast algorithms
- Complex geometries

How Collaborators Can Help

- Fuel effects
- Experimental design and measurements
- Data collection, processing, and analysis
- New modelling paradigms
- High performance computing
- Augmented reality

Additional Content





Kourosh Shoele

Mechanical Engineering

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Research Interests

- Multiphysics Simulations
- Fluid-Structure Interaction
- Plant Biomechanics

My Research Background

I am studying problems at the interface between mechanics and physics through developing and applying mathematical and computational tools with a focus on fluid-structure interaction, aerodynamics, renewable energies, and biomechanics.

I am an assistant professor in the Department of Mechanical Engineering. Previously, I was an assistant research scientist in the Department of Mechanical Engineering at Johns Hopkins University (2013-2016), research engineer at Re Vision LLC (2011-2013) and a post-doctoral research assistant (2011) at the University of California, San Diego (UCSD). I received my Ph.D. from the University of California, San Diego (UCSD) and my dissertation was about flow interaction with flexible structures.

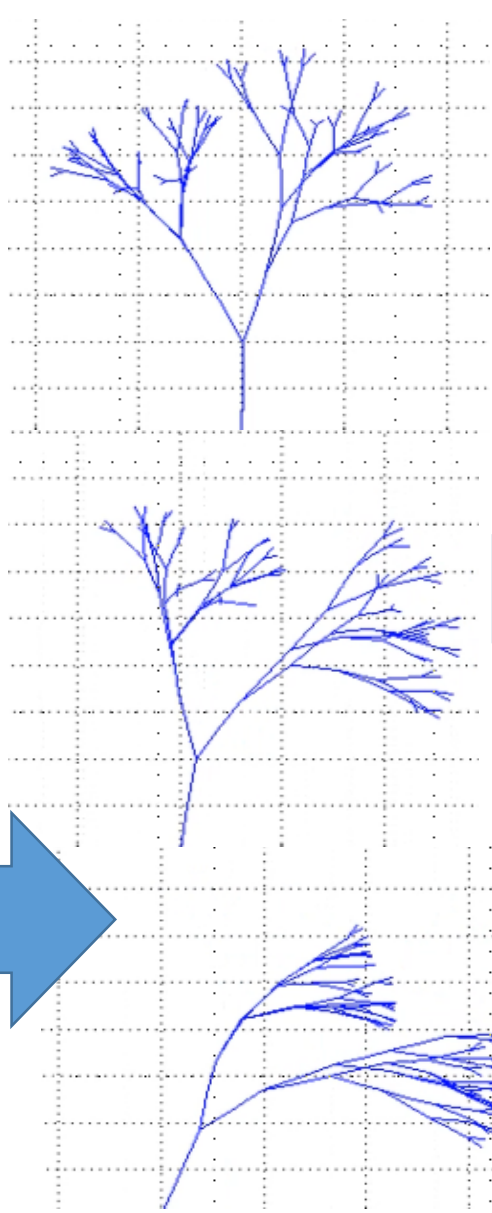
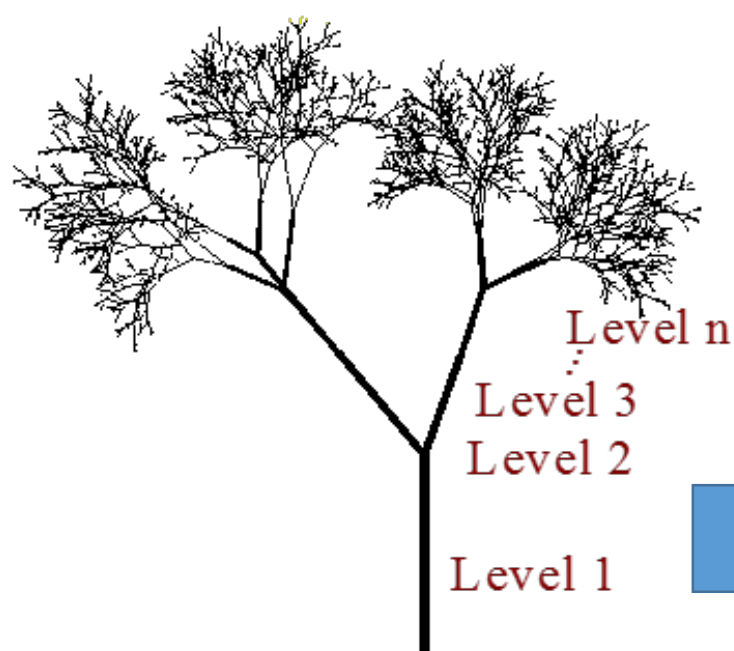
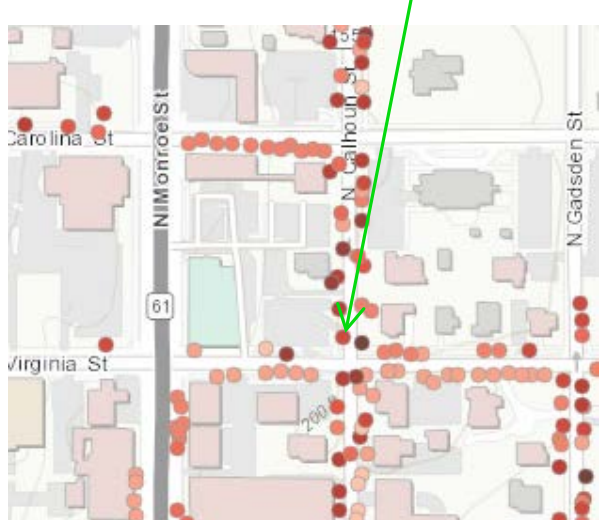
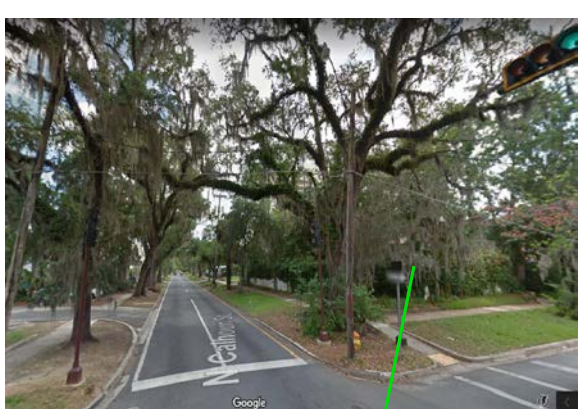
How I Can Help Collaborators

- Provide unique **physics-based modeling capabilities** of disasters
- **Multiscale** exploration of scientific/engineering problems
- **Theoretical study** of underlying causes of disasters
- **Data-assimilation** and data integration
- **Reduced-order model**
- **Risk analyses**
- Proposal development and **joint research activities**

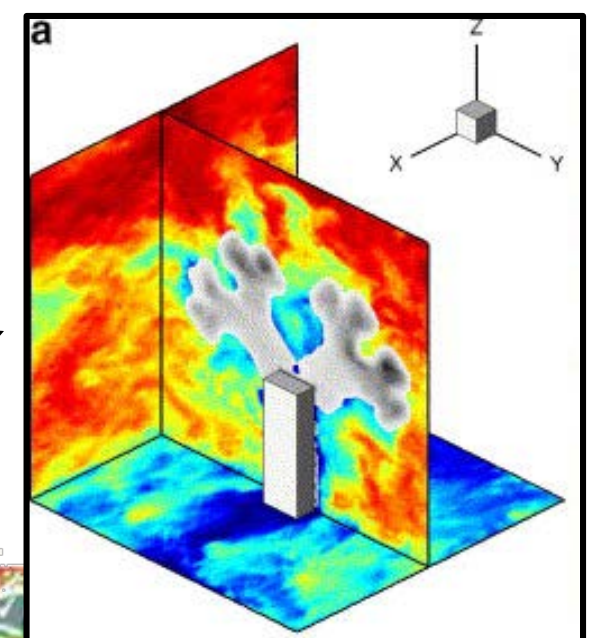
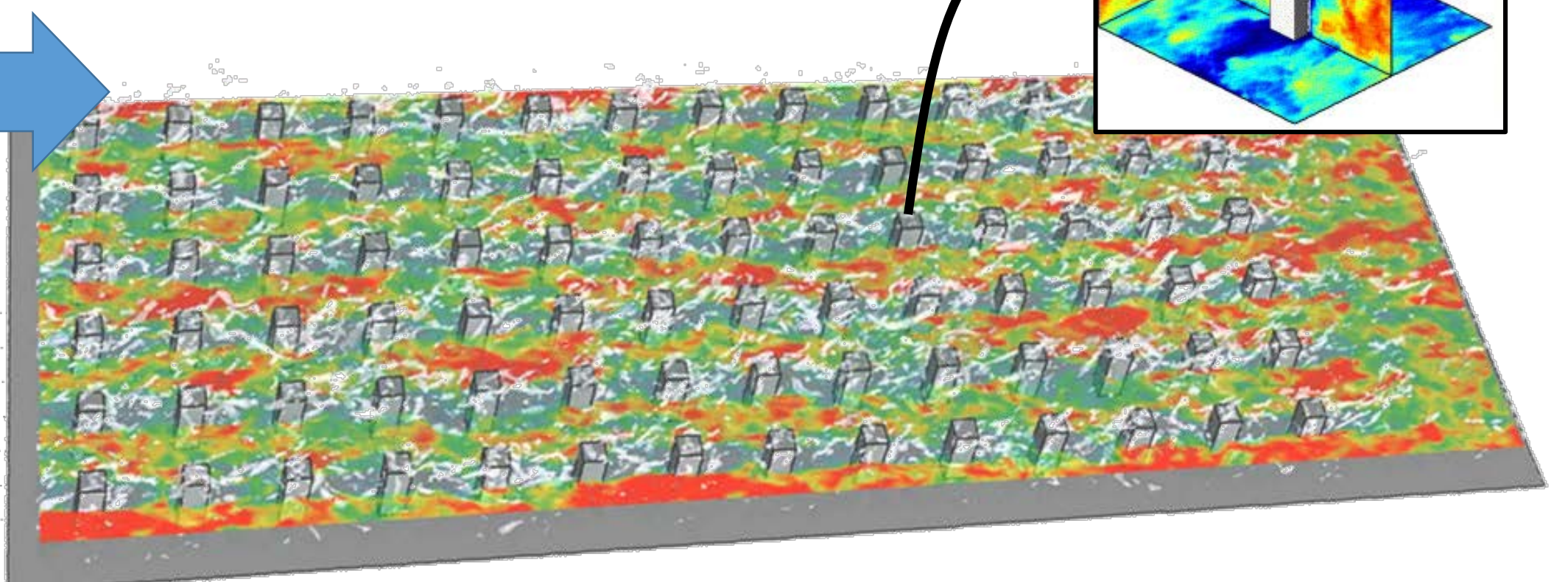
How Collaborators Can Help

- Forming a team for **inter-disciplinary projects**
- **Weather data** and macroscale information
- **GIS** and image processing
- **Data-driven model** for creation of surrogate model from high-fidelity simulations and measured data
- **Experimental** measurements
- **Integration** of our modeling and theoretical capabilities in other potential applications

Additional Content



Tree Canopies in Extreme Weather Conditions





Yanshuo Sun

Industrial & Manufacturing Engineering
y.sun@fsu.edu

Research Interests

- Optimization theory & applications
- Transportation systems analysis
- Data analytics & visualization

My Research Background

My overall research objective is to improve the planning, operations, and management of transportation systems through the application of mathematical modeling and optimization methods. I am fascinated with a broad range of research topics and have strong track records in several core areas of transportation, including transportation networks, public transportation, freight transportation, airports, transportation economics, and transportation data analytics.

My research interests related to disaster resiliency include the modeling of non-compliant behavior during mandated evacuations, the effect of social ties/connections on evacuation decisions, and the effect of past evacuation experience on evacuation decisions (e.g., crying wolf effect).

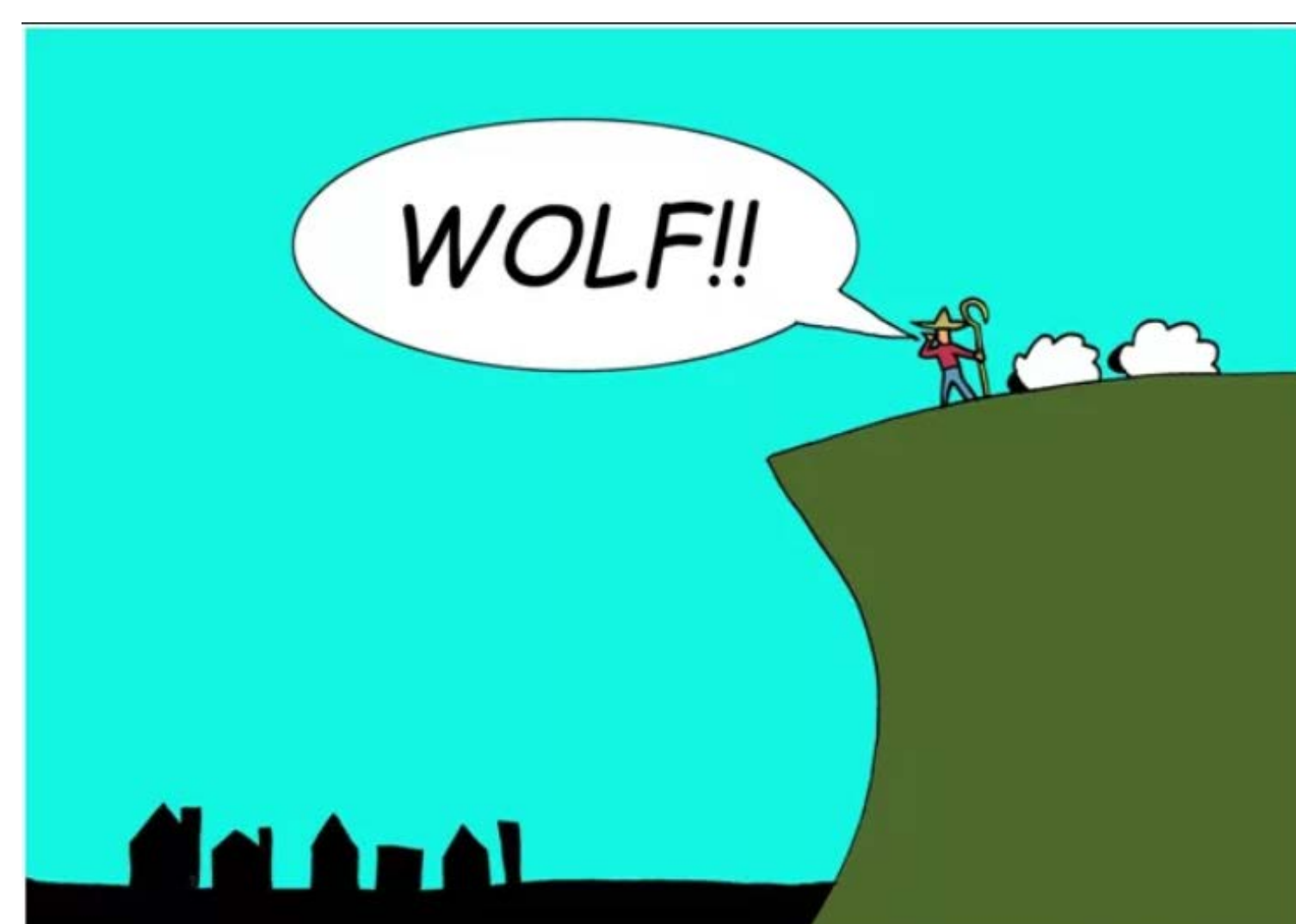
How I Can Help Collaborators

- Operations research
- Big data analytics
- Transportation systems
- Civil infrastructure systems

How Collaborators Can Help

- Nonrational decision making
- Persuasive communication

Additional Content





Tian Tang

Askew School of Public Administration
and Policy

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Research Interests

- Urban infrastructure resilience
- Smart city technologies
- Climate change mitigation and adaptation

My Research Background

I am a social scientist and policy analyst. My research analyzes how climate related policies, sustainability initiatives, and technology innovation affect climate change mitigation and adaptation.

Recent research focuses:

- 1) What are the integration mechanisms utilized by local governments to coordinate the fragmented functional agencies that manage critical urban infrastructures in hurricane recovery in Florida?
 - Organizational/procedural integration
 - Information integration
- 2) How do these integration mechanisms affect the timeliness and social equity of service restoration following catastrophic storms?

How I Can Help Collaborators

- Mixed-methods design (statistical/quantitative and qualitative research design, such as a case study using interviews, focus groups, and surveys)
- Experienced in interdisciplinary research that connects social sciences and engineering approaches
- Good connection with local governments, such as City of Tallahassee and some state agencies, which can help data request and in-depth understanding of the hurricane response process

How Collaborators Can Help

- Engineering perspective of infrastructure resilience and coordination in disaster response
 - Power grids, transportation, buildings, trees, etc.
- Exploring integrative approach to study how to coordinate the management of critical urban infrastructure in response to hurricanes in Florida
- Scenario modeling, analysis, & visualization

Additional Content

Recent related works:

Xu, K., Tang, T., & Feiock, R. 2019. Smart Technology in Disaster Recovery: Public Agency Behavior

Tang, T., Hou, J., Fay, D., & Annis, C. 2019. Revisit the Drivers and Barriers to E-governance in the Mobile Age: A Case Study on the Adoption of City Management Mobile Apps for Smart Urban Governance. *Journal of Urban Affairs*. doi.org/10.1080/07352166.2019.1572455.

Tang, T., & Ho, A., 2019. A Path-Dependence Perspective on the Adoption of Internet of Things: Evidence from Early Adopters of Smart and Connected Sensors in the United States. *Government Information Quarterly*, 36(2), 321-332.

Proposal in progress:

HDBE proposal: Overcoming the Fragmentation of Managing Multiplexed Urban Infrastructures in Disaster Recovery



Hui Wang

Industrial and Manufacturing Engineering
hwang10@fsu.edu

Research Interests

- Cloud data fusion for inter-connected environment
- System informatics & optimization

My Research Background

Hui Wang's research has been focused on system design, automation, and process control by integrating applied statistics, image processing, optimization, and control theory with engineering knowledge with broad applications including manufacturing, energy system, and healthcare. His research is mostly sponsored by the National Science Foundation.

How I Can Help Collaborators

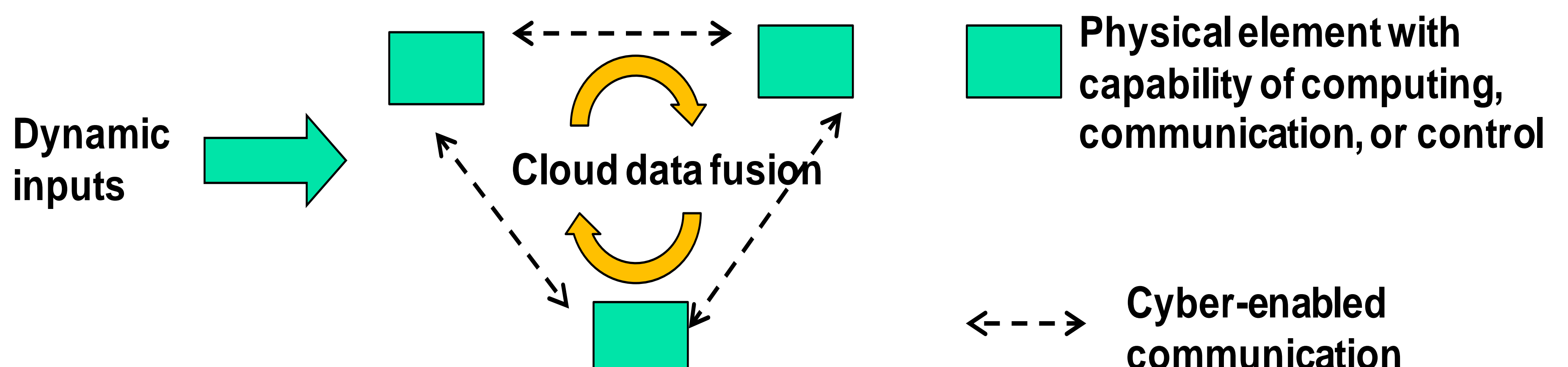
- My expertise can help decision-making in response to small abnormal event scenarios (rare, isolated and distributed events) such as disasters.
- I have developed a cloud data based learning algorithm to improve the forecasting and identification of faulty events when historical data are limited. For example, the power failure data when a hurricane hits Tallahassee are not sufficiently recorded.
- Data fusion analytics to improve forecasting & prediction
- System optimization

How Collaborators Can Help

- Expertise in social science on how disaster may impact human behaviors and how potential decision-making suggested by my algorithm can affect residents and the human feedback/influence on the decisions from my algorithm.
- I am open to all practitioners in disaster preparation and resource allocations.
- Data access and sharing related to the disasters.

Additional Content

Cloud data fusion for inter-connected environment/systems





Neda Yaghoobian

Department of Mechanical Engineering
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Research Interests

- Flow over complex terrains (e.g. trees, buildings, etc.)
- Fire-heat propagation in complex areas
- Land-atmosphere interaction
- Computational fluid dynamics

My Research Background

My research is about understanding the multiphysics process of mass (air, pollution, etc.) and heat transfer over complex terrains (e.g. composed of trees, buildings, etc.) in the lower atmosphere. My research involves computational analyses of energy conservation (to find accurate heat flux and surface temperatures) and turbulent flow, with applications to disaster mitigation and sustainability problems, including pollution dispersion and fire propagation. Through energy balance analysis and computational fluid dynamics, my research addresses existing and potential methods for mitigating undesired phenomena in the lower atmosphere, where we live.

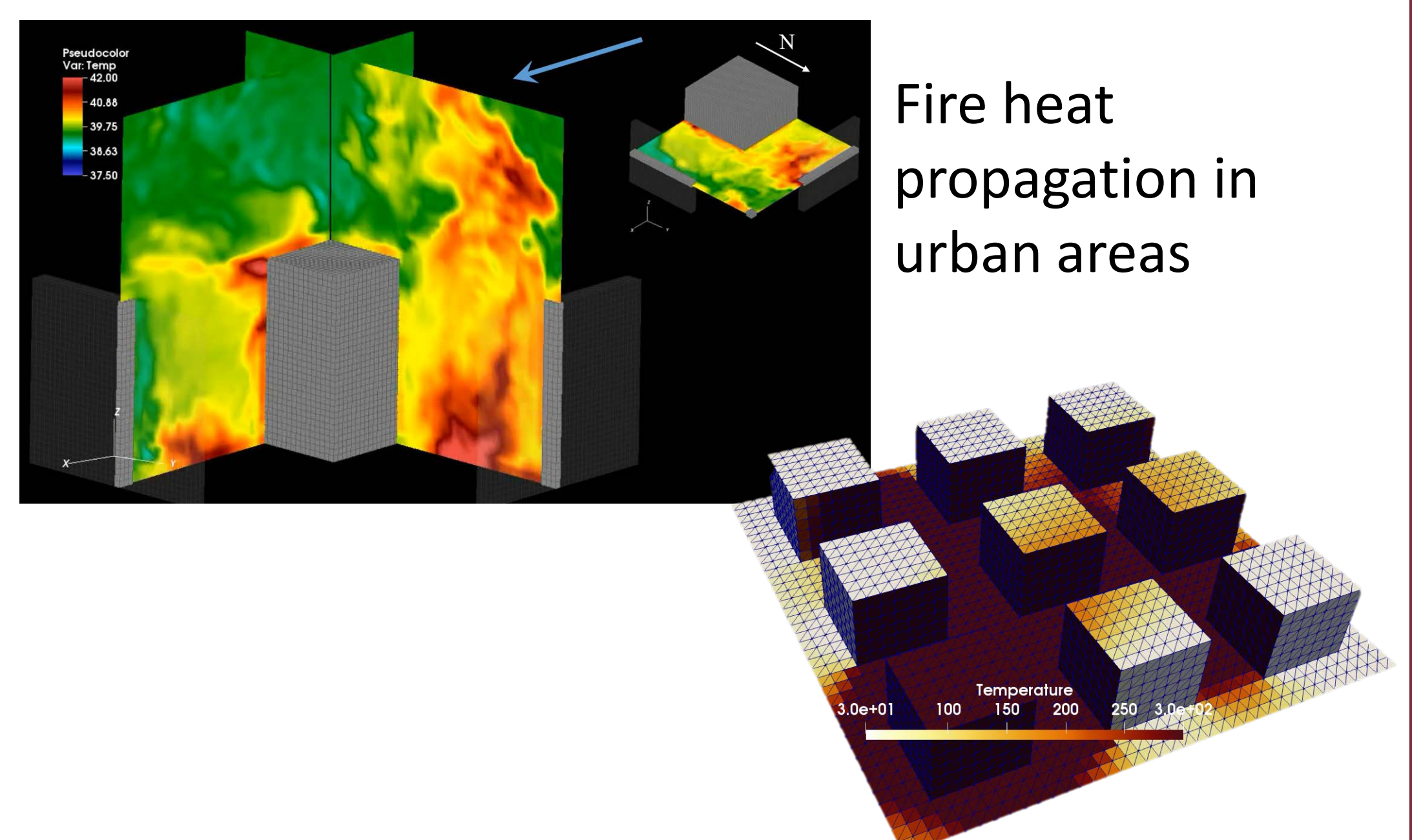
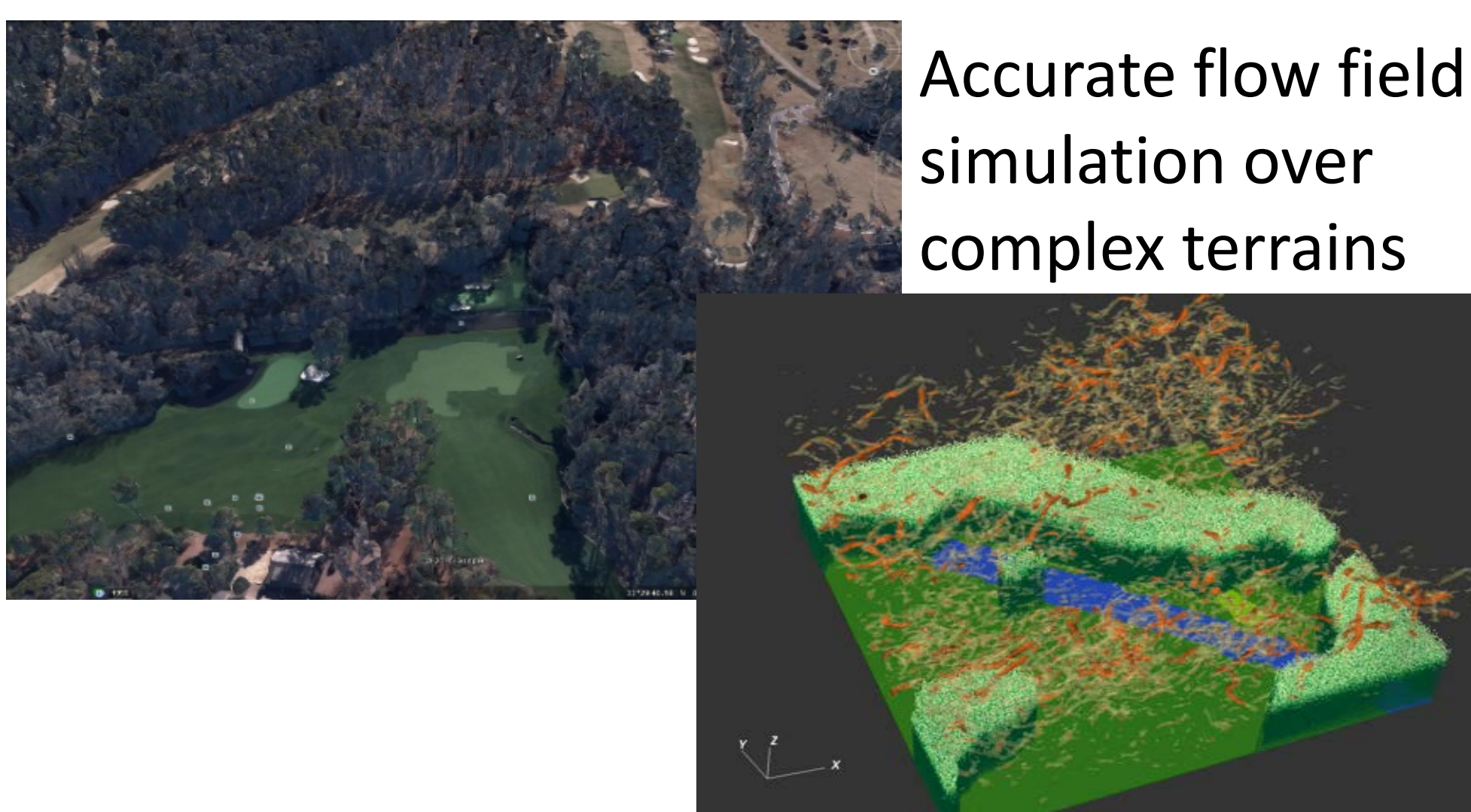
How I Can Help Collaborators

- Providing the details of air flow and temperature through numerical analyses that can be used in understanding, mitigating, and planning for disasters
- Computational analyses of complex problems that are not feasible to be investigated through controlled or field experiments
- Predicting the physical phenomena that are precursors of disasters

How Collaborators Can Help

- Use my data to plan cities and green areas, inform the public, create disaster maps, etc.
- Use my data to investigate phenomena at scales smaller than human scales (for example in fluid-structure interactions and understanding the multiphysics process therein)
- Efficient computational modeling to create fast models that can be used in emergency situations
- Providing experimental data to validate numerical results

Additional Content





Ming Ye

Department of Earth, Ocean, and
Atmospheric Science
Department of Scientific Computing
mye@fsu.edu

Research Interests

- Uncertainty analysis
- Environmental modeling
- Karst hydrology and geohazard

My Research Background

My research interests include numerical modeling of environmental systems, quantification of predictive uncertainty, risk assessment, geostatistics, and karst hydrology and sinkhole geohazards. My research is to use laboratory, field, and numerical approaches to understand subsurface environmental systems and their responses to disasters. Uncertainty quantification is my major research expertise.

How I Can Help Collaborators

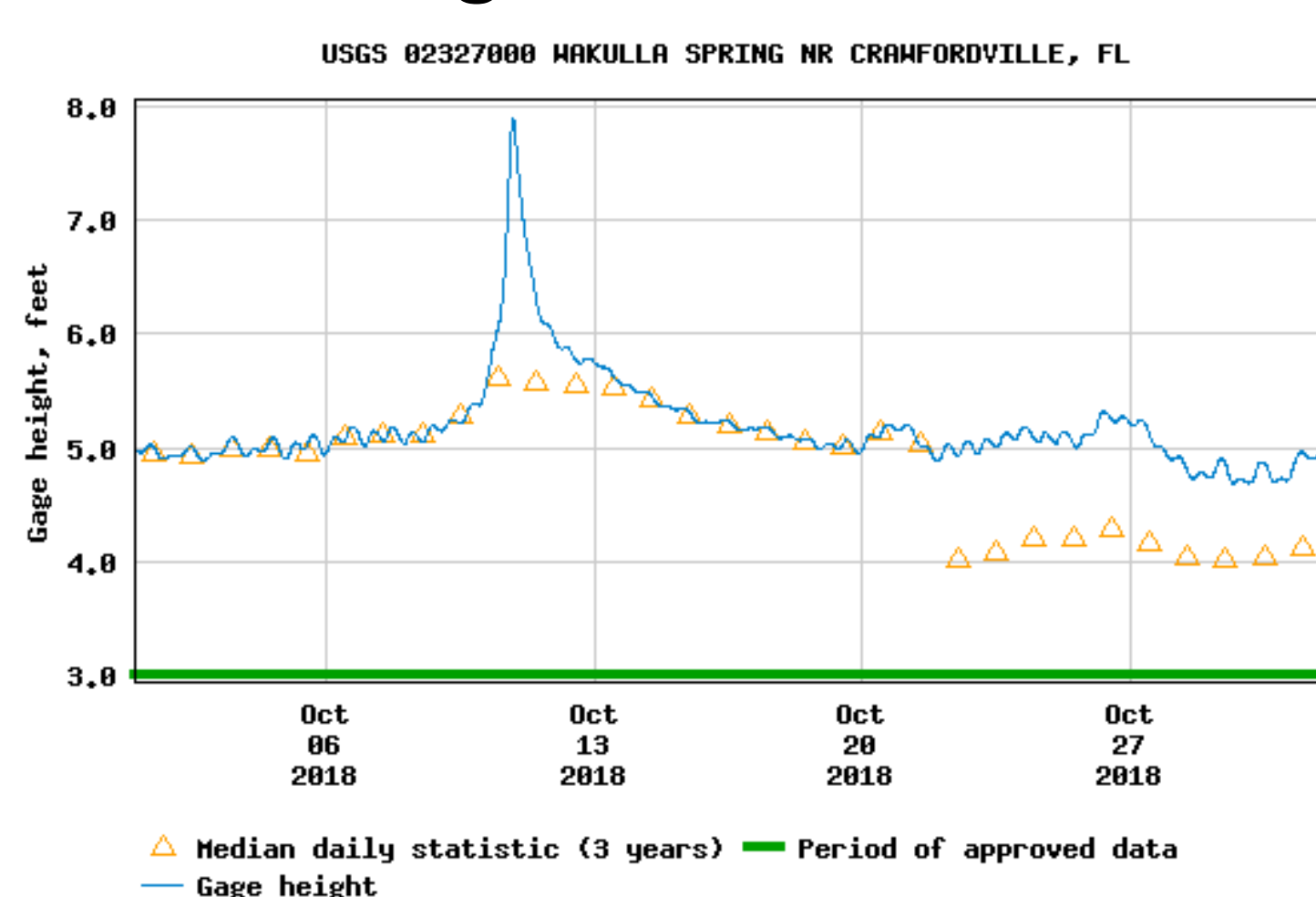
- Assess disaster impacts on the natural environment, especially hydrologic systems
- Conduct field investigation to develop baseline conditions and to evaluate real-world impacts
- Develop numerical models to simulate and predict the environmental impacts
- Quantify predictive uncertainty to support decision-making

How Collaborators Can Help

- GIS and remote sensing data acquisition and analysis
- Social surveying
- Socio-economical analysis of environmental impacts
- Understanding practical needs of decision-makers
- Selecting study site with high significance
- Postulating future scenarios of natural disasters

Impacts of hurricane Michael

High water level



Sinkholes





Tingting Zhao

Department of Geography
tzhao@fsu.edu

Research Interests

- GIS
- Evacuation decision-making
- Hurricane

My Research Background

I have broad trainings and ample research experience in geography, with an expertise in Geographic Information System and Science (GIS). My research integrates GIS, remote sensing, survey research methods, and statistics. It covers a broad range of geographic issues, varying from environmental issues (such as vegetation carbon dynamics and Deep Horizon oil spill pollution) to human behaviors (such as urbanization, energy conservation, and hurricane evacuation). These research projects have been conducted at a great geographic range, varying from individual-based survey to spatial analyses up to the national scale.

How I Can Help Collaborators

- Spatial data inquiry and analysis
- Hurricane risk perception evaluation

How Collaborators Can Help

- Decision-making modeling
- Social network analysis
- Data of building structure

Additional Content

Drs. Tingting Zhao and Jay Baker (Professor Emeritus) have been working on projects related to people's hurricane evacuation behaviors. They recently investigate people's evacuation decisions, combining survey data collected from residents of Charlotte County, Florida who were impacted by Hurricane Irma in 2017 and spatial information on residential housing and neighborhood conditions.