



CALL FOR PROPOSALS

Toward an Illinois Learning Sciences Design Laboratory – A Lightning Symposium

iHotel; February 27, 2015; 9:00 AM – 2:00 PM

[Proposal Submission Deadline: February 6, 2015]

SUMMARY

The new Illinois Learning Sciences Design Laboratory (ILSDL) is being launched with a Lightning Symposium on February 27, 2015, to showcase the work of UIUC faculty and research groups, facilitate discussion among participants, build networks, and initiate a number of specific proposals for seed funding. ILSDL is seeking proposals (300-word abstracts) for 5-minute presentations and posters that address the grand challenges of:

1. Advancing the scientific understanding of learning
2. Designing tools, environments, and platforms to improve/deepen/accelerate learning, and learning processes and outcomes
3. Designing tools to analyze big data with the aim of transforming uniform learning platforms into adaptive personalized learning environments

DETAILS

Illinois Learning Sciences Design Laboratory

The Visioning Future Excellence at Illinois Outcomes Report (July, 2013) put forth the development of a Learning Sciences Laboratory among the New Strategic Investment Initiatives for campus. The laboratory aims “to understand learning mechanisms and to invent learning and educational tools, practices, and spaces for the future of teaching and learning across disciplines and professions” (p. 11).

At the direction of campus leadership, a steering committee of deans and faculty from across campus has been working to launch the **Illinois Learning Sciences Design Laboratory (ILSDL)**, which is aimed at building, synthesizing, translating, and applying theories of learning to guide designing, developing, prototyping/trialing, assessing, scaling, disseminating, and commercializing transformational, cutting-edge, replicable, technological tools, solutions, and platforms in support of learning environments and practices.

Lightning Symposium

This symposium is a major first step toward articulating a coherent framework, and an encompassing vision and plan for an ILSDL. The symposium will help identify UIUC faculty and research groups who would bring to this initiative deep and varied expertise in research, design, development, and tool creation; and who currently are operating within departments, schools, colleges, centers, institutes, and start-ups



across campus. Leveraging our wealth of expertise in a creative, collaborative, trans-disciplinary, and enabling laboratory environment is key to ensuring Illinois excellence and leadership in the context of an increasingly prominent global focus on the implications of the learning sciences for designing learning environments.

The symposium is structured to showcase the work of faculty and research groups, facilitate discussion among participants, build networks, and initiate a number of specific proposals for seed funding. Our goal is to be generative of ideas addressing grand challenges in design and tool creation for teaching and learning, and to create a network of design and research collaborations across campus.

“Learning,” “learning environments,” and “tools” are conceptualized broadly to capture the varied meanings these concepts carry in different academic communities and stakeholder groups. Consider, for example, evidence of learning: A neuroscientist may point to changes in gray matter; a school administrator may look at shifts in standardized test scores; a medical educator may focus on a healthcare provider’s enhanced skills in controlling a robotic surgical system; and a teacher or parent may consider a child’s ability to participate in a practice or skill that motivates and engages them. Similarly, learning tools and environments range from online courses and MOOCs; to games, simulations, or virtual and augmented realities to books, media, and the natural world; and extend from formal (e.g., P-20 classrooms), to informal (e.g., science centers, art museums) or ubiquitous (e.g., various media) learning environments. The symposium aims to reflect this range and facilitate inter- and trans-disciplinary discussions and understanding of learning, and how to create and design 21st century tools and environments in support of such learning.

Symposium Themes and Grand Challenges

The symposium will feature 5-minute lightning presentations and posters that address themes under a number of 21st century grand challenges in the learning sciences and the design and creation of learning tools:

1. Advancing the scientific understanding of learning
 - a. Mechanisms/processes, cognition, metacognition, learning to learn, creativity
 - b. Emotions/affect, motivation, social/cultural aspects, collaboration/teamwork
 - c. Physical/embodied aspects
 - d. Neuro/biological aspects
2. Designing tools, environments, and platforms (physical, online, virtual, simulations, visualizations, etc.) to improve/deepen/accelerate learning, and learning processes and outcomes
 - a. Interventions intended to improve learning across contexts
 - b. Putting basic science to work in MOOCs, educational apps, games, classroom teaching, homework technologies, museums and afterschool clubs, etc.
 - c. Teaching/tutoring/coaching, promoting deep conceptual understanding, self-explanations and other self-regulated learning approaches



- d. Creating tools to help coordinate learning activities (home, museums, libraries, schools, outdoors) and articulate lifelong learning
3. Designing tools to analyze big data with the aim of transforming uniform learning platforms into adaptive personalized learning environments
 - a. Collecting, curating, and securing (e.g., ethically, legally, technologically) massive amounts of data about the choices and behaviors of learners in various learning environments (e.g., keyboard strokes, mouse clicks, physiological responses, eye tracking, body movements)
 - b. Building data analytics that draw on theories of teaching, learning, and assessment, and peta-scale computational capabilities, as well as cutting-edge research in data mining, statistics, and natural language processing to analyze big data in the service of providing assessments—including automated summative and real-time formative assessments—and to enable adaptive and personalized learning experiences
 - c. Providing individualized real-time and delayed feedback to the thousands of students enrolled in a MOOC so as to optimize their engagement, enhance self-regulation and self-monitoring, and eventually sustain their engagement and maximize their learning

Proposal Submission

Deadline: February 6, 2015 @ 5:00 PM

To propose an individual or group session, go to <https://illinois.edu/fb/sec/6486157> to submit:

- Researcher name(s) and unit affiliation(s)
- Session/poster title
- A short abstract (200 to 300 words)
- Keywords or phrases

Authors should anticipate hearing about the status of their proposals as soon as possible and no later than by February 16, 2015.

If you have questions or would like assistance with submitting proposals or preparing your presentation, please contact Tanya Sutton tsutton@illinois.edu

Registration to Attend the Symposium

If you submit a proposal, there is no need to register to attend the symposium.

If you like to attend the symposium without submitting a proposal, please register at <https://illinois.edu/fb/sec/253477>