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# RYAN CAIN

## ACADEMIC EMPLOYMENT

2018–Present      Instructor of Educational Technology  
Department of Teacher Education  
Weber State University

## EDUCATION

- 2019    Ph.D., Instructional Technology and Learning Sciences  
Utah State University  
Major advisor: Dr. Victor R. Lee
- 2006    M.A.T., Childhood Education  
Queens College, City University of New York
- 2001    B.A., Fine Art Photography  
University at Buffalo

## TEACHING EXPERIENCE

### University Level Coursework

Weber State University

2018    EDUC 3115 Technology in Elementary Education Settings  
EDUC 3116 Technology in Elementary Education Settings  
EDUC 3315 Media Integration in the Secondary School Setting  
MED 6229 Instructional Technology for Pre-Service Teachers  
Department of Teacher Education  
Instructor

Utah State University

2018    Teaching Science II SCED 4400/TEAL 6900  
Teaching Assistant  
Department of Teacher Education and Leadership

2017    Technology Integration & Innovation in Education 5500 (online)  
Teaching Assistant  
Department of Teacher Education and Leadership

2015 Craft Technologies Course 5270/6270  
Instructor  
Department of Instructional Technology and Learning Sciences

### **Professional Development Workshops, Utah State University**

2017-2018 Year Long Weather Study  
Reflective practice  
Dolores Dore Eccles Early Childhood Center  
NAEYC Accredited Preschool

2015 Sewing Up Science, Paper Circuits and E-Textiles  
STEM-U 4-day professional development for teachers

### **K-12 Teaching**

2006-2014 Elementary Science Teacher, Pre-K through second grade  
PS 3 The Bedford Village School, Brooklyn, NY

## **PUBLICATIONS**

**Cain, R.**, Phillips, A., & Lee, V.R. (2017) Making her way, One youth's path to well-developed interest in digital fabrication *In proceedings of the Learning Sciences Graduate Student Conference, Expanding Apprenticeship*. Bloomington, IN

Drake, J. R., **Cain, R.**, & Lee, V. R. (2017). From Wearing to Wondering: Treating Wearable Activity Trackers as Objects of Inquiry. In D. Tsybulsky & I. Levin, *Digital Tools and Solutions for Inquiry-Based STEM Learning*. IGI Global.

**Cain, R.** & Lee, V.R. (2016). Measuring electrodermal activity to capture engagement in an afterschool maker program. *In proceedings of FabLearn 2016: Conference on Creativity and Fabrication*. ACM.

Lee, V.R. & **Cain, R.** (2016) Wearing their feelings on their sleeves? Wearable technology and the capture of student engagement with Maker activities. In Azevedo, F. (chair), Ahn, J., Mann, M., Dorph, R., Cannady, M., Lee, V.R., & Cain, R. Moving ahead in the study of STEM interests and interest development: A new research agenda. In *Proceedings of the International Conference of the Learning Sciences*. Singapore: International Society of the Learning Sciences.

Lee, V. R., Drake, J., **Cain, R.**, & Thayne, J. (2015). Opportunistic uses of the traditional school day through student examination of fitbit activity tracker data. In *Proceedings of the 14th International Conference on Interaction Design and Children* (pp. 273-276). ACM.

Crismond, D., Soobyiah, M., & **Cain, R.** (2013). Taking engineering design out for a spin. *Science and Children*, 50(5), 52.

Crismond, D., Gellert, L., **Cain, R.**, & Wright, S. (2013). Minding design missteps. *Science and Children*, 51(2), 80.

Suescun-Florez, E. A., **Cain, R.**, Kapila, V., & Iskander, M. G. (2013). Bringing soil mechanics to elementary schools. *In proceedings of the 120<sup>th</sup> Annual Conference and Exposition, Engineering Education: Frankly, We Do Give a D\*mn*. Atlanta :American Society for Engineering Education

Suescun-Florez, E., Iskander, M., **Cain, R.**, & Kapila, V. (2013). Delivering geotechnical engineering to elementary school children. *Geo-Strata—Geo Institute of ASCE*, 14(2), 44-48.

Suescun-Florez, E., Iskander, M., Kapila, V., & **Cain, R.** (2013). Geotechnical engineering in US elementary schools. *European Journal of Engineering Education*, 38(3), 300-315.

## PRESENTATIONS

Lee, V.R., Fischback, L., Chandel, A., & **Cain, R.** (2018) Looking at aggregate arousal levels across youth in afterschool makerspace activities. Poster presented at the American Educational Research Association Meeting, New York.

**Cain, R.**, Phillips, A., & Lee, V.R. (2018) Making her way, One youth's path to well-developed interest in digital fabrication. Stand-alone paper presented at the NARST Annual International Conference, Atlanta, GA.

**Cain, R.**, & Phillips, A. (2017). From participant to mentor, A case study of youth interest development in a makerspace. Poster presented at Student Research Symposium at Utah State University in Logan, UT.

**Cain, R.** (2016). An educator's perspective of the classroom support needed for children with hearing loss. Invited lecture presented to the graduate-level Listening and Spoken Language Interdisciplinary Seminar, Department of Communicative Disorders and Deaf Education, Utah State University, Logan, UT.

Lee, V. R., & **Cain, R.** (2016). Using wearables to capture features of engagement in youth makerspaces. Paper presented at the aWear 2016: Wearable technologies, knowledge development, and learning Stanford, CA.

**Cain, R.** (2016). Electrodermal activity used as a proxy for engagement in a makerspace. Presentation at Student Research Symposium, Utah State University, Logan, UT.

Lee, V.R. & **Cain, R.** (2016). Does a jump count as a step? A case of a productive disciplinary engagement with recess activities. Paper presented at the American Educational Research Association Meeting, Washington, DC.

Lee, V. R., Drake, J., Thayne, J., & **Cain, R.** (2016). From using wearable technology to improving with statistical reasoning. Poster presented at the American Educational Research Association Meeting, Washington, DC.

Lee, V. R., King, W.L., & **Cain, R.** (2015). Grassroots or returning to one's roots? Unpacking the inception of a youth-focused community makerspace. Paper presented at FabLearn 2015, Stanford, CA.

**Cain, R.** (2015). 3D printing and modeling in an elementary science classroom. Presentation at Making Innovation Makerspace Conference 2015, Utah State University, Logan, UT.

Dec, J., Burker, J., **Cain, R.**, Rudzitis, T., Tiffin, J., Wheeler, S. (2014) Making in the classroom: Reports from the front lines. World Maker Faire, Flushing, NY.

Baker, A., Amu, Y., Chavez, R., & **Cain, R.** (2012) Sustainable school gardens and communality building. Brooklyn Food Conference, Brooklyn, NY.

## **DISTINCTIONS**

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|-------------------------|---|
| 2018                    | Research and Development Scholarship<br>Department of Instructional Technology and Learning Sciences<br>Utah State University |
| 2016                    | AERA Sponsored Meeting on Making and Learning Travel Award<br>Children's Museum of Pittsburgh                                 |
| 2015,2016,<br>2017,2018 | Office of Research and Graduate Studies Travel Award<br>Utah State University   |
| 2015-2017               | Lawson Fellowship<br>Utah State University  |
| 2014-2018               | Presidential Doctoral Research Fellowship<br>Utah State University  |
| 2013-2014               | Kerlin Science Fellowship<br>Bank Street College of Education   |
| 2006                    | Herbert Swartzberg Award<br>Queens College, City University of New York   |

## RESEARCH EXPERIENCE

- 2018 Collaborative research: Using a school-based sensing platform and targeted teacher professional development to support computational thinking integration and student learning  
PI: Dr. Mimi M. Recker  
NSF Grant # DRL-1742046  
Graduate Research Assistant  
Utah State University
- 2016-2017 Tracking youth interest and engagement in makerspace learning activities using wearable technology  
PI: Dr. Victor R. Lee  
NSF Grant # CNS-1623401  
Graduate Research Assistant  
Utah State University
- 2014-2016 Engaging elementary students in data analysis through study of physical activities  
PI: Dr. Victor R. Lee  
NSF Grant # DRL-1054280  
Graduate Research Assistant  
Utah State University

## SERVICE

- 2018 Invited reviewer of full papers for NARST 2018 International Conference
- 2017 Invited reviewer of long papers for FabLearn Conference at Stanford University
- 2016 Invited reviewer USU Undergraduate Research and Creative Opportunities Grant program
- 2015, 2016 Invited reviewer of short papers for FabLearn Conference at Stanford University
- 2015-2016 Ph.D. Student Vice President, USU department of Instructional Technology Student Association
- 2014,2015 Invited reviewer for the *European Journal of Engineering Education*

## **VOLUNTEER WORK**

- 2016            Led six-session afterschool club on force and motion where youth fabricated and experimented with laser-cut cardboard cars.  
Cache Makers 4-H, Logan, UT
- 2016            Co-taught third grade unit on force and motion with laser-cut cardboard cars.  
Ellis Elementary School, Logan, UT
- 1996-2008    Firefighter  
Garden City, NY