

Joshua A. Danish

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APPOINTMENTS

- 2015-present **Indiana University, Bloomington, IN**
Associate Professor of the Learning Sciences
- 2009-2015 **Indiana University, Bloomington, IN**
Assistant Professor of the Learning Sciences

EDUCATION

- 2009 **University of California, Los Angeles**
Ph.D., Psychological Studies in Education
Graduate School of Education and Information Studies
- 2005 **University of California, Los Angeles**
M.A., Psychological Studies in Education
Graduate School of Education and Information Sciences
- 1997 **Johns Hopkins University**
B.S., Computer Science

EXTERNAL GRANTS

PI, MacDonnell Foundation — Grant to Indiana University, Vanderbilt University and UCLA

- 2018-2023 *Teacher Cognition and Learning about Incorporating Science Representations in Elementary Classrooms*
Award ID: 201700161; Total award amount: \$2,490,000

PI, NSF Grant — Collaborative Grant to Indiana University and Rutgers University

- 2018-2021 *DRL: Collaborative Research: Scaffolding Explanations and Epistemic Development for Systems*
Award ID: 1761019 and 1760909; Total award amount: \$1,494,932

Co-PI, NSF Grant — Indiana University

- 2018-2020 *EAGER: Net.Create: Using Network Analysis to Support Digital Humanities in Large History Classrooms*
Award ID: 1848655; Award amount: \$299,661

Co-PI, NSF Grant – Collaborative Grant to UCLA and Indiana University

2016-2019 *DIP: Interactive Science through Technology Enhanced (ISTEP)*
Award ID: 1628918; Award amount: **\$1,349,933**

PI, NSF Grant – Indiana University

2015-2018 *EXP: Promoting Learning through Annotation of Embodiment (PLAE)*
Award ID: 1522945; Award amount: **\$554,030**.

Co-PI, NSF Grant — Indiana University

2013–2016 *DIP: BioSim: Developing a Wearable Toolkit for Teaching Complex Science Through Embodied Play* (Award ID: 0018093000; Award amount: **\$1,035,989.00**).

Co-PI, NSF Grant — UCLA

2013–2016 *DIP: The Science Through Technology Enhanced Play (STEP)* (Award ID: 0013151000; Award amount: **\$1,203,082**).

Co-PI NSF Grant — Graduate School of Education and Information Studies, UCLA

2007–2009 *Semiotic Pivots and Activity Spaces for Elementary Science (SPASES)*
Co-authored this NSF-funded grant proposal with Noel Enyedy (Award ID: 0733218; Award amount: **\$285,000**).

INTERNAL GRANTS

PI, Proffitt Endowment Faculty Support Grant — School of Education, Indiana University

2015-2016 *Examining Early Elementary Modeling of Complexity with High-Resolution Multimodal Learning Analytic Techniques* (Award amount: **\$19,000**)
This grant was co-authored with Adam Maltese and Alejandro Andrade.

Recipient, Research Support Grant — School of Education, Indiana University

2012 Award amount: **\$6000**

PI, Proffitt Endowment Faculty Support Grant — School of Education, Indiana University

2011–2012 *Expanding Explorations of Complexity Into Informal Spaces* (Award amount: **\$19,000**)

iPad Faculty Learning Community — Indiana University

2010–2011 *Using the iPad to Support Representation in Graduate Seminars* (Award amount: **\$750**)

PI, Faculty Research Support Program (FRSP) Grant — Indiana University

2010–2011 *Representational Practices in Science and Language Arts: What's the Difference and Why* (Award amount: **\$55,361**)
This grant application was co-authored with Kylie Pepler.

PI, Proffitt Endowment Faculty Support Grant — School of Education, Indiana University

2010–2011 *Harnessing Kindergarten and First Grade Students' Representational*

Activities to Support Science Learning (Award amount: **\$17,993**)

Co-Author, New IDEA Grant — School of Education, Indiana University

2009–2010 *Development and Implementation of a New Online Certificate Program in Learning Sciences and New Digital Media and Technology*

I co-authored this proposal with Daniel Hickey and Kylie Pepler (Award amount: **\$75,000**).

PUBLICATIONS: REFEREED JOURNAL ARTICLES

Danish, J.A., Saleh, A, Andrade, A and Bryan, B. *Observing Complex Systems Thinking in the Zone of Proximal Development*. Instructional Science (2017): 1-20.

Andrade, A., Delandshere, G., & **Danish, J. A.** (2016). *Using Multimodal Learning Analytics to Model Student Behavior: A Systematic Analysis of Epistemological Framing*. Journal of Learning Analytics, 3(2), 282-306.

Maltese, A. V., **Danish, J. A.**, Bouldin, R. M., Harsh, J. A., & Bryan, B. (2015). *What are students doing during lecture? Evidence from new technologies to capture student activity*. International Journal of Research & Method in Education, 1-19. doi: 10.1080/1743727x.2015.1041492

Danish, J. A., & Saleh, A. (2015). *The impact of classroom context upon 1st and 2nd grade students' critical criteria for science representations*. Instructional Science. doi: 10.1007/s11251-015-9355-8

Enyedy, N., **Danish, J. A.**, & DeLiema, D. (2015). *Liminal Blends: How students blend symbols, experiences, and their own bodies together in order to co-construct meaning in a collaborative augmented-reality learning environment*. International Journal of Computer Supported Collaborative Learning.

Danish, J. A., & Enyedy, N. (2014). *Latour Goes to Kindergarten: Children Marshalling Allies In a Spontaneous Argument About What Counts as Science*. Language Culture and Social Interaction.

Danish, J. A., & Saleh, A.* (2014). *Examining How Activity Shapes Students' Interactions While Creating Representations in Early Elementary Science*. International Journal of Science Education, 1-21.

Danish, J. A. (2014). *Applying An Activity Theory Lens to Designing Instruction For Learning About The Structure, Behavior, and*

* Denotes a student co-author.

Function of a Honeybee System. Advance online publication.
Journal of the Learning Sciences, 1-49.

Danish, J. A. (2013). *Designing for Technology Enhanced Activity to Support Learning*. The Journal of Emerging Learning Design (1).

Peppler, K., **Danish, J. A.**, & Phelps, D.* (2013). *Collaborative Gaming: Designing Board Games to Teach Young Children about Complex Systems and Collective Behavior*. Simulation and Gaming.

Enyedy, N., **Danish, J. A.**, Delacruz, G., & Kumar, M.* (2012). *Learning physics through play in an augmented reality environment*. International Journal of Computer-Supported Collaborative Learning, 1-32.

Danish, J. A., Peppler, K., Phelps, D.* & Washington, D.* (2011). *Life in the Hive: Supporting Inquiry into Complexity Within the Zone of Proximal Development*. Journal of Science Education and Technology.

Enyedy, N., **Danish, J. A.**, & Fields, D. (2011). *Negotiating the “Relevant” in Culturally Relevant Mathematics*. Canadian Journal for Science, Mathematics, and Technology Education 11(3).

Danish, J. A., & Phelps, D.* (2010). *Representational Practices by The Numbers: How Kindergarten and First-Grade Students Create, Evaluate, and Modify Their Science Representations*. International Journal of Science Education.

Danish, J. A., & Enyedy, N. (2007). *Negotiated Representational Mediators: How Young Children Decide What to Include in Their Science Representations*. Science Education, 91(1), 1-35.

PUBLICATIONS: REFEREED PROCEEDINGS

J. Danish, N. E., Megan Humburg, Asmalina Saleh¹, Maggie Dahn, Christine Lee, Xintian Tu, Bria Davis, Chris Georgen. (2018). STEP-Bees and the Role of Collective Embodiment in Supporting Learning Within a System. Paper presented at the International Conference of the Learning Sciences, London, England.

Humburg, M., & **Danish, J.** (2018). Investigating Multiple Dimensions of Student Engagement with Embodied Science Learning. Paper presented at the International Conference of the Learning Sciences, London, England.

Davis, B., Tu, X., **Danish, J.**, & Enyedy, N. (2018). The Structures of Embodied Play Activities and Their Impact on Students’ Exploration of the Particulate Nature of Matter. Paper presented at the International Conference of the Learning Sciences, London,

England.

Danish, J. A., Humburg, M., Tu, X., Davis, B., & Georgen, C. (2018). Modeling bees by acting as bees in a mixed reality simulation. Paper presented at the International Conference of the Learning Sciences, London, England.

Dahn, M., Enyedy, N., & **Danish, J.** (2018). How Teachers Use Instructional Improvisation to Organize Science Discourse and Learning in a Mixed Reality Environment. Paper presented at the International Conference of the Learning Sciences, London, England.

Alejandro Andrade, **Danish, J.**, and Adam V. Maltese. (2018). Complexity Learning via Elicited Movements: MMLA of Embodied Design. Paper presented at the International Conference of the Learning Sciences, London, England.

Keifert, D., Enyedy, N., **Danish, J.**, Lee, C., Dahn, M., & Lindberg, L. . (2018). Tracing Bodies Through Liminal Blends during Play-based Inquiry in a Mixed Reality Environment. Paper presented at the International Conference of the Learning Sciences, London, England.

Peppler, K. A., Thompson, N., **Danish, J.**, Moczek, A., & Corrigan, S. (2018). Comparing First- and Third-Person Perspectives in Early Elementary Learning of Honeybee Systems. Paper presented at the International Conference of the Learning Sciences, London, England.

Peppler, K. A., Thompson, N., **Danish, J.**, Moczek, A., & Corrigan, S. (2018). In the Hive: Designing for Emergence When Teaching Complex Systems In Early Childhood. Paper presented at the International Conference of the Learning Sciences, London, England.

Peppler, K. A., Thompson, N., **Danish, J.**, Moczek, A., & Han, S. (2018). Indoor Positioning Technology & Enhanced Engagement in Early Elementary Systems Thinking and Science Learning. Paper presented at the International Conference of the Learning Sciences, London, England.

Davis, B., Tu, X., **Danish, J.**, & Enyedy, N. (2017). The Impact of the Structure of Play, Gesture and Teacher Prompts on Student Explanations About the Particulate Nature of Matter. Paper presented at the 12th International Conference on Computer Supported Collaborative Learning, Philadelphia, PA.

DeLiema, D., Enyedy, N., **Danish, J.**, Lee, C., Illum, R., Dahn, M., . . . Mahoney, C. (2016). Blending Play and Inquiry in Augmented Reality: A Comparison of Playing a Video Game to Playing Within

a Participatory Model. Paper presented at the International Conference of the Learning Sciences.

Danish, J. A., Enyedy, N., Saleh, A., Lee, C., & Andrade, A. (2015). Science Through Technology Enhanced Play: Designing to Support Reflection Through Play and Embodiment. In O. Lindwall, Häkkinen, P., Koschman, T. Tchounikine, P. & Ludvigsen, S. (Ed.), *Exploring the Material Conditions of Learning: The Computer Supported Collaborative Learning (CSCL) Conference (Vol. 1)*. Gothenburg, Sweden: The International Society of the Learning Sciences.

Saleh, A., **Danish, J.**, Enyedy, N., & Lee, C. (2015). Assessing Young Children's Cognition through Multi-Modal Interviews. In O. Lindwall, Häkkinen, P., Koschman, T. Tchounikine, P. & Ludvigsen, S. (Ed.), *Exploring the Material Conditions of Learning: The Computer Supported Collaborative Learning (CSCL) Conference (Vol. 1)*. Gothenburg, Sweden: The International Society of the Learning Sciences.

Danish, J. A., Enyedy, N., & Parnafes, O. (2014). *A Coordination Class in Interaction*. Proceedings of the International Conference of the Learning Sciences. Boulder, CO: International Society of the Learning Sciences.

Enyedy, N., & Danish, J. A. (2014). *Distributed acts of reflection: Embodied acts to focus and filter a jointly produced reflection*. Proceedings of the International Conference of the Learning Sciences. Boulder, CO: International Society of the Learning Sciences

Andrade-Lotero, A. *, & Danish, J. A. (2014). *Advancing Epistemological Frame Analysis to Refine our Understanding of Inquiry Frames in Early Elementary Interviews*. Proceedings of the International Conference of the Learning Sciences. Boulder, CO: International Society of the Learning Sciences.

Danish, J. A., Saleh, A. *, & Andrade, L. A. * (2013). *Designing Interactive Scaffolds to Support Teacher-Led Inquiry of Complex Systems Concepts*. In S. Puntambekar, N. Rummel, M. Kapur & M. Nathan (Eds.), Proceedings of the 10th International Conference on Computer Supported Collaborative Learning. Madison, WI.

Andrade, L. *, **Danish, J. A.**, Moreno, Y., & Perez, L. (2013). *Measuring 'Framing' Differences of Single-Mouse and Tangible Inputs on Patterns of Collaborative Learning* (full paper). In S. Puntambekar, N. Rummel, M. Kapur & M. Nathan (Eds.), Proceedings of the 10th International Conference on Computer Supported Collaborative Learning. Madison, WI.

Enyedy, N., **Danish, J. A.**, & DeLiema, D. * (2013). *Constructing and*

Deconstructing Materially-Anchored Conceptual Blends in an Augmented Reality Collaborative Learning Environment (full paper). In S. Puntambekar, N. Rummel, M. Kapur & M. Nathan (Eds.), Proceedings of the 10th International Conference on Computer Supported Collaborative Learning. Madison, WI.

Enyedy, N., **Danish, J. A.**, Delacruz, G., Kumar, M.*, & Gentile, S. (2011). Play and Augmented Reality in Learning Physics: The SPASES Project. In G. S. Hans Spada, Naomi Miyake, Nancy Law (Ed.), *Connecting Computer-Supported Collaborative Learning to Policy and Practice: CSCL2011 Conference Proceedings*. Volume I — Long Papers (pp. 216-223). Hong Kong, China: International Society of the Learning Sciences.

Danish, J. A., & Phelps, D.* (2010). *Kindergarten and First-Grade Students' Representational Practices While Creating Storyboards of Honeybees Collecting Nectar*. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences (ICLS 2010) - Volume 1, Full Papers* (pp. 420-427). Chicago IL: International Society of the Learning Sciences.

Danish, J. A., Pepler, K., & Phelps, D.* (2010). *BeeSign: designing to support mediated group inquiry of complex science by early elementary students*. Proceedings of the 9th International Conference on Interaction Design and Children (pp. 182-185). Barcelona, Spain: ACM.

Pepler, K., **Danish, J. A.**, Zaitlen, B., Glosson, D.*, Jacobs, A., & Phelps, D.* (2010). *BeeSim: leveraging wearable computers in participatory simulations with young children*. Proceedings of the 9th International Conference on Interaction Design and Children (pp. 246-249). Barcelona, Spain: ACM.

Danish, J. A., & Enyedy, N. (2006). *Unpacking the Mediation of Invented Representations*. In S. Barab, K. Hay & D. Hickey (Eds.), Proceedings of the 7th international conference on Learning sciences (pp. 113-119). Bloomington, IN: International Society of the Learning Sciences.

Enyedy, N., Mukhopadhyay, S., & **Danish, J. A.** (2006). *Emergent tensions between statistics education and culturally relevant pedagogies*. In A. Rossman & B. Chance (Eds.), Proceedings of the Seventh International Conference on Teaching Statistics (ICOTS). Salvador Brazil: IASE.

PUBLICATIONS: BOOK CHAPTERS AND OTHER PUBLICATIONS

- Danish, J. A.**, & Gresalfi, M. (2018). Cognitive and Sociocultural Perspective on Learning: Tensions and Synergy in the Learning Sciences. In F. Fischer, Hmelo-Silver, C.E., Goldman, S.R., & Reimann, P. (Ed.), *International Handbook of the Learning Sciences*. New York, NY: Routledge.
- Danish, J. A.**, Enyedy, N, Saleh, A and Lee, C. "Designing for Activity." In *Design as Scholarship: Case Studies from the Learning Sciences*, edited by V. Svihla and R. Reeve, 26: Routledge, 2016.
- Thompson, N., Peppler, K., & **Danish, J.** (2016). Designing BioSim: Playfully Encouraging Systems. In R. Zheng & M. K. Gardner (Eds.), *Handbook of Research on Serious Games for Educational Applications* (pp. 149): IGI Global.
- Danish, J. A.**, Enyedy, N., & Parnafes, O. (2015). *Working Towards an Integrated Analysis of Knowledge in Interaction*. In A. diSessa, M. Levin & N. Brown (Eds.), *Knowing and Learning in Interaction*: Taylor and Francis.
- Brown, N. J. S., **Danish, J. A.**, Levin, M., & diSessa, A. A. (2015). *Competence Reconceived: The Shared Enterprise of Knowledge Analysis and Interaction Analysis*. In A. A. diSessa, M. Levin, & N. J. S. Brown (Eds.), *Knowledge and interaction: A synthetic agenda for the learning sciences*. New York, NY: Routledge.
- Enyedy, N., & Danish, J. (2015). The Need for the Participant's Perspective in a KAIA Joint Enterprise. In A. A. diSessa, M. Levin, & N. J. S. Brown (Eds.), *Knowledge and interaction: A synthetic agenda for the learning sciences*. New York, NY: Routledge.
- DeLiema, D., Lee, V. R., **Danish, J. A.**, Enyedy, N., & Brown, N. J. S. (2015). *A microlatitudinal/microlongitudinal analysis of speech, gesture, and representation use in a student's scientific explanation of phase change*. In A. diSessa, M. Levin, & N. Brown (Eds.), *Knowing and Learning in Interaction*: Taylor and Francis.
- Enyedy, N., & **Danish, J. A.** (2015). *Learning Physics through Play and Embodied Reflection in an mixed-reality learning environment*. In V. Lee (Ed.), *Learning Technologies and the Body: Integration and Implementation in Formal and Informal Learning Environments*. New York, NY: Routledge.
- Peppler, K., & **Danish, J. A.** (2013). *E-textiles for Educators: Participatory Simulations with e-Puppetry*. In L. Buechley, K. Peppler, M. Eisenberg & Y. Kafai (Eds.), *Textile Messages: Dispatches from the World of E-textiles and Education*.

Danish, J. A. (2012). *Designing Authentic Cross-Class Collaboration By Focusing On Activity*. In R. Morgan & K. Olivares (Eds.), *Quick Hits Teaching with Technology : Successful Strategies by Award-winning Teachers*. Bloomington, IN: Indiana University Press.

Danish, J. A. (Spring, 2006). *A Work of Goodness: When a Simple Vote Reveals Children's Representational Ideas and the Classroom That Helped Produce Them*. CONNECTIONS: The quarterly newsletter of the UCLA University Elementary School, 1, 9-12.

PRESENTATIONS

Select Invited Talks

Danish, J. A. (2016). Raising the Bar for Early Elementary Science Through Reimagined Activity Systems: Jan Hawkins Award Address. Annual Meeting of the American Educational Research Association Washington, DC.

Danish, J. A. (2012, June). *Design for Activity: A Heuristic Approach to Educational Technology Design*. Keynote talk presented at the Emerging Learning Design conference, Montclair, NJ.

Danish, J. A. (2012, May). Representation as Mediated Action. Invited talk presented at Center for Engineering Education and Outreach (CEEEO), Tufts University, Medford, MA.

Danish, J. A. (2011, December). *Inserting the Activity Back Into Technology Design*. Invited talk as part of the Rob Kling Center for Social Informatics (RKCSI) Talk Series, Bloomington, IN.

Danish, J. A., & Saleh, A.* (2011, March). *Pilot Explorations of the iPad to Extend Classroom Collaboration*. Paper presented at the Indiana University iConference., Bloomington, IN.

Danish, J. A. (2011, February). *Activity Theory as an Instructional Design Heuristic*. Presentation at The Edward C. Moore Symposium on Teaching Excellence, Indianapolis, IN.

Danish, J. A. (2010, June). *Extending the Conversation: Using Sakai to Promote Ongoing Reflection and Communication Between and Around Class Sessions*. Teaching With Sakai Innovation Award presentation at the Sakai Conference, Denver, CO.

Danish, J. A. (2010, May). *Extending the Conversation*. Invited presentation at the Indiana University Center for Innovative Teaching and Learning Workshop Series, Bloomington, IN.

Danish, J. A. (2009, February). *Computational Thinking for Everyone... Even K-1 Students*. Presentations at the Computational Thinking for Everyone Workshop Series, Washington, DC.

Professional Meetings

Humburg, M., Keifert, D., Georgen, C., Lee, C., Tu, X., **Danish, J.**, & Enyedy, N. (2018). The Challenge of Consistency in Sensemaking Resources Across Play and Assessment for Young Science Learners. Paper presented at the Annual conference of the American Educational Research Association, New York, NY.

Danish, J., Keifert, D., Enyedy, N., Humburg, M., Tu, X., Davis, B., & Lee, C. (2018). Embodiment Within Computational Models: Explorations of Agency and Normativity. Paper presented at the Annual conference of the American Educational Research Association, New York, NY.

Saleh, A., **Danish, J.**, Humburg, M., & Enyedy, N. (2017). How body-based actions support elementary students' science explanations about the particulate nature of matter. Paper presented at the Annual conference of the American Educational Research Association, San Antonio, TX.

Humburg, M., **Danish, J.**, Enyedy, N., & Saleh, A. (2017). Problem solving in coordinated embodied activity: Emergent goals and solutions. Paper presented at the Annual conference of the American Educational Research Association, San Antonio, TX.

Gomoll, A., Rehak, A., Hmelo-Silver, C. E., **Danish, J. A.**, Chen, Y., & Huang, J. (2017). Supporting Pre-Service Teachers' Development of Professional Vision: Performance Assessments and Beyond. Paper presented at the Annual Meeting of the American Educational Research Association San Antonio, TX.

Danish, J. A., Enyedy, N., Saleh, A., Humburg, M., DeLiema, D., Dahn, M., & Lee, C. (2017). STEP-Bees: Coordinating embodied interaction with peers, teachers, and computer simulation to support learning. Paper presented at the Annual conference of the American Educational Research Association, San Antonio, TX.

Danish, J., Humburg, M., Saleh, A., Lee, C., Dahn, M., Keifert, D., & Enyedy, N. (2017). A Socio-Cultural Framework for Embodied Cognition. Paper presented at the Jean Piaget Society, San Francisco, CA.

Craig, K., Mahoney, C., & **Danish, J. A.** (2017). Correcting for Presentism in Student Reading of Historical Accounts Through Digital-History Methodologies. Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX. <http://www.kalanicraig.com/publications/AERA-dh-and-presentism/>

Saleh, A., & **Danish, J. A.** (2016). *The Interactional Nature of the*

Interview and Its Impact on Students' Complex System Performance. Paper presented at the Annual Meeting of the American Educational Research Association Washington, DC.

Gomoll, A., Rehak, A., Novak, W., Andrade, A., Saleh, A., Hmelo-Silver, C. E., & **Danish, J. A.** (2016). *"It Could Be So Many Learning Theories": Multimedia Artifacts and Professional Vision in Preservice Teachers.* Paper presented at the Annual Meeting of the American Educational Research Association Washington, DC.

Enyedy, N., **Danish, J. A.**, Lee, C. D., DeLiema, D., Saleh, A., Dahn, M., & Illum, R. (2016). *Learning About States of Matter Through Multiple Correspondences Among the Body, Abstractions, and Reality.* Paper presented at the Annual Meeting of the American Educational Research Association Washington, DC.

Andrade, A., Saleh, A., Rehak, A., Gomoll, A., **Danish, J. A.**, & Hmelo-Silver, C. E. (2016). *Exploring a Text-Mining Approach for the Analysis of Computer Collaborative Data From a Design-Based Research Project.* Paper presented at the Annual Meeting of the American Educational Research Association Washington, DC.

Danish, J. A., Enyedy, N., & Peppler, K. (2015). *Collective and Participatory Embodiment: Science through Technology Enhanced Play (STEP) & BioSim.* Paper presented at the Association of Science and Technology Centers (ASTC) Annual Conference, Montreal, CA.

Danish, J. A., Enyedy, N., Saleh, A., Andrade-Lotero, A., & Lee, C. (2015). *Science Through Technology Enhanced Play: Using Play and Embodiment to Promote Reflection About States of Matter.* Paper presented at the Annual Meeting of the American Educational Research Association Chicago, IL.

Andrade, A., **Danish, J. A.**, Delandshere, G., & Saleh, A. (2015). *Using a Multimodal Learning Analytic Technique to Find Epistemological Framing in Early Elementary Interviews.* Paper presented at the Annual Meeting of the American Educational Research Association Chicago, IL.

Leeuw, J. d., Motz, B., Eastwood, J. L., Matlese, A., Goldstone, R., & **Danish, J. A.** (2015). *Needle in the Neural Haystack: Electroencephalograph Signatures of Concept Learning While Viewing Naturalistic Educational Materials.* Paper presented at the Annual Meeting of the American Educational Research Association Chicago, IL.

Danish, J. A., Saleh, A.*, & Andrade-Lotero, L. A.* (2014). *Software Scaffolds for Supporting Teacher-Led Inquiry into Complex Systems Concepts.* Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.

- Danish, J. A.**, Peppler, K. A., Phelps, D.*, Andrade-Lotero, L. A.*, & Whiting, J.* (2014). *The Impact of Disciplinary Framing Upon Early Elementary Students' Representational Critiques*. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
- Danish, J. A.**, Saleh, A.*, Andrade-Lotero, L. A.*, & Bryan, B.* (2014). *Observing Complex Systems Thinking in the Zone of Proximal Development*. Poster presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
- Danish, J. A.**, Saleh, A.* (2013, April). *The Impact of Classroom Context Upon 1st and 2nd Grade Students' Critical Criteria for Science Representations*. Paper presented at the Educational Research Association Annual Meeting, San Francisco, California.
- Harsh, J.*, Maltese, A. V., & **Danish, J. A.** (2013). *Learning From the Learner's Point of View: Using Cameras to Assess Undergraduate Science Educational Practices*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, California.
- McWilliams, J.*, Keene, J.*, **Danish, J. A.**, & Saleh, A.* (2013). *"I Hate That Word Savage/Don't Mind If You Use It": Exploring the "Safe Space" Construct*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, California.
- Bryan, B.*, Maltese, A. V., **Danish, J.**, Liao, W.*, Bouldin, R. & Harsh, J.* (2013). *What Are Students Doing While You Are Trying to Teach?* Poster presented at AAAS Annual Meeting, Boston, MA.
- Danish, J. A.**, & Phelps, D.* (2012). *Collective Gaming: Lessons for Designing 21st-Century Classroom Learning*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, British Columbia.
- Manlove, S. A., Day, S. B., Goldstone, R. L., & **Danish, J. A.** (2012). *Workshop on Transfer Across Science Domains through Simulations and Complex Systems Topics*. Paper presented at the National Science Teachers Association Annual Meeting, Indianapolis, IN.
- Brown, N., **Danish, J. A.**, DeLiema, D.*, Engle, R. A., Enyedy, N. D., Lee, V. R., & Parnafes, O. (2012). *Representations, Interlocutors, and Their Influences on Apparent Knowledgeability*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, British Columbia.

- Peppler, K., & **Danish, J. A.** (2012). *E-Textiles for Educators: Participatory Simulations With E-Puppetry*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, British Columbia.
- Saleh, A. *, **Danish, J. A.**, Andrade Lotero, L. A. *, & Phelps, D.* (2012, April). *Designing Using Object of Activity and Its Impact on Young Children's Representations*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, BC.
- Danish, J. A.**, Saleh, A. *, Andrade Lotero, L.A. *, & Phelps, D. * (2012, March). *Student-Generated Representations as Tools for Reasoning in Science*. Paper presented at the National Association for Research in Science Teaching, Indianapolis, IN.
- Danish, J. A.** (2011). *The Primary Interactive Pathway: An Analytic Tool For Examining and Comparing Students' Representational Activities*. Paper to be presented at the International Society for Cultural and Activity Research.
- Danish, J. A.**, & Saleh, A. * (2011). *The Primary Interactive Pathway: An Analytic Tool For Examining and Comparing Students' Representational Activities*. Paper presented at the Annual Meeting of the Jean Piaget Society.
- Danish, J. A.**, Peppler, K., & Phelps, D.* (2011). *BeeSign: Designing to Support Mediated Group Inquiry of Complex Science by Early Elementary Students*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Danish, J. A.**, & Phelps, D.* (2011). *The Interactional Role of Kindergarten and First Grade Students' Representational Practices*. Paper presented at The Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Danish, J. A.** (2010). *The Primary Interactive Pathway: An Analytic Tool For Examining and Comparing Students' Representational Activities*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver CO.
- Enyedy, N., **Danish, J. A.**, & Delacruz, G. (2010). *Play and Augmented Reality in Learning Physics: The SPASES project*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver CO,
- Danish, J. A.** (2009). *BeeSign: a Design Experiment to Teach Kindergarten and First Grade Students About Honeybees From a Complex Systems Perspective*. Paper presented at the Annual Meeting of the American Educational Research Association, San

Diego, CA.

Enyedy, N., **Danish, J. A.**, Fields, D., Kao, L., Hart, M., & Mukhopadhyay, S. (2009). Negotiating the "Relevant" in Culturally Relevant Mathematics: The Community Mapping Project. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Danish, J. A., & Enyedy, N. (2008). *CHAT & Actor Network Theory (ANT) Perspectives on How Kindergarten and First Grade Students Co-Construct Science in Action*. Poster presented at the Triennial Meeting of the International Society for Cultural and Activity Research (ISCAR), San Diego, CA.

Danish, J. A. (2007). *Latour Goes to Kindergarten: K-1 Classroom Science Examined as a Process of Argumentation Using Inscriptions*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Danish, J. A., & Enyedy, N. (2007). *Agency and Accountability: Two Necessary Components in Science Classrooms Utilizing Invented Representations, and Their Impact Upon Students Activities*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Danish, J. A., & Enyedy, N. (2006). *Negotiated Representational Mediators: An Approach to Metarepresentational Competence Grounded in Practice*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Danish, J. A., & Enyedy, N. (2005). *The Dialectic of Task Based Communities and Communities of Practice*. Paper presented at the Triennial Meeting of the International Society for Cultural and Activity Research, Sevilla, Spain.

Danish, J. A., & Enyedy, N. (2005). *Mediation of Students' Ideas Through Representational Activities*. Paper presented at the Triennial Meeting of the International Society for Cultural and Activity Research, Sevilla, Spain.

Enyedy, N., & **Danish, J. A.** (2005). *At the intersection of classroom culture and culturally relevant pedagogy: What students' arguments around maps reveal about how to increase student achievement within our diverse society*. Paper presented at the Triennial Meeting of the International Society for Culture and Activity Research, Sevilla, Spain.

HONORS AND AWARDS

2018 Facilitator's Choice Award in the STEM for All Video Showcase for

- BioSim along with Kylie Pepler and Naomi Thompson
- 2017 Burton Gorman Teaching Award from the IU School of Education
- 2015 Recipient of Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies, AERA Division C
- 2013 Nominated for the CSCL Best Design Paper Award (with Noel Enyedy and David DeLiema)
- 2010, 2012, 2014 Indiana University Trustees Teaching Award
- 2011 Recipient of the CSCL Best Design Paper Award along (with Noel Enyedy, Girlie Delacruz, Melissa Kumar, and Sylvia Gentile)
- 2011 Invited Participant in AERA funded Educational Research Conference on Integrative perspectives on knowledge analysis and interaction analysis
- 2010 Teaching With Sakai Innovation Award (TWSIA), Honorable Mention
- 2007–2008 Spencer Dissertation Fellowship
- 2007–2008 UCLA Dissertation Year Fellowship
- 2005–2007 National Institute of Mental Health (NIMH) pre-doctoral training fellowship
- 2005–2006 Graduate Summer Research Mentorship Program fellowship
- 2003–2004 CONNECT Graduate Student Research Fellowship

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (AERA)
 International Society of the Learning Sciences (ISLS)
 International Society for Cultural and Activity Research (ISCAR)

PROFESSIONAL ACTIVITIES

- 2018-Present Treasurer, International Society of the Learning Sciences
 Board Member, International Society of the Learning Sciences
- 2013–Present Editorial Board Member, Journal of Emerging Learning Design
- 2012–Present Consulting Editor for the Research Section of ETR&D
- 2013–2014 Program Committee, International Conferences of the Learning Sciences
- 2012–2013 Chair, AERA SIG Advanced Technologies for Learning (ATL)
 2011–2012 Co-Chair, AERA SIG Advanced Technologies for Learning (ATL)

- 2011 Reviewer, Sakai Foundation, Teaching With Sakai Innovation Award (TWSIA)
- 2009–present Reviewer, National Science Foundation
- 2009 Invited Panelist, National Academies Workshop: Computational Thinking for Everyone
- 2015-present Editorial Board, Journal of the Learning Sciences
2008-present Reviewer, Journal of the Learning Sciences
- 2016-present Associate Editor, Cognition & Instruction
2013 Reviewer, Cognition & Instruction
- 2006, 2008, 2010, 2012 Reviewer, International Conference for the Learning Sciences (ICLS)
- 2006–present Reviewer, AERA
- 2006 Reviewer, InterActions: UCLA Journal of Education and Information Studies