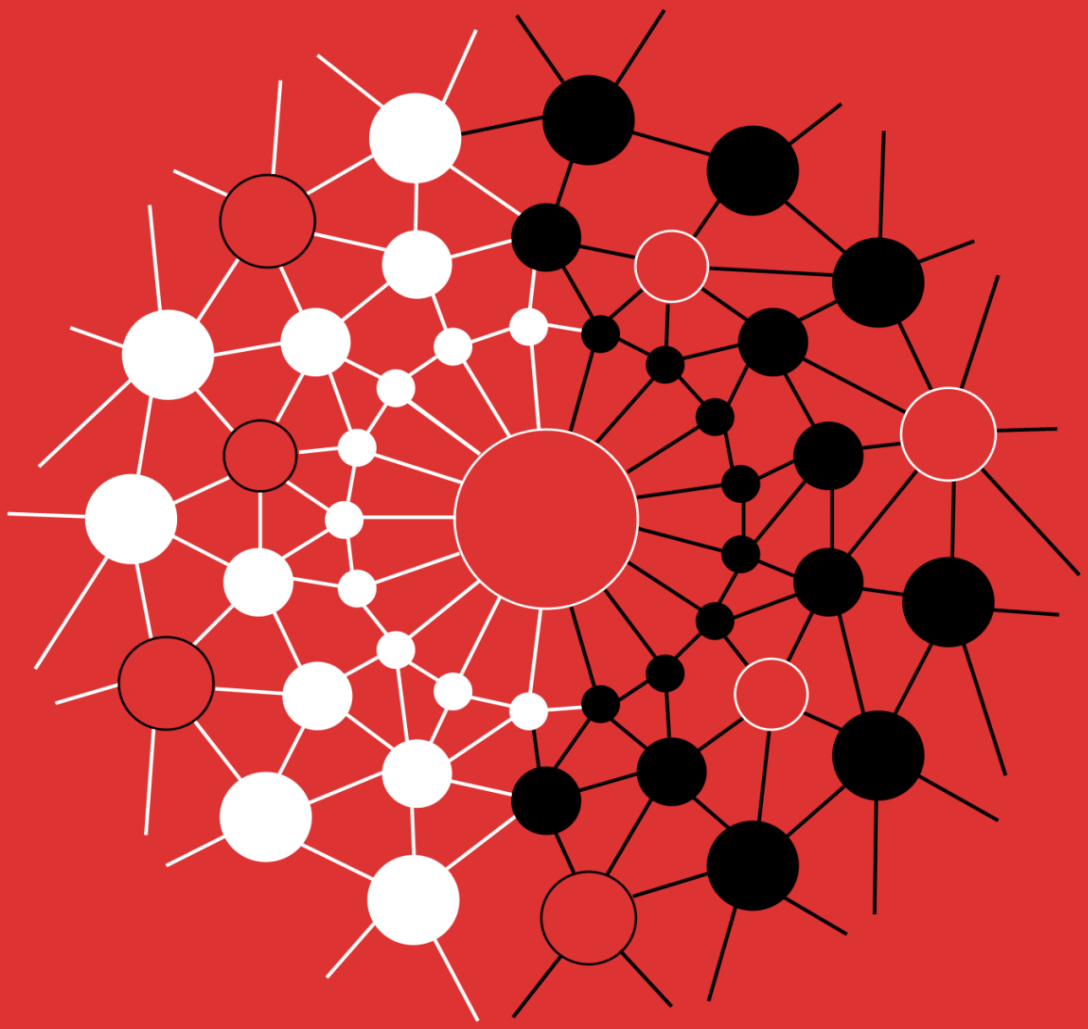
Cyberlearning 2015

Connect, Collaborate, and Create the Future



January 27-28, 2015
Arlington, VA

SRI Education

EDC Learning transforms lives.

Cyberlearning 2015: Connect, Collaborate, and Create the Future

January 27-28th, 2015
Arlington, VA

Pre-meeting day – Monday, January 26th
5:00 pm – 6:30 pm
Optional early registration (outside Fitzgerald Ballroom C)

6:00 pm
Networking dinners at local restaurants (self-pay)
Meet in registration area (outside Fitzgerald Ballroom C)

Event Logistics, Materials, Virtual Participation
http://circlcenter.org/events/cyberlearning-2015/

Webcast Registration
http://learningtimesevents.org/circl2015/

Wireless Internet Access (meeting space only)
Password: CL2015
(Network: WestinConference)

Meeting Evaluation (please complete after the meeting ends)
https://www.research.net/s/Cyberlearning2015

The **Center for Innovative Research in Cyberlearning (CIRCL)** works with projects in the emerging field of cyberlearning to support, synergize and amplify their efforts. CIRCL is supported by the National Science Foundation under Grant No. IIS-1233722 and IIS-1441631.

Website: http://circlcenter.org/
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Email: circl-info@sri.com

ACKNOWLEDGEMENTS

MEETING CHAIRS

Jeremy Roschelle (SRI International)
Andee Rubin (TERC)

The meeting chairs and CIRCL staff thank the planning committee for the innovative ideas and thoughtful input that helped shaped the agenda for this meeting.

PLANNING COMMITTEE MEMBERS

Avron Barr (Aldo Ventures, Inc.)
Sarah Costello (St. Catherine of Siena Elem. School)
Judi Fusco (SRI International)
Kip Glazer (Independence High School)
Shuchi Grover (SRI International)
Natalie Harr (Triangle Coalition for STEM Education)
Chad Lane (University of Illinois at Urbana-Champaign)
Joyce Malyn-Smith (Education Development Center)
Wendy Martin (Education Development Center)
Tom Moher (University of Illinois at Chicago)
Amy Ogan (Carnegie Mellon University)
Mary Patterson (Triangle Coalition for STEM Education)
Sarita Pillai (Education Development Center)
Beth Sanzenbacher (Bernard Zell Anshe Emet Day School)
Patti Schank (SRI International)
Sarah Shayesteh (El Camino High School)
Stephen Uzzo (NY Hall of Science)
Michelle Wilkerson-Jerde (Tufts University)

Cyberlearning 2015 – Tuesday January 27th, 2015

Day	Time	Activity	Purpose
DAY 1 – Tuesday, January 27th	7:30-8:00	**Breakfast/Registration** *(Fitzgerald Ballroom C / Pre-Function C)*	BREAKFAST **Register for meeting**
	8:00-8:30	**Welcoming Remarks** *(Fitzgerald Ballroom C)*	**Welcoming Remarks from NSF and Program Overview**
	8:30-9:15	**Speaker Session** *(Fitzgerald Ballroom C)*	**Legislative Visits Panel** Hear from colleagues who spent Monday, January 26th visiting their state legislators to educate them about cyberlearning and to share information about their projects.
	9:15-9:45	**Networking Activity** *(Fitzgerald Ballroom C)*	**Networking Activity**
	9:45-10:00	BREAK	
	10:00-10:30	**Speaker Session** *(Fitzgerald Ballroom C)*	**Keynote Speaker: Louis Gomez, University of California – Los Angeles**
	10:30-11:00	**Speaker Session** *(Fitzgerald Ballroom C)*	**Keynote Speaker: Justine Cassell, Carnegie Mellon University**
	11:00-12:00	LUNCH	
	12:00-12:30	**Speaker Session** *(Fitzgerald Ballroom C)*	**Pecha Kucha Presentations 1** • **Teaching creative problem solving via 3D worlds** (Andy Burnett) • **Quantified Youth? Personal Data, Wearable Technology, and Game Design** (Cynthia Carter Ching) • **Exploring the Role of Networked Technologies in Learners' Developing Identities** (Katie Davis) • **The CCC, CRA and How We All Can Work Together** (Ann Drobnis) • **Learning as a Long Game: Designing for Making in Drop-in Spaces** (Erica Halverson)
	12:30-1:00	**Speaker Session** *(Fitzgerald Ballroom C)*	**Pecha Kucha Presentations 2** • **Social Intelligence for Lifelong Learning Agents** (Ning Wang) • **Curiosity Machine: An Open Data Opportunity** (Cat Greim) • **Cyberlearning: An Einstein Fellow's Perspective** (Natalie Harr) • **A Cyberlearning Platform for Transforming Science Learning** (Kemi Jona) • **Learning to See, Seeing to Learn** (Marti Louw) • **Collaborative Drawing and Problem Solving through Digital Sketch and Touch** (Emma Mercier)
	1:00-1:15	**Working Session** *(Fitzgerald Ballroom C)*	**Orientation and Transition to Expertise Exchange & Impact Groups**
	1:15-1:30	BREAK	
	1:30-2:45	**Working Session** *(Various)*	**Expertise Exchange** • *Alcott Boardroom* - **Talking to the Press** (Christine Greenhow, Lucy Laffitte, Richard Hudson) • *Hemingway 1* - **Evaluation: How to Measure the Impact of Cyberlearning Projects** (Carole Beal, Steven Zuiker) • *Hemingway 2* - **Designing Games for Learning** (Amy Ogan, Jodi Asbell-Clarke)

Day	Time	Activity	Purpose
			• *Hemingway 3* - **Designing Assessments of Hard-to-Measure Knowledge and Skills** (Geneva Haertel, Britte Cheng) • *Ballroom D* - **An Introduction to Learning Analytics** (Taylor Martin) • *Ballroom E* - **Methods for Cyberlearning Research in Informal Settings** (Kylie Peppler, Erica Halverson, Cynthia Carter Ching, Matthew Berland) • *Ballroom C* - **How to Work with Teachers in your Cyberlearning Project** (Natalie Harr, Mary Patterson, Beth Sanzenbacher, Kip Glazer, Judi Fusco, Deborah Cornelison, Katie Hendrickson, Kathryn Hoppe, Jennie Lyons, Ann Reimers, and Anna Sumner) • *Ballroom C* - **Learning Theories** (Janet Kolodner) • *Ballroom C* - **Issues in Data Sharing and Privacy of Your Participants** (John Stamper, Eamonn Kelly)
	2:45-3:00	BREAK	
	3:00-4:30	**Working Session** *(Various)*	**Impact Groups** • *Hemingway 1* - **Shark Tank with Teacher Judges** (Kip Glazer, Tom Moher, Patti Schank, Judi Fusco, Natalie Harr, Mary Patterson, and Beth Sanzenbacher, plus other Einstein Fellows) • *Hemingway 2* - **Impact by Really Connecting Informal and Formal Learning** (Kylie Peppler, Erica Halverson, Cynthia Carter Ching, Matthew Berland) • *Hemingway 3* - **Messing Around with MOOCs** (Jean Cheng, Mike Petrich) • *Ballroom D* - **Images of Learning: Reaching the Public** (Chad Dorsey, Louis Gomez, Robert McLaughlin, Scot Osterweil) • *Ballroom E* - **Dialogue with Industry** (Avron Barr, Lewis Johnson) • *Ballroom C* - **Broader Impacts Report** (Jamie Bell, Kemi Jona)
	4:30-5:00	BREAK	
	5:00-6:30	**Gallery Walk** *(Pre-Function C)*	**Demos, Posters, and Light Refreshments** • **Digital Tools to Support Critical Pedagogy of Place in Mathematics** (Laurie Rubel) • **A Low-cost Biotic Video Game Smart Phone Kit for Informal STEAM Education** (Ingmar Riedel-Kruse) • **An Intelligent Tutoring System for Physics That Serves as a Research Platform to Identify Effective Tutorial Dialogue Patterns** (Sandra Katz) • **DigitalACE – a Digital Adaptive Classroom Environment** (Michael Yudelson, Steven Ritter, Susan Berman, Steve Fancsali) • **Adagio** (Lindsey Frost Cleary) • **Enhanced Moved by Reading to Accelerate Comprehension in English** (Ashley Adams) • **Research Writing Tutor** (Elena Cotos, Stephen Gilbert) • **RALLe: Robot-Assisted Language Learning** (Lewis Johnson) • **DIA2 Knowledge Mining Tool** (Krishna Madhavan) • **STEM Learning through Infographics** (Joseph L. Polman, Andee Rubin) • **CTSiM: Computational Thinking using Simulation and Modeling Synergistic Learning of Science and Computational Modeling** (Gautam Biswas) • **Distance Learning through Game-Based 3D Virtual Learning Environments: Mission Hydro Science** (James Laffey) • **Connected Worlds: Understanding Sustainability Through Discovery and Play** (Stephen Uzzo)
	7:00	NETWORKING DINNERS	

Speaker Sessions (webcast)	Free/Networking Time	Working Group Sessions	Speaker Session (not webcast)

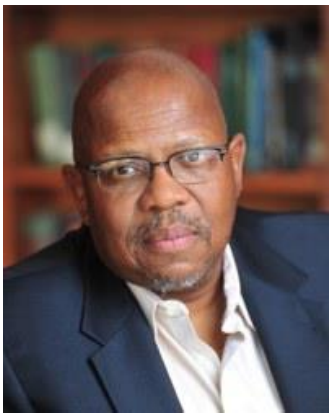
Cyberlearning 2015 – Wednesday January 28th, 2015

Day	Time	Activity	Purpose
DAY 2 – Wednesday, January 28th	7:30-8:00	**Breakfast/Registration** *(Fitzgerald Ballroom C / Pre-Function C)*	BREAKFAST
	8:00-8:15	**Speaker Session** *(Fitzgerald Ballroom C)*	**Kumar Garg, White House Office of Science and Technology Policy**
	8:15–8:45	**Speaker Session** *(Fitzgerald Ballroom C)*	**Impact Groups Panel** Hear a report out from the facilitators of Day 1 Impact Groups
	8:45-9:15	**Speaker Session** *(Fitzgerald Ballroom C)*	**Keynote Speaker: Theo Watson, Design I/O LLC**
	9:15-9:45	**Speaker Session** *(Fitzgerald Ballroom C)*	**Keynote Speaker: Cristóbal Cobo, CEIBAL Foundation, Uruguay**
	9:45-10:00	**Working Session** *(Fitzgerald Ballroom C)*	**Dr. Joan Ferrini-Mundy, Directorate of Education & Human Resources, National Science Foundation** **Orientation and Transition to Envisioning Groups 1 & 2**
	10:00-10:15	BREAK	
	10:15-11:45	**Working Session** *(Various)*	**Envisioning Groups 1** • *Hemingway 1* - **Connected Worlds - Future of Informal Spaces** (Mimi Ito, Marti Louw, Sherry Hsi, Chad Lane) • *Hemingway 2* - **Games for Learning** (Ruth Wylie, Stephen Gilbert) • *Hemingway 3* - **Social Justice + Youth in STEM** (Tamara Clegg, Louis Gomez, Michelle Wilkerson-Jerde) • *Ballroom D* - **Learning Analytics: How Can We Bring Adaptive and Collaborative Learning Closer?** (Steven Ritter, Cindy Hmelo-Silver, Cynthia D'Angelo) • *Ballroom E* - **What is Cyberlearning?** (Jeremy Roschelle, Chris Dede) • *Ballroom C* - **Embodied Learning & Beyond** (Robb Lindgren, Tom Moher) • *Ballroom C* - **Self-organized Envisioning Group(s)** (TBD)
	11:45-12:30	LUNCH	
	12:30-1:00	**Speaker Session** *(Fitzgerald Ballroom C)*	**Pecha Kucha Presentations 3** • **From Papercrafts to Paper Mechatronics** (Sherry Hsi) • **Mathematical Thinking and Practice in a 3D Architecture Game** (FengFeng Ke) • **Building Systems from Scratch** (Gilly Puttick) • **Cyberlearning Collaborations in the Classroom: Students, Teachers and Researchers - Oh My!** (Beth Sanzenbacher) • **DataSketch: Exploring Computational Data Visualization in the Middle Grades** (Michelle Wilkerson-Jerde) • **Teacher-Student Interactions in the One-to-One Computing Classroom: A Computational Approach** (Arnon Hershkovitz)
	1:00-1:30	**Speaker Session** *(Fitzgerald Ballroom C)*	**Pecha Kucha Presentations 4** • **Innovating Educational Technologies through Cooperative R&D** (David Kanter)

Day	Time	Activity	Purpose
			• **STEM Learning through Cyber-Enabled Physicality** (Robb Lindgren) • **CollaborativeScience.org: Sustaining Ecological Communities Through Citizen Science and Online Collaboration** (David Mellor) • **Scientizing Daily Life with New Social, Mobile, and Wearable Technologies** (Tamara Clegg) • **Modeling Participation in Free-choice Online Learning Environments** (Eric Wiebe)
	1:30-1:45	BREAK	
	1:45-3:15	**Working Session** *(Various)*	**Envisioning Groups 2** • *Hemingway 1* - **Computation Thinking/Computing for All** (Gautam Biswas, Shuchi Grover, Ben Shapiro) • *Hemingway 2* - **How People Learn 2.0** (Jeremy Roschelle, Janet Kolodner) • *Hemingway 3* - **The Future of MOOCs** (Jean Cheng, Eric Klopfer) • *Ballroom D* - **Affect & Interface** (Win Burleson, Justine Cassell) • *Ballroom E* - **Cyberlearning U** (Judi Fusco, Tom Moher, Kip Glazer, Natalie Harr, Mary Patterson, Beth Sanzenbacher, Patricia Schank) • *Ballroom C* - **The Future of Making** (Paulo Blikstein, Erica Halverson) • *Ballroom C* - **Self-organized Envisioning Group(s)** (TBD)
	3:15-3:30	BREAK	
	3:30-4:00	**Closing Remarks** *(Fitzgerald Ballroom C)*	**Images of the Future:** **A Town Hall Conversation with Dr. Christopher Hoadley, National Science Foundation**
	4:00	ADJOURN	

Speaker Sessions (webcast)	Free/Networking Time	Working Group Sessions	Speaker Session (not webcast)

KEYNOTE SPEAKERS



Louis Gomez
University of California – Los Angeles

Louis Gomez is Department Chair of Education. He is also Professor of Urban Schooling and Information Studies, and holds the MacArthur Chair in Digital Media and Learning, in the Graduate School of Education and Information Studies at the University of California, Los Angeles. Gomez is also a Senior Fellow at the Carnegie Foundation for the Advancement of Teaching. His research interests encompass Improvement Science in Education, the application of computing and networking technology to teaching and learning, applied cognitive science and human–computer interaction. Gomez holds a bachelor's degree in Psychology from the State University of New York at Stony Brook and a doctorate in cognitive psychology from UC- Berkeley.

Justine Cassell
Carnegie Mellon University

Justine Cassell is Associate Vice-Provost of Technology Strategy and Impact at Carnegie Mellon University, and until recently was Director of the Human Computer Interaction Institute in the School of Computer Science. She is also co-director of CMU's new Simon Initiative on Technology-Enhanced Learning, and co-director of the $10M Yahoo-CMU collaboration called InMind. Cassell received the Edgerton Prize at MIT, is an ACM and CRA Distinguished Lecturer, was honored in 2008 with the "Women of Vision" award from the Anita Borg Institute, in 2011 was named to the World Economic Forum Global Agenda Council on AI and Robotics (which she chaired from 2012-2014), and in 2012 was named a fellow of the AAAS. Cassell's current research examines the sociocultural underpinnings of learning, and how these social factors can improve the impact of technology-enhanced learning tools.

Theo Watson
Design I/O LLC

Theodore Watson is an artist, designer and experimenter whose work is born out of the curiosity and excitement of designing experiences that come alive and invite people to play. Theodore's work ranges from creating new tools for artistic expression, experimental musical systems, to immersive, interactive environments with full-body interaction. His recent work includes the Eyewriter, an eye controlled drawing tool, Graffiti Research Lab's Laser Tag, a laser graffiti system and Painted Mirror, a digital illustrated world which allows the viewer to literally step into the pages. In 2010 Theodore and his wife Emily Gobeille founded the creative studio Design I/O (http://design-io.com). Design I/O creates cutting edge interactive installations, like Funky Forest, an immersive interactive ecosystem for young children as well as experimental visualization projects like Skataviz. Theodore Watson's work has been shown at MoMA, Tate Modern, Ars Electronica, The Sundance Film Festival, Res Fest, REMF, Cinekid, Montevideo, OFFF, SHIFT, ICHIM, The Creators Series, Deitch Projects, Eyebeam, Pixel Gallery, Museum N8 Amsterdam. In 2010 the Eyewriter project won the Future Everything award and the Design of The Year award for the interactive category.

Cristóbal Cobo
CEIBAL Foundation

Cristóbal Cobo is Director of the Study Center – CEIBAL Foundation in Uruguay, and also an associate researcher at the Oxford Internet Institute, University of Oxford, where he coordinates research on innovation, open knowledge initiatives and the future of learning research projects. Currently he works on different projects funded by the European Commission. He was Professor and Director of Communication and New Technologies at the Latin American Faculty of Social Sciences in Mexico. He has served as an external evaluator for the Inter-American Development Bank, the National Science Foundation, MIT Press (US), the International Labour Organization (UN), and the International Development Research Centre (Canada). He has a Ph.D. in Communication Sciences from Universitat Autònoma de Barcelona. Cristóbal is co-author of the book *Invisible Learning* (which has more than 50,000 downloads), and has been a speaker at events in more than 28 countries.

PECHA KUCHA SPEAKERS

Andy Burnett
Knowinnovation, Inc.
Andy is a recovering academic with a passion for creativity and technology. His current work focuses on the use of virtual worlds to support creative collaboration amongst diverse groups of scientists.

Cynthia Carter Ching
University of California, Davis
Cynthia Carter Ching is an Associate Professor of Education at the University of California Davis, where she conducts research at the intersection of technology, learning, and identity. Her work examines how people represent and negotiate aspects of themselves via technology across formal and informal learning environments.

Tamara Clegg
University of Maryland
Tamara Clegg is an assistant professor in the Department of Teaching and Learning, Policy and Leadership and the College of Information Studies at the University of Maryland. Her work focuses on developing technology to support life-relevant learning where children engage in science in the context of achieving personally relevant goals.

Katie Davis
University of Washington
Katie Davis is an Assistant Professor at The University of Washington Information School, where she studies the role of digital media technologies in adolescents' academic, social, and moral lives. Davis' current research focuses on the educational opportunities that new media technologies provide youth in both formal and informal learning environments.

PECHA KUCHA SPEAKERS

Ann Drobnis
Computing Research Association
Dr. Ann W. Drobnis is the Director of the Computing Community Consortium at the Computing Research Association where she works on future visioning. Previously, she was as Albert Einstein Distinguished Educator Fellow at the NSF working on education for the CISE Directorate. Prior to NSF, she taught high school computer science and math at Thomas Jefferson High School for Science and Technology.

Cat Greim
Iridescent
Cat Greim is the Curiosity Machine Head of Online Community at Iridescent, where she leads user engagement and development of new features. Previously, she built formal/informal learning partnerships and school community as part the founding team at CICS ChicagoQuest, a middle/high school focused on project-based and game-like learning.

Erica Halverson
University of Wisconsin-Madison
Erica Rosenfeld Halverson is an Associate Professor of Digital Media and Literacy in the Department of Curriculum & Instruction at the University of Wisconsin-Madison. Erica studies how people learn in and through the arts; her current focus is the maker movement, studying and designing spaces and tools in museums, libraries, and afterschool spaces.

Natalie Harr
Triangle Coalition for STEM Education
Natalie Harr is a first grade teacher at Crestwood Primary School, Mantua, Ohio. She is currently serving her second year as an Albert Einstein Distinguished Educator Fellow at the National Science Foundation. She is the creator of the CyberLearning: The Educators' Corner blog (www.circleducators.org) housed on the CIRCL website. She is a 2012 recipient of the Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST).

PECHA KUCHA SPEAKERS

Arnon Hershkovitz
Tel Aviv University
Arnon Hershkovitz, Ph.D. (M.A. Applied Mathematics, B.A. Mathematics and Computer Science), is a Senior Lecturer at Tel Aviv University's School of Education, studying how the current digital era affects teaching and learning. He has an extensive background in Educational Data Mining and Learning Analytics.

Sherry Hsi
UC Berkeley - Lawrence Hall of Science
Sherry Hsi is the Co-PI of the NSF-funded Paper Mechatronics project that explores engineering education using technology-enabled papercrafts, and the co-creator of HOWTOSMILE.org, a STEM digital library for out-of-school time. At the Lawrence Hall of Science, she conducts informal science education research and leads the TechHive, teen design program.

Kemi Jona
Northwestern University
Dr. Kemi Jona is Professor of Learning Sciences and Computer Science at Northwestern University and Director of the Office of STEM Education Partnerships where he leads projects in cyberlearning, computational thinking, online and blended learning, and new game-based approaches to engaging youth in interest-driven STEAM learning, making, and tinkering.

David Kanter
Amplify
Dr. David Kanter is Director of Research for Amplify Education, focusing on product and impact research for the K-12 Tablet System. Previously, he was faculty in Science Education and the Learning Sciences. His federally-funded projects have emphasized the design of technology-enhanced science curricula and programs to train teachers in their use.

PECHA KUCHA SPEAKERS

FengFeng Ke
Florida State University
Fengfeng Ke is an Associate Professor in the Department of Educational Psychology and Learning Systems, Florida State University. Fengfeng's current research focuses on digital game-based learning, mixed-reality-based immersive learning, computer-supported collaborative learning, and inclusive design of e-learning. She is the principal investigator of multiple research projects on technology-based, interactive learning systems.

Robb Lindgren
University of Illinois at Urbana-Champaign
Robb Lindgren is an Assistant Professor at the University of Illinois Urbana-Champaign in the DELTA program (Digital Environments for Learning, Teaching, and Agency). His research examines theories and designs for STEM learning within emerging media platforms such as augmented reality. He seeks to understand how digital technologies can be used to construct identities and generate new perspectives that engender learning.

Marti Louw
Carnegie Mellon University
Marti Louw directs the Learning Media Design Center at Carnegie Mellon University. She holds joint appointments in Human Computer Interaction, Robotics, and the Entertainment Technology Center. She collaborates with learners and educators to enact design experiments that creatively bridge learning science theory and interaction design practice from initial conceptualization through realization and assessment.

David Mellor
Virginia Tech
David Mellor is the Citizen Science Project Coordinator at Virginia Tech. He works with Virginia Master Naturalists to create online, collaborative citizen science projects. Before coming to Virginia, he was the Director of Advising in the Division of Life Sciences at Rutgers University, where he received hi PhD in Ecology and Evolution.

PECHA KUCHA SPEAKERS

Emma Mercier
University of Illinois at Urbana Champaign
Emma Mercier is an assistant professor in Curriculum and Instruction at the University of Illinois at Urbana Champaign. Her work focuses on the role of social interaction in learning, CSCL in classrooms at the small group, between-group and whole class levels, and tools to support teachers in orchestrating collaborative learning.

Gilly Puttick
TERC
Gillian Puttick is a scientist, education researcher and curriculum developer interested in innovations in climate change education. Dr. Eli Tucker-Raymond is a research scientist with the Chèche Konnen Center at TERC. His work focuses on creating and understanding expansive learning spaces for under-represented youth at the intersection of STEM, media/arts, and literacy.

Beth Sanzenbacher
Bernard Zell Anshe Emet Day School
Beth began as a research scientist and is a science educator who is passionate about cyberlearning. Beth's background is in geomicrobiology, taught in Japan and Egypt, and developed cyberlearning initiatives for the Field Museum. Beth is the Science Instructional Leader at BZAEDS where she collaboratively works to transform science education.

Ning Wang
University of Southern California
Ning Wang is a research scientist at the Institute for Creative Technologies at the University of Southern California. Her research is in the modeling of social intelligence for pedagogical agents. She is interested in the enrichment of the social channels in learner-agent interaction to motivate and engage students.

PECHA KUCHA SPEAKERS

Eric Wiebe
North Carolina State University
Dr. Wiebe is a Professor in the Department of STEM Education at NC State University and Senior Research Fellow at the Friday Institute for Educational Innovation. His recent work has looked at how psychological models and educational data-mining techniques can be used to understand learner interaction with cyberlearning technologies.

Michelle Wilkerson-Jerde
Tufts University
Michelle designs expressive technologies - computational toolkits that allow users to create simulations and data visualizations by building on familiar expressive forms like sketching, flip-book animation, and storytelling. She uses these environments to study how young people learn to express, test, and refine their understandings of the world around them.

PECHA KUCHA PRESENTATIONS

Teaching Creative Problem Solving via 3D Worlds

Andy Burnett

The International Centre for Studies in Creativity at Buffalo State has offered a distance version of its Master of Science in Creative Studies for the last 15 years. Recently the faculty decided to experiment with 3D worlds to see if they would offer a more engaging learning experience. The results were mixed, but encouraging.

Quantified Youth? Personal Data, Wearable Technology, and Game Design

Cynthia Carter Ching

The Quantified Self movement argues that people can become aware of and change their behavior patterns for the better via analyzing personal data. Yet youth, and underserved youth in particular, who are arguably at a developmental point where personal change can have a lifelong impact, have been left out of the QS conversation. In response to this omission, we created a narrative online game that syncs with physical activity monitors and presents personal data in a form that is motivating and accessible to youth. Our research examines youth meanings and insights around their devices, their data, and their game experience.

Scientizing Daily Life with New Social, Mobile, and Wearable Technologies

Tamara Clegg

How can new technologies help learners begin to see the world through scientific lenses (i.e., scientize their lives)? In this talk Tamara Clegg leverages two projects to understand and promote learners scientific disposition development through technology-supported life-relevant science learning experiences. In Science Everywhere, Clegg with colleagues Ahn and Yip are designing a social media app and interactive community displays to help entire neighborhoods in low-SES contexts scientize their daily life experiences together. In BodyVis, Clegg and collaborator Froehlich are iteratively designing wearable e-textile shirt and software prototypes to reveal otherwise “invisible” parts and functions of the human body.

Exploring the Role of Networked Technologies in Learners’ Developing Identities

Katie Davis

In this presentation, I will introduce my research exploring the meanings young people ascribe to their digital media activities. At the core of my work is a focus on youth’s developing sense of identity and the ways they use networked technologies to express and explore their identities. Currently, I’m investigating the identities available to diverse youth in formal and informal learning settings—particularly those with a STEM focus—and how technologies support these identities. I’m interested in using the insights from this research to design more personally relevant and engaging learning experiences for middle and high school students.

PECHA KUCHA PRESENTATIONS

The CCC, CRA and How We All Can Work Together

Ann Drobnis

I will provide an overview of the Computing Community Consortium and the Computing Research Association. I will share some of our past work in education and discuss some possible ways we could work together in the future.

Curiosity Machine: An Open Data Opportunity

Cat Greim

Through NSF-AISL grants Iridescent has developed a project-based learning model that can be implemented at broad scale with high quality. Our web-based learning platform, Curiosity Machine (CM), allows students to upload videos of their own projects in response to design challenges, and virtual mentors provide feedback at each step of the engineering design process. As we train more educators and parents to adopt the Curiosity Machine, we want to also create an open database that will allow learning scientists to use CM data (rich with project photos, video and text dialogue) to develop a deeper understanding of technology-facilitated project-based learning.

Learning as a Long Game: Designing for Making in Drop-in Spaces

Erica Halverson

As the maker movement becomes a valuable and interesting resource for researchers interested in improving learning in and out of schools, researchers in the Cyberlearning community have turned toward understanding and designing maker-based experiences. Many of these research efforts have focused on spaces that have typically served as drop-in sites for learners – museums, libraries, and afterschool programs. Given that learning is an extended process of becoming and doing, how can we support learners' trajectories as makers? What function can technologies serve for learners, for mentors, and for spaces? In this talk, I will highlight design features and tools that our team is exploring for facilitating learning through making across a range of makerspaces.

Cyberlearning: An Einstein Fellow's Perspective

Natalie Harr

Natalie Harr, an Einstein Fellow and early childhood educator, will discuss her unique experiences serving in both the Computer & Information Science & Engineering (CISE) and the Education & Human Resources (EHR) directorates at the National Science Foundation. Her cross-directorate work has provided new insights on what cyberlearning is and how teachers play an integral role throughout the research and design process. She will also discuss what makes cyberlearning projects engaging and exciting for teachers to implement in their classrooms.

PECHA KUCHA PRESENTATIONS

Teacher-Student Interactions in the One-to-One Computing Classroom: A Computational Approach
Arnon Hershkovitz
This presentation will highlight an ongoing research of teacher-student interactions in the one-to-one computing classroom. The current research is novel in two ways. First, it uses a dedicated app (Q-TSI) for real-time, fine-grained data collection, which builds on a traditional, widely-used, observation protocol (developed over four decades ago); once the class is over, data is available for analysis. Second, it uses a data mining approach for analyzing the data, enabling the discovery of hidden patterns in the data. Doing so, this research approach enables to empirically study academic- and social-related behaviors in the digital-enhanced classroom.

From Papercrafts to Paper Mechatronics
Sherry Hsi
Paper mechatronics explores an affordable craft-oriented learning approach that integrates concepts from mechanical engineering, electrical engineering, control systems, and computer programming, while using paper as the primary material for learner design, exploration, and inquiry. This approach is now made possible by a convergence of precision cutting tools, microcomputers, programmable sensors, and actuators; and new ways of interacting with computers. Supported by custom modeling software, middle and high school-aged learners can design foldable paper components and assemblies; program motors, sensors and controls; test their ideas iteratively; and share their designs with others. We aim to extend theories of computationally-based expressive technologies.

A Cyberlearning Platform for Transforming Science Learning
Kemi Jona
Remote labs provides a potentially transformative approach to improving science learning by enabling students to carry out investigations using real laboratory equipment from any location with Internet access. Using the power of cyberlearning, this project seeks to overcome the many constraints of traditional lab instruction, provide students with the opportunity to engage in more authentic scientific practices, support the development of epistemologies that are better aligned with those of authentic science, and make high-quality learning experiences broadly accessible to all students worldwide. To date over 11,000 users worldwide have run nearly 16,000 experiments on our platform.

Innovating Educational Technologies through Cooperative R&D
David Kanter
This talk will focus on how the private sector can collaborate with universities and other not-for-profits to hasten the development and ultimately the adoption of innovative educational technologies that dramatically improve student outcomes. By positioning such collaborations squarely in Pasteur's Quadrant, each organization's goals can be met, while at the same time supporting innovation toward

PECHA KUCHA PRESENTATIONS

far-reaching impact. A range of specific approaches that Amplify Education is exploring to structure cooperative R&D will be discussed. Specific R&D project ideas that uniquely intersect Amplify's commitment to agile product development with the design-based research interests of the Cyberlearning community will also be discussed.

Mathematical Thinking and Practice in a 3D Architecture Game

FengFeng Ke

This presentation introduces an ongoing design-based research project that examines how domain-specific learning can be intrinsically integrated in gameplay to foster the development of disciplinary proficiency while sustaining the playability. In particular, we examine the design of math integration in the quests of architectural design, resource allocation, and building materials arrangement in Earthquake Rebuild, a 3D architecture game. This game aims to provide versatile representations and epistemic practices of mathematics for middle-school students. The findings to be presented include analytical generalizations on the learning affordance of four design specifications – alternative gameplay modes and actions, the granularity level, assessment-driven game task design, and design of learning scaffolds as an intermediary interface.

STEM Learning through Cyber-Enabled Physicality

Robb Lindgren

This talk will describe our investigations into how new technologies can be used to facilitate embodied interactions with STEM content. Specifically, we are examining (1) what kinds of body movement naturally support science reasoning and understanding, and (2) how to effectively cue learners to perform optimal movements within immersive technology environments. I will briefly discuss our team's methods for integrating studies of student cognition with interface design efforts, some preliminary insights from interviews with local middle school children, and some of the challenges associated with developing embodied learning interventions (e.g., supporting collaboration, enabling learning transfer).

Learning to See, Seeing to Learn

Marti Louw

Reliable species identification is a critical activity in many citizen science and environmental education programs. Training youth and volunteers to observe relevant characteristics that support taxonomic classification with confidence, accuracy and efficiency is a perennial challenge. Through a design-based research process, we developed an interactive aquatic macroinvertebrate collection to support people learning to identify.stream insects for community-based biomonitoring and water quality assessment activities. This open educational resource www.macroinvertebrates.org extends a dynamic high-resolution image environment to create a new kind of annotated multimedia field guide that scaffolds the process of learning to see and identify unknown organisms.

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CollaborativeScience.org, Sustaining Ecological Communities Through Citizen Science and Online Collaboration

David Mellor

Citizen science provides an opportunity to support research while engaging the public in conservation decisions. However, projects with significant research implications often result in little collaboration between scientists and volunteers, thus limiting engagement and learning. Collaborative projects that allow for significant learning gains that are also sufficiently robust to have meaningful research implications are scarce but clearly needed. Online learning may help meet these needs. We developed a website with tools for collaborative learning to train volunteers in using models to facilitate scientific inquiry, developing adaptive management plans, and creating collaborative citizen science projects. We use fuzzy-logic cognitive maps to allow participants to collaboratively create conceptual models to generate hypotheses about complex systems.

Collaborative Drawing and Problem Solving through Digital Sketch and Touch

Emma Mercier

We present the early stages of a project to create and study digital sketch tools to foster collaborative problem solving in introductory engineering courses. The creation of shared representations is an important practice within engineering, but teaching students to sketch and assessing the sketching process are difficult. We are creating digital sketch tools on multi-touch surfaces, in a classroom of networked devices, to examine the development of the collaborative practice of creating joint representations. We examine how the sharing of sketches with instructors, and with the whole class, alters the learning experience.

Building Systems from Scratch

Gilly Puttick

We are interested in the affordances of game design to teach young people about climate change. We conjecture that strong complementary synergies and common elements among computational thinking, systems thinking and essential climate change concepts mean that programming in Scratch is a productive way to explore learning about this important topic. We describe findings that middle school girls programming in Scratch: focused on systems in terms of carbon sources and sinks, incorporated trade-offs in their games related to decision-making about reducing climate change, and saw similarities between such trade-offs and trade-offs in design choices as they created their games.

Cyberlearning Collaborations in the Classroom: Students, Teachers and Researchers - Oh My!

Beth Sanzenbacher

Classrooms can be precarious, students can be crazy and teachers are even nuttier. There is probably no quicker way to poke holes and ruin your research than to introduce it to a classroom of adolescents and

PECHA KUCHA PRESENTATIONS

a roomful of teachers. Why expend the effort to collaborate with this frenetic and complex group? This is where real innovation happens! One science teacher will share her and her 6th and 8th grade students' insights on the impact and future of cyberlearning, the vital need for collaboration with both teachers and students, and how we imagine innovation in the field of cyberlearning.

Social Intelligence for Lifelong Learning Agents

Ning Wang

Pedagogical agents try to fill the role of lifelong learning companions have big tasks at hand. They have to help learners across subjects and contexts that span a lifetime. Compared to tutors, coaches, and peers in isolated intelligent tutoring systems, lifelong learning agents are more likely to have less than perfect knowledge of the domain and their feedback can often be less than accurate. How can they maintain a relationship with the learner so that s/he still listens to and trusts them? I will discuss how to give lifelong learning agents the social intelligence needed to address this issue.

Modeling Participation in Free-choice Online Learning Environments

Eric Wiebe

This talk will look at how person-centered analytic techniques can be used to help rethink engagement in free-choice online learning environments. Clustering techniques are used to analyze learner participation in a teacher professional development MOOC over time. The analysis took a grounded approach and did not pre-constrain the number or required characteristics for the clusters. Clustering revealed distinct patterns of interaction with the site over time which differed in important ways between interaction with the educational resources (e.g., videos) and discussion forums. This work is part of an ongoing research project to model learner engagement and re-conceptualize metrics of success in such environments, with the goal to improve learner experience and outcomes. Current work involves richer characterization of learner goals and response to learning resources and how they evolve over time.

DataSketch: Exploring Computational Data Visualization in the Middle Grades

Michelle Wilkerson-Jerde

Technological advances are changing how we collect, view, and interact with data. Data visualizations that move beyond conventional graphs or tables to use novel display formats and computational techniques are increasingly common in science and media. The DataSketch project explores how middle school students think and learn about data visualization. It involves two interrelated strands of work: (1) research on grade 5-8 students' existing competencies and practices related to data visualization, and (2) the development and study of a tablet based toolkit for students to build interactive digital ink visualizations that respond to archival or live data stream input.

EXPERTISE EXCHANGE

The purpose of the Expertise Exchange session is to broker connections between individuals in the community who want to learn more about a research topic or method with those who have expertise in these same areas. During this session, participants can choose to meet with experts to discuss project-specific as well as other needs in the following areas in a small group, open discussion format.

Evaluation: How to Measure the Impact of Cyberlearning Projects
Carole Beal, Steven Zuiker

Designing Games for Learning
Amy Ogan, Jodi Asbell-Clarke

How to Work with Teachers in your Cyberlearning Project
Natalie Harr, Mary Patterson, Beth Sanzenbacher, Kip Glazer, Judi Fusco, Deborah Cornelison, Katie Hendrickson, Kathryn Hoppe, Jennie Lyons, Ann Reimers, and Anna Sumner

An Introduction to Learning Analytics
Taylor Martin

Methods for Cyberlearning Research in Informal Settings
Kylie Peppler, Erica Halverson, Cynthia Carter Ching, Matthew Berland

Talking to the Press
Christine Greenhow, Lucy Laffitte, Richard Hudson

Learning Theories
Janet Kolodner

Designing Assessments of Hard-to-Measure Knowledge and Skills
Geneva Haertel, Britte Cheng

Issues in Data Sharing and Privacy of Your Participants
John Stamper, Eamonn Kelly

IMPACT GROUPS

Amplifying the impact of research-based voices is central to CIRCL's mission. These sessions will (a) inform investigators of what CIRCL has learned so far (b) provide opportunities to work collaboratively, in small groups on your own potential for impact and (c) reflect and plan next steps for achieving greater community impact. Please choose the impact session which most deeply connects with your own desire for impact.

Images of Learning: Reaching the Public
Chad Dorsey, Louis Gomez, Robert McLaughlin, Scot Osterweil
An insight, from a prior CIRCL workshop, was that education leaders and the public often operate from very different assumptions and images of what learning looks like. And yet, as a community, we often emphasize shared images of learning that could be the basis for compelling communication about the future of learning. This session will imagine a public service advertising campaign: what would our images of learning be? What is our message about these images to the public?

Impact by Really Connecting Informal and Formal Learning
Kylie Peppler, Erica Halverson, Cynthia Carter Ching, Matthew Berland
Cyberlearning has the potential to bridge school and out-of-school learning, and to create powerful learning ecologies that transcend traditional boundaries. Yet, working together across boundaries is always challenging. Could cyberlearning make an impact by connecting informal and formal learning? What are the challenges? What can we do to overcome them?

Shark Tank with Teacher Judges
Organizers: Kip Glazer, Tom Moher, Patti Schank, Judi Fusco
Participants: Eamonn Kelly (MC), Emma Mercier, Eric Hamilton, Pat Udomprasert
Teacher Panel: Natalie Harr & Mary Patterson; Beth Sanzenbacher, Kip Glazer, plus other Einstein Fellows
Three researchers will give brief pitches of cyberlearning project ideas to a panel of teachers. Pitches will summarize the need and approach of the work, information on how the project would help students, the role of the teacher, and how the work would be mutually beneficial to research and practice. At the end of each pitch, the teachers will provide feedback and suggest revisions and recommendations, followed by a whole-group Q&A and planning for how to achieve greater impact.

Dialogue with Industry
Avron Barr, Lewis Johnson
This session is for researchers who have ambitions/ideas about the potential impact of their work on future products. We'll briefly review the alternative mechanisms for productization (IP licensing, consulting, starting a company, …) and the resources available at CIRCL to support researchers in these

IMPACT GROUPS

efforts. Attendees will then have an opportunity to discuss their ideas with a group of industry veterans who will help them hone their pitch and think about possible paths forward.

Messing Around with MOOCs

Jean Chen, Mike Petrich

The MOOC has been characterized as the ultimate in transmission-based education. But what happens when a team of hands-on makers get their hands on a popular MOOC platform? What learning is supported and how can we identify it? What meaningful metrics can we devise? In this session we'll look at a recent Coursera experiment by the Exploratorium and explore strategies and possibilities for learners, course designers, MOOC developers, and researchers to help MOOCs make broader impacts.

Broader Impacts Report

Jamie Bell, Kemi Jona

The Broader Impacts Report, released in late 2014, discusses how NSF projects advance and impact society. Broader impacts is a critical component of every NSF-funded project. Cyberlearning projects offer innovative and potentially unique opportunities for engaging a broad range of audiences with the phenomena and questions they are investigating. This session will begin with some exemplars of projects that provide compelling approaches to broader impacts and a discussion of the strategies used by each. Participants will have the opportunity to share their own work and imagine how current and new cyberlearning projects can achieve broad societal impact. Approaches to leveraging cyberlearning tools to support other NSF-funded projects will also be discussed. The report can be downloaded at: http://www.nsf.gov/od/iia/special/broaderimpacts/?WT.mc_id=USNSF_51.

GALLERY WALK POSTERS & DEMONSTRATIONS

Enhanced Moved by Reading to Accelerate Comprehension in English

Ashley Adams

The EMBRACE project is designed to help young English Language Learners develop skill in comprehending written texts in English. This iPad application offers support in English and Spanish and works by scaffolding children as they learn to create internal, dynamic simulations of the text content. In the physical manipulation stage, children move objects on the screen corresponding to sentences they read (those sentences highlighted in blue). In the imagine manipulation stage (not yet implemented), children are taught to imagine how the objects would be moved to simulate content. An ITS will select texts near the child's zone of proximal development.

CTSiM: Computational Thinking using Simulation and Modeling Synergistic Learning of Science and Computational Modeling

Gautam Biswas, Pratim Sengupta, Douglas Clark, John Kinnebrew, Stephen Killingsworth, Kit Martin, Gabor Pap, Satabdi Basu, & Tazrian Rafi

CTSiM provides a scalable architecture for seamlessly weaving together model construction, simulation, experimentation, and verification for learning in multiple science domains, while developing and applying Computational Thinking (CT) skills. The system adopts an agent-based, visual programming platform where students model and learn about science phenomena using discipline-specific constructs. Using this system, a 6th grade science teacher has successfully demonstrated that CT and learning of science can become a regular component of classroom instruction. Through these model building and verification experiences, learners work on a sequence of science units that increase in complexity, with the increases in complexity informed by the challenges of becoming a computational thinker.

Adagio

Lindsey Frost Cleary

Adagio is a cloud-based music remixing tool that enables users to remotely mix any multi-track audio file from any device, regardless of their location. Users aren't bogged down by having to download and hold large files on their computers, as all the mixing magic happens in the cloud. Supported by the Mozilla Gigabit Community Fund in Chattanooga, Tennessee, Adagio has been piloted in classrooms and informal learning environments as a powerful instrument for learning, combining arts education with next-generation technology in the Gig City.

Research Writing Tutor

Elena Cotos & Stephen Gilbert

The Research Writing Tutor (RWT) is an automated writing evaluation program that analyzes drafts of academic research articles and generates higher-level, rhetorical and discipline-specific feedback for writers, aiming to help them develop strong scientific arguments and academically compelling texts as

GALLERY WALK POSTERS & DEMONSTRATIONS

expected by their disciplinary community. The RWT promotes writer reflection and a stronger awareness of the rhetorical structure of a good argument. The RWT gives feedback using corpus-based machine-learning techniques. RWT has been used for several semesters at Iowa State within graduate writing seminars.

RALLe: Robot-Assisted Language Learning
Lewis Johnson
The RALLe project is investigating how to design simulation-based learning experiences for language learning that optimize learner motivation and promote conversational skills. We are doing this by developing a prototype lifelike robot that engages in conversations in foreign language, and study its use in educational settings. In this demonstration, participants will have an opportunity to learn to speak Chinese by conversing with the RALL-E robot. RALLe is a collaboration between Alelo Inc., Robokind, Curious Lab, and the Virginia Department of Education. Evaluations as being conducted at the Thomas Jefferson High School for Science and Technology in Alexandria, VA.

An Intelligent Tutoring System for Physics That Serves as a Research Platform to Identify Effective Tutorial Dialogue Patterns
Sandra Katz
Rimac is a natural-language tutoring system that engages students in dialogues about physics concepts. It implements empirically-derived decision rules to guide the tutor's questions and responses to student input. These rules simulate the highly interactive nature of human tutoring. Our aims are to identify particular dialogue patterns whose frequency predicts learning and determine if these relationships vary by student characteristics (e.g., prior knowledge, gender). We will demonstrate the rules "in action" and summarize the results of a study in high school physics classrooms that compared an experimental version of Rimac that deliberately executes these rules with one that does not.

Distance Learning through Game-Based 3D Virtual Learning Environments: Mission Hydro Science
James Laffey
The Mission HydroScience (MHS) project seeks to design, develop and evaluate a game-based 3D virtual learning environment (3D VLE) for teaching and learning in blended or distance education. MHS targets middle school students in small and rural schools learning hydrologic systems and scientific argumentation. An i3 grant (U. S. Department of Education) will fund four-cycles of design and development including usability, usage, feasibility and pilot testing. Three key aspects of our vision for MHS are learning progressions through levels of understanding water systems and argumentation competencies, learning analytics to create an adaptive system, and a teacher support system.

GALLERY WALK POSTERS & DEMONSTRATIONS

DIA2 Knowledge Mining Tool

Krishna Madhavan

DIA2 is an NSF-funded effort, led by Purdue University, to create a central resource for researchers and educators who are attempting to transform STEM education. To this end, the team has developed a web-based knowledge mining and interactive visualization tool (www.dia2.org) to help non-experts in data mining and visualization make sense of knowledge and network structures produced as a result of NSF investments. In this demonstration, participants will have the opportunity to use the tool to dive into NSF project and program data using a variety of representations, provide input on the needs of the cyberlearning community, and discuss how DIA2 might better support cyberlearning efforts.

STEM Learning through Infographics

Joseph L. Polman & Andee Rubin

In the STEM Learning through Infographics project, a team from University of Colorado, TERC, and Saint Louis University will refine, implement and assess a sociotechnical system involving teens in infographic-based data journalism with the purpose of fostering engagement with STEM and improved scientific/mathematical literacy. We will share infographics that were created by high school students and interns in our EXP project, and share a vision for our system of supporting learners in our new DIP project. The system will involve supports for data search and visualization, with the latter based on studies of mathematical thinking with data visualization tools.

A Low-cost Biotic Video Game Smart Phone Kit for Informal STEAM Education

Ingmar Riedel-Kruse

We present a low-cost biotic game design kit for formal and informal STEAM education that incorporates microbial organisms into an interactive gaming experience: A 3D-printable microscope containing four LEDs controlled by a joystick enable human players to provide directional light stimuli to the motile single-celled organism Euglena gracilis. These cellular behaviors are displayed on the integrated smart phone. Real time cell-tracking couples these cells into interactive biotic video game play, i.e., the human player steers Euglena to play soccer with virtual balls and goals. The player's learning curve in mastering this fun game is intrinsically coupled to develop a deeper knowledge about Euglena's cell morphology and phototactic behavior. This kit is dual educational - via construction and via play; its low cost and open soft- and hardware should enable easy, wide adoption and further development.

Digital Tools to Support Critical Pedagogy of Place in Mathematics

Laurie Rubel

This exhibit will share digital tools from the Learning Mathematics of the City in the City Project (funded by DRK-12). City Digits: Cash City was created by an interdisciplinary collaboration between CUNY and MIT's Civic Data Design Lab. The digital tools support data-rich and interactive geospatial investigations

GALLERY WALK POSTERS & DEMONSTRATIONS

of pawn shops and other alternative financial institutions across New York City. The digital tools enable students to publish digital, multimedia storyboards of their analysis. Visitors will be able to explore the tools, view student work, and talk with members of the research team about next steps.

Connected Worlds: Understanding Sustainability Through Discovery and Play
Stephen Uzzo
Cyberlearning DIP Project: Interaction Research in Complex Informal Learning Environments. Groups of museum visitors are able to formulate common goals, take on different roles and responsibilities and solve problems while exploring issues of sustainability within the context of imaginative, immersive worlds. By interfacing gesture and location tracking technologies to computer animation and environmental models, "Connected Worlds" helps visitors to the New York Hall of Science notice connections and build understandings of complex systems. This experience serves as a cyberlearning platform to elicit systems thinking, elucidate complex sustainability ideas, and allow learning scientists to study how people interact and cooperate in live, technology-mediated spaces.

DigitalACE – a Digital Adaptive Classroom Environment
Michael Yudelson, Steven Ritter, Susan Berman & Steve Fancsali
Carnegie Learning's digitalACE is an implementation of blended curriculum in a fully digital format. It is designed to support classroom instruction, including whole-class, small-group and individual activities. We see digitalACE as representing the future of classroom content and a replacement for textbook-driven instruction. It serves as a source of reference material and structures in-class and at-home work. It also supports multiple variants of each lesson, allowing teachers to personalize instruction to match students or classes. Our initial implementation is available for the iPad and support various input modes, including typing, drawing and taking photos.

ENVISIONING GROUPS

We want to provide NSF with meaningful input from our community, and a key part of this goal is envisioning. That is, we want to collectively identify where Cyberlearning should go, what goals it should have in the future, and what technologies it should leverage. NSF will use these recommendations in the planning of future calls for research, so this is a very important part of the program. Envisioning Groups will bring together stakeholders with various perspectives to create a concrete deliverable that articulates their vision and/or provides a roadmap for the next work on the topic. Ideas for deliverable include (but are not limited to):

- Grant proposal concept (~1 page) -- particularly Capacity building / RAPID / EAGER
- Workshop/conference symposium
- Special issue in a journal
- (Diamond Age-like) short piece of fiction about what the future would be like (10-20+ years); possible research papers from the future,
- Reply/critique to position paper or other seminal work
- Position paper (outline, concrete plans, ideas, notes)
- Suggestions for improving language in NSF solicitations
- Suggestions for new requirements in NSF solicitations

The following topics for Envisioning Groups have been planned below. Participants are welcome to self-organize an Envisioning Group on a topic not listed here.

Learning Analytics: How Can We Bring Adaptive and Collaborative Learning Closer? (*Steven Ritter, Cindy Hmelo-Silver, Cynthia D'Angelo)*

What is Cyberlearning? (*Jeremy Roschelle, Chris Dede)*

Connected Worlds - Future of Informal Spaces (*Mimi Ito, Marti Louw, Sherry Hsi, Chad Lane)*

Games for Learning (*Ruth Wylie, Stephen Gilbert)*

Social Justice + Youth in STEM (*Tamara Clegg, Louis Gomez, Michelle Wilkerson-Jerde)*

Embodied Learning & Beyond (*Robb Lindgren, Tom Moher)*

The Future of MOOCs (*Jean Cheng, Eric Klopfer)*

How People Learn 2.0 (*Jeremy Roschelle, Janet Kolodner)*

The Future of Making (*Paulo Blikstein, Erica Halverson)*

Affect & Interface (*Win Burleson, Justine Cassell)*

Cyberlearning U (*Judi Fusco, Tom Moher, Patricia Kip Glazer, Natalie Harr, Mary Patterson, Beth Sanzenbacher, Patricia Schank)*

Computation Thinking/Computing for All (*Gautam Biswas, Shuchi Grover, Ben Shapiro)*

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PLACES TO EAT NEARBY

Restaurant Reservations for Monday, January 26th and Tuesday, January 27th (chosen for location, variable pricing, cuisine):

Monday, January 26th (6pm reservations)

Restaurant	Address	Distance from Westin	Cuisine	Website	Restaurant Phone Number
Super Pollo	550 N. Quincy St.	0.4 mi	Peruvian	http://www.superpollovirginia.com/herndon.htm	(571) 970-3421
Willow	4301 N. Fairfax Dr.	0.2 mi	American, French	http://www.willowva.com/	(703) 465-8800
Pinzimini	At Westin Arlington	0 mi	Italian	http://www.pinzimini.com/	(703) 537-4200
Ravi Kabob House	305 N. Glebe Rd.	0.7 mi	Pakistani	http://www.ravikabobusa.com/	(703) 522-6666
Uncle Julio's Rio Grande Café	4301 N. Fairfax Dr	0.2 mi	Tex-Mex	http://www.unclejulios.com/	(703) 528-3131
Thai Curry	307 N. Glebe Rd.	0.7 mi	Thai	http://www.thaicurry.us/	(703) 524-0711

Tuesday, January 27th (7pm reservations)

Restaurant	Address	Distance from Westin	Cuisine	Website	Restaurant Phone Number
Pinzimini	At Westin Arlington	0 mi	Italian	http://www.pinzimini.com/	(703) 537-4200
Uncle Julio's Rio Grande Café	4301 N. Fairfax Dr.	0.2 mi	Tex-Mex	http://www.unclejulios.com/	(703) 528-3131
Bangkok Bistro	715 N. Glebe Rd.	0.2 mi	Thai	http://www.bangkokbistrova.com/	(703) 243-9669
Tandoor	4238 Wilson Blvd.	0.3 mi	Indian	http://www.tandoorarlington.com/	(703) 527-1585
Fettoosh	5100 Wilson Blvd.	0.5 mi	Middle Eastern/ Morroccan	http://washingtondc.menupages.com/restaurants/fettoosh-2/menu	(703) 527-7710
Front Page	4201 Wilson Boulevard	0.2 mi	American	http://www.frontpagearlington.com/	(703) 248-9990

***Note: Some of these kitchens offer vegetarian and gluten-free options, but they do not state on their websites that they use gluten-free or meat-free equipment. NOTE: Fettoosh is a smaller establishment and best suited to parties smaller than 12.*

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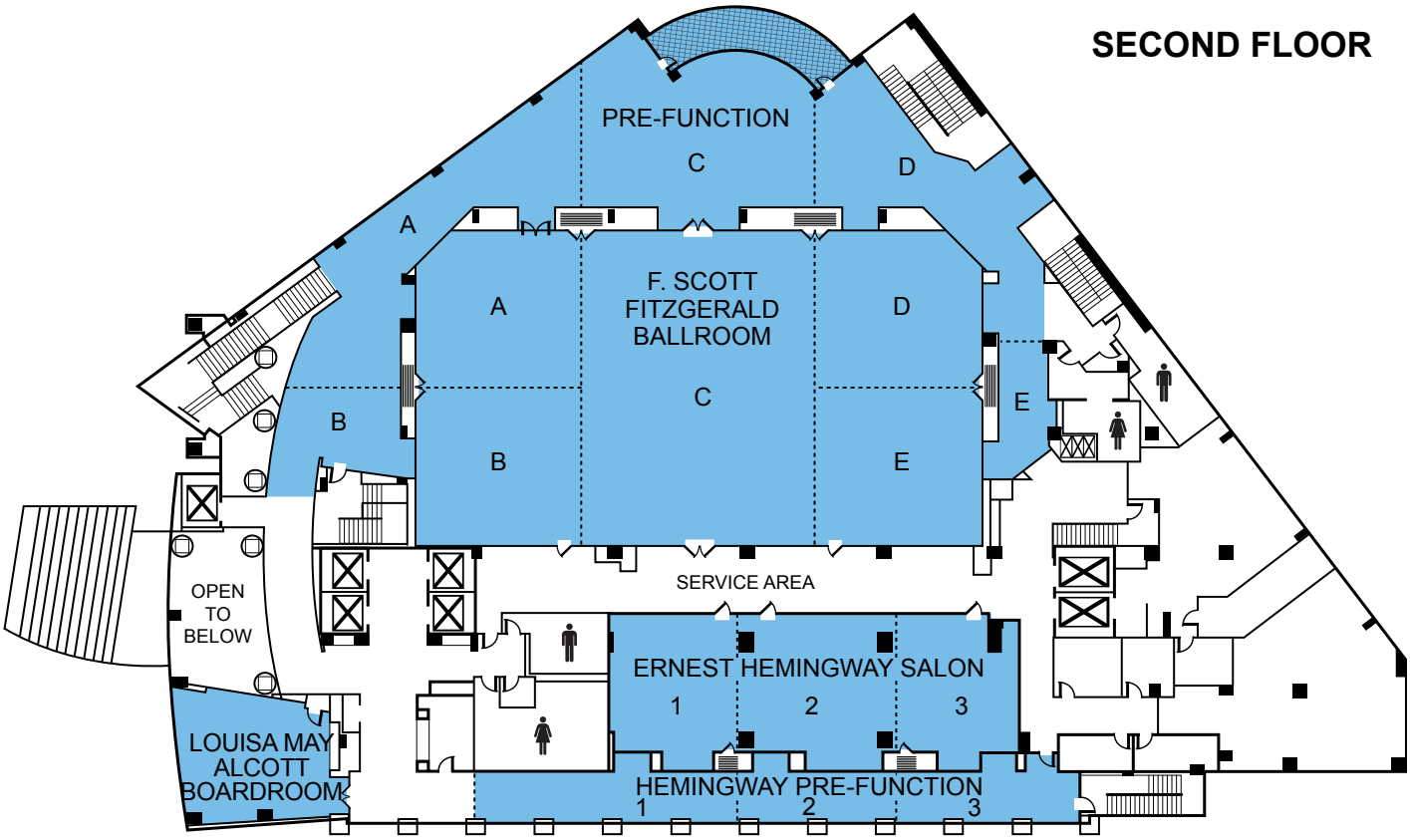

CIRCL = **A** + **B**^{2} + **C**^{3}

A is for

Amplify research-based voices

B is for

Broaden participation and **B**roker connections

C is for

Connect, **C**ollaborate, and **C**reate the Future

SRI Education

EDC Learning transforms lives.