



Iowa State Research Day

March 27, 2018

Discover. Create. Together.

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.



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.



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.



Anweshha 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.



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 Methodolgy, 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

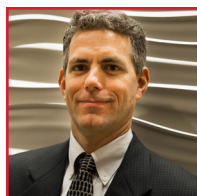
Daily Erosion Project: Real-time Soil Erosion Estimation for the Midwest and Beyond

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-Schrag, 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, meta-data analysis, children's environment, curricular research.