FULL SCHEDULE

Final Version: June 18, 2014

Schedule Overview

Sunday, June 22, 2014

9:00 am – 5:00 pm

ISLS Board Meeting (closed)

Learning Sciences Lab (Education 334)

Monday, June 23, 2014

9:00 am – 5:30 pm

WORKSHOP: Current Research and Practice on Learning Communities: What We Know, What are the Issues, and Where Are We Going?

Trail Ridge, Millennium Hotel
Kate Bielaczyc, Dani Ben-Zvi, Yotam Hod

WORKSHOP: Analytics for Learning and Becoming in Practice (by invitation)

Canyon, Millennium Hotel
Simon Knight, Simon Buckingham Shum, David Williamson Shaffer, Wesley Collier, Golnaz Astropour, Alyssa Friend Wise, Paul Kirschner

WORKSHOP: Social, Motivational And Affective Dimensions Of Learning Through Social Interaction

Flagstaff, Millennium Hotel
Christa Asterhan & Sherice Clarke

WORKSHOP: Exposing And Assessing Learners' Epistemic Thinking

Sugarloaf, Millennium Hotel
Maggie Renken, Clark Chinn, Penelope Vargas, Bill Sandoval

WORKSHOP: MOOCShop 2014

Suite 331, Millennium Hotel
Steven Lonn, Christopher Brooks, Zach Pardos, Barry Peddicord III, Emily Schneider, Ido Roll & Ashley Shaw

WORKSHOP: Mediated Action and Mediated Discourse Analysis: Studying Learning and Becoming at the Nexus of Practice

Learning Sciences Lab (Education 334)
Ingrid de Saint Georges, Kevin O'Connor, Andrew Jocuns, & Jenna McWilliams

WORKSHOP: Interaction Analysis of Student Teams Enacting the Practices of Collaborative Dynamic Geometry

Discovery Learning Center 1B50/60/70
Gerry Stahl

SPECIAL WORKSHOP: ICLS Early Career Workshop (Day 1)

Millennium, Millennium Hotel

Naomi Miyake, Chris Quintana, Janet Kolodner, Nancy Songer, Edd Taylor, Nikol Rummel

SPECIAL WORKSHOP: ICLS Doctoral Student Consortium (Day 1)

Suite 231, Millennium Hotel
Barry Fishman, Mimi Recker, Manu Kapur, Mary Marlino, Judit Moschkovich, Na'ilah Suad Nasir

WORKSHOP: Research-Practice Partnerships Workshop (by invitation, Day 1)

Century, Millennium Hotel
William R. Penuel, Philip Bell

SPECIAL WORKSHOP: Research-Practice Partnership Workshop for Doctoral and Early Career Researchers (by invitation, Day 1)

Flatirons, Millennium Hotel
Andrew Shouse, Bronwyn Bevan, Kris Gutiérrez, Tricia Harding, Ben Kirshner, Matt Krehbiel

Tuesday, June 24, 2014

9:00 am – 12:30 pm

WORKSHOP: Networked Learning In The Learning Sciences (by invitation)

Trail Ridge, Millennium Hotel
Freydis Vogel, Frank Fischer, Daniel Sommerhoff

WORKSHOP: Writing Competitive Proposals for Programs in NSF's Division of Research in Learning in Formal and Informal Settings

Canyon, Millennium Hotel
Ellen McCallie, Chris Hoadley, Michael Ford

WORKSHOP: Tightening Research-Practice Connections: Taking ISLS Findings to Public Debate

Flagstaff, Millennium Hotel
Susan McKenney, Kim Gomez, Brian Reiser

WORKSHOP: Constructing Assessment Items That Blend Core Ideas And Science Practices

Suite 331, Millennium Hotel
Angela DeBarger, Joe Krajcik, Christopher Harris

SPECIAL WORKSHOP: ICLS Early Career Workshop (Day 2)

Millennium, Millennium Hotel
Naomi Miyake, Chris Quintana, Nancy Songer, Edd Taylor, Nikol Rummel

SPECIAL WORKSHOP: ICLS Doctoral Student Consortia (Day 2)

Suite 231, Millennium Hotel
Barry Fishman, Mimi Recker, Manu Kapur, Mary Marlino, Judit Moschkovich, Na'ilah Suad Nasir

SPECIAL WORKSHOP: Research-Practice Partnerships Workshop (Day 2)

Century, Millennium Hotel
William R. Penuel, Philip Bell

SPECIAL WORKSHOP: Research-Practice Partnership Workshop for Doctoral and Early Career Researchers (Day 2)

Flatirons Room, Millennium Hotel
Andrew Shouse, Bronwyn Bevan, Kris Gutiérrez, Tricia Harding, Ben Kirshner, Matt Krehbiel

DESIGN CHARRETTE: Designing for Student Agency and Authority around Issues of Climate Change

Learning Sciences Lab (Education 334)
Vicki Hand, Leilah Lyons, Chrystalla Mouza, Elizabeth Walsh

DESIGN CHARRETTE: The Learning Theater: Designing a Flexible, Reconfigurable Space for Ambitious Learning and Teaching on Campus

ATLAS 1B31
Gary Natriello, Hui Soo Chae

12:30 pm – 1:30 pm

ISLS Membership Committee (open)

Millennium, Millennium Hotel

ISLS Education Committee (closed)

Boulder Creek Living Room, Millennium Hotel

ISLS Publications & Communications Committee (open)

Suite 331, Millennium Hotel

ISLS Conference Committee (closed)

Executive Board Room, Millennium Hotel

1:30 pm – 2:30 pm

CSCL Committee Meeting (closed)

Flatirons, Millennium Hotel

2:30 pm – 3:30 pm

Welcome Session for New Members

Millennium, Millennium Hotel

ijCSCL Editorial Board Meeting (closed)

Boulder Creek Living Room, Millennium Hotel

4:00 pm – 6:00 pm

WELCOME

Macky Auditorium

OPENING KEYNOTE: Changing Practice

Macky Auditorium
Jean Lave and Rogers Hall (reactor)

Jean Lave is a social anthropologist with a strong interest in social theory. Much of her ethnographically-based research concentrates on the re-conceiving of learning, learners, and everyday life in terms of social practice. She has published three books on the subject: *Understanding Practice* (co-authored with S. Chaiklin, 1993); *Situated Learning: Legitimate Peripheral Participation* (with E. Wenger, 1991); and *Cognition in Practice* (1988). More recently her work has taken a historical turn with a collaborative, ethnohistorical research project, Producing Families, Trading in History on the British merchant families engaged in the port wine trade in Portugal – (*History in Person: Enduring Struggles, Contentious Practice, Intimate Identities* 2000, edited with Dorothy Holland). She finished a book on apprenticeship in Liberia and changing research practice (*Apprenticeship in Critical Ethnographic Practice*) in 2011 and is currently finishing a book of essays, with Brazilian anthropologist Ana Gomes, to accompany and reflect on *Situated Learning*. She retired from the University of California, Berkeley in 2006.

Rogers Hall is a learning scientist interested the development, learning, and teaching of STEM conceptual practices that are centrally important in scientific and technical work and that appear (in varied form) as topics and resources in school. His research follows these conceptual practices in and out of school, asking how they are organized, develop through time, and can be designed. A central component of this research asks how conceptual practices are learned and change "in the wild" (e.g., ethnographic studies of work groups in field biology, architecture, urban planning, or archeology). Based on comparative analysis in these studies, Hall and colleagues design and study experimental teaching both in conventional classrooms and linked, community settings. Selected publications include "Counter-mapping the neighborhood on bicycles: Mobilizing youth to reimagine the city" (with K. Taylor), "Talk and conceptual change at work" (with I. Horn), "Modalities of engagement in mathematical activity and learning" (with R. Nemirovsky), "How does cognition get distributed? Case studies of making concepts general in technical and scientific work" (with K. Wieckert and K. Wright), and "Conceptual learning" (with J. Greeno). Hall currently serves as Editor in Chief of the journal, *Cognition and Instruction*.

6:30 pm – 9:00 pm

OPENING RECEPTION

Millennium Hotel
Cash bar available

7:00 pm – 8:00 pm

POSTER SET #1

Millennium Hotel

T1. Teachers Becoming (Temporary) Engineers to Become Better Teachers
Ayesha Livingston, Jamie Collins, Ara Kooser, Vanessa Svihla

T2. Science Teacher Pedagogical Design Capacity with Technology in an Integrated Teacher Preparation Program
Aaron Kessler, Jennifer Cartier

T3. Re-grow Your City – A NetLogo Curriculum Unit on Regional Development
Arthur Hjorth, Uri Wilensky

T4. Examining Teacher Assignments and Student Work at the Intersection of Content and Practice in Middle School Science
Britte Haugan Cheng, Jeremy Fritts, Tiffany Leones, Bowyee Gong

T5. Predicting Performance Behaviors during Question Generation in a Game-like Intelligent Tutoring System
Carol Forsyth, Arthur Graesser, Borhan Samei, Breya Walker, Philip Pavlik

T6. Elementary Students Becoming Engineers through Practice
Cathy Lachapelle, Jonathan Hertel, Christopher San Antonio-Tunis, Christine Gentry, Christine Cunningham

T7. Reflective Decision Making within the Discourse of Urban Elementary Engineering Classrooms
Christopher Wright, Kristen Wendell, Patricia Paugh

T8. Design Principles for Science Laboratory Instruction Using Augmented Virtuality Technologies
Crystal DeJaegher, Jennifer Chiu, Jie Chao

T9. Productive Disciplinary Engagement – Examining Negotiation of Group Activity with Multiple Frameworks
Debra Gilbuena, Marja-Liisa Makela, Tuike Iiskala, Simone Volet, Susan Nolen, Milo Koretsky, Marja Vauras

T10. Capturing Qualities of Mathematical Talk via a Coding and Counting Technique
Einat Heyd-Metzuyanim, Michal Tabach, Nachlieli Talli, Carolyn Rosé

T11. Learning to Survive "Home-Free": Compulsory Learning and the Politics of Freight-Hopping Mobility
F. Alvin Pearman II

T12. Contradictions on the Process of Becoming a Physics Teacher
Glauco Silva, Alberto Villani

T13. Undergraduate Attitudes Towards Help-Seeking
Iris Howley, Carolyn Rose

T14. Kinecting in Physics: Student Conceptualization of Motion Through Visualization
Janice Anderson, Steven Wall

T15. Identifying Affordances of 3D Printed Tangible Models for Understanding Core Biological Concepts
Jodi Davenport, Matt Silberglitt, Jonathan Boxerman, Arthur Olson

T16. The Role of Feedback in Interest Development in an Out-of-School Engineering Setting
Joseph Michaelis, Mitchell Nathan

T17. Promoting Science Identification and Learning through Contemporary Scientific Investigations Using Practice-focused Instruction
Katie Van Horne

T18. Community-Based Engineering and Novice Elementary Teachers' Knowledge of Engineering Practices
Kristen Wendell, Tejaswini Dalvi

T19. Modeling the Dynamics of Ontological Reasoning in Physics
Lele Mathis, Ayush Gupta

T20. Intersections Of Science Learning And Language Development Within Scientific Argumentation: Implications For English Language Learners
Maria Gonzalez-Howard, Katherine McNeill

T21. Improving Online Collaboration By Fostering Norm-Oriented Content Based Knowledge Awareness
Michail D. Kozlov, Tanja Engelmann, Richard Kolodziej, Roy Clariana

T22. Identity, Digital Learning Environments and Academic Success
Mirlanda Prudent

T23. Tug of War – What is it Good For? Measuring Student Inquiry Choices in an Online Science Game
Nicole Hallinen, Julius Cheng, Min Chi, Daniel Schwartz

T24. Reel Science: Identity Development through Filmmaking
Rachel Chaffee

T25. Educational Games in the Classroom: Design-based Research and Methods for Classroom Mediation
Rachel Phillips, Theresa Horstman, Carmen Smith, Christy Ballweber, Noelle Conforti Preszler, Nancy Vye, John Bransford

T26. Family Creative Learning: Engaging Parents and Children as Learning Partners in Creative Technology Workshops
Ricarose Roque, Natalie Rusk, Luisa Beck, Xiaodi Chen

T27. Comprehension SEEDING: Providing Real-Time Formative Assessment To Enhance Classroom Discussion
Ruth Wylie, Robert Talbot, Erik Dutily, Michelene Chi, Susan Trickett, Brandon Helding, Rodney Nielsen

T28. Beyond Databases: Librarians in a Project-Based Language Arts Curriculum
Sarah Evans

T29. Creating Material Representations Of Practice At The Boundary Of Professional Development And Classroom Practice
Scott McDonald, Jessica Thompson

T30. Building A Learning Progression For Chromosome Segregation Using Phenomenographic Variation Theory
Stanley Lo, Stephanie Kim, Su Swarat, Gregory Light

T31. Demystifying Success in a Summer Bridge Program: Investigating Students' Intrinsic Motivation and Mastery Goals in the Context of a Learning Analytics Intervention
Steven Lonn, Stephen Aguilar, Stephanie D. Teasley

T32. Linked Reading and Writing using Wikilinking: Promoting Knowledge Building within Technology-Enhanced Classroom Learning Communities
Tamar Novik, Dani Ben-Zvi, Yotam Hod

T33. Fostering Awareness Content Creation by Self-Determined Regulation
Tanja Engelmann, Katrin König, Michail D. Kozlov

T34. Gesture Enhancement of a Virtual Tutor via Investigating Human Tutor Discursive Strategies: Forms and Functions for Proportions
Virginia J. Flood, Alyse Schneider, Dor Abrahamson

T35. Identifying and Assessing Computational Thinking Practices
Wendy Martin, Karen Brennan, William Tally, Francisco Cervantes

T36. Detecting Iterative Cycles of Engineering Design from Student Digital Footprints in Computer-Aided Design Software
Zhihui Helen Zhang, Charles Xie, Saeid Nourian

Wednesday, June 25, 2014

7:00 am – 8:00 am

Breakfast time discussion of the forthcoming second edition of the *Cambridge Handbook of the Learning Sciences*

Millennium Hotel
Keith Sawyer

8:15 am – 9:45 am

KEYNOTE: Research-Practice Partnerships
Macky Auditorium
Kris Gutiérrez (moderator)

Designing with Communities: Transforming Historically Powered Relations in Teaching and Learning
Megan Bang

Partnering with School and Districts to Support All Students' Learning
Paul Cobb, Kara Jackson, Michael Sorum

Megan Bang is an assistant professor of the Learning Sciences and Human Development in Educational Psychology at the University of Washington. She also teaches in the secondary teacher education program. She is the former Director of Education at the American Indian Center (AIC), where she served in this role for 12 years. She is a former pre-school, high-school, and GED teacher, youth worker, and museum educator. Megan's research is focused on improving the well-being and educational opportunities for youth, families and communities historically disadvantaged by education, with a specific focus on Indigenous communities. She investigates the dynamics of culture, learning, and development in and across the multiple contexts of children's lives. She has been centrally focused on understanding and supporting the complexities of learners navigation of multiple meaning systems in science learning environments. She has worked to understand cross-cultural differences in meaning making about the natural world (both aquatic and terrestrial ecosystems) and how learning in places unfolds. Through community-based methodologies Dr. Bang is working to build community capacity to improve and transform teaching and learning, revitalize culture, language and community well-being, and ensure more Indigenous people are engaged in critical research endeavors.

Paul Cobb is Professor of Mathematics Education at Vanderbilt University. His current research focuses on improving the quality of mathematics teaching and thus student learning on a large scale, and on issues of equity in students' access to significant mathematical ideas. He received the Hans Freudenthal Medal for a cumulative research program over the prior ten

years from the International Commission on Mathematics Instruction in 2005, and the Sylvia Scribner Award from the American Educational Research Association in 2010. He is a member of the National Academy of Education.

Kara Jackson is an assistant professor at the University of Washington. Her research focuses on specifying forms of practice that support all learners to participate in rigorous mathematics and how to re-organize educational contexts to support teachers to develop such forms of practice. From 2007-2010, she was a post-doctoral fellow at Vanderbilt University on a project investigating instructional improvement in middle-grades mathematics at scale; she is currently a co-principal investigator on an extension of this study and leads lines of investigation focused on achieving equity in opportunities to learn mathematics and the coordination of professional learning across role groups and contexts. In 2007, she received her doctorate in Education, Culture, and Society with an emphasis in mathematics education at the University of Pennsylvania Graduate School of Education. She taught high-school mathematics in Vanuatu as a Peace Corps volunteer and was a mathematics specialist, supporting both youth and adults, for the Say Yes to Education Foundation in Philadelphia.

Michael Sorum serves as a Deputy Superintendent for the Fort Worth Independent School District (FWISD). He oversees the Divisions of Teaching and Learning, School Leadership, and Student Support Services. Prior to this role, he served as the Chief Academic Officer for the FWISD and the Providence, Rhode Island School Department where he supervised academics , career and technical education, assessment and data quality, secondary academic advisement and the departments for special student populations: special education, ESL and bilingual education, and gifted education. Sorum taught French, Spanish, ESL, and Reading for ten years at the elementary and secondary levels and has served as a campus instructional guide for mathematics and a curriculum administrator. He holds degrees in political science and romance languages from L'Université d'Aix-en-Provence, and Portland State University and a master's in Administration, Planning, and Social Policy from Harvard University. His doctorate is from Texas Christian University.

9:45 am – 10:15 am

REFRESHMENT BREAK

Macky Terrace

10:15 am – 11:45 am

INVITED SESSION: Where are the Learning Sciences in the MOOC Debate?

Math 100

George Siemens, Pierre Dillenbourg, Gerhard Fischer, Danielle McNamara, Nikol Rummel

PAPER SET: Agents and Scaffolding

Engineering Center Classroom Wing 151

Not a Magic Bullet: The Effect of Scaffolding on Knowledge and Attitudes in Online Simulations
Ido Roll, Adriana Briseno, Nikki Yee, Ashley Welsh

The Impact of a Social Robot's Attributions for Success and Failure in a Teachable Agent Framework
Kasia Muldner, Victor Girotto, Cecil Lozano, Winslow Burleson, Erin Walker

A Study of Subjective Emotions, Self-Regulatory Processes, and Learning Gains: Are Pedagogical Agents Effective in Fostering Learning?
Nicholas Mudrick, Roger Azevedo, Michelle Taub, Reza Feyzi-Begnagh, François Bouchet

PAPER SET: Broadening Participation and Expanding Pathways to Success

Engineering Center Classroom Wing 155

"We Should All Help Each Other": Latina Undergraduates' Practices And Identities In The Figured World Of Computing
Heather Thiry, Sarah Hug

Defining Success in an Alternative High School: Resources for the Reframing of Education
Gavin Tierney

Framing Sociocultural Interactions to Design Equitable Learning Environments
Bryant Jensen

PAPER SET: Embodied and Spatial Practices in Learning

Engineering Center Classroom Wing 1B51

Spatial Practices in CSCL Discussions
Benzi Slakmon, Baruch Schwarz

Inexplicable Silence: An Uncomfortable Analysis of the Social Silences
Daniel Steinbock

Middle School Learners' Ontological 'Trying-on' of Dimensions: A Phenomenological Investigation
Keri Duncan Valentine, Theodore Kopcha

PAPER SET: Learning and Becoming Through Activism

Engineering Center Classroom Wing 200

Becoming an Activist-Mathematician in an Age of Austerity
Indigo Esmonde, Joe Curnow, Dominique Riviere

Becoming an Activist: Learning the Politics and Performances of Youth Activism Through Legitimate Peripheral Participation
Joe Curnow

Tensions and Possibilities for Political Work in the Learning Sciences
Angela Booker, Shirin Vossoughi, Paula Hooper

PAPER SET: Teacher Professional Development and Learning

Discovery Learning Center 1B50/60

Varied Appropriation of Tools from Professional Development: Moving Beyond Levels
Huy Chung, Beth van Es

Supporting Pre-Service Science Teachers' Planning of Task-Based Classroom Discussions
Danielle Ross, Aaron Kessler, Jennifer Cartier

Time Needed: Growth of Preservice Science Teachers' Knowledge of Inquiry and Practice of Lesson Design
Augusto Macalalag Jr.

REPORTS & REFLECTIONS PAPER SET: Representations and Inscriptions in STEM

Engineering Center Classroom Wing 245

Representational Competence & Spatial Thinking in STEM
Mike Stieff, Matthew Lira, Dane DeSutter

Sequencing Sense-Making and Fluency-Building Support for Connection Making between Multiple Graphical Representations
Martina Rau, Vincent Aleven, Nikol Rummel

Children's Use of Inscriptions in Written Arguments About Socioscientific Issues
Sihan Xiao, William Sandoval

Filling in the Gaps: Capturing Social Regulation in an Interactive Tabletop Learning Environment
Abigail Evans, Jacob O. Wobbrock

Supporting Conceptual Understandings Outdoors: Findings from the Tree Investigators Mobile Project
Heather Toomey Zimmerman, Susan Land, Brian Seely, Michael Mohney, Gi Woong Choi, Lucy Richardson McClain

SYMPOSIUM: The Interplay of Domain-Specific and Domain-General Factors in Scientific Reasoning and Argumentation

Duane G1B30

Frank Fischer, Christof Wecker, Andreas Hetmanek, Jonathan Osborne, Clark A. Chinn, Ravit Golan Duncan, Ronald W. Rinhart, Stephanie Siler, David Klahr, William A. Sandoval

SYMPOSIUM: Becoming Reflective: Designing for Reflection on Physical Performances

Engineering Center Classroom Wing 265

Tom Moher (chair), Cynthia Carter Ching, Sara Schaefer, Victor Lee, Noel Enyedy, Joshua Danish, Paulo Guerra, Alessandro Gnoli, Priscilla Jimenez, Brenda Lopez-Silva, Leilah Lyons, Anthony Perritano, Brian Slattery, Mike Tissenbaum, James Slotta, Rebecca Cober, Cresencia Fong, Andee Rubin (discussant)

SYMPOSIUM: Combining Video Games and Constructionist Design to Support Deep Learning in Play

Engineering Center Classroom Wing 1B40

Nathan Holbert, David Weintrop, Uri Wilensky, Pratim Sengupta, Stephen Killingsworth, Kara Krinks, Doug Clark, Corey Brady, Eric Klopfer, R. Benjamin Shapiro, Rosemary S. Russ, Yasmin B. Kafai (discussant)

11:45 am – 1:15 pm

LUNCH (on own)

CSCL Community Meeting

Engineering Center Classroom Wing 200

1:15 pm – 2:45 pm

PRESIDENTIAL SESSION: Learning and Assessment of 21st Century Skills

Math 100

Cindy Hmelo-Silver, Eleni A. Kyza, Jan van Aalst, Alina von Davier, Jan-Willem Strijbos, Dan Hickey

PAPER SET: Analyzing and Modeling Learning Across Time

Engineering Center Classroom Wing 265

Towards a Complex Systems Theory of Learning as an Emergent Phenomenon: Beyond the Cognitive Versus Situative Debate

Michael Jacobson, Manu Kapur, Peter Reimann

Understanding the Relationships Within And Between Constructs of a Learning Progression: Combining Multidimensional Item Response Modeling and Latent Class Analysis

Jinnie Choi, Ravit Duncan

Three Diagnoses of Why Transfer Across Disciplines Can Fail and Their Implications for Interdisciplinary Education

Eric Kuo, Danielle Champney

PAPER SET: Developing and Using Models in Science

Engineering Center Classroom Wing 1B40

Scientific Practices Through Students' Eyes: How Sixth Grade Students Enact and Describe Purposes for Scientific Modeling Activities Over Time
Christina (Stina) Krist, Brian Reiser

Development of an Empirically-Based Learning Performances Framework for 3rd-Grade Students' Model-Based Explanations about Hydrologic Cycling
Cory Forbes, Christina Schwarz, Laura Zangori

A Tale of Two Worlds: Using Bifocal Modeling to Find and Resolve "Discrepant Events" Between Physical Experiments and Virtual Models in Biology
Tamar Fuhrmann, Shima Salehi, Paulo Blikstein

PAPER SET: Engineering and Computer Science Learning

Engineering Center Classroom Wing 200

Analyzing Equity in Collaborative Learning Situations: A Comparative Case Study in Elementary Computer Science – *Nominated for Best Paper*
Niral Shah, Colleen Lewis, Roxane Caires

The Discourse of Creative Problem Solving in Childhood Engineering Education
Elise Deitrick, Brian O'Connell, R. Benjamin Shapiro

The Programmers' Collective: Connecting Collaboration and Computation in a High School Scratch Mashup Coding Workshop
Deborah Fields, Veena Vasudevan, Yasmin Kafai

PAPER SET: Learning and Becoming in Community Settings

Engineering Center Classroom Wing 245

The Role of Identity Development Within Tensions in Ownership of Science Learning – *Nominated for Best Student Paper*
Jason Yip, Tamara Clegg, June Ahn, Elizabeth Bonsignore, Michael Gubbels, Emily Rhodes, Becky Lewittes

Shifts in Identification in a Hybrid Space
Kok-Sing Tang

"It's Intentional": Co-Construction of Transformational Processes and Pathways Within and Across Hubs of Interdependence in an Urban Community
Joanne Larson, Courtney Hanny, Joyce Duckles, Joel Gallegos Greenwich, Eric Meyer, Robert Moses, George Moses, Kimberly Jones, Jeremy Smith

PAPER SET: Online Learning and MOOCs

Discovery Learning Center 1B50/60

Adventures in Argument: Training in Argumentation Influences Student Resource Use in Collaborative Meaning Making
Julia Gressick, Sharon J. Derry

When Experts Disagree: Sourcing Practices While Reading Conflicting Online Information Sources
Sarit Barzilai, Eynav Tzadok, Yoram Eshet-Alaklai

MOOCs: A Perspective from the Learning Sciences
Michael Eisenberg, Gerhard Fischer

REPORTS & REFLECTIONS PAPER SET: Learning and Becoming through Design and Co-Design

Engineering Center Classroom Wing 1B51

Engaging In Educational Design Processes For Sustainable Learning: Learning And Becoming In Practice
Mona Holmqvist Olander, Clas Olander

Influence Of Public Design Critiques On Fifth Graders Collaborative Engineering Design Work
Michelle Jordan

Authenticity Matters: Youth and Science Participation in Design-Based Learning Environments
Gavin Tierney, Déana Scipio

Analyzing University Students' Participation in the Co-Design of Learning Scenarios
Iolanda Garcia

Empowering Underrepresented Middle School Youth In Engineering Knowledge And Productive Identity Work
Angela Calabrese Barton, Edna Tan, Daniel Birmingham, Takumi Sato

SYMPOSIUM: Teacher Facilitation of Whole-Class Discussion in Secondary History Classrooms

Engineering Center Classroom Wing 151
Abby Reisman, Chava Shane-Sagiv, Lisa Barker, Brad Fogo, Joseph Polman

SYMPOSIUM: Learning Across Settings: Towards Transformative Trajectories of Practice

Engineering Center Classroom Wing 155
Shirin Vossoughi, Meg Escudé, Fan Kong, Elizabeth Mendoza, Molly Shea

SYMPOSIUM: Is The Sum Greater Than Its Parts? Reflections On The Agenda Of Integrating Analyses Of Cognition And Learning

Duane G1B30
Mariana Levin, Orit Parnafes, Andrea diSessa, Reed Stevens, Rogers Hall, Joshua Danish, Noel Enyedy, Timothy Koschmann

3:00 pm – 4:30 pm

INVITED SESSION: Research-Practice Partnerships in Communities

Engineering Center Classroom Wing 265
Daniel Gallagher, Nichole Pinkard, Jasmine Alfonso-Gurneau, Tim Truitt, Megan Bang, Mary Dempsey, Lori Faber, Ananda Marin

PAPER SET: Analytics and Quantitative Analysis of Discourse

Engineering Center Classroom Wing 1B51

Automatic Coding of Questioning Patterns in Knowledge-building Discourse
Jin Mu, Jan van Aalst, Carol Chan, Lai Fan Fu

An Analytic Tool for Supporting Teachers' Reflection on Classroom Talk
Gaowei Chen, Sherice Clarke, Lauren Resnick

Analyzing Online Knowledge Building Discourse Using Probabilistic Topic Models
Weiyi Sun, Jianwei Zhang, Hui Jin, Siwei Lyu

PAPER SET: Connected Learning

Discovery Learning Center 1B50/60

"I want to be a Game Designer or Scientist": Connected Learning and Developing Identities with Urban, African-American Youth – ***Nominated for Best Paper***
June Ahn, Mega Subramaniam, Elizabeth Bonsignore, Anthony Pellicone, Amanda Waugh, Jason Yip

"Learning to Live" - Expansive Learning and Mo(ve)ments Beyond 'Gang Exit'
Line Lerche Mørck

Friendship, Participation, and Site Design in Interest-Driven Learning among Adolescents
Ashley Cartun, Ben Kirshner, Emily Price, Adam York

PAPER SET: Embodiment Gesture and Learning

Engineering Center Classroom Wing 151

Being Mathematical Relations: Dynamic Gestures Support Mathematical Reasoning
Candace Walkington, Rebecca Boncoddo, Caroline Williams, Mitchell Nathan, Martha Alibali, Erica Simon, Elizabeth Pier

Hear What They Say and Watch What They Do: Predicting Valid Mathematical Proofs Using Speech and Gesture – ***Nominated for Best Student Paper***
Elizabeth Pier, Candace Walkington, Caroline Williams, Martha Alibali, Mitchell Nathan

Reactivation of Multimodal Representations and Perceptual Simulations for Meaningful Learning: A Comparison of Direct Embodiment, Surrogate Embodiment, and Imagined Embodiment
Saadia Khan, John Black

PAPER SET: Game Design and Learning

Engineering Center Classroom Wing 200

Reflecting On Educational Game Design Principles Via Empirical Methods
Osvaldo Jimenez

Game-Enabled Agency: Outcomes that Matter
Sasha Barab, Anna Arici

Connected Gaming: Moving from Instructionist to Constructionist Approaches in K-12 Serious Gaming
Yasmin Kafai, Quinn Burke

REPORTS & REFLECTIONS PAPER SET: Designing and Assessing Instruction

Engineering Center Classroom Wing 155

A Design Inquiry: Bridging Assessment and Curriculum Frameworks to Engage Students in Science Practices
Angela DeBarger, Erika Tate, Yves Beauvineau, Mingyu Feng, Patricia Schank, Tamara Heck, Michelle Williams

The Nature of Student Thinking and Its Implications for the Use of Learning Progressions to Inform Classroom Instruction
Alicia Alonzo, Andrew Elby

Evaluating Lesson Design and Implementation within the ICAP Framework
Rod Roscoe, Pedro Gutierrez, Ruth Wylie, Michelene Chi

Can Scaffolds from Pedagogical Agents Influence Effective Completion of Sub-Goals during Learning with a Multi-Agent Hypermedia-Learning Environment?
Michelle Taub, Roger Azevedo, Nicholas Mudrick, Erika Clodfelter, François Bouchet

Student Regulation of Collaborative Learning in Multiple Document Integration
Jun Oshima, Ritsuko Oshima, Keita Fujii

SYMPOSIUM: Learning As Multi-Dimensional Psychological and Cultural Ecological Spaces

Math 100

Carol Lee, Shirin Vossoughi, Kris Gutiérrez, Na'ilah Suad Nasir, Maxine McKinney de Royston, Barbara Rogoff

SYMPOSIUM: Concept Formation in Activity

Duane G1B30

Yrjö Engeström, Annalisa Sannino, Yuri Lapshin, Maria Safronova, Jaakko Virkkunen, Irene Vänninen, Marco Pereira Querol

SYMPOSIUM: Reimagining Cultural Forms, Ethnographic Methods And Researcher Responsibilities In Studying Engineering And Science Learning: Honoring And Building On The Work Of Margaret Eisenhart

Engineering Center Classroom Wing 1B40
Cory Buxton, Karen Tonso, Heidi Carlone, Angela Johnson, Jrene Rahm

SYMPOSIUM: History Learning And Teaching Today: Learning What? Becoming What? By What Practice?

Engineering Center Classroom Wing 245
Yifat Kolikant, Laura D'Amico, Brad Fogo, Tsafrir Goldberg, Sheryl Guloy, Sarah Pollack, Avishag (Abby) Reisman, Kevin O'Neill

4:30 pm – 5:00 pm

REFRESHMENT BREAK

5:00 pm – 6:30 pm

PAPER SET: Analyzing and Modeling Learning Over Different Timescales (Microgenesis)

Engineering Center Classroom Wing 200

Showing What They Know: Multimedia Artifacts To Assess Learner Understanding
Cindy Hmelo-Silver, Carolyn Maher, Marjory Palius, Robert Sigley, Alice Alston

Case n' point Discovering learning in the nonce
Timothy Koschmann, Alan Zemel, Michael Neumeister

Learner Alignment with Expansive Framing as a Driver of Transfer
Diane Lam, Adam Mendelson, Xenia Meyer, Lloyd Goldwasser

PAPER SET: EDM and Learning Analytics in Science and Mathematics

Duane G1B30

Using Analytics for Improving Implementation Fidelity in an Large Scale Efficacy Trial
Mingyu Feng, Jeremy Roschelle, Robert Murphy, Neil Heffernan

Identifying Transfer of Inquiry Skills across Physical Science Simulations using Educational Data Mining
Michael Sao Pedro, Yang Jiang, Luc Paquette, Ryan Baker, Janice Gobert

High School Students' Parameter Space Navigation and Reasoning during Simulation-Based Experimentation
Hee-Sun Lee, Amy Pallant, Robert Tinker, Paul Horwitz

PAPER SET: Immersive/Smart Environments

Engineering Center Classroom Wing 245

Collective Immersive Simulations: A New Approach to Learning and Instruction of Complex Biology Topics
Michelle Lui, Jim Slotta

Enacted Misconceptions: Using Embodied Interactive Simulations to Examine Emerging Understandings of Science Concepts
Robb Lindgren, Michael Tscholl

Developing an Orchestrational Framework for Collective Inquiry in Smart Classrooms: SAIL Smart Space (S3) – *Nominated for Best Student Paper*
Mike Tissenbaum, Jim Slotta

PAPER SET: Mathematics Learning

Engineering Center Classroom Wing 1B51

Students' Resources for the Construction of Scales for Graphing
Cesar Delgado, Margaret Lucero

Leveling Transparency via Situated Intermediary Learning Objectives (SILOs)
Dor Abrahamson, Kiera Chase, Vishesh Kumar, Rishika Jain

Dynamic Visualization of Motion for Student-Generated Graphs
Jonathan Vitale, Kevin Lai, Marcia Linn

PAPER SET: Policy and Organizational Learning

Discovery Learning Center 1B50/60

Learning in Low-Performing School Districts: Conceptual and Methodological Challenges Resulting from Network Churn – *Nominated for Best Paper*
Kara Finnigan, Alan Daly

Interrogating the Divide: A Case Study of Student Technology Use in a One-to-one Laptop School
Nicholas Wilson

Learning to Practice Data-Driven Instructional Leadership: Confronting Cultural & Historical Contradictions
Raymond Kang

PAPER SET: STEM Learning in Diverse Contexts

Engineering Center Classroom Wing 155

Measuring Affective Experience in the Midst of STEM Learning
Jayson Nissen, Jonathan Shemwell

Supporting Middle Schoolers' Use of Inquiry Strategies For Discovering Multivariate Relations In Interactive Physics Simulations
Luke Conlin, Nicole Hallinen, Daniel Schwartz

Collective Engagement in a Technologically Mediated Science Learning Experience: A Case Study in a Botanical Garden
Fariha Hayat Salman, Heather Toomey Zimmerman, Susan M Land

REPORTS & REFLECTIONS PAPER SET: Technology and Learning Across Disciplines

Engineering Center Classroom Wing 151

Recasting the Textbook: Student Creation of Interactive Digital History Texts with Primary Source Documents
Molly B. Zielezinski, Paul Franz

Civilian Analogs of Army Tasks: Supporting Pedagogical Storytelling Across Domains
Andrew Gordon, Mark Core, Sin-Hwa Kang, Catherine Wang, Christopher Wienberg

Design Principles for Motivating Learning with Digital Badges: Consideration of Contextual Factors of Recognition and Assessment
Cathy Tran, Katerina Schenke, Daniel Hickey

Conceptualizing Teachers' Practices in Supporting Students' Mathematical Learning in Computer-Directed Learning Environments
Aaron Kessler, Melissa Boston, Mary Kay Stein

Emergent Team Leadership in Small Group Online Collaborative Learning
Kui Xie, Victor Law, Lauren Hensley, Zhiru Sun

SYMPOSIUM: Re-Placing the Body in Children's Learning

Engineering Center Classroom Wing 1B40

Jasmine Ma, Ananda Marin, Katie Headrick Taylor, Nathan Phillips, Rogers Hall

SYMPOSIUM: Connecting Learning and Becoming: Studying Epistemologies and Identities as Interconnected, Dynamic Systems

Engineering Center Classroom Wing 265

Eli Gottlieb, Leslie Herrenkohl, Stanton Wortham, Catherine Rhodes, Martin Packer, Martha Gonzalez, Anna Sfard

SYMPOSIUM: Motivating and Broadening Participation: Competitions, Contests, Challenges, and Circles for Supporting STEM Learning

Math 100

Yasmin Kafai, Natalie Rusk, Quinn Burke, Chad Mote, Kylie Peppler, Deborah Fields, Ricarose Roque, Karen Elinich, Orkan Telhan, Alecia Marie Magnifico

6:45 pm – 8:30 pm

RECEPTION

Folsom Stadium Club

Cash bar available

7:00 pm – 8:00 pm

POSTER SET #2

Folsom Stadium Club

W1. Visualizing Three-Dimensional Spatial Relationships in Virtual and Physical Astronomy Environments
Patricia Udomprasert, Alyssa Goodman, Zhihui Helen Zhang, Susan Sunbury, Philip Sadler, Mary Dussault, Erin Lotridge, Jonathan Jackson, Ana-Maria Constantin

W2. Cognitive Ethnographies of Heterogeneous Engineering Design
Carlye Lauff, Joanna Weidler-Lewis, Kevin O'Connor, Daria Kotys-Schwartz, Mark Rentschler

W3. Building A Framework For the Process of Crafting and Using Definitions
Angela Little

W4. The Role of Stated Relationships in Detecting Contradictions Between Multiple Representations in Science
Candice Burkett, Susan R. Goldman, M. Anne Britt

W5. Colors of Nature: Connecting Science and Arts Education to Promote STEM-Related Identity Work in Middle School Girls
Carrie Tzou, Laura Conner, Stephen Pompea, Mareca Guthrie

W6. Using Deficient Models as Scaffolds for Learning Engineering Concepts of Tradeoffs and Optimization
Chandan Dasgupta, Tom Moher

W7. Make to Relate: Narratives Of, and As, Community Practice
Colin Dixon, Lee Martin

W8. Taking a New Perspective on Spatial Representations in STEM
Dane DeSutter, Mike Stieff

W9. How Do Children Draw, Describe, And Gesture About Motion?
Donna Kotsopoulos, Michelle Cordy, Melanie Langemeyer, Laaraib Khattak

W10. Development of Integrated Physics Identity through Physics Learning Assistant Experience
Eleanor Close, Jessica Conn, Hunter Close

W11. It's Not As Bad As Using the Toaster All The Time - Designing Trade-Offs In A Scratch Game About Energy Use
Gillian Puttick, Amanda Strawhacker, Debra Bernstein, Elisabeth Sylvan

W12. Learning Integrated STEM Using Tangible Agent-Based Modeling
Gokul Krishnan, Pratim Sengupta

W13. Exploring The Role Of Theory Of Mind And Executive Functions In Preschool Children's Hypothesis Testing And Revision
Jamie Liberti, Susan Golbeck

W14. Characterizing Teachers' Analysis of Student Work
Jason Silverman, Valerie Klein, Wesley Shumar, Cheryl Fricchione, Candice Roberts, Anthony Matranga

W15. Women Becoming Engineers
Joanna Weidler-Lewis

W16. Multiple-Text Processing in Text-Based Scientific Inquiry
Katherine James, Susan R Goldman, Mon-Lin Monica Ko, Cynthia Greenleaf, Willard Brown

W17. Comparison of Specific and Knowledge Integration Automated Guidance for Concept Diagrams in Inquiry Instruction
Kihyun Ryoo, Marcia Linn

W18. Using Classroom-Based Authentic Research Experiences to Foster Scientific Thinking and Representational Competence
Kristy Halverson, Kari Clase

W19. Advancing Epistemological Frame Analysis to Refine our Understanding of Inquiry Frames in Early Elementary Interviews
Alejandro Andrade-Lotero, Joshua Danish

W20. Two Systems, Two Stances: A Novel Theoretical Framework For Game-Based Learning
Mario Martinez-Garza, Doug Clark

W21. Sink or Swim: Understanding the Evolution of User Behaviors in an Online Educational Community
Min Yuan, Lei Ye, Mimi Recker

W22. Designing and Validating a Story-based Socio-Emotional Learning Assessment Instrument
Mitra Fatolapour, Soyeon Hwang, Mario Piergallini, Julie Shim, Steven Dow, Carolyn Rose

W23. Scaffolding Argumentation Competence: The Shift from First to Second Order Skill Acquisition
Omid Noroozi, Paul Kirschner, Harm Biemans, Martin Mulder

W24. Upper-Level Physics Students' Perceptions Of Physicists
Paul W Irving, Eleanor C Sayre

W25. Designing Collaborative Learning Activities for Two Outcomes: Deep Structural Knowledge and Idea Generation
Rachel Lam

W26. Distributed Cognition and Gesture: Propagating a Functional System Through Impromptu Teaching
Robert Williams, Simon Harrison

W27. Local Ground: A Toolkit Supporting Metarepresentational Competence in Data Science
Sarah van Wart, Tapan Parikh

W28. Collaborative Hypothesis-Building Using Immersive Virtual Environments for Ecosystems Science
Shari Metcalf, Amy Kamarainen, Tina Grotzer, Chris Dede

W29. Redefining Engagement And Participation: The Co-Construction Of Student Learning Practices
Simona Goldin, Michaela Krug O'Neill, Shweta Naik

W30. Becoming a Professional through Virtual Practice
Tabitha McKay, Andrea Cantarero, Vanessa Svihla, Elizabeth Yakes Jimenez, Tim Castillo

W31. What Is and Who Can Do Science? Supporting Practice-Linked Identities in Science for Racially/Ethnically Underrepresented Youth
Tammie Visintainer

W32. Purposeful Learning Across Collaborative Educational Spaces
Teresa Cerratto Pargman, Nuno Otero, Marcelo Milrad, Daniel Spikol, Ola Kutsson, Robert Ramberg

W33. Assessment Analytics in CSCL: An Exploratory Study of Activity Theory-Informed Method
Wanli Xing, Bob Wadholm, Sean Goggins

W34. "Are You 'In' Or Are You 'Out'?" Investigating The Factors Affecting Immersion in a Location-Based AR Game For IBSE
Yiannis Georgiou, Eleni A. Kyza

Thursday, June 26, 2014

7:00 am – 8:00 am

JLS Editorial Board Meeting (closed)
Learning Sciences Lab (Education 334)

8:15 am – 9:45 am

KEYNOTE: I, Thou and Them: Distributed Memory and Learning
Macky Auditorium
Geoffrey Bowker

Geoffrey C. Bowker is Professor at the School of Information and Computer Science, University of California at Irvine, where he directs the Evoke Laboratory, which explores new forms of knowledge expression. Recent positions include Professor of and Senior Scholar in Cyberscholarship at the University of Pittsburgh iSchool and Executive Director, Center for Science, Technology and Society, Santa Clara. Together with Leigh Star he wrote *Sorting Things Out: Classification and its Consequences*; his most recent book is *Memory Practices in the Sciences*. He is currently working on big data policy and on scientific cyberinfrastructure; as well as completing a book on social readings of data and databases. More information can be found at: http://ics.uci.edu/~gbowker.

9:45 am – 10:15 am

REFRESHMENT BREAK
Macky Terrace

10:15 am – 11:45 am

INVITED SESSION: Children Becoming Collaborators
Math 100
Barbara Rogoff, Rebeca Mejía-Arauz, Lucía Alcalá, Andrew Coppens, Andy Dayton, Angélica López, Omar Ruvalcaba, Yolanda Corona Caraveo, Maricela Correa-Chávez, Kris Gutiérrez, Luis Urrieta

PAPER SET: Design and Creativity
Engineering Center Classroom Wing 245
Creativity as Practice(d) in a Design Studio – *Nominated for Best Paper*
Christoph Richter, Julia Lembke, Elisa Ruhl, Heidrun Allert

Bidirectional Analysis of Creative Processes: A Tool for Researchers
Alecia Marie Magnifico, Erica Halverson, Christopher Cutler, TJ Kalaitzidis

The Beginnings of Engineering Design in an Integrated Engineering and Literacy Task
Mary McCormick, David Hammer

PAPER SET: Knowledge Building and Integration in Science

Discovery Learning Center 1B50/60

Promoting 5th Graders' Views of Science and Scientific Inquiry in an Epistemic-Enriched Knowledge-Building Environment
Feng Lin, Carol K.K. Chan, Jan van Aalst

The Role of Inconsistencies in Collaborative Knowledge Construction
Martina Bientzle, Ulrike Cress, Joachim Kimmerle

Exploring A Digital Tool For Exchanging Ideas During Science Inquiry
Camillia Matuk, Marcia Linn

PAPER SET: Learning and Becoming in Informal Science Learning

Engineering Center Classroom Wing 200

How Interpreters Make Use of Technological Supports in an Interactive Zoo Exhibit
Brian Slattery, Leilah Lyons, Priscilla Jimenez Pazmino, Brenda Lopez Silva, Tom Moher

Learning With Multiple Visualizations in the Science Museum
Joyce Wang, Susan Yoon

Deep Hanging: Mentors Learning and Teaching in Practice
Déana Scipio

PAPER SET: Re-Conceptualizing Communities of Learners

Engineering Center Classroom Wing 151

Computer-Enhanced Dialogic Reflective Discourse
Shiri Mor-Hagani, Dani Ben-Zvi

Shared Epistemic Agency and Agency of Individuals, Collaborative Groups, and Research Communities
Crina Damsa

Communities Of Learning Practice: Balancing Emergence And Design In Educational Settings
Filitsa Dingyloudi, Jan-Willem Strijbos

REPORTS & REFLECTIONS PAPER SET: Epistemic Issues in STEM

Engineering Center Classroom Wing 1B51

Investigating the Effect of Curricular Scaffolds on 3rd-Grade Students' Model-Based Explanations for Hydrologic Cycling
Laura Zangori, Cory Forbes, Christina Schwarz

From Playing A Game To Solving An Equation
Shulamit Kapon

Metacognitive Planning and Monitoring: 9th Graders Performing a Long-Term Self-Regulated Scientific Inquiry in A Complex System
Billie Eilam

Multimedia Educative Curriculum Materials: Designing Digital Supports for Learning to Teach Scientific Argumentation
Suzanna Loper, Katherine McNeill, Raphaela Peck, Jeremy Price, Jacqueline Barber

How Good Is This Evidence? Students' Epistemic Competence in Evidence Evaluation
Clark Chinn, Leah Hung, Randi Zimmerman, Ravit Duncan

REPORTS & REFLECTIONS PAPER SET: Breaking Boundaries with Design-Based Implementation Research

Engineering Center Classroom Wing 155

Exploring How Mobile Technology Provides Inquiry Supports for Middle School Students in Conducting Scientific Practices in a Ubiquitous Learning Context
Wan-Tzu Lo, Ibrahim Delen, Alex Kuhn, Steven McGee, Jennifer Duck, Chris Quintana

Designing for Engagement in Environmental Science: Becoming "Environmental Citizens"
Susan Nolen, Gavin Tierney, Alexandra Goodell, Nathanie Lee, Robert Abbott

Emotional Engagement in Agentive Science Learning Environments
Andrew Morozov, Leslie Herrenkohl, Kari Shutt, Phonraphee Thummaphan, Nancy Vye, Robert Abbott, Giovanna Scalone

Mathematical Tasks as Boundary Objects in Design-Based Implementation Research
Raymond Johnson, Samuel Severance, Heather Leary, Susan Miller

Tensions in a Multi-Tier Research-Practice Partnership
Samuel Severance, Heather Leary, Raymond Johnson

SYMPOSIUM: When Friends Argue: Investigating Argumentative Learning Processes in Facebook

Engineering Center Classroom Wing 265

Dimitra Tsovaltzi, Christa S. C. Asterhan, Christine Greenhow, Raluca Judele, Thomas Puhl, Rakheli Hever, Thor Gibbons, Melissa Menzer, Baruch B. Schwarz, Armin Weinberger, Douglas Clark (discussant)

SYMPOSIUM: Disrupting Learning: Changing Local Practice for Good

Duane G1B30

Charles Munter, Einat Heyd-Metzuyanim, James Greeno, Jasmine Ma, Molly Kelton, Melissa Gresalfi, Rogers Hall

SYMPOSIUM: Enhancing Self-Regulated Learning through Metacognitively-Aware Intelligent Tutoring Systems

Engineering Center Classroom Wing 1B40
Benjamin Goldberg (chair), Robert Sottilare, Ido Roll, Susanne Lajoie, Eric Poitras, Gautam Biswas, James R. Segedy, John S. Kinnebrew, Eliane Stampfer Wiese, Yanjin Long, Vincent Aleven, Kenneth R. Koedinger, Phil Winne (discussant)

11:45 am – 1:00 pm

LUNCH (on own)

ISLS Board Meeting (closed)

Engineering Center Classroom Wing 1B70

1:00 pm – 2:30 pm

PAPER SET: Epistemic Cognition in Theory and Practice

Engineering Center Classroom Wing 265
Epistemic Networks for Epistemic Commitments
Simon Knight, Golnaz Arastoopour, David Williamson Shaffer, Simon Buckingham Shum, Karen Littleton

Exploring Group-Level Epistemic Cognitions Within a Knowledge Community and Inquiry Curriculum for Secondary Science
Alisa Acosta, Michelle Lui, Jim Slotta

'Mangling' Science Instruction: Creating Resistances to Support the Development of Practices and Content Knowledge – *Nominated for Best Paper*
Eve Manz

PAPER SET: Explanation and Argumentation in Science Learning

Engineering Center Classroom Wing 245
Problematizing as Scaffold for Engaging in Scientific Argumentation
Mon-Lin Monica Ko

Fostering Scientific Reasoning. A Meta-Analysis On Intervention Studies
Katharina Engelmann, Frank Fischer

Learning from Self-Explaining Emergent Phenomena
Kasia Muldner, Winslow Burleson, Michelene Chi

PAPER SET: Mediating Engagement and Learning

Engineering Center Classroom Wing 151
The Impact of Text Genre on Science Interest in an Authentic Science Learning Environment
Steven McGee, Amanda Durik, Dena Ann Pastor

How Do Learners Process Information in Lectures? The Role of Projected Slides and Type of Note-taking
Christof Wecker

Klauer's Inductive Reasoning Training as a Cognitive Apprenticeship Approach for Special-Needs Students
Antonia E. E. Baumeister, Heiner Rindermann

PAPER SET: Participatory Design in the Learning Sciences

Engineering Center Classroom Wing 200

Supporting Teacher Learning for Pedagogical Innovation Through Collaborative Co-design: Issues and Challenges
Nancy Law, Johnny Yuen, Yeung Lee

Designing for Democracy in Education: Participatory Design and the Learning Sciences
Betsy DiSalvo, Carl DiSalvo

Becoming Agents of Change through Participation in a Teacher-Driven Professional Research Community
Michael Ross, Ben Van Dusen, Valerie Otero

PAPER SET: Reflections on Research and Methods in the Learning Sciences

Engineering Center Classroom Wing 155

Facilitating Design Research by Mapping Design Research Trajectories
Guanzhong Ma, Jan van Aalst

Design-Based Research Process: Problems, Phases, and Applications
Matthew Easterday, Daniel Rees Lewis, Elizabeth Gerber

Where Are We Now? Research Trends in the Learning Sciences
Elizabeth Koh, Young Hoan Cho, Imelda Caleon, Yu Wei

REPORTS & REFLECTIONS PAPER SET: Learning and Becoming in Computer Science

Discovery Learning Center 1B50/60

Expansive Framing and Preparation for Future Learning in Middle-School Computer Science
Shuchi Grover, Roy Pea, Stephen Cooper

Supporting Computational Algorithmic Thinking (SCAT): Exploring the Development of Computational Algorithmic Thinking Capabilities in African-American Middle-School Girls
Jakita Thomas

Investigating Student Generated Computational Models of Science
Satabdi Basu, Anton Dukeman, John Kinnebrew, Gautam Biswas, Pratim Sengupta

Studying Students' Early-Stage Software Design Practices
Brian Danielak, William Doane

Becoming a Computer Scientist: Early Results of a Near-Peer and Social Justice Program with Latino/a Children
Jill Denner, Jacob Martinez, Heather Thiry

SYMPOSIUM: Leveraging Educative Approaches to STEM Disciplinary and Instructional Practices

Engineering Center Classroom Wing 1B40
Philip Bell, Jeanne Chowning, Elaine Klein, Veronica McGowan, Tana Peterman, Kerri Wingert, Anna Maria Arias, Annemarie S. Palincsar, April Luehmann, Elizabeth A. Davis (discussant)

SYMPOSIUM: Research and Design of Learning Experiences for Families

Kittredge Multipurpose A/B
Megan Luce (co-chair), Jessica Umphress (co-chair), Maureen Callanan, Catherine Eberbach, Shelley Goldman, Jennifer Jipson, Amber Levinson, Elyse Litvack, Lucy R. McClain, Sinem Siyahhan, Carrie Tzou, Tanner Vea, Heather Toomey Zimmerman, Philip Bell (discussant)

SYMPOSIUM: Differing Notions Of Responsive Teaching Across Mathematics And Science: Does The Discipline Matter?

Kittredge Multipurpose C/D
Andrew Elby (chair), Jennifer Richards, Janet Walkoe, Ayush Gupta, Rosemary Russ, Melissa Luna, Amy Robertson, Janet Coffey, Ann Edwards, Miriam Sherin, Beth van Es (discussant)

SYMPOSIUM: Science Sims and Games: Best Design Practices - Fave Flops

Duane G1B30
Mina C. Johnson-Glenberg (chair), Robb Lindgren (co-chair), Caroline Savio-Ramos, Katherine K. Perkins, Emily B. Moore, Douglas Clark, Corey Brady, Pratim Sengupta, Mario Martinez-Garza, Deanne Adams, Stephen Killingsworth, Grant Van Eaton, Matthew Gaydos, Amanda Barany, Kurt Squire, Nathan Holbert

SYMPOSIUM: Becoming More Mathematical: New Directions for Describing and Designing for Positive Dispositions Toward Mathematics

Math 100
Melissa Kumar, Tesha Sengupta-Irving, Noel Enyedy, Melissa Gresalfi, Jennifer Langer-Osuna, Anna Sfard, Kris Gutiérrez

2:45 pm – 4:15 pm

INVITED SESSION: Learning and Becoming through Making and Participatory Media

Math 100
Kristiina Kumpulainen, Julian Sefton-Green, Karen Brennan, Anna Mikkola, Kylie Peppler, Elisabeth Soep

PAPER SET: Computational and Digital Media Tools to Support Science Teaching

Engineering Center Classroom Wing 151

More Than Just Plain Old Technology Adoption: Understanding Variations in Teachers' Use of an Online Planning Tool
Heather Leary, Victor Lee, Mimi Recker

Using Contrasting Video Cases of Enactment of Cognitively Demanding Science Tasks in a Professional Development
Miray Tekkumru Kisa, Mary Kay Stein

PAPER SET: Cultivating Dispositions and Desires

Engineering Center Classroom Wing 155

Capturing Personal and Social Science: Technology for Integrating the Building Blocks of Disposition
Tamara Clegg, Elizabeth Bonsignore, June Ahn, Jason Yip, Daniel Pauwe, Michael Gubbels, Becky Lewittes, Emily Rhodes

The Contours and Possibilities of Desire in Sociocultural Research on Learning and Becoming
Ian Renga

Teach Me How To Facebook! A Design Based Research About Risk Prevention On Social Network Sites
Ellen Vanderhoven, Tammy Schellens, Martin Valcke

PAPER SET: Explanation and Argumentation in Science Learning

Discovery Learning Center 1B50/60

Disciplinary Authority And Its Underpinning Of Accountability In Science
Michael Ford, Ellice Forman

Knowledge Organization with Multiple External Representations for Socioscientific Argumentation: A Case on Nuclear Energy
Bahadir Namdar, Ji Shen

Explanations That Make Sense: Accounting For Students' Internal Evaluations Of Explanations
Shulamit Kapon, Orit Parnafes

PAPER SET: Model-Based Reasoning

Engineering Center Classroom Wing 245

Using Models for Reasoning and Content Learning: Patterns of Bootstrapping Towards Earth Science Understandings
Ann Rivet, Cheryl Lyons, Alison Miller

The Role of Scientific and Social Academic Norms in Student Negotiations while Building Astronomy Models
Melissa Cook, Noel Enyedy

Model-based Reasoning: A Framework for Coordinating Authentic Scientific Practice with Science Learning
Julia Gouvea, Arash Jamshidi, Cynthia Passmore

REPORTS & REFLECTIONS PAPER SET: Methods and Research in Undergraduate Education

Engineering Center Classroom Wing 1B51

Personas as a Powerful Methodology to Design Targeted Professional Development Resources
Adrian Madsen, Sarah McKagan, Eleanor Sayre, Mathew `Sandy' Martinuk, Alexander Bell

Sources of Affect around Interdisciplinary Sense Making
Benjamin Geller, Julia Gouvea, Vashti Sawtelle, Chandra Turpen

"With-me-ness": A Gaze-Measure For Students' Attention in MOOCs
Kshitij Sharma, Patrick Jermann, Pierre Dillenbourg

An Interactional Analysis of Gaze Coordination during Online Collaborative Problem Solving Activities
Murat Perit Cakir, Selin Deniz Uzunosmanoglu

Taking DALITE To the Next Level: What Have We Learned From An A Web-Based Peer Instruction Application
Elizabeth Charles, Chris Whittaker, Nathaniel Lasry, Michael Dugdale, Kevin Lenton, Sameer Bhatnagar, Jonathan Guillemette

SYMPOSIUM: Learning and Thinking in Practice: Complex Systems Thinking 'in the Wild'

Duane G1B30

Izabel Duarte Olson, Ananda Marin, Alon Hirsh, Sharona T Levy, Megan Bang, Priya Pugh, Megan McGinty, Uri Wilensky, Douglas Medin

SYMPOSIUM: Education for Sustainability and Resilience in a Changing Climate

Engineering Center Classroom Wing 1B40
Sameer Honwad, D. Ofelia Mangen, Christopher Hoadley, Kenneth Tamminga, Rose Honey, Armanda Lewis

SYMPOSIUM: Enrollment of Higher Education Students in Professional Knowledge and Practices

Engineering Center Classroom Wing 200
Crina Damșa (organizer), Hanni Muukkonen (organizer), Monika Nerland, Minna Lakkala, Auli Toom, Kari Kosonen, Liisa Ilomäki, Lina Markauskaite, Peter Goodyear, Agnieszka Bachfischer, Sten Ludvigsen (discussant)

SYMPOSIUM: Synergistic Scaffolding of Technologically-enhanced STEM Learning in Informal Institutions

Engineering Center Classroom Wing 265
Leilah Lyons (chair), Emma Anderson, Michael Carney, Karen Elinich, Robb Lindgren, Michael Tscholl, Chris Quintana, Jessica Roberts, Joyce Wang, Susan Yoon, Iris Tabak (discussant)

4:15 pm – 4:45 pm

REFRESHMENT BREAK

4:45 pm – 6:15 pm

INVITED SESSION: Teachers as Designers

Engineering Center Classroom Wing 1B40

Joke Voogt, Susan McKenney, Yael Kali, Alain Breuleux, Rebecca Cober, Jim Slotta, Bat-Sheva Eylon, Rebecca Itow, Karen Könings, Therese Laferrière, Marcia C. Linn, Lina Markauskaite, Camillia Matuk, Richard Reeve, Ornit Sagy, Hyo-Jeong So, Vanessa Svihla, Esther Tan

PAPER SET: Epistemic Practices of Evidence and Modeling

Engineering Center Classroom Wing 245

Developing Mechanistic Model-Based Explanations of Phenomena: Case Studies of Two Fifth Grade Students' Epistemologies in Practice Over Time
Christina Schwarz, Li Ke, May Lee, Joshua Rosenberg

Students' Use of Evidence and Epistemic Criteria in Model Generation and Model Evaluation
Ravit Duncan, Carol Tate, Clark Chinn

Modeling the Construction of Evidence Through Prior Knowledge and Observations from the Real World
Lauren Barth-Cohen, Daniel Capps, Jonathan Shemwell

PAPER SET: Formative Assessment In Science Learning

Engineering Center Classroom Wing 151

Characterizing a New Dimension of Change in Attending and Responding to the Substance of Student Thinking
Jennifer Richards, Andrew Elby, Ayush Gupta

Promoting Student Learning Through Automated Formative Guidance on Chemistry Drawings
Anna Rafferty, Libby Gerard, Kevin McElhaney, Marcia Linn

Designing Critique to Improve Conceptual Understanding
Elissa Sato, Marcia Linn

PAPER SET: Methods of Studying Communities of Learners

Engineering Center Classroom Wing 155

A Case Study Examining the Microdynamics of Social Positioning within the Context of Collaborative Group Work
Lesley Dookie

Towards the Facilitation Of an Online Community of Learners: Assessing the Quality of Interactions in Yammer
Marcela Borge, Sean Goggins

Moving Beyond Case Studies: Using Social Network Analysis to Study Learning as Participation in Communities of Practice
Julia Eberle, Karsten Stegmann, Frank Fischer

REPORTS & REFLECTIONS PAPER SET: Learning in Social Contexts

Engineering Center Classroom Wing 1B51

Teaching Struggling Middle School Readers To Comprehend Informational Text
Donna Caccamise, Angela Friend, Christine Groneman, Megan Littrell-Baez, Eileen Kintsch

Reverberating Words & GED 2014 Academic Writing Instruction:Reflecting on a Functional Linguistics-Based Approach to Grammar Foregrounding the Social Concept of Identity
Sasha Lotas

Evolution of Communities of Learning Practice in Higher Education: Collective Units of Analysis
Filitsa Dingyloudi, Jan-Willem Strijbos

Becoming a Youth Worker in a Classroom Community of Practice
Laurie Ross

The Practice Of Facilitating Professional Learning Communities
Karin Brodie

REPORTS & REFLECTIONS PAPER SET: Re-Placing the Body in the World of Learning

Discovery Learning Center 1B50/60

Perspectival Computational Thinking for Learning Physics: A Case Study of Collaborative Agent-based Modeling
Amy Voss Farris, Pratim Sengupta

Science, Technology, Body and Personhood: The Concept of Health Emerging in High-Tech Modern Medicine Practice
Federica Raia, Martin Cadeiras, Ali Nsair, Daniel Cruz, Grecia Ramos, Claire Alvarenga, Valeria M. Rivera, Kristina Barrientos, Mario Deng

What's Happening in the "Quantified Self" Movement?
Victor Lee

Teaching about Confidence Intervals: How Instructors Connect Ideas Using Speech and Gesture
Lockwood Elise, Yeo Amelia, Crooks Noelle, Mitchell Nathan, Martha Alibali

Assessing the Makers: The Impact of Principle-Based Reasoning on Hands-on, Project-Based Learning
Marcelo Worsley, Paulo Blikstein

SYMPOSIUM: Learning and Becoming Through Art-Making: Relationships Among Tools, Phenomena, People, and Communities in Shaping Youth Identity Development

Duane G1B30

Noel Enyedy (chair), Joseph L. Polman, Cynthia Graville Smith, Megan Bang, Beth Warren, Ann S. Rosebery, Jeff Burke, Fabian Wagmister, Amy Bolling, Taylor Fitz-Gibbon, Erica Rosenfeld Halverson, Na'ilah Suad Nasir (discussant)

SYMPOSIUM: Combining Generation and Expository Instruction to Prepare Students to Transfer Big Ideas Across School Topics

Engineering Center Classroom Wing 200

Inga Glogger (organizer), Lennart Schalk, Claudia Mazziotti, Nicole Hallinen, Armin Barth, Ralph Schumacher, Katharina Gaus, Alexander Renkl, Katharina Loibl, Nikol Rummel, Doris B. Chin, Kristen P. Blair, Daniel L. Schwartz, Katherine McEldoon (discussant)

SYMPOSIUM: Making the Most Out of It: Maximizing Learners' Benefits from Expert, Peer and Automated Feedback across Domains

Engineering Center Classroom Wing 265

Astrid Wichmann (co-chair), Danielle S. McNamara (co-chair), Markus Bolzer, Jan-Willem Strijbos, Frank Fischer, Moshe Leiba, Alexandra Funk, Nikol Rummel, Michaela Ronen, Olaf Peters, Susanne Narciss, Hermann Körndle, Rod D. Roscoe, Laura K. Varner, Erica L. Snow, Chris Quintana (discussant)

SYMPOSIUM: Toward an Argumentative Grammar for Socio-Cultural/Cultural-Historical Activity Approaches to Design Research

Math 100

William R. Penuel (organizer), Michael Cole, Yrjö Engeström, Annalisa Sannino, Kris Gutiérrez, A. Susan Jurow, Martin J. Packer, Raymond Johnson, Samuel Severance, Heather Leary, Susan Miller, D. Kevin O'Neill (discussant)

6:30 pm – 11:00 pm

RECEPTION / SOCIAL EVENT

National Center for Atmospheric Research (Mesa Laboratories)

Hosted Beer & Wine

7:00 pm – 8:00 pm

POSTER SET #3

National Center for Atmospheric Research

R1. "These are Facts": Opportunities for and Barriers to Policy Changes that Support Learning
Abigail Stiles, Julie Bryant, Kersti Tyson, Vanessa Svihla

R2. Understanding Data Variability in Ecosystems: Blending MUVE and Mobile Technologies to Support Reasoning with Real World Data
Amy Kamarainen, Shari Metcalf, Tina Grotzer, Chris Dede

R3. Examining the Use of Technology: Affordances and Constraints in a Blended Learning Environment
Annie Camey Kuo, Déana Scipio

R4. Adventure Learning @ the Learning Sciences
Brant Miller, Justin Hougham, Christopher Cox, Von Walden, Karla Eitel

R5. Between The Lines: The Role Of Curriculum Materials And Teacher Language In Communicating Ideas About Scientific Modeling
Carrie-Anne Sherwood, Carrie Bemis, Savitha Moorthy, Cynthia D'Angelo, Tina Stanford, Christopher Harris

R6. Tools for Sustained Student Engagement in InterLACE (Interactive Learning and Collaboration Environment)
Chris Teplovs, Leslie Schneider

R7. Getting Your Drift – Activity Designs for Grappling with Evolution
Corey Brady, Michael Horn, Uri Wilensky, Aditi Wagh, Arthur Hjorth, Amartya Bannerjee

R7. Characterizing Teachers' Support of Modeling Practices in Science Classrooms
Deborah Peek-Brown, Shawn Stevens, LeeAnn Sutherland, Sung-Youn Choi, Namsoo Shin, Joseph Krajcik

R8. Controlling for Statistical Dependencies in CSCL Using General Estimating Equations
E. Michael Nussbaum, Gwen Marchand

R9. What Do They Do? Tracing Students' Patterns of Interactions within a Game-Based Intelligent Tutoring System
Erica Snow, G. Tanner Jackson, Danielle McNamara

R10. Finding Productivity in Design Task Tinkering
Gina Quan, Ayush Gupta

R11. Fusing a Crosscutting Concept, Science Practice, and a Disciplinary Core Idea in Single Learning Progression
Hayat Hokayem, Amelia Gotwals

R12. The Power of Networks as an Engineering Sophomore
Janet Y. Tsai, Daria A. Kotys-Schwartz, Daniel W. Knight

R13. "What in the World?" Animated Worlds in Multivariable Modeling with Motion Chart Graph Arguments
Jennifer Kahn

R14. Keeping Up: Shifting Access to Gateway Resources in a Cycling Community of Practice
Joel Drake, Victor Lee

R15. What Does Doing Science Mean in the Elementary School Classroom? Bruno Latour, Inscriptional Transformations, and a New Look at Children's Interactions with Phenomena
Kathryn Lanouette, Eric Berson, Kathleen Metz

R16. Teacher Talk as a Window into Collaborative Lesson Design: Designing a Common Rubric in an Elementary School Work Circle
Kimberley Gomez, Nicole Mancevice, Ung-Sang Lee, Jahneille Cunningham

R17. Learners' Intuitions about Geology
Lauren Barth-Cohen, Jonathan Shemwell, Daniel Capps

R18. Everyday Life Science and Engineering: Bridging the Gap Between Formal and Informal Learning among Native American Students in Idaho and Washington
Marcie Galbreath, Rose Honey, Sameer Honwad, Anne Kern, Chris Meyer, Laura Laumatia

R19. Beyond 'Solve for x': Integrating Equations with Conceptual Understanding
Matthew Lira

R20. Examining How Students Make Sense of Slow-Motion Video
Min Yuan, Nam Ju Kim, Joel Drake, Scott Smith, Victor Lee

R21. Learning by Teaching Method
Moseli Mafa

R22. Enculturation: Contemporary Use in the Learning Sciences from a Historical Perspective
Ornit Sagy, Yotam Hod

R23. Promoting Diversity within the Maker Movement in Schools: New Assessments and Preliminary Results
Paulo Blikstein, Vivian Chen, Andrew Martin Martin

R24. Exploring The Use Of Elaborative Interrogation In An Introductory Physics Course
Robert Zisk, Elana Resnick, Eugenia Etkina

R25. Implementation Model For Developing Training Measures To Foster Values In An Organization
Sandra Niedermeier, Heinz Mandl

R26. Making Mathematical Meaning Through Robot Enactment Of Mathematical Constructs

Scot Sutherland, Tobin White, Jason Huang, Harry Cheng

Friday, June 27, 2014

8:30 am – 10:00 am

KEYNOTE PANEL: Approaches to Studying and Modeling Learning Across Setting and Time
Macky Auditorium
Anna Sfard, Reed Stevens, Leona Schauble, Beth Warren, Mariane Wiser, Jeremy Roschelle (discussant)

Anna Sfard conducts research and teaches in the domain of learning sciences, with particular focus on the relation between thinking and communication. In her research, she aims to contribute to our understanding of human development at large, and of the growth of mathematical thinking in particular. Her work is guided by the assumption that human thinking is a form of communication. Inspired mainly by the work of Wittgenstein and Vygotsky, this non-dualist tenet eventually leads to the conclusion that our communicational activities is the primary source of all things human. Results of her theoretical and empirical research conducted within this communicational (or "commognitive") framework have been summarized in the monograph *Thinking as communicating: Human development, the growth of discourses, and mathematizing* (2008). Her other volumes, edited or co-edited, include *Learning tools: Perspectives on the role of designed artifacts in mathematics learning* (2002), *Learning discourse: discursive approaches to research in mathematics education* (2003), and *Development of Mathematical discourse: Some insights from communicational research* (2012).

Reed Stevens is a Professor of Learning Sciences at Northwestern University. As an ethnographer of everyday experience, Stevens conducts field studies exploring how learning, thinking, and joint action are comparatively organized in range of socio-cultural contexts. A leading goal of these studies is to understand the ways individuals, groups, and standing cultural practices create, organize, and sustain routine and innovative activity and, in particular, how people learn together. In the past two decades he has conducted field studies spanning homes, schools, libraries, professional workplaces, and museums. He draws on understandings generated in these field studies to design and reorganize learning environments and experiences. One current project called FUSE Studios draws on a decade of informal learning studies to rethink STEM as STEAM learning and engagement, using a metaphor of 'leveling up' in video games. (http://vimeo.com/85162569). Other current work includes field studies of young people's everyday experiences using and learning with media, the design and study of a family game to understand and reorganize household energy consumption, and a field study of early career engineers. He was has co-led two NSF Centers, the Center for the Advancement of Engineering Education (CAEE) and the Learning in Informal and Formal Environments Center (LIFE).

Leona Schauble is a cognitive developmental psychologist with research interests in scientific and mathematical reasoning. Shortly after completing her undergraduate degree, she joined the research staff for *Sesame Street* at the Children's Television Workshop. Her subsequent fifteen years at CTW provided practical experience in research and the design of education. In 1987, after completing a PhD in Developmental and Educational Psychology at Columbia University, she went to the Learning Research and Development Center at the University of Pittsburgh as a postdoctoral fellow, where she continued as a Research Scientist until 1992. At the University of Wisconsin and subsequently at Vanderbilt University, she studies learning in both informal and formal educational settings. For example, with The Children's Museum of Indianapolis, the world's largest children's museum, she participated in an NSF-funded project to design and construct an 11,000-foot science gallery that reflects the science knowledge and learning of six- to ten-year-old children. Her current research, conducted in collaboration with Professor Richard Lehrer, is on the origins and development of model-based reasoning in school mathematics and science. In this project, researchers work collaboratively with teachers on an extended basis to generate reform in teaching and learning of mathematics and science, at levels from kindergarten through middle school.

Beth Warren is co-Director of the Chèche Konnen Center at TERC. Prior to joining TERC in 1990, she was Senior Scientist in the Education Group at BBN Laboratories in Cambridge, MA. In her research she focuses on understanding intersections of learning, teaching, disciplinary subject matter, and historically structured inequalities rooted in language, culture, and race. In recent work funded by NSF, the Chèche Konnen Center has been working in collaboration with the Boston Arts Academy, the city's only public high school for the visual and performing arts, to design and develop an artscience model of expansive learning focused on complex, transdisciplinary phenomena such as water and the human microbiome.

Marianne Wiser received a bachelor's degree in oceanography from the University of Liege, Belgium and a Ph.D. from Massachusetts Institute of Technology. She has been at Clark University since 1981. Dr. Wiser studies conceptual change in children, students, and the history of science. Her main topics of research are symbolic development and science learning. Current projects focus on the development of numerical knowledge and number notation in young children; the development of young children's understanding of the nature and function of printed words (pre-reading skills) and how they come to understand the alphabetic nature of our writing system; young children's ability to use models and maps; and young children's conception of matter, weight, and materials. Another topic of research is teaching and learning physics in high school, with special emphasis on microgenetic processes, mental models, parallels with history of science, and the integration of situated cognition approaches with theories of mental representations.

Jeremy Roschelle is Director of the Center for Technology in Learning at SRI International. He co-leads a group of about 80 multidisciplinary researchers who develop educational technologies, conduct learning sciences research and evaluate programs for the National

Science Foundation, U.S. Department of Education, Bill and Melinda Gates Foundation, Li Ka Shing Foundation and other government, philanthropic, and industry clients. Within SRI Education, he also leads projects in three lines of work: Community Building, Evaluating Products, and Digital Learning Innovation. Three running themes in his work are democratizing access to advanced mathematics, the study of collaborative learning, and appropriate use of advanced or emerging technologies.

10:00 am – 10:30 am

REFRESHMENT BREAK

Macky Terrace

10:30 am – 12:00 pm

INVITED SESSION: Funding Opportunities in the Learning Sciences

Duane G1B30

Richard Duschl (NSF), Janet Coffey (Moore Foundation), Diana Hess (Spencer)

PAPER SET: Connected Learning (Making and Tinkering)

Engineering Center Classroom Wing 245

Diving Into Practice with Children and Undergraduates: A Cultural Historical Approach to Instantiating Making and Tinkering Activity
Lisa Hope Schwartz, Daniela DiGiacomo, Kris Gutierrez

Learning and Becoming in an After School Program: The Relationship as a Tool for Equity within the practices of Making and Tinkering – *Nominated for Best Student Paper*
Daniela DiGiacomo, Kris Gutiérrez

"So, I think I'm a programmer now." Developing Connected Learning for Adults in a University Craft Technologies Course
Deborah Fields, Whitney King

PAPER SET: Discourse in Science Learning Environments

Engineering Center Classroom Wing 1B51

Leveraging the Cultural Practices of Science for Making Classroom Discourse Accessible to Emerging Bilingual Students
Enrique Suarez, Valerie Otero

The Roles of Teacher Questioning in Argument-based Inquiry (ABI): Approaches that Promote Cognitive Thinking and Dialogical Interaction
Ying-Chih Chen, Brian Hand

Hands-on Small Group vs. Whole Class Use of an Interactive Simulation: Qualitative Comparisons
A. Lynn Stephens, John J. Clement

PAPER SET: Science Teachers' Reflective Practice and Expertise

Engineering Center Classroom Wing 155

Framing Reflections on Instruction: A Precursor to Noticing
Vicky Pilitsis, Ravit Golan Duncan

Insights Into Teacher Reflective Practice During Planning
Michael Dianovsky, Donald Wink

Using an Adaptive Expertise Lens to Understand the Quality of Teachers' Classroom Implementation of Computer-Supported Reform Curricula in High School Science – *Nominated for Best Paper*
Susan Yoon, Jessica Koehler, Joyce Wang, Emma Anderson, Eric Klopfer

SYMPOSIUM: Learning about Equitable Teaching through Talk with Colleagues

Engineering Center Classroom Wing 200
Ilana Horn, Irene Yoon, Britnie Kane, Nicole Bannister, Beth van Es, Victoria Hand

SYMPOSIUM: Theorizing Learning in the Context of Social Movements

Engineering Center Classroom Wing 1B40
A. Susan Jurow, Ben Kirshner, José Antonio Torralba, Sherine El Taraboulsi, Leah Teeters, Barbara Guidalli, Nosakhere Griffin-EL, Samuel Severance, Molly Shea, Erik Dutilly, Rogers Hall (discussant)

SYMPOSIUM: Mapping the Distribution of Children's Digital Media Practices: Methodological Innovations and Challenges

Engineering Center Classroom Wing 265
Reed Stevens (chair), Katie Headrick Taylor (organizer), Lori Takeuchi, Elisabeth Hayes, Sinem Siyahhan, Brigid Barron, Amber Levinso, Rosalia Chavez Zarate, Caitlin Kennedy Martin, June H. Lee, Ellen Wartella, Alexis Lauricella, William R. Penuel (discussant)

SYMPOSIUM: Cyberinfrastructure for Design-Based Research: Toward a Community of Practice for Learning Scientists

Math 100
Sharon Derry, Alan Hackbarth, Sadhana Puntambekar, William Sandoval, Carlos González, Katerine Bielaczyc, Rich Lehrer, Allan Collins

AFFINITY GATHERING: Learning Sciences Research with Indigenous Communities

Discovery Learning Center 1B70
Leader: Megan Bang

AFFINITY GATHERING: Learning Sciences Research in Early Childhood

Discovery Learning Center 1B50
Tiffany R. Lee, Danielle Keifert

12:15 pm – 1:15 pm

CLOSING

Macky Auditorium

1:15 pm – 2:15 pm

NAPLeS Meeting (open)

Learning Sciences Lab (Education 334)

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A. Susan Jurow - *University of Colorado Boulder*
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Site Information and Maps

Pre-Conference Workshops Check-in

Pre-conference workshop registration will be located in the Millennium Harvest House Hotel in the Sunshine room (2nd floor) during the following:

- Sunday, June 22 (2:00 pm – 10:00 pm)
- Monday, June 23 (7:30 am – 5:30 pm)
- Tuesday, June 24 (7:30 am – 10:00 am)

Conference Registration Check-in

Conference registration will be located during the following:

Early Conference Check-in

- Sunday, June 22 (2:00 pm – 10:00 pm) – Millennium Hotel
- Monday, June 23 (7:30 am – 5:30 pm) – Millennium Hotel
- Tuesday, June 24 (7:30 am – 10:00 am) – Millennium Hotel

Conference Check-in

- Tuesday, June 24
  1:00 pm – 4:30 pm – Macky Auditorium, CU Boulder
  5:30 pm – 8:00 pm – Millennium Hotel
- Wednesday, June 25
  7:30 am – 10:30 am – Macky Auditorium, CU Boulder
  11:00 am – 5:00 pm – Engineering Center, Engineering Center Classroom Wing #131, CU Boulder
- Thursday, June 26
  7:30 am – 10:30 am – Macky Auditorium, CU Boulder
  11:00 am – 5:00 pm – Engineering Center, Engineering Center Classroom Wing #131, CU Boulder

Registration fees must be paid in full prior to or at on-site registration before receiving any conference materials or attending any conference sessions. The University of Colorado cannot bill for registration fees and cannot accept purchase orders of any kind. Checks should be made payable to the University of Colorado in U.S. dollars ($US) and drawn on a U.S. bank.

Name badges/ID

Conference name badges and ID's will be required in order to consume alcohol during all receptions.

CU Internet Access: Guest Wireless

A wireless connection is available through the guest wireless connection.

1. Select *UCB Guest* from your Wireless network options.
2. Once your computer is connected, open your Internet Browser. You will be prompted to accept the campus terms and conditions.
3. Review and Accept.
4. Please note: *You will be asked to re-accept these terms and conditions every 18 hours.*

Lunches

For participants who have purchased a commuter meal plan (Wednesday-Friday), all lunches will be served in the Center for Community (C4C). A meal card will be given to participants who have registered for lunches at the conference check-in desk upon arrival.

Transportation Information

A variety of transportation is available from Denver International Airport (DIA) to Boulder.

The SuperShuttle (303-227-0000) departs on an hourly basis from Level 5 of DIA and proceeds directly to Boulder, 60-70 minutes travel time. All riders must check in at the SuperShuttle counter prior to catching the shuttle. The SuperShuttle desk is located near Door 510 at DIA.: http://www.yellowtrans.com/supershuttle/boulder_supershuttle_home.htm.

Green Ride Boulder (303.997.0238) also departs on an hourly basis from level 5 of DIA. Reservations are encouraged.
http://greenrideboulder.com/schedule/

The Regional Transportation District SkyRide (RTD city bus route "AB") is the least expensive option. It departs from Level 5 of DIA on an approximate hourly basis and travels to Boulder via Denver and U.S. 36. Travel time is approximately 75 minutes. The cost is $13 each way. Tickets may be purchased at the RTD sales counter located on Level 5 or with exact fare on the bus. Approx. $24 round-trip ticket may be purchased at the sales counter only (http://www.rtd-denver.com/Routes/RouteAB/357Weekdays.html).

Rental cars are available at the airport. Boulder is located 26 miles northwest of Denver via U.S. 36. If you decide to take a taxi from the airport, be sure to agree upon the fare with the driver prior to departure from the airport. The fare to Boulder is typically $70 - $80.

Drive time between the Denver International Airport (DIA) and Boulder is approximately 60 minutes. From DIA, follow Peña Boulevard (10 miles) south to I-70, and exit onto I-70 west. Follow I-70 west to I-270 west. I-270 merges into U.S. 36 west and takes you into Boulder (about 23 miles). To find the CU campus, please exit Baseline Road upon entering Boulder, turn left at the light, and follow Baseline Road until you reach Broadway Avenue. Turn right onto Broadway Avenue. The CU campus will be on your right. Campus map as follows: http://www.colorado.edu/campusmap/

Parking

Limited parking is available on the CU campus. We suggest parking at your hotel and walking or taking local RTD transportation (http://www.rtd-denver.com/). For those staying on-campus, parking permits are available for purchase ($20.00/week) at the hall front desk.

Climate

Boulder, Colorado is 5,430 feet above sea level and hosts a sunny and arid climate. Hydration during your stay with us is very important, as altitude sickness can be common. June temperatures can range from 80-95° F (27– 35°C). Climate conditions can change rapidly on a daily basis and throughout the day. Afternoon showers for 20-30 minutes are common. Please bring sunscreen, a wind jacket, clothing layers, umbrella, and comfortable walking shoes with you.

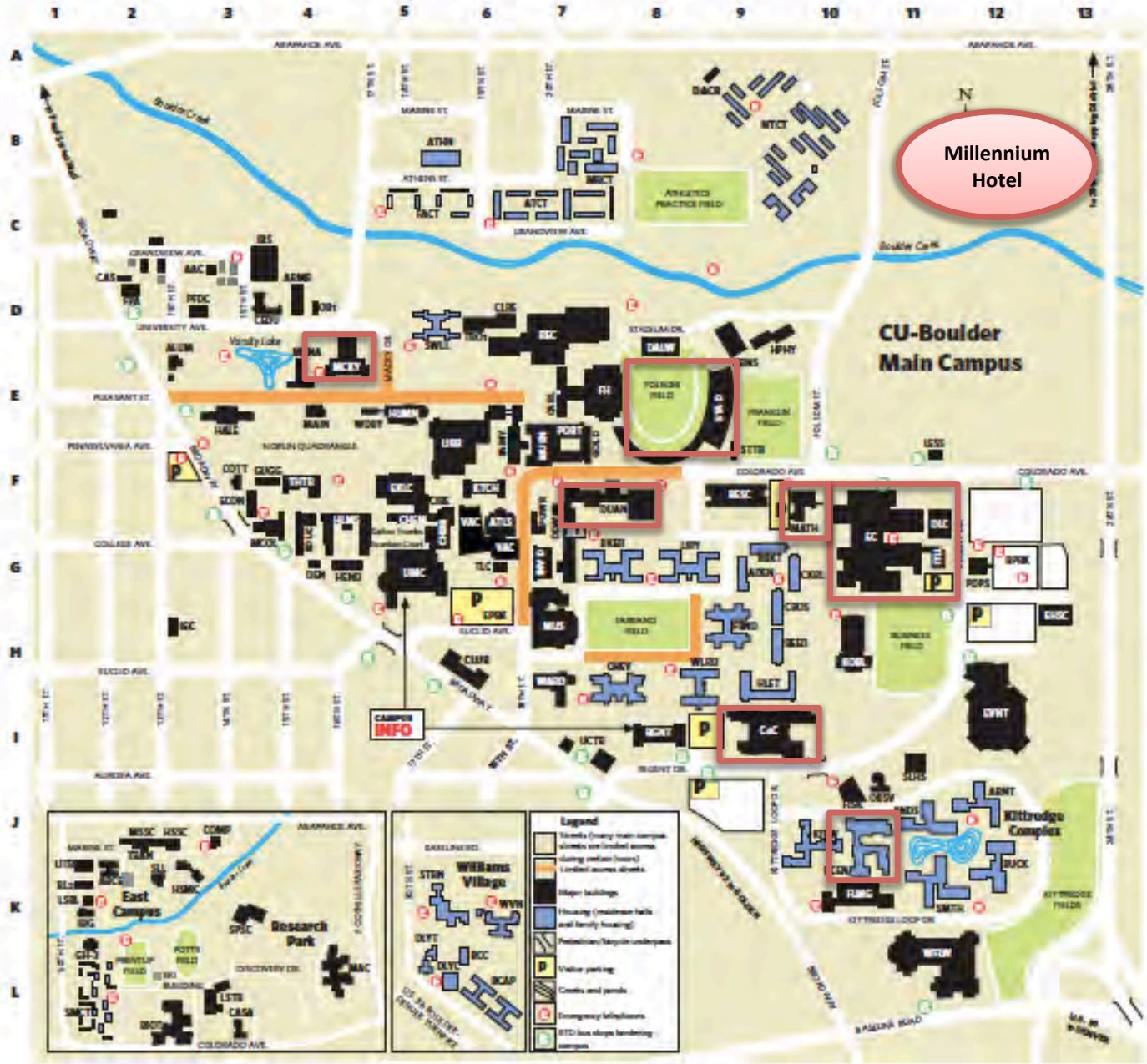
Further Assistance/Changes in Registration

For further assistance or to make a change in your registration, please contact CU Conference Services at 303-492-5151 or e-mail us at confreg@colorado.edu.

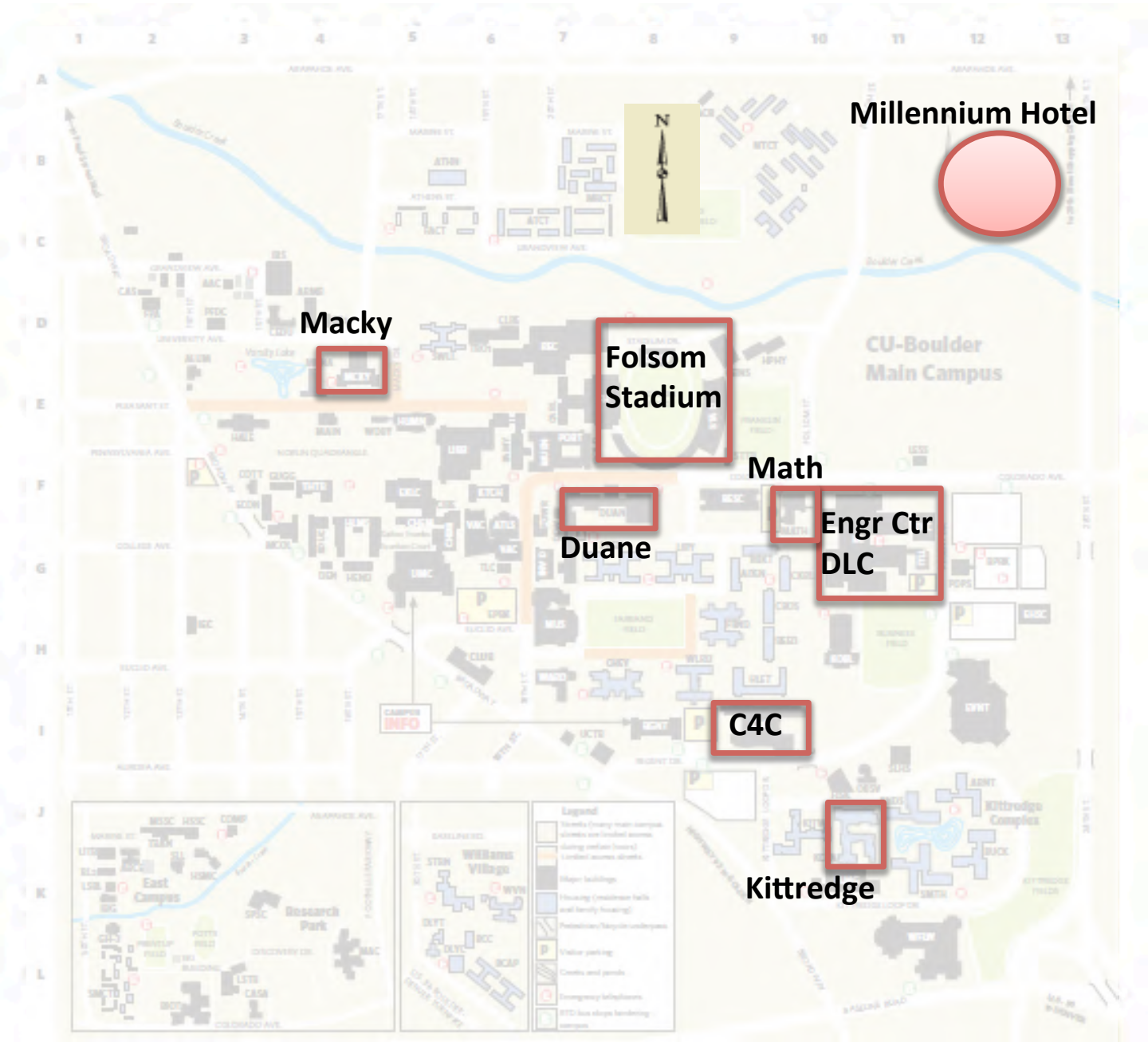
For the Latest Program and Other Conference Information, access the conference website at http://www.isls.org/icls2014/

Maps

Interactive maps detailing conference locations can be found on the web, at
http://www.isls.org/icls2014/PreparingForYourTrip.htm



Need a Place to Park? Campus parking maps are available at Parking and Transportation Services, 1050 Regent Drive. View online at www.colorado.edu/pts/maps.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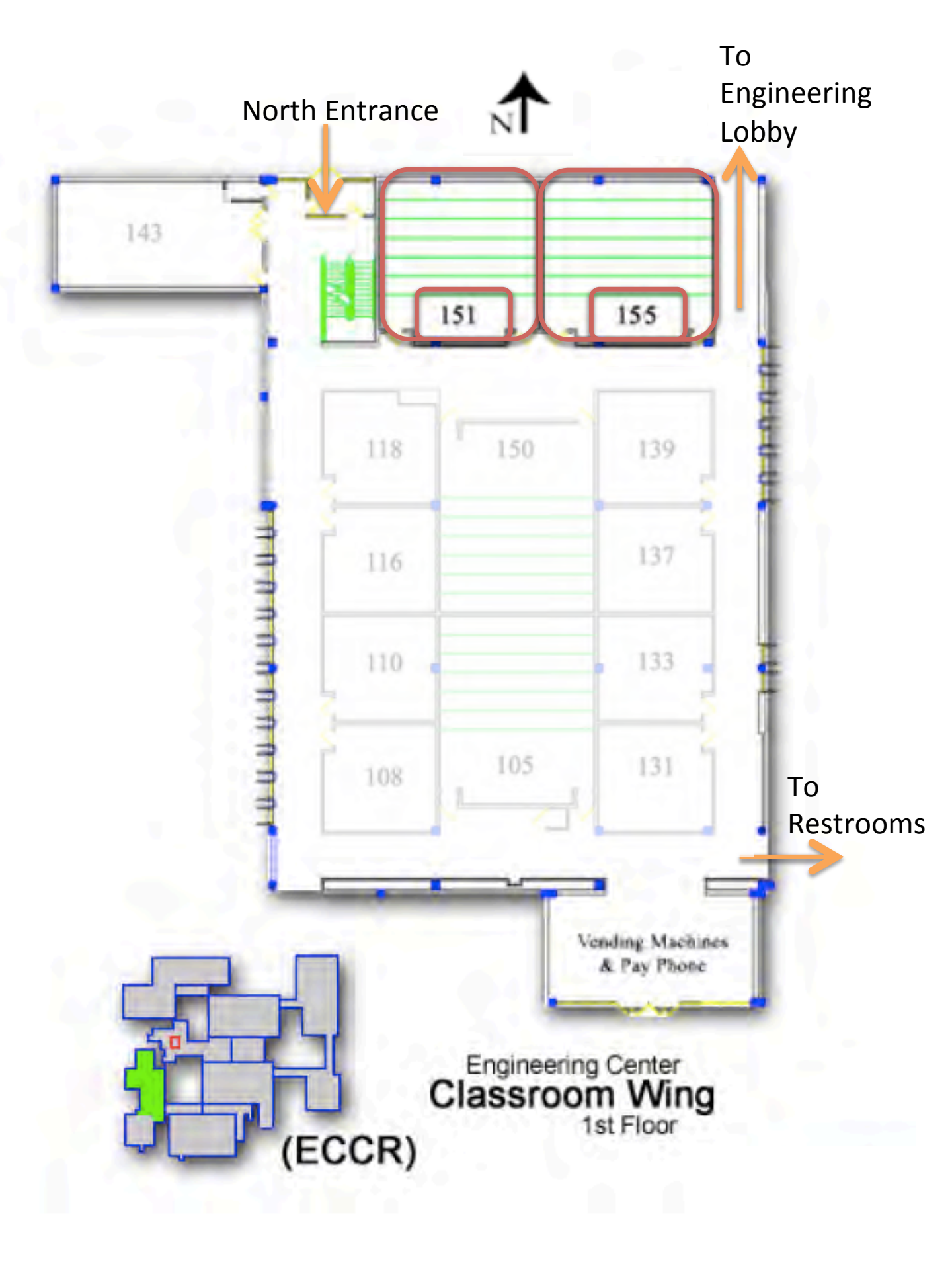
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To
Restrooms
Vending Machines
& Pay Phone
(ECCR)
Engineering Center
Classroom Wing
1st Floor


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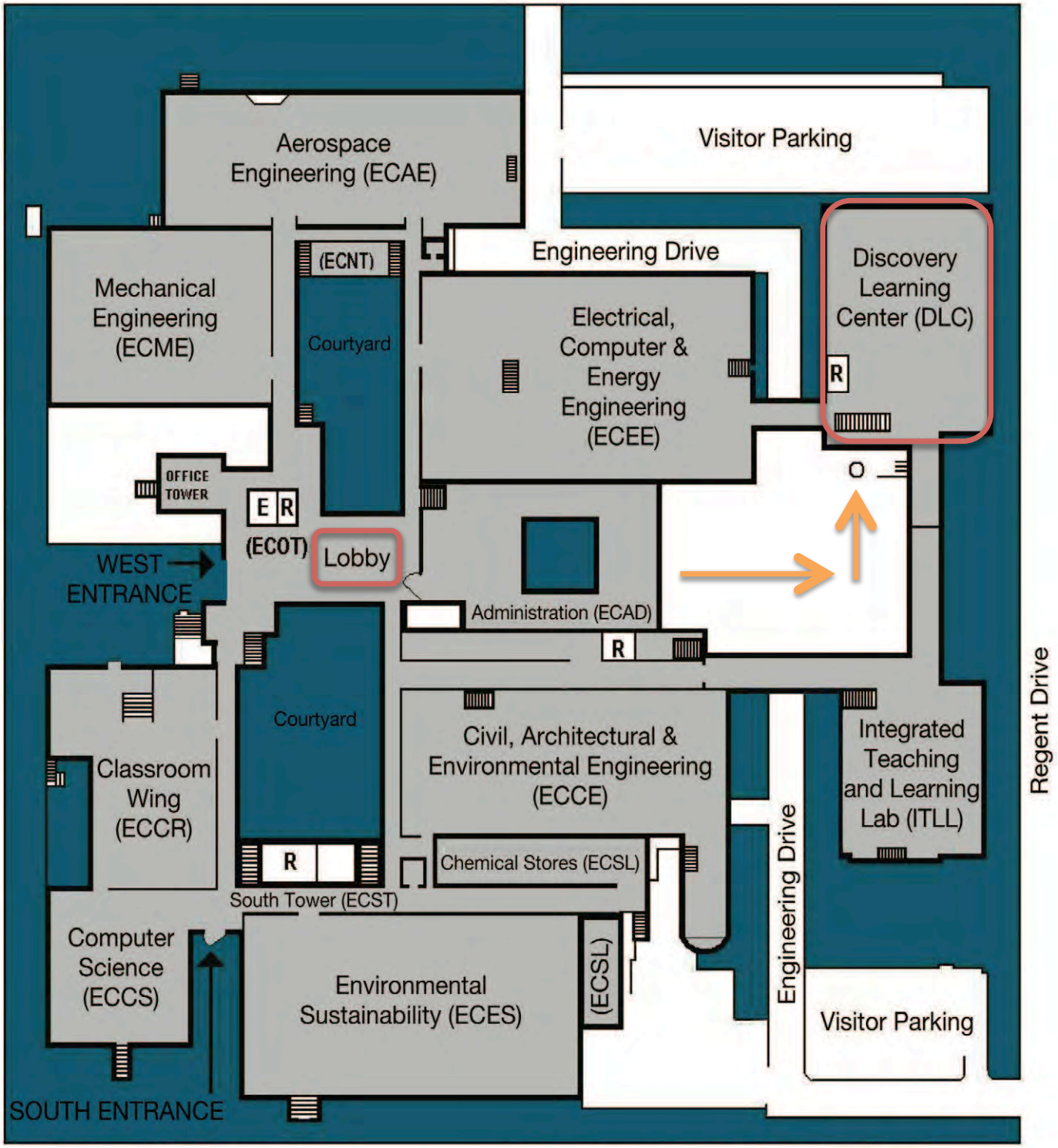
Stairs from Lobby
Stairs from Classroom Wing
Engineering Center
Classroom Wing
2nd Floor
(ECCR)

Discovery Learning Center (DLC)



Discovery Learning Center

1st Basement

To Engineering Center Lobby

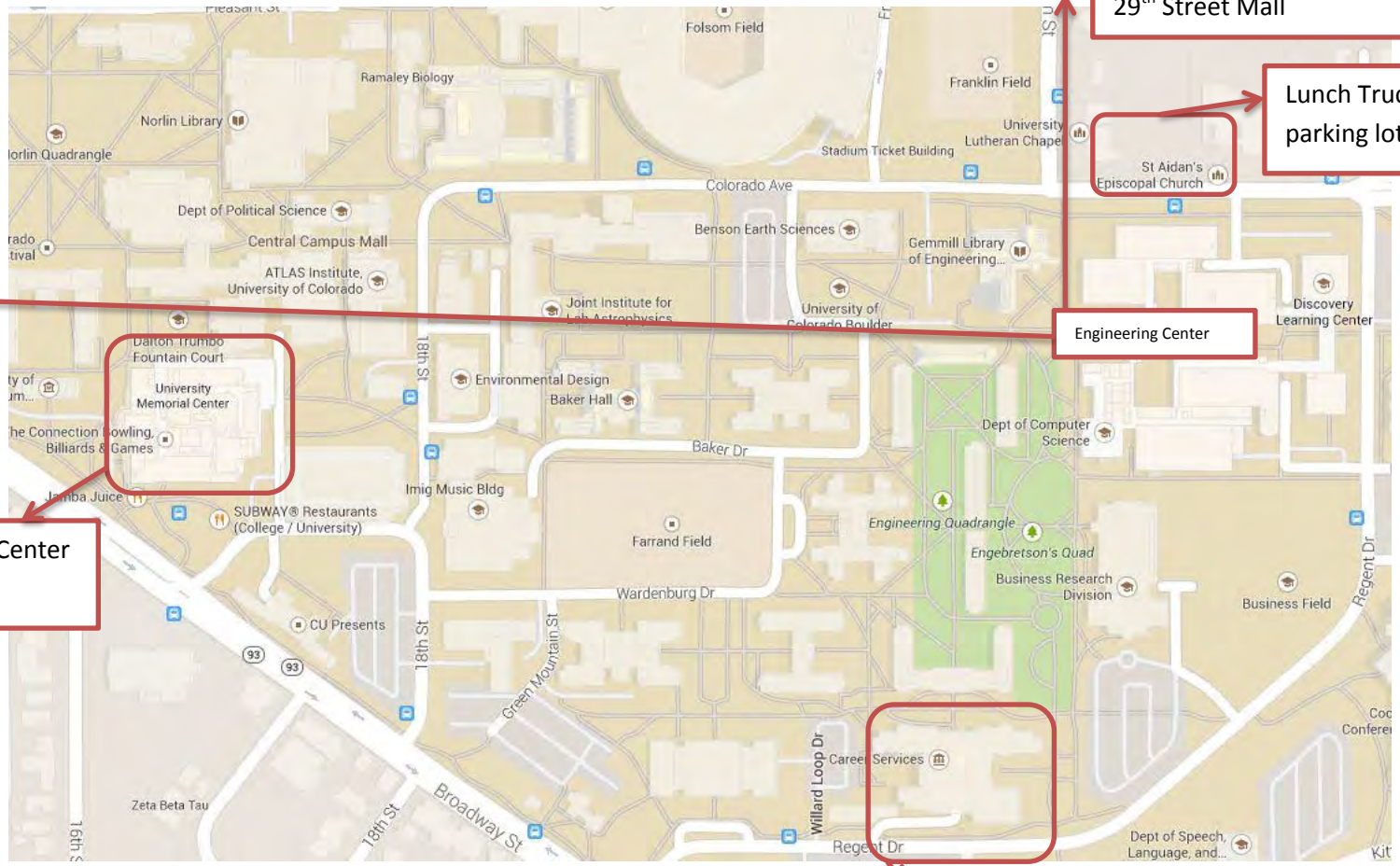
Entrance

Lunch Options Map

15 minute walk to restaurants near Folsom & Arapahoe or 20-25 minutes to 29th Street Mall

Lunch Trucks will be in this parking lot.

20 minute walk from Engineering Center to restaurants on University Hill



University Memorial Center (UMC) - Cafeteria

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Pre-paid On-Campus Meal Plans accepted here