

PUBLICATIONS

ALICE M. AGOGINO

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J-1. ["Notch Effects, Stress State and Ductility."](#) *ASME Trans., Journal of Engineering Materials and Technology*, Oct. 1978, pp. 348-355. [Download](#) pdf of paper. [Citations](#)

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J-3. ["IDES: Influence Diagram Based Expert System."](#) (with A. Rege), *Mathematical Modelling*, Vol. 8, 1987, pp. 227-233. [Download](#) pdf of paper. [Citations](#).

J-4. ["Techniques for Integrating Qualitative Reasoning and Symbolic Computation in Engineering Optimization."](#) (with A. Almgren), *Engineering Optimization*, Vol. 12(2), Sept./Oct. 1987, pp. 117-135. [Download](#) pdf of paper. [Citations](#)

J-5. ["Multiobjective Hydraulic Cylinder Design."](#) (with N. Michelena), *ASME Trans., Journal of Mechanisms, Transmissions, and Automation in Design*, Vol. 110, March 1988, pp. 81-87. [Citations](#)

J-6. ["Topological Framework for Representing and Solving Probabilistic Inference Problems in Expert Systems."](#) (with A. Rege), *IEEE Trans., Journal of Systems, Man, and Cybernetics (ISSN: 0018-9472)*, Vol. 18 (3), May/June 1988, pp. 402-414. [Download](#) pdf of paper. [Citations](#)

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J-10. ["Theory of Design: An Optimization Perspective,"](#) (with P. Jain), *Journal of*

Mechanism and Machine Theory, Vol. 25, No. 3, 1990, pp. 287-303. [Download](#) pdf of paper. [Citations](#)

J-11. "[Use of Influence Diagrams and Neural Networks in Modeling Semiconductor Manufacturing Processes](#)," (with F. Nadi and D. Hodges), *IEEE Transactions on Semiconductor Manufacturing*, Vol. 4, No. 1, Feb. 1991, pp. 52-58. [Citations](#)

J-12. "Design Capture and Information Management for Concurrent Design," (with S. Bradley), *International Journal of Systems Automation: Research & Applications*, Vol. 1, No. 2, 1991, pp. 117-141. [Citations](#)

J-13. "[Inducing Constraint Activity in Innovative Design](#)", (with J. Cagan) *AIEDAM (Artificial Intelligence in Engineering Design, Analysis and Manufacturing)*. Vol. 5, No. 1, pp. 47-61. [Download](#) pdf of paper. [Citations](#)

J-14. "[Dimensional Variable Expansion - A Formal Approach to Innovative Design](#)", (with J. Cagan), *Research in Engineering Design*, Vol. 3, No. 3, 1991, pp. 75-85. [Download](#) pdf of paper. [Citations](#)

J-15. "[Decision-Analytic Methodology for Cost- Benefit Evaluation of Diagnostic Testers](#)," (with O. Nour-Omid, W. Imano and S.S. Wang), *IIE Trans.*, Vol. 24, No. 1, March 1992, pp. 39-54. [Download](#) pdf of paper. [Citations](#)

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- J-55 "[Control of a Wireless-Networked Lighting System in an Open-plan Office](#)", (with Y.-J. Wen), *Journal of Lighting Research and Technology*, Vol. 43 (2), June 2011, pp. 235-248. [Citations](#). Won the Leon Gaster Best Paper Award for Lighting Technology, 2011.
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T-5 "[Information in the Design Process](#)," invited talk to and published in the *Proceedings of the Frontiers of Engineering: Reports on Leading Edge Engineering Research*, National Academy of Engineering, Sept 19-21. 1996.

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T-7 "[Invited Panel - Engineering and Computer Science Education in the Era of Globalization](#)", (with Ted E. Batchman, Frank Bullen, Leah H. Jamieson, Wayne C. Johnson and Arthur B. Western), Extended Abstract in *Proceedings of the Frontiers in Education Conference 2005*, ASEE/IEEE, Session F2B (October 19-22, 2-5, Indianapolis, IN).

T-8 "[Finding One's Way](#)", Keynote talk at Mudd Design Workshop, May 2011. Published in the *International Journal of Engineering Education*, Special Issue on Design Education: Innovation and Entrepreneurship, Vol. 28, No. 2, 2012, pp. 249-250.

Unpublished Invited Talks (Not Peer-Reviewed)

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U-1. "1stPRINCE: Innovative Design from First Principles," (with J. Cagan) presented at AAAI88 AI in Design Workshop.

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1989 TIMS/ORSA meeting, NY.

U-3 "Comments on *The Competitive Edge: Research Priorities for U.S. Manufacturing and Improving Engineering Design: Designing for the Competitive Advantage*," Manufacturing Studies Board, National Research Council, National Academy of Sciences Building, Washington, D.C., July 16, 1991.

U-4 "Women, Engineering and Project Synthesis," Committee on the Role and Status of Women in EDUCOM, San Diego, California, Oct. 17, 1991.

U-5 "The National Science Foundation Engineering Education Coalitions," ASEE Pacific Southwest Section Annual Meeting and Conference, UC Berkeley, Oct. 24, 1991.

U-6 "Synthesis: An NSF Coalition to Improve Undergraduate Engineering Education and Develop a National Engineering Education Delivery System," MacSciTech Scientific and Engineering Applications of the Macintosh Technical Conference & Exposition, Sir Francis Drake Hotel, San Francisco, California, Jan. 15-17, 1992.

U-7 "Synthesis Coalition," (with A.P. Ingraffea and T. Henderson), National Science Board, Education Committee, NSF Headquarters, March 19, 1992.

U-8 "Integrating the Undergraduate Engineering Curriculum," ASME International Conference, Honolulu, Hawaii, April 5-8, 1992.

U-9 "The Impact of Demographic Change on Students Engineering and Graduating From Engineering Programs," 44th California Symposium on Transportation Issues, Oakland Airport Hilton, May 14, 1992.

U-10 "Integrating Science and Technology Education and Research," Statement before the Presidents Council of Advisors on Science and Technology (PCAST), University of California at Berkeley, July 15, 1992.

U-11 "Multimedia Case Studies Project of the Synthesis Coalition," Computing: The Transformation of Engineering Exhibits, National Academy of Engineering Annual Meeting, National Academy of Sciences Building, Washington, D.C., Sept. 29-30, 1992.

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U-15 "Engineering Education for 2020 and Beyond," Workshop on Systematic Engineering Education Reform: An Action Agenda, Sponsored by the National Science Foundation, Arlington Renaissance Hotel, Arlington, Virginia, July 11, 1995.

U-16 "National Engineering Education Delivery System (NEEDS)," Workshop on Re-Engineering Education, Rensselaer Polytechnic Institute, Troy, NY, Aug. 22, 1995.

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U-18 "Multimedia Case Studies to Teach Engineering Design/ Digital Library of Engineering Courseware," Presentation to UC Regents, Oct. 19, 1995.

U-19 "Information Technologies Enable a Paradigm Shift in Engineering Education," International Symposium on Engineering Education and Evaluation, Osaka, Japan, Nov. 27, 1995.

U-20 "Reforming Undergraduate Engineering," plenary lecture at the UC Science, Engineering and Mathematics Education Conference, Arnold and Mabel Beckman Center of the National Academies of Science and Engineering, Jan. 26- 27, 1996.

U-21 "Multimedia and Internet: Enabling New Modes of Learning," Chancellors Forum, Feb. 2 1996.

U-22 "Engineering Education: Can we Make Changes," (with Joseph Bordogna, Assistant Director of Engineering, NSF; John H. McMasters, Senior Principal Engineer, Boeing Commercial Airplane Group; Winfred M. Phillips, Dean, College of Engineering, University of Florida and President of Accreditation Board for Engineering and Technology), The Annual Convocation of Professional Engineering Societies and the National Academy of Engineering, National Academy Building, Washington D.C., May 21, 1996.

U-23 "Synthesis Coalition Initiatives in Mechanical Engineering at U.C. Berkeley," Workshop on Mechanical Engineering Undergraduate Education for the Next Twenty Years, Royal Sonesta Hotel, Cambridge, Massachusetts, Oct. 8, 1996.

U-24 "Instructional Technology and the Use of the WWW for Improving K-12/Undergraduate Education," UC President Atkinsons visit to UC Berkeley campus, Nov. 21, 1996.

U-25 "Research on Distributed Intelligence: Sensor Fusion and Design Information Environments," NSF Director Neal Lanes visit to the UC Berkeley campus, Dec. 5, 1996.

U-26 "Integration of Research and Education," (with Angelica Stacy, Prof. of Chemistry), NSF Director Neal Lanes visit to the UC Berkeley campus, Dec. 5, 1996.

- U-27 "Multimedia and Internet Enabling New Modes of Learning in K- 14," Colloquium on Using the Internet for Instruction and Outreach, January 14, 1997.
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- U-29 "Issues in Engineering Education," National Academy of Engineering, Commission on Engineering and Technical Systems, Arnold and Mabel Beckman Center, Irvine, California, Feb. 11, 1997.
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- U-31 "Synthesis Coalition: Multimedia and the Internet Enabling New Modes of Learning," (with Brandon Muramatsu, NEEDS Project Manager), 1997 All University Conference on Teaching and Learning, Los Angeles, California, March 24-25, 1997.
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- U-35 "Instructional Technology and Distance Learning at Cal," presentation at Cal Parents Weekend, Sept. 27, 1997.
- U-36 "The Synthesis Coalitions Assessment Strategy", NACME Forum 97: Crisis and Commitment - Engineering Strikes Back, Seattle, WA., Oct. 3, 1997.
- U-37 "The Future of Instructional Technology at Berkeley: CCCPB-IT Committees Goals", Berkeley Multimedia Research Center Retreat, Jan. 12-13, 1998.
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U-43 "Post-Proposition 209: Admissions, Outreach and Student Services for Underrepresented Engineering Students", Engineering Advisory Board meeting, May 19, 1998. Also presented at the Berkeley Engineering Fund, Board of Directors, June 3, 1998.

U-44 "The Concept Database: A Web-based Design Information System for Mechatronics and MEMS Design," Harbin Institute of Technology, China, June 10, 1998.

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U-46 "Diversity in Engineering Education", talk for the NSF New Century Scholars Workshop at Stanford University, Aug. 6, 1998.

U-47 "Educational Technology and Distance Learning at UC Berkeley," Invited presentation to Chancellor Berdahl and distinguished visitors from Saudi Arabia, Nov. 30, 1998. URL: <http://www.needs.org/engineering/info/presentations/ucb-etdl-1298/index.html>

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- U-57 "Information Technology and the Digital Divide" at the Berkeley Pledge Spring Roundtable for Academic Support and Enrichment Services, "Student Services and New Technology: Time to Get Real!" May 4, 2000.
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- U-59 "A National Digital Library for Science, Mathematics, Engineering and Technology Education," International Conference at Stratford-upon-Avon, England, Coalition for Networked Information.
- U-60 "Women in Engineering - 21st Century", International Forum on Women in Engineering and Science, World Engineers Convention, 19-21 June 2000, Hannover, Germany. (Invitation by German government and AAAS).
- U-61 "A National Digital Library for Science, Mathematics, Engineering and Technology Education," Gordon Conference on Innovations in College Chemistry Teaching (Clarion Ventura Beach Hotel, Jan. 6-11, 2001).
- U-62 "Demystifying Copyright and Fair Use for Teaching," (with Brian Donohue and Gary Handman), UC Berkeley, March 13, 2001.
- U-63 "Women in Academia," Womens Faculty Club, UC Berkeley, March 22, 2001.
- U-64 "Demonstrating the Core Integration System for the National SMET Education Digital Library", (with Andy Dong), Information Access Seminar, School of Information Management & Systems, UC Berkeley, March 23, 2001.
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- U-66 "Gender and Science/Technology Digital Learning Resource Workshop", (with O. Somolui), Association of Women in Science, 2001 (abstract published in AWIS Magazine, Vol. 31, No. 1, pp. 13-14).
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U-80 "Ubiquitous Wireless Infrastructure to Support Mobile Learning," HP/CITRIS 2004 Workshop on Planetary-Scale Applications, Wed., May 26, UC Berkeley.

U-81 "Development and the Design Process", Engineers for a Sustainable World Internship Training, West Coast Session, June 17, 2004.

- U-82 "Review of Engineer 2020: Phase I Report", National Academy of Engineering, July 22, 2004. [PDF version \(12.9 MB\)](#); [MS PowerPoint \(2.2 MB without movies\)](#).
- U-83 "Engineer 2020 NAE Project: Implications for ABET", ABET Industry Advisory Board meeting, August 27, 2004.
- U-84 "The Engineer of 2020: Global Visions of Engineering in the New Century," Keynote Address to the SOMIM (Mexican Society of Mechanical Engineering) Conference, August 2004.
- U-85 "New Product Development: A UC Berkeley Perspective," Universidad Nacional Autonoma de Mexico (UNAM), September, 2004.
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- U-87 "[Automating Keyphrase Generation for Text Document Collections](#)," (with Jia-Long Wu and William H. Wood), Poster Session, NSDL Grantees Meeting, November 2004.
- U-88 "The Next Phase of NAE's Engineer of 2020 Project: Preparing Engineers for the Future", Mechanical Engineering Conference, March 11-15, 2005, San Diego, California.
- U-89 "[The Engineer of 2020 Project: Global Visions of Engineering in the New Century](#)," Colloquium, Department of Mechanical Engineering, March 18, 2005, UC Riverside, Riverside, California.
- U-90 "[The Engineer of 2020](#)", presented at The Jasper Summit - Consulting Engineering: the Next 15 Years, Association of Consulting Engineers of Canada, June 23-25, 2005, Jasper, Alberta.
- U-91 "Engineering Education - Present and Future", panel, National Science Board Workshop on "[Engineering Workforce Issues and Engineering Education: What are the Linkages](#)", ([Federal Register, Vol. 70, No. 187](#)), October 20, 2005, M.I.T. [presentation \(pdf\)](#)
- U-92 "The Engineer of 2020: Global Visions of Engineering Practice and Education," Corporate Technical Fellows Meeting, Bechtel Engineering San Francisco Offices, March 2, 2006.
- U-93 "Women in Engineering in the Year 2020: Possible, Probable, and Preferable Scenarios," Stanford University, March 9, 2006.
- U-94 "Customer/Community-Based Design", Presented at class on Design for Sustainable Communities, Spring 2006. Download slides on [Customer/Community-Based Design](#) and Slides on the [Segura Case Study](#).
- U-95 "Technology, Pedagogy and Design: Global Visions for the New Century", June 1,

2006, University of Michigan.

U-96 [Tribute to Chancellor Denise Denton](#), June 29, 2006 University of Santa Cruz.

U-97 "Is Science Color-Blind?", Keynote Talk to the 2006 Summer Research Symposium: University of California, Berkeley's Leadership Excellence through Advanced Degrees Program & the NSF California Alliance for Minority Participation in the Sciences Program, August 10, 2006.

U-98 ["Understanding Women in Universities Around the Globe: Perspective from the University of California at Berkeley"](#) (with M.A. Mason and A. Stacy). Presentation at the [International Alliance of Research Universities \(IARU\)](#), a consortium of 10 research-intensive institutions on four continents, September 9, 2006, St. Johns College, University of Cambridge, U.K. Download [slides](#).

U-99 "Beyond Bias and Barriers: Women in Academic Science and Engineering". Presentation and discussion with the Society of Women in the Physical Sciences, Le Conte Hall, UC Berkeley, Oct. 10, 2006.

U-100 "Beyond Bias and Barriers: Women in Academic Science and Engineering". Presentation and discussion at a campus-wide symposium at the University of Texas at Austin. Scroll down this link to get a copy of [the slides and the poster for the event](#). Sponsored by the Office of the Provost, the Center for Women's and Gender Studies, Faculty Women's Organization, Women in Engineering, and Women in the Natural Sciences. The talk concerned a recent National Academies' report of the same title. Press coverage: [Women underrepresented in professorships despite high grad rates, study shows](#) article in *The Daily Texan* by Philip Jankowski, January 26, 2007.

U-101 "Design for Sustainable Communities: User Needs", Presented at class on Design for Sustainable Communities, Spring 2007. [Download slides](#).

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U-104 ["Women and Men in the Academy: Beyond Bias and Barriers,"](#) Yale University, April 12, 2007.

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- U-109 Invited talk at the APS (American Physical Society) workshop titled: [*Gender Equity: Strengthening the Physics Enterprise in Universities and National Laboratories.*](#) Maryland, May 6, 2007. [Download Slides](#)
- U-110 "Engineer of 2020 and the Gathering Storm", Opening Panel, Mudd Design Workshop VI "Design and Engineering Education in a Flat World," 23 May 2007. [Download slides](#)
- U-111 "Teaching Women Engineering", [ASME Think Tank Summit](#), June 10, 2007.
- U-112 "Engineering Pathway Education Digital Library", ABET Workshop at ASEE Annual Meeting, June 24, 2007.
- U-113 ["Selecting and Evaluating Digital Learning Materials for Engineering and Pre-Engineering Education"](#), (with Tront, J. and B. Muramatsu), Workshop at ASEE Annual Meeting, June 24, 2007.
- U-114 "Women and Men in the Globalizing University: Mapping Gender in University Data," International Alliance of Research Universities (IARU), Yale University, April 21, 2008. [Download Slides](#)
- U-115 "Design for Sustainable Communities: User Needs," ER291-002/E 298A: Design for Sustainable Communities, (Dr. Ashok Gadgil), UC Berkeley, Spring 2008. [Download Slides](#)
- U-116 "Human-Centered Sustainable Product Design," Northwestern University, April 22, 2008. [Download Slides](#)
- U-117 "Educating Engineers for a Flat World: Implications Across the Academy," Presidential Talk, Northwestern University, April 22, 2008. [Download Slides](#)
- U-118 "Sustainable Product Design Using Project Based Learning", One week short course (20 segments) taught in India as part of the IUCEE project: Indo-US Collaboration for Engineering Education. Mysore, India, July 2008. ([Download slides and links](#)).
- U-119 "Interdisciplinary Opportunities for Women" ([download slides](#)). Panel on "A look into the future and the increasing complexity of interdisciplinary careers" at the National Academies Workshop [From Doctorate to Dean or Director: Sustaining Women through Critical Transition Points in Science, Engineering, and Medicine](#) September 18-19, 2008, Washington, DC.

U-120 "Enabling the Adoption of ICT for Sustainable Business Transformations," [Sustainable Innovations Workshop](#), HP Labs, October 20, 2008. [Download Slides](#)

U-121 "The Challenge of a Responsible Supply Chain", Presidents' Circle, National Academy of Engineering, Sustainability in Business, Science and Policy Google, Mountain View, CA, November 5-7. 2008. [Download slides.](#)

U-122 "CARES, Community Assessment for Renewable Energy and Sustainability: CARES Collection on the Engineering Pathway", Dar Al Hekma College, Saudia Arabia, January 6, 2009. [Download slides.](#)

U-123 "Designing Technology for Girls and Women", Dar Al Hekma College, Saudia Arabia, January 6, 2009. [Download slides.](#)

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U-125 "Research to Support the Development of a Sustainability Engineering Infrastructure in the Kingdom of Saudi Arabia", (with Nezar Alsayyad, Ryan Shelby, and Yael Perez), Poster Session, UC Berkeley, January 2009. [Download slides.](#)

U-126 "How to use the NAE Grand Challenges to Change the Diversity in the ME Discipline?", presented at the [2009 ASME International Mechanical Engineering Education Conference](#), March 28, 2009. [Presentation Slides.](#)

U-127 "Beyond Bias and Barriers: Fulfilling the Potential of Women to Meet the Grand Challenges of Engineering", SWE (Society of Women Engineers) Regional Awards Banquet, May 2009, University of California at Berkeley. [Presentation Slides.](#)

U-128 "John McMasters - A Legacy of Sustaining Innovations in Biomimetic Aircraft Design and Engineering Education", Mudd Design Workshop VII, May 29, 2009. [Abstract](#) (with Mera Horne); [Presentation Slides.](#)

U-129 [Keynote Talk at the WIRES \(Connecting Women and Completing the Circuit of International Research Collaboration\) Conference](#), June 3, 2009, Barcelona Spain. [Download presentation slides \(pdf\).](#)

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U-131 "Green Hat & Engineering Pathway", (with K. Ryokai and L. Oehlberg), Session on Mobile & Augmented Reality Cyberlearning at the [Cyberlearning Tools for STEM Education Conference](#), March 8, 2011, Berkeley, California. Green Hat was one of the mobile learning programs highlighted in the PBS KQED coverage: [Video Games and Simulations Bring Science to Life](#), KQED, March 10, 2011.

- U-132 "[Distributed AI and Sustainable Design: Smart Products for the Smart Grid](#)", Keynote Presentation at the AAAI 2011 Spring Symposium on Artificial Intelligence and Sustainable Design. News story: [A Role for Artificial Intelligence in Sustainable Design](#).
- U-133 "[Greening The Internet of Things: Smart Products in a Smart Grid](#)", *Distinctive Voices* [talk at the National Academy of Engineering](#) by Alice M. Agogino, August 2011. [Download Slides](#).
- U-134 "Smart People, Products and Buildings on the Smart Grid: Case Study in Smart Lighting," Tyndall Research Center, Cork, Ireland, June 2012.
- U-135 "Communities that Enable Smart People, Products and Buildings on the Smart Grid," Panel on Nurturing the Computational Sustainability Community, [3rd International Conference on Computational Sustainability](#), July 4-6, 2012, Denmark.
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- U-137 "[Human-Centered Design for Sustainability](#)," presentation to UNESCO, Paris, France, August 22, 2012.
- U-138 "[Innovations in Context: Longitudinal Study of Alumni from a Multidisciplinary New Product Development Course](#)," presentation to Frontiers of Engineering Education, National Academy of Engineering, Beckman Center, Irvine, CA, October 15, 2012.
- U-139 "Greening The Internet of Things: Smart Products in a Smart Grid," [Distinguished Lecture Series](#), Singapore Institute of Design and Technology, Singapore, November 9, 2012.
- U-140 "Human-Centric User Research to Identify Disruptive Opportunities in Convergent Paper and Digital Use," Samsung Innovation Center, San Jose, CA, June 13, 2013.
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- U-142 "History of Wicked Problems - Working with Horst Rittel on Interdisciplinary Design," [Wicked Problems in Socio-Ecological Systems: Symposium and Workshop](#), Oct. 26-27, 2013, Berkeley, CA. [Slides with notes](#).
- U-143 "Sustainable Tribal Buildings and Renewable Energy Systems," [CITRIS \(Center for Information Technology in the Interest of Society\) Research Exchange Seminar](#), Oct. 30, 2013, Berkeley, CA. [YouTube Video of Webcast](#).
- U-144 Spoke at the [kick-off panel](#) at [Oakland's first Global Sustainability Jam](#), Nov. 23, 2013. The Jam is a non-profit activity organized by an international network of service and sustainability designers.

U-145 [Valuing Design](#), Spring Design Innovation Seminar Series, College of Engineering, UC Berkeley, May 2, 2014. [Slides](#), YouTube [Video](#), and Abby Van Muijen's fab [Visual Design Notes](#) of the seminar.

U-146 Awardee and Keynote Speaker at [Assemblymember Nancy Skinner STEM Women of the Year](#), June 26, 2014. [Slides](#).

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U-148 "Framing Insights from Design Research", Lecture to engineers, designers and marketing, InBeta Group, Brazil, July 16, 2014. [Slides](#)

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U-154 ["Soft Robots Using Compliant Tensegrity Structures and Soft Sensors"](#), (with Chen, L.-H., P. Keegan, M. Yuen, R.K. Kramer, A.K. Agogino and V. Sunspiral) ICRA Workshop on Soft Robotics, Abstract.

U-155 "Seeking Solutions: Maximizing American Talent by Advancing Women of Color in Academia", [ASEE Panel \(with Valerie E. Taylor \[Chair\], Edward Lazowska, Lydia Vila-Komaroff\)](#), June 16, 2015. [Slides](#).

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