Russell Almond

Educational Psychology & Learning Systems
ralmond@fsu.edu

Research Interests
- Processing Event Data
- Bayes Nets and Bayes Computation
- Evidence-Centered Assessment Design
- Artificial Intelligence/Machine Learning

My Research Background

I am a statistician with training in artificial intelligence and psychometrics. My dissertation research was focused on Bayesian networks. I have been involved in the development of several large software systems for scoring assessments using non-standard data. My most recent work centers around developing scoring systems for games including Val Shute's *Physics Playground* and Fengfeng Ke's *e-Rebuild.*

How I Can Help Collaborators
- Design of software architectures for processing information
- Design of *evidence rules* for extracting important information from event-based data
- Building Bayesian Network and Dynamic Bayesian network models
- Access to prototype software for rule-based evidence extraction and Bayesian network design
- Bayesian statistical computing expertise
- General Statistical Computing
- Design of Pretest and Posttest

How Collaborators Can Help
- Provide samples of event-based data
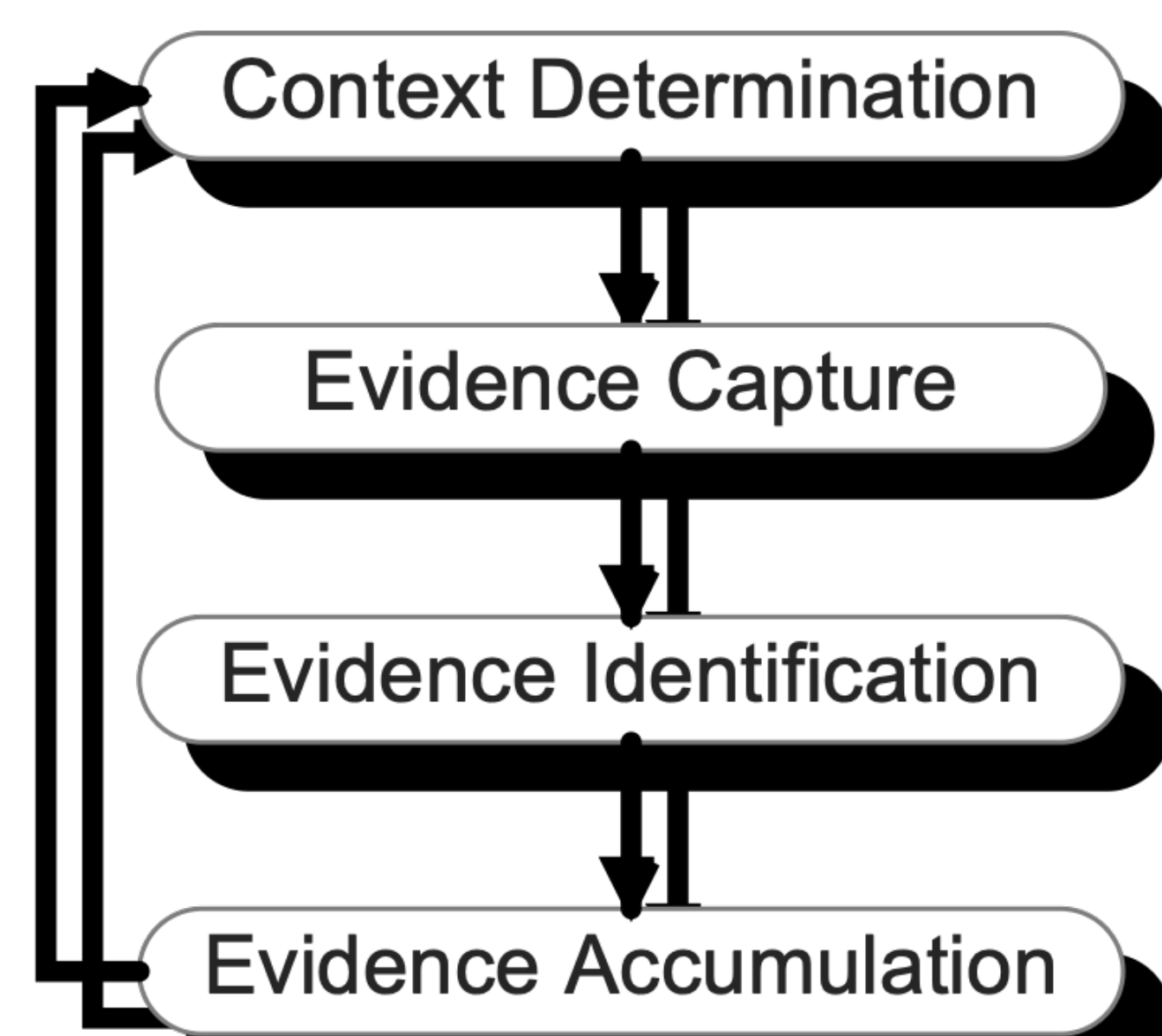- Help with programming and data-base design, particularly parallel programming

Additional Content

RNetica & Peanut System for Bayesian Networks in R:
https://pluto.coe.fsu.edu/RNetica
Proc4 & EIEvent System for processing event-based data:
https://pluto.coe.fsu.edu/Proc4

Michelle Arbeitman

Biomedical Sciences

Michelle.arbeitman@med.fsu.edu

Research Interests

- Genomics
- Molecular-genetics of behavior
- Neural circuit function

My Research Background

My lab is focused on understanding the molecular-genetic basis of complex behaviors using Drosophila melanogaster (fruit fly) and mouse as model systems. We examine how reproductive behaviors are specified using a range of approaches, including genomics—cell-type-specific and single cell approaches, neural circuit imaging, analysis of video recorded behavior, and computational approaches.

How I Can Help Collaborators

- Genomic approaches
- Molecular-genetic approaches
- Confocal microscopy studies

How Collaborators Can Help

- Statistical Genetics and modeling data sets
- Mouse neurobiology expertise
- New imaging approaches—light sheet microscopy and genetically encoded sensors
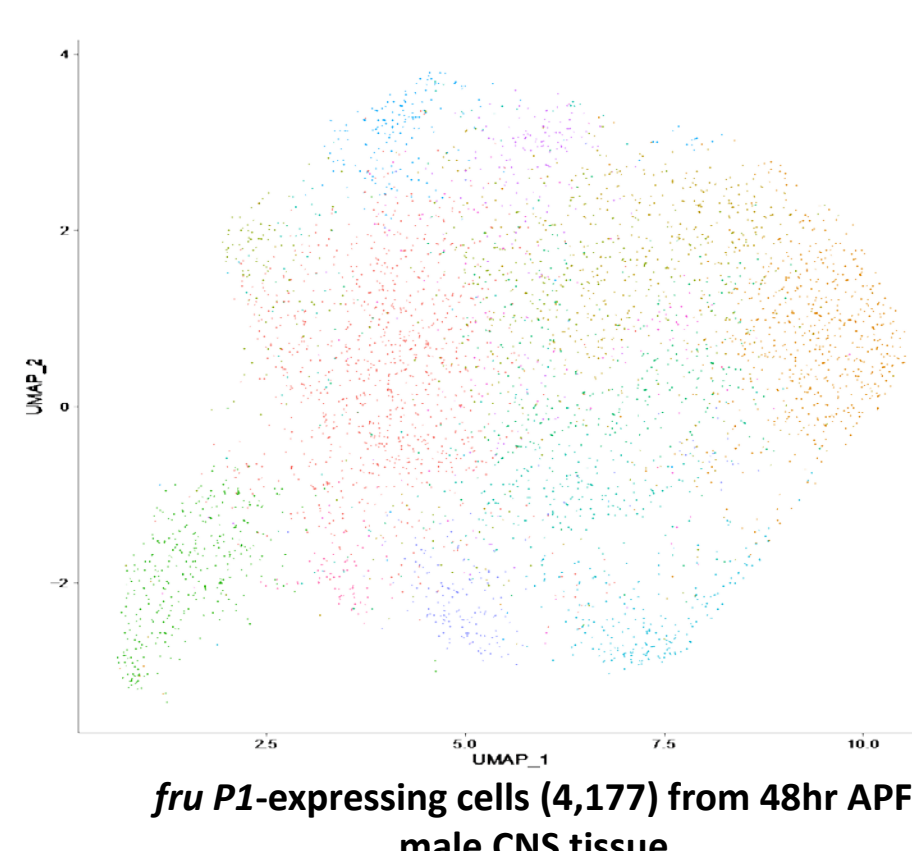
Additional Content

COLLABORATIVE COLLISION @FSU

Colleen Palmateer—PhD student in lab generated data

Single cell RNA-seq reveals differences in both expression and abundance of the *dprs* and *DIPs* within *fru P1*-expressing neurons.

fru P1-expressing cells (4,177) from 48hr APF male CNS tissue

UF-FSU CTSA Biostatistics, Epidemiology, and Research Design Program (CTSA BERD)

Funded by the National Institutes of Health National Center for Advancing Translational Sciences, the **UF-FSU Clinical and Translational Science Award (CTSA) Program hub** is one of two hubs in Florida, and is part of a national network of more than 50 hubs nationwide. Mission: to develop innovative solutions that will improve the efficiency, quality, and impact of the process for turning observations in the laboratory, clinic, and community into interventions that improve the health of individuals and the public. A CTSA Program hub is an integrated research and training environment for translational and clinical science that catalyzes the development, demonstration, and dissemination of methods and technologies that dramatically improve efficiency and quality across the translational research spectrum. There are several programs and resources supported by the award at FSU. https://www.research.fsu.edu/ctsa/

Through **the Biostatistics, Epidemiology, and Research Design (BERD)** Consulting Suite, faculty, students, and postdocs can, with advance registration, have a biostatistics, epidemiology, biomedical informatics, and research design consultation with a BERD expert. These consultations are limited in scope and are intended to provide statistical support, access to "health" data, and research design so that they can adequately plan projects. BERD also aligns resources throughout FSU and offers training workshops in core skills for data analytics including data acquisition, data cleaning, data analytics software (e.g., SAS, SPSS, R, and Python), data mining, machine learning, and data visualization. The focus is in human health related data and research, including clinical trials.

BERD Consulting Services (https://ctsa-berd.cci.fsu.edu)

Biostatistics Epidemiology **Biomedical Informatics** Study Design

Evaluation in Health-Related Research **Informatics Database Access (OneFlorida, RedCap)** Statistical Analysis **Artificial Intelligence**
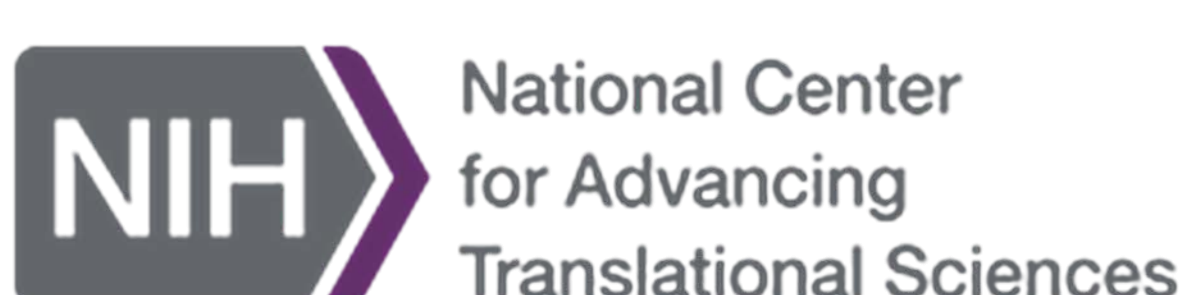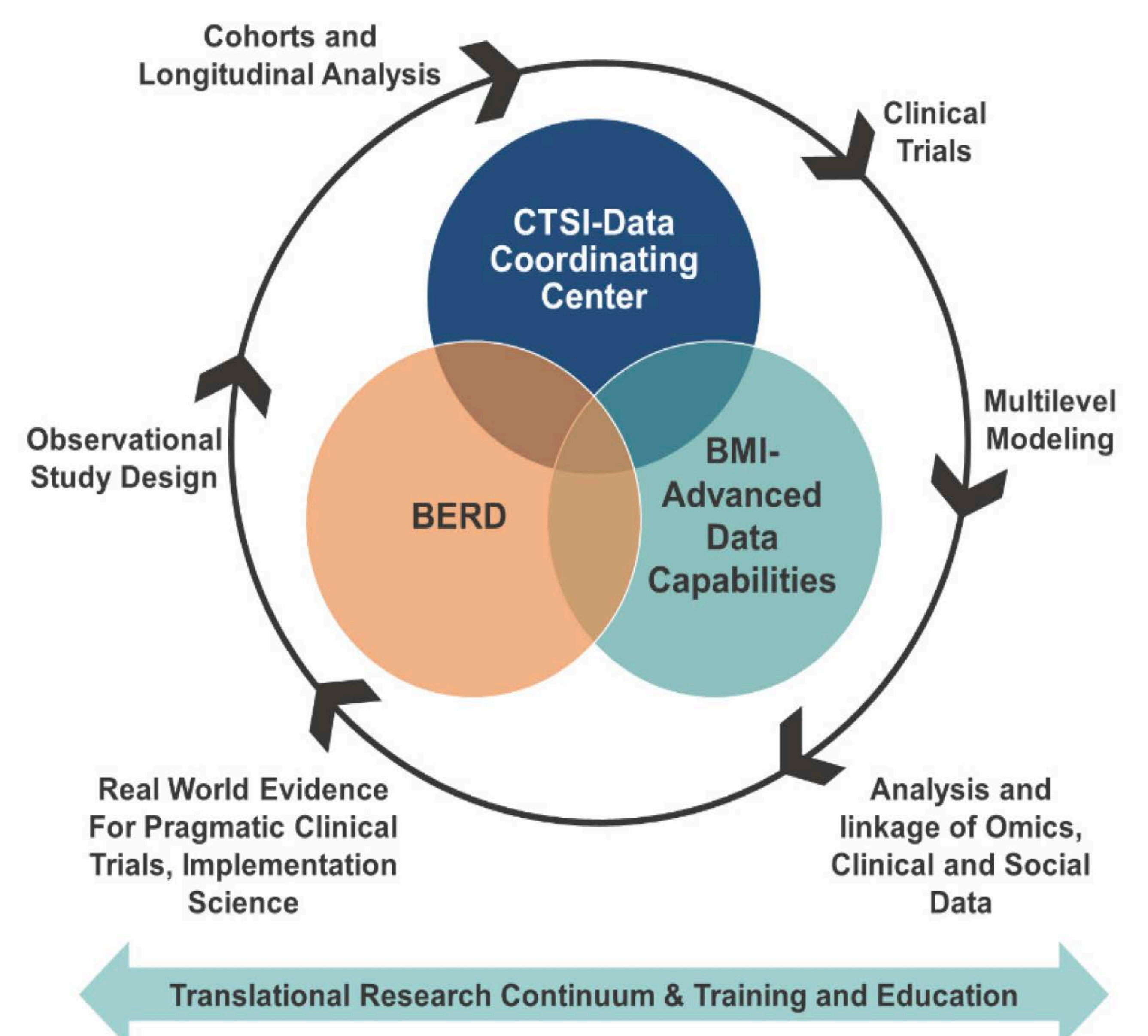
Investigators and students can submit service requests for BERD through the ticketing system:
https://ctsa-berd.cci.fsu.edu

Protocol review, regulatory support and other research services are provided by the FSU Network for Clinical Research and Training: https://med.fsu.edu/ncrt/home
An electronic service request system is available.

For more information about UF-FSU CTSA, please visit:
https://www.research.fsu.edu/ctsa/

Funded by NIH National Center for Advancing Translational Sciences Award (2UL1TR001427)

Dr. Rebecca L. Brower

CPS, College of Education

rlb08c@fsu.edu

Research Interests
- Big Qual
- Mixed Methods Integration
- Well-being and Diversity

My Research Background

I am a higher education researcher with dual expertise in research methods and higher education content. My research focuses on methods for Big Qual or large qualitative data sets and institutional policies and practices in higher education that promote equity and foster success for underserved, minoritized, and vulnerable student populations. I I have published in numerous high impact higher education journals. I led a forthcoming article (available on request) that proposes the first definition of Big Qual. I also co-led the qualitative research team (5-6 members) on a five-year mixed methods project that studied a state-level policy in the Florida College System. The study was funded by the Institute of Education Sciences, U.S. Department of Education and the Bill & Melinda Gates Foundation. I have written and co-written funding proposals on three large/medium mixed methods grants.

How I Can Help Collaborators

- Expertise in research methods for Big Qual (large qualitative data sets)
- Experience with research designs for mixed methods integration with Big Data
- Experience with large team-based mixed methods projects
- Experience publishing in high impact higher education journals
- History of writing and co-writing funding proposals for federal agencies and private foundations
- Expertise in higher education content areas including institutional policy, equity, higher education policy, diversity, and well-being

How Collaborators Can Help

- Quantitative Big Data expertise
- Access to datasets that require qualitative and Big Qual methods expertise
- Explore challenges with data reduction and mixed methods integration for Big Data
- Help develop techniques for mixed methods grounded theory with Big Data
- Interdisciplinary approaches to studying well-being among diverse populations

Additional Content

Editorial Board Membership, *Journal of College Student Development* (2019–2021)

Winner of the Robert Gagne Faculty Research Award, College of Education, Florida State University (2019)

Finalist for the Robert Gagne Faculty Research Award, College of Education, Florida State University (2016)

Selected Publications

Brower, R. L., Bertrand Jones, T., Osborne-Lampkin, L., Hu, S., & Park, T. (in press). Big Qual: Defining and debating qualitative inquiry for large datasets. *International Journal of Qualitative Methods*.

Brower, R. L., Bertrand Jones, T., Tandberg, D., Hu, S., & Park, T. (2017). Comprehensive developmental education reform in Florida: A policy implementation typology. *Journal of Higher Education*, 1-26.

Henry Carretta

Behavioral Sciences & Social Medicine

henry.carretta@med.fsu.edu

Research Interests
- Population Health
- Study Design and Analysis
- Program Evaluation

My Research Background

I am a health services research methodologist and analyst. My areas of interest include autism spectrum disorder in adults, Alzheimer's disease, asthma and chronic condition epidemiology in general. I have a particular interest in how the social determinants of health influence access to care and patient outcomes. Ancillary interests include how public health law, policy and regulations influence population outcomes.

Profile: https://med.fsu.edu/directory/full?directoryID=15405

How I Can Help Collaborators

- Study design and advanced statistical analysis
- Experience with use of secondary health care data preparation and analysis, e.g. claims, encounters and surveys
- Access to Medicare claims data
- Proficient in the use of statistical programs, e.g. SAS, Stata, & SPSS and to a lesser extent GIS mapping software

How Collaborators Can Help

- Funding proposal development
- Interdisciplinary approaches
- Manuscript preparation and publication
- Access to data
- Expertise in new areas of research that are a good match to my skills and consistent with my previous health services and public health research

Additional Content

Recent Funding

Carretta, Henry Joseph (PI) & Glueckauf, Robert L (Co-PI) (Feb 2018–Feb 2020). *Disparities in Health Services Utilization Across Racial/Ethnic Groups Among Persons with **Alzheimer's Disease and Related Conditions***. Funded by Florida Department of Health. (8AZ05). Total award $100,000.

Carretta, Henry Joseph (PI). (Sep 2015–Aug 2017). *Examination of Medical Care Utilization and Costs of Transition-Age Young Adult Medicare Beneficiaries with **Autism Spectrum Disorder***. Funded by Health Resources & Services Administration. (15-MCHR). Total award $99,039.

Shayok Chakraborty

Computer Science

shayok@cs.fsu.edu

Research Interests
- Machine Learning
- Computer Vision
- Assistive Technology

My Research Background

My research interests include machine learning, computer vision and assistive technology. Specifically, I am interested in developing algorithms under the constraint of limited manual supervision. I am currently working on the development of novel active learning and domain adaptation algorithms by leveraging the feature learning capabilities of deep neural networks. These algorithms are being validated on a variety of applications in computer vision and assistive technology. Please visit my webpage for more details: http://shayokch.com/

How I Can Help Collaborators
Expertise in any aspect of machine learning and big data, including but not limited to:

- Active Learning
- Domain Adaptation
- Deep Learning
- Semi-Supervised Learning

How Collaborators Can Help
Willing to collaborate on interesting research problems, particularly in the areas of assistive technology and smart city/environments

Additional Content
Sample publications are listed below:

1. A. Singh, **S. Chakraborty**, "Deep Domain Adaptation for Regression", Development and Analysis of Deep Learning Architectures, Springer, 2019
2. A. Bhattacharya, J. Liu, **S. Chakraborty**, "A Generic Active Learning Framework for Class Imbalance Applications", British Machine Vision Conference (BMVC), 2019
3. H. Venkateswara, J. Eusebio, **S. Chakraborty**, S. Panchanathan, "Deep Hashing Network for Unsupervised Domain Adaptation", IEEE CVPR, 2017

Angela A. Choi

Business Analytics, Information Systems & Supply Chain
aachoi@fsu.edu

Research Interests
- Economics of IT
- Business analytics
- Mobile targeting
- AI and Machine Learning
- Fintech
- Recommender System

My Research Background

My research programs are aimed at providing efficient and effective online and mobile strategies in various fields of business by analyzing massive volumes of data on exhaustive digital traces. I delve into the business strategies implemented in various markets, such as P2P lending platform, digital content platform, and e-commerce platform on the basis of various perspectives. With detailed and extensive digital records of consumer behaviors, such as search activities, post-purchase transactions, and viral marketing actions, my research unravels the preferences and inherent characteristics of consumers and quantifies the effectiveness of business, marketing, and pricing strategies in the digital content market. My research is driven by the following objectives:

· To identify evolving trends and issues in various platforms and establish effective marketing strategies
· To offer retailers new avenues from which to understand how consumers purchase and consume digital content
· To devise useful strategic metrics (i.e., recommender systems, targeting promotions) by analyzing the fine-grained digital traces left by consumers

How I Can Help Collaborators
- Top journal publication experience
- Statistical & Econometric analyses
- Technical research methodology (Hierarchical Bayesian Modeling, Machine Learning, Hidden Markov Model, Text-mining etc.)
- Unique data access
- Collaboration with various IT companies (field experiment): P2P lending platform company, Social network influencer platform, SNS broadcasting platform

How Collaborators Can Help
- New insights in big data analyses
- Interdisciplinary theoretical backgrounds
- Access to new database
- New methodological approach

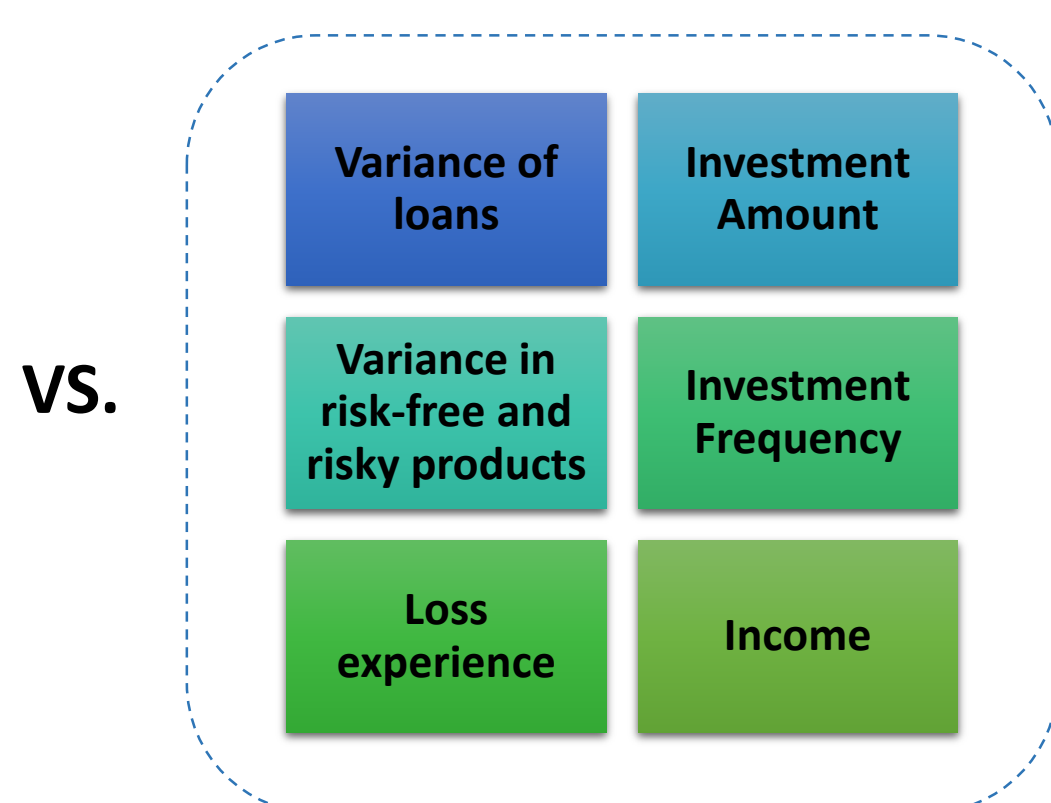### Research Papers and Work in Progress

1. Angela A. Choi, Daegon Cho, Dobin Yim, Jae Yun Moon, and Wonseok Oh, "When Seeing Helps Believing: The Interactive Effects of Previews and Reviews on E-Book Purchases" –Accepted, *Information Systems Research*, 2019
2. Angela A. Choi, KiEun Rhee, and Wonseok Oh "'Marshmallow Pricing'": Effects of "Wait-and-Not-Pay" Schemes on the Monetization of Hedonic Digital Content" –2nd Round Revision, *Information Systems Research*
3. Heeseung Lee, Angela A. Choi, Tianshu Sun, and Wonseok Oh "Feedback under Incomplete Consumption of Content: An Empirical Study of Online Review Behaviors for Information Good – Under Review, *Information Systems Research*
4. Angela A. Choi, Wonseok Oh, and Jae Yun Moon "Reading Minds from Reading Patterns: A Field Experiment on the Effectiveness of Consumption-based Targeting in E-book Markets" –In preparation for submission to Journal of Marketing
5. Angela A. Choi, Heeseung Lee, Tianshu Sun, and Wonseok Oh "Reading Marathon: Understanding the Effect of Binge Reading on User-Generated Content" *(Full draft available)*
6. "Randomized Field Experiment on Correcting Risk Misperception in P2P Lending Platform" with Kihwan Nahm and Hyunji So
7. "Estimating Individual Risk Preferences and Privacy Issue in P2P Lending Platform" with Hyunji So, Sung Wook Yoon, and Kihwan Nahm
8. "Impact of Video Mining Recommender System in E-commerce Platform" with Kihwan Nahm
9. "More human than human? Large Scaled Randomized Field Experiment on AI Recommender Systems" with Kihwan Nahm

Randomized Field Experiment on Correcting Risk Misperception in p2p Lending Platform (with Kihwan Nahm and Hyunji So)

Self-Assessment Risk Aversion

1. I prefer a product which yields low interest rate, but a principal guaranteed.
2. I prefer a product which yields interest rate higher than 15% even though there is a possibility of principal loss.
3. When I invest, I prefer diversified portfolio.
4. I can tolerate up to _____% of principal loss.
5. I can tolerate up to _____% of interest loss.
6. My income is approximately _____ USD.

VS.

Data Driven Risk Aversion

Variance of loans	Investment Amount
Variance in risk-free and risky products	Investment Frequency
Loss experience	Income

Collaborative Filtering Algorithm

$$p(g|cg) = \frac{\exp(u_g^T v_{cg})}{\sum_{w=1}^{W}(u_w^T v_{cg})}$$

$$p(g|cg) = \sigma(u_g^T v_{cg}) \prod_{w=1}^{W} \sigma(-u_w^T v_{cg})$$

AI Recommender System

Based on your risk preferences, here are recommended products for you:

Product A
Product B
Product C
Product D
Product E

Group 1(Control): Receives the list of top 7 loan projects based on risk aversion evaluated by prior investment information

Group 2(Treatment 1): Receives the list of top 7 loan projects based on self-assessment risk aversion without notification of risk-misperception

Group 3(Treatment 2): Receives the list of top 7 loan projects based on self-assessment risk aversion with notification of risk-misperception

Colm Connolly

Magnetic Resonance Imaging Facility
cconnolly@fsu.edu

Research Interests

- Cognitive neuroscience
- Behavioral Control
- Neural basis of psychopathology

My Research Background

Trained initially as a computer scientist, I developed an interest in understanding the neural basis of cognition. I then pursued a PhD in computational modeling using spiking neural networks. Thereafter, I studied magnetic resonance imaging at Trinity College Dublin, UC San Diego, and UC San Francisco. It was in these three institutions that I developed an interest in behavioral control that readily mapped onto an interest in mood disorders that can be (partly) characterized as disorders of emotion regulation. I've gained extensive experience in MRI imaging, including structural (DTI, VBM) and functional (task and resting state). My research uses a multimodal approach, e.g., task-based fMRI, resting-state fMRI, diffusion tensor imaging, and voxel-based morphometry, to explore the cognitive and neural basis of mood disorders.
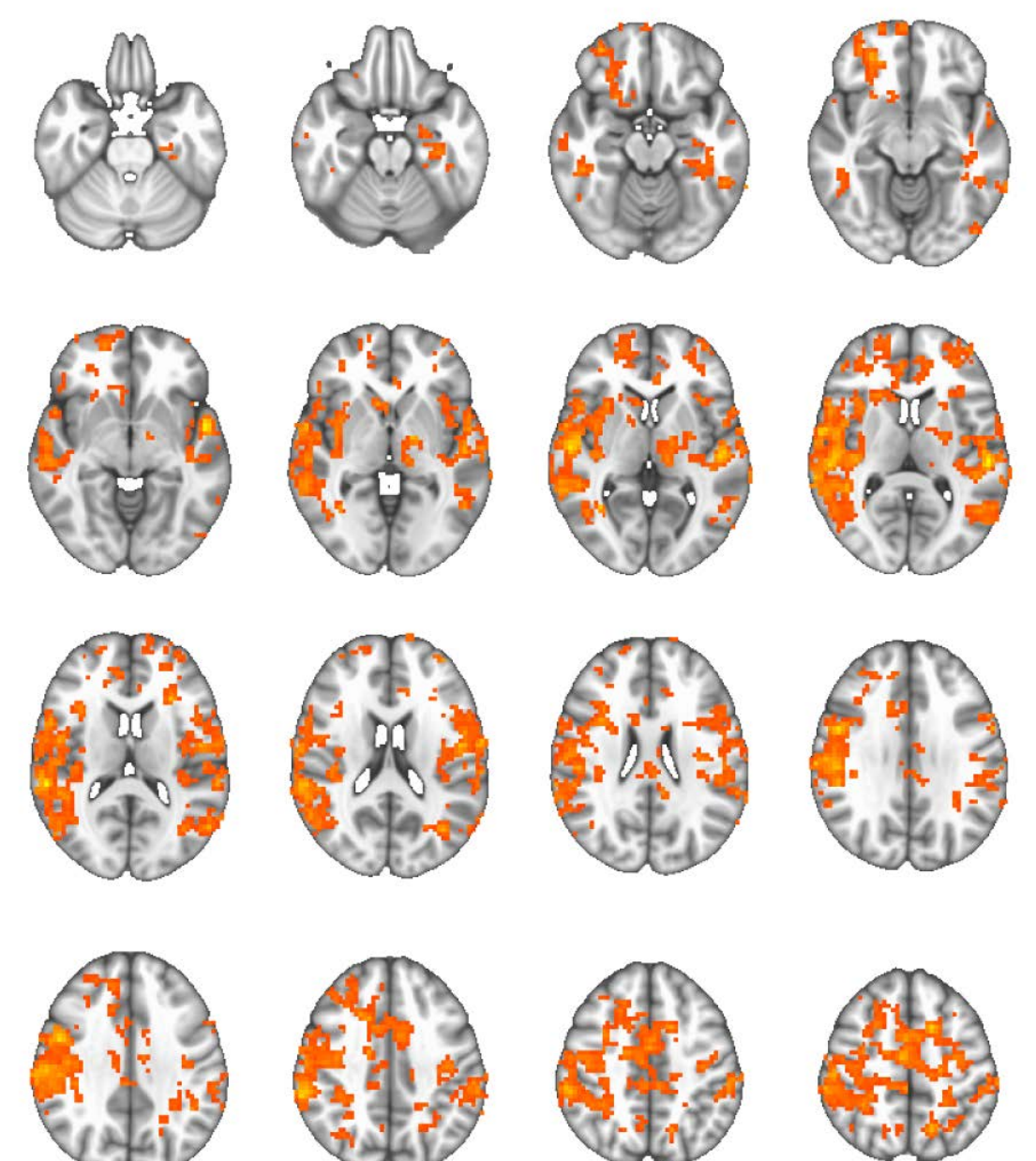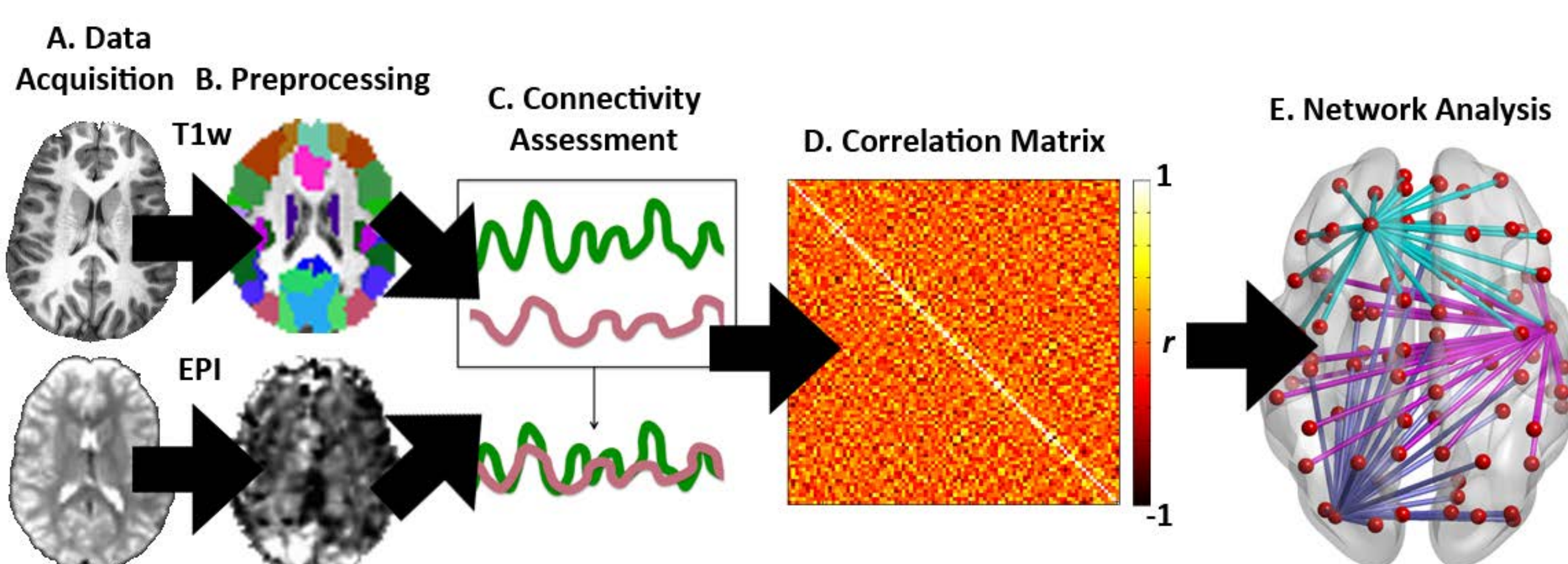
How I Can Help Collaborators

- Study Design
- MRI analysis
  - DTI
  - VBM
  - Resting state
  - Task based
  - ASL
- Statistical Analysis
- Programming
  - R
  - Bash
  - Python
- Statistical Analysis
  - LME, Robust regression

How Collaborators Can Help

- Machine Learning
  - Predictive models
- Access to MRI and Behavioral Datasets
- Interdisciplinary Collaborations

Additional Content

A. Data Acquisition   B. Preprocessing   C. Connectivity Assessment   D. Correlation Matrix   E. Network Analysis

Judy Delp

Biomedical Sciences
judy.delp@med.fsu.edu

Research Interests
- Cardiovascular Aging
- Vascular Adaptation to Exercise Training
- Peripheral Arterial Disease

My Research Background

My research focuses on vascular adaptations to aging and exercise training, with emphasis on the microvasculature. My work has contributed to establishing that regular aerobic exercise exerts an "anti-aging" effect on the coronary and skeletal muscle resistance vasculature; however, the stimulatory mechanisms by which exercise training reverses age-induced microvascular dysfunction remain the subject of work from my lab and a number of labs across the country. More recent work in my lab has shown that muscle stretching, when performed daily, improves microvascular function and blood flow in skeletal muscle. We are currently translating this muscle stretching work into elderly patients with peripheral arterial disease.

How I Can Help Collaborators

- Assessment of microvascular function in animal models
- Animal models of exercise training
- Animal models of aging
- Interventional studies, e.g., exercise, in patients

How Collaborators Can Help

- Statistical design and analysis for clinical studies
- Prospective experimental design
- Recruitment of patients
- Experience with the IRB

Additional Content

Kani Diop

Family and Child Sciences
kdiop@fsu.edu

Research Interests
- Global Families & Inclusive Approaches
- Immigrant/Refugee/Migrant Families
- Family Systems, Culture, & Traditions

My Research Background

I earned my Ph.D. in Family Science & Human Development from Montclair State University (NJ) and joined the FSU FCS Department as a specialized teaching faculty in August of 2019. My research is primarily concerned with reaching a fuller understanding of how empowerment and involvement in decision-making affect the perpetuation and perpetration of harmful traditional practices intus ac foris original context. With a particular emphasis on global families & inclusive approaches, my primary research foci are (a) family systems, culture, & traditions, (b) immigrant, refugee, and migrant families, (c) exploration of detrimental cultural practices such as female genital mutilation, breast ironing, and child marriage among other ailments inflicted to young females (d) community engagement & Community-based participatory action research. Hence my research interests span a wide range of themes in the intent of improving human / female / family experiences across diverse cultural contexts of development.

How I Can Help Collaborators

- Insider knowledge of African/immigrant cultures, traditions & practices
- Cultural diversity & competence expertise
- Transcultural understanding of families
- Community engagement & community-based participatory action research expertise

How Collaborators Can Help

- Knowledge of Geographic Information Systems (GIS)
- Social Network analysis & Statistical analysis abilities
- Knowledge of project & program grant applications
- Multidisciplinary research / National & international projects

Additional Content

Diop, M.K. & Stewart P. E. (2016). Polygamy in Africa. In: The Wiley Blackwell Encyclopedia of Family Studies (ed C. L. Shehan), 1595 – 1597. Oxford: Wiley Blackwell.

Stewart, P. & Diop, M.K. (Under review). Polygamy and West African family relationships. Marriage & Family Review.

Diop, M.K. (2001). Eye on Africa. Africa Books. Bogota, New Jersey.

Diop, K. (In progress). "Black African Feminist Theory a la Awa Thiam

Tarik Dogru

Dedman School of Hospitality
tdogru@fsu.edu

Research Interests
- Sharing Economy
- Tourism Economics
- Climate Change

My Research Background

I earned my Ph.D. in Hospitality Management from the University of South Carolina in 2016. Prior to joining the Dedman School of Hospitality faculty, I worked as an assistant professor at Boston University.

My research interests span a wide range of topics in sharing economy, tourism economics, climate change, corporate finance, and blockchain technology. I have published several articles and have many articles currently under review in highly prestigious journals, including *Tourism Management, Journal of Travel Research, International Journal of Contemporary Hospitality Management, International Journal of Hospitality Management, Journal of Hospitality and Tourism Research, Cornell Hospitality Quarterly, Tourism Economics, Tourism Analysis,* and *Journal of Services Management.* I also serve on the editorial board of *Tourism Economics* and *Tourism Analysis* journals and as a reviewer for several academic journals.

How I Can Help Collaborators
- Advanced statistical/econometrical analysis
- Experience publishing in top journals
- Access to hotel and Airbnb data
- Interdisciplinary approaches

How Collaborators Can Help
- Big Data Analysis
- Access to big data software
- Study design
- Geographic Information Systems

Additional Content

Dogru, T., Mody, M., Line, N., McGinley, S. & Suess, C. (2020). The Airbnb paradox: Positive employment effects in the hospitality industry. *Tourism Management, 77.*

Dogru, T., McGinley, S., Line, N. & Szende, P. (2019). Employee Earnings Growth in the Leisure and Hospitality Industry. *Tourism Management, 74, 1-11.*

Dogru, T., Isik, C. & Sirakaya-Turk, E. (2019). The balance of trade and exchange rates: Theory and contemporary evidence from tourism. *Tourism Management, 74, 12-23.*

Dogru, T., Marchio, E., Bulut, U. & Suess, C. (2019). Climate change: Vulnerability and   resilience of tourism and the entire economy. *Tourism Management, 72,* 292-305.

Dogru, T., Mody, M. & Suess, C. (2019). Adding evidence to the debate: Quantifying Airbnb's disruptive impact on ten key hotel markets. *Tourism Management, 72,* 27-38.

James Du

Department of Sport Management
JDu3@fsu.edu

Research Interests
- Sport Marketing and Consumer Behavior
- Sport Management and Public Health
- Sport Analytics and Data Science

My Research Background

My work focuses on better understanding sport consumer behaviors, with a particular emphasis on how organizations can utilize an effective mixture of marketing strategies to meet consumers' increasing demand for quality experiences. My research interest also lies in the interdisciplinary studies between sport management and public health, especially on understanding the role of sport as a sociocultural and economic catalyst in promoting health outcomes for individuals and communities. Last but not least, I have a passion for helping sport organizations harness the power of big data and analytical mentality to gain advantage in the competitive marketplace.

How I Can Help Collaborators

- Access to Nielsen Scarborough
- Access to eSports Crowd Funding data
- Collaborate with professional sport organizations
- Quantitative methods and research designs

How Collaborators Can Help

- Experience with big data visualization
- Experience with text mining and digital image processing
- Expertise in machine learning
- Expertise in field A/B testing for mobile applications

Additional Content

FLORIDA STATE UNIVERSITY
SP RT
MANAGEMENT

Kerry Fang

Urban and Regional Planning

lfang3@fsu.edu

Research Interests
- Urban Innovation
- Industrial Development
- Land Use Policy

My Research Background

The thrust of my theoretically-grounded, empirically-based, and policy-oriented research has advanced understanding of cities as places of productivity, innovation, and shared prosperity. It helps guide the design of policies to promote urban economic development. My research has focused on two areas: 1) exploring the magnitude and mechanism of urban agglomeration, and 2) examining the effectiveness of policy tools to advance sustainable and inclusive economic development. These efforts have afforded my bridging the theories and empirical evidence of urban agglomeration with the policy practice of stimulating and sustaining economic development through intelligent business strategy, improved urban design, and effective land use policies.

How I Can Help Collaborators

- Deep understanding in urban policies, planning and political process
- Advanced statistical analysis
- Advanced spatial analysis
- Data science skills in visualization and text mining
- Mixed-method research design
- Successful record of publication, grant-writing and publicity
- Extensive relationships with collaborators in and outside of academia
- Rich experience in cross-country comparative studies

How Collaborators Can Help

- Access to dataset, specially micro-geographical datasets
- Data scraping and analysis skills
- Database development and management
- Interdisciplinary approach
- A research team of students and postdocs that can efficiently move projects forward

Additional Content

I'm looking for collaborators interested in urban issues with skills complementing my own. Specifically, I have an ongoing project that studies social interaction, innovation and entrepreneurship in coffee shops, for which I need a collaborator with data science skills to scrape and analyze Google reviews.

Richard Feiock

Askew School of Public Administration

rfeiock@fsu.edu

Research Interests
- Big Data: Fine-Scale (individual level) Policy Analysis
- Organization and Governmental Collaboration
- Sustainable Urban Infrastructure Systems
- Network Governance

My Research Background

Professor Feiock studies local governance, policy and political process. He served as PI or Co-PI on seven NSF awards and is Co-Director of NSF's Sustainability Research Network of Healthy Sustainable Cities. He published six books and over 200 articles in the fields of public administration, urban affairs, economics, political science, and sustainability. As Director of the Local Governance lab, he manages development of a fine scales policy data bases residents' service consumption, policy actions, and participation behaviors.

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 implementation analysis
- Access to data including the Integrated City Sustainability Database – national database of city governments
- Tallahassee parcel level data including energy, water, policy participation, voting
- Not a jerk

How Collaborators Can Help

Looking for:
- Skills/interest in infrastructure and sustainable urban systems
- Skills in big data spatial analysis and deep-learning
- Interest in building a research team focused on urban sustainability or resilience that can mobilize for grant opportunities
- All scholars interest in large-scale research collaborations
- Interest in investigating public policy
- Not a jerk

Additional Content

- 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
- Investigator: Virtual Information-Fabric Infrastructure (VIFI) for Data-Driven Decisions from Distributed Data 2016-2020, NSF $4M

Greg Hajcak

Departments of Psychology and Biomedical Sciences

ghajcak@fsu.edu

Research Interests

- Anxiety, Depression
- Risk
- Neuroscience (i.e., EEG/ERP, fMRI)

My Research Background

My work utilizes a range of psychophysiological and neurobiological measures (i.e., event-related brain potentials or ERPs, functional magnetic resonance imagining or fMRI, startle reflex, pupillometry, eye tracking, heart rate, and skin conductance) to understand cognition, emotion, and psychopathology. As a clinical psychophysiologist, I leverage these neurobiological and psychophysiological measures to better understand individual differences in anxiety and depression in terms of abnormal affective-cognitive processes. The major thrust of my current research program is on prediction and modification: To what degree can neuroscience and psychophysiology predict changes in symptoms over time? Can neural measures of risk be modified? Does modifying these measures matter? Most of my research utilizes large and longitudinal samples.

How I Can Help Collaborators

- Integrating EEG/ERP measures into large studies of risk
- Adding fMRI to existing research interests
- Expertise in anxiety and depression
- Access to relatively large and longitudinal data sets
- Experience publishing in top journals
- Successful history of funding from federal agencies

How Collaborators Can Help

- Data fusion, mining techniques
- Advanced statistical approaches to large and longitudinal data sets
- Interdisciplinary approaches

Additional Content

https://rad-lab.weebly.com/

EEG lab at North Florida Women's Care; Part of an NIMH-funded project on postpartum depression risk (with Heather Flynn)

Jeffrey Harman

Behavioral Sciences & Social Medicine
Jeffrey.harman@med.fsu.edu

Research Interests
- Health policy
- Mental health services
- Primary care services

My Research Background

I am a health economist with a background as a mental health counselor. My research explores utilization and expenditures of health services, with an emphasis on the impact of health policies on costs and services for vulnerable populations, such as Medicaid beneficiaries and individuals suffering from mental illness. I currently lead two evaluations of Florida's Medicaid programs.

How I Can Help Collaborators
- Econometric/statistical modeling of health service use and costs
- Medical claims based analyses
- Analysis of survey data
- Study design
- History of funding from Federal agencies, State agencies, private foundations, and industry
- Publication in peer-reviewed journals

How Collaborators Can Help
- Data management
- Innovative analytic approaches
- Systems-based research
- Interdisciplinary approaches
- Community partnerships
- Access to health related databases

Additional Content
- I have considerable experience leading evaluations of interventions ranging from practice based interventions to health systems based intervention.
- My Medicaid research involves analyses of very large datasets (>200 million observations)
- I use SAS and Stata for data management and analyses

Julie Harrington

Center For Economic Forecasting and Analysis (CEFA)

jharrington@cefa.fsu.edu

Research Interests
- Economic Modeling
- "Big Data" 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 policy issues across a spectrum of research areas. CEFA provides advanced research and training in education, energy, aerospace, environmental economics, affordable housing and economic development, among other areas. 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.

How I Can Help Collaborators
- Economic, Econometric/Statistical Analysis (w/ @RISK, SPSS, STATA, etc.)
- Input Output Modeling (using REMI and IMPLAN software)
- National Establishment Time Series (NETS) Database (of all FL businesses)
- Labor Market Analyses (Chmura JobsEQ software)
- Advanced Research/Training in Economic & Environmental Impacts
- Expertise in Policy Analysis
- Experience Publishing in Academic Journals & Other Publications

How Collaborators Can Help
- Area or Subject Matter Expertise
- Access to Datasets & and Data Sources
- Research Grant Proposal and Project Funding Support
- Data Collection
- Interdisciplinary Project Support
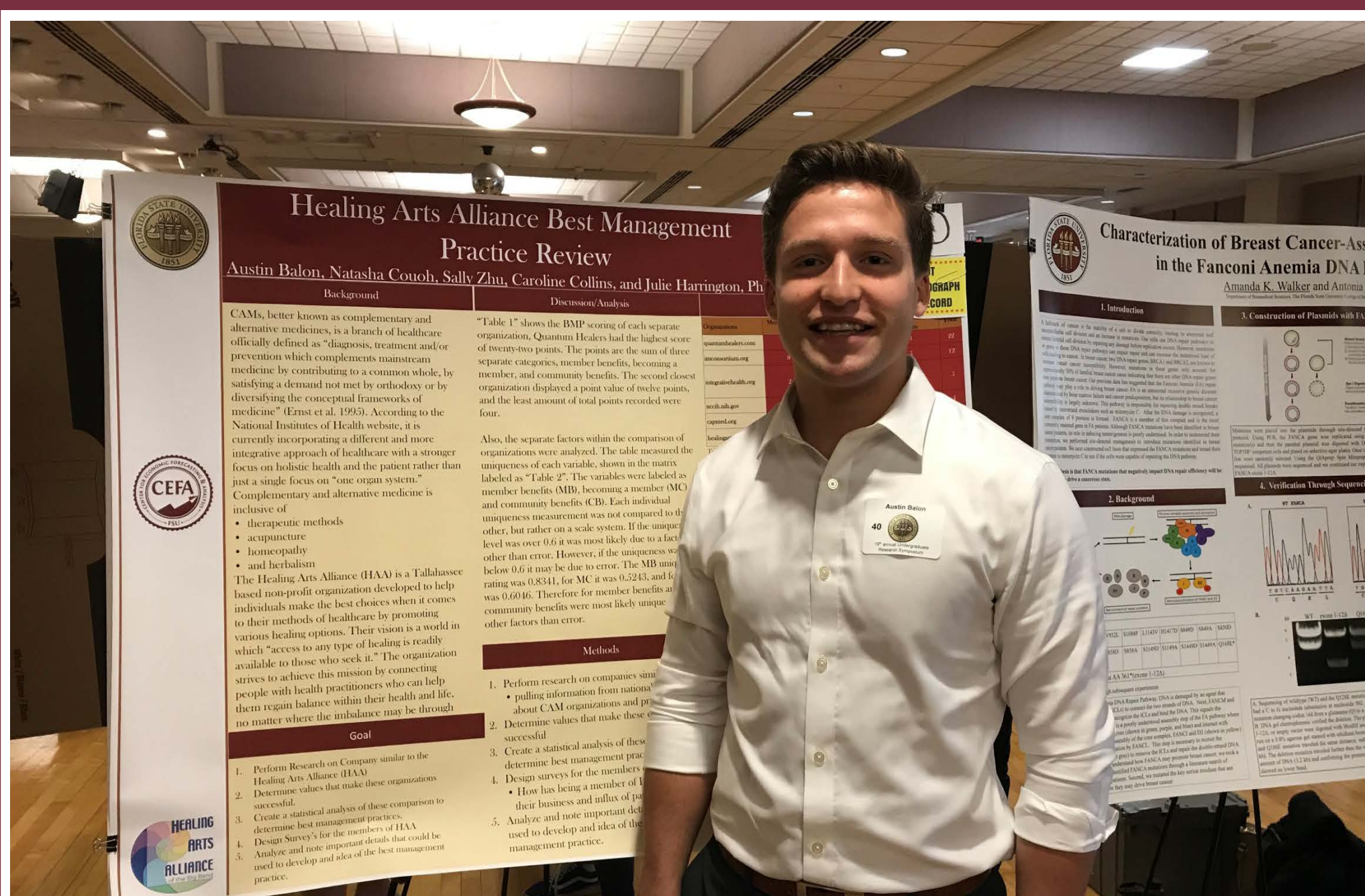
www.cefa.fsu.edu

Zhe He

School of Information
Email: zhe@fsu.edu, Website: zhehe.info

Research Interests
- Biomedical and Health Informatics
- Artificial Intelligence in Medicine
- Big Data in Health

Informatics Lead, FSU-UF Clinical and Translational Science Award

My Research Background

My research lies in biomedical and health informatics, machine learning, clinical research informatics, knowledge representation, and data analytics. My overarching goal is to improve the population health and advance biomedical research through the collection, analysis, and application of electronic health data from heterogeneous sources. I received two Distinguished Paper Awards from American Medical Informatics Association. My research has been funded by National Institutes of Health, Eli Lilly and Company, Amazon, NVIDIA, and Institute for Successful Longevity. I am the PI of an NIA R21 project on clinical trial generalizability assessment and a Co-I of an NIA R01 project on building an AI intervention for early detection of cognitive decline.

How I Can Help Collaborators
- Data mining, machine learning, and predictive modeling
- Database management
- AI approaches for health-related problems
- Access to a large clinical data warehouse – OneFlorida Data Trust (longitudinal clinical data for over 20 million patients)
- Informatics approaches for grant proposals

How Collaborators Can Help
- Collaboration in interdisciplinary projects on AI, big data, and machine learning
- Statistical modeling of complex datasets
- Longitudinal data analysis
- Implementation science
- Software development

Additional Content

Current Grants:
1. The Adherence Promotion with Person-centered Technology (APPT) Project: Promoting Adherence to Enhance the Early Detection and Treatment of Cognitive Decline (NIA R01 2019 – 2024) PI: Walter Boot
2. Systematic Analysis of Clinical Study Generalizability Assessment Methods with Informatics (NIA R21 2019 - 2020) PI: Zhe He
3. Posttransplant Health Outcomes in Pediatrics Organ Transplantation (NCATS CTSA 2019 – 2010) MPI: Michael Killian and Zhe He

Chris Hinnant Ph.D.

Associate Professor and Chair of Ph.D. Program
School of Information
College of Communication and Information
chinnant@fsu.edu

Research Interests:
- Relationship between Information Policies and Innovation
- Use of Big Data, Data Science, Machine Learning in Public Sector, and Artificial Intelligence
- Open Data Policy Adoption and Impacts

My Research Background

My research interests include social and organizational informatics, digital government, information management and policy, technological innovation, public management, social science research methods, and applied statistics. I am particularly interested in how public organizations employ Information and Communication Technology (ICT) to alter organizational processes and structures and how the use of ICT ultimately impacts institutional governance mechanisms and innovation. My research has appeared in journals such as *Library and Information Science Research*, *Journal of the American Society for Information Science & Technology*, *Administration and Society*, *Government Information Quarterly*, *Journal of Public Administration Research and Theory*, and *IEEE Transactions on Engineering Management*. I am an Associate Editor of the journal *Government Information Quarterly*.

How I Can Help Collaborators

- Expertise in Information and Data Policy
- Using Big Data to Create Public Value
- Generalized Linear Models
- Multivariate Modeling
- Mixed-Methods Designs
- Survey Design and Implementation
- Project Management
- Software and Systems Adoption
- Executive Education focused on Big Data and Data Science Issues

How Collaborators Can Help

- Access to unique populations that are developing and employing "Big Data", IoT, and AI practices
- Access to datasets and specific "Big Data" use cases in government or science organizations
- Partnerships in grant development – To study the development and use of "Big Data" technologies and practices
- Collaborations to study the broader social implications of "Big Data" technologies

Additional Content

I am interested in collaborating with other researchers to examine the use of "Big Data," Artificial Intelligence, and Machines Learning in varying social contexts. This includes examining the impacts of new software systems and practices within scientific fields or within government institutions. I am also interested in collaborating on projects that need assistance understanding the impact of information policies on the development of new technologies or practices. In addition, I am interested in how such "Big Data" innovations ultimately impact society.

Shuyuan Mary Ho
School of Information
smho@fsu.edu

Research Interests
- Trusted human-computer interaction
- Computer-mediated deception
- Predictive analytics

My Research Background

I have over 20 years of research and professional experience in information systems security (ISS): i.e., "cybersecurity." More specifically, I developed an interest in trusted human-computer interactions, specifically addressing issues of cyber insider threats, digital forensics, detection and predictive techniques for computer-mediated deception and cyberbullying in social forum. Access to big data offers us a whole new set of opportunities to study predictive analytics by which we have been able to take the research in the iSensor Lab to the next level. Big data can present new and useful indicators; subtle but noticeable differences in communicative intent based on dynamic relationship metrics that can be observed, collected, triangulated and codified. Online games allowed us to collect conversational artifacts from social simulations, and analyze it from within a complex systems framework. This work is significant for social computing, information systems security, pragmatic research on linguistic, and natural language processing to identify social intent that is not explicitly stated.

How I Can Help Collaborators

- Mixed-methods research design
- Scenario-based experimentation
- Online game design for data collection
- Data analytics & social computing
- Behavioral modeling & prediction
- Interdisciplinary approaches
- Systems design
- Grant-writing

How Collaborators Can Help

- Bring your biggest problems for analysis
- Access for big dataset (e.g., healthcare, social data, utility, etc.)
- Blockchain technology/environment access
- Coding and programming
- Machine learning, artificial intelligence
- Statistical analysis & modeling

Additional Content

I founded the iSensor Lab in 2010 to conduct sociotechnical research related to human factors in cyberspace. Experiments are conducted in live and virtual environments using online games. Research data is collected through confined resources and interactions that are based on real-world cyber trust and deception simulations. We generate data based on real world scenarios that were created with specific purposes. This is done through the deployment of online games that contain identical variables as in real-world situations. Statistical modeling and machine learning are used to parse out the cues of conversations and make sense of the data collected.

Patrice Iatarola

Educational Leadership & Policy Studies

piatarola@fsu.edu

Research Interests
- High Schools, Courses, Outcomes
- Shaping Decisions
- School Finance & Resources

My Research Background

My training is in public policy, and I draw primarily on economic and sociological perspectives in my research. I have a long standing interest in equity that spans most of my work – both input and output sides. I have used student-level longitudinal data to explore the impacts of advanced courses on college readiness, as well as the impact of accountability on a range of student outcomes, including coursetaking. Methodologically, I use approaches ranging from descriptive to causal (quasi-experimental) and have worked with district, school, teacher and student data. I am interested in reengaging my research on high schools by creatively exploring ways to shape the decisions of districts, schools and students that will improve student outcomes.

How I Can Help Collaborators

- Know the FL K-20 education policy landscape
- Advanced statistical analysis and models
- Access to server and large urban district longitudinal micro-level data
- Strong administrative, management background
- Experience publishing in top-tier education journals

How Collaborators Can Help

- RCT experience – small, large scale
- Behavioral economic approaches to decision-making
- Mining micro-level large scale databases
- Math and science background
- Labor market context, assignment optimization

Additional Content

COLLABORATIVE COLLISION @FSU

Advanced Placement Students & Exams, 2002-03 to 2018-19

https://secure-media.collegeboard.org/digitalServices/pdf/research/2019/2019-Annual-Participation.pdf

Noyan Ilk

Business Analytics, Information Systems, and Supply Chain

nilk@business.fsu.edu

Research Interests
- Service Analytics
- Online Customer Support
- Blockchain Technologies

My Research Background

I am an assistant professor of management information systems (MIS) in the College of Business. My research addresses analytics problems that are at the intersection of service operations management and information systems domains. Specifically, I seek to develop novel models and methods to effectively manage service systems in electronic mediums.

On this front, I have conducted research using large-scale data sets including **customer service call transcripts** and customer-firm interactions on **social media** (e.g., Twitter). A separate stream of research that I currently pursue is financial technology (Fintech) management. In particular, I develop programs to collect and analyze **financial transaction data** from blockchains of cryptocurrencies (e.g., Bitcoin).

How I Can Help Collaborators
- Text mining
- Machine learning modeling
- Predictive analytics
- Prescriptive analytics
- Automated data collection (i.e., web scraping)
- Developing programs for management, processing, and analysis of large-scale data sets

How Collaborators Can Help
- Analytical modeling
- Experiment design and methodology
- Survey-based research
- Access to data sets outside the business domain
- Interdisciplinary collaboration

Additional Content

Published in journals such as:
- Management Science
- ACM Transactions on MIS
- Decision Support Systems
- Information & Management
- Information Systems Frontiers

Michael Killian

College of Social Work
mkillian@fsu.edu

Research Interests
- Pediatric organ transplant social work and chronic illness in childhood
- Medication adherence and post-transplant outcomes in pediatric solid organ transplant patients
- Advanced quantitative and statistical analytics & support to research projects at the College of Social Work, FSU research centers, and national and international institutions
- Psychometrics and measurement research

My Research Background
- Pediatric organ transplant social work and chronic illness in childhood (OneFlorida Clinical Research Consortium, Children's Medical Center of Dallas, UF Shands Children's Hospital, UM Jackson Miami Transplant Institute)
    - Medication adherence and post-transplant outcomes in pediatric solid organ transplant patients
    - Machine learning, natural language processing, and prediction models Posttraumatic growth in pediatric solid organ transplant patients and their families
    - Retrospective electronic health records review and analysis
- Advanced quantitative and statistical analytics and support to research projects at the College of Social Work, Florida State University, and other national and international institutions
- Psychometrics and measurement research (University of Texas Southwestern Medical Center, Department of Psychiatry, Center for Depression Studies)

How I Can Help Collaborators

I serve as the Research Scientist for the Center for the Study and Promotion of Communities, Families and Children at the College of Social Work.

THE FLORIDA STATE UNIVERSITY
COLLEGE OF SOCIAL WORK

How Collaborators Can Help

We are looking for collaborators for our:
- Institute for Justice Research and Development
- Institute for Family Violence Studies
- Multidisciplinary Evaluation and Consulting Center
- Trinity Institute for Addictions

Assist to generate and sustain transformational knowledge development for effective policies, services, and usable research for the promotion of communities, families, and the children of Florida, the nation, and across the globe.

Additional Content, Example Projects:

Pediatric Heart and Lung Transplantation Outcomes
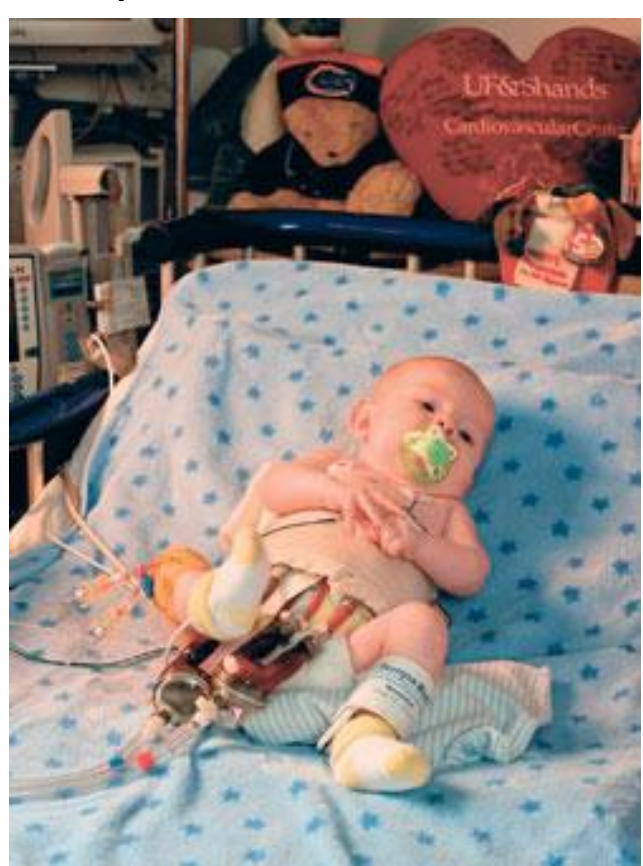
Psychometrics and Measurement Validation
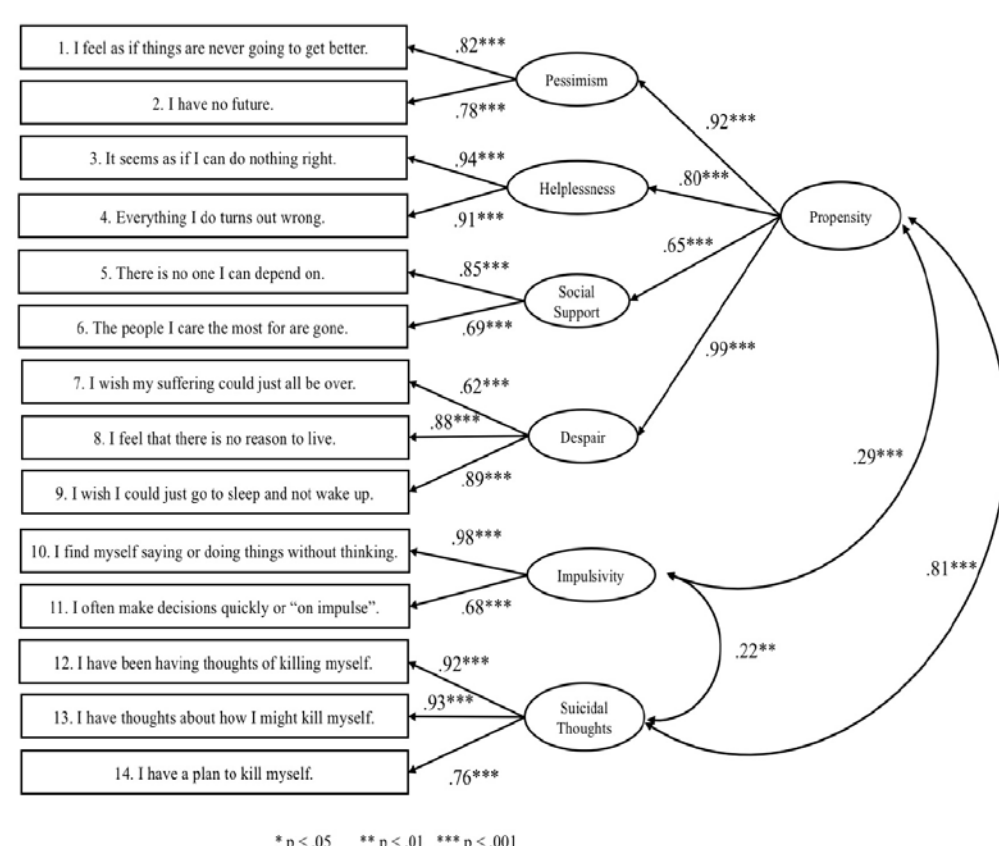
Structural Equation Modeling
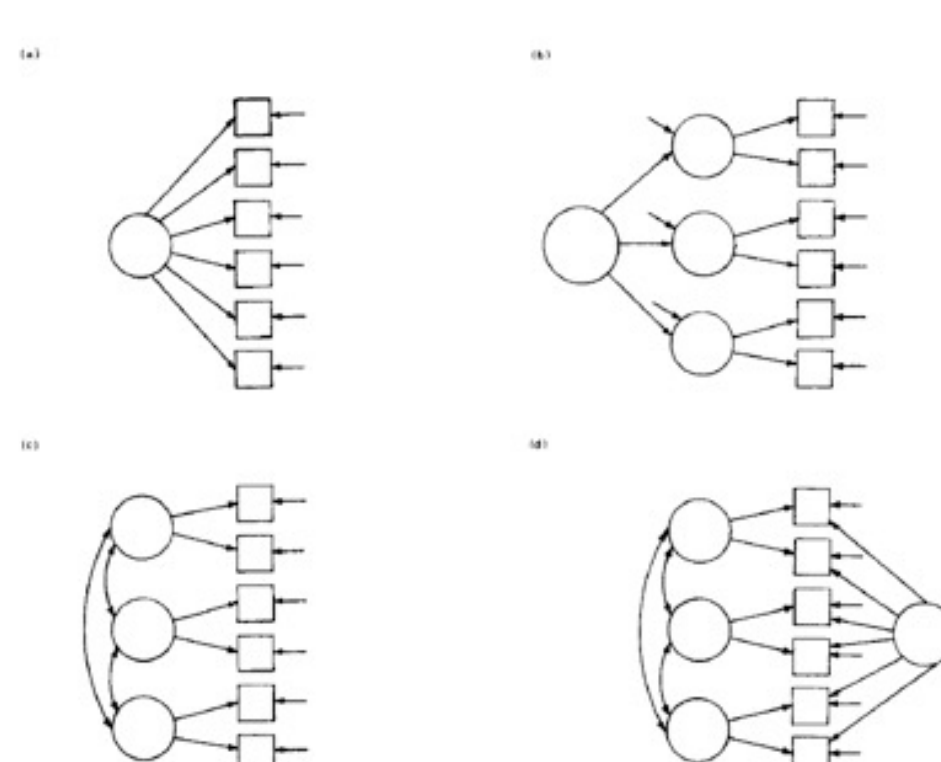
Systematic Review of Latent Variable Mixture Modeling in Social Work Research
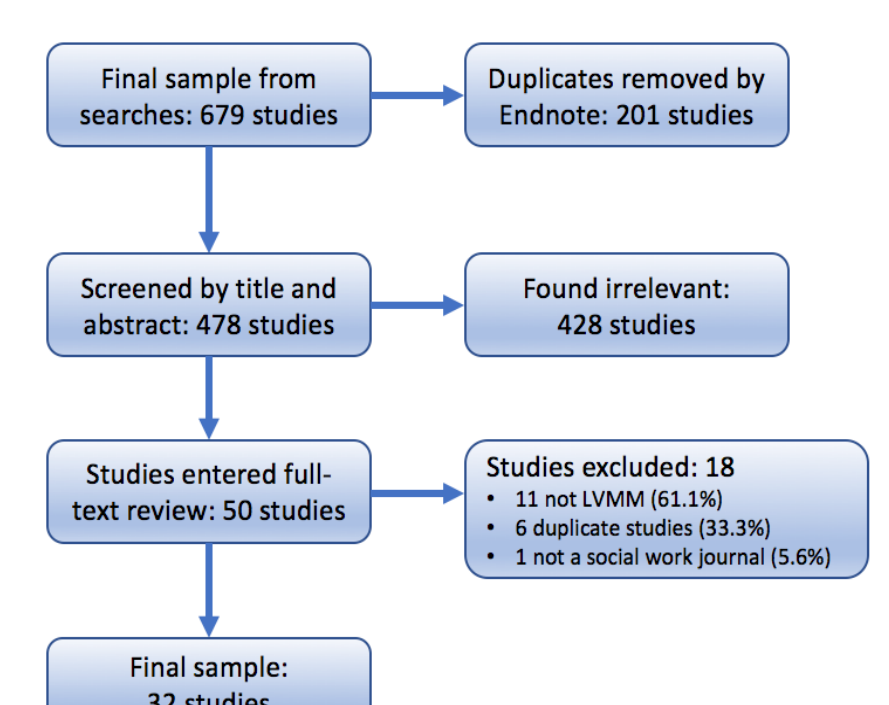
Kyeonghee Kim

Assistant Professor in Risk Management and Insurance Department (Business)
kkim@business.fsu.edu

Research Interests
- Population health
- Life and health insurance company financing decisions
- Financial institutions

My Research Background

The primary focus of my research is to understand the implications of market imperfections and regulation for financial institutions, especially the life and health insurance companies. My research interests extend to topics in population health. I have worked on research projects using nationally representative survey data on health (National Health Interview Survey and Medical Expenditure Panel Survey), where I studied the determinants of health care expenditures.

How I Can Help Collaborators
- Institutional knowledge in insurance market
- Advanced statistical analysis skills including causal analysis (I use Stata and R)
- Research ideas and dataset in risk management and insurance discipline
- Working knowledge in national health survey data: National Health Interview Survey and the Medical Expenditure Panel Survey

How Collaborators Can Help
- Access to unique dataset (E.g. NHIS – MEPS linkage file)
- Interdisciplinary approaches, especially areas in biostatistics, population health, and industrial engineering
- Identify challenges in the health care market (policy changes and their implications)
- Programming skills in python

Additional Content

Research activity
- Kim, K., Rosenberg, M. A. (2019). Determinants of Persistent High - Utilizers in US Adults Using Nationally Representative Data. North American Actuarial Journal.
- Kim, K., Rosenberg, M. A. (2018). The Role of Unhealthy Behaviors on An Individual's Self - reported Perceived Health Status. North American Actuarial Journal.
- Kim, K., Leverty, J. T., Schmit, J. T. (Working). Regulatory Capital and Asset Risk Transfer
- Kim, K., Leverty, J. T. (Working). The Role of Investment Advisers in the Life Insurance Industry
- Eastman, E. M., Kim, K., Ragin, M. A. (Working). Gains Trading as an Earnings Management Tool.

Charalambos Konstantinou

Electrical and Computer Engineering

ckonstantinou@fsu.edu

Research Interests
- Cyber-Physical Systems
- Cybersecurity
- Machine Learning

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
- Artificial Intelligence
- Software development
- Hardware security
- Reverse engineering

How Collaborators Can Help
- Cybersecurity in medical domain
- Big data impact to services and the effect from a cybersecurity standpoint
- Interdisciplinary approaches
- Datasets for security analysis
- Data collection

Thomas "Tom" Ledermann

Department of Family and Child Sciences
tledermann@fsu.edu

Research Interests
- Dyadic Data Analysis
- Relationship Functioning
- Mindfulness

My Research Background

I aim to develop new or extend and combine existing methods to address novel or more specific questions. The models and concepts we proposed include
- the *Caring for Bliss Scale* (CBS) for assessing caring for bliss
- the *Multimember Multigroup Actor-Partner Interdependence Model* for the analysis of group composition in dyads and triads
- the *Common Fate Growth Model* for the assessment of systematic change at the group-level in dyads
- parameter *k* for the assessment of dyadic patterns in the Actor-Partner Interdependence Model
- the *Phantom Model Method* for testing and comparing specific effects in structural equation models

How I Can Help Collaborators
- Dyadic Data Analysis
- Longitudinal Data Analysis
- Mediation and Moderation Analysis
- Psychometrics
- Structural Equation Modeling
- Scale Development
- Taking the role of a biostatistician

How Collaborators Can Help
- Running simulation analysis
- Couple data for retest reliability analysis
- Newlywed datasets
- Collection of data on the transition to parenthood
- Collection of couple and family data

Selected Papers

Rudaz, M., Ledermann, T., May, R. W., & Fincham, F. D. (in press). A brief scale to measure caring for bliss: Conceptualization, initial development, and validation. *Mindfulness*.

Ledermann, T., Rudaz, M., & Grob, A. (2017). Analysis of group composition in multimember multigroup data. *Personal Relationships, 24*, 242-264.

Ledermann, T., & Macho, S. (2014). Analyzing change at the dyadic level: The Common Fate Growth Model. *Journal of Family Psychology, 28*, 204-213.

Ledermann, T., & Kenny, D. A. (2012). The common fate model for dyadic data: Variations of a theoretically important but underutilized model. *Journal of Family Psychology, 26*, 140-148.

Macho, S., & Ledermann, T. (2011). Estimating, testing, and comparing specific effects in structural equation models: The phantom model approach. *Psychological Methods, 16*, 34-43.

Kenny, D. A., & Ledermann, T. (2010). Detecting, measuring, and testing dyadic patterns in the Actor-Partner Interdependence Model. *Journal of Family Psychology, 24*, 359-366.

FSU Libraries

Digital Research & Scholarship
http://lib.fsu.edu/drs

Research Interests
- Scholarly Communications
- Digital Scholarship
- Academic Publishing

My Research Background
- DRS offers collaborative partnerships and consulting for technology-inflected research in the areas of digital humanities, academic publishing, and instruction.
- DRS also provides support for scholarly communications, Open Access, Open Educational Resources, the DigiNole Institutional Repository, Digital Humanities, A/V and Media research, streaming media course reserves, and more.

Talk to us today!

How I Can Help Collaborators
- Experience and expertise in publishing
- Journal and monograph publishing tools
- Journal hosting platforms
- Instruction
- Copyright and Author's Rights expertise
- Campus Infrastructure for publications and data storage
- Access to innovative technologies such as 3D scanners, 3D printers, Virtual Reality, and more
- Audiovisual Media expertise in creative, research, and classroom instruction settings

How Collaborators Can Help
- Collaboration on publishing journals, textbooks, and monographs
- Partnering on student instruction in innovative research methodologies
- Depositing scholarly outputs in DigiNole

Additional Content

First Book FORUM
November 22nd
12pm-4:30pm
Register: bit.ly/FSUFBFRSVP
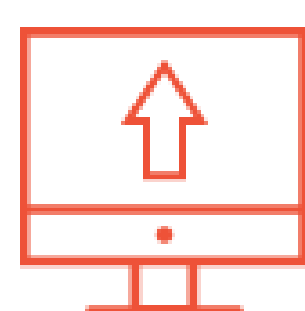
Academic Publishing
The Academic Publishing team works directly with faculty and students to achieve their publishing goals. We provide tools and expertise to support you in disseminating your work and maximizing its impact. We also provide consultations and workshops on Open Access, an international movement to make peer-reviewed scholarship freely available to the world.
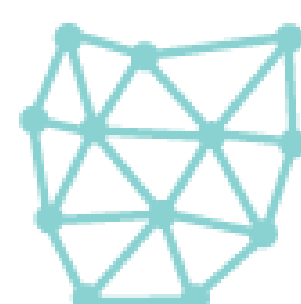
Digital Humanities
The Office of Digital Research and Scholarship supports digital humanities projects and pedagogy through training, project development, and consultations. DRS is invested in fostering both cross-disciplinary and humanities-specific methods of scholarship and pedagogy on FSU's campus.
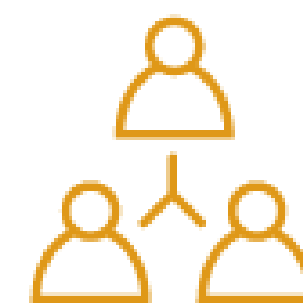
Instruction and Training
The DRS team is invested in developing curricula, syllabi, and course assignments that teach students how to use and engage with different technologies critically. We aim to integrate the methods of digital pedagogy into courses across FSU's campus to increase students' active engagement with the various technologies they use every day

Technology and Innovation
DRS collaborates with faculty, students, and researchers on finding, evaluating, and implementing digital tools and technologies to create innovative scholarly outputs. Our goal is to both meet individual needs and enhance the Library's knowledge-base and technological capacities for supporting new kinds of scholarship. Areas we currently specialize in include Virtual & Augmented Reality, GIS Mapping, Digital Publishing, Data Visualization, and Media Analysis & Annotation. We provide consultation on the use and application of these and other technologies in all stages of the research cycle.

Austin Mast

Department of Biological Science
amast@bio.fsu.edu

Research Interests
- Biodiversity Informatics
- Citizen Science
- Plant Diversity

My Research Background

My research program involves topics within the broadly defined area of biodiversity study. I am particularly interested in (1) the interplay of ecology and evolution that determines the form and function of plant life on Earth, (2) the use of biodiversity research specimens and digital information about them to bring that interplay into sharper focus, and (3) public engagement in the research to further science and STEM literacy goals.

How I Can Help Collaborators

- Deep understanding of **biodiversity informatics tools, protocols, standards, organizations, and community** as member of leadership team on iDigBio, NSF's National Resource for Advancing Digitization of Biodiversity Collections.

- Familiarity with **citizen science methods, best practices, and community** as member of Board of Citizen Science Association.

How Collaborators Can Help

- Would like to use **machine learning and text mining tools** on a new project that identifies instances where specimen collectors have noted biological anomalies, and would like to meet those with these areas of expertise.

Additional Content
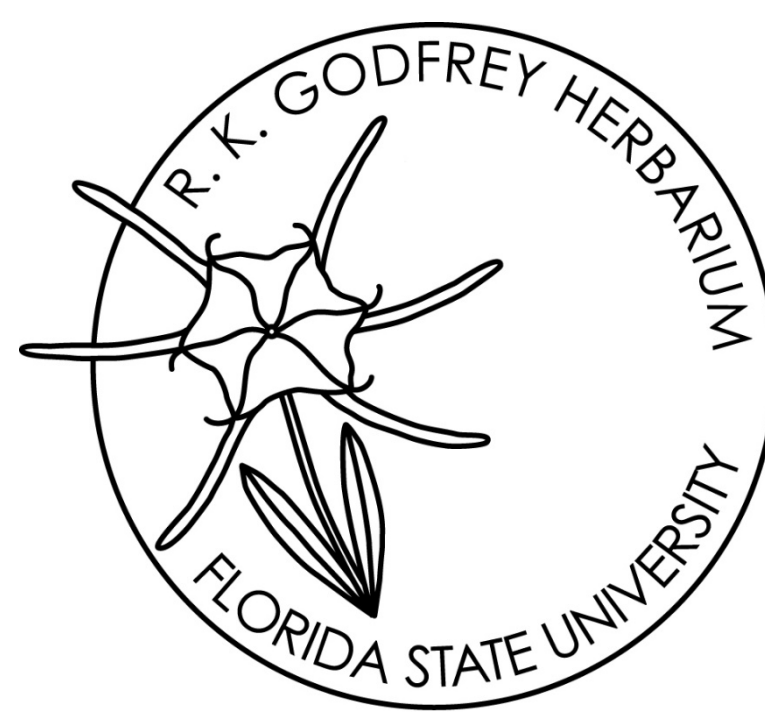
Amy M. McKenna

Ion Cyclotron Resonance Facility
National High Magnetic Field Laboratory
mckenna@magnet.fsu.edu

Research Interests
- Advanced analytical chemistry
- Environmental chemistry
- Data storage repository for data mining

My Research Background

My research focuses on advanced analytical characterization of complex organic mixtures by ultrahigh resolution mass spectrometry, and spans multiple scientific disciplines. Our data sets are very large, with hundreds of thousands of unique elemental compounds in one single sample. I am the manager of the Ion Cyclotron Resonance user facility at the NHMFL, where we work with more than 400 users from across the world each year. Our users and collaborators create very large, complex data sets, and often request compilation of a molecular catalogue and/or database for their specific projects. Our specific science drivers focus on biological applications (proteomics and metabolomics), emerging contaminants of environmental concern, and analytical method development.

How I Can Help Collaborators
- Ultrahigh resolution mass spectrometry (FT-ICR MS)
- Complex mixture analysis
- Advanced analytical methodologies
- Environmental chemistry
- Oil degradation and remediation
- Dissolved organic matter characterization
- Ionization technique development for mass spectral analysis
- Mass spectral imaging (MALDI FT-ICR MS)
- Data management and storage for a user facility

How Collaborators Can Help
- Best practices for data management for multiple PI
- NSF mandate for FAIR data
- Data storage protocols
- NSF'S FAIR data management practice
- Oil degradation and remediation
- Best practices for metadata collection, storage, and public access
- Embargo period for each PI to publish
- Best practices for making large data sets collected on user facility equipment available to the public (Embargo? What about IP? Who pays for this?)

Additional Content
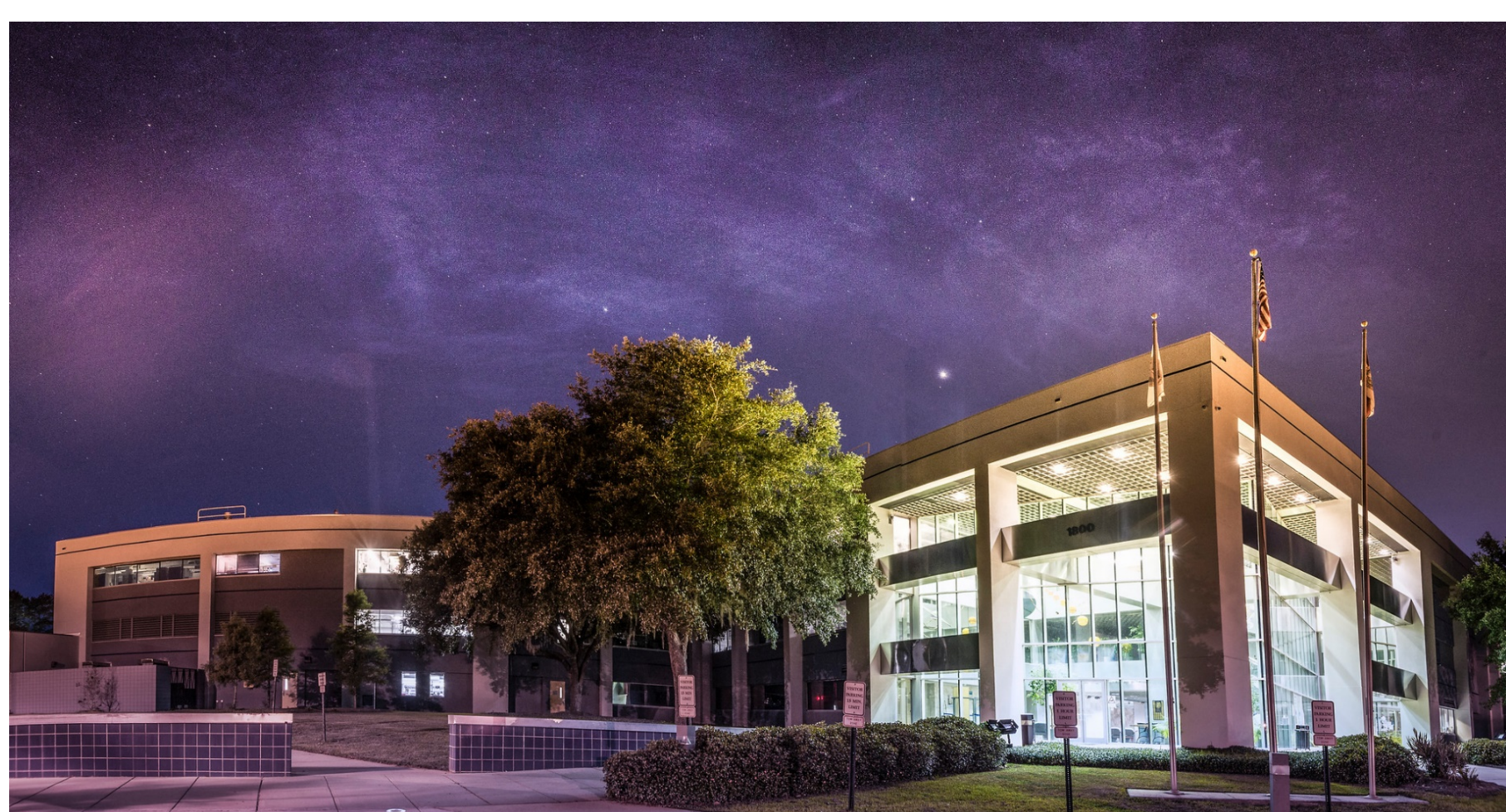
Anke Meyer-Baese

Scientific Computing
ameyerbaese@fsu.edu

Research Interests

- Brain data analysis
- Dynamic graph theory
- Temporal networks
- Advanced machine learning

My Research Background

My research interests lie in brain data analysis and modeling with application to neurodegenerative diseases such as depression, schizophrenia and dementia. I have applied advanced dynamical graph theory, temporal graph networks and modern control mechanisms to determine disease foci, and diffusion models and epidemic spreading modeling to predict disease spread.

How I Can Help Collaborators

- Advanced brain data analysis
- Expertise in dynamic graph theory
- Determine foci of disease propagation
- Models for disease propagation
- Advanced machine learning techniques

How Collaborators Can Help

- Provide fMRI, EEG or MRI data
- Research in neurodegenerative diseases
- Clinical background

Additional Content

Left: Functional data preprocessing. Right: Disease leader nodes in controls (A), MCI (B) and AD (C) functional networks.
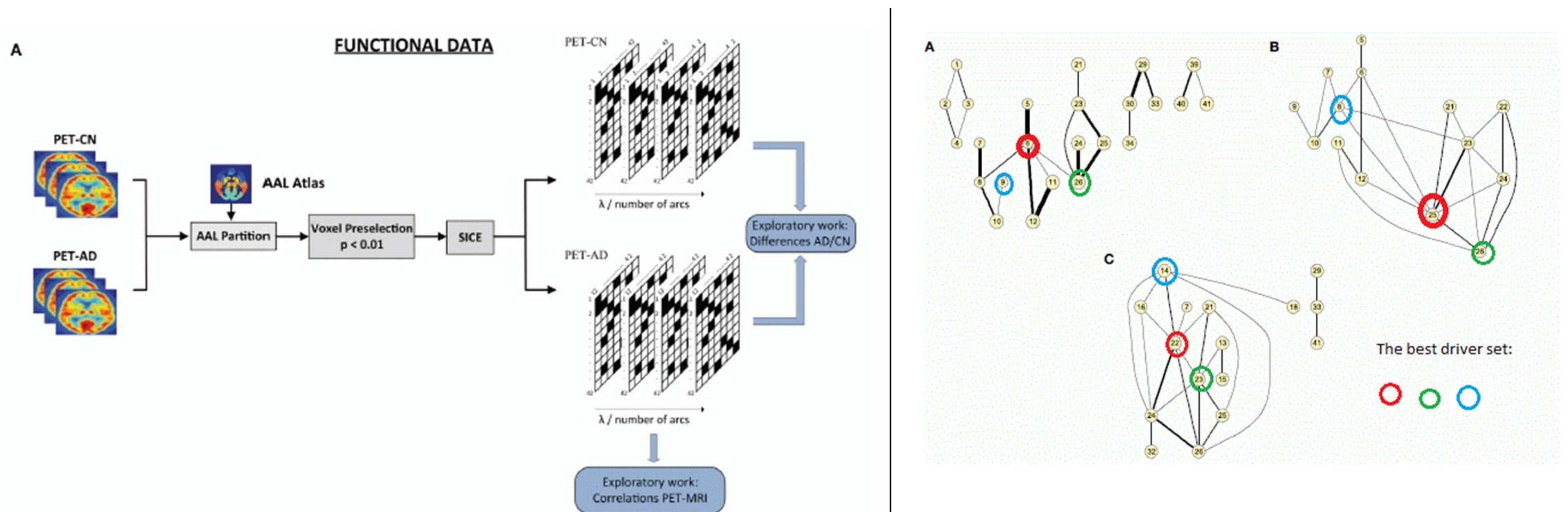
Eugenia Millender

College of Nursing
emillender@fsu.edu

Research Interests
- Mental Health Disparities
- Interactions among DNA methylation, cluster of mental health symptoms and environmental influences on health outcomes

My Research Background

Dr. Millender's research focus is on the trans-generational mental and cardiovascular health disparities among minority and underserved occurs. She does so by working with community-based organizations and employing her expertise in mood disorders, such as depression, anxiety and trauma and how these are expressed through gene-environment interaction. Dr. Eugenia Millender is currently an Associate Professor at Florida State University College of Nursing and at the college's Center for Indigenous Nursing Research for Health Equity.

How I Can Help Collaborators

- Access to clinical dataset
- Experience with community organizations
- Successful history of program funding from federal agencies

How Collaborators Can Help

- Need computer program to run clinical data set and identify a predicting risk score
- Advance statistical analysis
- Interdisciplinary approaches

Additional Content

Eugenia Millender, Ph.D., RN, PMHNP-BC, CDE
Associate Professor,
Center for Indigenous Nursing Research for Health Equity (INRHE)
2010 Levy Avenue, Building B, Office 3612
Tallahassee, Florida 32310
Office: 850-644-5209
Email: emillender@fsu.edu

Jon C Mills

Behavioral Science and Social Medicine
Jon.Mills@med.fsu.edu

Research Interests

- HIV and mental illness
- Causal inference methods
- Comparative effectiveness

My Research Background

My research interest includes the intersection of mental illness and HIV. The **broad research question** I **seek to answer is**: what are the most effective policies, interventions and treatments for reducing the burden of mental illness among people with HIV (PWH)? I have considerable expertise addressing this research question using complex secondary data in conjunction with design, theory and advanced quantitative methodology from the fields of epidemiology and health services research. **My future research plans** include distilling unstructured text from electronic health records into structured data elements amenable to traditional quantitative methods in-order to assess effectiveness and uptake of best practices for the treatment of trauma related psychiatric morbidity among PWH.

How I Can Help Collaborators

- Statistical methods for causal inference using observational data

- Comparative effectiveness study design

- Medicaid health policy analysis

- Longitudinal data analysis

- Experience with preparing and analyzing multiple types of complex data

- Experience publishing in top journals

How Collaborators Can Help

- Unstructured text analysis (electronic health records, clinical progress notes)

- Machine Learning

- Natural Language Processing

- Implementation science study design

- Clinical knowledge for treating trauma related psychiatric conditions (e.g. PTSD, depression)

- Access to electronic health record data from cohorts of people with HIV

- Grant development

Additional Content

Unstructured Clinical Data

Electronic Health Record Clinic Progress Notes

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

NLP Machine Learning →

Structured Clinical Data

Common Data Model (Treatment Episode)

- Date of treatment
- Type of treatment
- Patient diagnosis
- Problem focus
- Patient progress

Data Merge Prep →

New Knowledge

Research

- Health outcomes
- Implementation science
- Uptake of Best Practices
- Comparative effectiveness

Richard Nowakowski

Department of Biomedical Sciences
Richard.Nowakowski@med.fsu.edu

Research Interests
- Omic Analysis of the Brain
- mRNA, miRNA, protein
- Regulatory Networks
- Male/Female Differences in the Brain

My Research Background

My research interests include understanding how the brain is built during fetal development and understanding the differences in the adult brain between males and females. Methods currently using include the –omic technologies, mRNA, miRNA and protein. I also build regulatory networks from on line databases using Python.

How I Can Help Collaborators

- Principles of Brain Development, especially proliferation and migration of neuron
- Mathematical modeling of simple systems
- Successful history of funding from federal agencies
- Facilitating collaboration with other BMS faculty

How Collaborators Can Help

- Advanced statistical models
- Providing data or systems for modeling
- Explore challenges in the field
- Provide connections to experts in the various fields for collaborations with BMS faculty

All miRNA -- overlap of 3 major groups
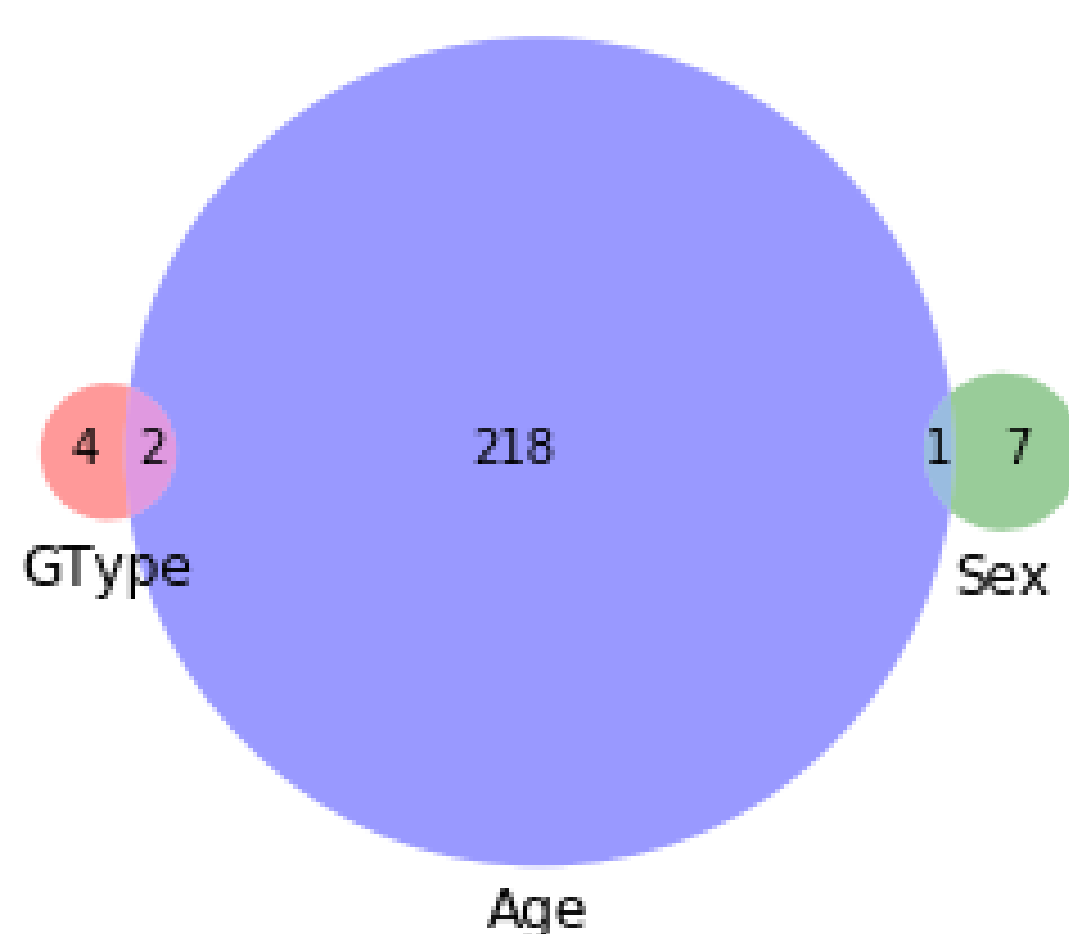
All miRNA -- target overlap for Patterns
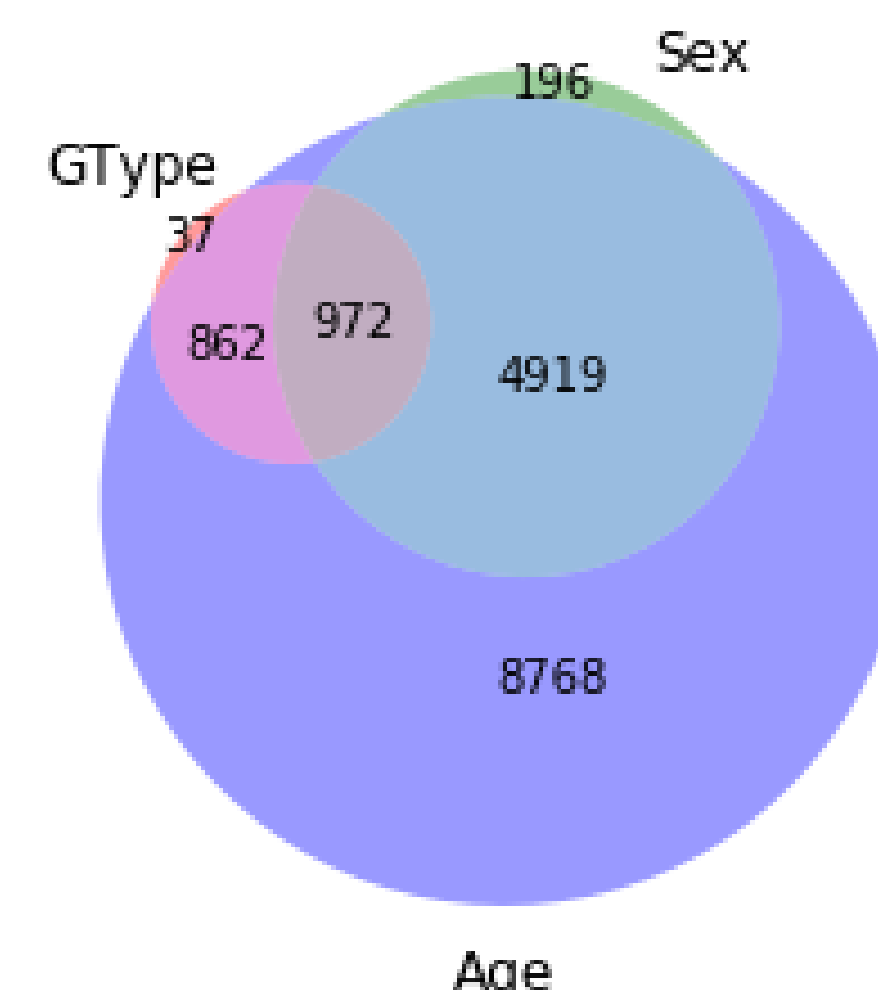
Office of Research Development
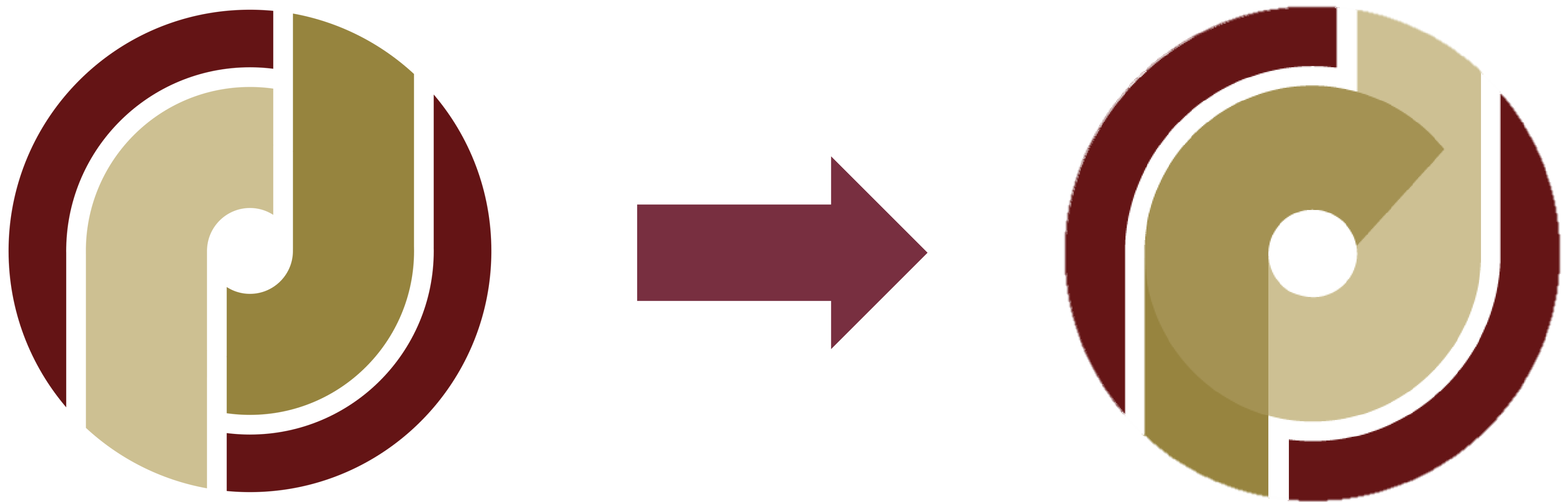
My Research Background

Beginning on November 1st, the Office of Proposal Development will become the **Office of Research Development** to better reflect our range of services. Research development encompasses a set of strategic, catalytic, and capacity-building activities that advance research, especially in higher education. As Research Development professionals, we help researchers become more successful communicators, grant writers, and advocates for their research. We help researchers bring new ideas to life.

How I Can Help Collaborators

- Funding opportunity identification
- Limited submissions management
- Successful proposals database
- Administration of CRC Programs
- Trainings and Workshops
- Proposal editing
- Collaborative Collisions
- Strategic planning for individuals and teams

How Collaborators Can Help

- Contribute successful proposals to the database
- Volunteer to be a panelist at workshops
- Volunteer to be a proposal reviewer
- Tell others about our services
- Let us know how we can help you!

Additional Content

ORD.FSU.EDU

Juan Ordonez

Department of Mechanical Engineering, CAPS, ESC
jordonez@fsu.edu

Research Interests
- Thermodynamics
- Heat transfer
- Energy Systems

My Research Background

My research lies within the fields of heat transfer and thermodynamics and their application to the design, modeling and optimization of advanced energy systems. Our group conducts research in constructal theory, entropy generation minimization, and thermodynamic optimization. Specific areas of research include thermal and renewable energy systems.

How I Can Help Collaborators

- Developing thermal models of energy systems (e.g. power plants, refrigeration systems)
- Developing models for buildings to predict and control building response to environmental and occupancy data
- Developing controls for thermal systems from distributed data
- I am interested on exploring the use of Big Data for the design of intelligent and adaptive energy and flow networks and heat demand prediction (e.g. in buildings) from environmental data

How Collaborators Can Help

- Access to datasets for distribution networks (e.g. natural gas, water)
- Experience with methods related to networks
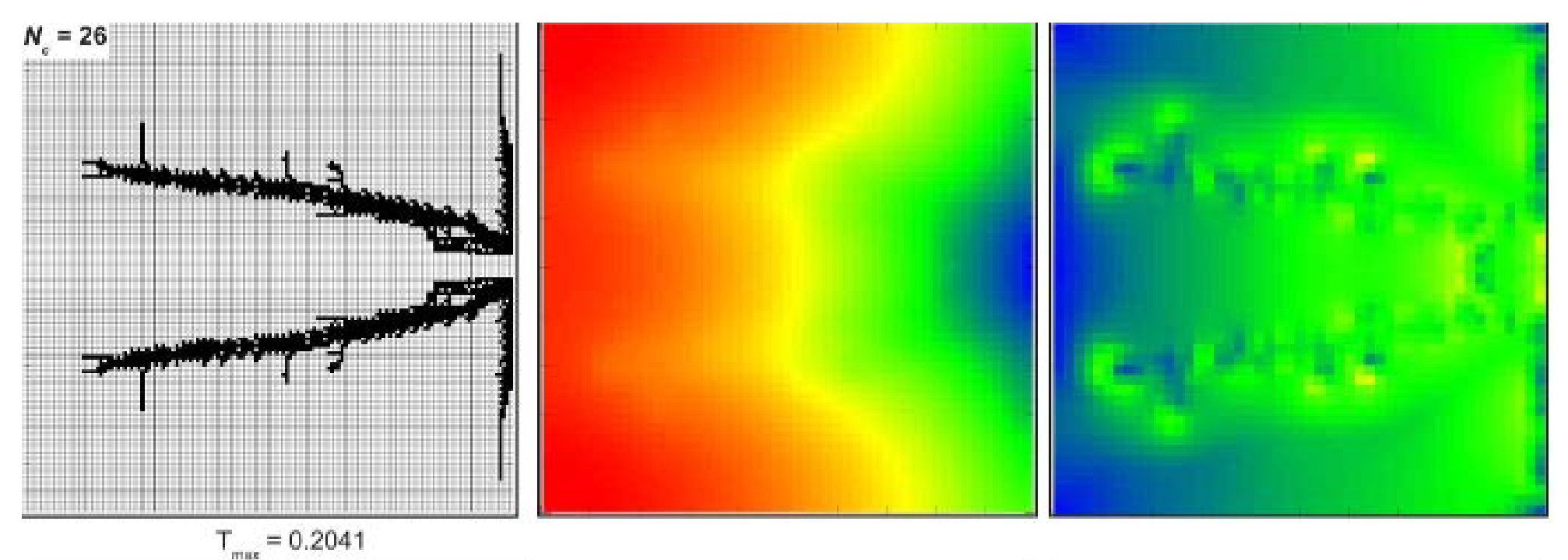
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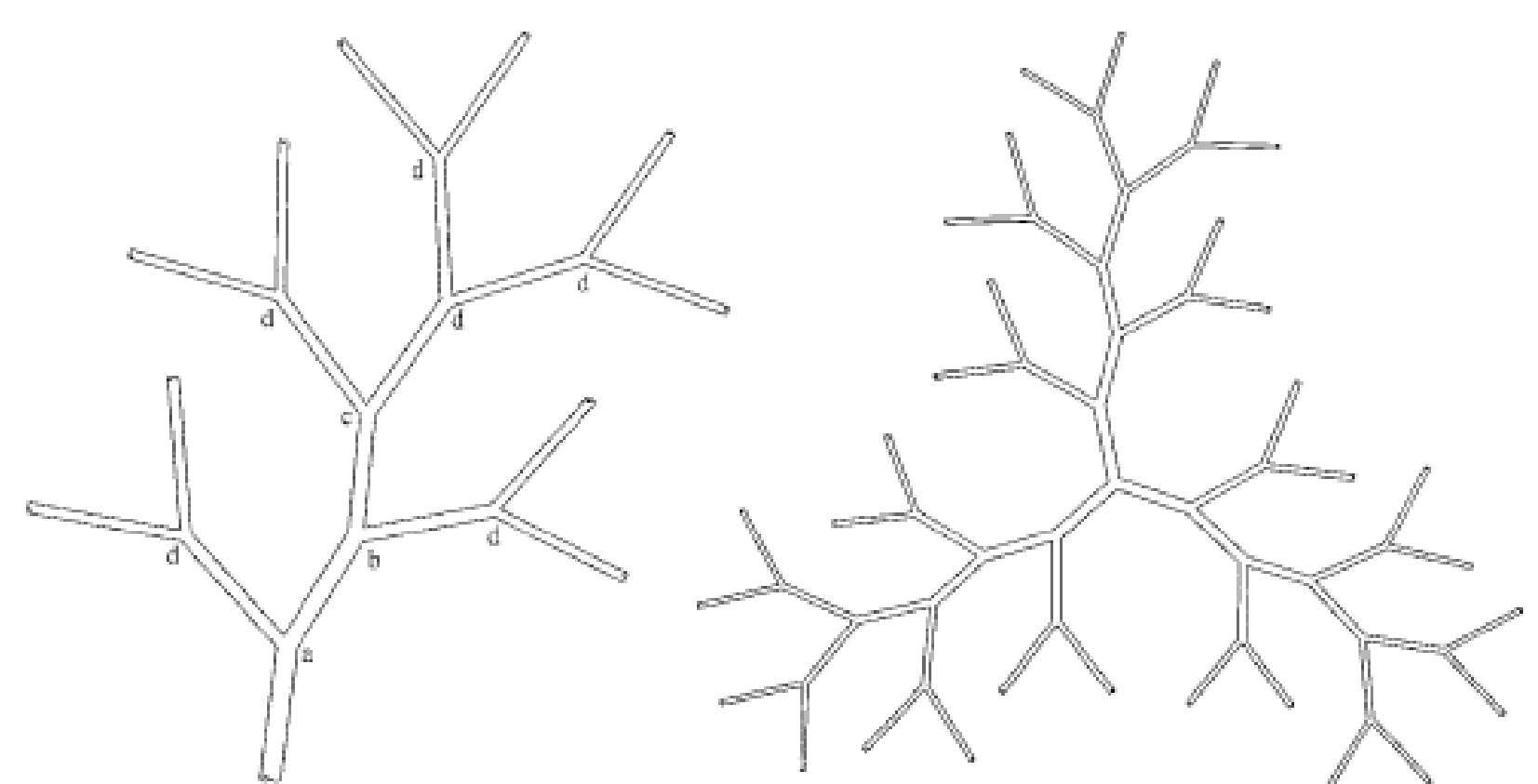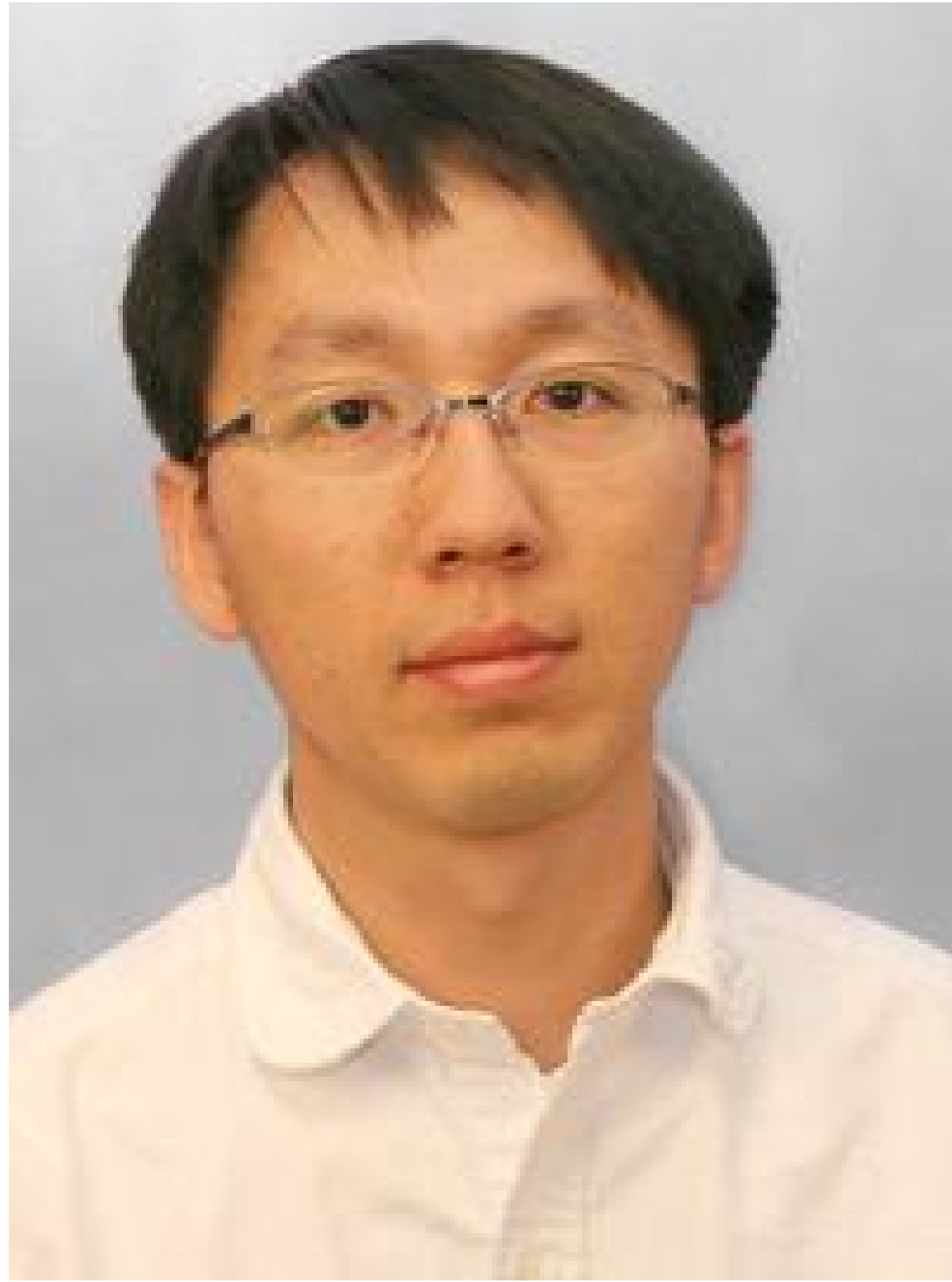
Jin Gyu Park

Department of Industrial and Manufacturing Engineering and High-Performance Materials Institute (HPMI)
jgpark@fsu.edu

Research Interests

- Materials research via advanced Electron Microscopy (TEM/SEM/FIB)
- High-throughput microstructure characterizations of nanomaterials (CNT, Graphene, etc.)
- 3D tomography analysis and microstructure reconstructions

My Research Background

Dr. Jin Gyu Park is an Associate in Research in the Department of Industrial and Manufacturing Engineering (IME) and HPMI at Florida State University. He received his Ph.D., M.S., and B.S. degrees in Physics from the Seoul National University, South Korea. His research experience and expertise are physical properties and characterization of carbon-related materials. This includes electrical/thermal transport, Raman spectroscopy of carbon materials, and electron microscopy of carbon nanotube (CNT) and its composites and nano-manufacturing. Since he joined FSU in 2003, he has worked on 4 research grants as co-PI, is an inventor on 3 US patents, and has published more than 70 refereed journal papers in addition to many other conference proceedings.

How I Can Help Collaborators

- Imaging of materials micro and nano-scales in both 2D and 3D using electron microscopies
- Characterization of nanomaterials (X-ray, electrical/thermal transport, optical)
- Microfabrication using focused ion beam (FIB)

How Collaborators Can Help

- Development of machine learning algorithms for image analysis of scanning electron microscope (SEM) and transmission electron microscope (TEM)
- Structure-property relationship modelling based on 3D structures (handling large data set for simulation)

Additional Content

Processing of large data set of electronic images for 3D reconstruction
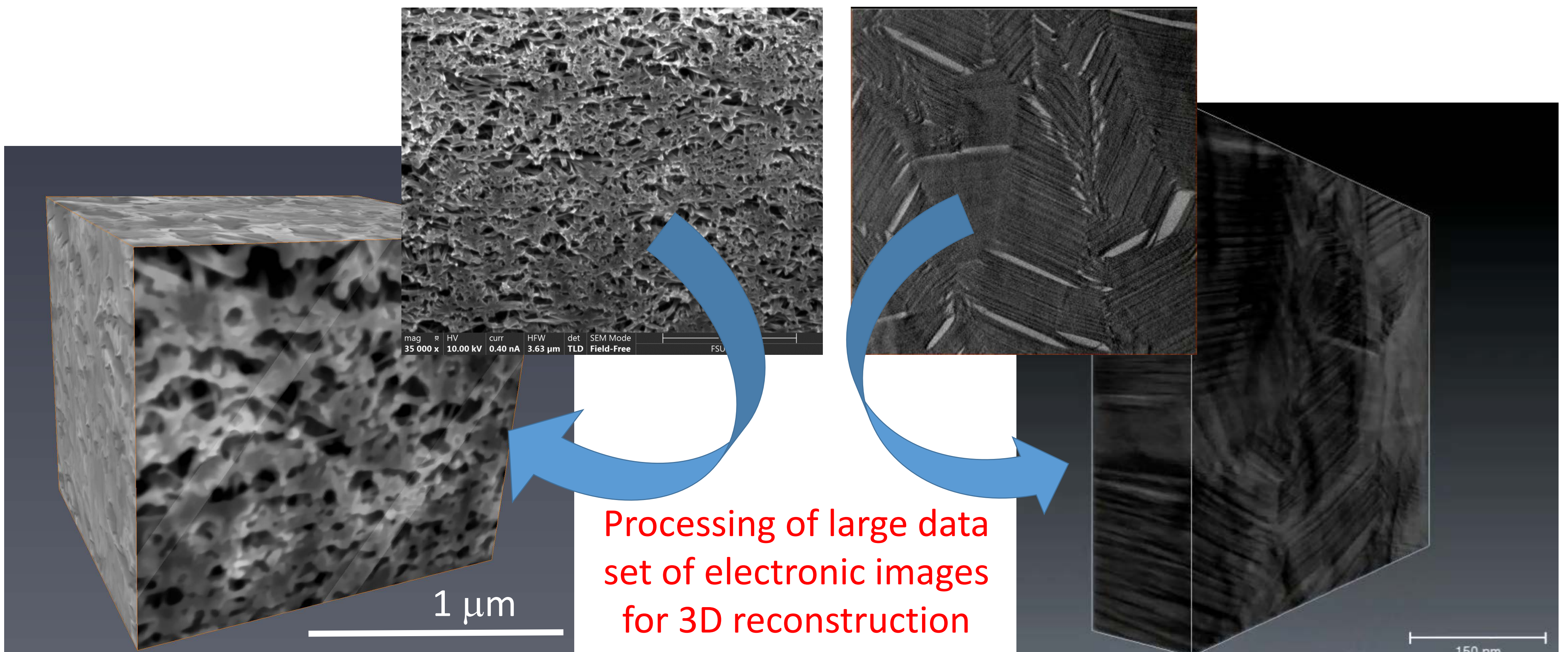
- 3D Tomography of Random CNT Sheet from FIB/SEM

- 3D Tomography of Carbon Fiber from TEM

Tanya M. Peres

Department of Anthropology

Tanya.Peres@fsu.edu

Research Interests
- Big Data
- Foodways
- Past Environments

My Research Background

I examine the various ways that humans incorporate animals into both their cuisine and cultural worldview in the Americas. My research is two-pronged: foodways in ancient America and the non-food roles of animals in Native American societies. My foodways research includes ancient snail farming, garden-hunting, turkey domestication, bone grease production, the acculturation of indigenous and Spanish foodways during the First Spanish Period in Florida, and the fishing foodways of the Olmec in Mesoamerica. My interest in human-animal relationships extends beyond food to the symbolic and technological uses of animals. The projects in this strand of my research are multidisciplinary and make use of primary archaeological data, curated data, and heritage collections.

How I Can Help Collaborators
- Large datasets of mid- and late Holocene animal presence/absence and abundance in the Southeastern US, Veracruz, and Panama (interior and coastal)
- Extensive experience with coupled human-natural systems (CHANS)
- Interdisciplinary data integration
- Experience publishing in multiple formats (journals, books, born-digital)
- Public Outreach Campaigns
- Technical and non-technical writing
- Digital data curation

How Collaborators Can Help
- Automated data cleaning methods
- New methods for integrating disparate data sets
- Data visualization
- Grant collaborations

Additional Content

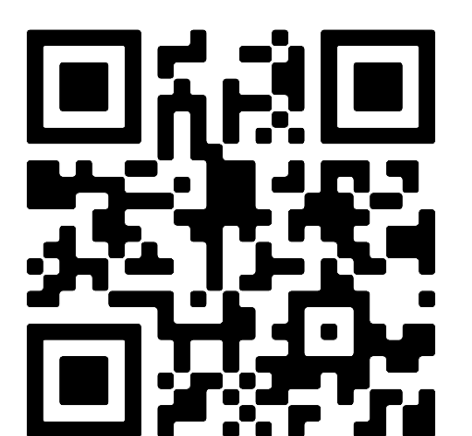**Full listing of publications, presentations, and other scholarly activities can be found at:**
https://sites.google.com/site/tanyamperesphd/
https://fsu.academia.edu/TanyaPeres
http://www.fsu.edu/cvdb/TMP15E.rtf

SCAN ME

Deana A. Rohlinger

Sociology

deana.Rohlinger@fsu.edu

Research Interests
- Digital discourse
- Digital politics
- Political participation

My Research Background

My research uses mixed methods to explore questions related to deliberative discourse and democratic processes. I have an interdisciplinary background – degrees in Sociology, Communication, and Social Sciences (with an emphasis in Political Science) – and a tendency to analyze controversial cases as well as contentious social movements. Some of the topics I have researched to date include abortion politics, gun right politics, the Terri Schiavo case, and the Tea Party movement.

How I Can Help Collaborators
- Mixed method design
- Qualitative analysis
- Broad social science training
- Experience publishing in top journals

How Collaborators Can Help
- Collect and clean big data
- Social network analysis
- Sentiment analysis and LDA
- More interdisciplinary approaches

Additional Content

Sample of Recent Publications:

Rohlinger, D, C. Williams & M. Teek. 2019. "From 'Thank God for Helping this Person' to 'Libtards Really Jumped the Shark': Opinion Leaders and (In)civility in the Wake of School Shootings. *New Media & Society.* Online first https://doi.org/10.1177/1461444819875708.

Rohlinger, D. 2019. "Symposium on Political Communication and Social Movements: Ships Passing in the Night." *Information, Communication & Society* 22(5-6): 724-738.

Rohlinger, D & L. Bunnage. 2019. "Collective Identity in the Digital Age: Thin and Thick Identities in Moveon.org and the Tea Party Movement." *Mobilization* 23(2):135-157.

Allen J. Romano

Program in Interdisciplinary Humanities
aromano@fsu.edu

Research Interests
- Text Analysis
- Digital Humanities
- People in Data

My Research Background

I run the graduate program in Digital Humanities in FSU's Program in Interdisciplinary Humanities. A specialist in Ancient Greek literature (Ph.D. Stanford), my research and teaching interests include text mining ancient literature and corpus analysis of ancient language. I am currently working on a platform to make data (and specifically text) analysis workflows accessible to a broad audience of ancient literature specialists. I regularly teach graduate courses on Humanities Data (R and Python), Knowledge Curation (databases, web, etc.), and Digital Pedagogy and undergraduate courses on technology and culture (aka "What Google does to your brain"). I co-founded the Demos Project for the Study of Data Humanities at FSU, applying humanities thinking to questions about people in data: how are people represented in data, how do we make people visible in data, find people hidden in historic and cultural datasets, and promote the ethical use of people-centered data?

How I Can Help Collaborators

- Data Analysis (R, Python, etc.), especially text and natural language processing
- Training students/collaborators in data methods
- Open Source tools and workflows
- Frontend development and integration
- Integrating humanistic and technical approaches to data
- Help negotiating current research in Data ethics, cybercolonialism, data colonialism

How Collaborators Can Help

- Bring your data
- Opportunities for providing training, consulting, or services
- Funding or funded projects in search of analysis and development
- Public-facing outputs for data analysis problems

Additional Content
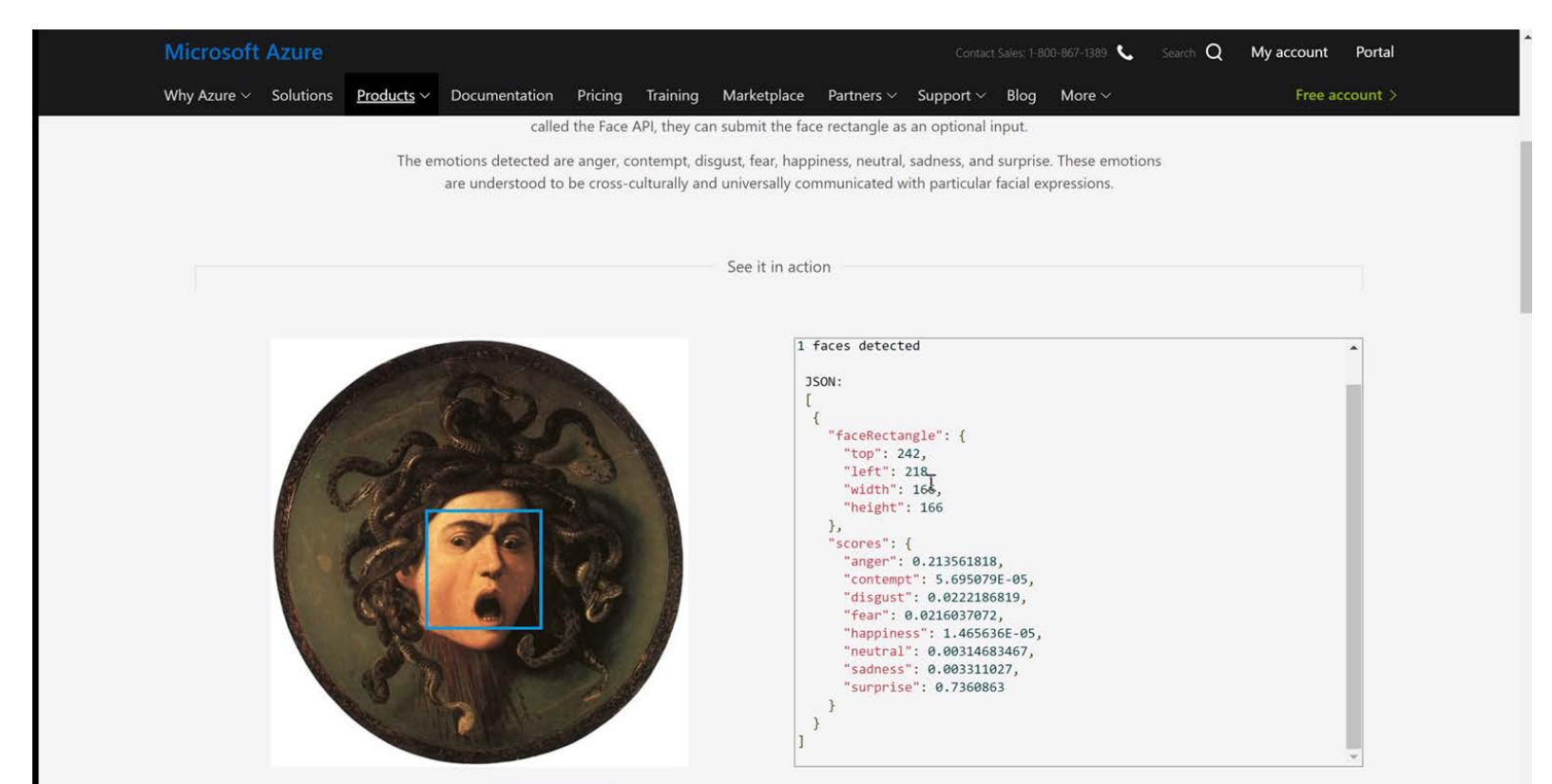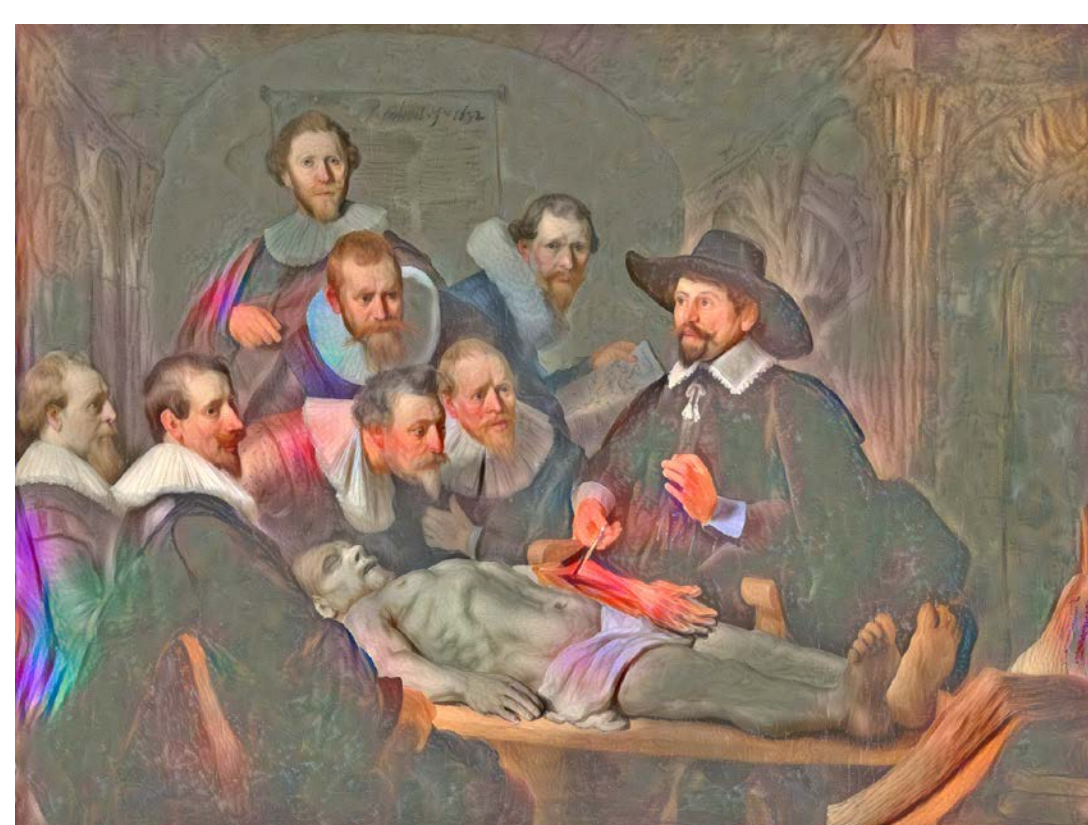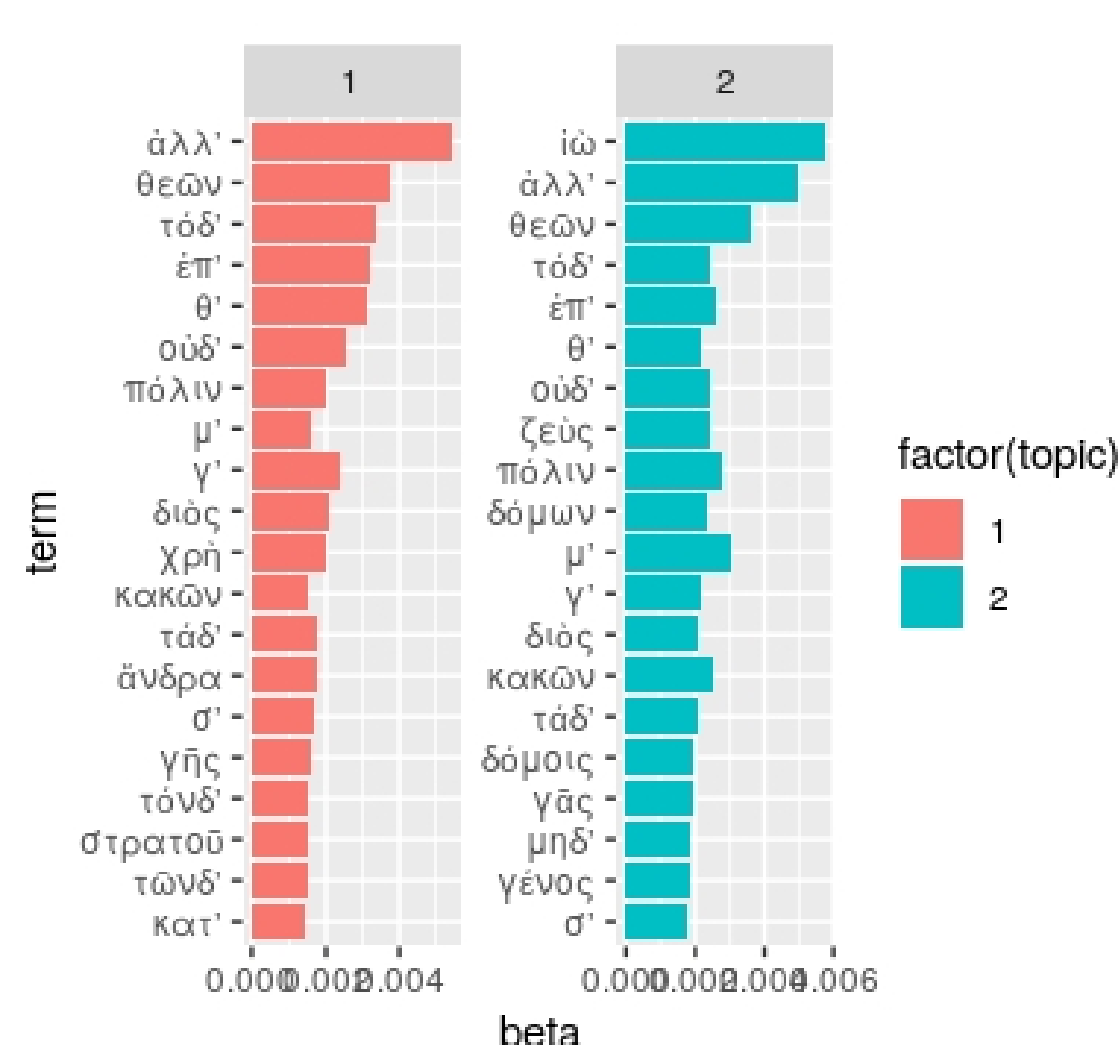
Guangzhi Shang

Business Analytics, Information Systems, & Supply Chain

gshang@business.fsu.edu

Research Interests
- Retail return policies
- Live-chat contact center management
- Cryptocurrency (Bitcoin)

My Research Background

Shang's current research has two primary themes: consumer returns management and service labor issues. He investigates the former from a variety of angles, including how a retailer should set its optimal return policy, how an OEM or a retailer could better forecast the quantity of returns, and how a retailer could assess the value of its return policy. For the latter, he focuses on the context of live-chat contact centers. Research questions include the impact of customer's waiting experience on the progress of a chat session, agent's ability to learn from their past experiences, and the customer–agent matching problem. He enjoys doing practice-driven research. He is a frequent invited speaker at leading industry conferences such as the annual Consumer Returns conference. He also co-produces a column in the Reverse Logistics Magazine named "View from Academia," aimed at disseminating fresh-off-the-press academic knowledge among industry professionals dealing with consumer returns.

How I Can Help Collaborators

I work intensively with various industry partners and collect data from many online service platforms. I am look for collaboration based on these datasets:
- Many medium sized retailers' transaction level data
- Kickstarter data
- Live-chat data
- Bitcoin transactions data

How Collaborators Can Help

Always looking for collaborators on my research area. Also looking for other interesting areas such as:
- Innovative platforms
- Sports ticket sales analytics

Additional Content
- Impact of Waiting on Customer Responsiveness: Evidence from Live-chat Helpdesk
- Routing Customers to the Right Agents: A Design Science Approach to Reduce Transfer Rates in Live-Chat Service Centers
- An empirical investigation of strategic customer behavior for hotel standby upgrades
- "Need for Speed", But How Much Does It Cost? The Fee-Speed Relationship In Bitcoin Transactions
- Team-Specific Ticket Options: A Safety Play for Fans?
- Field-Switching for Entrepreneurs on Kickstarter

Kourosh Shoele

Mechanical Engineering
kshoele@eng.famu.fsu.edu
(850)-645-0143

Research Interests

- Multiphysics Simulations
- Fluid-Structure Interaction
- Biofluids & 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, biomedical flows, renewable energies, and biomechanics.

I am 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.
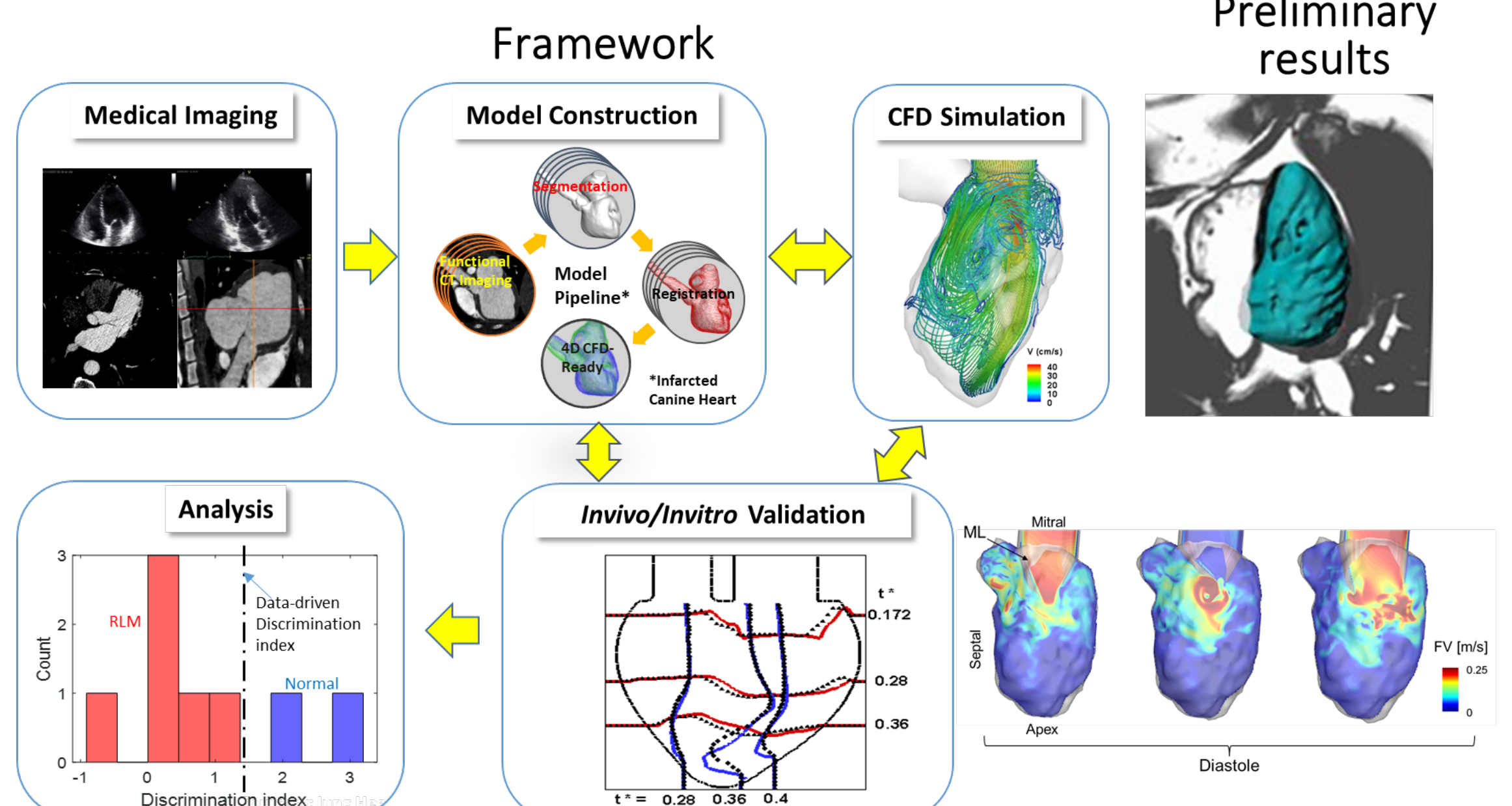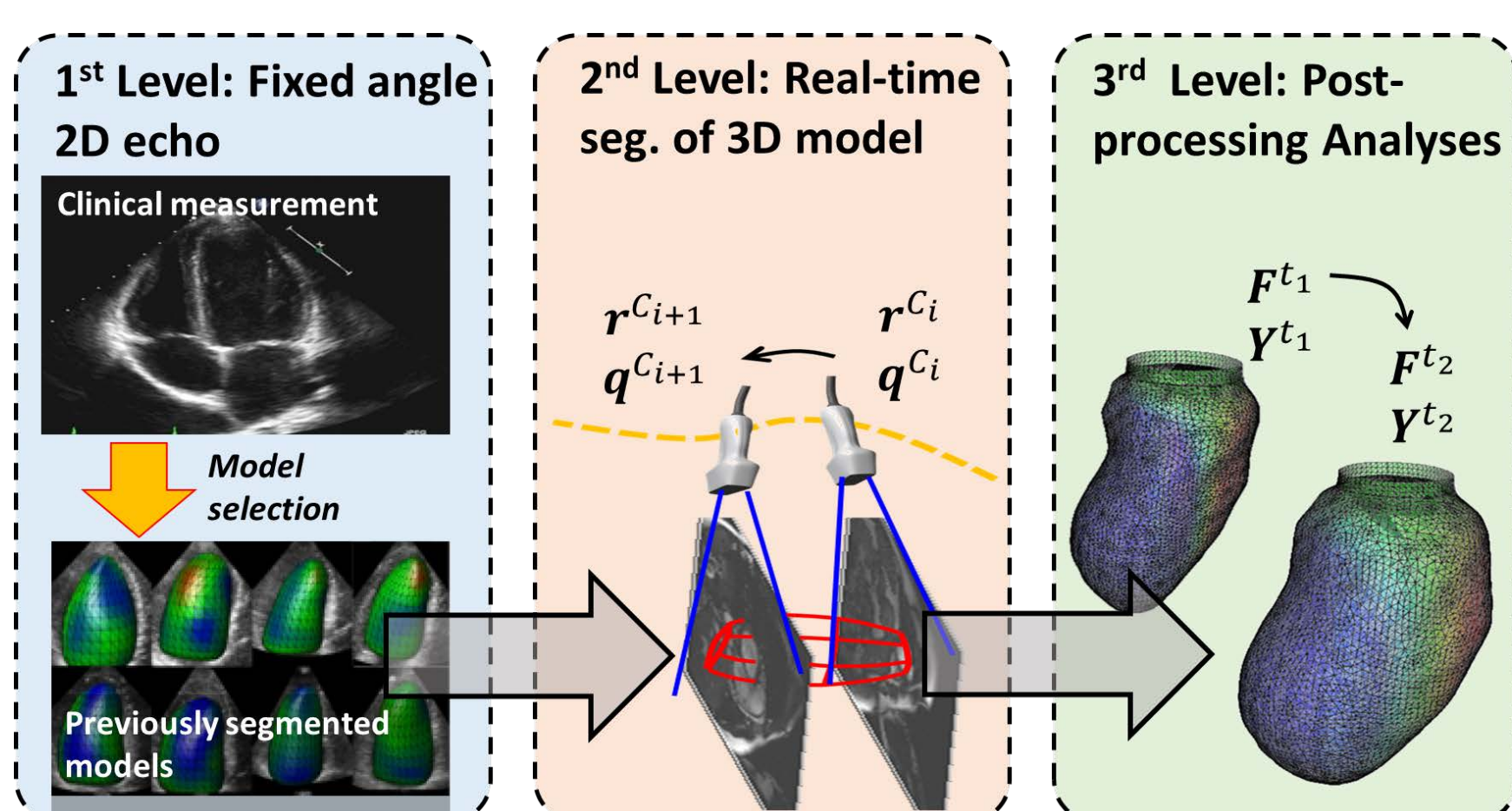
How I Can Help Collaborators

- Provide unique **physics-based data-driven modeling capabilities**
- **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**
- **Biological data** and clinical information
- **Optimization** 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

1st Level: Fixed angle 2D echo — Clinical measurement — Model selection — Previously segmented models

2nd Level: Real-time seg. of 3D model — $r^{C_{i+1}}$ r^{C_i} $q^{C_{i+1}}$ q^{C_i}

3rd Level: Post-processing Analyses — F^{t_1} Y^{t_1} F^{t_2} Y^{t_2}

Framework — Medical Imaging — Model Construction — CFD Simulation — Preliminary results

Analysis — Invivo/Invitro Validation

Besiki Stvilia

School of Information
bstvilia@fsu.edu

Research Interests
- Data Curation
- Online Communities
- Computational Social Sciences

My Research Background

I study collaborative work organization and data practices in various communities. I design models for information and data quality measurement, dynamics and intervention.

How I Can Help Collaborators

- Qualitative and quantitative methods
- Model building and theory development
- Team science
- Applied machine learning and data mining

How Collaborators Can Help

- Access to datasets
- Subject expertise
- Expertise in the implementation of large scale multiagent simulations

Additional Content

COLLABORATIVE COLLISION @FSU

http://myweb.fsu.edu/bstvilia/

Yanshuo Sun

Industrial & Manufacturing Engineering
y.sun@fsu.edu

Research Interests
- Optimization theory & applications
- Big data analytics & visualization
- Transportation systems analysis

My Research Background

My overall research objective is to narrow the gap between the operations research community and the transportation practitioners' world, through the application of advanced mathematical modelling and optimization methods, in order to improve the efficiency, sustainability, reliability, and equity in transportation systems. I use integer programming, nonlinear programming, big data analytics as main research tools, and occasionally draw theories from microeconomics and behavioral science. I have developed innovative applications of the above main methodologies in several core areas of transportation, including ridesharing, public transportation, freight and logistics, and air transportation.

I teach Big Data Analytics in Engineering (using Python) in each spring semester.

How I Can Help Collaborators
- Provide domain knowledge in transportation
- Propose applications of machine learning in transportation systems
- Provide large-scale real-world transportation datasets

How Collaborators Can Help
- Need expertise to develop advanced predictive models with applications in transportation
- Seek to collaborate with business researchers on topics such as revenue management and dynamic pricing

Additional Content

Example publications related to data analytics:

Sun, Y., Shi, J., & Schonfeld, P. M. (2016). Identifying passenger flow characteristics and evaluating travel time reliability by visualizing AFC data: a case study of Shanghai Metro. Public Transport, 8(3), 341-363.

Sun, Y., Jiang, Z., Gu, J., Zhou, M., Li, Y., & Zhang, L. (2018). Analyzing high speed rail passengers' train choices based on new online booking data in China. Transportation Research Part C: Emerging Technologies, 97, 96-113.
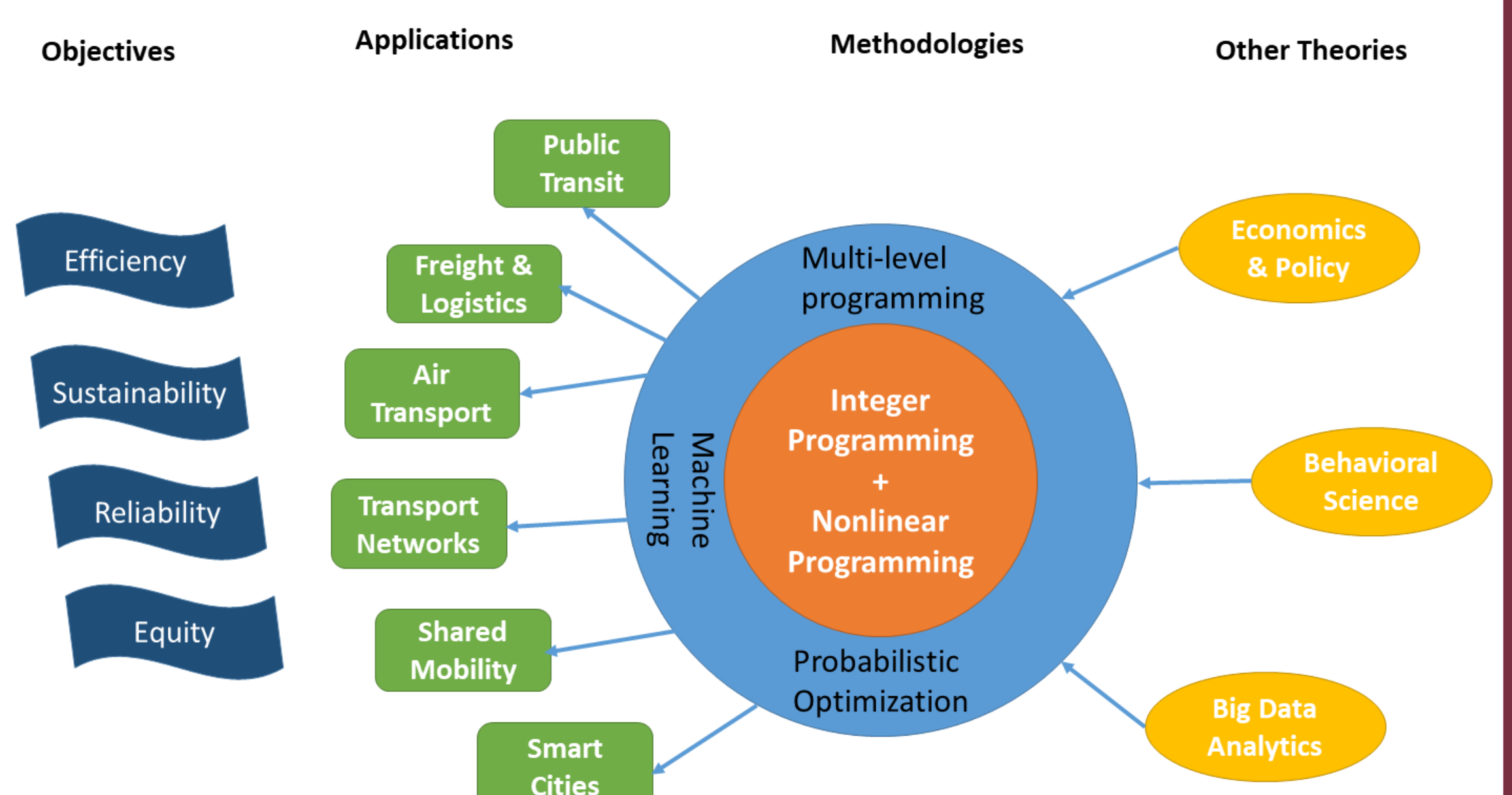
Angelina (Gina) Sutin

Behavioral Sciences and Social Medicine

Angelina.sutin@med.fsu.edu

Research Interests
- Personality
- Cognitive Aging
- Obesity, weight stigma
- Lifespan approaches to health

My Research Background

My research addresses the dynamics between personality and cognition across the lifespan and the correlates of weight stigma. Specifically, my research addresses how five factor model personality traits contribute to cognitive development, aging, and risk of cognitive impairment and the mechanisms of the associations. I also examine how experiences with weight-based discrimination are related to health-risk behaviors and health outcomes, independent of measured body mass index. My research is primarily longitudinal with an emphasis on how correlates and processes are similar or change across the lifespan and across diverse populations. When possible, I use multiple datasets to replicate key findings to build a stronger, more rigorous evidence base.

How I Can Help Collaborators

- Individual differences in health and the interplay with social and structural factors on health
- Expertise in secondary data analysis
- Assessment of cognitive function
- Expertise in longitudinal data analysis
- Experience with federal funding and mentoring junior researchers through the process of submitting grants to NIH
- Experience with publishing in high-impact journals and mentoring trainees through the process

How Collaborators Can Help

- Expertise in measurement of physiological markers (e.g., biomarkers)
- Access to and knowledge of diverse sociodemographic and clinical populations
- Big data analytics
- Expertise in experience sampling methodologies

Additional Content

Representative Publications:
- Sutin, A. R., Stephan, Y., Damian, R. I., Luchetti, M., Strickhouser, J. E., & Terracciano, A. (2019). Five-factor model personality traits and verbal fluency in 10 cohorts. *Psychology and Aging*, 34, 362-373.
- Sutin, A. R., Stephan, Y., & Terracciano, A. (2018). Facets of conscientiousness and risk of dementia. *Psychological Medicine*, 48, 974-982.
- Sutin, A. R., Stephan, Y., Gerend, M. A., Robinson, E., Daly, M., & Terracciano, A. (in press). Perceived weight discrimination and performance in five domains of cognitive function. *Journal of Psychosomatic Research*.
- Terracciano, A., An, Y., Sutin, A. R., Thambisetty, M., & Resnick, S. M. (2017). Personality change in the pre-clinical phase of Alzheimer's disease. *JAMA Psychiatry*, 74, 1259-1265.

Current Projects:
- The interpersonal core of conscientiousness: Mechanisms and partner effects that promote healthier cognitive aging and reduce risk of Alzheimer's (1R56AG064952)
- Midlife cognitive aging in Hispanic/Latinos: Predictors and mechanisms of decline (1U01AG060164)
- Prenatal and early life antecedents of personality: An intergenerational lifespan approach (R01AG053297)

Rebekah Sweat

Industrial and Manufacturing Engineering
r.sweat@fsu.edu

Research Interests
- Micromechanics
- Composites/Nanomaterials
- Digital Twin Simulation

My Research Background

I joined the FAMU-FSU College of Engineering as an Assistant Professor of Industrial Engineering in August 2019. Prior to joining, I was a Research Scientist at Solvay in the Composite Materials Global Business Unit where I worked in Greenville, SC on micromechanics and digital twin technology.

My research group aims to identify next-generation materials through the combination of fundamental and applied methodologies.

How I Can Help Collaborators
- Industry experience
- Micromechanics of materials
- Custom material testing
- Access to multiscale software

How Collaborators Can Help
- Finite Element Analysis (FEA) mesh reduction
- Synthesis of resin, nanofillers, or other materials
- Statistical data on variability of materials

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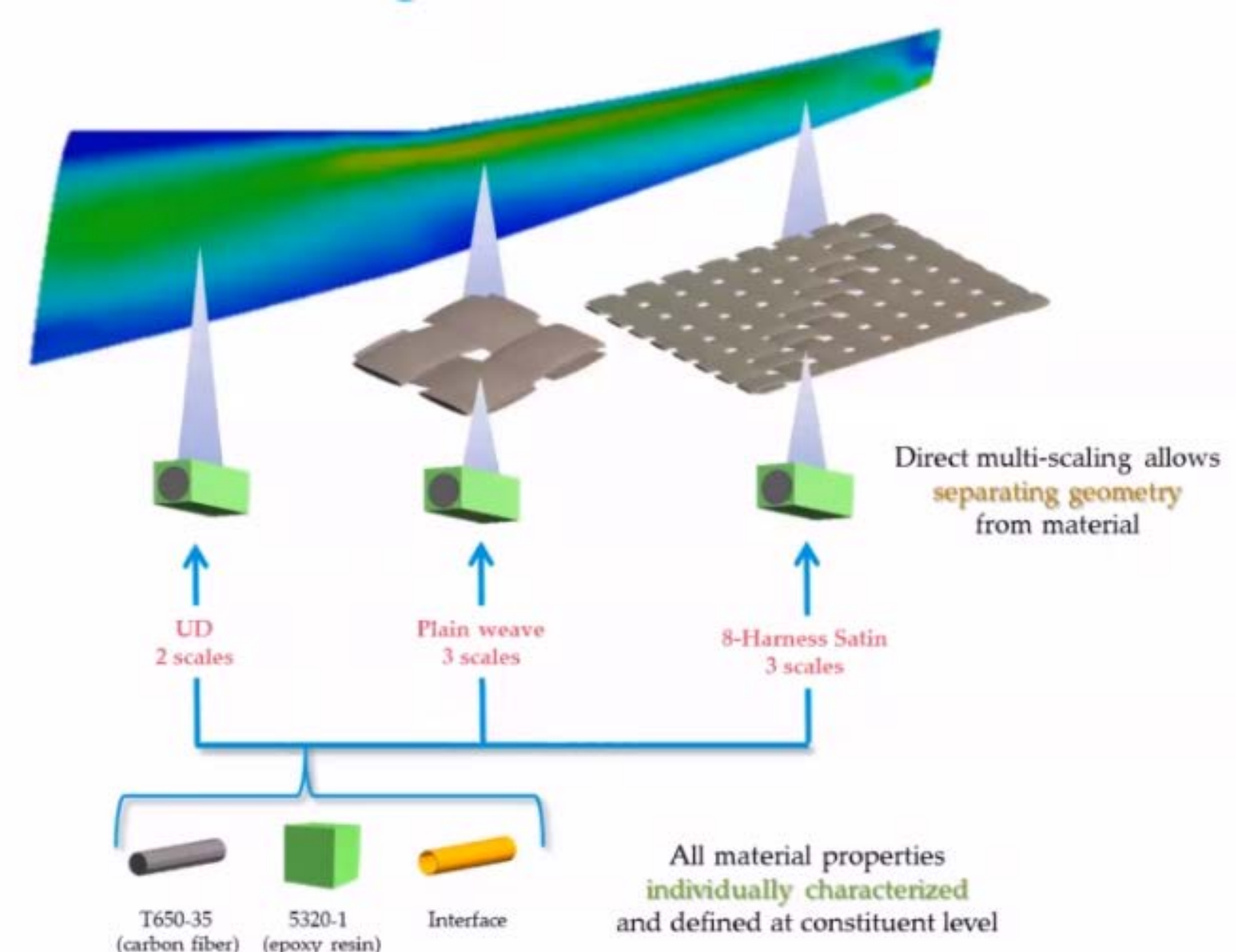
Hui Wang

Industrial and Manufacturing Engineering

hwang10@fsu.edu

850-645-8988

Research Interests
- Multidisciplinary data fusion
- System informatics & optimization

My Research Background

Hui Wang's research has been focused on integrating multidisciplinary data with engineering knowledge to improve decision-making and optimization of engineering systems. His research is mostly sponsored by National Science Foundation.

How I Can Help Collaborators

- I have developed data fusion methods and related learning algorithm to improve the forecasting and identification of faulty events.
- Data fusion analytics to improve forecasting & prediction
- Spatial data modeling and monitoring for characterizing the spatiotemporal variations
- System optimization

How Collaborators Can Help

- I am seeking expertise in various applications that have multidisciplinary data sources and inter-connected environment. Example applications include:
- Manufacturing
- Biomedical process
- Electric grid
- Transportation system
- Cybersecurity
- Cyber-physical systems

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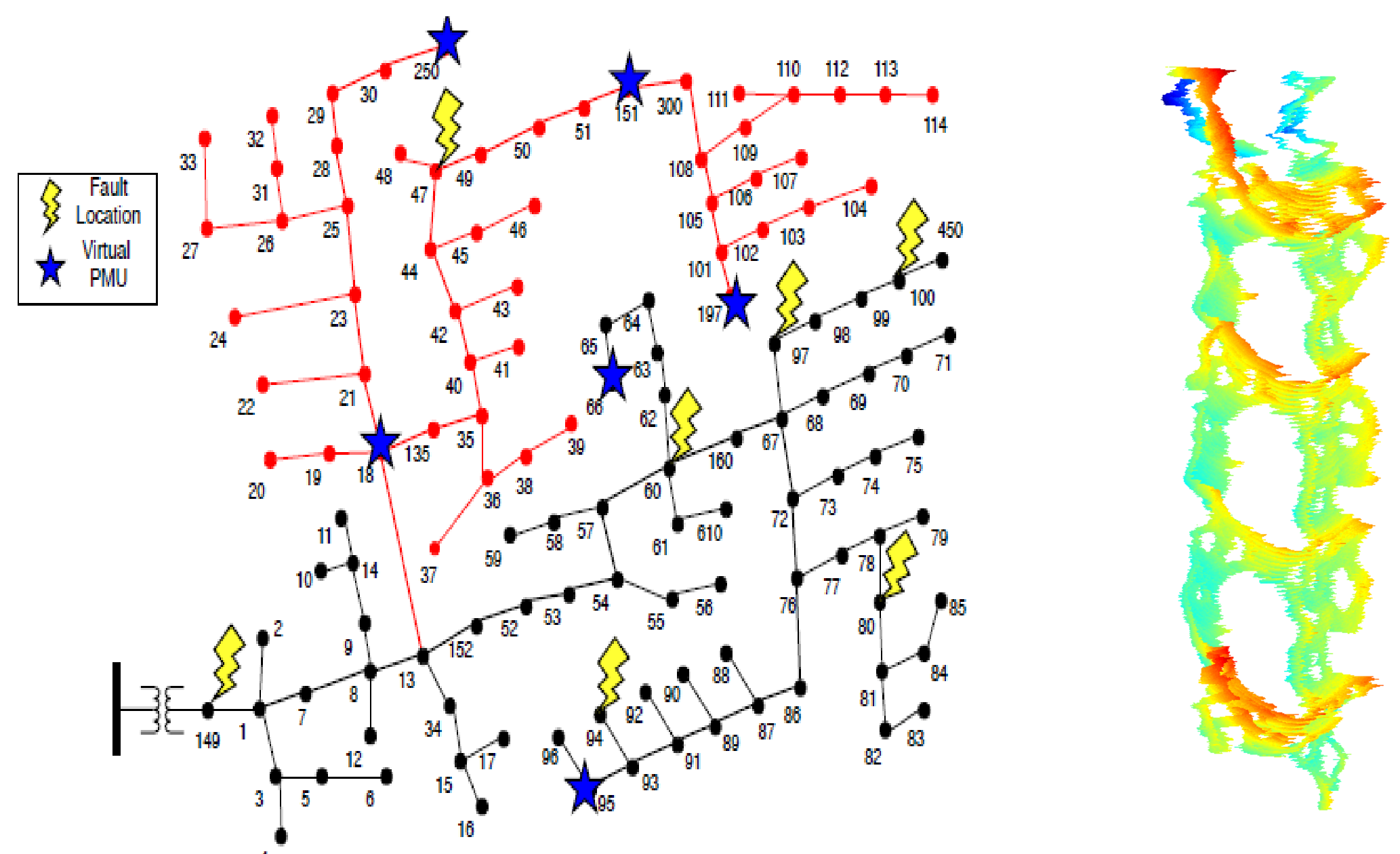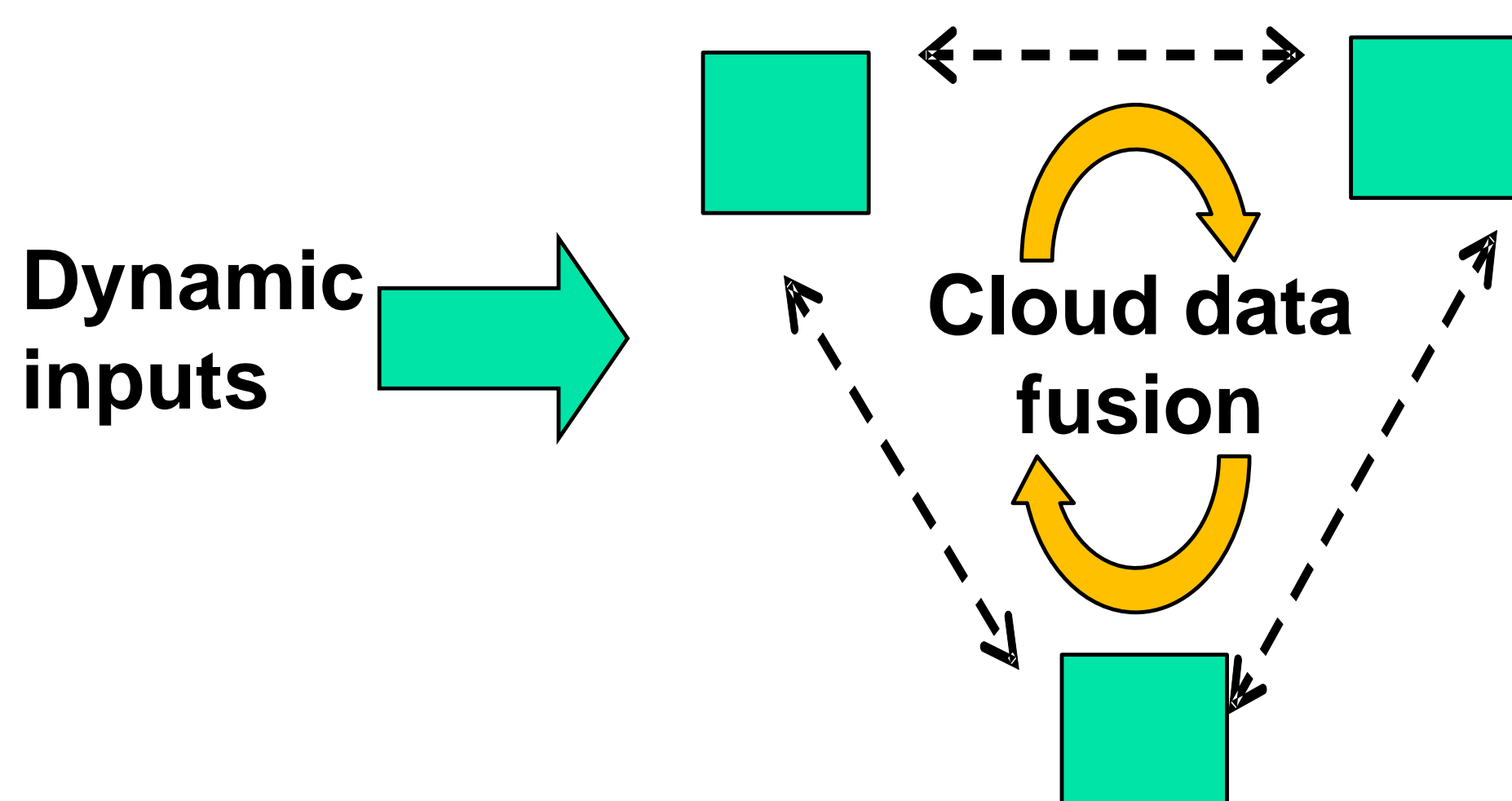
Nico Wienders

Earth, Ocean and Atmospheric Science
wienders@fsu.edu

Research Interests
- Ocean Circulation
- Large Ensembles
- Data Mining

My Research Background

I am a physical oceanographer and specialize in both observations and numerical modeling. Recent works with High Performance Computers involve work on the bifurcation of the Gulf Stream, the simulation of multi-phase plumes in the case of oil spills from the bottom of the ocean or a quantification of the forced and intrinsic variability within the ocean. I have also developed packages for the MIT Global Coupled Model (CHEAPaml and SPOIL). On the side of observations, I have conducted scientific expeditions from the Gulf of Mexico all the way to Antarctica, using moorings, CTD casts, autonomous vehicles, floats, etc. I have also recently developed the Stokes Drifter for which a patent is pending.

How I Can Help Collaborators
- Data collection
- Data processing
- Numerical modeling
- Parametrizations
- High Performance Computing

How Collaborators Can Help
- Algorithms for data mining
- Languages for data mining
- Data reduction
- Statistical methods
- Visualization softwares

Additional Content

We have recently produced ~150TB of data investigating the origins of the ocean's variability: forced or intrinsic, local or remote. We are looking for collaborators to interact on this project.
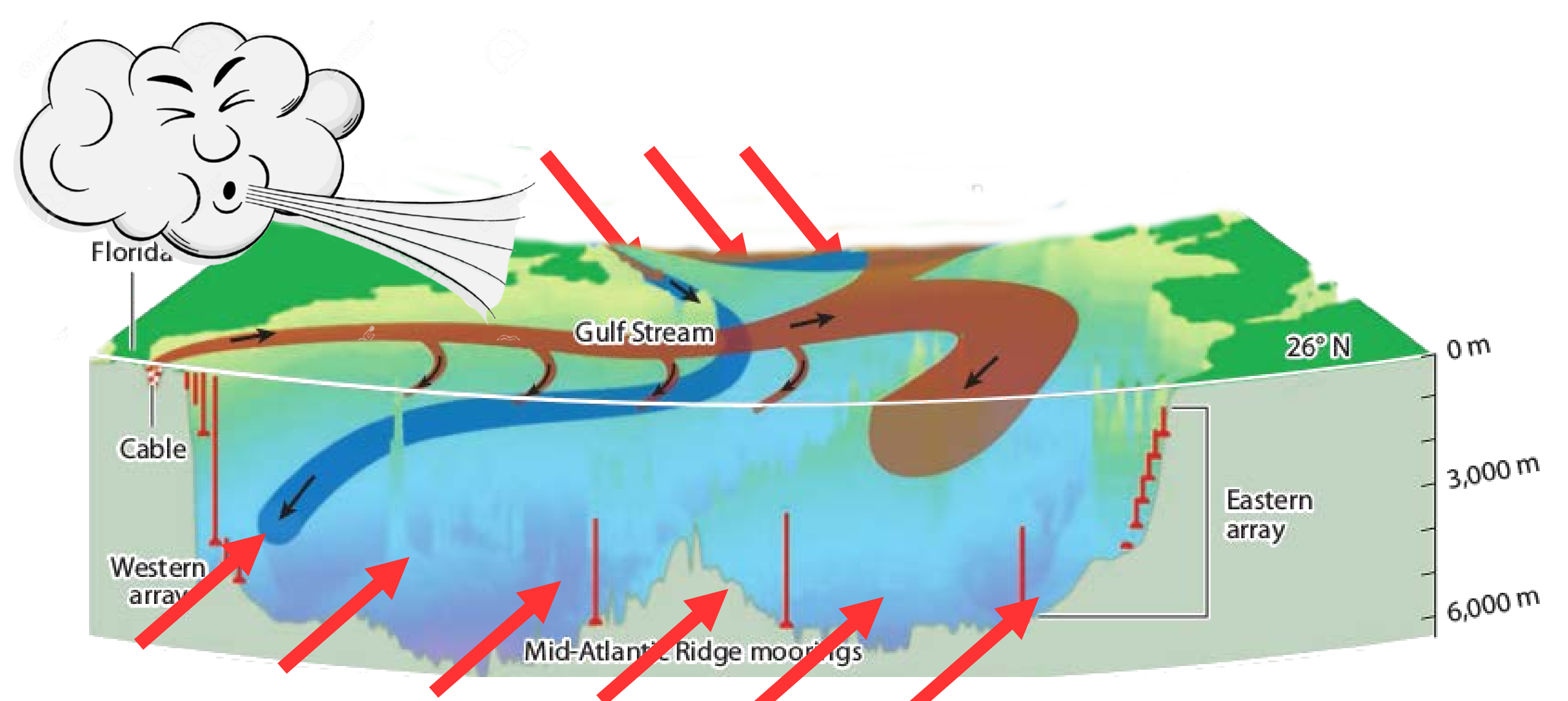
Sandy Wong

Department of Geography
swong@fsu.edu

Research Interests
- Environmental Health
- Disability
- Health Inequities

My Research Background

I am a health geographer, and my research interests include environmental influences on health conditions and behaviors, social processes of disablement and mobility, and health inequities among people with disabilities. I utilize mixed methods in the study of health and urban issues, including geospatial, statistical, and qualitative techniques.

How I Can Help Collaborators
- Implement mixed-methods design
- Generate social or physical environmental data in the U.S. and Mexico
- Use GIS software to produce geospatial results
- Use R to generate reproducible code

How Collaborators Can Help
- Access to populations or datasets with both health and geographic data (e.g., residential location)
- Assistance with or mentorship on grant proposals to federal agencies

Chong Wu

Department of Statistics
cwu3@fsu.edu

Research Interests
- Statistical Genetics
- Machine Learning
- Genetics and Genomics Data Analysis

My Research Background

My research interests are in statistical genetics and genomics, statistical learning, and machine learning. In the past a few years, I have obtained diverse training in developing statistical methods and algorithms for analyzing multiple types of genetic and genomic data, including genome-wide association study (GWAS) data, DNA methylation data, and human microbiome data. My work includes gene- and pathway-based association testing and a new algorithm for clustering. To practice and facilitate reproducible research, I have developed and currently maintain several software and their online manuals. My recent work involves integrative analysis of GWAS with multiple sources of omics data.

How I Can Help Collaborators
- Analyze genetics and genomic data (e.g., GWAS data, sequencing data, RNA-seq data, and DNA methylation data)
- Conduct some standard statistical analysis
- Served as a Biostatistician in a grant proposal

How Collaborators Can Help
- Propose some real questions when analyzing the real datasets
- Teach me some background knowledge in genetics
- Write some grant proposals together

Olmo Zavala-Romero

Center for Ocean-Atmospheric Prediction Studies
olmozavala@gmail.com

Research Interests

- Deep Learning
- Image processing/Computer Vision
- High performance computing

My Research Background

I obtained my Phd. from the Department of Scientific Computing at FSU and have a master's degree in Computer Sciences from Mexico. More specific research interests are now-cast weather prediction, data assimilation in ocean models, and deep learning for oceanography. Some of the projects I have worked on the last couple of years are an air quality forecast model for Mexico City, an oil spill model for the Gulf of Mexico, a Web GIS visualization tool for geospatial data, and a digital atlas of the Gulf of Mexico.

Besides my interest in earth sciences, I have a passion for medical imaging; in this area, I have worked on deep learning algorithms for the automatic segmentation of prostate zones and kidneys. I also worked on the automatic detection of breast and prostate cancer using radiomics and genomics.

How I Can Help Collaborators

- Scientific programing
- Data Science (preprocessing, data analysis, GUI, etc.)
- Databases and Spatial Databases (design and development)
- Deep Learning/Machine Learning (experience with medical images and atmospheric data)
- Experience publishing in top journals
- Web development
- Numerical modeling
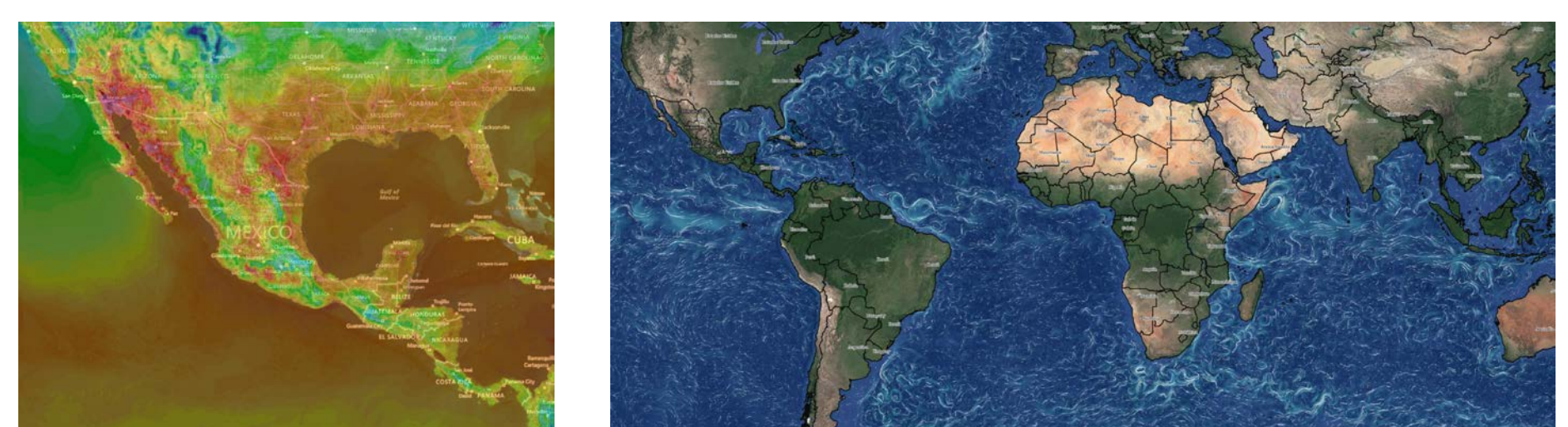
How Collaborators Can Help

- Funding opportunities
- Challenges in other fields
- Interesting data
- Experience writing successful NSF/NIH proposals
- Established academic network
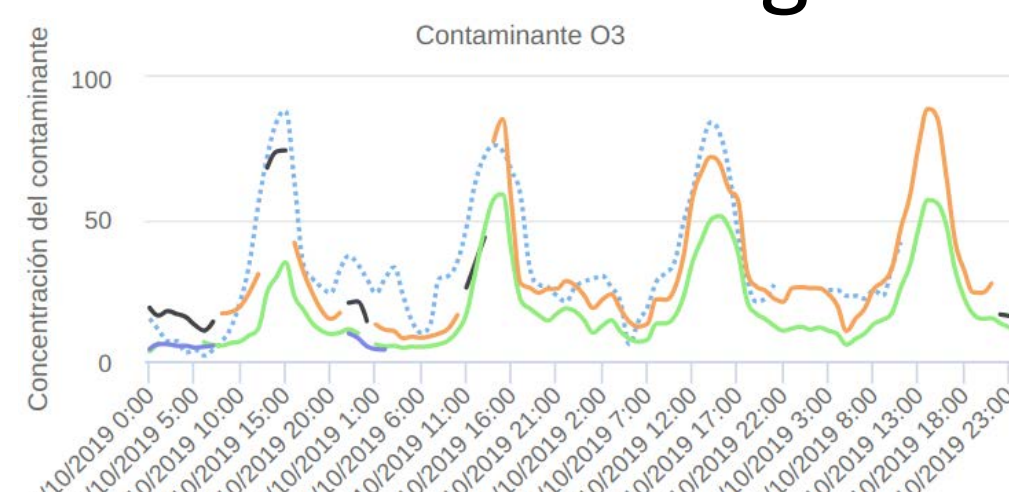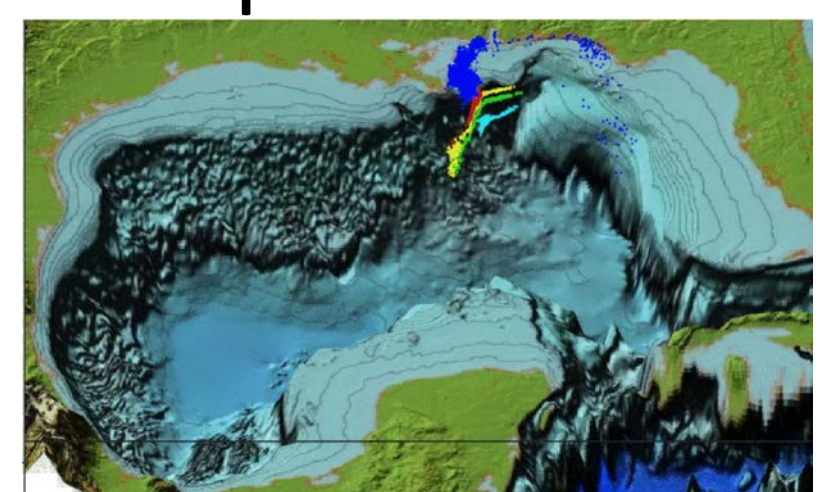
Additional Content

Medical Image Segmentation
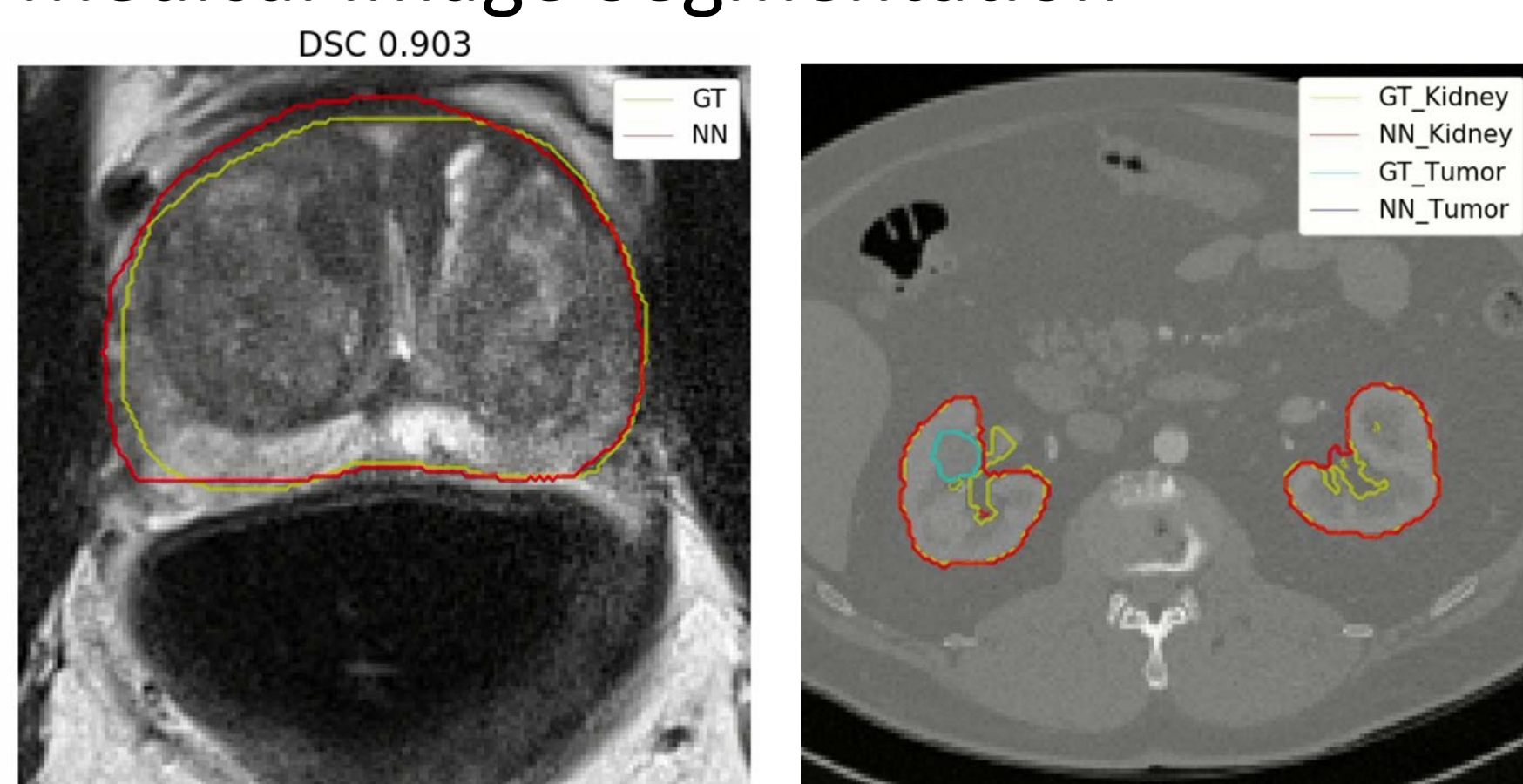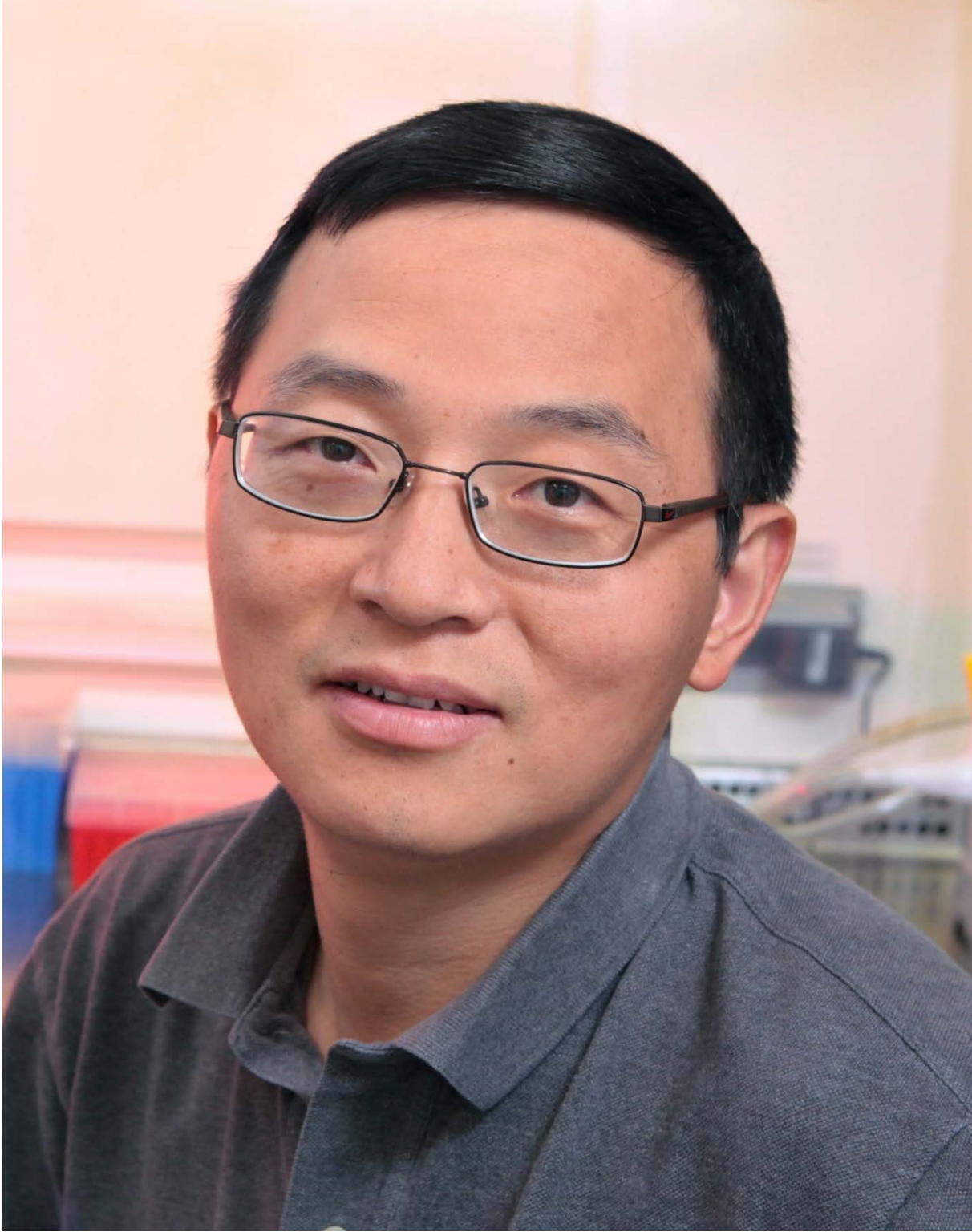

Web GIS Visualization

Machine Learning

Oil Spill Model

Fanxiu Zhu

Department of Biological Science
fzhu@bio.fsu.edu

Research Interests
- Tumor viruses
- Viral/host interactions
- Innate immunity

My Research Background

My lab studies viruses that can cause human cancers. We are particularly interested in how viruses evade the host immune responses and hijack the cellular signaling pathways. We use various approaches including genomics, proteomics, structural biology, and imaging tools in our research.

How I Can Help Collaborators

- Ideal cellular and genetic system
- Various viruses-based tools
- Successful history of funding from NIH

How Collaborators Can Help

- Access to samples and specimen
- Genomic and proteomic data analysis
- Explore challenges in the field
- Interdisciplinary approaches

Additional Content