

Professor of the Practice  
Duke University  
Electrical and Computer Engineering  
Computer Science  
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### **Areas of Specialization**

Design, implementation, and evaluation of technologies, programs, and curricula to broaden participation in computing and engineering; human-centered design & engineering; affective computing

### **Education**

Ph.D., Massachusetts Institute of Technology, 2010, Media Arts and Sciences  
Dissertation Title: *More Than a Feeling: Technology-Infused Learning Environments to Support the Development of Empathy*  
Advisors: Rosalind W. Picard & Mitchel Resnick  
S.M. Massachusetts Institute of Technology, 2005, Media Arts and Sciences  
Thesis Title: *Digital Story Explication as it Relates to Emotional Needs and Learning*  
Advisors: Rosalind W. Picard & David Cavallo  
M.S. Florida Agricultural Mechanical University, 2003, Electrical Engineering  
B.S. Florida State University, 2001, Electrical Engineering

### **Professional Appointments**

*Duke University, Electrical and Computer Engineering & Computer Science*

2021-Pres. Professor of the Practice  
2017-2021 Associate Professor of the Practice

*University of Florida, Computing and Information Science and Engineering*

2015-2017 Associate Professor (tenured), Program Director of Digital Arts and Sciences & Human-Centered Computing

*Clemson University, School of Computing*

2014-2015 Associate Professor, Interim Co-Chair Human-Centered Computing Division  
2011-2014 Assistant Professor

*Massachusetts Institute of Technology, Media Lab*

2003-2010 Research Assistant

**Sponsored Research [\$41.3 M]**

NSF INCLUDES Alliance: The Alliance for Identity-Inclusive Computing Education (AIICE): A Collective Impact Approach to Broadening Participation in Computing, National Science Foundation, Co-PI, \$9,775,898 (2021-2026)

AI Institute: Athena AI-Driven Next-Generation Networks at the Edge, National Science Foundation, Co-PI, \$20,000,000 (2021-2026)

iCorp Supplement, Phase I Small Business Innovation Research: An Intelligent Application for Emotional Support During the COVID-19 Crisis, National Science Foundation, Company Founder & Senior Personnel, \$20,000 (2021)

Phase I Small Business Innovation Research: An Intelligent Application for Emotional Support During the COVID-19 Crisis, National Science Foundation, Company Founder & Senior Personnel, \$256,000 (2021-2022)

Google Explore Computer Science Research in the Triangle, Collaborator, \$18,000 (2020-2021)

Phase I Small Business Innovation Research Grant, National Science Foundation, Company Founder & Senior Personnel, \$224,986 (2019-2020)

Women of Color in Computing Collaborative Landscape and Trends Studies, Kapoor Center, \$50,710, PI (2019-2020)

**Sponsored Research Prior to Duke**

Virtual Environment Interactions: Exploring Grounded Embodied Pedagogy in Support of Computational Thinking, National Science Foundation, PI, \$579,673 (2013 – 2016).

Broadening Participation in Computing-Alliance: Institute for African American Mentoring in Computing Sciences (iAAMCS), National Science Foundation, Co-PI, \$5,089,293 (2013-2018).

Human-Centered Computing Scholars: Fostering a New Generation of Underrepresented and Financially Disadvantaged Researchers, National Science Foundation Division of Undergraduate Education, Co-Principal Investigator, \$551,998 (2012-2014).

Field Studies for the Development and Deployment of a Classroom Engagement Pedometer, Bill and Melinda Gates Foundation, Principal Investigator, \$498,055 (2011-2013).

Immediacy Behaviors in the Classroom, College of Architecture Arts and Humanities, Co-Principal Investigator, \$7,500 (2013).

Environmental Approaches to Increase Engagement and Reduce Dementia-related Disordered Behaviors of those with ADRD, GHS/CU Institute for the Advancement of Healthcare, Co-Principal Investigator, \$29,922 (2013).

The Dancing Alice Project: Choreography & Computer Programming in Middle School, Co-Principal Investigator, \$20,000 (2013).

Dancing Alice, Clemson University, Principal Investigator, \$10,000 (2013).

Integrating App Inventor Across K-12 Activities, Google, Subcontractor, \$15,000 (\$1,000), (2011).

Developing Computational Thinking through Digital Storytelling: Coping with the Effects of the Oil Spill, National Science Foundation, Principal Investigator, \$169,399 (2011).

BPC-DP: A Multi-tiered Mentoring Model for Increasing Minority and Women Participation in Computing (M3), National Science Foundation, Co-Investigator, \$ 499,705 (\$105,000), (2010-2012).

Integrating Computing Across the Curriculum (ICAC): Incorporating Technology into STEM Education Using XO Laptops, National Science Foundation, Subcontract, \$2,809,612, (\$117,886), (2009-2012).

Online Application to Support Inquiry-based Science (OASIS) Teaching in High Density Computing Environments. Department of Education Small Business Innovation Research, Senior Personnel, \$749,510 (2009-2011).

### **Honors & Awards**

- Caper and Marion McDonald Award for Excellence in Mentoring and Advising (2021)
- Undergraduate Mentor of the Year, Duke University Mary Lou Williams Center for Black Culture (2020)
- American Education Research Association, Technology, Instruction, Cognition and Learning Early Career Research Award (2015)
- Delta Alpha Pi, Extraordinary Educator Award (2015)
- Rising to National Preeminence Hire (2014)
- Clemson Professor of the Game (2014)
- BDPA Epsilon Award – Most Promising Technologist (2013)
- Diverse Issues in Higher Education Emerging Scholar (2013)
- Institute for the Advancement of Healthcare Scholar (2012)
- Fellow, Learning in Formal and Informal Environments Center (2007)
- Fellow, Samsung (2007)
- Graduate Community Fellow – Women’s Initiatives, Massachusetts Institute of Technology (2006)
- Fellow, Delta Airlines (2003)
- Sean A. Pittman Award for Outstanding Service to the African American Community (2001)
- Torchbearer, National Society of Black Engineers (2000)
- Seminole Torchbearer, Florida State University (1998)
- Scholar, National Achievement Scholar (1997)

### **Publications**

#### **Journal Articles & Book Chapters**

1. Leonard, A.E., **Daily, S.B.**, Babu, S., Jörg, S. (2020) Coding Moves: Design and Research on Teaching Computational thinking through Dance Choreography and Virtual Interactions. *Journal of Research on Technology Education*.
2. Brinkley, J., Huff, E., Posadas, B., Woodward, J., **Daily, S.B.**, Gilbert, J.E. (2020) Exploring the Needs, Preferences, and Concerns of Persons with Visual Impairments Regarding Self-Driving Vehicles. *Transactions on Accessible Computing*. 13,1, Article 3.

3. Brinkley, J., Posadas, B., Sherman, I., **Daily, S.B.**, Gilbert, J.E. (2019) An Open Road Evaluation of a Self-Driving Vehicle Human-Machine Interface Designed for Visually Impaired Users, *International Journal of Human-Computer Interaction*.
4. Brinkley, J., **Daily, S.B.**, & Gilbert, J. (2019). A policy proposal to support Self-Driving Vehicle Accessibility. *Journal on Technology and Persons with Disabilities*. 7, 35-43.
5. Brinkley, J., **Daily, S.B.**, & Gilbert, J. (2019). Implementing the ATLAS Self-Driving Vehicle Voice User Interface. *Journal on Technology and Persons with Disabilities*. 7, 133-140.
6. Brinkley, J., **Daily, S.B.**, & Gilbert, J.E. (2018). A Survey of Visually Impaired Consumers About Self-Driving Vehicles. *Journal on Technology and Persons with Disabilities*. 6, 273-282.
7. **Daily, S.B.** et al. (2017). Affective Computing: Historical Foundations, Current Applications, and Future Trends. In Jeon, M. (Ed), *Affective Sciences in Human Factors and Human-Computer Interaction*. Elsevier Press.

#### **Journal Articles & Book Chapters (Prior to Duke)**

8. **Daily, S.B.**, James, M.T., Roy, T., Darnell, S.S. (2015) EngageMe: Designing A Visualization Tool Utilizing Physiological Feedback to Support Instruction. *Technology, Cognition, Instruction, and Learning*. 10(2), 107-126.
9. Leonard, A.E., DeSouza, N., **Daily, S.B.**, Jörg, S., Gundersen, K., Waddell, C., Parmar, D., Xian, X., Gestring, J., Boggs, K. (2015) Embodying and Programming a “Constellation” of Multimodal Literacy Practices: Computational Thinking, Movement, Biology, & Virtual Environment Interactions. *Journal of Language and Literacy Education*, 11(2), 65-93.
10. Hurley, R.A., Hutcherson, D.E., Tonkin, C.E., **Daily, S.B.**, and Rice, J.C. (2016) Measuring physiological arousal towards packaging: tracking electrodermal activity within the consumer shopping environment, *Journal of Applied Packaging Research*, Vol. 8: No. 1, Article 1.
11. Eggert, J., Dye, C.J., Vincent, E., Parker, V., **Daily, S.B.**, Pham, H., Watson, A.T., Summey, H., Roy, T. (2015) Effects of Viewing a Preferred Nature Image and Hearing Preferred Music on Engagement, Agitation and Mental Status in Persons with Dementia. *SAGE Open Medicine*, January-December 2015; Vol. 3.
12. **Daily, S.B.**, Leonard, A.E., Jörg, S., Babu, S., Gundersen, K., Parma, D. (2015) Embodying Computational Thinking: Initial Design of an Emerging Technological Learning Tool. *Technology, Knowledge and Learning*. 20(1), 79-84.
13. Wu, Y., Babu, S. V., Armstrong, R., Bertrand, J. W., Luo, J., Roy, T., **Daily, S.B.**, Dukes, L.C., Hodges, L.F., Fasolino, T. (2014). Effects of virtual human animation on emotion contagion in simulated inter-personal experiences. *IEEE Transactions on Visualization and Computer Graphics*, 20(4), 626-635.
14. Eugene, W., **Daily, S.B.**, Burns, R., Barnes, T. (2014) Building Technological Fluency: Fostering Agents of Change. *Computers in Education Journal*. 5(3). July – September.

15. Hutcherson, D.E., Hurley, R.A., **Daily, S.B.**, Ouzts, A.D. (2013) Talk to Me: Biometrically Adaptive Consumer Packaging. *The International Journal of Society in Society*. 4(3), 109-131.
16. Leonard, A., **Daily, S.B.**, Gundersen, K., (2013) Dancing in Virtual Environments (DIVE): Computational and Embodied Arts Research in Middle School Education. *Voke*. 1(1), 1-26.
17. **Daily, S.B.**, & Eugene, W. (2013) Preparing the Future STEM Workforce for Diverse Environments. *Urban Education*. 48(5), 682-704.
18. Eugene, W., **Daily, S. B.**, & Langer, E. (2012). XO integration: voices from the field. *International Journal of Services, Economics and Management*, 4(1), 62 – 74.
19. Millner, A., & **Daily, S. B.** (2008). *Creating an Educational Ecosystem for Design, Fabrication, and Invention*. In P. Hildreth & C. Kimble (Eds.), *Communities of Practice: Creating Learning Environments for Educators* (Vol. 1). Charlotte, NC: Information Age Publishing Inc.
20. **Daily, S. B.**, & Picard, R. W. (2007). Girls involved in real life sharing: Utilizing technology to support the emotional development of teenaged girls. *Journal of School Counseling*, 5(20).

#### Conference Papers

1. **Daily, S.B.**, Gupta, M., Sperling, J., Gray, M., Arnold, A., Perri, K., (2020) Addressing Gender Disparities in Computing Majors and Careers. *American Society of Engineering Education*.
2. Brinkley, J., **Daily, S. B.** & Gilbert, J. E. (2019). Quick Reply Messaging: A Study of A Core Feature Modification in the Apple CarPlay Automotive Infotainment System and the Impact on System Usability. *Proceedings of the 9th International Conference on Applied Human Factors and Ergonomics and Affiliated Conferences*. Orlando, FL.
3. Parmar, D., Isaac J., Jörg, S., Babu, S., Gundersen, K., DSouza, N., **Daily, S.B.**, Leonard, A.E. (2017) Programming Moves: Design and Evaluation of Applying Embodied Interaction in Virtual Environments to Enhance Computational Thinking in Middle School Students. *Proceedings of IEEE Virtual Reality*, Greenville, SC.

#### Conference Papers (Prior to Duke)

4. Leonard, A.E., **Daily, S.B.**, Jörg, S., Babu, S. Gundersen, K., Parmar, D., Dsouza, N., Gestring, J., Linn, L., Isaac, J. (2017) Coding Moves: Design-based Research of Virtual Environment Interactions with Middle School Students. *Proceedings of American Educational Research Association*, Washington, D.C.
5. Hurley, R.A., Hutcherson, D., Tonkin, C., **Daily, S.B.**, Rice, J. (2015, June) *Measuring Physiological Arousal Towards Packaging: A Real-time Analysis Within the Consumer Shopping Environment*. Proceedings of the International Association of Packaging Research Institutes, Valencia, Spain.
6. Leonard, A.E., **Daily, S.B.**, Jörg, S., Babu, S. (2015, April). *Designing Embodied Pedagogical Strategies for Learning Computational Thinking: A Design-based*. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.

7. Newsome, N., Chaturvedi, H., Babu, S.V., Luo, J., Ebrahimi, E., Roy, T., **Daily, S.B.**, Fasolino, T. (2015, March). *Comparative Evaluation of Stylized versus Realistic Representation of Virtual Humans on Users' Emotional Responses in Simulated Interpersonal Experiences*. Presented at the meeting of the IEEE International Conference on Virtual Reality, Arles, France.
8. Gilbert, J.E., Moon, D., Dunbar, J., Solomon, A., & **Daily, S.B.** (2014, November) *Lab Daze: A Web-Series Aimed at Changing the Student's Perceptions of Scientist*, Paper presented at the meeting of the International Conference of Urban Education, Montego Bay, Jamaica.
9. Leonard, A.E., **Daily, S.B.**, Gundersen, K. DSouza, N. (2014, October) *A Digital Map: Locating Embodied Cognition and Computational Thinking Research Within the Field*. National Dance Education Organization, Chicago, IL.
10. Jörg, S., Leonard, A., Babu, S., Gundersen, K., Parmar, D., Boggs, K., and **Daily, S.B.** (2014). *Character animation and embodiment in teaching computational thinking*. In ACM SIGGRAPH 2014 Posters (SIGGRAPH '14). ACM, New York, NY, USA, Article 4.
11. **Daily, S.B.**, Leonard, A., Jörg, S., Babu, S. Gundersen, K. (2014, March) *Dancing Alice: Exploring Embodied Pedagogical Strategies for Learning Computational Thinking*. Paper presented at the meeting of the ACM SIG on Computer Science Education, Atlanta, GA.
12. **Daily, S.B.**, Leonard, A., Jörg, S. Babu, S. (2014, April). *Dancing in Virtual Environments: Exploring Grounded Embodied Pedagogy in Support of Computational Thinking* Paper presented at the meeting of the American Educational Research Association, Philadelphia, PA.
13. Leonard, A., **Daily, S.B.** (2014, April). *The Dancing Alice Project: Computational and Embodied Arts Research in Middle School Education*. Paper presented at the meeting of the American Educational Research Association, Philadelphia, PA.
14. Eugene, W. Gilbert, J. **Daily, S.B.** (2013, October) *AADMLSS: Improving Mathematical Skills by Using a Cultural Relevant Learning System*. Paper presented at Pursuing Extraordinary Outcomes in Public Education National, Charlotte, NC.
15. **Daily, S.B.**, Myers, D., Darnell, S. Roy, T., James, M. (2013, July). *Understanding Privacy and Trust Issues in a Classroom Affective Computing System Deployment*. Paper presented at meeting of HCI International, Las Vegas, NV.
16. **Daily, S.B.**, Gardner-McCune, C., Gilbert, J., Hall, P.W., McMullen, K., Remy, S.L., Woodard, D. (2013, June). *Alternate Pathways to Careers in Computing: Recruiting and Retaining Women Students*. Paper presented at the meeting of American Society for Engineering Education (ASEE) Annual Conference, Atlanta, GA.
17. Eugene, W. **Daily, S.B.**, Burns, R., Barnes, T. (2013, June) *Building Technological Fluency: Fostering Agents of Change*. Paper presented at the meeting of American Society for Engineering Education (ASEE) Annual Conference, Atlanta, GA.
18. Boyer, M. Herro, D., **Daily, S.B.**, Gilbert, J. (2013, June) *Collaboration in Context: A Working Example for Connecting University Stakeholders in Digital Media & Learning*. Paper presented at the meeting of Games+Learning+Society Conference 9.0, Madison, WI.

19. **Daily, S.B.**, Cotten, S., Gibson, P.A., Howell-Moroney, M., O'Neal, L.J. (2013, March). *Teacher Self-Efficacy And Usage: The Case Of The XO Laptop In Alabama*. Paper presented at the meeting of the Society for Information Technology and Teacher Education, New Orleans, LA.
20. Roy, T., Gupta, A., James, M., Darnell, S., **Daily, S.B.** (2013, February) *A Participatory Design Process for Developing a Tool to Visualize Classroom Engagement*. Richard Tapia Celebration of Diversity in Computing, Washington, D.C.
21. Alvarez I., Lopez-de Ipiña, K., **Daily, S.B.**, Gilbert, J.E. (2012, October). *Emotional Adaptive Vehicle User Interfaces: moderating negative effects of failed technology interactions while driving*. Paper presented at the 2nd Workshop of Automotive Natural Interfaces together with 4th International Conference on Automotive User Interfaces, AutoUI'12, Portsmouth, NH.
22. Scott, K., Gomez, K. **Daily, S.B.** (2012, July). *Developing Students' Disciplinary Historical Thinking: The Role of Textual and Instructional Resources*. Paper presented at the 10<sup>th</sup> International Conference of the Learning Sciences, Sydney, Australia.
23. **Daily, S.B.** (2012, June) *ChangeLab: Computational Expression For Community Engagement*. Paper presented at the meeting of Technoscience as Activism, Troy, New York.
24. Gray, J. Johnson, D. Wyss, M. **Daily, S.B.** (2012, March). *Broadening Participation in Computing: The Multi-tiered Approach*. Paper presented at the 50<sup>th</sup> Association for Computing Machinery Southeast Conference, Tuscaloosa, AL.
25. Wyss, J., Gray, J., **Daily, S.B.**, Abbott, G., Shih, A., Snyder, S., Bester, K. Stevens, J. (2012, February) *BPC-DP: A Multi-tiered Mentoring Model (M3) for Increasing Minority and Women Participation in Computing*. Presented at the CE21 Community Meeting, Washington, D.C.
26. Chapman, R., & **Daily, S.B.** (2011, July). *OASIS: An online professional learning community for inquiry-based teaching*. Poster presented at the meeting of the 9th International Computer-Supported Collaborative Learning Conference, Hong Kong, China, Vol. 2, pp. 974-975.
27. **Daily, S.B.**, Brennan, K. (2011, April) *Empathy Development Environments: A Framework for Supporting the Cultivation of Empathic Capacities*. Paper presented at the meeting of the American Education Research Association, New Orleans, LA.
28. **Daily, S.B.**, Brennan, K. (2010, April). *Trajectories of Identity: Designing a Collaborative Learning Environment That Supports the Development of Empathy*. Paper presented at the meeting of the American Education Research Association, Denver, CO.
29. Carter, A. **Daily, S.B.**, Daily, J. (2010, March). *ScratchLabs: A Novel Professional Development Program for Technology Integration*. Paper presented at the meeting of the Society for Information Technology and Teacher Education, San Diego, CA.
30. **Daily, S. B.** (2010, March). *Three Iterations: A Research Study Generating Design Principles for Empathy Development Environments*. Paper presented at the meeting of the Educational Design Research Conference: Local Impact and Global Change, Athens, GA.

31. **Daily, S.B.**, Brennan, K. (2008, June). *Utilizing Technology to Support the Development of Empathy*. Presented at the meeting of the Proceedings of Interaction Design and Children, Doctoral Consortium. Evanston, IL.
32. **Daily, S.B.**, Headen, I. (2008, March). *Toward the design of a computational platform to foster student-teacher relationships*. Proceedings of the Harvard Student Research Conference Cambridge, MA.
33. Forssell, K., **Daily, S.B.**, Eugene, W. (2008, March). *Measuring Impact: A game design workshop changes attitudes toward computer science*. Presented at the meeting of the ACM SIG on Computer Science Education, Portland, OR.
34. **Daily, S.B.**, Eugene, W., & Prewitt, A. (2007, April). *The Development of Social Capital in Engineering Education to Improve Student Retention*. Presented at the meeting of the 2007 ASEE Southeastern Section Annual Conference, Louisville, KY.
35. Prewitt, A., **Daily, S.B.**, and Eugene, W. (2007, June) *Minority Retention and Success in Engineering: Diversifying the Pipeline through the Development of Social Capital*. Presented at the meeting of the 2007 ASEE Annual Conference, Honolulu, HI. [Awarded Best Paper]
36. Mills-Henry, I., Chapman, R., Brittain, E.B., Hampton, M., **Daily, S.B.**, Walcott, A., Bryant, R. (2007, June). *The Academy of Courageous Minority Engineers: A Model For Supporting Minority Graduate Students in the Completion of Science and Engineering*. Presented at the meeting of the 2007 ASEE Annual Conference, Honolulu, HI.
37. **Daily, S.B.**, & Picard, R. W. (2006, April) *G.I.R.L.S. Talk, A Proactive Emotional Health Technology*. Presented at the American Educational Research Association, New Members Poster Session, San Francisco, CA.
38. Picard, R. W., & **Daily, S. B.** (2005, April) *Evaluating affective interactions: Alternatives to asking what users feel*. Presented at the SIGCHI Workshop on Evaluating Affective Interactions: Innovative Approaches, Portland, OR.
39. Cavallo, D., Sipitakiat, A., Basu, A., **Bryant, S.**, Welti-Santos, L., Maloney, J., et al. (2004, June). *Roballet: Exploring Learning Through Expression in the Arts through constructing in a Technologically Immersive Environment*. Presented at the meeting of the International Conference on Learning Sciences, Santa Monica, CA.
40. Cavallo, D., Basu, A., **Bryant, S.**, & Sipitakiat, A. (2004, June). *Opening Pathways to Higher Education Through Engineering Projects*. Presented at the meeting of the ASEE Annual Conference, Salt Lake City, UT.
41. **Daily, S.B.**, & Picard, R. W. (2004, October). *INNER-active Journal*. Presented at the 12<sup>th</sup> ACM International Conference on Multimedia, Workshop on Story Representation, New York, NY.

#### **Presentations & Invited Talks**

1. Daily, S.B. "Cultivating Computing Competence" CONNECT Conference Keynote (June 2020)
2. Daily, S.B. "FUSE: Supporting Social-Emotional Learning through Augmented Reality Role-Play" (June, 2020)



3. Daily, S.B., Daniels, Y., Roach, S., Worthy, R. “Social Impact Panel” National Society of Black Engineers Technical Professional Conference 2021 Black Technology & Innovation Symposium (April, 2020)
4. Daily, S.B., Streater, J.L., McMullen, K., Ola, K. “Empowering Modern Figures” ACM-W North America Panel (March, 2020)
5. Day, S., Washington, N., **Daily, S.B.**, McMullen, K., Marshall, B. “Flowing, Not Forcing: Finding and Maintaining Authenticity as Black Women in Academia. SIG Computer Science Education. (March, 2020)
6. Blank, A., **Daily, S.B.**, Ellis, M. “Teaching Faculty Careers” SIG Computer Science Education (March, 2020)
7. **Daily, S.B.** “My Journey in STEM and Entrepreneurship” Bouncing Bulldogs Intellectual Property Group. Chapel Hill, NC (November, 2019)
8. Washington, N., **Daily, S.B.**, Burge, J., Marshall, B. “Flowing, Not Forcing: Finding and Maintaining Authenticity as Black Women in Academia. Grace Hopper Celebration”. Orlando, FL (October, 2019)
9. Eugene, W., **Daily, S.B.** “Examining the Double Bind” Women of Color in Computing Collaborative Convening (July, 2019).
10. **Daily, S.B.**, Johnson, L.D. “Black Women in Computing” University of Alabama Legacy Project. Virtual Panel (July 2019)
11. **Daily, S.B.**, “Mistakes I’ve Made Along My STEM Journey” Miles College Convocation. Fairfield, AL (April, 2019).
12. **Daily, S.B.** “We Got Next: Expanding Opportunities for Science Participation” Science Teachers Association of the State of New York, Rochester, NY (November, 2018).

#### **Presentations & Invited Talks (Prior to Duke)**

13. **Daily, S.B.**, “Me, You, and Technology Around the World” Bethel University Convocation (October, 2016)
14. Rogers, C., **Daily, S.B.**, Millner, A., Moriarty, E. “Steaming Ahead: Strategies for Bringing Science, Technology, Engineering, Arts, and Math Learning to All Students,” 8<sup>th</sup> Annual Breakthroughs in Education, Cambridge, MA (December, 2015).
15. Leonard, A.E., **Daily, S.B.** “I am a cell: Artistic processes of 5th graders merging computational thinking, movement, & biology,” National Dance Education Conference, Phoenix, AZ, (October, 2015).
16. **Daily, S.B.** “Introducing Computational Thinking Through Movement and Interaction with a Virtual Environment” STEM Think Tank and Conference Nashville, TN, (July, 2015).

17. **Daily, S.B.**, “IT is Interdisciplinary,” South Carolina Technical Schools, Code-IT Academy (June, 2015)
18. **Daily, S.B.**, “Affective Computing,” MIT Online Science, Technology, & Engineering, Community (December, 2014)
19. **Daily, S.B.** “Affective Computing: Emotion Detection, Reflection, Interactivity,” Florida State University, ACC Road Scholars (September, 2014).
20. **Daily, S.B.**, “Dance and Technology,” Florida State University, Department of Dance Guest Lecture (September, 2014).
21. **Daily, S.B.**, “Affective Computing,” A.J. Whittenberg Elementary School, Lunch and Learn Speaker Series (September, 2014).
22. **Daily, S.B.**, “Virtual Environment Interactions: Alternative Pathways to Interest in Computing,” Tufts University, Center for Engineering Education Outreach Lecture Series (May, 2014)
23. **Daily, S.B.**, “One Body, Many Parts: The Constructionist Strategy for Education,” Bethel University Convocation Address, (March, 2014).
24. **Daily, S.B.**, “More Than a Feeling: Utilizing technologies to Support Social, Emotional, and Computational Learning,” University of Florida, (February, 2014).
25. James, M. T. & **Daily, S. B.** (2014, February). *Design of a Mobile Application to Support Food Consumption Monitoring and Decision Making*. Poster presented at the 2014 meeting of the Association of Computing Machinery (ACM) Richard Tapia Celebration of Diversity in Computing, Seattle, WA.
26. Dotson, J., Gundersen, K., **Daily, S.B.** (2014, February) *DIVE: Developing a Virtual Environment to Teach Computational Thinking*. Richard Tapia Celebration of Diversity in Computing, Seattle, WA.
27. **Daily, S.B.**, “Dancing In Virtual Environments: Alternative Pathways to Interest in Computing,” Virginia State University, Science, Technology, Engineering, Agriculture, Mathematics and Health Colloquium Series (October, 2013).
28. **Daily, S.B.**, “What if a Computer Could Learn Your Feelings?,” *Virginia State University Kid’s Tech University* (October, 2013).
29. Leonard, A., **Daily, S.B.**, Gundersen, K., “The Dancing Alice Project: Choreography and Computer Programming in Middle School,” *National Dance Education Organization*, Miami, Florida (October, 2013).
30. **Daily S.B.**, Raven, C., Mitchell, C. Rankin, Y., Reichgelt, Han, “Why STEM Matter,” *Black Girls Code Robot Expo*, Atlanta, Georgia, (February, 2013).

31. **Daily, S.B.**, “Towards the Development of a Physiological Measure for Engagement,” *What is Engagement in Math and Science Learning Workshop at the 10<sup>th</sup> International Conference of the Learning Sciences*, Sydney, Australia, (July, 2012).
32. **Daily, S.B.** “Computing 2 Connect: Utilizing Technologies to Blend Social, Emotional, and Computational Learning,” *Spelman College ASPIRE*, Atlanta, Georgia, (April, 2012).
33. **Daily, S.B.**, Eugene, W., Roach, S., Tangle, J. “Why I left Engineering: Stories of Non-Traditional Careers,” *National Society of Black Engineers*, Pittsburgh, Pennsylvania, (March, 2012).
34. **Daily, S.B.** “Interdisciplinary Teaching with Scratch,” Teaching with Technology Symposium. Clemson, SC, (December, 2011).
35. **Daily, S.B.** “Scratch Across the Curriculum,” *22<sup>nd</sup> Annual Society for Information Technology and Teacher Education Conference*, Nashville, TN, (March, 2011).
36. Brennan, K., **Daily, S.B.** & Resnick, M. “Programming and pluralism: Diversifying participation in computational creation,” *Digital Media and Learning Conference*, La Jolla, CA, (February, 2010).
37. **Daily, S.B.**, Carter, A., Daily, J. “Laptops and K-12 Education in the US: Diversifying Participation,” *Digital Media and Learning Conference*, La Jolla, CA, (February, 2010).
38. Daily, S.B., Carter, A., Daily, J. “ChangeLab,” *Digital Media and Learning Conference, La Jolla, CA*, (February, 2010)
39. Rogers, M., Forssell, K., Martin, C.K., Barron, B., Eugene, W., **Daily, S.B.**, Acholonu, U., Takeuchi, L. Walter, S., Briggs, K. “Collaborative Game Design: Analysis from a Middle School Programming Project” *American Educational Research Association*, New York, NY (April, 2008).
40. Cavallo, D., Weusijana, K., **Daily, S.B.**, Eugene, W. “Low-Cost Advanced Education Technologies,” *National Society of Black Engineers Annual Conference*, Columbus, OH (March, 2007).
41. **Daily, S.B.**, Gosha, K., McMullen, K., Andrews, S. “Navigating Graduate School,” *African American Researchers in Computer Science Conference*, Auburn, AL, (July, 2007).
42. Wilkerson, D., Francis, J.O., King, M.H., **Daily, S.B.** “Sustainability in Communities of Color: Creating Inclusion,” *Northeast Sustainable Energy Association Building Energy*, Boston, MA, (March, 2006).
43. **Daily, S.B.** “Digital Story Explication as it Relates to Emotional Needs and Learning,” *Robert Woods Johnson Foundation*, Princeton, NJ (June, 2005).

#### Press Coverage

1. Diverse Issues in Higher Education, *The National Science Foundation Awards \$10M to Duke to Diversify STEM* (2021)

2. Pratt School of Engineering/Trinity College, *Duke Professors to Lead Nationwide Effort to Diversify Participation in Computing* (2021)
3. Duke Chronicle, *'Really about educating educators': New Initiative aims to improve diversity in computer science department* (2021)
4. WRAL Tech Wire, *Duke U. Kicks off Cultural Competence in Computing Program* (2021)
5. DukeEngineer, *Uplifting, Educating, and Listening: It's not Over* (2021)
6. After Office Hours Podcast, Season 2 Episode 3 (2020)
7. Raleigh News & Observer, *Duke's Technology Scholars Program Helps Women Succeed in a Technology Path* (2018)
8. Duke Today, *For Women Student Coders, Dtech Provides Strength In Numbers* (2018)
9. New York Times, *Driverless Cars Give Hope to Blind-Are Automakers Onboard?* (2018)
10. Charlotte Observer, *Driverless Cars Give Hope to Blind-Are Automakers Onboard?* (2018)
11. Duke, Pratt School of Engineering, *From Durham to Silicon Valley: Duke Technology Scholars Program Helps Women Thrive in Tech* (2017)
12. Chronicle of Higher Education, *Steering More Women to Silicon Valley* (2017)
13. Science Magazine, *Changing the Face of Computer Science* (2016)
14. ASEE Prism, *National African American History Month Remarkable Engineers* (2016)
15. USA Today, *Bridging Technology's Gender Gap* (2015)
16. Chicago Tribune, *Digital Divas weave STEM into fashion and dance challenges* (2015)
17. Book Chapter Feature, *Technology, Cool Women Who Code* (Girls in Science) (2015)
18. WNCT, *Powerful Women Summit in Greenville* (2015)
19. ASEE Prism, *STEM Education – Shall We Dance?* (2015)
20. Science Codex, *Dance Choreography Improves Girls' Computational Skills* (2015)
21. Web Daily, *Female Students' Computer Skills Improve with Dance Choreography* (2015)
22. Science World Report, *Dance Choreography May Improve Computation Skills* (2015)
23. Nation Swell, *Can Girls Dance Their Way Toward Computer Programming Careers?* (2015)
24. Atlanta Blackstar, *7 Black Innovators and Inventors in STEM Fields Who Blerds Should Know About* (2014)
25. La Nacion Tecnologia, *Danza y programación pueden atraer niñas a carreras informáticas* (2014)
26. Clemson Newsstand, *Morph Than Meets the Eye – Head On Campaign*, (2014)
27. Clemson Newsstand, *Clemson University brings together technology and art at Artisphere* (2014)
28. Greenville News, *Virtual character designed to spark girls' interest in science; Research aimed at 5-6 graders* (2014)
29. Fox Carolina News, *Researchers Creating Virtual Characters* (2014)
30. BDPA iRadio, *Guest Host* (2013)
31. Girl Scouts, *For Girls, Careers in Electrical Engineering* (2013)
32. National Science Foundation, LiveScience, *Machines Deeper Understanding of Human Emotion* (2013)
33. Diverse Issues in Higher Education, *Engineer Works to Improve Education with Technology* (2013)
34. Clemson University Feature Story, *Fusing a Love of Dance and Technology* (2013)
35. Anderson Independent Mail, *Clemson Educator Named Emerging Scholar* (2013)
36. TechNeedsGirls.org (2012)
37. Forbes, *Gates Responds to GSR Bracelet Controversy* (2012)

38. Washington Post, *\$1.1 million-plus Gates grants: 'Galvanic' bracelets that measure student engagement* (2012)
39. Chicago Tribune, *Biosensors to monitor students' attentiveness* (2012)
40. Inside Higher Ed, *Critical Mass* (2012)
41. PBS Nova, *Secret Life of Scientists and Engineers* (2011)
42. AL.COM, *Company Launches Technology Workshops for Youth* (2011)
43. AL.COM, *How Big of a Fan are You? Mountain Brook's Machine Can Tell You* (2011)
44. Under the Microscope, *Engineer Links Computers, Emotion, and Education* (2010)
32. NSF.gov, *XO Laptops Inspire Learning in Birmingham, AL* (2010)
33. UAB News, *UAB offers XO Laptop Computer Workshops for Teachers* (2010)
34. NewsWise, *UAB Wins NSF Grant to Train Teachers to Use XO Laptop* (2009)
35. Boston Globe, *Wired for Excitement* (2007)
36. *Engineering Your Life* (2007)
37. Cambridge Science Festival (2006)
38. American Association for the Advancement of Science, *Science Update Radio* (2006)
39. CBN, *The Internet of Things* (2006)

### **Patents**

“Washable Wearable Biosensor”, United States, 8,140,143, with Picard; Rosalind W., Williams; Clayton J., Fletcher; Richard Ribon, Eydgahi; Hoda, Daily; Shaundra Bryant, Poh; Ming-Zher, Wilder-Smith; Oliver Orion, Kim; Kyunghee, Dobson; Kelly, Lee; Jackie Chia-Hsun

### **Memberships**

Member, ACM SIG- Computer Science Education  
Member, Association for Computing Machinery  
Member, American Association for the Advancement of Science

### **Exhibits/Performances**

Artisphere, Virtual Environment Interactions (VENVI), Clemson STEAM Tent (2015)  
Arts Alive!, Virtual Environment Interactions, Stone Academy for Communication Arts (2015)  
iMagine Upstate, Virtual Environment Interactions (2015)  
Share Fair Nation/ Stemosphere, Virtual Environment Interactions, Morgridge Family Foundation (March 2015)  
Science Fun Day, Stone Academy (2014)  
Artisphere, Virtual Environment Interactions (VENVI), Clemson STEAM Tent (2014)

### **Student Advising**

### **Postdoc Advising**

Washington, Gloria, “Ear Feature Analysis, Extraction Tools, and Classification,” (2015)

### **Graduate Advising/Committees**

(\*Indicates Advisor/Co-Advisor; +Member of underrepresented group)

Wu, H.	ECE, MS	April 2020	“RAT-FS: Efficient Storage Tiering Solutions for Remote Filesystem Storage”
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Ying, N.	ECE, MS	April 2020	“Easy Apply”
Zhao, Y.	ECE, MS	April 2020	“Train Control Policy Optimization Based on Reinforcement Learning”
Guo, W.	ECE, MS	April 2020	“Mini UPS System”
Liu, J.	ECE, MS	April 2020	“Social Survey Using Computer Vision & Machine Learning Methods”
Chen, Z.	ECE, MS	April 2020	“Towards an Artificial Intelligence Strategy to Conquer Game Risk”
Crawford, B.	ECE, MS	April 2020	“Development of SERS-based Electrowetting on Dielectric Digital Microfluid”
+Brinkley, J.L.	HCC, PhD	July 2018	“Autonomous Vehicles and Visually Impaired Operators”
*+Roy, T.	HCC, PhD	May 2018	“SecondLook: A Prototype Mobile Phone Intervention for Digital Dating Abuse”
+Andujar, M.	CE, PhD	July 2017	“Aiding users to self-regulate their attention through Quantified-Self feedback while performing a learning task from a Brain-Computer Interface”
Cordar, A.	CE, PhD	Jun 2017	“Using Mixed Reality Humans to Improve Communication Skills”
*+James, M.	HCC, PHD	Dec 2015	“Iterative Design and Testing of a Mobile Application to Support Food Consumption Monitoring and Decision Making Health Disparities”
*+Johnson, A.	HCC, PhD	Dec 2015	“Language Matters: Interactive Plain Language Tutor for Voting Language”
+Mcclendon, J.	CS, PhD	May 2015	“Optimization of a Language Model for the Classification of Queries in a Script Based Conversational Agent”
*+Darnell, S.	CS, PhD	May 2015	“EngageMe: A Visualization for Teacher Preparation”
*+Alnizami, H.	HCC, PhD	Dec 2014	“A Novel Approach To Identifying And Interpreting Vehicle Pictographic Warning Symbols Through Head Wearables While Driving”
*+Abegez, T.	HCC, PhD	Nov 2014	“Design With Emotion: Improving Web Search Experience For Older Adults”
+Lyle, J.	CS, PhD	Dec 2014	“Gender and Ethnicity Classification Using Partial Face In Biometric Applications”
+Ekandem, J.I.A.	HCC, PhD	Jul 2014	“Ambient Hues And Audible Cues An Approach To Automotive User Interface Design Using Multi-Modal Feedback”
Wu, Yanxiang	CS, MS	Jun 2014	Non-Thesis
*Gupta, A.	CS, MS	Aug 2013	Non-Thesis
*+Roy, T.	CS, MS	Aug 2013	Non-Thesis
+Gosha, K.	HCC, PhD	May 2013	“The Application of Relational Agents for Mentoring African-American STEM Doctoral Students”
+Alvarez, I.	CS, PhD UPV/EHU	Dec 2012	
+Powell, E.	CS, PhD	Aug 2012	“A Framework for the Design and Analysis of

UNCC

Socially Pervasive Games”

## Teaching

### Courses Taught

ECE 590, Affective Computing (S21)  
ECE 653, Human-Centered Computing (F19, F20, F21)  
ECE 651, Software Engineering (S20)  
EGR 101, First-Year Design (F19, F20, F21)  
ECE 110, Fundamentals of Electrical Engineering (F17-S19)  
EGR 103, Computational Methods (S18)  
CEN4721/CAP5100, Human-Computer Interaction (S16)  
HCC 8810, Affective Computing (S15)  
HCC 8310, Fundamentals of Human Centered Computing, (F13 – F14)  
CpSc 1200, Introduction to Information Technology (S13 – F14)  
CpSc 881, Creative Learning Technologies (F11)  
CpSc 881, Measurement and Evaluation in Human Centered Computing (S12)

### New Course Development

ECE 653, Human-Centered Computing  
HCC 8810, Affective Computing  
CpSc 881, Creative Learning Technologies  
CpSc 881, Measurement and Evaluation in Human Centered Computing

## University Service

### Committees

#### Department:

Co-Chair, ECE Diversity Committee (2018-Present)  
Member, ECE Curriculum Revision Committee (2021)  
Member, APT Review Committee (2020)  
Member, Computer Science Faculty Search Committee (2019)  
Member, ECE Faculty Search Committee (2019)  
Director, Digital Arts and Sciences Program (2015 - 2017)  
Chair, CS+Everything Task Force (2016- 2017)  
Chair, Preeminent Hire in Autonomous Systems Committee (2016)  
Member, Preeminent Hire in HCC Search Committee (2015)  
Member, Student Services Staff Search Committee (2015)  
Member, HCC Chair Search (2014-2015)  
Member, External/Industrial Affairs Committee (2014)  
Member, Director School of Computing Search Committee (2012- 2014)  
Advisor, School of Computing Graduate Student Association (2012- 2014)  
Member, Graduate Recruiting Committee (2011 - 2015)  
Member, Portfolio Review Committee (2011 - 2015)

#### College:

Interviewer, Rubenstein Scholarship (2018, 2021)  
Faculty Director, Duke Technology Scholars Program (2017- Present)  
Faculty Liaison, Education and Student Experience, Board of Visitors (2017-Present)  
Pratt, Diversity, Equity, Inclusion, and Community Executive Committee

(2020)  
FEMMESHack, Panelist (2020)  
Duke Charlotte Women's Forum, Breaking the Tech Ceiling (2020)  
Panelist, Engineering While Black (2020)  
Panelist, Rubenstein Scholar Spotlight (2019)  
Panelist, Black Student Alliance Invitational (2019)  
Committee Member, Engineering Learning Commons (2019)  
Faculty Coordinator, Inspiring Minds Student Visit Weekend (2018)  
Reviewer, Duke Reginaldo Howard Memorial Merit Scholarship, (2018, 2021)  
First-Year Computational Course Design Committee (2018-2019)  
Associate Dean of Student Affairs Search Committee (2015)  
CAAH/CES STEAM Task Force (2014-2015)  
Banner Carrier, Convocation (2011)

University:

Committee Member, Next Generation Living Learning Experience (2021)  
Working Group, Center for Computational Thinking (2021)  
Duke Black Student Alliance Initiative Faculty Panel (2021)  
Duke NPHC Meeting and Greet (2021)  
Innovation and Entrepreneurship Core Faculty (2018-2020)  
Host, Duke Conversations (2018)  
2020 Forward: Graduate Strategic Planning Committee (2015)  
ACE Leadership Women's Forum Planning (2015)  
Facility Design, Watts Family Innovation Center (2011 - 2012)  
Design Team, Clemson PK-5 Lab School (2012)  
Interviewer, Clemson National Scholars Program (2011 - 2015)

**Professional Service**

**National**

- National Academies of Science Committee on Authentic STEM Learning Experiences in Developing Interests and Competencies for Technology and Computing (2019-Present)
- ACM-W North America Empowerment of Marginalized Communities Subcommittee (2020-Present)
- National Science Foundation Grant Review Panel (multiple; 2011-Present)
- National Institute of Health Grant Review Panel (multiple; 2011-Present)

**Program Committee**

- Grace Hopper Celebration of Women in Computing, Organizational Transformation Program Committee (2018-2019)
- National Society of Blacks in Computing (2017)
- Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) Conference (2015)
- IEEE Symposium on Visual Languages and Human-centric Computing (2015)
- Grace Hopper Celebration of Women in Computing, Technical Program Committee (2013)

**Reviewer (Journal and Conference)**

- AERA Open
- Computers & Education
- Technology, Knowledge, and Learning



- ACM Transactions of Computing Education
- ACM SIGCHI Conference on Human Factors in Computing Systems International Journal of Human-Computer Studies
- Journal of Teaching and Learning with Technology
- American Education Research Association
- American Society for Engineering Education
- Richard Tapia Celebration of Diversity in Computing
- International Conference of the Learning Sciences

### **Other**

- Board President, Inspiring Minds Durham (2020-)
- Community Code, LLC., Advisory Board (2014- 2017)
- Girl Scouts Powerful Women Summit (2015)
- Code IT Academy Advisory Board Member (2014 - 2015)
- Center for Educational Excellence in Alternative Settings, Judge, Starting from Scratch Contest (2014)
- MIT Education Council Interviewer (2011- Present)

### **Consulting**

**Center for Inclusive Computing**, Northeastern University (2020)

Technical advisor for universities transforming their undergraduate computer science experience

**JoyLabz**, Santa Clara, California (2016- Present)

Development of framework for young makers.

**CAST**, Boston, Massachusetts (2013-2014)

Developed biometric methods to study informal learning environments

**New York Hall of Science**, Maker Faire, New York City New York (2012)

Studied and developed framework for studying young makers.

*Updated March 2021.*