

Curriculum Vitae

Philip Bell

Professor of Learning Sciences & Human Development

The Shauna C. Larson Endowed Chair in Learning Sciences

Executive Director, UW Institute for Science and Math Education

Co-Director, Learning in Informal and Formal Environments (LIFE) Science of Learning Center

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EDUCATION

Ph.D., Education in Human Cognition & Development
(Mathematics, Science, and Technology emphasis)
from the University of California, Berkeley, 1998.

M.A., Education in Mathematics, Science, and Technology
from the University of California, Berkeley, 1996.

B.S., Electrical Engineering and Computer Science, University of Colorado at Boulder, 1989
with a programmatic emphasis on cognitive science and artificial intelligence.

RESEARCH INTERESTS

Science education, how and why people learn across settings from cognitive and cultural perspectives, scaffolding disciplinary STEM investigations in the classroom, culturally expansive curriculum and instruction, research-guided innovative learning technologies, digital technologies in youth culture, and empirical research methods for studying education and learning (esp. design-based research in education and ethnography of learning).

PROFESSIONAL POSITIONS

As of 9/12 Professor of the Learning Sciences & Human Development,
College of Education, University of Washington.

4/14 – present The Shauna C. Larson Endowed Chair of Learning Sciences.

1/11 – present Co-Director and Co-Principal Investigator, NSF Learning in Informal and Formal
Environments (LIFE) Science of Learning Center.

9/08 – present Executive Director, Institute for Science and Mathematics Education, University
of Washington.

- 9/08 – 3/14 The Geda and Phil Condit Endowed Professor of Science and Mathematics Education.
- 9/04 – 9/12 Associate Professor of the Learning Sciences, with a joint appointment between Educational Psychology and Curriculum & Instruction, College of Education, University of Washington.
- 9/02 – 9/04
9/06 – 9/08
9/09 – present Director, Learning Sciences & Human Development graduate program, University of Washington. Program currently includes 14 faculty, 72 students (57 PhD students, 15 MEd students).
- 9/98 – 9/04 Assistant Professor of Cognition & Technology, University of Washington.
- 2/97 – 8/98 Project Director for an educational research project funded by the Department of Commerce through the Interactive University Initiative at the University of California, Berkeley, Prof. Marcia C. Linn (Principal Investigator).
- 11/94 – 8/98 Research Assistant for the Knowledge Integration Environment (KIE) research project, Prof. Marcia C. Linn (Principal Investigator), Graduate School of Education, University of California, Berkeley.
- 8/93 – 8/98 Research Assistant for the Computer as Learning Partner (CLP) research project, Prof. Marcia C. Linn (Principal Investigator), Graduate School of Education, University of California, Berkeley.
- 10/90-10/92 Research Associate and Lead Software Engineer for Architectural Energy Corporation (Boulder, Colorado), worked on the Earth Explorer educational research project funded by the National Science Foundation SBIR program.

PEER-REVIEWED JOURNAL PUBLICATIONS

- Bricker, L. A., & Bell, P. (2014). “What Comes to Mind When You Think of Science? The Perfumery!”: Documenting Science-Related Cultural Learning Pathways Across Contexts and Timescales. *Journal of Research in Science Teaching*, 51(3), 260-285.
- Bricker, L. A., Reeve, S., & Bell, P. (2014). ‘She Has to Drink Blood of the Snake’: Culture and prior knowledge in science | health education. *International Journal of Science Education*, 1-19.
- Zimmerman, H. T., & Bell, P. (2014). Where Young People See Science: Everyday activities connected to science. *International Journal of Science Education*, Part B: Communication and Public Engagement, 4(1), 25-53.
- Bell, P., Tzou, C., Bricker, L. A., & Baines, A. D. (2012). Learning in diversities of structures of social practice: Accounting for how, why and where people learn science. *Human Development*, 55, 269-284.
- Bell, P., Bricker, L. A., Tzou, C., Lee, T., & Van Horne, K. (2012). Engaging learners in scientific practices related to obtaining, evaluating, and communicating information. *The Science Teacher*, 79(8), 31-36, *Science Scope*, 36(3), 17-22, *Science & Children*, 50(3), 11-16.

- Tzou, C., & Bell, P. (2012). The role of borders in environmental education: Positioning, power, and the paradox of categories. *Ethnography & Education*, 7(2), 265-282.
- Bricker, L.A., & Bell, P. (2012). "GodMode is his video game name": Situating learning and identity in structures of social practice. *Cultural Studies of Science Education*, 7(4), 883-902.
- Shouse, A., Lewenstein, B., Feder, M., & Bell, P. (2010). Crafting museum experiences in light of research on learning: Implications of the National Research Council's report on informal science education. *Curator: The Museum Journal*, 53(2), 137-154.
- Tzou, C., Scalone, G., & Bell, P. (2010). The role of environmental narratives and social positioning in how place gets constructed for and by youth: Implications for environmental science education for social justice. *Equity and Excellence in Education*, 43(5), 105-119.
- Wilson, D.M., Bell, P., Jones, D., Spring, D., & Hansen, L. (2010). Cross Sectional Study of Belonging in Engineering Education. *International Journal of Engineering Education*, 26(3), 687-698.
- Zimmerman, H. T., Perin, S., & Bell, P. (2010). Parents, science, and interest: The role of parents in the development of youths' interests. *Journal of Museums and Social Issues*, 5(1), 67-86.
- Zimmerman, H. T., Reeve, S., & Bell P. (2009). Family sense-making practices in science center conversations. *Science Education*, 94(3), 478-505.
- Reeve, S. & Bell, P. (2009). Children's self-documentation and understanding of the concepts 'healthy' and 'unhealthy.' *International Journal of Science Education*, 31(14), 1953-1974.
- Zimmerman, H. T., Reeve, S., & Bell, P. (2008). Distributed expertise in a science center: Social and intellectual role-taking by families. *Journal of Museum Education*, 33(2), 143-152.
- Bricker, L.A. & Bell, P. (2008). Conceptualizations of argumentation from science studies and the learning sciences and their implications for the practices of science education. *Science Education*, 92(3), 473-498.
- Bell, P. & Sabelli, N. (2006). The learning sciences and the need for close couplings between research paradigms. *Educational Technology*, 46(3), 45-53.
- Stevens, R., Wineburg, S., Herrenkohl, L. R., & Bell, P. (2005). The comparative understanding of school subjects: Past, Present, and Future Research Agenda. *Review of Educational Research*, 75(2), 125-157.
- Bell, P. (2004). On the theoretical breadth of design-based research in education. *Educational Psychologist*, 39(4), 243-253.
- Sandoval, W. A. & Bell, P. (2004). Design-based research methods for studying learning in context: Introduction and Special Issue. *Educational Psychologist*, 39(4), 199-201.
- Baumgartner, E., Bell, P., Brophy, S., Hoadley, C., Hsi, S., Joseph, D., Orrill, C., Puntambekar, S., Sandoval, W., & Tabak, I. (Design-based Research Collective). (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5-8.

Bell, P., & Linn, M. C. (2000). Scientific arguments as learning artifacts: Designing for learning from the web with KIE. *International Journal of Science Education*, 22(8), 797-817.

Linn, M. C., Shear, L., Bell, P., & Slotta, J. D. (1999). Organizing principles for science education partnerships: Case studies of students' learning about 'rats in space' and 'deformed frogs'. *Educational Technology Research & Development*, 47(2), 61-84.

Linn, M. C., Bell, P., & Hsi, S. (1998). Using the Internet to enhance student understanding of science: The knowledge integration environment. *Interactive Learning Environments*, 6(1-2), 4-38.

PEER-REVIEWED RESEARCH SYNTHESIS REPORTS & COMMISSIONED PAPERS

National Research Council. (2012). *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Committee on Conceptual Framework for the New K-12 Science Education Standards, Board on Science Education, National Academy of Sciences. Washington, DC: The National Academies Press. *(I served on the 18-member committee that authored this conceptual framework that guided development of the Next Generation Science Standards for K-12 education.)*

Bell, P., Lewenstein, B., Shouse, A.W. & Feder, M.A. (Eds.). National Research Council. (2009). *Learning science in informal environments: People, places, and pursuits*. Committee on Learning Science in Informal Environments, Board on Science Education, Center for Education, Division of Behavioral and Social Sciences and Education, National Academy of Sciences. Washington, DC: The National Academies Press. *(I co-chaired this research consensus study with Bruce Lewenstein.)*

Bell, P. (2006). Cognitive and Social Foundations of Information and Communications Technology (ICT) Fluency. In S. Marcus (Ed.), *Information and Communications Technology Fluency and High Schools* (pp. 77-85). Washington, DC: National Academies Press.

Banks, J., Au, K., Ball, A., Bell, P., Gordon, E., Gutierrez, K., Heath, S. B., Lee, C., Lee, Y., Mahiri, J., Nasir, N., Valdes, G., & Zhou, M. (2007). Learning in and out of school in diverse environments: Life-long, life-wide, life-deep. Seattle, WA: The Center for Multicultural Education & The LIFE Science of Learning Center. <http://life-slc.org/panel/>

Bell, P. (2005). The school science laboratory: Considerations of learning, technology, and scientific practice. Commissioned paper for the Committee on High School Laboratories: Role and Vision, National Academy of Sciences. Submitted in preparation of the NRC Report *America's Lab Report: Investigations in High School Science*, 2005.

BOOKS & BOOK CHAPTERS

EDITED BOOKS:

Bevan, B., Bell, P., Stevens, R., & Razfar, A. (2012). *Learning about Out of School Time (LOST) Learning Opportunities*. London: Springer.

Linn, M. C., Davis, E. A., & Bell, P. (2004). *Internet Environments for Science Education*. Mahwah, NJ: Erlbaum.

Bell, P., Stevens, R., & Satwicz, T. (Eds.). (2004). *Keeping Learning Complex: Proceedings of the Fifth International Conference of the Learning Sciences*. Mahwah, NJ: Lawrence Erlbaum Associates.

BOOK CHAPTERS:

- Barron, B., & Bell, P. (in press). Learning environments in and out of school: Catalysts for learning within and across settings. In L. Corno & E. Anderman (Eds.), *Handbook of Educational Psychology* (Third Edition). New York: Routledge, Taylor & Francis.
- Quinn, H., & Bell, P. (2013). How designing, making, and playing relate to the learning goals of K-12 science education. In M. Honey (Ed.), *Design, Make, Play: Growing the next generation of STEM innovators*. New York, NY: Taylor & Francis / Routledge.
- Zimmerman, H. T., & Bell, P. (2012). Everyday expertise: Learning within and across formal and informal settings. In D. Jonassen & S. L. Snellgrove (Eds.), *Theoretical Foundations of Student-Centered Learning Environments (2nd ed.)*. New York, NY: Routledge.
- Bricker, L. A., & Bell, P. (2012). Argumentation and reasoning in life and in school: Implications for the design of school science learning environments. In M. S. Khine (Ed.), *Perspectives on scientific argumentation: Theory, practice, and research* (pp. 117-133). Dordrecht, The Netherlands: Springer.
- Bell, P. (2012). Understanding How and Why People Learn Across Settings as an Educational Equity Strategy. In B. Bevan, P. Bell, R. Stevens & A. Razfar (Eds.), *Learning about Out of School Time (LOST) Learning Opportunities* (pp. 224-241). London: Springer.
- Bell, P., Bricker, L. A., Reeve, S., Zimmerman, H. T., & Tzou, C. (2012). Discovering and Supporting Successful Learning Pathways of Youth In and Out Of School: Accounting for the Development of Everyday Expertise Across Settings. In B. Bevan, P. Bell, R. Stevens & A. Razfar (Eds.), *Learning about Out of School Time (LOST) Learning Opportunities* (pp. 119-140). London: Springer.
- Baines, A. D., Bell, P., & McDermott, R. (2012). Learning disabilities, social categories & educational practices. In J. A. Banks (Ed.), *Encyclopedia of diversity in education* (Vol. 4, pp. 1361-1365). New York: Sage.
- Bell, P. (2012). Learning Science in Informal Environments. In J. A. Banks (Ed.), *Encyclopedia of diversity in education* (Vol. 4, pp. 1368-1372). New York: Sage.
- Bell, P. (2012). Life-long, Life-Wide & Life-Deep Learning. In J. A. Banks (Ed.), *Encyclopedia of diversity in education* (Vol. 4, pp. 1395-1397). New York: Sage.
- Bricker, L. A., & Bell, P. (2012). Positioning, situated learning, and identity formation. In J. A. Banks (Ed.), *Encyclopedia of diversity in education* (Vol. 4, pp. 1677-1678). New York: Sage.
- Bricker, L. A., & Bell, P. (2012). Argumentation and reasoning in life and in school: Implications for the design of school science learning environments. In M. S. Khine (Ed.), *Perspectives on scientific argumentation: Theory, practice, and research* (pp. 117-133). Dordrecht, The Netherlands: Springer.
- Bell, P. (2008). Inquiry as inscriptional work. In R. Duschl & R. Grandy (Eds.), *Teaching scientific inquiry: Recommendations for research and implementation* (pp. 263-267). Rotterdam, The Netherlands: Sense Publishers.

- Bransford, J.D., Barron, B., Pea, R., Meltzoff, A., Kuhl, P., Bell, P., Stevens, R., Schwartz, D., Vye, N., Reeves, B., Roschelle, J. & Sabelli, N. (2006). Foundations and opportunities for an interdisciplinary science of learning. In K. Sawyer (Ed.), *The Cambridge Handbook of the Learning Sciences* (pp. 19-34). New York: Cambridge University Press.
- Bransford, J., Vye, N., Stevens, R., Kuhl, P., Schwartz, D., Bell, P., Meltzoff, A., Barron, B., Pea, R., Reeves, B., Roschelle, J., & Sabelli, N. (2006). Learning theories and education: Toward a decade of synergy. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology, 2nd edition* (pp. 209-244). Mahwah, NJ: Erlbaum.
- Bell, P. (2004b). Promoting students' argument construction and collaborative debate in the science classroom. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education* (pp. 115-143). Mahwah, NJ: Erlbaum.
- Bell, P. (2004c). The educational opportunities of contemporary controversies in science. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Bell, P., Hoadley, C. M., & Linn, M. C. (2004). Design-based research in education. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Shear, L., Bell, P., & Linn, M. C. (2004). Partnership models: The case of the deformed frogs. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Linn, M. C., Bell, P., & Davis, E. A. (2004). Specific design principles — Elaborating the scaffolded knowledge integration framework. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Linn, M. C., Davis, E. A., & Bell, P. (2004). Inquiry and technology. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Linn, M. C., Davis, E. A., Bell, P., & Eylon, B. S. (2004). Final thoughts — Internet environments for science education. In M. C. Linn & E. A. Davis & P. Bell (Eds.), *Internet environments for science education*. Mahwah, NJ: Erlbaum.
- Bell, P. (2002). Using argument map representations to make thinking visible for individuals and groups. In T. Koschmann & R. Hall & N. Miyake (Eds.), *CSCL 2: Carrying Forward the Conversation* (pp. 449-485). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bell, P. (2002). Science is argument: Developing sociocognitive supports for disciplinary argumentation. In T. Koschmann & R. Hall & N. Miyake (Eds.), *CSCL 2: Carrying Forward the Conversation* (pp. 499-505). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bell, P. & Linn, M. C. (2002). Beliefs about science: How does science instruction contribute? In B. Hofer & P. Pintrich, *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 321-346). Mahwah, NJ: Lawrence Erlbaum Associates.

Bell, P. & Winn, W. (2000). Distributed cognition, by nature and by design. In D. Jonnassen & S. Land, *Theoretical Foundations of Learning Environments* (pp. 123-145). Mahwah, NJ: Lawrence Erlbaum Associates.

CONGRESSIONAL TESTIMONY

Bell, P. (2009, February 26). Beyond the Classroom: Informal STEM Education Hearing, The Role Of Informal Environments And Experiences In The Learning Of Science. Research and Science Education Subcommittee, Committee on Science and Technology, U.S. House of Representatives, 111th Congress.

PEER-REVIEWED CONFERENCE PAPERS IN PUBLISHED PROCEEDINGS

Bell, P., Chowning, J., Klein, E., McGowan, V., Peterman, T. & Wingert, K. (2014). Teacher Learning of Disciplinary Practices. In J. L. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico, (Eds.), *Learning and Becoming in Practice: Proceedings of the 11th International Conference of the Learning Sciences Volume 3* (pp. 1426-1435). Boulder, CO: International Society of the Learning Sciences.

Bell, P., Bricker, L. A., Van Horne, K., & Horstman, T. (2012). The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science. In J. van Aalst, K. Thompson, M. J. Jacobson & P. Reimann (Eds.), *The Future of Learning: Proceedings of the 10th International Conference of the Learning Sciences (ICLS 2012)* (pp. 142-148). Sydney, Australia: International Society of the Learning Sciences.

Bricker, L. A., Zimmerman, H. T., Reeve, S. & Bell, P. (2010). Understanding families' educational decision making along extended learning pathways. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences Volume 2* (pp. 141-148). Chicago, IL: International Society of the Learning Sciences.

Scalone, G., C. Tzou, P. Bell, S. Rose, and A. Calabrese Barton. (2010). Understanding the role of place in environmental education across settings. In K. Gomez, L. Lyons, and J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the Ninth International Conference of the Learning Sciences, Volume 2* (pp. 195-202), International Society of the Learning Sciences, Chicago, IL.

Stromholt, S., Shouse, A. W., & Bell, P. (2010). Broadening participation through scaffolding. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences Volume 2* (pp. 405-406). Chicago, IL: International Society of the Learning Sciences.

Tzou, C., & Bell, P. (2010). Micros and Me: Leveraging home and community practices in formal science instruction. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences Volume 1* (pp. 1134-1142). Chicago, IL: International Society of the Learning Sciences.

Bell, P., Bricker, L. A., Lee, T. R., Reeve, S., & Zimmerman, H. T. (2006). Understanding the cultural foundations of children's biological knowledge: Insights from everyday cognition research. In S. A. Barab, K. E. Hay & D. Hickey (Eds.), *Proceedings of the Seventh International Conference of the Learning Sciences (ICLS)* (pp. 1029-1035). Mahwah, NJ: LEA.

- Owens, K. S., & Bell, P. (2002). Using Controversy and Technology to Develop Conceptual Understanding of Chemical Representations. In P. Bell, R. Stevens & T. Satwic (Eds.), *Keeping Learning Complex: Proceedings of the Fifth International Conference of the Learning Sciences* (pp. 330-336). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bell, P., & Davis, E. A. (2000). Designing Mildred: Scaffolding Students' Reflection and Argumentation Using a Cognitive Software Guide. In B. Fishman (Ed.), *Proceedings of ICLS '00: The Fourth International Conference on the Learning Sciences* (pp. 142-149). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bell, P. (1997). Using argument representations to make thinking visible for individuals and groups. In R. Hall, N. Miyake, & N. Enyedy (Eds.), *Proceedings of CSCL '97: The Second International Conference on Computer Support for Collaborative Learning*, (pp. 10-19). Toronto: University of Toronto Press.
- Bell, P., Davis, E. A., & Linn, M. C. (1995). The knowledge integration environment: Theory and design. In J. L. Schnase & E. L. Cunnius (Eds.), *Proceedings of Computer Support for Collaborative Learning '95* (pp. 14-21). Mahwah, NJ: Lawrence Erlbaum Associates. [Presented in plenary session.]

EDITORIALLY REVIEWED PUBLICATIONS

Series of practitioner articles published through STEM Teaching Tools (<http://STEMteachingtools.org/>).

Bell, P. (2011). The pursuit of equity in science education. San Francisco: Exploratorium.
www.research2practice.info.

Bell, P. (2011). Interest, identity, culture and learning. San Francisco: Exploratorium.
www.research2practice.info.

Bell, P. (2002). Fostering multi-partisan interactions online around a socially polarized science-based controversy. *The Journal of Education, Community, and Values*, 2(11). (Accessed online 13 December 2002, <http://bcis.pacificu.edu/journal/2002/11/bell.php>)

Hoadley, C. M., & Bell, P. (1996, September). Web for your head: The design of digital resources to enhance lifelong learning. *D-Lib Magazine*.
URL - <http://www.dlib.org/dlib/september96/kie/09hoadley.html>

GRANT AWARDS

Co-PI of “Developing and Researching Equity-Focused Across-Settings Models in STEM (DREAMS)”
Funded by the Wellcome Trust, March 2015-April 2016, \$88k.

Co-PI of Boeing Centennial Scholars Program Engineering Curriculum Project. Funded by Boeing to the Teaching Channel, October 2014-June 2015, \$500k.

Principal Investigator of “Broadening STEM Participation in Diverse Communities Through a Young Scientist Volunteer Program” funded by the American Association for the Advancement of Science (AAAS), June 2014 – May 2016, \$11k.

Co-Principal Investigator of the “Chemical Oceanography Outside the Lab-COOL Project” funded by the National Science Foundation, September 2012 – August 2015, \$354k. Rick Keil (PI, UW Oceanography).

Co-Principal Investigator of the “Relating Research to Practice: A Web Resource for ISE Professionals” ISE grant funded by the National Science Foundation, October 2012 – September 2015, \$750k.

Co-Principal Investigator of Research+Practice Collaboratory with Andrew Shouse (UW) funded by the National Science Foundation, November 2012 – October 2017, \$8.2 million. Other collaborating organizations include the Exploratorium in San Francisco (Bronwyn Bevan, PI); University of Colorado, Boulder; EDC, and Inverness Research.

Co-Principal Investigator of the “Educurious” grant funded by the Bill and Melinda Gates Foundation, November 2010 – September 2013, \$7.5 million. Other Co PI’s include Pat Wasley (UW College of Education), Michael Golden, and Steve Arnold.

Co-Director and Co- Principal Investigator of the “Learning in Informal and Formal Environments (LIFE) Center” funded by the National Science Foundation through the Science of Learning Center Program, 9/04 – 1/13, \$44 million. Other center leads include: John Bransford, Brigid Barron, Patricia Kuhl (Director, PI), Andrew Meltzoff (Co-Director), Na’ilah Nasir (Co-Director), Roy Pea (Co-Director), Byron Reeves, Nora Sabelli, Dan Schwartz, Reed Stevens, and Nancy Vye. URL – <http://life-slc.org/>

Co-Principal Investigator of the “Center for Ocean Science Education Excellence – Ocean Learning Communities (COSEE-OLC)” renewal by the National Science Foundation, 9/10 – 8/13, \$1.2 million. Other Co-PIs include: Rick Keil (UW Oceanography), Kathy Sider (Seattle Aquarium), Carrie Tzou (UW Bothell) and Fritz Star (Ocean Inquiry Project). URL – <http://coseeolc.net/>

Co-Principal Investigator of the “Games for Learning” grant funded by DARPA, September 2010- August 2014, \$2 million. Zoran Popović (PI, UW Computer Science, Center for Game Science). Other Co-PI’s include John Bransford & Nancy Vye (UW College of Education) & Taylor Martin (University of Texas at Austin).

Principal Investigator, “University-District Collaborative to Develop STEM-focused High School Programs,” funded by the Highline School District using a grant from Boeing Corp., 1/2010 – 12/2011, \$125k.

Co-Principal Investigator of the NSF-funded Opportunities for Expanding Diversity in the Geosciences (OEDG) “Sound Citizen Science Apprenticeship Program for Minority Youth” grant funded, September 2009 – August 2011, \$173k. Rick Keil (PI, UW Oceanography).

Co-Principal Investigator of the “Agency in Sustained Problem-Based Inquiry: Learning Science Through and As Innovation” through the National Science Foundation DR-K12 Program, 8/15/2010 – 7/31/2013, \$2.4 mil. Other Co-PIs include: John Bransford (UW LIFE Center), Nancy Vye (UW LIFE Center), Dan Gallagher (Bellevue School District).

Co-Principal Investigator of the “Exploring Databases: STEM learning and authentic research in the high school classroom” grant funded by the National Science Foundation ITEST Program, September 2009 – August 2012, \$1.19 million, Maureen Munn (PI, UW Genome Sciences).

Co-Principal Investigator of the “Relating Research to Practice in Informal Learning Environments” (EAGER) grant funded by the National Science Foundation, August 2010 – July 2011, \$155k. Other Co-PI’s include Bronwyn Bevan (Exploratorium) and Justin Dillon (King’s College).

Co-Principal Investigator of a Doctoral Student Support Grant for “ICLS 2008: International Perspectives on the Learning Sciences: Creating a Learning World” conference grant funded by the National Science Foundation, June 2008 – May 2009, \$100k. Sharon Derry (PI, U of Wisconsin - Madison) and Jody Underwood (Co-PI, Math Forum).

Co-Investigator of the “Learning in Out-of-School Time (LOST)” knowledge synthesis grant funded by the National Science Foundation, April 2007 – July 2009, \$200k. Bronwyn Bevan (PI, Exploratorium) with faculty participating from the Learning in Informal and Formal Environments (LIFE) Center, the Metro Math Center, the Center for the Mathematics Education of Latinos/as (CEMELA), and the Center for Informal Learning in Schools (CILS).

Co-Principal Investigator of the “Center for Ocean Science Education Excellence – Ocean Learning Communities (COSEE-OLC)” funded by the National Science Foundation, 9/05 – 8/10, \$2.5 million. Other Co-PIs include: Rick Keil (UW Oceanography) and Kathy Sider (Seattle Aquarium).
<http://coseeolc.net/>

Contributing Researcher on the “Center for the Advancement of Engineering Education (CAEE)” funded by the National Science Foundation through the Centers for Learning and Teaching (CLT) program, Cindy Atman (University of Washington, Principal Investigator), 1/03 – 12/07, \$10 million.

Co-Principal Investigator of a grant entitled “A Comparative Psychology of School Subjects: Promoting Epistemological Sophistication in Elementary Science Learning through the Study of History” (or PATHS project) funded by the National Science Foundation, 4/00 – 12/03, \$1 million with Samuel Wineburg, Reed Stevens, and Leslie Herrenkohl.

Co-Principal Investigator of the “Partnership for Research in Inquiry-Based Math, Science, and Engineering Education (PRIME)” Project funded by the National Science Foundation through the GK-12 Initiative, 1/00 – 12/03, \$1.47 million. Project involves coordinating and studying partnerships between graduate students in Math, Science, and Engineering and middle school science and math teachers.

Co-Principal Investigator of the “Science Controversies On-Line: Partnerships in Education (SCOPE)” Project funded by the National Science Foundation through the Knowledge and Distributed Intelligence (KDI) Initiative with Marcia C. Linn (UC-Berkeley) and Pam Hines (*Science* magazine, AAAS), 10/98 – 9/02, \$1.84 million.

Founding member of the Design-Based Research Collective funded by the Spencer Foundation through an Advanced Studies Institute grant (2001-02). Other participants included Christopher Hoadley (PI), William Sandoval (Co-PI), Eric Baumgartner, Sean Brophy, Sherry Hsi, Diana Joseph, Chandra Orrill, Sadhana Puntambekar, and Iris Tabak. Our collective efforts focused on formalizing design-based research as a method used in the field of education. URL - <http://www.DesignBasedResearch.org/>

Grantee, Media Design Studio as well as the Qualitative & Quantitative Computer Research Facility, College of Education, University of Washington Student Technology Fee, 2001-03, \$175K.

Contributing Researcher on the project “Establishing a Shared Set of Criteria and Dimensions for Analyzing Online Discussions.” Center for Innovative Learning Technologies (CILT) Seed Grant. Alex Cuthbert (PI). Contributors: P. Bell, R. Stevens, A. Clark, J. Slotta, D. Kirkpatrick, 2000, \$10k.

Contributing Researcher on the “Program for Educational Transformation Through Technology (PETTT)” Project at the University of Washington, 9/99 – 5/03, \$1.27 million per biennium.

Contributing Researcher on the project “Modeling Malaria: An Interactive Tool for Exploring Science Controversy.” Center for Innovative Learning Technologies (CILT) Seed Grant. Margaret Corbit (PI). Contributors: P. Bell, B. Levey, K. Shea Owens, M. Linn, 1999, \$10k.

Contributing Researcher on the project “Designing Knowledge Representations and Epistemic Practices for Science Learning.” Center for Innovative Learning Technologies (CILT) Seed Grant. Bill Sandoval (PI). Contributors: P. Bell, E. Coleman, N. Enyedy, D. Suthers, 1999, \$10k.

Sponsoring Mentor (along with Prof. Leslie Herrenkohl) for Dr. Kalyn Shea Owens who was awarded a three-year fellowship from the National Science Foundation through the “Postdoctoral Fellowships in Science, Mathematics, and Technology Education” (PFSMETE) program. I mentored Dr. Owens in the practice of classroom intervention studies and the development of innovative science curricula.

Principal Investigator of the “Cognitive Benefits of Speech Recognition for Students with Learning Disabilities” Project funded by Microsoft through the “Exploring PC Accessibility: New Discoveries” grant program, 4/1/99 – 3/31/00, \$10,000. The project was directed by Dr. Tom Quinlan and Scott Beers as part of their graduate study in the College of Education at the University of Washington.

Project Director for the “Fostering University and School Partnerships through KIE User Groups” Project at UC-Berkeley funded by the Department of Commerce, Marcia C. Linn (Principal Investigator), 5/97 – 9/98, \$64k.

PRESENTATIONS

Bell, P., Bang, M., Wilson, N. & Wardrip, P. (2015, May 21). You're Doing It Wrong: Critiques of Design Based Research in the Field. Webinar for MacArthur Foundation’s Digital Media & Learning Hub on Design-Based Research. Available online: http://dmlcommons.net/my-calendar/?mc_id=27

Bell, P., Bang, M., Wilson, N. & Wardrip, P. (2015, April 23). Co-design and Collaboration in Design Based Research. Webinar for MacArthur Foundation’s Digital Media & Learning Hub on Design-Based Research. Available online: http://dmlcommons.net/my-calendar/?cid=all&mc_id=26

Bell, P. (2015, April 20). Discussant for symposium “Supporting Students' Evidence-Based Reasoning Across Content Areas and Grade Levels” at the American Educational Research Association (AERA) 2015 Annual Meeting, Chicago, IL.

Bell, P. (2015, April 19). Discussant for symposium “Learning Sciences: New Methods, New Populations, and New Domains” at the American Educational Research Association (AERA) 2015 Annual Meeting, Chicago, IL.

Bell, P. (2015, April 17). “Multi-District Implementation of Science and Engineering Practices Through a Teacher Curriculum Adaptation Model.” Poster presented as part of a session “Equity-Focused Implementation of the Next Generation Science Standards: Exploring Models of Hope and Possibility”

- at the American Educational Research Association (AERA) 2015 Annual Meeting, Chicago, IL.
- Bell, P. (2015, April 13). "Using Research-Practice Partnerships to Support Equity-focused Implementation of NGSS In and Out of School." Paper presented as part of a session "Race, Language, and Science Practices" at the National Association of Research in Science Teaching (NARST) 2015 Annual Meeting, Chicago, IL.
- Bell, P. (2015, April 11). Discussant for symposium "Designing Next Generation Post Secondary Science Learning, Teaching, and Communication Experiences and Environments" at the National Association of Research in Science Teaching (NARST) 2015 Annual Meeting, Chicago, IL.
- Bell, P. & Peterman, T. (2015, March 15). "Attending to the Science & Engineering Practices in Curriculum Review." Workshop presentation made to the NGSS Curators at the National Science Teachers Association (NSTA) Annual Meeting, Chicago, IL.
- Bell, P. (2015, March 13). Panel presentation "Implementing NGSS: Stories From the Front Lines" at the National Science Teachers Association (NSTA) Annual Meeting, Chicago, IL.
- Bell, P. (2015, March 12). Invited presentation made as part of a panel discussion "Informal Science for the Next Generation—Bridging Research and Practice" at the National Science Teachers Association (NSTA) Annual Meeting, Chicago, IL.
- Bang, M. & Bell, P. (2014, December 18). "Supporting Educational Equity & Social Justice in NGSS." Invited presentation at the Office of the Superintendent of Public Instruction meeting, Implementation Thinking Forward: Moving into Washington State Science Learning Standards (NGSS), Seattle, WA.
- Ebert, E., Bell, P., Windschitl, M. Bang, M. (2014, December 10). "Meet the Next Generation Science Standards." Workshop presented at the 29th Annual Washington Education Research Association (WERA) Conference, Seattle, WA.
- Bell, P. (2014, December 5). "Cultural Dimensions of an Equity Strategy for the Next Generation Science Standards: Implementing Models of Hope & Possibility" Presentation as part of the session "Reimagining Science Education in the Neoliberal Global Context: Producing Anthropological Accounts of Science Learning in Underserved Communities" at the American Anthropological Association (AAA) Annual Meeting, Washington, DC.
- Bell, P. & Peterman, T. (2014, August 19). Argumentation and Explanation 201: Going Deeper Into These Practices. Presentation at the Partnership for Science and Engineering Practices Summer Institute, Seattle WA.
- Bell, P. (2014, August 19). Cultivating a Community of Learners in Your Classroom. Presentation at the Partnership for Science and Engineering Practices Summer Institute, Seattle WA.
- Bell, P., Chowning, J., Klein, E., McGowan, V., Peterman, T. & Wingert, K. (2010, June 26). Teacher Learning of Disciplinary Practices. Paper presented in symposium "Leveraging Educative Approaches to STEM Disciplinary and Instructional Practices," The Eleventh International Conference of the Learning Sciences (ICLS), Boulder, CO.
- Bell, P. (2014, June 10). Supporting the extended STEM learning pathways of youth in a time of new standards. Invited presentation at the Exploratorium, San Francisco, CA.

- Bell, P. (2014, June 10). Taking an Ecological and Cultural Approach to Implementing the NGSS Practices. Invited presentation at the Exploratorium, San Francisco, CA.
- Bell, P. (2014, February 20). Supporting Implementation of the Science & Engineering Practices in the Next Gen Science Standards. Invited lecture at the Universidade de Santiago de Compostela, Santiago, Spain.
- Bell, P. (2013, December 18). How might elementary teachers infuse Science and Engineering Practices into their Teaching? Invited presentation at Office of Superintendent of Public Instruction (OSPI) State-level Meeting “Implementing Next Gen Standards in Elementary Science Education,” Seattle, WA.
- Bell, P. (2013, December 5). Design-Research Partnerships: Operating Principles & Strategies. Invited webinar for the American Youth Policy Forum.
Available online: <http://tinyurl.com/AYPF-research-practice-webinar>
- Bell, P. (2013, October 15). Research on Promoting Sustainability in Education Improvement Initiatives. Invited presentation at Office of Superintendent of Public Instruction (OSPI) State-level Meeting of Math-Science Partnership Projects, Seattle, WA.
- Bell, P. & Ebert, E. (2013, June 7). How to Cultivate a State-level, Equity-focused Science Implementation Team and Approach. Invited presentation at the “Building Capacity in State Science Education: Building State Teams to Implement the Framework Vision for K-12 Science Education” Conference hosted by the Council of State Science Supervisors, Pittsburgh, PA.
- Bevan, B., Bell, P., Penuel, W., Berns, B. & Falk, J. (2013, May 1). Research+Practice Collaboratory. Poster presented as part of the session “Design-Based Implementation Research: An Emerging Methodological Model for Conducting Design Research within Educational Systems” at the meeting of the American Educational Research Association. San Francisco, CA.
- Van Horne, K., Bell, P., & Bricker, L.A. (2013, April 28). A Cultural and Cognitive Model for High School Biology Instruction: Course Development and Implementation. In K. Van Horne (Chair), Models for Focusing on Scientific Practices in Curriculum Design and Professional Development. Symposium conducted at the annual meeting of the American Educational Research Association, San Francisco, California.
- Bell, P. (2013, April 9). How Designing, Making, and Playing Relate to the Learning Goals of K-12 Science Education. Paper presented at the National Association of Research in Science Teaching (NARST) 2013 Annual Meeting as part of a symposium entitled “Designing New Bridges between Informal and Formal Science Learning and Why STEM Education Needs Them,” Río Grande, Puerto Rico.
- Bell, P. (2013, April 8). Introduction to a related paper set entitled “Exploring Next Generation Curriculum Models Implementing the Vision in the NRC Framework and NGSS,” at the National Association of Research in Science Teaching (NARST) 2013 Annual Meeting, Río Grande, Puerto Rico.
- Van Horne, K., Bricker, L.A., & Bell, P. (2013, April 8). A Cultural and Cognitive Model for High School Biology Course Development and Implementation. Paper presented at the National Association of Research in Science Teaching (NARST) 2013 Annual Meeting as part of a related paper set entitled

“Exploring Next Generation Curriculum Models Implementing the Vision in the NRC Framework and NGSS,” Río Grande, Puerto Rico.

- Bricker, L.A., Klein, E.R., Van Horne, K., & Bell, P. (2013, April 7). Acquiring Professional Vision Through Practice: Analyzing Symbolic Artifacts and Structural Features of High School Youths’ Biology-Related Writing. Paper presented at the National Association of Research in Science Teaching (NARST) 2013 Annual Meeting as part of a symposium entitled “Reading, Writing, and Communicating Science: Exploring the Intersection of Science and Literacy Education,” Río Grande, Puerto Rico.
- Bell, P. (2013, February 12). STEM Practices: Research+Practice. Presentation at the Math and Science Partnership (MSP) Learning Network Conference, Washington, DC.
- Bell, P. (2013, February 12). Next Generation Science Standards (NGSS) for Today’s Students and Tomorrow’s Workforce: The New Consensus Vision for K-12 Science Education. Presented at the Math and Science Partnership (MSP) Learning Network Conference, Washington, DC.
- Bevan, B., Bell, P., Penuel, W., Berns, B. & Falk, J. (2013, February 12). Research+Practice Collaboratory. Poster presented at the PI Meeting at the Math and Science Partnership (MSP) Learning Network Conference, Washington, DC.
- Bevan, B., Bell, P. & Cronk, C. (2013, February 12). Implementation Issues & Strategies for Supporting Teachers in Taking “The Practice Turn” in the Next Generation Science Standards. Presented at the Math and Science Partnership (MSP) Learning Network Conference, Washington, DC.
- Bell, P. (2013, January 14). “Promoting Ocean Science Education by Supporting the New Consensus Vision for K-12 Science Education Across Formal and Informal Environments.” Presented as part of the briefing, Leveraging Ocean Education Opportunities, *Ocean Research Advisory Panel (ORAP) Meeting*, Washington, DC.
- Bell, P. Bricker, L.A., & Van Horne, K. (2012, December 18). The Obtaining, Evaluating, and Communicating Information Practice. Invited webinar presentation made as part of the “Preparing for the Next Generation Science Standards” Webinar Series through the National Science Teachers Association. Accessed online:
http://learningcenter.nsta.org/products/symposia_seminars/Ngss/webseminar12.aspx
- Bell, P. (2012, October 12). “Cultural Foundations of How, Why and Where People Learn Science; Recent Developments & Future Opportunities.” Presented as part of the session, Explorations of Culture and Diversity in the Science of Learning: The Case of How People Learn Science, *SACNAS National Conference*, Seattle, WA.
- Bell, P. (2012, September 20). “Strategies for Improving K-12 Science and Engineering Education: Coordinating the science of learning with educational,” Presented as part of the session, Stem, Why and How, The Business-University Forum of Japan, International Symposium, Tokyo, Japan.
- Bell, P. (2012, July 4). “The Educurious Next-Gen Curriculum Project.” Presentation in the symposium “The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science,” The Tenth International Conference of the Learning Sciences (ICLS), Sydney, Australia.
- Bell, P. (2012, July 4). “The Educurious Next-Gen Curriculum Project.” Presentation in the symposium

- “The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science,” The Tenth International Conference of the Learning Sciences (ICLS), Sydney, Australia.
- Van Horne, K., Bricker, L. & Bell, P. (2012, July 4). “Understanding Science Learning as Coordinated Engagement in Contemporary Scientific and Gaming Practices.” Presentation in the symposium “The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science,” The Tenth International Conference of the Learning Sciences (ICLS), Sydney, Australia.
- Bricker, L., Van Horne, K. & Bell, P. (2012, July 4). “Engaging Youth with Contemporary Scientific Practices: Building Evidence-Based Arguments.” Presentation in the symposium “The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science,” The Tenth International Conference of the Learning Sciences (ICLS), Sydney, Australia.
- Horstman, T., Bell, P., Bricker, L. & Van Horne, K. (2012, July 4). “Designing Badges for Use in a Project-Based Learning Curriculum Facilitated by a Social Media Platform.” Presentation in the symposium “The Use of Game Design, Social Learning Networks, and Everyday Expertise to Engage Youth with Contemporary Science,” The Tenth International Conference of the Learning Sciences (ICLS), Sydney, Australia.
- Bell, P. (2012, April 25). Reflections on Promoting Rigorous Learning through Deep Engagement. Presentation at the “Diving into the Common Core: The Chicago Meet Up” Conference, Bill and Melinda Gates Foundation, Chicago, IN.
- Van Horne, K., Bricker, L. & Bell, P. (2012, April 6). Tracing Identity Development in Curriculum through Participation in Contemporary Scientific Practices. Poster presented at the National Association of Research in Science Teaching (NARST) 2011 Annual Meeting as part of the session “Identity and Science Education Research: Topics, Issues, and Trends”, Indianapolis, IN.
- Bell, P. (2012, March 27). The Research and Development Agenda Associated of the NRC Framework for K-12 Science Education. Invited presentation to the Council of State Science Supervisors Meeting on “Building Capacity for State Science Education,” Indianapolis, IN.
- Bell, P. (2012, March 26). The Research and Development Agenda Associated of the NRC Framework for K-12 Science Education. Presented at the National Association of Research in Science Teaching (NARST) 2012 Annual, Indianapolis, IN.
- Bell, P. (2012, February 28). Panel Synthesizer, Successful STEM Education. Part of workshop on the NRC Report Successful K-12 STEM Education, Pacific Science Center, Seattle, WA.
- Bell, P. (2012, February 24 & 25). Promoting Diversity & Equity in Science Education Using the NRC Framework. Invited presentation to the Council of State Science Supervisors Meeting on “Building Capacity for State Science Education,” Raleigh, NC.
- Bell, P. & Schweingruber, H. & Bell, P. (2011, February 15). A Deep Dive into the NRC Framework for K-12 Science Education: Practices, Crosscutting Concepts & Core Ideas. Webinar offered by that National Academy of Sciences, Washington, DC.
Link: <http://vimeo.com/album/1872816/video/38636243>
- Bell, P. (2012, January 24). Moderator and Convener, The Practical Case for Quality: The Teacher and

- Student Perspective. Panel discussion part of the Bill and Melinda Gates Foundation / Massachusetts Institute of Technology Conference “Conversations on Quality: A Symposium on K-12 Online Learning,” Cambridge, MA.
- Bell, P. (2011, December 9). Overview of Engineering in the NRC Framework for K-12 Education. Presentation as part of the Northwest Association for Science Teacher Education (NWASTE) session at the National Science Teachers Association (NSTA) National Conference on Science Education, Seattle, WA.
- Bell, P. (2011, November 7). Framing a Research Agenda Around Informal Science Education. Invited presentation to Committee on Science & Technology Engagement with the Public (COSTEP), American Association of the Advancement of Science (AAAS).
- Bell, P. (2011, October 25). The NRC Framework for K-12 Science Education. Invited presentation to the Advisory Board of the Washington State LASER (Leadership Assistance for Science Education Reform) Organization.
- Bell, P. (2011, September 30). Science and Engineering Practices & The Inclusion of Engineering in the Framework NRC Framework for K-12 Science Education. Invited presentation to the Council of State Science Supervisors Meeting on “Building Capacity for State Science Education,” Nashville TN.
- Schweingruber, H. & Bell, P. (2011, September 30). Core Disciplinary Ideas in the NRC Framework for K-12 Science Education. Invited presentation to the Council of State Science Supervisors Meeting on “Building Capacity for State Science Education,” Nashville, TN.
- Bell, P. (2011, September 28). The NRC Framework for K-12 Science Education. Invited presentation to the Advisory Board of the Pacific Science Center, Seattle WA.
- Bell, P. & Schweingruber, H. (2011, September 15). The NRC Framework for K-12 Science Education. Invited webinar presentation made as part of the MSPnet Academy Webinar series for the NSF-funded Math Science Partnership Community.
Link: http://hub.mspnet.org/index.cfm/webinars/webinar_info?id=8
- Bell, P. (2011, July 26). Designing Curriculum in Relation to Standards. Invited talk as part of the Bill and Melinda Gates “Building Blocks for College Readiness” event for the Next Generation Learning Challenge, Seattle, WA.
- Bell, P. (2011, July 12). The future role for COSEE in Improving Science Education from the Perspective of the Learning Sciences Field. Presentation made as part of the Decadal Review of the Centers for Ocean Sciences Education Excellence (COSEE) program, National Science Foundation, Washington, DC.
- Bell, P. (2011, June 30). Promoting STEM Project-Based Learning Across an Urban District. Invited presentation at the Boeing “Leaders to Leaders: STEM Education” event, Everett, WA.
- Bell, P. & Golden, M. (2011, June 29). Expert-supported, Project-Based, Blended Learning. Presented at International Society for Technology in Education (ISTE) 2011 Annual Conference as part of the session “Project, Challenge, & Problem-Based Curricula.” Philadelphia, PA.

- Bell, P. (2011, June 14). Consensus Studies: A Way to Access the Literature to Back Up Your Proposals. Presented at the Centers for Ocean Science Education Excellence (COSEE) Improving Your Broader Impacts Workshop, Seattle, WA.
- Bell, P. (2011, June 14). Framework to Guide Next Generation K-12 Science Education Standards. Presented at the Centers for Ocean Science Education Excellence (COSEE) Improving Your Broader Impacts Workshop, Seattle, WA.
- Bell, P. (2011, June 14). Addressing Diversity in Grant Proposals. Presented at the Centers for Ocean Science Education Excellence (COSEE) Improving Your Broader Impacts Workshop, Seattle, WA.
- Bell, P. & Tzou, C. (2011, May 13). Promoting Learning Pathways to Broaden Participation in the Geosciences. Invited webinar presentation made as part of the “Many Learning Pathways in the Ocean Sciences” Webinar Series through the Centers for Ocean Science Education Excellence (COSEE).
- Bell, P. (2011, May 10). Trends in Science Education: Learning Pathways, Disciplinary Practices & Educational Equity. Keynote presentation made at the 2011 National Institutes of Health, Science Education Partnership Awards (SEPA) Annual Conference, Seattle, WA.
- Bell, P. (2011, April 11). How and Why Youth Learn Longitudinally Across Diverse Environments. Paper presented in a Presidential Session entitled “Cultural Dimensions of Informal and Formal Learning: Design-Based and Community-Based Perspectives” (Luis Urrieta, chair) at the American Educational Research Association (AERA) 2011 Annual Meeting, New Orleans, LA.
- Scipio, D., Stromholt, S., Shouse, A & Bell, P. (2010, April 10). Creating a Space for Communicating Science. Paper presented at the American Educational Research Association (AERA) 2011 Annual Meeting as part of the symposium “Creating “Spaces”: Shaping Informal Media, Arts, Culture, and Science-Based Learning Environments” (Deana Scipio, Chair), New Orleans, LA.
- Tzou, C. & Bell, P. (2011, April 9). My Place in Puget Sound: Connecting Place, Identity, Diversity, Equity, and Informal Science Learning: New Data and New Directions. Presented at the American Educational Research Association (AERA) 2010 Annual Meeting as part of the session “The Cultural Diversity of Children's Extended Learning Pathways: Accounts of Life-Long, Life-Wide, and Life-Deep Learning,” Denver, CO.
- Stromholt, S., Scipio, D., Shouse, A. & Bell, P. (2011, April 8). The Role of Adult Mentors From Diverse Backgrounds in Engaging Youth in an After-School Science Apprenticeship Program: Implications for Broadening Participation in Science. Poster presented at the American Educational Research Association (AERA) 2011 Annual Meeting as part of the session “Redefining Science, Redefining Selves: Youth’s Identity Development in Agentic Environments,” New Orleans, LA.
- Tzou, C. & Bell, P. (2011, April 9). Environmental Science Through Culturally Relevant Instruction. Presented at the American Educational Research Association (AERA) 2011 Annual Meeting as part of the session “Ecological Inquiry in the Classroom: Promoting Agency Through Understanding Human Connections to Environmental Issues” (Carrie Tzou, Chair), New Orleans, LA.
- Scalone, G. & Bell, P. (2011, April 6). Connecting Environmental Issues to Youths’ Place-making in Mapping Activities. Poster presented at the National Association of Research in Science Teaching (NARST) 2011 Annual Meeting as part of the session “Science Learning, Understanding and Conceptual Change,” Orlando, FL.

- Van Horne, K., Oura, H., Shouse, A. & Bell, P. (2011, April 6). Learning Genetics of Human Behavior and Disease Through Exploring Real Scientific Data. Paper presented at the National Association of Research in Science Teaching (NARST) 2011 Annual Meeting as part of a symposium entitled "Science Learning: Contexts, Characteristics and Interactions," Orlando, FL.
- Van Horne, K., Oura, H., Shouse, A. & Bell, P. (2011, April 6) Examining Student Understanding of the Genome Sciences: Supporting Connections Between Science and Everyday Life. Paper presented at the National Association of Research in Science Teaching (NARST) 2011 Annual Meeting as part of a symposium entitled "Science Learning: Contexts, Characteristics and Interactions," Orlando, FL.
- Scalone, G., & Bell, P. (2011, April 5). My Prediction was inconclusive...Fostering students' use of scientific evidence in a 5th Grade Science Classroom. Paper presented at the National Association for Research in Science Teaching (NARST) 2011 Annual Meeting as part of the symposium "Young people's engagement in scientific argumentation: The importance of context, curriculum, and developmentally appropriate expectations". (Tiffany Lee, Chair), Orlando, FL.
- Walsh, E. & Bell, P. (2011, April 4). Crafting a Balanced Message: Negotiating the Values and Goals of Climate Scientists Engaged in Outreach. Poster presented at the National Association of Research in Science Teaching (NARST) 2011 Annual Meeting as part of the session "Environmental Education," Orlando, FL.
- Bell, P. (2011, February 18). Promoting STEM Learning Across Home and School Settings Through Partnerships of Teachers and Researchers. Presented in a session entitled "Learning Research and Educational Practice: How Can We Make Better Connections?" at the 2011 Annual Meeting of the American Association for the Advancement of Science (AAAS), Washington, DC.
- Bell, P. (2010, September 30). Broadening Participation in Science through Culturally Responsive Science Instruction. Presented at the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Anaheim, CA.
- Bell, P. (2010, September 15). Critical Friend Response. Presented at the Activated Young Science Learner Workshop sponsored by the Gordon and Betty Moore Foundation, Washington, DC.
- Bell, P. & Shouse, A. (2010, July 20). Understanding How People Learn Science. Keynote presentation made at the Process Oriented Guided Inquiry Learning (POGIL) Northwest Regional Meeting, Seattle, WA.
- Bell, P. (2010, July 1). Understanding Families' Educational Decision-Making Along Extended Learning Pathways. Presented at the Ninth International Conference of the Learning Sciences in a session entitled "Understanding Families' Educational Decision-Making Along Extended Learning Pathways," Chicago, IL.
- Bricker, L.A. & Bell, P. (2010, July 1). Examining the Complex Ecologies Associated with Immigrant Youth and Family Educational Decision Making. Presented at the ninth International Conference of the Learning Sciences in a session entitled "Understanding Families' Educational Decision-Making Along Extended Learning Pathways," Chicago, IL.
- Scalone, G., & Bell, P. (2010, July 1). Ideological Dimensions of Place: (Re)Creating an Urban Area. Presented at the ninth International Conference of the Learning Sciences in a session entitled "Understanding the Role of Place in Environmental Education across Settings," Chicago, IL.

- Baines, A. & Bell, P. (2010, July 1). The identity formation of youth with disabilities across academic disciplines and social contexts. Poster presented at the International Conference of the Learning Sciences, Chicago, IL.
- Stromholt, S. & Bell, P. (2010, July 1). Broadening Participation through Scaffolding. Poster presented at the International Conference of the Learning Sciences, Chicago, IL.
- Tzou, C., & Bell, P. (2010, June 30). Micros and Me: Leveraging Home and Community Practices in Formal Science Instruction. Presented at the ninth International Conference of the Learning Sciences in a session entitled “ Home-School Connections for Math and Science Learning,” Chicago, IL.
- Bell, P. (2010, May 3). Children’s Development of Expertise Across Everyday Settings: The Ethnography of Extended, Cultural Learning Pathways of Youth. Paper presented in a Presidential Session at the American Educational Research Association (AERA) 2010 Annual Meeting entitled “Learning in Multiple Settings” (Jim Banks, chair), Denver, CO.
- Bell, P. (2010, May 3). Diversity, Equity, and Informal Science Learning: New Data and New Directions. Presented at the American Educational Research Association (AERA) 2010 Annual Meeting as part of the session “The Cultural Diversity of Children's Extended Learning Pathways: Accounts of Life-Long, Life-Wide, and Life-Deep Learning,” Denver, CO.
- Bell, P. (2010, May 3). Reflections on the Mangle of Science Learning Research. Presented at the American Educational Research Association (AERA) 2010 Annual Meeting as part of the session “Tracing the Influence of Science and Technology Studies on Science Education Research,” Denver, CO.
- Bell, P. (2010, April 20). Learning Science in Informal Environments. Keynote presentation as part of the Smithsonian's National Museum of Natural History "Beyond Diffusion" lecture series.
- Bell, P., Bricker, L., Reeve, S., & Zimmerman, H. (2010, March 24). The Development of Everyday Expertise: A Framework for Understanding the Social Foundations of Youth Science Learning Across Pursuits and Contexts. Paper presented at the National Association of Research in Science Teaching (NARST) 2010 Annual Meeting, Philadelphia, PA.
- Bell, P., (2010, March 24). Incorporating Social Foundations of Learning into Design: Cases and Design Principles from Efforts to Re-Design Existing Curriculum Kits. Paper presented as part of the symposium at the National Association of Research in Science Teaching (NARST) 2010 Annual Meeting, Philadelphia, PA. (Presented with Bransford, J., Lee, T., Scalone, G., Shutt, K., Van Horne, K., Vye, N., & Winstanley, A.).
- Bricker, L. & Bell, P. (2010, March 24). “God Mode Is His Video Game Name”: Expertise Development in Technology Domains. Paper presented at the National Association of Research in Science Teaching (NARST) 2010 Annual Meeting, Philadelphia, PA.
- Bricker, L. & Bell, P. (2010, March 23). Patterns of Youth and Family Interaction during Informal Science Activity: Implications for Learning Science in Formal and Informal Environments. Paper presented at the National Association of Research in Science Teaching (NARST) 2010 Annual Meeting, Philadelphia, PA.
- Bell, P. (2010, February 20). Strands of Science Learning. Presented as part of the session: Learning Science in Informal Environments at the 2010 Annual Meeting of the American Association for the

- Advancement of Science (AAAS), Seattle, WA.
- Bell, P., Bricker, L. & Tzou, C. (2010, January 16). Supporting Pre- and Inservice Teacher Inquiry into how People Learn Science using Research Consensus Reports from the National Research Council. Paper presented at the Association from Science Teacher Education (ASTE) annual conference, Sacramento, CA.
- Bell, P., Bruner, A., Caracol, A., Delgado, T. & Salazar, A. (2010, January 5) Strategies for Promoting More Diverse Participation in the Sciences. Presented at the COSEE-Ocean Learning Communities and Washington Sea Grant program “Addressing Broader Impact Requirements for Research Proposals,” Seattle, WA.
- Bricker, L. & Bell, P. (2009, December 6). For the Love of the Game: Cultivating and Sustaining Voluntary Expertise as an Act of Resiliency in the Face of Resistance. Paper presented at the American Anthropological Association (AAA) annual conference in a session entitled “Investigations into the learning pathways and processes associated with the development of voluntary expertise,” Philadelphia, PA.
- Tzou, C. & Bell, P. (2009, December 4). A Critical Perspective on Construction of Place: Youths' Encounters with Environmental Education across Informal and Formal Environments. Paper presented at the American Anthropological Association (AAA) annual conference in a session entitled “The End(s) of Science Education? Situated Practices of Science Learning for Social/Political Transformation,” Philadelphia, PA.
- Bell, P. (2009, December 4). Collaborative Research within an Interdisciplinary Research Center. Invited presentation at the American Anthropological Association (AAA) annual conference in a session entitled “Collaborative research in linguistic anthropology,” Philadelphia, PA.
- Bell, P. & Bricker, P. (2009, December 5). Interdiscursivity and Positioning Dynamics in Children’s Voluntary Expertise Development. Paper presented at the American Anthropological Association (AAA) annual conference in a session entitled “Investigations into the learning pathways and processes associated with the development of voluntary expertise,” Philadelphia, PA.
- Bell, P. (2009, November 17). How and Why People Learn Across Settings: Interdisciplinary Investigations into Cultural Learning Pathways, Choice-Agency Influences, and Domain Identification Processes. Presented at the National Science Foundation Science of Learning Centers Annual Meeting, Washington, DC.
- Bell, P. (2009, November 3). Federal Funding Opportunities to Broaden Participation in COSEE Activities. Presented at the COSEE Council/National Advisory Committee Meeting, Washington, DC.
- Bell, P. (2009, November 3). Broadening Participation in Science Education. Presentation at the NSF Centers for Ocean Science Education Excellence (COSEE) PI Meeting, Washington, DC.
- Bell, P. (2009, November 2). What’s the Evidence Base? The National Academies Informal Science Report. Presented at the Association of Science-Technology Centers (ASTC) annual conference, Fort Worth, TX.
- Quinn, H. & Bell, P. (2009, October 27). A Core Ideas Framework for Standards: The NRC contribution. Presented at the Conceptual Framework for New Science Education Standards Meeting, Washington, DC.

- Bell, P. (2009, October 19). The LIFE Center: New (and Old) Methods and Approaches to Understanding Learning Across Formal and Informal Settings. Invited plenary session at the NSF-funded “Out-of-School-Time STEM: Building Experience, Building Bridges” Conference, Arlington, VA.
- Bell, P. (2009, October 15). The Learning in Informal and Formal Environments Center. Invited keynote presentation made at the SACNAS (Society for Advancing Chicanos, Hispanics and Native Americans in the Sciences) 2009 Annual Conference, Dallas, TX.
- Bell, P. (2009, September 24). How, Why and Where People Learn Science Outside of School: The Role of Informal Learning. Invited presentation at the Burke Museum All Staff Meeting, Seattle, WA.
- Bell, P. (2009 September 21). Fostering Ecologically Valid Clarity about What Counts as “Scientific Literacy”. Paper presented at the Science Education at the Crossroads Conference, Portland, OR.
- Bell, P. (2009, August 19) Moderator, National Academies National Research Council Board on Science Education Expert Meeting on Core Ideas in Science, Washington, DC.
- Bell, P. (2009, August 12). How, Why and Where People Learn Science Outside of School: The Role of Informal Learning. Invited presentation at the Woodland Park Zoo, Seattle, WA.
- Bell, P., & Joseph, G. (2009, July 18). How, Why and Where People Learn Science Outside of School. Invited presentation at the Buell Early Childhood Leadership Program 2009 Leadership Retreat, Early Childhood Outdoor Classroom, Denver, CO.
- Bell, P. (2009, June 3). Learning Science in Informal Environments. Invited presentation for congressional and federal agency staff organized by the STEM Education Caucus, Washington, DC.
- Bell, P., Shouse, A. & Tsurusaki, B. (2009, May 18) Research into Practice: Teaching and Learning Science. Presented at the LASER Middle School Administrators Symposium, Cle Elum, WA.
- Bell, P. (2009, May 5). Research on Learning Related to Ocean and Environmental Literacy: Methods, Findings & Opportunities. Presented at the National Centers for Ocean Science Education Excellence (COSEE) Network Meeting, Hilton Head, SC.
- Bell, P. (2009, April 20). Micros and Me: Connecting Repertoires of Practice between Home and School. Paper presented at the National Association of Research in Science Teaching (NARST) 2009 Annual Meeting, Garden Grove, CA.
- Bell, P. (2009, April 20). Design Collaborations as Professional Development: Orienting Teachers to Their Students’ Everyday Expertise. Paper presented at the National Association of Research in Science Teaching (NARST) 2009 Annual Meeting, Garden Grove, CA.
- Tzou, C & Bell, P. (2009, April 18). Place as a Construct in Science, Teaching, Learning and Curriculum Design: Implications for Addressing Culture and Equity. Presented at the National Association of Research in Science Teaching (NARST) 2009 Annual Meeting, Garden Grove, CA.
- Bell, P. (2009, April 17). Learning Science Across Places and Pursuits: The Contributions of Informal Environments. Presented at the American Educational Research Association (AERA) 2009 Annual Meeting, as part of the session “Multiple Organizational Structures, Audiences, and Outcomes in

- Informal Learning Settings,” San Diego, CA.
- Bell, P. (2009, April 15). On the Scientific Necessity of Cross-Setting Ethnography for the Learning Sciences Given an Increasingly Multicultural World. Presented at the American Educational Research Association (AERA) 2009 Annual Meeting as part of the session “Using Ethnography to Understand Learning in Social Context,” San Diego, CA.
- Bell, P. (2009, April 18) Place as a Construct in Science, Teaching, Learning and Curriculum Design: Implications for Addressing Culture and Equity. Presented at the National Association of Research in Science Teaching (NARST) 2009 Annual Meeting, Garden Grove, CA.
- Bell, P. (2009, April 20) Micros and Me: Connecting Repertoires of Practice between Home and School. Paper presented at the National Association of Research in Science Teaching (NARST) 2009 Annual Meeting, Garden Grove, CA.
- Bell, P. (2009, April 20) Design Collaborations as Professional Development: Orienting Teachers to Their Students’ Everyday Expertise. Paper presented at the National Association of Research in Science Teaching (NARST) 2009 National Meeting, Garden Grove, CA.
- Bell, P. (2009, April 17) Learning Science Across Places and Pursuits: The Contributions of Informal Environments. Presented at the American Educational Research Association (AERA) 2009 Annual Meeting, as part of the session “Multiple Organizational Structures, Audiences, and Outcomes in Informal Learning Settings,” San Diego, CA.
- Bell, P. (2009, April 15) On the Scientific Necessity of Cross-Setting Ethnography for the Learning Sciences Given an Increasingly Multicultural World. Presented at the American Educational Research Association (AERA) 2009 Annual Meeting as part of the session “Using Ethnography to Understand Learning in Social Context,” San Diego, CA.
- Bell, P., & Shouse A. (2009, March 20) What We Know About Learning Science in Informal Environments: Conclusions and Recommendations from the National Academies. Presentation at National Science Teachers Association (NSTA) National Conference on Science Education, New Orleans, LA.
- Bricker, L. A., & Bell, P. (2009, February 28). The Interdiscursivity of Learning: Developing a Theoretical Framework for Understanding Learning Across Settings and Activities. Presentation at the Presented at the 30th Annual Ethnography in Education Forum, Philadelphia, PA.
- Bell, P. (2009, February 18) Learning Science in Informal Environments: People, Places and Pursuits. Research Dissemination Forum at the Smithsonian Institution, Washington, DC.
- Bell, P., & Tzou, C.T. (2009, January 10) Design Collaborations as Professional Development: Orienting Teachers to Their Students’ Everyday Expertise. Presentation at the Association for Science Teacher Education (ASTE) International Conference, Hartford, CT.
- Bell, P. (2008, November 22) How People Learn Across Formal and Informal Environments. Keynote presentation at the COSEE Communicating Ocean and Marine Sciences Workshop, Seattle, WA.
- Bell, P. (2008, November 15). Discovering and Supporting Children’s Pathways in Learning Science In and Out of School. Keynote presentation at the Environmental Education Association of Washington Annual Conference “Generation Green: Sustainability Takes Root,” Wenatchee, WA.

- Bell, P. (2008, October 28). Pathways to Excellence and Equity in Science, Math and Engineering Education. Presentation for University of Washington Alumni Association 2008 College of Education Fall Lecture Series, Seattle, WA
- Bell, P. (2008, August 14). How People Learn Science with Technology. Keynote presentation at the NOAA Okeanus Explorer Education Summit, Seattle WA.
- Bell, P. (2008, August 1). Discovering and supporting successful pathways in children's science learning in and out of school. Keynote presentation at the Summer Teacher Institute on "Teaching Science Through Inquiry," Islandwood. Seattle, WA.
- Bricker, L. A., & Bell, P. (2008, June 26). Mapping the learning pathways and processes associated with the development of expertise and learner identities. In P. A. Kirschner, J. v. Merriënboer & T. d. Jong (Eds.), *Proceedings of the Eighth International Conference of the Learning Sciences (ICLS)* in a session entitled "Mapping the learning pathways and processes associated with the development of expertise and learner identities " (Leah Bricker, organizer), Utrecht, Netherlands.
- Reeve, S. & Bell, P. (2008, June 26). Learning to videogame, both together and alone. In P. A. Kirschner, J. v. Merriënboer & T. d. Jong (Eds.), *Proceedings of the Eighth International Conference of the Learning Sciences (ICLS)* in a session entitled "Mapping the learning pathways and processes associated with the development of expertise and learner identities " (Leah Bricker, organizer), Utrecht, Netherlands.
- Tzou, C., Scalone, G., & Bell, P. (2008, June 26). Developing a sense of place: Privilege, class and positioning in formal and informal environmental learning. In P. A. Kirschner, J. van Merriënboer & T. de Jong (Eds.), *Proceedings of the Eighth International Conference of the Learning Sciences (ICLS)* in a session entitled "Mapping the learning pathways and processes associated with the development of expertise and learner identities " (Leah Bricker, organizer), Utrecht, Netherlands.
- Bell, P. (2008, May 21). The Hidden Story of How Children Learn Science In and Out of School. Keynote presentation made to Washington State Leadership and Assistance for Science Education Reform (LASER), Science Education Advocate Awards Ceremony 2008, Seattle, WA.
- Zimmerman, H. T. & Bell, P. (2008, March 31). How scientific practices develop: Understanding how and when children consider their everyday activities to be related to science. Paper presented at the National Association of Research in Science Teaching (NARST) 2008 Annual Meeting, Baltimore, MD.
- Bricker, L. A. & Bell, P. (2008, March 31). The meanings young people attribute to the word "evidence." Paper presented at the National Association of Research in Science Teaching (NARST) 2008 Annual Meeting, Baltimore, MD.
- Reeve, S. & Bell, P. (2008, March 31). How everyday activities influence children's ideas about health. Paper presented at the National Association of Research in Science Teaching (NARST) 2008 Annual Meeting, Baltimore, MD.
- Tzou, C. & Bell, P. (2008, March 31). Micros and Me: Architecting learning pathways between home and school through the design of a personally consequential science curriculum. Paper presented at the National Association of Research in Science Teaching (NARST) 2008 Annual Meeting, Baltimore, MD.

- Bell, P. (2008, March 26). How Children and Families Learn Across Social Settings: Discovering Successful Learning Pathways in Everyday Life. Presented at the American Educational Research Association (AERA) 2008 Annual Meeting as part of the session "LOST Learning Opportunities: Studies of Science and Mathematics Learning in and Out of-School-Time," New York, NY.
- Bell, P. (2008, March 25). The Development of Everyday Expertise: How Children and Families Learn science and Technology Across Social Settings and Pursuits. Presented at the American Educational Research Association (AERA) 2008 Annual Meeting as part of the session "The Phenomenology of Learning: "Understanding How Learning Happens Across Place and Time," New York, NY.
- Bell, P. (2008, March 25). Multiple Sources of Support Needed by Students in Diverse Environments. Presented at the American Educational Research Association (AERA) 2008 Annual Meeting at part of the presidential session "Learning in Schools, Neighborhoods, and Communities in Diverse Environments: Life-Long, Life-Wide, and Life-Deep" (Prof. Jim Banks, chair), New York, NY.
- Bell, P. (2008, March 3). Learning Across Time and Place: The Role of Museums in the Informal Educational Landscape. Presentation made as part of the "G. Brown Goode Smithsonian Education Lecture Series 2008" at the Smithsonian Institution, Washington DC.
- Bell, P., Bevan, B., Reisman, M., & Zimmerman, H.T. (2008, March 1). What Counts as Science in Everyday Settings? Presented at the 29th Annual Ethnography in Education Forum, Philadelphia, PA.
- Bricker, L.A., & Bell, P. (2008, February 29). Understanding and supporting children's learning pathways in and out of school. Paper presented at the annual meeting of the Ethnography in Education Research Forum, Philadelphia, PA.
- Zimmerman, H. T., & Bell, P., (2008, February 9). Everyday science & science every day: Studying learning through an ethnography of talk & activity. Presented at the inter-Science of Learning Center (iSLC) conference, Pittsburgh, PA.
- Reeve, S. & Bell, P. (2008, February 9). How everyday activities influence children's understandings of personal health. Poster presented at the Inter-Science of Learning Center (iSLC) Conference, Pittsburgh, PA.
- Bell, P. (2008, January 11). Learning in Informal and Formal Environments: How Children Learn Science Across Social Settings. Keynote presentations made as part of the "Diversity as a Construct in Research: Conceptual and Methodological Challenges and Opportunities" Hot Topics Workshop at the LIFE Center, Seattle, WA.
- Bell, P. & Bricker, L. A. (2007, December 1). The Cultural Foundations of Children's Consequential Science Learning: Everyday Expertise & Evidence Use Across Social Settings. Paper presented at the Annual Meeting of the American Anthropological Association as part of the session "Mathematics and Science Education Through the Anthropological Lens: Difference (In)Equality and Social Justice" (Paige Allison, chair), Washington DC.
- Zimmerman, H. T., Reeve, S. & Bell, P., (2007, October 13). Role of distributed expertise in crafting extended scientific explanations. Poster presented at the Association of Science-Technology Centers (ASTC) Annual Conference, Los Angeles, CA.

- Bricker, L. A. & Bell, P. (2007, October 12). Evidentiality and evidence use in children's science-related talk across everyday contexts. Paper presented at the Annual Meeting of the Society for the Social Studies of Science (4S), Montreal, Canada.
- Bell, P. (2007, October 4). Learning in and out of School in Diverse Environments: Life-Long, Life-Wide, Life-Deep. Keynote presentation made to School's Out Washington "SOAR with Science" Conference, Seattle, WA.
- Bell, P. (2007, September 17). Discovering and supporting successful learning pathways of children in and out of school. Invited plenary presentation to the University of Washington Teacher Education Program, Seattle, WA.
- Bell, P., Reeve, S. & Zimmerman, H. T., (2007, August 25). Understanding Children's Everyday Science Learning Through Analysis of Home Science Kit Activity. Paper presented at the European Science Education Research Association (ESERA) 2007 Annual Meeting as part of the session "Everyday, unstructured talk that explains scientific phenomena." (Molly Reisman, chair), Malmo, Sweden.
- Zimmerman, H. T., Reeve, S. & Bell, P., (2007, August 25). The role of distributed expertise in crafting extended scientific explanations: Family talk in a science center. Paper presented at the European Science Education Research Association (ESERA) 2007 Annual Meeting as part of the session "Everyday, unstructured talk that explains scientific phenomena." (Molly Reisman, chair), Malmo, Sweden.
- Bell, P. (2007, May 11). Diversity and Learning. Presentation made at the launch event for the consensus report "Learning in and out of school in diverse environments: Life-long, life-wide, life-deep," sponsored by the Center for Multicultural Education and the Learning in Informal and Formal Environments (LIFE) Center, Seattle, WA.
- Bell, P., McGaughey, M., Tzou, C. & Zimmerman, H. T. (2007, April 17). *Explorations in the Cultural Foundations of Children's Images of Science: Understanding the Nature of Science is Not Enough*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Explorations in the Cultural Foundations of Children's Images of Science" (Philip Bell, chair), New Orleans, LA.
- McGaughey, M. & Bell, P., (2007, April 17). *Fifth Grade Students' Images of Science, Identity and Cultural Border Crossings*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Explorations in the Cultural Foundations of Children's Images of Science" (Philip Bell, chair), New Orleans, LA.
- Zimmerman, H. T. & Bell, P. (2007, April 17). *Seeing, Doing, and Describing Everyday Science: Mapping Images of Science Across School, Community, and Home Boundaries*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Explorations in the Cultural Foundations of Children's Images of Science" (Philip Bell, chair), New Orleans, LA.
- Tzou, C., Reeve, S. & Bell, P. (2007, April 17). *Bringing Students' Activity Structures Into the Classroom: Curriculum Design Implications From an Ethnographic Study of Fifth Graders Images of Science*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Explorations in the Cultural Foundations of Children's Images of Science" (Philip Bell, chair), New Orleans, LA.

- Bell, P. (2007, April 17). *A cultural framing of the "learning of scientific practices" from an everyday cognition perspective*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the symposium "Inquiry and the Learning of Science Theories and Practices" (Richard Duschl, chair), New Orleans, LA.
- Reeve, S. & Bell, P. (2007, April 16). *"It has a little bit of fattening in it": Documenting children's conceptions of "healthy" and "unhealthy."* Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Connecting Science Learning to Personal Health: Understanding the Influence of Instruction, Family, Social Networks, and Institutions" (Philip Bell, chair), New Orleans, LA.
- Reeve, S., Bricker, L. & Bell, P. (2007, April 16). *Children and family understandings of health, illness, and health institutions*. Paper presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Connecting Science Learning to Personal Health: Understanding the Influence of Instruction, Family, Social Networks, and Institutions" (Philip Bell, chair), New Orleans, LA.
- Bricker, L. & Bell, P. (2007, April 15). *"Um...since I argue for fun, I don't remember what I argue about": Using children's argumentation across social contexts to inform science instruction*. Poster presented at the National Association of Research in Science Teaching (NARST) 2007 Annual Meeting as part of the session "Bridging Classroom Practices: Traditional and Argumentative Discourse" (Leema Kuhn, chair), New Orleans, LA.
- Bricker, L., Amsterlaw, J., Lee, T. R., Bell, P. & Meltzoff, A. N. (2007, April 10). *Connecting ethnographies and experiments: Methodological and theoretical considerations of coordinating research on metacognition from the lab and from everyday settings*. Poster presented at the American Educational Research Association (AERA) 2007 Annual Meeting as part of the session "Methodological Challenges and Innovations in Studying Learning in Informal Contexts" (Philip Bell, chair), Chicago, IL.
- Zimmerman, H. T., Lee, T. R. & Bell, P. (2007, April 10). *Roles in research: Understanding the implications of positions that researchers and participants employ in a cognitive ethnography*. Poster presented at the American Educational Research Association (AERA) 2007 Annual Meeting as part of the session "Methodological Challenges and Innovations in Studying Learning in Informal Contexts" (Philip Bell, chair), Chicago, IL.
- Bell, P., Tzou, C., Bricker, L., McGaughey, M., Reeve, S. & Zimmerman, H. T. (2007, April 10). *Methodological Possibilities and Issues Associated with Conducting Cognitive Ethnography Across the Social Settings of Children's Lives*. Poster presented at the American Educational Research Association (AERA) 2007 Annual Meeting as part of the session "Methodological Challenges and Innovations in Studying Learning in Informal Contexts" (Philip Bell, chair), Chicago, IL.
- Bell, P., Bricker, L., McGaughey, M., Reeve, S., Tzou, C. & Zimmerman, H. T. (2007, April 10). *Children's learning and use of consequential science across the social settings of their lives: Insights from a cognitive ethnography*. Poster presented at the American Educational Research Association (AERA) 2007 Annual Meeting as part of the session "Diverse Experiences for Learning Science" (Erika Tate, chair), Chicago, IL.

- Bell, P., Bricker, L., McGaughey, M. & Tzou, C. (2007, March 30). *How children learn science across the settings of everyday life: Results from a team ethnography in a multicultural, urban community*. Paper presented at the National Science Teacher's Association 2007 Annual Meeting, St. Louis, MO.
- Bell, P., Bricker, L., McGaughey, M. & Tzou, C. (2007, March 30). *Techniques to Make Students' Ideas Visible and to Bridge Their Home and School Experience*. Workshop for educators presented at the National Science Teacher's Association 2007 Annual Meeting, St. Louis, MO.
- Bell, P., Bricker, L., Reeve, S., Tzou, C. & Zimmerman, H. (2007, March 7). *How children learn science across the settings of everyday life: Results from a team ethnography in a multicultural, urban community*. Keynote presentation as part of the "Learning & Schooling" Institute of the Bellevue School District Leadership Group, Seattle, WA.
- Bell, P. (2007, March 7). *Scaffolding Science Inquiry with a Web-Based Learning Environment*. Keynote presentation as part of the "Learning & Schooling" Institute of the Bellevue School District Leadership Group, Seattle, WA.
- Bell, P. (2007, February 15). *Understanding the cultural foundations of young people's understandings about science*. Paper presented at the annual Ethnography in Education Forum as part of the session "How children learn science across the social settings of everyday life: Results from a team ethnography in a multicultural, urban community" (P. Bell, chair), Philadelphia, PA.
- Reeve, S., Bricker, L., Zimmerman, H. & Bell, P. (2007, February 15). *Children's cultural understandings of health in a highly diverse, urban community*. Paper presented at the annual Ethnography in Education Forum as part of the session "How children learn science across the social settings of everyday life: Results from a team ethnography in a multicultural, urban community" (P. Bell, chair), Philadelphia, PA.
- Bricker, L. & Bell, P. (2007, February 15). *Discourse markers in young people's argumentation*. Paper presented at the annual Ethnography in Education Forum as part of the session "How children learn science across the social settings of everyday life: Results from a team ethnography in a multicultural, urban community" (P. Bell, chair), Philadelphia, PA.
- Bell, P. (2007, February 15). *How children and families learn in an urban, multicultural community*. Invited public presentation as part of a Seattle Town Hall event on "Closing the Achievement Gap," Seattle, WA.
- Pea, R. D., Barron, B., Bell, P., & Stevens, R. (2006, November 30). *Socio-cultural inquiries on expertise development, transfer, and innovation*. Invited talk, NSF Workshop on Transfer, Expertise and Innovation, Arlington VA.
- Bell, P. (2006, November 15). *Documenting children's everyday encounters with science and technology: Preliminary results from a cross-setting ethnography of learning*. Invited talk at the College of Education at Oregon State University, Corvallis, OR.
- Bell, P. (2006, November 13). *Documenting children's everyday encounters with science and technology: Preliminary results from a cross-setting ethnography of learning*. Invited talk to the Seattle School District, Seattle, WA.

- Bell, P. (2006, July 10). A cultural framing of the "learning of scientific practices" from an everyday cognition perspective. Invited talk at the 3rd Annual Knowledge Sharing Institute of the Center for Curriculum Materials in Science, University of Michigan, Ann Arbor, MI.
- Bell, P. (2006, May 18). Learning for the twenty-first century: Toward a decade of synthesis. Keynote presentation made at the 10th Annual Conference on Cognitive and Neural Systems, Boston, MA.
- Bell, P., Bricker, L. A., McGaughey, M., Lee, T. R., Reeve, S., Zimmerman, H. T., & Tzou, C. (2006, April). *How children in a multicultural, low-SES community learn science across social settings*. Paper presented at the annual meeting of the American Educational Research Association as part of the session "Insights From Everyday Cognition: Ethnographic Studies of Science, Math, and Technology Learning" (P. Bell, chair), San Francisco, CA.
- Lee, T. R., Amsterlaw, J., Reeve, S., Bell, P., & Meltzoff, A. N. (2006, April). *From world to lab and back: Relating children's understanding of thinking in everyday and experimental contexts*. Paper presented at the annual meeting of the American Educational Research Association as part of the session "Insights From Everyday Cognition: Ethnographic Studies of Science, Math, and Technology Learning" (P. Bell, chair), San Francisco, CA.
- Bell, P., Bricker, L. A., McGaughey, M., Lee, T. R., Reeve, S., Zimmerman, H. T., et al. (2006, April). *A theoretical framework for the development of children's understanding of the living world across multiple social settings*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching (NARST) as part of the session "Understanding the cultural foundations of children's biological knowledge: Insights from everyday cognition research in homes, museums, and classrooms" (P. Bell, chair), San Francisco, CA.
- Bell, P., Zimmerman, H. T., Bricker, L. A., & Lee, T. R. (2006, April). *The everyday influences on children's understanding of 'healthy' and 'unhealthy' in an urban, multicultural neighborhood*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching (NARST) as part of the session "Understanding the cultural foundations of children's biological knowledge: Insights from everyday cognition research in homes, museums, and classrooms" (P. Bell, chair), San Francisco, CA.
- Bell, P., & Bricker, L. A. (2006, April). *Children's everyday argumentation: A missing research agenda for understanding how to scaffold scientific argumentation in the classroom*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching (NARST), San Francisco, CA.
- Reeve, S., Lee, T. R., & Bell, P. (2006, April). *Health, nutrition, and the local environment*. Paper presented at the National Association of Research on Science Teaching (NARST) 2006 Annual Meeting as part of the session "Understanding the cultural foundations of children's biological knowledge: Insights from everyday cognition research in homes, museums, and classrooms" (P. Bell, chair), San Francisco, CA.
- Zimmerman, H. T., Reeve, S., & Bell, P. (2006, April). *Ideas and reasoning about animals: Family conversations in a science center*. Paper presented at the National Association of Research on Science Teaching (NARST) 2006 Annual Meeting as part of the session "Understanding the cultural foundations of children's biological knowledge: Insights from everyday cognition research in homes, museums, and classrooms" (P. Bell, chair), San Francisco, CA.

- Bell, P. (2005, November 16). How students learn science through laboratory experiences. Invited presentation to the NEPTUNE Ocean Observatory Workshop, University of Washington.
- Lee, T., Amsterlaw, J., Reeve, S., Bell, P., & Meltzoff, A. (2005). *From World to Lab and Back: Relating Children's Understanding of Thinking in Everyday and Experimental Contexts*. Poster presented at the Cognitive Development Society Annual Meeting 2005, San Diego, CA.
- Bell, P. (2005, September 20). Mapping arguments in the science classroom: Insights from instructional scaffolding studies. Paper presented at the First Congress of the International Society for Cultural and Activity Research (ISCAR) as part of the session "Toward an understanding of adolescents' argumentation across contexts and purposes" (P. Bell, chair), Sevilla, Spain.
- Bell, P., Bricker, L. & Zimmerman, H. (2005, September 20). Comparative study of adolescents' argumentation across contexts and purposes. Paper presented at the First Congress of the International Society for Cultural and Activity Research (ISCAR) as part of the session "Toward an understanding of adolescents' argumentation across contexts and purposes" (P. Bell, chair), Sevilla, Spain.
- Bell, P. (2005, September 14). How people learn science: On the importance of avoiding expert blindspots, homogenous views of learners, and content obsessions. Keynote presentation made at the 117th Annual Meeting of the Astronomical Society of the Pacific, Tuscon, Arizona.
- Bell, P. (2005, August 25). Understanding the many epistemic faces of point of view in a sixth-grade history lesson. Paper presented at the 2005 Annual Conference of EARLI, Cyprus.
- Hsi, S. & Bell, P. (2005, August 19-20). Digital learning and play. Roundtable presentation at the Bay Area Institute 2005 held by the Center for Informal Learning and Schools (CILS), San Francisco, CA.
- Bell, P. (2005, June 23). The future of the learning sciences community: Who should be involved? What should we try to accomplish? How do we get there? Invited presentation to the Center for Technology in Learning, SRI International, Menlo Park, CA.
- Bell, P. (2005, June 20). How people learn: Established principles, research gaps, and methodological approaches. Invited presentation at the 2005 Institute on the Scholarship of Engineering Education, Stanford University, Menlo Park, CA.
- Pea, R., Bell, P., Barron, B. & Stevens, R. (2005, April 12). Informal learning in everyday settings. Paper presented at the 2005 Annual Meeting of the American Educational Research Association, Montreal, Canada.
- Bell, P., Bricker, L. A., Lee, T., McGaughey, M., Reeve, T. & Zimmerman, H. T. (2005, April 6). Developing a framework for how students learn science through everyday and school encounters with science. Paper presented at the 2005 National Association for Research in Science Teaching as part of the session "Learning to argue about science: Understanding the influence of family, friends and instruction" (Bell, P. chair), Dallas, TX.
- Bell, P., Bricker, L. A. & McGaughey, M. (2005, April 6). Discerning students' epistemological understanding of argument through an analysis of their classroom talk and action. Paper presented at the 2005 National Association for Research in Science Teaching as part of the session "Learning to

- argue about science: Understanding the influence of family, friends and instruction” (Bell, P. chair), Dallas, TX.
- Bell, P. (2005, February 18). Inquiry as Inscriptional Work: A Commentary on Norris and Phillips. Paper presented at the “Inquiry Conference on Developing a Consensus Research Agenda,” Piscataway, NJ.
- Bell, P. (2004, July 12). The School Science Laboratory: Considerations of Learning, Technology, and Scientific Practice. Invited presentation to the Committee on High School Laboratories: Role and Vision, National Academy of Sciences.
- Bell, P. (2004, June 24). Toward a comparative understanding of school subjects: The case of science and history in elementary school. Paper presented at the Sixth International Conference of the Learning Sciences (ICLS), Santa Monica, CA.
- Bell, P. (2004, April). Scaffolding inquiry about technoscience: Making room for more complex images of science. Paper presented at the 2004 Annual Meeting of the American Educational Research Association, San Diego, CA.
- Bell, P. (2004, April). Pedagogical pluralism in the teaching of a contemporary scientific controversy. Paper presented at the 2004 National Association for Research in Science Teaching, Vancouver, BC.
- Bell, P. (2004, February). Partnership for Research in Inquiry-based Math, Science, and Engineering Education (PRIME). Paper presented at the 2004 Annual Meeting of the American Association for the Advancement of Science (AAAS), Seattle, WA.
- Bell, P. (2003, March). Understanding how to foster multi-partisan on-line interactions and learning about contemporary controversies in science. Paper presented at the 2003 National Association for Research in Science Teaching, Philadelphia, PA.
- Bell, P. (2003, March). Scaffolding argumentation and constructive debate in the science classroom. Invited presentation made as part of the Center Connect outreach project at the University of Washington, College of Education, Seattle, WA.
- Bell, P. (2003, February). On the grammar and epistemology of design-based research. Invited presentation made as part of a panel discussion on the nature and role of design-based research in education, UC-Berkeley Graduate School of Education.
- Fischer-Fortier, D. & Bell, P. (2002, November). Mediating knowledge networking online with malaria research scientists. Paper presented at the Annual Meeting of the Society for Social Studies of Scientists (4S), Milwaukee, WI.
- Bell, P. (2002, June). *Understanding how to foster multi-partisan on-line interactions around scientific controversy*. Presentation at an institute entitled “Education, Community, and Values: Interface on the Internet” at the Berglund Center for Internet Studies, Pacific University, Forest Grove, OR.
- Bell, P. (2002, April). *On the grammar and epistemology of design-based research in education*. Paper presented in a session entitled “Design Experimentation Research Methods: Advancing Theories of

- Context, Learning, and Design” at the 2002 Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Havelock, B., & Bell, P. (2001, November). Using scientific controversy to support student reasoning in science classrooms. Paper presented at *The Sixth International History, Philosophy, and Science Teaching Conference (IPHPST 2001)*, Denver, CO.
- Bell, P. (2001, November). Emerging genres of learning technology. Invited presentation made as part of the Web-Ed conference series on the University of Washington campus, Program for Educational Transformation Through Technology (PETTT), Seattle, WA.
Video available at: <http://depts.washington.edu/webed/presentations.html>
- Bell, P. (2001, April). *Fostering Epistemic Practices That Use Knowledge Representations for Group Argumentation*. Paper presented at the 2001 Annual Meeting of the American Educational Research Association, Seattle, WA. (I organized and chaired the session entitled “Argumentation in the Science Classroom: Supporting and Understanding Students' Epistemic Practices.”)
- Bell, P. & Davis, E. A. (2001, April). *Design Principles for Scaffolding Students' Reflection and Argumentation in Science*. Paper presented at the 2001 Annual Meeting of the American Educational Research Association, Seattle, WA.
- Stevens, R., Herrenkohl, L., Wineburg, S. & Bell, P. (2001, April). *Toward a Comparative Understanding of School Subjects: Possible Relations Between Science and History in Elementary School*. Paper presented at the 2001 Annual Meeting of the American Educational Research Association, Seattle, WA.
- Havelock, B. & Bell, P. (2001, April). *Using the Internet to Sustain Professional Development for Science Teachers*. Paper presented at the 2001 Annual Meeting of the American Educational Research Association, Seattle, WA.
- Bell, P. (2001, February). *Promoting science learning by scaffolding argumentation and classroom debate*. Presentation made to the Computer and Cognitive Sciences Department at Chukyo University, Toyota, Japan.
- Bell, P. (2001, February). *Emerging genres of learning technology*. Presentation made to the Computer and Cognitive Sciences Department at Chukyo University, Toyota, Japan.
- Bell, P. & Slotta, J. D. (2001, February). *Technology as Controversy Teaching Partner: Genetically Modified Foods*. Presentation made at the 2001 Annual Meeting of the American Association for the Advancement of Science, San Francisco, CA.
- Bell, P. (2000, April). *Refinement of Middle School Students' Understanding of Science Resulting From Argumentation and Debate Instruction*. Paper presented at the 2000 Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Bell, P. (2000, April). *Designing Knowledge Representation Tools and Practices to Support Students' Theorizing, Argumentation, and Debate in Science*. Paper presented at the 2000 Annual Meeting of the American Educational Research Association, New Orleans, LA.

- Bell, P. (2000, April). *SCOPE Virtual Communities: Supporting Teachers, Learners, and Scientists in Exploring Current Controversies*. Paper presented at the 2000 Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Bell, P. (2000, April). *Science Controversies On-Line: Partnerships in Education (SCOPE)*. Paper presented at the 2000 National Association for Research in Science Teaching, New Orleans, LA.
- Bell, P., Shear, L., Wanner, N. & Baumgartner, E. (1999, May). *Of museums, sustained inquiry, and deformed frogs*. Presentation made at the 1999 Annual Conference of the Center for Innovative Learning Technologies, San Jose, CA.
- Bell, P. & Shear, L. (1999, April). *Partnering to Design Innovative Internet Curriculum on a Current Scientific Controversy*. Paper presented at the 1999 Annual Meeting of the American Educational Research Association, Montreal, Canada. (This presentation was part of a symposium I organized and chaired entitled "Organizing Principles for Curriculum Design Partnerships: Connecting Teachers, Scientists, and Researchers for Local Classroom Reform.")
- Linn, M. C., Shear, L., Bell, P. & Slotta, J. D. (1999, April). *Organizing principles for science education partnerships: Can 'rats in space' and 'deformed frogs' help students learn*. Paper presented at the 1999 Annual Meeting of the American Educational Research Association, Montreal, Canada.
- Bell, P. (1999, March). *Debating about Deformed Frogs: Design Principles for Bringing a Current Scientific Controversy into the Classroom*. Paper presented at the 1999 Annual Meeting of the National Association for Research in Science Teaching, Boston, MA.
- Bell, P. & Shear, L. (1999, January). *What do on-line activities about the frog controversy teach students?* Presentation made at the 1999 Annual Meeting of the American Association for the Advancement of Science, Anaheim, CA. (This presentation was part of a symposium organized by myself and Marcia C. Linn entitled "Yuck, Gross!: What can on-line deformed frogs teach about science.")
- Bell, P. (1998, June). *Computers as learning partners and classroom debate a context for learning science*. Invited presentation made at the "Education for Thinking: Goals and Methods for the Middle School Years" Workshop, Teacher's College, Columbia University, Prof. Deanna Kuhn (organizer).
- Bell, P. (1998, April). *The KIE software and curriculum: Relating debate activities and conceptual change through design experiments*. Paper presented at the 1998 Annual Meeting of the American Educational Research Association, San Diego, CA. (This paper was part of a symposium organized by myself and Sherry Hsi entitled "Using Science and Design Experiments to Understand Innovative Uses of Technology in Classrooms.") URL - <http://www.kie.berkeley.edu/events/aera98.html>
- Bell, P. (1998, April). *Engaging students with scientific controversy: Using arguments to make thinking visible*. Paper presented at the 1998 Annual Meeting of the National Association for Research in Science Teaching, San Diego, CA.
- Bell, P., Shear, L., Muniz, R., Davis, B. & Gordon, J. (1998, March). *How deformed frogs taught us to create successful internet curriculum together*. Session presented at the San Francisco Unified School District Spring District-Wide Teacher Professional Development Day.

- Linn, M. C., Bell, P., Shear, L., Parks, D. & Davis, B. (1997, September). *How deformed frogs can help students learn science using the web: The KIE-Roosevelt curriculum design partnership*. Invited seminar sponsored by the Interactive University Project at the University of California, Berkeley.
- Cuthbert, A., Bell, P., and Hoadley, C. (1997). Tracking activity patterns in online environments: implications for instructional design. *Proceedings of HCI International '97*, San Francisco, CA.
- Bell, P., & Linn, M. C. (1997, March). *Scientific arguments as learning artifacts: Designing for learning on the web*. Paper presented at the 1997 Annual Meeting of the American Educational Research Association, Chicago, IL. (This paper was part of a symposium I organized and chaired called “Artifact-Building in Computer Learning Environments: Supporting Students’ Scientific Inquiry.”)
- Bell, P., & Linn, M. C. (1997, March). Using technology to support conceptual change in science: Helping students learn about light using the internet. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- Bell, P. (1997, January). *Metaphors, Pitfalls, and Possibilities for Using the Internet in K-12 Education*. Invited session at the “Colloquium on Using the Internet for Instruction and Outreach” sponsored by the Instructional Technology Program and the Interactive University Project at UC-Berkeley.
- Bell, P. (1996, December). *The KIE to learning science with the internet*. Paper presented at National Science Teachers Association Global Summit on Science Education 1996, San Francisco, CA.
- Bell, P. (1996, September). *Learning science using the internet: Metaphors, pitfalls, and possibilities*. Paper presented at KidCom ‘96 Educational Technology Conference, Berkeley, CA.
- Bell, P. (1996, July). *Multimedia representations for science learning: A cautionary tale*. Paper presented in poster session at the Cognitive Science ‘96 Annual Meeting, San Diego, CA.
- Bell, P., & Davis, E. A. (1996, April). *Designing an activity in the knowledge integration environment*. Paper presented in a symposium at the 1996 Annual Meeting of the American Educational Research Association, New York, NY.
- Bell, P., Kirkpatrick, D., & Muilenburg, L.. (1996, March). *Computer as learning partner: Lessons learned and current best practices*. Session presented at National Science Teachers Association 1996 National Convention, St. Louis, MI.
- Bell, P., & Davis, E. A. (1995, October). *The knowledge integration environment: Engaging middle school students in an exploration of evidence on the net*. Exhibit presented at Computer Support for Collaborative Learning (CSCL '95), Bloomington, IN.
- Bell, P. (1995, August). *Middle school students’ understanding of light as seen through their exploration of evidence*. Invited presentation at the Semi-Annual Meeting of the American Association of Physics Teachers, Spokane, WA.
- Bell, P., & Tien, L. (1995, April). *Networked coaching and integrated learning in science*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, San Francisco, CA.

Bell, P. (1995, April). *How far does light go?: Individual and collaborative sense-making of science-related evidence*. Paper presented in a poster session at the 1995 Annual Meeting of the American Educational Research Association, San Francisco, CA.

TEACHING: COURSES, CLASSROOM EXPERIENCE & WORKSHOPS

I have taught the following graduate courses. Most syllabi are available through my homepage.

- Learning Across Diverse Settings and Pursuits
- Contemporary Perspectives on the Teaching and Learning of K-12 Science and Engineering
- Advanced Methods Seminar: The Ethnography of Human Development and Learning
- Introduction to the Learning Sciences (graduate seminar for incoming students)
- Introduction to Research & Inquiry in Education (two quarter sequence for doctoral students)
- Exploring the Gap Between Science Education and the Practice of Science
- Everyday Technologies in Youth Culture (<http://faculty.washington.edu/pbell/kidtech/>)
- Design-based Research Methods in Education (two quarter practicum sequence)
- Emerging Genres of Learning Technologies
- Dilemmas in Teaching and Learning (secondary teacher education course)
- Cognition in the Context of the School Curriculum
- Graduate reading seminar on the works of Jerome Bruner
- Discourse in the Disciplines (with Reed Stevens, Sam Wineburg & Leslie Herrenkohl), and
- Contemporary Instructional Theory
- Explorations in Programming, Problem Solving & Artificial Intelligence (UC-Berkeley, with Marcia Linn & Mike Clancy)

Teaching Assistant, Foothill Middle School (Fall 1993 through Spring 1998) and Roosevelt Middle School (Fall 1997 through Spring 1998).

I have conducted numerous workshops for teachers focused on the integration of technology into science instruction in the following K-12 school districts: Seattle School District (WA), Highline School District (WA), Bellevue School District (WA), Shoreline School District (WA), Mt. Diablo School District (CA), San Francisco Unified School District (CA), and Oakland Unified School District (CA). In addition, teachers, educators, and researchers from around the country have attended our workshops. Many of these efforts led to sustained partnerships with teachers who became involved in our classroom curriculum development and research activities.

EDUCATIONAL DESIGN PRODUCTS

Online Publication Collection

- *STEM Teaching Tools*: Professional learning resources for teachers and education staff working to improve K-12 science education– <http://STEMteachingtools.org/>

Software Learning Environments

- *Web-based Inquiry Science Environment (WISE)*: our third- and fourth-generation Internet learning environment, currently in broad use (10,000+

registered teachers worldwide, with over 50,000 student uses), 1998-present; developed collaboratively in the WISE Research Group – <http://wise.berkeley.edu/>

- *SenseMaker Argument Mapping Environment*: knowledge representation tools used to support science argumentation (there have been separate AppleScript, C, Java, and Flash implementations) – <http://www.kie.berkeley.edu/sensemaker/>
- *Web-KIE*: our second-generation Internet learning environment (circa 1997-98); I developed a pure web approach – see <http://www.kie.berkeley.edu/KIE/web/hf-description.html> and <http://www.kie.berkeley.edu/KIE/web/frogs/>
- *Knowledge Integration Environment (KIE)*: our first-generation Internet learning environment (circa 1994-97); developed collaboratively in the KIE Research Group – <http://kie.berkeley.edu/>
- *Computer as Learning Partner (CLP) E-LabBook*: scaffolded experimentation environment for use of probeware in science class; developed collaboratively in the CLP Research Group – <http://www.clp.berkeley.edu/>

Curriculum Projects (many were collaborative constructions with other research group members, most are available for classroom use from <http://wise.berkeley.edu/>)

- Week-long a curriculum “FoldIt!-Protein, DNA and the Origami of Life” for NWABR’s summer camp held at University of Washington.
- Year-long Biology Course “Personal Biology Investigations in the 21st Century” for Educurious effort (<http://educurious.org/>)
- Microworlds & Me: six week science and health sequence for fifth-grade
- How Far Does Light Go? (physical science), The Light and Color Debate
- The Deformed Frogs Mystery, The Environmental Chemical Hypothesis, The Parasite Hypothesis
- Malaria Introduction, Cycles of Malaria, The DDT-Malaria Controversy (for high school chemistry classes), The DDT Dilemma (for middle and high school life science classes)
- Genetically Modified Foods: An Introduction, Gene Flow & Genetically Modified Foods
- Rosa Parks History Curriculum — elementary and middle school history project; developed collaboratively in the PATHS research project
- My Place in Puget Sound: high school level project about the connections between people and the health of Puget Sound

Online Knowledge Communities (virtual communities focused on deliberation of contemporary knowledge in science, developed as part of the SCOPE project)

- Malaria Research & Policy Forum (1206 registered members worldwide)
- Genetically Modified Foods Educational Forum (2141 registered members worldwide)
- Declining Amphibians & Deformed Frogs Forum (551 registered members worldwide)
- “Teaching about Controversy” Online Teacher’s Center (122 registered members worldwide)
- Keystones of Science: Genomics Forum (188 registered members worldwide)
- Keystones of Science: Global Warming Forum (115 registered members worldwide)

Multimedia and Hardware Products

- *Children of the Crane* (CD-ROM), DeLoyaza Associates, 1996, programmer. Interactive multimedia experience for children to learn about details of the bombing of Hiroshima. Winner of the Oracle Innovation in Education Award.

- *EarthExplorer Portable Data Collection Device, Software & Middle School Science Curricula*: research funded by the NSF SBIR program to develop and study a pre-PDA portable ‘probeware’ system (circa 1990); authored in collaboration with colleagues at Architectural Energy Corporation, Boulder CO.

HONORS

The Shauna C. Larson Chair in Learning Sciences, April 2014 to present.

The Geda and Phil Condit Distinguished Professor of Science and Math Education, inaugural award, September 2008 to 2014.

Berglund Fellow of Internet Studies, 2002-2003, awarded by the Berglund Center for Internet Studies at Pacific University for research entitled “Understanding how to foster multi-partisan on-line interactions around controversy: Research on an alternative to highly polarized Internet thought collectives.”

Nominated for the University of Washington Distinguished Teaching Award, 2002-03.

Dissertation Research Fellowship from the National Science Foundation through the “Reforming Education Through Science & Design” Traineeship Program; UC-Berkeley; 1997-98; Andy diSessa, Marcia C. Linn & Michael Ranney (Principal Investigators).

PROFESSIONAL ACTIVITIES

NATIONAL & INTERNATIONAL SERVICE

Board-appointed Chair, Committee on Science & Technology Engagement with the Public (COSTEP), American Association for the Advancement of Science (AAAS). 2014-2015

Advisor, Center for Innovative Research in Science Learning, 2014-2015

Advisor, NSTA Curator Session, March 15, 2015

Reviewer, Ford Foundation Fellowships, March 2015

Board-appointed Member, Committee on Science & Technology Engagement with the Public (COSTEP), American Association for the Advancement of Science (AAAS), 2010-2013 term.

Panelist, National Science Foundation, Cyberlearning Exploration and Development and Implementation proposals (April 2012)

Synthesizer, STEM Smart: Lessons Learned from Successful Schools, National Science Foundation (February 2012)

Advisor, Assessment of Informal Learning (MacArthur Foundation Documenting Learning Project) (February 2012)

Advisory Board, Climate Literacy Zoo Education Network (CliZEN). (2011-2012)

Panelist, National Science Foundation, ISE/ITEST Committee of Visitors (COV). (September 2011)

Advisory Board, Biological Sciences Curriculum Study (BSCS) An Inquiry Approach, Grade 8 (INQ8) (2011)

Member, Washington State Leadership and Assistance for Science Education Reform (LASER) Steering Committee, 2010 – present.

Member, Consensus study developing Conceptual Framework for New Science Education Standards, National Academy of Sciences, 2010-2011.

Editorial board, *Journal of Research in Science Teaching* (2010 – present)

Co-Chair, Consensus Study on Learning Science in Informal Environments,

National Academy of Sciences. 2007-2009.
 Advisor, Intersection of Museums and the Learning Sciences, Informal Science Education (ISE) community-building workshop 2009
 Member, Board on Science Education with the National Academy of Sciences, National Research Council (2004 – 2011)
 Elected Founding Board Member, International Society of the Learning Sciences (ISLS), 2003-2007 term, <http://www.isls.org/>
 Editorial board, *International Journal of Science Education* (2002–present)
 Editorial board, *Journal of Research in Science Teaching* (2010 –present)
 Review board, *Elementary School Journal* (2007–present)
 Review board, *The Journal of the Learning Sciences* (2002 – 2005)
 Faculty advisor, Doctoral Consortium at the International Conference of the Learning Sciences (ICLS) 2008
 Conference Committee, International Society of the Learning Sciences (ISLS) “Outstanding Paper Award Committee” for the competitive evaluation of papers presented at the National Association for Research in Science Teaching (NARST) annual meetings, Fall 1998 to Fall 2001
 Advisory board, Zooniverse – “Conquering the Data Flood with a Transformative Partnership between Citizen Scientists and Machines” and “Investigating Audience Engagement with Citizen Science,” Adler Planetarium and Astronomy Museum, Chicago, IL
 Advisory board, Pacific Centre for Scientific and Technological Literacy, University of Victoria, Canada
 Advisory board, Center for Information Technology in Science (ITS), Texas A&M, NSF-funded Center for Learning and Teaching (CLT)
 Advisory board, “Synergy Communities Aggregating Results about Education” (SCALE), Marcia C. Linn (PI)
 Advisory board, “Making thinking visible: Promoting Students' Model Building and Collaborative Discourse,” Janice Gobert (PI)
 Member of the Board of Directors for Theatre Banshee, a theatre company conducting stage and classroom performances in Los Angeles, 1995 – present

CONFERENCE
SERVICE

Program committee for the Eleventh International Conference of the Learning Sciences (ICLS), “Learning and becoming through practice,” 2014, Boulder
 Faculty Advisor for the Doctoral Consortium at the Eighth International Conference of the Learning Sciences (ICLS), Utrecht, The Netherlands
 Faculty Advisor for the Doctoral Consortium at the Seventh International Conference of the Learning Sciences (ICLS), Bloomington, Indiana
 Program committee for the Sixth International Conference of the Learning Sciences (ICLS), “Embracing diversity in the learning sciences,” 2004, Los Angeles
 Reviewer for the outstanding student paper award, Computer Supported Collaborative Learning (CSCL) Conference 2003, Bergen, Norway
 Co-Chair of the Fifth International Conference of the Learning Sciences (ICLS), “Keeping Learning Complex: Fostering Multidisciplinary Research,” October 2002, Seattle, WA
 Program committee for the Fourth Computer Supported Collaborative Learning Conference (CSCL), January 2002, Boulder, CO
 Program committee for the Fourth International Conference of the Learning Sciences (ICLS), June 2000, Ann Arbor, MI

REVIEWER

Cognition & Instruction
Mind, Culture & Activity
The Journal of the Learning Sciences
International Journal of Science Education
Science Education
SCIENCE magazine (AAAS)
Child Development
Review of Educational Research (RER)
Journal of Research in Science Teaching (JRST)
Interactive Learning Environments (ILE)
Cognitive Science
Spencer Foundation (major grants program)
National Association for Research in Science Teaching (NARST) Conference
Computer Support for Collaborative Learning (CSCL) Conference
International Conference for the Learning Sciences (ICLS)
American Educational Research Association (AERA)
International Conference on Computers in Education
National Science Foundation
National Institutes of Health

UNIVERSITY SERVICE

Co-chair, Faculty Development and Support, 2014-15
Member, Faculty Council, 2014-2015
Member, College Advisory Council, 2014-2015
Member, Search committee for UW New Technologies for Equitable Learning
faculty position, 2011-12
Chair, Search committee for UW Culture, Equity & Learning Across Settings
faculty position in Learning Sciences, 2010-2011
Member, Search committee for UW Dean of College of Education position, 2010
Member, Search committee, UW Secondary Math Education faculty position,
2009-10
College Faculty President & Chair of Faculty Council, College of Education, UW,
2007-08 (with VP and past-president roles on either year)
Member, Search committee for UW Dean of Engineering position, 2005-06
Member, College of Education Future's Committee, 2005-2006
Co-Chair, Search Committee for Director of UW K-12 Math-Science Institute,
2004-05
Director, Cognitive Studies in Education program, 2002-04, 2006-08, 2009-present
Chair, Committee on Faculty Affairs (COFA), 2002-03
Member, Technology Advisory Committee, 2001-2003
Coordinator, Qualitative and Quantitative Research Lab & Design Studio, 2001-03
Participant, Ad-hoc committee on Inclusion of Gender Equity in Teacher Education
(an effort affiliated with the WA State Gender Equity Project), 2001-2002
Member, Faculty Council, 2000-2003
Co-Facilitator, College of Education Strategic Plan Development, 2000-01
Faculty search committees: elementary science education (twice), early literacy,
math / science (director of K-12 Institute; co-chair)

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (AERA)
International Society of the Learning Sciences (ISLS)

National Association for Research in Science Teaching (NARST)
American Anthropological Association (AAA)
Society for Advancing Hispanics/Chicanos & Native Americans in Science (SACNAS)
Society for Social Studies of Science (4S)
National Science Teachers Association (NSTA)