

# JULIA L. OLTMAN

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## RESEARCH AND TEACHING INTERESTS

Computational thinking, GIS, game-based learning, augmented reality, geospatial tools for teaching and learning, mobile learning, constructivist theory, social studies education

## EDUCATION

### PH.D. | 2018 | LEHIGH UNIVERSITY

- Teaching, Learning, and Technology
- Dissertation: *Investigating the Effect of a Curriculum-embedded Augmented Reality Constructivist-inspired Game within an Early Elementary Social Studies Curriculum and its Influence on Student Experiences, Learning Outcomes, and Teacher Instructional Practices*
- Doctoral adviser: Dr. Thomas C. Hammond

### M.S. | 1997 | UNIVERSITY OF NEW HAMPSHIRE

- Kinesiology with emphasis of study: Sports Psychology and Sports Media
- Thesis: *So What if the Sports Media Trivializes Women? An Exploratory Study Examining the Effect of the Sports Media on Young Female Athletes and their Self-Perceptions.*
- Thesis adviser: Dr. Heather Barber

### B.A. | 1991 | UNIVERSITY OF NEW HAMPSHIRE

- Major: English
- Minor: History

## PUBLICATIONS

Hammond, T. C., **Oltman**, J. L., & Manfra, M. M. (2020). Computational Thinking and Social Studies Teacher Education: What, Why, and How. In J. Keengwe, & P. Wachira (Eds.), *Handbook of Research on Integrating Computer Science and Computational Thinking in K-12 Education* (pp. 1-16). Hershey, PA: IGI Global. doi:10.4018/978-1-7998-1479-5.ch001

Hammond, T, **Oltman**, J., & Salter, S. (2019). Using computational thinking to explore the past, present, and future. *Social Education*, 83(2), 118-122. Retrieved from <https://www.socialstudies.org/publications/socialeducation/march-april2019/using-computational-thinking-to-explore-past-present-and-future>

Hammond, T.C., & **Oltman, J.** (2019). Bridging STEM and the civic mission of social studies: Integrating spatial reasoning & computational thinking into decision-focused secondary social studies instruction. In D. Gibson & M. Ochoa (Eds.), *Research highlights in technology and teacher education 2019* (pp. 127-132). Waynesville, NC: Association for the Advancement of Computing in Education.

Bressler, D. M., **Oltman, J. L.**, & Vallera, F. L. (2018). Inside, Outside, and Off-Site: Social Constructivism in Mobile Games. In J. Keengwe (Ed.), *Handbook of Research on Mobile Technology, Constructivism, and Meaningful Learning*. Hershey, PA: IGI Global. <http://doi.org/10.4018/978-1-5225-3949-0.ch001>

## SCHOLARLY PRESENTATIONS

Manfra, M. M., Hammond, T. C., & **Oltman, J.** (2021, Apr 8 – 12). *Leveraging Computational Thinking for Inquiry-Based Education in the Social Studies*. [Virtual – Round Table Paper Session] AERA Annual Meeting [Virtual]

**Oltman, J.**, Hammond, T.C., & Manfra, M.M. (2020, December). *The Whys of Where: Empowering Geography Instruction With Geo-Computational Thinking*. Accepted as a Presentation at the annual conference of the National Council for Geographic Education (NCGE), Online.

Hammond, T. C., Manfra, M. M., & **Oltman, J.** (2020, Apr 17 – 21) *Computational Thinking in the Social Studies: A Study on Design and Assessment* [Paper Session]. AERA Annual Meeting San Francisco, CA. <http://tinyurl.com/yxybp6v3> (Conference Canceled)

Hammond, T.C., **Oltman, J.**, & Manfra, M.M. (2020, April). *Thematic Use of GIS to Teach American History: An Excerpt From Enslavement, Emancipation, and the Continuing Struggle*. Virtual presentation of a Full Paper at the at the conference of the Society for Information Technology and Teacher Education (SITE), New Orleans, LA.

Hammond, T.C., **Oltman, J.L.**, & Manfra, M.M. (2019, November). *Geo-Computational Thinking in the Third Grade: Making Computational Thinking Truly “For Everyone, Everywhere”*. Paper presented at 27th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems Workshop on Geo-Computational Thinking in Education (GeoEd 2019), Chicago, IL.

Hammond, T.C., & **Oltman, J.** (2019, June). *Better Together: Teaching Social Studies with Computational Thinking and Spatial Reasoning*. Accepted as a Poster at the annual meeting of the International Society for Technology in Education (ISTE), Philadelphia, PA.

Hammond, T. & **Oltman, J.** (2019). Bridging STEM and the Civic Mission of Social Studies: Integrating Spatial Reasoning & Computational Thinking Into Decision-Focused Secondary Social Studies Instruction. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 2034-2038). Las Vegas, NV, United States: Association for the Advancement of Computing in Education (AACE). Retrieved March 27, 2019 from <https://www.learntechlib.org/primary/p/207979/>.

Hammond, T.C., **Oltman, J.L.**, & Alexander, R. C. (2018, March). Enhancing Early Elementary Civics Education Through Augmented Reality Games. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2018* (SITE). Washington, D.C.

**Oltman, J.L.**, & Hammond, T.C. (2017, April). *"I Almost Wanted to Touch Them!" Curriculum- Embedded Game-Based Learning for Young Elementary History Education*. Presented as part of a Symposium at the annual meeting of the American Educational Research Association (AERA), San Antonio, TX.

**Oltman, J.L.** (2017). *ARIS Games for Elementary Social Studies*. Presented at the 2017 Pennsylvania Educational Technology Expo and Conference (PETE&C), Hershey, PA.

Hammond, T. & **Oltman, J.L.** (2016). The sleeping giant awakens? Two cases in geospatial tools re-shaping curricular content in elementary social studies. In G. Chamblee & L. Langub (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 1637-1640). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

**Oltman, J.L.**, & Hammond, T.C. (2016, June). *Moravian History Mystery: Elementary Game- Based Learning About Colonial America*. Presented as a Research Paper at the annual conference of the International Society for Technology in Education (ISTE), Denver, CO.

Hammond, T.C., & **Oltman, J.L.** (2016, March). *The Sleeping Giant Awakens? Two Cases in Geospatial Tools Re-Shaping Curricular Content in Elementary Social Studies*. Presented as a Paper at the conference of the Society for Information Technology and Teacher Education (SITE), Savannah, GA.

**Oltman, J.L.** (2016, August). *Three Games for Elementary Social Studies*. Presented at the 2016 ARIS Global Summit, Madison, WI.

**Oltman, J.L.** (2016, August). *Get the Data!*. Presented at the 2016 ARIS Global Summit, Madison, WI.

**Oltman, J.L.** & Hammond, T.C. (2015). Exploring the use of a location-based iPad augmented reality game for elementary history education. In D. Rutledge & D. Slykhuis (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2015* (pp. 818-821). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

**Oltman, J.L.**, & Hammond, T. (2015). *Moravian History Mystery: A Mobile, Digital, Augmented Reality, Game-Based Learning Experience for Young Elementary Students*. In K. Caldwell, S. Seyler, A. Ochsner, & C. Steinkuehler (Eds.), *Games+Learning+Society Conference (GLS)* (Vol. 1, pp. 410-416). Retrieved from <http://press.etc.cmu.edu/files/GLS11-Proceedings-2015-web.pdf>

Bressler, D., & **Oltman, J.L.** (2015, August). *Putting the "AR" in Farm: Baaaad or Good?* Presented at the 2015 ARIS Global Summit, Madison, WI.

Hammond, T.C., **Oltman, J.L.**, & Mendez Martinez, D. (2015, June). *Inside, Outside, Between: Recipes for Augmented Reality in Social Studies*. Presented as a Poster at the conference of the International Society for Technology in Education, Philadelphia, PA.

Hammond, T.C., & **Oltman, J.L.** (2015, October). *Community Needs, Community Resources: A 21st Century Approach to the Elementary Social Studies Classic*. Presentation at the Teaching, Learning, and Technology Summit, Bethlehem, PA.

**Oltman, J.L.** & Hammond, T.C. (2015, October). *Moravian history mystery: A mobile, digital, augmented reality, geospatial, game-based learning experience for elementary students*. Poster presented at the Lehigh University College of Education Distinguished Lecture Series, Bethlehem, PA.

## WORKING PAPERS

**Oltman, J.L.**, & Hammond, T.C. (In revision). "I almost wanted to touch it": Flow and learning in game-based history education with augmented reality for early elementary students. *Journal of Educational Computing Research*.

Hammond, T.C., & **Oltman, J.L.** (In preparation). *Enhancing early elementary civics education through augmented reality games*. *Social Studies and the Young Learner*.

## PROFESSIONAL EXPERIENCE

### COLLEGE OF EDUCATION | LEHIGH UNIVERSITY | 2017-PRESENT

Adjunct Professor – Courses Taught:

- Summer 2022: ES/ TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level) Hybrid
- Winter 2021: ES/ TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level) Fully Online
- Summer 2020: ES/ TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level) Fully Online
- Summer 2019: ES/ TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level)
- Summer 2018: ES/TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level)
- Summer 2017: ES/TLT 468: Teaching & Learning with Geospatial Tools (Graduate Level)

### DEPARTMENT OF ATHLETICS | LEHIGH UNIVERSITY | 1997-PRESENT

- Assistant Athletic Director for Technology: 2009-Present
- Director of Camps & Emerging Technologies: 2004-2009
- Director of Camps: 2002-2004
- Head Women's Soccer Coach: 1997-2002

### DEPARTMENT OF ATHLETICS | THE OHIO STATE UNIVERSITY | 1995-1997

- Assistant Women's Soccer Coach

### DEPARTMENT OF ATHLETICS | UNIVERSITY OF NEW HAMPSHIRE | 1990-1995

- Assistant Women's Soccer Coach