Dr. Jordis (Jodi) Asbell-Clarke

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I am a senior leader at a non-profit research firm focusing on innovative STEM education. I lead a team of designers, educators, and researchers – with multiple international partners– to study how educational technology can be used to broaden participation in STEM, particularly for learners at-risk and learners with cognitive differences.

a. Professional Preparation

Rochester Institute of Technology	Applied Math	B.S., 1983
Rice University	Applied Math	M.A., 1986
University of New Mexico	Astrophysics	M.S., 1989
University of Toronto	Education	Ph.D., 2011

b. Appointments

2009 - present Director of EdGE (Educational Gaming Environments group), TERC
2005 - present Senior Leader, Center for Science Teaching and Learning, TERC
2002 - present Part-time Faculty, Saint Mary's University
1995 - 2004 Science Education Developer and Researcher, TERC
2003 - 2005 Part-time Faculty, Lesley University
1989 - 1992 Associate Faculty, University High School, University of Illinois
1983 - 1986 Verification Analyst On-flight Space Shuttle Software, IBM 1989-90

c. Selected Publications

Rowe, E., Asbell-Clarke, J., Baker, R., Eagle, M., Hicks, A., Barnes, T., Brown, R., & Edwards, T., (2017). Assessing implicit science learning in digital games. *Computers in Human Behavior, 76*, 617-630. DOI: 10.1016/j.chb.2017.03.043

Rowe, E., Bardar, E., & Asbell-Clarke, J., Shane-Simpson, C., & Roberts, S. (2016). Building Bridges: Teachers Leveraging Game-Based Implicit Science Learning in Physics Classrooms. In D. Russell & J. Laffey *Handbook of Research on Gaming Trends in P-12 Education*. Hershey, PA: IGI Global. doi:10.4018/978-1-4666-9629-7

Rowe, E., Asbell-Clarke, J. & Baker, R. (2015). Serious games analytics to measure implicit science learning. In C.S. Loh, Y. Sheng, & D. Ifenthaler (Eds.) *Serious Game Analytics: Methodologies for Performance Measurement, Assessment, and Improvement.* Springer Science+Business Media.

Asbell-Clarke, J., & Rowe, E. (2014). Scientific inquiry in digital games. In F. Blumberg (Ed.), *Learning by Playing: Frontiers of Video Gaming in Education* (pp. 246-260). New York: Oxford University Press.

Rowe, E., Baker, R., & Asbell-Clarke, J. (2014, July). Building automated detectors of gameplay strategies to measure implicit science learning. Proceedings of the Seventh international conference on Educational Data Mining Society, London.

c. Professional Activities

1. Principal Investigator on numerous US National Science Foundation grants on STEM education. These include:

    NSF/DRK12/# 1119144: Leveling Up: Supporting and Measuring High School STEM Knowledge Building in Social Digital Games: $3,110,415

    NSF/REAL/#1417967: Collaborative Research: Revealing the Invisible: Data-Intensive Research Using Cognitive, Psychological, and Physiological Measures to Optimize STEM Learning: $532,028

    NSF/DRK12/#1502882: Zoombinis: The Full Development Implementation Research Study of a Computational Thinking Game for Upper Elementary and Middle School Learners: $1,941,206

    NSF/DRL/#1738574: Personalized Computational Thinking for Grades 3-8: $996,361

2. Lead author of three published national science curricula:
    a. Hands-On Universe: self-published Lawrence Hall of Science
    b. Investigating Astronomy (PI, published by It's About Time publishing)
    c. Astrobiology (published by It's About Time publishing)
    and three STEM learning games: Impulse, Ravenous, and Quantum Spectre) which can be seen at http://edge.terc.edu

3. Advisory Panels for various organizations including:
    a. National Assessment of Education Progress (NAEP) on Game-Based Learning
    b. George Lucas Education Foundation
    c. CIRCL (CICL Meeting Program Committee and Cyberlearning Report Committee)

4. Keynote Address at NSF/ECR PI meeting, September 2017 –"We Know More Than We Can Tell"

5. TedXBeaconStreet Talk, November 2017. "We Know More Than We Can Tell"