# Daniel D. Suthers

Curriculum Vitae, November 2018

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## Research Activity and Interests

### Scope

Cognitive, social and computational perspectives on designing and evaluating technology for learning, collaboration, and community. Analytic methods for studying use of such technology.

### Current and recent foci

Social affordances for "online communities" and associated analytic tools: Addressing the analytic gap between microanalyses and aggregate analyses to identify significant interactions and understand how interpersonal ties and community structures are technologically embedded, how ideas spread, and how participants discover synergistic value in socio-technical systems. (Mixed methods at multiple granularities, including microanalysis, computationally supported analytics, and social network analysis.)

### Prior and related activities and interests

Representational affordances for computer supported collaborative learning. Specifically, designing software interfaces to enable learners to construct, discuss, and manipulate representations of their evolving knowledge, and studying how the notations used in these interfaces affect discourse between learners and learning outcomes. (Iterative design; experimental studies.)

Uncovering how participants appropriate multiple notational tools in computer workspaces for intersubjective meaning-making, and the roles of language-based and visual/symbolic representations. (Temporally extended conversation analysis adapted to multimedia.)

Facilitating researchers from multiple theoretical and methodological traditions in understanding and combining their perspectives through a process of "productive multivocality".

*Additional Topics:* Coaching agents, component technology and interoperability (especially at the semantic level), computer mediated communication, cultural issues in collaborative learning, identity and roles in virtual worlds, networked architectures for collaborative and intelligent learning systems, usability of collaborative systems.

## Educational Activity and Interests

Applications of technology to learning and collaboration. Advanced seminars and advising students pursuing independent research in the areas listed above. Teaching human-computer interaction, network science, social informatics, and technology enhanced learning courses at all levels. Integration of students at all levels into research. Also experienced in teaching undergraduate data structures and algorithms.

## Education

1988-1993: Ph.D., Computer Science, University of Massachusetts.

Dissertation Title: *An Analysis of Explanation and its Implications for the Design of Explanation Planners*. Committee: Edwina Rissland (chair), Victor Lesser, Klaus Schultz, Beverly Woolf

1985-1988: M.S., Computer Science, University of Massachusetts

1981-1984: Master's Program in Psychology, Northern Arizona University (no degree: all but thesis)

1974-1979: Bachelor of Fine Arts, Kansas City Art Institute

## Positions Held

2008-Present

**Professor**, Department of Information and Computer Sciences, University of Hawai'i at Manoa.

2007-2011

**Program Chair**, Communication and Information Sciences Ph.D. Program

2003-2008

**Associate Professor**, Department of Information and Computer Sciences, University of Hawai'i at Manoa.

2003-2007

**Graduate Program Chair**, Graduate Computer Science (M.S. & Ph.D.) Program

1998-Present

**Director**, Laboratory for Interactive Learning Technologies.

1998-2003

**Assistant Professor**, Department of Information and Computer Sciences, University of Hawai'i at Manoa.

1997-1998

**Director**, Advanced Cognitive Tools for Learning (Laboratory), Learning Research and Development Center, University of Pittsburgh.

1995-1998

**Adjunct Faculty**, Information Science department, University of Pittsburgh.

1992-1998

**Research Associate**, Learning Research and Development Center, University of Pittsburgh.

## Publications

*Listings are in reverse chronological order; alphabetical within each year. Preprints of many of these publications are available at http://lilt.ics.hawaii.edu/lilt/research/pubs.html*

## Articles in Refereed Journals

2018

Rathnayake, C., & Suthers, D. D. (2018). Twitter issue response hashtags as affordances for momentary connectedness. *Social Media + Society*, 1-14. doi:10.1177/2056305118784780

Rathnayake, C., & Suthers, D. D. (accepted). 'Enclaves of exposure': A conceptual viewpoint to explore cross-ideology exposure on social network sites. *The Social Science Journal*, **Volume TBD** (manuscript SOCSCI-D-18-00045R2).

2016

Lund, K., & Suthers, D. D. (2016). Le déterminisme méthodologique et le chercheur agissant (Methodological Determinism and Researcher Agency). Éducation et didactique, 10(1), 27-37.

2015

Chi, R., & Suthers, D. D. (2015). Assessing intercultural communication competence as a relational construct using social network analysis. *International Journal of Intercultural Relations*, 48, 108-119.

2014

Aune, R. K., Sharritt, M., & Suthers, D. D. (2014). l33tsp33k: How Gamers Speak with Impenetrable Efficiency. *International Journal of Digital Literacy and Digital Competence (IJDLDC)*, 5(1), 45-65.

Ochoa, X., Suthers, D. D., Verbert, K., & Duval, E. (2014). Analysis and Reflections on the Third Learning Analytics and Knowledge Conference (LAK 2013). *Journal of Learning Analytics*, 1(2), 5-22.

2013

Medina, R., & Suthers, D. D. (2013). Inscriptions becoming representations in representational practices. *Journal of the Learning Sciences*, 22(1), 33-69.

2011

Sharritt, M. J., & Suthers, D. D. (2011). Levels of failure and learning in games. *International Journal of Gaming and Computer-Mediated Simulations (IJGCMS)*, 3(4), 54-69.

2010

Suthers, D. D., Dwyer, N., Medina, R., & Vatrapu, R. (2010). A framework for conceptualizing, representing, and analyzing distributed interaction. *International Journal of Computer Supported Collaborative Learning*, 5(1), 5-42.

Vatrapu, R., & Suthers, D. D. (2010). Intra- and inter-cultural usability in computer-supported collaboration. *Journal of Usability Studies*, 5(4), 172-197.

2009

Joseph, S. R. H., Yukawa, J., Suthers, D. D., & Harada, V. H. (2009). Adapting to the evolving vocabularies of learning communities. *International Journal of Knowledge and Learning*, 5(2), 154-171.

Medina, R., & Suthers, D. D. (2009). Using a contingency graph to discover representational practices in an online collaborative environment. *Research and Practice in Technology Enhanced Learning*, 4(3), 281-305.

Sharritt, M. J., & Suthers, D. D. (2009). Video game representations as cues for collaboration and learning. *International Journal of Gaming and Computer-Mediated Simulations*, 1(3), 28-52.

2008

Suthers, D., Vatrapu, R., Medina, R., Joseph, S., & Dwyer, N. (2008). Beyond Threaded Discussion: Representational Guidance in Asynchronous Collaborative Learning Environments. *Computers & Education,* 50(4), 1103-1127. (Originally published online: doi:10.1016/j.compedu.2006.10.007)

2007

Suthers, D. D., Yukawa, J., & Harada, V. H. (2007). An activity system analysis of a tripartite technology-supported partnership for school reform. *Research and Practice in Technology Enhanced Learning*, 2(2), 1-29.

2006

Dwyer, N. & Suthers, D. D. (2006). Consistent practices in artifact-mediated collaboration. *International Journal of Computer-Supported Collaborative Learning (ijCSCL)*, 1(4), 481-511.

Suthers, D. (2006). A qualitative analysis of collaborative knowledge construction through shared representations. *Research and Practice in Technology Enhanced Learning*, 1(2), 1-28.

Suthers, D. (2006). Technology affordances for intersubjective meaning making: A research agenda for CSCL. *International Journal of Computer-Supported Collaborative Learning (ijCSCL)*, 1 (3), 315-337.

*Most cited article in ijCSCL as of 2012, according to ISI Web of Science and Google Scholar.*

Tomsic, A. & Suthers, D. D. (2006). Discussion tool effects on collaborative learning and social network structure. *Educational Technology and Society*, 9(4), 63-77.

2003

Constantino-Gonzales, M. A., Suthers, D., & Escamilla, J. (2003). Coaching Web-based Collaborative Learning based on Problem Solution Differences and Participation. International *Journal of Artificial Intelligence in Education,* 13(2-4), 263-299.

Suthers, D., and Hundhausen, C. (2003). An Empirical Study of the Effects of Representational Guidance on Collaborative Learning. *Journal of the Learning Sciences*, 12(2), 183-219.

Suthers, D., Hundhausen, C., & Girardeau, L. (2003). Comparing the roles of representations in face-to-face and online computer supported collaborative learning. *Computers & Education*, 41, 335-351.

2002

Suthers, D., Johnson, S., & Tillinghast, B. (2002). Learning Object Meta-data for a Database of Primary and Secondary School Resources. *Interactive Learning Environments* 9(3), 273-289.

Toth, E., Suthers, D. & Lesgold, A. (2002). Mapping to know: The effects of representational guidance and reflective assessment on scientific inquiry skills. *Science Education* 86(2), 264-286.

2001

Suthers, D. (2001). Towards a Systematic Study of Representational Guidance for Collaborative Learning Discourse. *Journal of Universal Computer Science* 7(3), 2001. Electronic publication: http://www.jucs.org/jucs_7_3/towards_a_systematic_study

1999

Koedinger, K., Suthers, D., and Forbus, K. (1999). Component-based Construction of a Science Learning Space. *International Journal of Artificial Intelligence in Education* (1999), 10, 292-313. Also available online: http://cbl.leeds.ac.uk/ijaied/home.html

Early Journal Publications

Cohen, P., Day, D., deLisio, J., Greenberg, M., Kjeldsen, R., Suthers, D., Berman, P. (1987). Management of uncertainty in medicine. *International Journal of Approximate Reasoning* 1(1), 103-116.

Suthers, D. (1991). A task-appropriate hybrid architecture for explanation. *Computational Intelligence* 7(3), 315-333.

Suthers, D. (1991). Automated explanation for educational applications. *Journal of Computing in Higher Education* 3(1), 36-61.

Suthers, H. Suthers, D. (1990). Aging and sexing gray catbirds by external characteristics. *North American Bird Bander,* Vol. 15 No. 2.

## Edited Volumes

Andriessen, J., Baker, M. & Suthers, D. (Eds.) (2003). *Arguing to Learn: Confronting Cognitions in Computer-Supported Collaborative Learning Environments*. (Includes a chapter by Suthers.) Kluwer book series on Computer Supported Collaborative Learning, Pierre Dillenbourg (Series Editor).

Suthers, D. D., Lund, K., Rosé, C. P., Teplovs, C., & Law, N. (2013). *Productive Multivocality in the Analysis of Group Interactions*. New York: Springer. (Seven chapters authored are listed next section.)

*Also editor of conference proceedings for ICCE 2003, CSCL 2005, CSCL 2009, LAK 2013.*

## Book Chapters

2018

Lund, K., & Suthers, D. D. (2018). Multivocal Analysis: Multiple Perspectives in Analyzing Interaction. In F. Fischer, C. E. Hmelo-Silver, S. R. Goldman, & P. Reimann (Eds.), *International Handbook of the Learning Sciences* (pp. 455-464). New York and London: Routledge.

2017

Suthers, D. D. (2017). Multilevel analysis of activity and actors in heterogeneous networked learning environments. In C. Lang, G. Siemens, A. Wise & D. Gašević (Eds.), *Handbook of Learning Analytics*, Chapter 16 (pp. 189-197).

2013

Dyke, G., Lund, K., Suthers, D. D., & Teplovs, C. (2013). Analytic representations and affordances for productive multivocality. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 33 (pp. 638-658). New York: Springer.

Lund, K., Rosé, C. P., Suthers, D. D., & Baker, M. (2013). Epistemological encounters in multivocal settings. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 34 (pp. 659-682). New York: Springer.

Lund, K., & Suthers, D. D. (2013). Methodological dimensions. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 2 (pp. 21-35). New York: Springer.

Suthers, D. D. (2013). The productive multivocality project: Objectives and origins. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 1 (pp. 3-19). New York: Springer.

Suthers, D. D., Rosé, C. P., Lund, K., & Teplovs, C. (2013). A readers' guide to the productive multivocality project. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 3 (pp. 37-59). New York: Springer.

Suthers, D. D. (2013). Issues in comparing analyses of uptake, agency and activity in a multimodal setting. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 19 (pp. 353-372). New York: Springer.

Suthers, D. D., Lund, K., Rosé, C. P., & Teplovs, C. (2013). Achieving Productive Multivocality in the Analysis of Group Interactions. In D. D. Suthers, K. Lund, C. P. Rosé, C. Teplovs & N. Law (Eds.), *Productive Multivocality in the Analysis of Group Interactions*, Chapter 31 (pp. 577-612). New York: Springer.

## 2012

Suthers, D. D. (2012). Computer-Supported Collaborative Learning. In Seel, Norbert M. (Ed.), Encyclopedia of the Sciences of Learning. New York: Springer.

Suthers, D. D., & Chu, K-H. (2012). Identifying Mediators of Socio-Technical Capital in a Networked Learning Environment. In L. Dirckinck-Holmfeld, V. Hodgson, D. McConnell (Eds.), *Exploring the Theory, Pedagogy and Practice of Networked Learning* (pp. 61-74). New York: Springer.

## 2011

Sharritt, M.J., Aune, R. K., & Suthers, D. D. (2011). Gamer talk: Becoming impenetrably efficient. In M. M. Cruz-Cunha, V. H. Carvalho & P. Tavares (Eds.), *Business, Technological and Social Dimensions of Computer Games; Multidisciplinary Developments* (pp. 252-270). Hershey, PA: IGI Global.

Sharritt, M. J., & Suthers, D. D. (2011). Game-based representations as cues for collaboration and learning. In R. E. Ferdig (Ed.), *Discoveries in Gaming and Computer-Mediated Simulations: New Interdisciplinary Applications* (pp. 163-188). Hershey, PA: IGI Global.

Suthers, D. D., & Medina, R. (2011). Tracing interaction in distributed collaborative learning. In S. Puntambekar, G. Erkens & C. E. Hmelo-Silver (Eds.), *Analyzing Collaborative Interactions in CSCL: Methods, Approaches and Issues* (pp. 341-366). New York: Springer.

## 2009

Medina, R., Suthers, D. D., & Vatrapu, R. (2009). Representational practices in VMT. In G. Stahl (Ed.), *Studying Virtual Math Teams* (pp. 185-205). Cambridge, MA: MIT Press.

Suthers, D. D., Dwyer, N., Medina, R., & Vatrapu, R. (2009). Exposing interactional processes in online learning. In K. Kumpulainen, C. E. Hmelo-Silver & M. César (Eds.), *Investigating Classroom Interaction: Methodologies in Action* (pp. 121-144). Rotterdam: Sense Publishers.

## 2008

Suthers, D. D. (2008). Empirical studies of the value of conceptually explicit notations in collaborative learning. In A. Okada, S. Buckingham Shum & T. Sherborne (Eds.), *Knowledge Cartography* (pp. 1-23). Cambridge, MA: MIT Press.

## 2007

Constantino-Gonzlez, M. A. & Suthers, D. D. (2007). An approach for coaching collaboration based on difference recognition and participation tracking. In U. H. Hoppe, H. Ogata & A. Soller (Eds.), *The Role of Technology in CSCL: Studies in Technology Enhanced Collaborative Learning* (pp. 87-113). New York: Springer.

Suthers, D. D. (2007). Roles of computational scripts. In F. Fischer, I. Kollar, H. Mandl & J. M. Haake (Eds.), *Scripting Computer-Supported Collaborative Learning* (pp. 177-187). New York: Springer.

Vatrapu, R., & Suthers, D. D. (2007). Culture and Computers: A Review of the Concept of Culture and Implications for Intercultural Collaborative Online Learning. In T. Ishida, S. R. Fussell & P. T. J. M. Vossen (Eds.), *Intercultural Collaboration* I (pp 260-275): Springer-Verlag.

Yukawa, J., Harada, V., & Suthers, D. (2007). Professional Development in Communities of Practice. Sandra Hughes-Hassell and Violet H. Harada (Eds.) *School Reform and the School Library Media Specialist* (pp. 179-192). Westport: Libraries Unlimited/Teacher Ideas Press.

## 2005-2006

Stahl, G., Koschmann, T, & Suthers, D. (2006). CSCL: An historical perspective. In R. K. Sawyer (Ed.). (2006). *Cambridge Handbook of the Learning Sciences*. (pp. 409-426.) Cambridge, UK: Cambridge University Press. (Translated into 6 other languages.)

Suthers, D. (2005). Technology affordances for intersubjective learning, and how they may be exploited. In R. Bromme, F. Hesse and H. Spada (Ed.s) *Barriers and Biases in Computer-Mediated Knowledge Communication, and How They May Be Overcome*. (pp. 295-319.) New York: Springer.

<u>2001-2003</u>

Suthers, D. (2003). Representational guidance for collaborative inquiry. In Andriessen, J., Baker, M. & Suthers, D. (Eds.) *Arguing to Learn: Confronting Cognitions in Computer-Supported Collaborative Learning Environments*. (pp. 27-46.) Dordrecht: Kluwer.

Suthers, D., Connelly, J., Lesgold, A., Paolucci, M., Toth, E., Toth, J., & Weiner, A. (2001). Representational and Advisory Guidance for Students Learning Scientific Inquiry. In Forbus, K. D., & Feltovich, P. J. (Eds.). *Smart machines in education: The coming revolution in educational technology*. Menlo Park, CA: AAAI/Mit Press, pp. 7-35.

<u>1990's</u>

Cornell, M., Woolf, B., & Suthers, D. (1993). Using "Live Information" in a Multimedia Framework. In M. Maybury (Ed.), *Intelligent Multimedia Interfaces*, Menlo Park, CA: AAAI/MIT Press, pp 307-327.

## Other Articles in Professional Periodicals

Suthers, D., Harada, V., Yukawa, J., and Lid, V. (2005). Supporting and changing practices of nested and overlapping educational communities. *ACM SIGGROUP Bulletin*, 24(3): 90-95.

Suthers, D. (2003). The Influence of Knowledge Modeling on the Communication Process. In *KI - Kunstliche Intelligenz,* No. 1. (This was an invited article in a written interview format. The KI is edited by the Gesellschaft fur Informatik e.V. and is printed by arendtap, Bremen, Germany, ISSN 0933-1875. Online: http://www.kuenstliche-intelligenz.de/)

Roschelle, J., DiGiano, C., Koutlis, M., Repenning, A., Phillips, J., Jackiw, N., & Suthers, D. (1999). Developing educational software components. *Computer*, 32(9), pp. 50-58. Piscataway, NJ: IEEE Computer Society.

Suthers, D. (1992). Report on the AAAI-91 workshop on comparative analysis of explanation planning architectures. *IEEE Expert* 7(1), February 1992, pp. 78-80.

Woolf, B., Soloway, E., Clancey, W., VanLehn, K, Suthers, D. (1991). Knowledge-based environments for learning and teaching. *AI Magazine* 11(5), January, 1991, pp. 71-73.

## Refereed Conference Publications

<u>2018</u>

Garlach, S., & Suthers, D. D. (2018). 'I'm supposed to see that?' AdChoices Usability in the Mobile Environment. Proceedings of the Hawaii International Conference on the System Sciences (HICSS-51), January 2-6, 2018, Hilton Waikoloa Village, Hawai'i (online proceedings).

<u>2017</u>

Rathnayake, C., & Suthers, D. D. (2017). Twitter issue response hashtags as affordances for momentary connectedness. *Social Media and Society*, July 28-30, Toronto.

Suthers, D. D. (2017). Applications of Cohesive Subgraph Detection Algorithms to Analyzing Socio-Technical Networks. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-50),* January 4-7, 2016, Waikoloa Village, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

## 2016

Chuang, L. M., & Suthers, D. D. (2016). Behavioral Manifestations of Intercultural Competence in Computer-Mediated Learning. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-49),* January 5-8, 2016, Poipu, Kauai, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Ibanez, M., & Suthers, D. D. (2016). Detecting covert sex trafficking networks in virtual markets. *International Symposium on Foundations of Open Source Intelligence and Security Informatics (FOSINT-SI 2016).* San Francisco, CA.

Rathnayake, C., & Suthers, D. D. (2016). Networked Solidarity: An Exploratory Network Perspective on Twitter Activity Related to #illridewithyou. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-49)*, January 5-8, 2016, Poipu, Kauai, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Rathnayake, C., & Suthers, D. D. (2016). Dissidents versus Allegiants on Facebook: An Examination of Facebook Page Networks Related to Channel 4 War Crime Videos on Sri Lanka. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-49)*, January 5-8, 2016, Poipu, Kauai, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

## 2015

Suthers, D. D. (2015). From micro-contingencies to network-level phenomena: Multilevel analysis of activity and actors in heterogeneous networked learning environments *Proceedings of the Fifth International Conference on Learning Analytics and Knowledge.* ACM, New York, NY, USA. (pp. 368-377). New York, NY: ACM.

Suthers, D. D., & Dwyer, N. (2015). Identifying uptake, sessions, and key actors in a socio-technical network *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-44),* January 5-8, 2011, Kauai, Hawai'i (CD-ROM) (pp. CD-Rom). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

## 2014

Ibanez, M., & Suthers, D. D. (2014). Detection of domestic human trafficking indicators and movement trends using content available on open Internet sources. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-47)*, January 6-9, 2013, Hilton Waikoloa, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Maruyama, M., Suthers, D. D., & Robertson, S. P. (2014). Characterizing communication networks associated with political hashtags. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-47)*, January 6-9, 2013, Hilton Waikoloa, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

## 2013

Chu, K.-H., & Suthers, D. D. (2013). Technology-mediated relationships in a socio-technical system. In *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-46),* January 7-10, 2013, Grand Wailea, Maui, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Medina, R., & Suthers, D. D. (2013). Juxtaposing practice: Uptake as modal transposition. In *Proceedings of the 10th International Conference on Computer Supported Collaborative Learning (CSCL '13),* June 15-19, 2013, Madison, WI, pp. 328-335.

Suthers, D. D., Fusco, J., Schank, P., Chu, K.-H., & Schlager, M. (2013). Discovery of community structures in a heterogeneous professional online network. In *Proceedings of the Hawaii International Conference*

*on the System Sciences (HICSS-46),* January 7-10, 2013, Grand Wailea, Maui, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D., & Verbert, K. (2013). Learning analytics as a "middle space". In D. D. Suthers, K. Verbert, E. Duval & X. Ochoa (Eds.), *Proceedings of the Third International Conference on Learning Analytics and Knowledge (LAK '13)*, 8-12 April, 2013, Leuven, Belgium (pp. 1-4). New York: ACM.

2012

Chu, K.-H., Rosen, D., & Suthers, D. D. (2012). Multi-modal multi-granular analysis: Exploring communication networks under varying lenses. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-45)*, January 4-7, 2012, Grand Wailea, Maui, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Chu, K.-H., Suthers, D. D., & Rosen, D. (2012). Uncovering multi-mediated associations in socio-technical networks. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-45)*, January 4-7, 2012, Grand Wailea, Maui, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D., & Chu, K.-H. (2012). Multi-mediated community structure in a socio-technical network. Proceedings *of LAK12: 2nd International Conference on Learning Analytics & Knowledge,* April 29 - May 2, 2012, Vancouver, BC (electronic proceedings). New York: ACM.

Suthers, D. D., & Desiato, C. (2012). Exposing chat features through analysis of uptake between contributions. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-45)*, January 4-7, 2012, Grand Wailea, Maui, Hawai'i (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

2011

Dyke, G., Lund, K., Jeong, H., Medina, R., Suthers, D. D., van Aalst, J., Chen, W. & Looi, C-K. (2011). Technological affordances for productive multivocality in analysis. In H. Spada, G. Stahl, N. Miyake, N. Law & K. M. Cheng (Eds.), *Connecting Computer-Supported Collaborative Learning to Policy and Practice: Proceedings of the 9th International Conference on Computer-Supported Collaborative Learning (CSCL 2011)* (Vol. I, pp. 454-461). Hong Kong: International Society of the Learning Sciences.

Rosen, D., & Suthers, D. D. (2011). Stigmergy and collaboration: Tracing the contingencies of mediated interaction. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-44)*, January 4-7, 2011, Kauai, Hawaii (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D. (2011). Interaction, mediation, and ties: An analytic hierarchy for socio-technical systems. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-44),* January 4-7, 2011, Kauai, Hawaii (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D., Lund, K., Rose, C., Dyke, G., Law, N., Teplovs, C., Chen, W., Chiu, M., Jeong, H., Looi, C-K., Medina, R., Oshima, J., Sawyer, K., Shirouzu, H., Strijbos, J-W., Trausan-Matu, S. & van Aalst, J. (2011). Towards productive multivocality in the analysis of collaborative learning. In H. Spada, G. Stahl, N. Miyake, N. Law & K. M. Cheng (Eds.), *Connecting Computer-Supported Collaborative Learning to Policy and Practice: Proceedings of the 9th International Conference on Computer-Supported Collaborative Learning (CSCL 2011),* (Vol. III, pp. 1015-1022). Hong Kong: International Society of the Learning Sciences.

Suthers, D. D., & Rosen, D. (2011). A unified framework for multi-level analysis of distributed learning. *Proceedings of the First International Conference on Learning Analytics & Knowledge*, (electronic proceedings). Banff, Alberta, February 27-March 1, 2011.

2010

Suthers, D. D., & Chu, K.-H. (2010). Identifying mediators of socio-technical capital in a networked learning environment. In L. Dirckinck-Holmfeld, V. Hodgson, C. Jones, M. de Laat, D. McConnell & T. Ryberg (Eds.), *Proceedings of the 7th International Conference on Networked Learning* (pp. 387-395). Aalborg, Denmark.

Suthers, D. D., & Medina, R. (2010). The Temporal Development of Representational Practices: Implications for Theory and Analysis of Situated Learning. *Proceedings of the Hawaii International Conference on the System Sciences (HICSS-43)*, January 5-8, 2010, Kauai, Hawaii (CD-ROM). New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Vatrapu, R. K., & Suthers, D. D. (2010). Cultural influences in collaborative information sharing and organization. *Proceedings of the 3rd ACM International Conference on Intercultural Collaboration (ICIC 2010)*, Copenhagen, Denmark.

2009

Medina, R., Suthers, D., & Vatrapu, R. (2009). Inscriptions becoming representations. In C. O'Malley, P. Reimann, D. Suthers & A. Dimitracopoulou (Eds.), *Computer Supported Collaborative Learning Practices: CSCL 2009 Conference Proceedings* (pp. 18-27). Rhodes, Greece: International Society of the Learning Sciences.

Suthers, D. D., Chu, K.-H., & Joseph, S. (2009). Bridging Socio-Technical Capital in an Online Learning Environment. *Proceedings of the 42nd Hawaiʻi International Conference on the System Sciences (HICSS-42), January 5-8, 2009, Waikoloa, Hawaiʻi (CD-ROM)*. New Brunswick: Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Vatrapu, R., & Suthers, D. D. (2009). Is representational guidance culturally relative? In C. O'Malley, P. Reimann, D. D. Suthers & A. Dimitracopoulou (Eds.), *Computer Supported Collaborative Learning Practices: CSCL2009 Conference Proceedings,* June 8-13, 2009 (pp. 542-551). Rhodes, Greece: International Society of the Learning Sciences.

Vatrapu, R., & Suthers, D. D. (2009). Technological intersubjectivity in computer supported intercultural collaboration. *Proceedings of the 2nd ACM International Workshop on Intercultural Collaboration (IWIC 2009)*.

2008

Medina, R., & Suthers, D. D. (2008). Bringing Representational Practice From Log to Light. In P. A. Kirschner, F. Prins, V. Jonker & G. Kanselaar (Eds.), *International Perspectives in the Learning Sciences: Cre8ing a Learning World: Proceedings of the Eighth International Conference for the Learning Sciences (ICLS 2008)* (Vol. 2, pp. 59-66). Utrecht: International Society of the Learning Sciences

Vatrapu, R., Suthers, D. D., & Medina, R. (2008). Usabililty, sociability and learnability: A design evaluation framework for computer supported collaborative learning. Proceedings of the 16th International Conference on Computers in Education (ICCE 2008) (CD-ROM). Taipei, Taiwan: APSCE.

2007

Joseph, S., Lid, V., & Suthers, D. (2007). Transcendent Communities. In C. Chinn, G. Erkens & S. Puntambekar (Eds.), *The Computer Supported Collaborative Learning (CSCL) Conference 2007* (pp. 317-319). New Brunswick: International Society of the Learning Sciences.

Suthers, D. D., Dwyer, N., Medina, R., & Vatrapu, R. (2007). A framework for eclectic analysis of collaborative interaction. In C. Chinn, G. Erkens & S. Puntambekar (Eds.), *The Computer Supported Collaborative Learning (CSCL) Conference 2007* (pp. 694-703). New Brunswick: International Society of the Learning Sciences.

Suthers, D. D., Dwyer, N., Vatrapu, R., & Medina, R. (2007). An abstract transcript notation for analyzing interactional construction of meaning in online learning. In *Proceedings of the 40th Hawai'i International Conference on the System Sciences (HICSS-34)*, January 3-6, 2007, Waikoloa, Hawai'i (CD-ROM): Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D., Medina, R., Vatrapu, R., & Dwyer, N. (2007). Information Sharing is Incongruous with Collaborative Convergence: The Case for Interaction. In C. Chinn, G. Erkens & S. Puntambekar (Eds.), *The Computer Supported Collaborative Learning (CSCL) Conference 2007* (pp. 714-716). New Brunswick: International Society of the Learning Sciences.

Suthers, D. D., Vatrapu, R., Medina, R., Joseph, S., & Dwyer, N. (2007). Conceptual representations enhance knowledge construction in asynchronous collaboration. In C. Chinn, G. Erkens & S. Puntambekar (Eds.), *The Computer Supported Collaborative Learning (CSCL) Conference 2007* (pp. 704-713). New Brunswick: International Society of the Learning Sciences.

2006

Joseph, S., Yukawa, J., Suthers, D. & Harada, V. (2006). Searching emergent vocabularies: Exploring methods to reduce cognitive load during web navigation and resource contribution. In Proceedings of the 39th *Hawai'i International Conference on the System Sciences (HICSS-39)*, January 4-7, 2005, Kauai, Hawai'i (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. D. (2006). Technology affordances for intersubjective meaning-making, *International Conference for Computers in Education*. Bejing: APSCE. (CD-ROM) (Paper for keynote presentation)

Suthers, D. D., Dwyer, N., Medina, R., & Vatrapu, R. (2006). Analysis of Meaning Making in Online Learning, *International Conference for Computers in Education*. Bejing: APSCE. (CD-ROM)

Suthers, D., Vatrapu, R., Joseph, S., Dwyer, N & Medina, R. (2006). Representational Effects in Asynchronous Collaboration: A Research Paradigm and Initial Analysis. In *Proceedings of the 39th Hawai'i International Conference on the System Sciences (HICSS-39)*, January 4-7, 2006, Poipu, Hawai'i (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

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2005

Dwyer, N & Suthers, D . (2005). A Study of the Foundations of Artifact-Mediated Collaboration. In T. Koschmann, D. Suthers & T. W. Chan (Eds.), *Computer Supported Collaborative Learning 2005: The Next 10 Years!* (pp. 135-144.) Mahwah, NJ: Lawrence Erlbaum Associates.

Joseph S., Binsted K. & Suthers D. (2005). PhotoStudy: Vocabulary Learning and Collaboration on Fixed & Mobile Devices. In *Proc. of 3rd IEEE Int. Workshop on Wireless and Mobile Technologies in Education.*

Suthers, D. (2005). Technology Affordances for Intersubjective Learning: A Thematic Agenda for CSCL. In T. Koschmann, D. Suthers & T. W. Chan (Eds.), *Computer Supported Collaborative Learning 2005: The Next 10 Years!* (pp. 662-671.) Mahwah, NJ: Lawrence Erlbaum

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2004

Sawatpanit, M, Suthers, D., and Fleming, S. (2004). BRIX: Meeting the requirements for online second language learning. *Proceedings of the 37th Hawaiʻi International Conference on the System Sciences (HICSS-37),* January 5-8, 2004, Wakoloa, Hawaiʻi (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D., Harada, V., Doane, W., Yukawa, J., Harris, B. & Lid, V. (2004). Technology-Supported Systemic Reform: An Initial Evaluation and Reassessment. *Proceedings of the Sixth International Conference of the Learning Sciences,* Santa Monica, CA - June 22-26, 2004. pp. 537-544.

2003

Constantino-Gonzales, M. A., & Suthers, D. (2003). Automated Coaching of Collaboration based on Workspace Analysis: Evaluation and Implications for Future Learning Environments. *Proceedings of the 36th Hawaiʻi International Conference on the System Sciences (HICSS-36),* January 6-9, 2003, Wakoloa, Hawaiʻi (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Lid, V. & Suthers, D. (2003). Supporting Online Learning with an Artifact-Centered Cross-Threaded Discussion Tool. *Proceedings of the International Conference on Computers in Education 2003*, December 2-5, Hong Kong, Y.S. Chee, N. Law, D. Suthers & K. Lee, Eds.

Sawatpanit, M, Suthers, D., and Fleming, S. (2003). Evaluating a Second Language Learning Course Management System. *Proceedings of the International Conference on Computers in Education 2003*, December 2-5, Hong Kong, Y.S. Chee, N. Law, D. Suthers & K. Lee, Eds.

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Suthers, D. D. (2003). Representational Guidance for Collaborative Learning. In *Artificial Intelligence in Education,* H. U. Hoppe, F. Verdejo & Judy Kay (Eds.) Amsterdam: IOS Press, pp. 3-10. (Keynote address for 11th International Conference on Artificial Intelligence in Education: AI-ED 2003.)

Suthers, D., Girardeau, L. and Hundhausen, C. (2003). Deictic Roles of External Representations in Face-to-face and Online Collaboration. In *Designing for Change in Networked Learning Environments, Proceedings of the International Conference on Computer Support for Collaborative Learning 2003*, B. Wasson, S. Ludvigsen & U. Hoppe (Eds), Dordrecht: Kluwer Academic Publishers, pp. 173-182.

Suthers, D., Hundhausen, C. and Girardeau, L. (2003). An Exploratory Comparison of the Roles of Representations in Face to Face and Online Collaborative Learning. In *Proceedings of the 36th Hawaiʻi International Conference on the System Sciences (HICSS-36),* January 6-9, 2003, Wakoloa, Hawaiʻi (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

2002

Constantino-Gonzales, M. A., & Suthers, D. (2002). Coaching Collaboration in a Computer-Mediated Learning Environment. In *Proceedings of Computer Support for Collaborative Learning 2002*, Hillsdale: Lawrence Erlbaum Associates, January 7-11, Boulder, pp. 583-584.

Suthers, D. & Hundhausen, C. (2002). The Effects of Representation on Students' Elaborations in Collaborative Inquiry. In *Proceedings of Computer Support for Collaborative Learning 2002*, Hillsdale: Lawrence Erlbaum Associates, January 7-11, Boulder, pp. 472-480.

Suthers, D. & Xu, J. (2002). Kukakuka: An Online Environment for Artifact-Centered Discourse, *Education Track of the Eleventh World Wide Web Conference (WWW 2002),* Honolulu, May 7-11, 2002, pp. 472-480. Available: http://www2002.org/CDROM/alternate/252/index.html

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Constantino-Gonzales, M. A., & Suthers, D. (2001). Coaching Collaboration by Comparing Solutions and Tracking Participation. In P. Dillenbourg, A. Eurelings, K. Hakkarainen (Eds.) *European Perspectives on Computer-Supported Collaborative Learning, Proceedings of the First European Conference on Computer-Supported Collaborative Learning*, Universiteit Maastricht, Maastrict, the Netherlands, March 22-24 2001, pp. 173-180.

Constantino-Gonzales, M. A., Suthers, D., Icaza, J. (2001). Designing and Evaluating a Collaboration Coach: Knowledge and Reasoning. In J. D. Moore, C. L. Redfield, & W. L. Johnson (Eds.) *Artificial Intelligence in Education: AI-ED in the Wired and Wireless Future* (10th International Conference on Artificial Intelligence in Education), Amsterdam: IOS press, May 19-23, San Antonio Texas, pp. 176-187.

Suthers, D. (2001). Architectures for Computer Supported Collaborative Learning. *Proceedings of the IEEE International Conference on Advanced Learning Technologies (ICALT 2001)*, 6-8 August 2001, Madison, Wisconsin, pp. 25-28. Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. (2001). Collaborative Representations: Supporting Face to Face and Online Knowledge-building Discourse. In *Proceedings of the 34th Hawai'i International Conference on the System Sciences (HICSS-34),* January 3-6, 2001, Maui, Hawai'i (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. (2001). Evaluating the Learning Object Metadata for K-12 Educational Resources. In *Proceedings of the IEEE International Conference on Advanced Learning Technologies (ICALT 2001)*, 6-8 August 2001, Madison, Wisconsin, pp. 371-374. Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suthers, D. & Hundhausen, C. (2001). Learning by Constructing Collaborative Representations: An Empirical Comparison of Three Alternatives. In P. Dillenbourg, A. Eurelings, K. Hakkarainen (Eds.) *European Perspectives on Computer-Supported Collaborative Learning, Proceedings of the First European Conference on Computer-Supported Collaborative Learning*, Universiteit Maastricht, Maastrict, the Netherlands, March 22-24 2001, pp. 577-584.

## 2000

Constantino-Gonzales, M. A. & Suthers, D. (2000). A coached collaborative learning environment for entity-relationship modeling. In *Intelligent Tutoring Systems, Proceedings of the 5th International Conference (ITS 2000)*, G. Gauthier, C. Frasson, & K. VanLehn (Eds.), pp. 325-333. Berlin: Springer-Verlag.

Suthers, D. (2000). Initial Evidence for Representational Guidance of Learning Discourse. In *Proceedings of International Conference on Computers in Education*, November 21-24, 2000, Taipei, Taiwan. (Best paper award.)

Suthers, D. (2000). Using Learning Object Meta-data in a Database of Primary and Secondary School Resources. In *Proceedings of International Conference on Computers in Education,* November 21-24, 2000, Taipei, Taiwan. (Nominated for best paper award.)

## 1999

Suthers, D. (1999). Effects of Alternate Representations of Evidential Relations on Collaborative Learning Discourse. In C. M. Hoadley and J. Roschelle (Eds.), *Proceedings of the Computer Support for Collaborative Learning (CSCL) 1999 Conference* (pp. 611-620). Palo Alto, CA: Stanford University.

Suthers, D. (1999). Representational Support for Collaborative Inquiry. In *Proceedings of the 32nd Hawai'i International Conference on the System Sciences (HICSS-32),* January 5-8, 1999, Maui, Hawai'i (CD-ROM), Institute of Electrical and Electronics Engineers, Inc. (IEEE). (Nominated for best paper award.)

Suthers, D. (1999). Representational Bias as Guidance for Learning Interactions: A Research Agenda. In S. P. Lajoie and M. Vivet (Eds.), *Artificial Intelligence in Education, Proceedings of the 9th World*

*Conference on Artificial Intelligence in Education (AIED'99),* July 19-23, 199, Le Mans France, pp. 121-128.

Suthers, D. (1999). Representational and Advisory Guidance for Learning: Alternate Roles for AI. In M. H. Hamza (Ed.), *Proceedings of the IASTED International Conference Artificial Intelligence and Soft Computing,* Anaheim: IASTED/Acta Press, August 9-12, 1999, Honolulu Hawai'i, USA, pp. 338-342.

Suthers, D. (1999). The Effects of Representational Bias on Collaborative Inquiry. In *Proceedings of the 8th International Conference on Human-Computer Interaction*, August 22-27, 1999 Munich Park Hilton, Munich, Germany.

## 1998

Koedinger, K., Suthers, D., and Forbus, K. (1998). Component-based Construction of a Science Learning Space. In Goettl, B. P., Halff, H. M., Redfield, C. L., & Shute, V. J. (Eds.) *Intelligent Tutoring Systems, Proceedings of the Fourth International Conference,* (pp. 166-175). Lecture Notes in Computer Science, 1452. Berlin: Springer-Verlag.

## 1997

Suthers, D. (1997). An interface for collaborative and coached approaches to learning critical inquiry. J. Moore (Ed.), *International Conference on Intelligent User Interfaces (IUI'97),* New York: Association for Computing Machinery. Orlando, January 1997, pp. 217-220.

Suthers, D., and Jones, D. (1997). An architecture for intelligent collaborative educational systems. In B. du Boulay and R. Mizoguchi (Ed.s) *Artificial Intelligence in Education, Proceedings of the 8th World Conference on Artificial Intelligence in Education.* Amsterdam: IOS Press. Kobe, August 1997, pp. 55-62.

Toth, J., Suthers, D., Weiner, A. (1997). Providing expert advice in the domain of collaborative scientific inquiry. In B. du Boulay and R. Mizoguchi (Ed.s) *Artificial Intelligence in Education, Proceedings of the 8th World Conference on Artificial Intelligence in Education.* Amsterdam: IOS Press. Kobe, August 1997, pp. 302-308.

## 1996

Paolucci, M., Suthers, D., Weiner, A. (1996). Automated advice-giving strategies for scientific inquiry. In C. Frasson, G. Gauthier, A. Lesgold (Eds.) *Intelligent Tutoring Systems: Third International Conference (ITS'96).* Berlin: Springer-Verlag. Montreal, June 1996, pp. 372-381.

## 1995

Suthers, D., Weiner, A. Connelly, J. Paolucci, M. (1995). Belvedere: Engaging students in critical discussion of science and public policy issues. In J. Greer (Ed.), *Artificial Intelligence in Education, Proceedings of AI-ED 95: 7th World Conference on Artificial Intelligence in Education.* Charlottesville: AACE. Washington, D.C., August 1995, pp. 266-273.

Suthers, D. Weiner, A. (1995). Groupware for developing critical discussion skills. *Computer Supported Cooperative Learning (CSCL'95).* Bloomington, Indiana, October 1995.

Paolucci, M., Suthers, D., Weiner, A. (1995). Belvedere: Stimulating students' critical discussion. *Human Factors in Computing Systems, Conference Companion (CHI'95).* Denver, CO, May 1995.

## 1993

Suthers, D. (1993). Preferences for model selection in explanation. *Proceedings of the 13th International Joint Conference on Artificial Intelligence (IJCAI-93).* Chambery, France, August 1993.

Suthers, D. (1993). Sequencing explanations to enhance communicative functionality. *Proceedings of the 15th Annual Meeting of the Cognitive Science Society*. Boulder, Colorado, June 1993.

Cavalli-Sforza, V., Moore, J., Suthers, D. (1993). Helping students articulate, support, and criticize scientific explanations. *World Conference on Artificial Intelligence in Education (AI-ED'93)*. Edinburgh, Scotland, August 1993.

1992

Suthers, D., Woolf, B., Cornell, M. (1992). Steps from explanation planning to model construction dialogues. *Proceedings of the National Conference on Artificial Intelligence (AAAI-92)*. San Jose, California, July 1992.

Suthers, D. (1992). Answering student queries: functionality and mechanisms. *Second International Conference on Intelligent Tutoring Systems*. Montreal, June 1992.

1988

Suthers, D. (1988). Providing multiple views of reasoning for explanation. *International Conference on Intelligent Tutoring Systems*. Montreal, Canada, June 1988, pp. 435-442.

Woolf, B., Murray, T., Suthers, D., Schultz, K. (1988). Knowledge primitives for tutoring systems. *International Conference on Intelligent Tutoring Systems*. Montreal, Canada, June 1988, pp. 491-498.

## Other Presentations and Reports

To reduce the length of this vita, I am no longer recording unpublished paper or workshop presentations, or technical reports.

Information on Invited Talks, Professional Service, and Teaching is available on request.

## Funding History

*(Reverse chronological order by initial award date.)*

2009

*NSF VOSS Grant #0943147*: $382,421 awarded to the University of Hawai'i for "Traces—Understanding Distributed Socio-Technical Systems," 2009-2013. Principal Investigator.

2007

*State of Hawai'i Department of Education:* $20,000 awarded to the University of Hawai'i for "Hawai'i Networked Learning Communities Subscription," 2007-2008. Principal Investigator.

2006

*HiMax Research & Development* (an industry consortium): $1,034,927 awarded to the University of Hawai'i for "Applications in Ubiquitous Wireless Environments," 2006-2008. Principal Investigator (sponsoring Samuel Joseph, co-PI).

*Cerego Hawai'i LLC*: $451,364.86 awarded to the University of Hawai'i for "Learning and Retention of Paired Associate Material using Personalized Online Multimedia Study," 2006-2008. Principal Investigator (sponsoring Samuel Joseph, co-PI).

2005

*Harold K.L. Castle Foundation*: $40,000 awarded to the University of Hawai'i for "Scaling Up Navigating Change," 2005-2006. Principal Investigator.

*National Science Foundation (NSF) Science of Learning Center Catalyst Grant*: $180,762 awarded to Drexel University for "Engaged Learning in Online Communities," 2005-2007, co-Principal Investigator with Gerry Stahl, Principal Investigator.

2001

*NSF CAREER Grant #0093505*: $402,755 awarded to the University of Hawaiʻi for "Collaborative Representations: Supporting Online Knowledge-building Discourse," 2001-2006. Principal Investigator.

*NSF Rural Systemic Initiative Implementation Grant #0100393:* $6,000,000 awarded to the Hawaiʻi Department of Education for "Hawaiʻi Networked Learning Communities," 2001-2006, with a $1,234,732 University of Hawaiʻi subcontract. Co-Principal Investigator on the Department of Education grant with Vi Harada (PI) and Vicki Kajioka. Principal Investigator on the University of Hawaiʻi subcontract.

1999

*NSF Rural Systemic Initiative Development Grant*: $191,764 awarded to the Hawaiʻi Department of Education for "Hawaiʻi Networked Learning Communities," 1999-2001. Co-Principal Investigator with Vi Harada (PI) and Vicki Kajioka.

*Alfred P. Sloan Foundation*: $405,000 awarded to the University of Hawaiʻi for "UH Asynchronous Learning Networks," 1999-2002. Co-Principal Investigator with Victor Kobayashi (PI) and Jaishree Odin.

1998

*US Department of Education Technology Innovation Challenge Grant*: $10,000,000 awarded to New York City Public Schools and University of Pittsburgh for "Networked Learning Communities for Educational Reform," 1998-2003. Co-Principal Investigator along with NYC colleagues Richard Elmore and Elaine Fink, and Pittsburgh colleagues Alan Lesgold and Lauren Resnick.

*NSF Knowledge and Distributed Intelligence (Learning and Intelligent Systems focus) Grant #9873516)*: $461,462 awarded to the University of Hawaiʻi for "The Effects of Representational Bias on Collaborative Learning Discourse," 1998-2001 (extended to 2002). Principal Investigator.

*Center for Innovations in Learning Technologies (CILT) seed grant*: $6,927 awarded to the University of Hawaiʻi for "Interoperable Components for Shared Active Representations," 1998-1999 (with additional amounts to my collaborators). Principal Investigator, with co-PIs at Northwestern, Rutgers, SRI, and UCLA.

1997

*Department of Defense Education Activity, Presidential Technology Initiative:* $245,000 awarded to the University of Pittsburgh for "Scaling-up Implementation of Collaborative Critical Inquiry in the DoDDS Curriculum," 1997-1998. Principal Investigator, with co-PIs Eva Toth and Arlene Weiner.

1995

*Advanced Research Projects Agency, Computer Aided Education and Training Initiative*: $986,316 awarded to the University of Pittsburgh for "Collaboration, Apprenticeship, and Critical Discussion: Groupware for Learning," 1995-1997. Co-Principal Investigator with Alan Lesgold (PI), Sandy Katz, and Arlene Weiner.

*Advanced Research Projects Agency, Northeast Regional Consortium*: $400,000 awarded to the University of Pittsburgh for "Extending the Sherlock Learning-by-Doing Approach to Work Force (Re)training," 1995-1997. Co-Principal Investigator with Alan Lesgold (PI), Sandy Katz, and Arlene Weiner.

## Professional Service

### Editorial Boards

International Journal of Computer Supported Collaborative Learning: Associate Editor and co-founder.

International Journal of the Learning Sciences: Editorial Board (presently on leave)

Journal of Interactive Learning Environments: Editorial Board.

Springer (formerly Kluwer) book series on Computer Supported Collaborative Learning: Editorial Board.

Research and Practice in Technology Enhanced Learning: co-founder; formerly Associate Executive Editor and Executive Editor.

### Executive and Steering Committees

Former

International Society for the Learning Sciences, Conference committee chair
International Society for the Learning Sciences, CSCL Community chair (elected position)
International Society for Artificial Intelligence and Education (elected membership)
Intelligent Tutoring Systems Conference

### Conference Organization (Chair and Steering Committee)

*(Program committee memberships are no longer listed, as they are too numerous. See conference reviewing, next section, since most of my conference reviewing has been as PC member.)*

2013

Program co-chair, Learning Analytics and Knowledge, Leuven, Belgium, April 8-12, 2013.

Demonstration Program co-chair, Computer Supported Collaborative Learning, Madison, Wisconsin, June 15-19, 2013.

2011

Pre-conference Workshop and Tutorial co-chair, Computer Supported Collaborative Learning, Hong Kong, July 4-8, 2011.

2009

Program co-chair, Computer Supported Collaborative Learning, Rhodes, Greece, June 8-13, 2009.

2008

Scientific Advisory Board, International Conference of the Learning Sciences, Utrecht, June 23-28, 2008.

2007

Conference consultant, Computer Supported Collaborative Learning, New Brunswick, July 16-21, 2007.

Workshops co-chair International Conference on Computers in Education,  November 5-9, 2007.

2005

Program co-chair, Computer Supported Collaborative Learning, Taipei, May 30-June 4, 2005.

2004

Organized a panel on Representational Affordances for Collaboration at the American Educational Research Association meeting, San Diego, April 12-16, 2004. (AERA failed to include it in the program listing.)

2003

Conference Steering Committee and Interactive Events Chair, Computer Supported Collaborative Learning, Bergen, June 14-18, 2003.

Program co-chair, International Conference on Computers in Education, Hong Kong, December 2-5, 2003.

2002

Conference Steering Committee and Interactive Events Chair, Computer Supported Collaborative Learning, Boulder, January 7-11, 2002.

2001

Co-organized a workshop at Hawai'i International Conference on the System Sciences, Waikoloa, January 2001.

Workshop Program Chair at the Artificial Intelligence and Education (AI-ED 2001) conference.

2000

Co-chair of the Hawai'i International Conference on the System Sciences mini-track on Roles and Issues of Computational Media in Learning Communities.

1999

Workshop Program Chair, Computer Supported Collaborative Learning (CSCL) conference, December 1999. Also workshop chair of "Collaborative Representations: Analyzing Learning Interactions."

1997

Co-Chair of the AAAI Workshop on Issues in Achieving Cost-Effective and Reusable ITSs

1996

Co-Chair of the ITS-96 Workshop on Architectures and Methods for Designing Cost-Effective and Reusable ITSs

1994

Chair of the AAAI-94 Workshop on Planning for Inter-Agent Communication.

1991

Chair of the AAAI-91 Workshop on Comparative Analysis of Explanation Planning Architectures.

## Reviewing

*Extensive service as reviewer for journal and conference papers: details on request.*