

## **AnnMarie Polsenberg Thomas, Ph.D.**

Professor of Engineering (Mechanical)  
Professor of Business (Entrepreneurship)  
Director, Playful Learning Lab  
Co-Founder, UST Center for Engineering Education  
Executive Director, OK Go Sandbox

University of St. Thomas  
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St. Paul, MN 55105

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### **EDUCATION**

Ph.D., Mechanical Engineering (8/2006)  
California Institute of Technology, Pasadena, CA.  
Thesis: Explorations into Synthetic Jet Propulsion for Underwater Vehicles  
Advisors: Dr. Joel Burdick and Dr. John Dabiri

M.S., Mechanical Engineering (6/2002)  
California Institute of Technology, Pasadena, CA.

S.B., Ocean Engineering with a minor in Music (6/2001)  
Massachusetts Institute of Technology (MIT), Cambridge, MA.  
Senior Project: An Assessment of the PBD-MTFLOW Coupling: 3 Case Studies

### **CONTINUING EDUCATION**

ASL Certificate Program (01/2021–Present)  
Gallaudet University, Washington D.C.  
Courses in American Sign Language and Deaf Culture

Post-Doctoral Certificate—Management & Marketing (06/2019)  
University of Florida, Gainesville, FL.  
AACSB Endorsed Academically Qualified/Scholarly Academic 2019–2024  
Hough Graduate School of Business/Warrington College of Business Administration

Design Thinking Executive Education Bootcamp (7/2015)  
Stanford University, Palo Alto, CA.

Professional Certificate in Sustainable Design (12/2012)  
Minneapolis College of Art and Design, Minneapolis, MN.

### **PROFESSIONAL EXPERIENCE**

University of St. Thomas  
Professor, Engineering (2018–Present)  
Professor, Business (2018–Present)

Associate Professor, Business (2015–2018)  
Associate Professor, Engineering (2012–2018)  
Assistant Professor, Engineering (2006–2012)  
Co-Founder/Innovation Director of the University of St. Thomas Center for  
Engineering Education (2009–Present)  
Director, Playful Learning Lab (2013–Present)  
Director, OK Go Sandbox (2017–Present)

Disney Imagicademy Advisory Panel (2014–2016)

Maker Education Initiative (2012–2013)  
Executive Director/Founding Director

Applied Minds, Inc., Glendale, CA (2007)  
Intern (supervisor: Dr. Danny Hillis)

California Institute of Technology  
Teaching Assistant (2006)  
Research Assistant (2001–2006)

Art Center College of Design, Pasadena, CA (2004–2006)  
Faculty

Monterey Bay Aquarium Research Institute (MBARI) (2000)  
Intern (supervisor: Drew Gashler)

Massachusetts Institute of Technology  
Research Assistant (1997–2001)  
Teaching Assistant (1998–2001)

## **HONORS**

Falling Walls Engage Winner (2021)

Reinvented Magazine Educator of the Year (2020)

The LEGO Prize (2020)

University of St. Thomas Undergraduate Research Advisor Award (2019)

University of St. Thomas Professor of the Year (2018)

ASEE Northwest Regional Section Outstanding Young Educator (2010)

Design Distinction Award from ID Magazine (2009)

National Academy of Engineering/CASEE New Faculty Fellow Award (2008)

National Defense Science and Engineering Graduate Fellowship (2001–2004)

Society for Naval Architects and Marine Engineers Undergraduate Honor Paper Prize (2001)

Society for Naval Architects and Marine Engineers Undergraduate Scholarship (2001)

### **MAJOR PROJECTS:**

- Center for Engineering Education
- UST Graduate Certificate in Engineering Education
- OK Go Sandbox
- Squishy Circuits
- Code+Chords
- Playful STEAM for Deaf/DeafBlind Students
- Circus Science

### **TEACHING**

University of St. Thomas, Saint Paul, MN

Courses Taught:

- EDLD583 Creativity and Innovation (Sp22)
- EGED530 ETL5 530/ENGR130 Fundamentals of Engineering for Educators (F10, Sp11, F11, F14)
- EGED531 Engineering Design (for PK-12 Educators) (Su12, Sp14, Sp15, Sp16, Su16, Sp17, Sp18, Sp19, F19, F20)
- ENGR170 Mechanical Engineering Graphics (F20, Sp21, F21, Sp22)
- ENGR171 Engineering Graphics and Design (F06, Sp07, F07, F08, Sp09, F09, Sp10, Sp11, F11, Sp12, F13, Sp14, F14, S15, F16, F17, Sp18, F18, Sp19, F19, Sp20)
- ENGR288 Product Design: Toys (J10)
- ENGR320 Machine Design and Synthesis (F06, F07, F08, Sp09, F09, Sp10, Sp11)
- ENGR480/481 Senior Design (F06, Sp07, F07, Sp08, F13, Sp14)
- ENGR488 Dynamics with Circus Lab (J09)
- ENTR320 Technology Prototyping (F17, F18, F19, F21)
- ENTR330 Environmental Sustainability and Innovation (Sp16, Sp17, Sp18, Sp19, Sp20, Sp21, Sp22)
- IDSC480 Brain-Machine Interfaces (co-taught) (F07, S09)
- IDSC480 Product Design for an Aging Population (co-taught) (F08)

### **PEER REVIEWED JOURNAL PUBLICATIONS**

5. E. Monson, K. Schumacher, and AM. Thomas. The PLAYground: An Online Summer Camp for Deaf and Hard of Hearing Children. *Journal of Science Education for Students with Disabilities* 24.1 (2021): 7.

4. K. Peppler, K. Wohlwend, N. Thompson, V. Tan, and AM. Thomas. (2018). Squishing Circuits: Circuitry learning with electronics and playdough in early childhood. *Journal of Science Education and Technology*, 28(2), 118-132.

3. AM. Thomas and D. Besser. (2017). *The Maker Movement and Engineering*. The Bridge, volume 47, issue 3.

2. AM. Thomas and J. Abraham. (2010) Numerical Simulation of Circular Synthetic Jets with Asymmetric Forcing Profile. *Open Mechanical Engineering Journal*, 4, 1-7.

1. J. Abraham and AM. Thomas. (2009) Induced Co-flow and Laminar-to-Turbulent Transition with Synthetic Jets. *Computers & Fluids*, 38, 1011-1017.

### **BOOKS AS AUTHOR OR COAUTHOR**

4. AM. Thomas. (2019) *Star Wars: Todo sobre robots* [Spanish edition of *Star Wars Robotics*]. Hachette Heroe.

3. AM. Thomas, K. Fontichiaro, and S. Thomas. (2017) *Building Squishy Circuits (Makers as Innovators Junior)*. Cherry Lake Publishing.

2. AM. Thomas. (2014). *Making Makers: Kids, Tools, and the Future of Innovation*. Maker Media.

1. K. Fontichiaro and AM. Thomas. (2014) *Squishy Circuits*. Cherry Lake Publishing.

### **BOOK CHAPTERS**

3. D. Besser and AM. Thomas. (2020) STEPS at the University of St. Thomas. In L.R. Weist and J.E. Sanchez (eds), *Out-of-School-Time STEM Programs for Females: Implications for Research and Practice (Vol II: Short-Term Programs)*.

2. AM. Thomas. (2013). Preface. In Buechley, L., Peppler, K., and Eisenberhg, M. (eds), *Textile Messages: Dispatches from the World of E-Textiles and Education*.

1. AM. Thomas. (2013). Squishy Circuits. In Honey, M. & Kanter, D. (eds), *Design, Make, Play: Growing the Next Generation of STEM Innovators*, 119-137.

### **PEER REVIEWED CONFERENCE PAPERS**

Undergraduate students are underlined. Graduate students are italicized.

39. K. Schumacher, M. Roche, E. Verschoor, H. French, A. Eggersgluss, M. Harjamaki, M. Fagot, D. Besser, J. Jalkio, AM. Thomas, C. Goldbach, and A. Bensen. (2020) Using Music Videos to Inspire Engineering. *Proceedings of the ASEE Annual Conference*. Virtual.

38. A. Eggersgluss, AM. Thomas, D. Besser, R. Farah, C. Kittams, E. Monson, K. Schumacher, and J. Jalkio. (2020) Work in Progress: Code + Chords: Targeting Self-efficacy in Music Technology. Proceedings of the ASEE Annual Conference. Virtual.
37. M. Baklund, M. Harjamaki, H. French, P. Roche, C. Goldbach, C. Kittams, M. Roche, D. Besser, D. Kulash, J. Jalkio, and AM. Thomas. (2020) Art in Space: Using Art to Interest K-12 Students in Aerospace Design. Proceedings of the ASEE Annual Conference. Virtual.
36. E. Johnson, E. Rodich, H. French, and AM. Thomas. (2020) Designing Little Free Libraries for Community Partners in a First-Year Graphics and Design Course. Proceedings of the ASEE Annual Conference. Virtual.
35. M. Harjamaki, AM. Thomas, K. Schumacher, A. Bensen, and E. Monson. (2020) Math of OK Go. Proceedings of the ASEE Annual Conference. Virtual.
34. D. Besser, K. Brown, A. Haugh, T. Brass, R. Leininger, and AM. Thomas. (2020) Empathy, Engineering, and Girls. Proceedings of the ASEE Annual Conference. Virtual.
33. K. Schumacher, D. Besser, and AM. Thomas. (2020) Boat Float Engineering Design (Resource Exchange). Proceedings of the ASEE Annual Conference. Virtual.
32. A. Eggersgluss, AM. Thomas, D. Besser, J. Jalkio, C. Kittams, G. Kubista, and R. Farah. (2020) Code + Chords: Engaging with Coding, Music, Art, and Technology (Resource Exchange). Proceedings of the ASEE Annual Conference. Virtual.
31. E. Rodich, D. Besser, and AM. Thomas. (2020) Circuits and Our Environment (Resource Exchange). Proceedings of the ASEE Annual Conference. Virtual.
30. E. Monson, D. Besser, AM. Thomas, and D. Monson. (2020) Art Bots (Resource Exchange). Proceedings of the ASEE Annual Conference. Virtual.
29. P. Roche, C.J. Goldbach, A. Putnim, J. Jalkio, K. Kimball, AM. Thomas. (2020) Circus Science: Designing Responsive Flying Trapeze Performance Costumes. TEI conference, Sydney, Australia.
28. E. Verschoor, A. Eggersgluss, C. Golbach, AM. Thomas, and A. Knoph. (2018) Using Math to Create a Musical Sandbox. Bridges 2018, Stockholm, Sweden.
27. A. Jagiela, J. Laleman, P. Huschka, D. Besser, and AM. Thomas. (2018). Developing and Assessing a Music Technology and Coding Workshop for Young Women. ASEE Annual Conference, Salt Lake City, UT.
26. E. Meuer, E. Kern, M. Andrews, A. Tenhoff, K. Andrews, P. Huschka, E. Ryan, L. Tozour, and AM. Thomas. (2017) Painting Pitches. Proceedings of the ASEE Annual Conference. Columbus, OH.

25. D. Besser, A. Haugh, AM. Thomas, and J. Laleman. (2017) The Effect of Gender Groupings at an Engineering Summer Camp on Increasing Engineering Knowledge and Confidence. Proceedings of the ASEE Annual Conference. Columbus, OH.
24. B. Kasper, A. Haugh, N. Kasper, B. Gunderson, AM. Thomas, and D. Besser. (2016) Design, Implementation, and Assessment of an After-School Engineering Program for Deaf Students. Proceedings of the ASEE Annual Conference. New Orleans, LA.
23. A. Haugh, O. Lang, AM. Thomas, D. Monson, and D. Besser. (2016) Assessing the Effectiveness of an Engineering Summer Day Camp. Proceedings of the ASEE Annual Conference. New Orleans, LA.
22. E. Koller, L. Van Beek, D. Besser, S. Selcen Guzey, and AM. Thomas. (2015) Implementing and Evaluating an E-Textile Curriculum in an Engineering Summer Program for Girls. Proceedings of the ASEE Annual Conference. Seattle, WA.
21. A. Zierden, B. Boyd, and AM. Thomas. (2014) Science and Engineering Practices in Food Science and Chemistry. Proceedings of the ASEE North Midwest Regional Conference. Iowa City, IA.
20. A. Lague and AM. Thomas. (2014) Stories to Inspire Very Young Engineers. Proceedings of the ASEE North Midwest Regional Conference. Iowa City, IA.
19. B. Kasper, E. Koller, B. Gunderson, and AM. Thomas. (2014) Creative Circuits with Deaf Students. Proceedings of the ASEE North Midwest Regional Conference. Iowa City, IA.
18. M. Schmidtbauer, S. Johnson, J. Jalkio, and AM. Thomas. (2012) Squishy Circuits as a Tangible Interface. Proceedings of Extended Abstracts of the ACM Conference on Computer Human Interactions. New York, NY.
17. AM. Thomas, J.B. Hansen, S.H. Cohn, and B.P. Jensen. (2011) Development and Assessment of an Engineering Course for In-Service and Pre-Service K-12 Teachers. Proceedings of the ASEE National Conference. Vancouver, BC.
16. S. Johnson and AM. Thomas. (2011) Exchange: Using Squishy Circuit Technology in the Classroom. Proceedings of the ASEE National Conference. Vancouver, BC.
15. AM. Thomas and J.B. Hansen. (2011) Certificate/Concentration in Engineering for P-12 Educators. Proceedings of the ASEE National Conference. Vancouver, BC.
14. AM. Thomas, K. Berrier, and A. Guggenbuehl. (2011) Daring Young Engineers on

the Flying Trapeze: Using Circus Arts to Teach Dynamics. Proceedings of the ASEE National Conference. Vancouver, BC.

13. W. Besser and AM. Thomas. (2011) A Comparison of Design Education Across Two Fields: Lessons from Industrial Design and Mechanical Engineering. Proceedings of the ASEE National Conference. Vancouver, BC.

12. W. Besser and AM. Thomas. (2011) Roles in the Design Process: A Survey of Engineering and Industrial Design Educators. Proceedings of the ASEE National Conference. Vancouver, BC.

11. J.B. Hansen, AM. Thomas, and J. Wall. (2010) Teacher Competency in Engineering Education: A Professional Development Approach. Proceedings of the P-12 Engineering and Design Education Research Summit. Seaside, OR.

10. B. Turek-Krengel, S. Woelber, E. Johnson, and AM. Thomas. (2010) Poster: Windmills in Trigonometry Class. Proceedings of the ASEE National Conference. Louisville, KY.

9. J. Nesbitt and AM. Thomas. (2010) Bridging the Digital Divide One Tweet at a Time: Twitter-Enabled Devices for Family Communication. Extended Abstracts of the ACM Conference on Computer Human Interactions. Atlanta, GA.

8. S. Johnson and AM. Thomas. (2010) Squishy Circuits: A Tangible Medium for Electronics Education. Extended Abstracts of the ACM Conference on Computer Human Interactions. Atlanta, GA.

7. AM. Thomas and J.R. Prichard. (2008) Brain-Machine Interfaces: A Team-Taught Seminar Bridging Disciplines and Fostering Discussions. Proceedings of the 2008 Frontiers in Education Conference. Saratoga Springs, NY.

6. AM. Thomas and J.R. Prichard. (2007) Design for an Aging Population: A Multi-Disciplinary Design Retreat. Proceedings of the ASEE 2007 North Midwest Sectional Conference. Houghton, MI.

5. AM. Polsenberg Thomas and M. Breitenberg. (2007) Engineering for Non-Engineers: Learning from Nature's Designs. Proceedings of the American Society of Engineering Education Annual Conference. Honolulu, HI.

4. J. Abraham and AM. Thomas. (2007) Numerical Simulation of Induced Co-Flow and Laminar-to-Turbulent Transition Associated with Synthetic Jets. Proceedings of Flucome 2007. Tallahassee, FL.

3. AM. Polsenberg Thomas, J. Burdick, and K. Mohseni. (2005) An Experimental Study of Voice-Coil Driven Synthetic Jet Propulsion for Underwater Vehicles. Proceedings of OCEANS 2005. Washington, D.C.

\*Please note that experimental force measurements in this paper are inconsistent with later experiments.

2. AM. Polsenberg Thomas, J. Dabiri, K. Mohseni, and J. Burdick. (2005) An Experimental Investigation and Modeling of Voice-Coil Driven Synthetic Jet Propulsors for Underwater Vehicles. Proceedings of the International Symposium on Unmanned Untethered Submersible Technology (UUST). Durham, NH.

\*Please note that experimental force measurements in this paper are inconsistent with later experiments.

1. AM. Polsenberg Thomas, M. Milano, M. Grazier G'Sell, K. Fischer, and J. Burdick. (2005) Synthetic Jet Propulsion for Small Underwater Vehicles. Proceedings of the IEEE ICRA Conference, Barcelona, Spain.

\*Please note that experimental force measurements in this paper are inconsistent with later experiments.

### **CONFERENCE POSTERS (without accompanying papers)**

Undergraduate students and high school students are underlined.

2. A.T. Gatto, M.A. Chalkley, and AM. Thomas. (2009) As Parents Age: A Qualitative Examination of Communication in Healthy Families. Poster presented at the 21st Annual Meeting of the Association for Psychological Science. San Francisco, CA.

1. A. Gatto, S. Adkins, B. Falk, B. Dauwalter, AM. Thomas, and M.A. Chalkley. (2008) An Investigation into the Usage and Design of Walkers. Presented at the 2008 Minnesota Gerontological Society Conference. Brooklyn Center, MN.

### **OTHER PUBLICATIONS**

(Polsenberg is my maiden name)

13. AM. Thomas. (2021) It's important to unpack what went right in a failed project. Star Tribune, November 27, 2021.

12. AM. Thomas. (2021) Your interests beyond your job can be key to new ideas. Star Tribune, April 19, 2021.

11. AM. Thomas. (2017) You Don't Need to Be Superwoman to Succeed in STEM. Chronicle of Higher Education, January 27, 2017.

10. AM Thomas. (2016) Playing with Food. Make, 52.

9. AM. Thomas. (2014) What do I Make? IEEE Computer 47, 12.

8. AM. Thomas. (2014). [Why space tourism still deserves a chance](#). WIRED.com, Opinion.



7. AM. Thomas. (2012) Engaging Students in the STEM Classroom Through Making. Edutopia. <http://www.edutopia.org/blog/stem-engagement-maker-movement-annmarie-thomas>.
6. AM. Thomas. (2013) Not Failure. MAKE, 31, 17.
5. AM. Thomas. (2012) Real Tools for Kids. MAKE, 29, 27.
4. S. Johnson and AM. Thomas. (2010) 1+2+3: Sculpting Circuits. MAKE, 22, 78-79.
3. AM. Thomas and J.B. Hansen. (2009) Engineering Literacy: Building Familiarity with Engineering in K-12 Schools. Manufacturing Success, Summer 2009 edition.
2. AM. Polsenberg, J.E. Kerwin, and T.E. Taylor. (2000) A Manual for the Coupling of PBD-14 and DTNSAX: A Coupled Lifting-Surface Design/Analysis Program for Marine Propulsors. Technical report, MIT Department of Ocean Engineering. Cambridge, MN.
1. N. Hahn, AM. Polsenberg, D.H. Renick, T.E. Taylor, and J.E. Kerwin. (2000) PBD-14.3: A Coupled Lifting-Surface Design/Analysis Program for Marine Propulsors. Technical Report, MIT Department of Ocean Engineering. Cambridge, MA.

## **GRANTS, GIFTS, AND SPONSORSHIPS (totaling over \$1.75 M in funding since 2005)**

### **WORKSHOPS AND PRESENTATIONS (partial listing)**

#### **2022**

“Keynote: Playing with STEAM,” MEGT Midwest conference, Brainerd, MN (January 31, 2022).

“Playing with Engineering: Adding Elements of Playful Learning to our Teaching and Research,” KNC 2022 conference, online (February 5, 2022).

#### **2021**

“Breaking the Walls of STEAM Education with Music Videos,” Falling Walls Engage, Berlin, Germany (2021).

“Spaces of Learning,” LEGO Playful Schools Network meeting, online (2021).

“Keynote: A Playful ‘Space’ for STEAM,” Thomas Maker Summit, Brazil (remote presentation), (2021).

“Playing With Science and Engineering to Increase Engagement,” American Institute of Physics Liaison Committee for Education 2021 meeting, online (2021).

“Finding the Joy and Surprises in our Course Content,” CATES/ASEE, online, (2021).

“Playing Learning and Rube Goldberg,” Rimon, Minnesota (2021).

“OK Go Sandbox,” National Art Education Association leadership conference, online (2021).

“Playing with Sound,” invited lecture for the Acoustical Society of America, online (2021).

“Unusual Collaborations in Engineering Education,” KEEN community talk, online (2021)

“Surprise! How to find new ideas,” KEEN Talk, KEEN National Conference, online (2021).

“Art Together Now premiere,” Rolling Stone magazine’s Twitch channel, online (2021).

## **2020**

“Panel: Teacher Technology—What Actually Works,” T4 Education conference, worldwide virtual (May 30, 2020).

“OK Go Sandbox: Surrounding Sounds,” LEGO Idea Conference, Billund, Denmark (March 10, 2020).

“The Work of Play,” LEGO Design Team, Billund, Denmark (March 11, 2020).

## **2019**

“Circus Science Workshop,” TED, Vancouver, Canada (April 2019).

“Playful Collaboration,” NALCO Water R&D Headquarters, Naperville, IL (May 2019).

## **2018**

“Panel: The Materials of Making,” Scotts Valley, CA (2018).

“Playful Engineering: Making Engineering Fun,” LinkEngineering Online Web Conference (2018).

“Building a Culture of Creativity and Collaboration to Spark Innovation,” Association of Collegiate Conference and Events Directors International annual conference, Minneapolis, MN (2018).

“Play in a Musical Sandbox—workshop,” TED Conference, Vancouver, Canada (2018).

“Creative Circuitry,” Humboldt County STEAM Conference, Eureka, CA (2018).

“Playing with STEAM,” opening Keynote, Humboldt County STEAM Conference, Eureka, CA (2018).

## **2017**

“Seeing Sound,” invited presentation at Hackers 2018, Santa Cruz, CA (2018).

“Making a Maker,” Windward Design + Maker Class Colloquium keynote, Los Angeles, CA (2017).

“Making Makers,” Design Make Classroom Colloquium, Los Angeles, LA (2017).

“Code+Chords: Teen Tech,” ASEE K-12 Workshop, Columbus, OH (2017).

“Circus Science” ASEE K-12 Workshop, Columbus, OH (2017).

“Squishy Circuits” ASEE K-12 Workshop, Columbus, OH (2017).

## **2016**

“Making Makers,” National Maker Faire, Washington, DC (2016).

“Playing to Learn,” Presentation to all St. Paul School District Science Teachers, St. Paul, MN (2016).

Keynote for the FIRST Women in Science and Technology Conference, Manchester, NH (2016).

## **2015**

“Making Makers,” Talks @ Google, Mountain View, CA (2015).

“Making Makers,” Bay Area Maker Faire, San Mateo, CA (2015).

“Squishy Circuits,” BushCON, St. Paul, MN (2015).

“Squishy Circuits Workshop,” Northeast Kansas Library System’s Innovation Day, Topeka, KS (2015).

“Makerspaces workshop,” Northeast Kansas Library System’s Innovation Day, Topeka, KS (2015).

“Play and The Maker Movement,” keynote for Northeast Kansas Library System’s Innovation Day, Topeka, KS (2015).

“Designing Bridges Between Disciplines: Lessons Learned from Unusual Collaborations,” Northwestern Siegel Design Institute, Evanston, IL (2015).

“The Maker Movement and Libraries,” Elbow Lake Library, Elbow Lake, MN (2015).

“Persistence,” ORDCamp, Chicago, IL (2015).

## 2014

Keynote for the FIRST Women in Science and Technology Conference, Manchester, NH (2014).

“Playing to Learn: A Maker’s Perspective,” American Library Association LITA keynote, Albuquerque, NM (2014).

“Makers as Children, Children as Makers,” Disney, Burbank, CA (2014).

“The Maker Movement and STEAM,” Dramatic Results, Long Beach, CA (2014).

“Daydreams to Reality,” Stanford University, Palo Alto, CA (2014).

“Makers as Children, Children as Makers,” World Maker Fair, Queens, NY (2014).

## 2013

“The Maker Movement, Art, Science, and Squishy Circuits,” Art Center College of Design, Pasadena, CA (2013).

“The Maker Movement and Squishy Circuits,” Armory Center for the Arts Board Meeting, Pasadena, CA (2013).

“Maker and the Education Community” panel, presented by Atmel Corporation, New York City, NY (2013).

“Workshop: Maker Training,” Girl Scouts of the USA, Edith Macy Conference Center, Briarcliff Manor, NY (2013).

“Broadening Participation in the Maker Community,” with K. Peppler, M. Resnick, and E. Eidman-Aadahl, Digital Media and Learning Conference, Chicago, IL (2013).

“The Maker Movement,” EdVenture Children’s Museum, Columbia, SC (2013).

“Workshops: Squishy Circuits and LED Pop-Up Cards,” EdVenture Children’s Museum, Columbia, SC (2013).

“Workshop: New Approaches to Engagement and Participation—Session 1: Maker Spaces in Museums and Libraries,” with M. Semmel, N. Beegan, L. Brahms, D. Kanter, D. Wells, and J. Watson, IMLS WebWise Conference, Baltimore, MD (2013).

Google Science Faire Google+ Hangout (2013).

<http://www.youtube.com/watch?v=GQy5ttVsWZQ>

“The Maker Movement and Afterschool: Partners in Learning,” with V. Wegner, and L. Gillam, Nationwide Network of Statewide Afterschool Networks National Network Meeting, Washington, DC (2013).

“The Maker Movement,” Institute for Museum and Library Studies, Washington, DC (2013).

## 2012

“Making Makers,” Innovation Starts Here event at the Works Museum, Bloomington, MN (2012).

“The Future of Higher Education,” panel moderator, Hackers conference, Santa Cruz, CA (2012).

“K-12 Education,” panelist, Hackers conference, Santa Cruz, CA (2012).

“Every Child a Maker,” MIT Media Lab, Cambridge, MA (2012).

“Every Child a Maker,” Tufts University, Medford, MA (2012).

Introductory Remarks, Making Meaning, New York Hall of Science, Queens, NY (2012).

“Every Child a Maker,” World Maker Faire, New York, NY (2012).  
<[http://www.youtube.com/watch?v=L\\_xZpOacJK4](http://www.youtube.com/watch?v=L_xZpOacJK4)>

“ReMaking Education,” with B. Corcoran, C. Shea, K. Cator, and P. Heckman, San Mateo, CA (September 10, 2012).

“Squishy Circuits Workshop,” Making MAKESHOP workshop, Pittsburgh, PA (2012).

“The Maker Education Initiative,” Making MAKESHOP workshop, Pittsburgh, PA (2012).

“Making Tomorrow’s Makers,” with Dale Dougherty, 21<sup>st</sup> Century Community Learning Centers Summer Institute, New Orleans, LA (2012).

“Squishy Circuits,” Google+ MAKE summer camp (2012).  
<<http://www.youtube.com/watch?v=x6VHYpxeRNc&list=PLC2C889FD6ED158EA&index=33>>

## 2011

“Serious Play Dough: Inspiring Young Circuit Designers,” Big Ideas Fest, Half Moon Bay, CA (2011). <<http://www.bigideasfest.org/content/serious-play-dough-inspiring-young-circuit-designers>>

“How are Makers Made?,” TEDxTC, Saint Paul, MN (2011).  
<<http://www.youtube.com/watch?v=vo5R8x6tyGg>>

“Making Tomorrow’s Makers,” World Maker Faire, New York, NY (2011).

<[http://fora.tv/2011/09/18/AnnMarie\\_Polsenberg\\_Thomas\\_Making\\_Tomorrows\\_Makers](http://fora.tv/2011/09/18/AnnMarie_Polsenberg_Thomas_Making_Tomorrows_Makers)>

“Advanced Squishy Circuits,” MISF STEM Seminar Day, Saint Paul, MN (2011).

“Squishy Circuits,” Colloquium on P-12 STEM Education Research, Saint Paul, MN (2011).

“Playfully Engineering Education,” Monterey Bay Aquarium Research Institute, Monterey, CA (2011).

“Squishy Circuits,” TED-U, Long Beach, CA (2011).

## **2010**

“Squishy Circuits and Engineering for Educators,” MISF STEM day, Saint Paul, MN (2010).

“Why Making Matters,” TED-U, Long Beach, CA (2010).

## **2009**

“The Role of Engineering/Making in PK-12 Education,” FOO Camp, Sebastopol, CA (2009).

“The Importance of Fun In Engineering,” TED Conference, Long Beach, CA (2009).

## **2008**

“Engineering Design,” Farnsworth/Cleveland Aerospace School, Saint Paul, MN (2008).

“Brain Machine Interfaces: A Team-Taught Seminar Bridging Disciplines and Fostering Discussions,” FIE Conference, Saratoga Springs, NY (2008).

“The Engineering Design Process,” Johnson High School, Saint Paul, MN (2008).

“Creativity,” Science Museum of Minnesota, Minneapolis, MN (2008).

## **2007**

“The Engineering Design Process,” workshop for P-12 teachers and administrators, Saint Paul, MN (2007).

## **2006**

“Inspired by Nature: Underwater Robotics,” University of Minnesota Bio-Inspired Systems Class, Minneapolis, MN (2006).

“Propulsion Inspired by Jellyfish,” International Symposium for Biologically Inspired Design and Engineering, Atlanta, GA (2006).

**2005**

“Creative Collaborations: Partnerships at the intersection of art, design and science” (panelist), Pasadena, CA (2005).

**2004**

“Gobo Gobo: Thoughts on ‘Form of Forest, Color of Forest,’ and ‘La Mer,’” Pasadena Symphony, Pasadena, CA (2004).

“Following Nature’s Example,” Art Center College of Design Structure and Sensory Systems Class, Pasadena, CA (2004).

“Five Lessons Ocean Engineering Has Taught Me,” Marine Advanced Technology Education Center National ROV Contest, UC Santa Barbara, Santa Barbara, CA (2004).

“Robots at Work and Play,” Tech Museum of Innovation, San Jose, CA (2004).

**UNIVERSITY SERVICE (partial listing)**

University Tenure and Promotion Committee (2020–present)

Entrepreneurship Faculty Search Committee (2021)

Dean of Business Search Committee (2021)

Provost Search Committee (2021)

Entrepreneurship Faculty Search Committee (2019)

Dean of Education Search Committee (2017–18)

Core Curriculum Committee (2014–Present)

President’s Strategic Planning Committee (2014)

Faculty Search Committee (Engineering 2014, 2013, 2010, 2008, Physics 2007)

Educational Planning and Policies Committee + Graduate Curriculum Committee (9/2009–5/2012)

2010 Winchell Conference Planning Committee (9/2009–Present)

Aquinas Scholars Advisory Board (9/2008–Present)

Student Life Committee (9/2006–10/2009)

Undergraduate Collaborative Research Committee (9/2006–6/2008)

Dean Search Committee (Engineering 2007)

Staff Search Committee (Engineering Lab Manager 2007, chair 2008)