

**TOWARD AN ILLINOIS LEARNING SCIENCES DESIGN LABORATORY
– A LIGHTNING SYMPOSIUM –**

February 27, 2015 ~ Hyatt Place Champaign/Urbana
[217 N. Neil Street, Champaign, IL 61820 ~ Meeting Place A, B, C and D]

PROGRAM AT A GLANCE

Coffer Service ~ 8:00–8:30 AM
Opening Session: Keynote Remarks ~ 8:30–9:00 AM
Session I–Lightning Talks ~ 9:00–9:45 AM
Break ~ 9:45–10:00 AM
Session II–Interactive Posters, Round Tables, and Demonstrations ~ 10:00–11:15 AM
Session III–Lightning Talks ~ 11:15 AM–12:00 PM
Lunch ~ 12:00–1:00 PM
Break ~ 1:00–1:15 PM
Session IV–Lightning Talks ~ 1:15–2:20 PM
Closing Remarks–Next Steps ~ 2:20–2:30 PM

ACKNOWLEDGEMENT

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SYMPOSIUM PROGRAM REVIEW COMMITTEE

Fouad Abd-El-Khalick, College of Education, Chair
Gabrielle D. Allen, National Center for Supercomputing Applications
Aron K. Barbey, College of Applied Health Sciences and Beckman Institute
David Brown, College of Education
Steven A. Culpepper, College of Liberal Arts and Sciences
Lisa W. Hinchliffe, University Library
H Chad Lane, College of Education
Robb Lindgren, College of Education
Bruce J. Litchfield, College of Engineering
Emma Mercier, College of Education
John M. Toenjjes, College of Fine and Applied Arts
Lav R. Varshney, College of Engineering
Michael B. Twidale, Graduate School of Library and Information Science

PROGRAM

COFFEE SERVICE ~ 8:00 – 8:30 AM

OPENING SESSION ~ 8:30 – 9:00 AM

Welcome and Overview

Fouad Abd-El-Khalick, Associate Dean for Research & Research Education,
College of Education

Keynote Remarks

Peter Schiffer, Vice Chancellor for Research, University of Illinois at Urbana-Champaign
Mary Kalantzis, Dean, College of Education
Andreas Cangellaris, Dean, College of Engineering
Edward Seidel, Director, National Center for Supercomputing Applications

SESSION I ~ LIGHTNING TALKS ~ 9:00 – 9:45 AM

1.01 Can a Robot Learn Language as a Child Does?

Levinson, Stephen; selevins@illinois.edu; Electrical and Computer Engineering; Beckman Institute

1.02 Virtual Sprouts: Game-based, Intelligent Learning Technologies for Science Education and Behavior Change

*Lane, H Chad; hclane@illinois.edu; Educational Psychology; College of Education
Donna Spruitj-Metz, USC Keck School of Medicine
Marientina Gotsis, USC School of Cinematic Arts
Gisele Ragusa, USC Viterbi School of Engineering
Jaimie Davis, UT-Austin School of Human Ecology*

1.03 Cloud Sharing of IOLab Data to Enable Collaborative Online Labs

*Selen, Mats; mats@illinois.edu; Physics; College of Engineering
Stelzer, Tim; tstelzer@illinois.edu; Physics, College of Engineering*

1.04 Movement Influences Emotional Responses to Stimuli Viewed On Mobile Phones

*Wise, Kevin; krwise@illinois.edu; Advertising; College of Media
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Wang, Zongyuan (Glenn); zwang101@illinois.edu; Advertising; College of Media
Yao, Jiachen; jyao13@illinois.edu; Advertising; College of Media*

1.05 Big Data Comes to School: Reconceptualizing Evidence and Research in the Era of Technology-mediated Learning

Cope, William; billcope@illinois.edu; Education Policy, Organization and Leadership; College of Education

Kalantzis, Mary; kalantzi@illinois.edu; Curriculum and Instruction; College of Education

1.06 Team Learning through Networked Communication and Game Actions

Yahja, Alex; alex@uiuc.edu; Institute for Computing in the Humanities, Arts, and Social Sciences; National Center for Supercomputing Applications

*Pilny, Andrew; apilny2@illinois.edu; Communication; College of Liberal Arts & Sciences
Poole, Marshall Scott; mspoole@illinois.edu; Communication; College of Liberal Arts and Sciences*

1.07 Classrooms as Device Ecologies: Designing Technology to Support Collaborative Learning in Classrooms

Mercier, Emma; mercier@illinois.edu; Curriculum and Instruction; College of Education

1.08 Utilizing Tools from Network Science and Machine Learning to Understand the Structure and Malleability of Brain Networks

Nikolaidis, Aki; g.aki.nikolaidis@gmail.com; Beckman Institute

Goatz, Drew; drew-goatz@gmail.com; Bioengineering; College of Engineering

Smarigids, Paris; paris@illinois.edu; Computer Science; College of Engineering

Kramer, Arthur; a-kramer@illinois.edu; Beckman Institute

BREAK ~ 9:45 – 10:00 AM

**SESSION II ~ INTERACTIVE POSTERS, ROUND TABLES, AND DEMONSTRATIONS ~
10:00 – 11:15 AM**

2.01 NCSA and the Illinois Learning Sciences Design Laboratory

Allen, Gabrielle; gdallen@illinois.edu; National Center for Supercomputing Applications

2.02 Teaching Students to Coordinate Scientific Text and Diagrams

Cromley, Jennifer; jcromley@illinois.edu; Educational Psychology; College of Education

2.03 Interactive Simulation Software as a Tool for Problem-Based Learning Approaches in Epidemiology

Johnson-Walker, Yvette; yjohn38@illinois.edu; Clinical Epidemiology; College of Veterinary Medicine

Oliver, Nancy J.; noliver@illinois.edu; Veterinary Medicine Administration; College of Veterinary Medicine

Shibley, Clifford F.; cshibley@illinois.edu; Veterinary Clinical Medicine; College of Veterinary Medicine

2.04 Understanding the Cognitive and Neural Mechanisms of Numeracy in Preschool Children through PC-based Training Studies

Berteletti, Ilaria; ilaria.berteletti@gmail.com; Developmental Psychology; College of Liberal Arts and Sciences

Hyde, Daniel C.; dchilde@illinois.edu; Psychology; College of Liberal Arts and Sciences

Mu, Yi; yimu2@illinois.edu; Psychology; College of Liberal Arts and Sciences

Simon, Charline E.; cesimon@illinois.edu; Psychology; College of Liberal Arts and Sciences

2.05 Enabling Students through a Modern, Computing-Centric Education

Fagen, Wade; waf@illinois.edu; Computer Science; College of Engineering

Heeren, Cinda; c-heeren@illinois.edu; Computer Science; College of Engineering

2.06 Enrichment Effects on Cognitive Skills

Stine-Morrow, Elizabeth A L; eals@illinois.edu; Educational Psychology; College of Education & Beckman Institute

2.07 Assessing Teaming Skills and Major Identity through Collaborative Sophomore Design Projects Across Disciplines

Amos, Jennifer; jamos@illinois.edu; Bioengineering; College of Engineering

Imoukhuede, Princes; spii@illinois.edu; Bioengineering; College of Engineering

Vogel, Troy; tvogel@illinois.edu; Chemical and Biomolecular Engineering; College of Liberal Arts and Sciences

2.08 RELATE: Create, Learn and Teach on the Web

Kloekner, Andreas; andreask@illinois.edu; Computer Science; College of Engineering

2.09 Enhancing Student Skills in Synthesis and Creativity in the Classroom and Online

Hurley, Walter; wlhurley@illinois.edu; Animal Sciences; College of Agricultural, Consumer and Environmental Science

Allen, Crystal; callen@illinois.edu; Animal Sciences; College of Agricultural, Consumer and Environmental Science

2.10 Successful Development and Execution of Planetary-Scale Illinois Courses: 143,000 Novices, No Prior Content

Angrave, Lawrence; angrave@illinois.edu; Computer Science; College of Engineering

2.11 The iTrain Project: Effects of Home-Based Verbal Working Memory Training on Language Comprehension in Older Adults

Payne, Brennan; payne12@illinois.edu; Psychology; College of Liberal Arts and Sciences & Beckman Institute

Stine-Morrow, Elizabeth; eals@illinois.edu; Educational Psychology; College of Education

2.12 Smart Grid Cyber Security: Training for the Future

Yardley, Tim; yardley@illinois.edu; Information Trust Institute; College of Engineering

2.13 Workplace Learning and Self in the Context of Late Modernity

Kuchinke, Peter; kuchinke@uiuc.edu; Education Policy, Organization and Leadership; College of Education

2.14 Bringing Simulation and Visualization Technology into the 21st Century Biology Classroom

Tajkhorshid, Emad; emad@life.illinois.edu; Biochemistry, and Center for Biophysics and Computational Biology; Beckman Institute

Ravaioli, Umberto; ravaioli@illinois.edu; Electrical and Computer Engineering; College of Engineering

Bellini, Michel; bellini@illinois.edu; Center for Innovation in Teaching and Learning

2.15 Fitness Effects on Whole Brain Functional Connectivity

Talukdar, Tanveer; ttanveer@illinois.edu; Beckman Institute

2.16 Metaphor Learning: An Instructional Tool that Builds New Knowledge by Leveraging Connections to a Learner's Existing Knowledge

Elliott-Litchfield, J. Bruce; b-litch@illinois.edu; Agricultural and Biological Engineering; College of Engineering

Hahn, Laura D.; lhahn@illinois.edu; Academy for Excellence in Engineering Education; College of Engineering

2.17 Illinois WIDER - Scaling Cultures of Collaboration: Evidence-based Reform in Gateway STEM Courses

Herman, Geoffrey; ggherman@illinois.edu; Illinois Foundry for Innovation in Engineering Education & Curriculum and Instruction; College of Engineering/College of Education

Mestre, Jose; mestre@illinois.edu; Physics and Educational Psychology; College of Engineering and College of Education

Greene, Jennifer; jcgreene@illinois.edu; Educational Psychology; College of Education
West, Matthew; mwest@illinois.edu; Mechanical Science and Engineering; College of Engineering

Mena, Irene; imena@illinois.edu; Physics; College of Engineering

2.18 Quantitative Correlation between Student Use of Office Hours and Course Performance

Heeren, Cinda; c-heeren@illinois.edu; Computer Science; College of Engineering
Fagen, Wade; waf@illinois.edu; Computer Science, College of Engineering

2.19 Development of an Interactive Three-Dimensional Model for Teaching Veterinary Anatomy

McCoy, Annette; mccoya@illinois.edu; Veterinary Clinical Medicine; College of Veterinary Medicine

Sinn-Hanlon, Janet M; j-sinn@illinois.edu; The Design Group @ Vet Med; College of Veterinary Medicine

Helms, Kerry; khelms@illinois.edu; Design Group @ Vet Med; College of Veterinary Medicine

2.20 Learning Design for Dual-Mode Courses

Burbules, Nick; burbules@illinois.edu; Education Policy, Organization and Leadership; College of Education

Lesht, Faye; flesht@illinois.edu; Center for Innovation in Teaching & Learning

2.21 Building a Community of Global Health Scholars

Amos, Jennifer; jamos@illinois.edu; Bioengineering; College of Engineering

Long, Kenny; long6@illinois.edu; School of Medicine and Bioengineering; College of Engineering

Miller, Gay; GYMiller@illinois.edu; Pathobiology; College of Veterinary Medicine

Johnson-Walker, Yvette; yjohn38@illinois.edu; Clinical Epidemiology; College of Veterinary Medicine

2.22 The Improve-To-Stay (ITS) Schedule for Learning: A Subject-Adaptive Regimen for Scheduling Practice

Fiechter, Joshua; fiechte2@illinois.edu; Psychology; College of Liberal Arts and Sciences

Benjamin, Aaron S.; asbenjam@illinois.edu; Psychology; College of Liberal Arts and Sciences

2.23 A Web-Based Course in Scientific Reasoning

Hubler, Alfred; hubler.alfred@gmail.com; Physics; College of Engineering

2.24 Exploring Learners' Argumentation and Cognitive Engagement in Online Discussions

Oh, Eunjung Grace; egraceoh@illinois.edu; Education Policy, Organization and Leadership; College of Education

Kim, Hyun Song; hyunsong.kim@gcsu.edu; Professional Learning and Innovation; Georgia College and State University

2.25 Crowdsourced Lecture Transcription

Ren, Jia Chen; jren4@illinois.edu; Computer Science; College of Engineering

Hasegawa-Johnson, Mark Allan; jhasegaw@illinois.edu; Electrical and Computer Engineering; College of Engineering
Angrave, Lawrence; angrave@illinois.edu; Computer Science; College of Engineering

2.25 The Child Development Laboratory: Bridging Theory, Research and Practice

Fisher, Meghan; mfisher2@illinois.edu; Human and Community Development; College of Agricultural, Consumer and Environmental Science
McBride, Brent; brentmcb@illinois.edu; Human and Community Development; College of Agricultural, Consumer and Environmental Science

2.26 Computerized Testing: A Vision and Initial Experiences

Zilles, Craig; zilles@illinois.edu; Computer Science; College of Engineering
West, Matthew; mwest@illinois.edu; Mechanical Science and Engineering; College of Engineering
Fagen, Wade; waf@illinois.edu; Computer Science; College of Engineering
Deloatch, Robert; deloatc2@illinois.edu; Computer Science; College of Engineering
Heeren, Cinda; c-heeren@illinois.edu; Computer Science; College of Engineering

2.27 The Impact of Semantic Retrieval on Previous and Future Learning

Divis, Kristin; divis1@illinois.edu; Psychology; College of Liberal Arts and Sciences
Benjamin, Aaron S.; asbenjam@illinois.edu; Psychology; College of Liberal Arts and Sciences

2.28 Exploring Student-Centered Approaches to Improve Participation of Underserved Learners in MOOCs

Bhat, Suma; spbhat2@illinois.edu; Beckman Institute
Perry, Michelle; mperry@illinois.edu; Educational Psychology; College of Education

2.29 Challenge-Inspired Undergraduate Education

Bhargava, Rohit; rxb@illinois.edu; Bioengineering; College of Engineering
Pool, Marcia; mpool@illinois.edu; Bioengineering; College of Engineering
Pan, Dipanjan; dipanjan@illinois.edu; Bioengineering; College of Engineering
Smith, Andrew M.; smi@illinois.edu; Bioengineering; College of Engineering
Carney, P. Scott; carney@illinois.edu; Electrical and Computer Engineering; College of Engineering

SESSION III ~ LIGHTNING TALKS ~ 11:15 AM – 12:00 PM

3.01 An Educational Gaming Platform for Training Spatial Skills

Fu, Wai-Tat; wfu@illinois.edu; Computer Science; College of Engineering
Lane, Chad; hclane@illinois.edu; Educational Psychology; College of Education
Israel, Maya; misrael@illinois.edu; Special Education; College of Education

3.02 Using Computer-Adaptive Testing to Improve STEM Learning, Test Performance and Retention

Mestre, Jose; mestre@illinois.edu; Physics and Educational Psychology; Colleges of Engineering and Education

Anderson, Carolyn; cja@illinois.edu; Educational Psychology; College of Education

Chang, Hua-Hua; hhchang@illinois.edu; Educational Psychology; College of Education

Gladding, Gary; geg@illinois.edu; Physics; College of Engineering

Ryan, Katherine; k-ryan6@illinois.edu; Educational Psychology; College of Education

3.03 Enhancing and Understanding Learning and Memory through Multimodal Training

Paul, Erick; ejpaul@illinois.edu; Speech and Hearing Science; Beckman Institute

Larsen, Ryan; larsen@illinois.edu; Beckman Institute

Barbey, Aron; barbey@illinois.edu; Speech and Hearing Science & Beckman Institute

3.04 Towards Scalability, Privacy, and Reliability in Peer Grading

Varshney, Lav; varshney@illinois.edu; Electrical and Computer Engineering; College of Engineering

3.05 Promoting Meaningful Participation in Online Learning Environments: Using Learner Analytics to Create Effective Feedback

Li, Jessica; jli2011@illinois.edu; Education Policy, Organization and Leadership; College of Education

Bell, Allison; amb@illinois.edu; Education Policy, Organization, and Leadership; College of Education

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Yang, Xue; yangxue81@gmail.com; Education Policy, Organization, and Leadership; College of Education

Lee, Seohyun; slee472@illinois.edu; Education Policy, Organization, and Leadership; College of Education

3.06 Let's Perceive Together: Toward a New Generation of Large-scale Tools for the Understanding and Extraction of Emotions in Text

Girju, Roxana; girju@illinois.edu; Linguistics and Computer Science; College of Liberal Arts and Sciences & Beckman Institute

3.07 Collaborative Patient Portals: Leveraging Conversational Agents

Morrow, Dan; dgm@illinois.edu; Educational Psychology; College of Education

Hasegawa-Johnson, Mark; jhasegaw@illinois.edu; Electrical and Computer Engineering; College of Engineering

Azevedo, Renato; ravezved2@illinois.edu; Educational Psychology; College of Education

Gu, Kuangxiao; kgu3@illinois.edu; Electrical and Computer Engineering; College of Engineering

Soberal, Daniel; dsobera2@illinois.edu; Electrical and Computer Engineering; College of Engineering
Huang, Thomas; t-huang1@illinois.edu; Electrical and Computer Engineering; College of Engineering

3.08 PrairieLearn: An Adaptive Online System for Mastery Learning

West, Matthew; mwest@illinois.edu; Mechanical Science and Engineering; College of Engineering
Zilles, Craig; zilles@illinois.edu; Computer Science; College of Engineering

LUNCH ~ 12:00 – 1:00 PM

BREAK ~ 1:00 – 1:15 PM

SESSION IV ~ LIGHTNING TALKS ~ 1:15 – 2:20 PM

4.01 STEM Learning through Technology-Enabled Physicality

Lindgren, Robb; robblind@illinois.edu; Curriculum and Instruction; College of Education
Garnett, Guy; garnett@illinois.edu; Illinois Informatics Institute
Mestre, Jose; mestre@illinois.edu; Physics and Educational Psychology; College of Engineering and College of Education

4.02 The Art of Scientific Visualization for Learning and Outreach

Cox, Donna; donnacox@illinois.edu; National Center for Supercomputing Applications
Patterson, Robert; robertp@illinois.edu; Advanced Visualization Lab; National Center for Supercomputing Applications
Levy, Stuart; salevy@illinois.edu; Advanced Visualization Lab; National Center for Supercomputing Applications
Christensen, AJ; achrist3@ncsa.illinois.edu; Advanced Visualization Lab; National Center for Supercomputing Applications
Carpenter, Jeff; jeffc@ncsa.illinois.edu; Advanced Visualization Lab; National Center for Supercomputing Applications
Borkiewicz, Kalina; kalina@ncsa.illinois.edu; Advanced Visualization Lab; National Center for Supercomputing Applications

4.03 Sketch Recognition Technologies for Creation, Learning, and Assessment

Peschel, Joshua; peschel@illinois.edu; Civil and Environmental Engineering; College of Engineering
Mercier, Emma; mercier@illinois.edu; Curriculum and Instruction, College of Education
Herman, Geoffrey; glherman@illinois.edu; Illinois Foundry for Innovation in Engineering Education; College of Engineering

4.04 Game-Based Virtual Internship Environments

Israel, Maya; misrael@illinois.edu; Special Education; College of Education

Abelson, John; abelson@illinois.edu; Materials Science and Engineering; College of Engineering

Singer, Clifford; csinger@illinois.edu; Nuclear, Plasma and Radiological Engineering; College of Engineering

Lane, H. Chad; hclane@illinois.edu; Educational Psychology; College of Education

Fu, Wai-Tat; wfu@illinois.edu; Computer Science; College of Engineering

Newell, Ty; tynewell@illinois.edu; Mechanical Science and Engineering; College of Engineering

4.05 Lowering the Cost of Playfulness: Unlocking the Potential of Mobile and Virtual, and Unrestricted Computational Environments

Angrave, Lawrence; angrave@illinois.edu; Computer Science; College of Engineering

4.06 Computational Metacognition

Twidale, Michael; twidale@illinois.edu; Graduate School of Library and Information Science

4.07 Learning Critical Thinking at Scale: Automated Assessment of Complex Assignments for MOOCs

Geigle, Chase; geigle1@illinois.edu; Computer Science; College of Engineering

Zhai, Chengxiang; czhai@illinois.edu; Computer Science; College of Engineering

Cope, William; billcope@illinois.edu; Education Policy, Organization and Leadership, College of Education

Ferguson, Duncan; dcf@illinois.edu; Comparative Biosciences; College of Veterinary Medicine

4.08 Learning with Text and Image: The Relationship of Text-Image Integration to Interest and Comprehension

Peterson, Matthew; mop@illinois.edu; School of Art and Design; College of Fine and Applied Arts

4.09 Improving Contexts for Learning from Science Simulations with Gestural Inputs and Adaptive Framing

Brown, David; debrown@illinois.edu; Curriculum and Instruction; College of Education

Lindgren, Robb; robblind@illinois.edu; Curriculum and Instruction; College of Education

Lane, H. Chad; hclane@illinois.edu; Educational Psychology; College of Education

4.10 Beyond PowerPoint: Mobile-first, Dynamic, Trackable Presentations in HTML5

Fagen, Wade; waf@illinois.edu; Computer Science; College of Engineering

4.11 CD-CAT--From Adaptive Testing to Adaptive Learning

Chang, Hua-Hua; hhchang@illinois.edu; Educational Psychology; College of Education

4.12 Encouraging Innovation, Enhancing Research, and Facilitating Economic Development through the Transfer of Intellectual Property

Sowers, Svetlana; svsowers@illinois.edu; Office of Technology Management

Wille, Steve; stvwille@illinois.edu; Office of Technology Management

Nair, Nicole; nnair@illinois.edu; Office of Technology Management

CLOSING REMARKS ~ NEXT STEPS ~ 2:20–2:30 PM
