Iowa State Research Day
March 27, 2018

Lightning Talks Program
Cardinal Room, Memorial Union

Session I
12:30 - 1:30 p.m.

Joshua Peschel, Agricultural and Biosystems Engineering, CoE
From Disney to Digital Livestock
Expertise to offer: Visual data sensing and analytics, computer vision, machine learning.
Expertise sought: Animal science, zoology, ecology.

Nigel Forest Reuel, Chemical and Biological Engineering, CoE
Contact-free Sensing in Closed Systems
Expertise to offer: Optical and RF based sensors for contact-free measurement in closed systems.
Expertise sought: Interesting closed system problems that would benefit from new measurement tools.

Abby M. Dubisar, English, LAS
Farmer, Woman, Persuader: Preliminary Findings From an Interview Study
Expertise to offer: Interview-based research, feminist, persuasion, communication, rhetoric.
Expertise sought: Coding data from interviews for themes, qualitative research, feminist research.
Anwesha Sarkar, Physics and Astronomy, LAS
*Integrin Molecular Tensions in Live Cells are Altered by Substrate Rigidity*
Expertise to offer: Measuring pN scale cellular forces with high resolution and sensitivity and mapping integrin molecular tensions.
Expertise sought: Plasmid amplification facilities and atomic force microscopy.

Ryan Martin, Mathematics, LAS
*The Edit Distance in Graphs and Networks*
Expertise to offer: Tools for graphs and networks, knowledge of large graphs, optimization techniques.
Expertise sought: Applications of graph editing, network editing, distances between graphs.

Kimberly Moss, Art and Visual Culture, Biological/Pre-Medical Illustration, DES
*A Beacon for Broader Impact, Illuminating Science*
Expertise to offer: Scientific visualization, biomedical art, medical illustration, instructional design.
Expertise sought: Wellness, health, discovery-based learning, public science education.

Joshua Zelinsky, Mathematics, LAS
*Integer Complexity*
Expertise to offer: Combinatorics, analytic estimates.
Expertise sought: Linear programming, weighted voting theory.

Loreen R. Stromberg, Mechanical Engineering, CoE
*Finding Salmonella Before it Finds You*
Expertise to offer: Nanomaterials for biosensors, biorecognition, foodborne pathogens, biomarkers, electrochemical and optical sensing.
Expertise sought: Signal processing, data noise reduction, computer hardware design/implementation, business development.
Ben Shirtcliff, Landscape Architecture, DES
The Transformative Power of City Play
Expertise to offer: Social and environmental opportunities and barriers adolescents face in cities, suburbs, and institutions.
Expertise sought: Evidence of social, physical and environmental barriers to intrinsically-motivated, spontaneous, human activity.

Session 2
2:30 - 3:30 p.m.

Verena Paepcke-Hjeltness, Industrial Design, DES
Sketchnoting a Methodology, Communicating Research Outputs
Expertise to offer: Design thinking, facilitating visualization, sketchnoting.
Expertise sought: Any.

Linda Shenk, English, LAS
Mind the Gaps: Applying the Art of Storytelling to Agent-based Models for Community Engagement
Expertise to offer: Storytelling with models, social capital building, equity, youth.
Expertise sought: Agent-based modeling, machine learning, ethics.

Lotfi ben Othmane, Electrical and Computer Engineering, CoE
On the Limit of Security Protection Mechanisms
Expertise to offer: Software security.
Expertise sought: Intelligent transportation systems, software engineering.

Rick Cruse, Agronomy, CALS
Daily Erosion Project: Real-time Soil Erosion Estimation for the Midwest and Beyond
Expertise to offer: GIS, hydrology, remote sensing, landscape scale computer modeling.
Expertise sought: Hydrology, remote sensing, science communication, policy.
Heidi Hohmann, Landscape Architecture, DES
Civic Ecology: The Evolution of the Minneapolis Park System
Expertise to offer: Landscape history, cemeteries, city planning.
Expertise sought: GIS, graphics, mapping.

Matt Besser, Materials Science and Engineering, Ames Lab
Enabling Science: The Materials Preparation Center as a Resource
Expertise to offer: High purity Rare Earth metals and alloys, precision alloy preparation and metallic single crystal growth.
Expertise sought: Any complementary techniques or specialties that would improve our service to the scientific community.

Amanda Petefish-Schrags, Music and Theater, LAS
Tackling the Taboo: Why Write a Play About Miscarriage?
Expertise to offer: Puppetry, playwriting, acting/directing; ritual theatre, feminist theatre and eco-theatre practice.
Expertise sought: Dramaturgy (various disciplines), ecology/environment, gender/women’s studies, materials development.

Bambi Yost, Landscape Architecture, DES
Green Schoolyards That Promote Environmental and Social Justice in Denver, CO, and Philadelphia, PA
Expertise to offer: Community-based participatory design and construction, observational research, mixed-methods research, SOPLAY.
Expertise sought: Evaluation, ethnographic research, metadata analysis, children’s environment, curricular research.