BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
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NAME: Roschelle, Jeremy

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Executive Director, Learning Sciences Research

EDUCATION/TRAINING *(Begin with baccalaureate and include postdoctoral training if applicable. Add/delete rows as necessary)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
MIT, Cambridge, MA	BS	1985	Computer Science
University of California, Berkeley, CA	MS	1989	Education: Math, Science & Technology
University of California, Berkeley, CA	PHD	1991	Learning Sciences

A. Personal Statement

Research-based leader addressing the future of learning with technology. Leads CIRCLS.org network, a community of NSF-awarded projects that apply learning and computer sciences to emerging technologies. Extensive track record in managing large-scale, multiyear, multi-institutional centers and large-scale educational experiments. Associate Editor of the Journal of the Learning Sciences (15+ years). Broadly disseminates research, including writing for the National Educational Technology Plan (2009, 2016, present); translating research for the private sector; communicating impact of a successful IES RCT to a large audience (ASSISTments).

1. Roschelle J. A review of the International Handbook of Computer-Supported Collaborative Learning 2021. International Journal of Computer-Supported Collaborative Learning. 2020 December 16; 15(4):499-505. Available from: http://link.springer.com/10.1007/s11412-020-09336-0 DOI: 10.1007/s11412-020-09336-0

2. Roschelle J, Rafanan K, Estrella G, Nussbaum M, Claro S. From handheld collaborative tool to effective classroom module: Embedding CSCL in a broader design framework. Computers & Education. 2010 November; 55(3):1018-1026. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0360131510001193 DOI: 10.1016/j.compedu.2010.04.012

3. Roschelle J, Teasley S. Computer Supported Collaborative Learning. O'Malley C, editor. Berlin, Heidelberg: Springer Berlin Heidelberg; 1995. Chapter Chapter 5, The Construction of Shared Knowledge in Collaborative Problem Solving.

69-97p. Available from: http://link.springer.com/10.1007/978-3-642-85098-1_5 DOI: 10.1007/978-3-642-85098-1_5

4. Roschelle J. Learning by Collaborating: Convergent Conceptual Change. Journal of the Learning Sciences. 1992 July; 2(3):235-276. Available from: http://www.tandfonline.com/doi/abs/10.1207/s15327809jls0203_1 DOI: 10.1207/s15327809jls0203_1

B. Positions and Honors

Positions and Employment

1998 - 2017 Executive Director, Center for Technology in Learning, SRI International, Menlo Park, CA

2017 - Executive Director, Learning Sciences Research, Digital Promise Global, San Mateo, CA

Other Experience and Professional Memberships

1991 - Member, AERA

1991 - Member, Association of Computing Machinery

1994 - Associate Editor, Journal of the Learning Sciences

2002 - Member, International Society of the Learning Sciences

2008 - Member, Society for Research on Educational Effectiveness

Honors

2019 Fellow, International Society of the Learning Sciences

C. Contribution to Education Research

1. Conducted four randomized-controlled trials on mathematics learning with technology (three were funded by IES).

   a. Shechtman N, Roschelle J, Feng M, Singleton C. An efficacy study of a digital core curriculum for grade 5 mathematics. AERA Open. 2019; 5(2):1-20. DOI: 10.1177/2332858419850482

   b. Roschelle J, Feng M, Murphy R, Mason C. Online mathematics homework increases student achievement. AERA Open. 2016; 2(4):102. DOI: 10.1177/2332858416673968

   c. Roschelle J, Shechtman N, Hegedus S, Hopkins B, Empson S, Knudsen J. SimCalc at scale: Three studies examine the integration of technology, curriculum and professional development for advancing middle school mathematics. American Educational Research Journal. 2010; 47(4):833-878.

   d. Roschelle J, Rafanan K, Bhanot R, Estrella G, Penuel WR, Nussbaum M, Claro S. Scaffolding group explanation and feedback with handheld technology: Impact on students' mathematics learning. Educational

Technology Research and Development. 2010; 58(4):399-419. Available from: 10.1007/s11423-009-9142-9

2. Research synthesis related to learning with technology

   a. Roschelle J, Means B, Mazziotti C. International handbook of learning and inquiry. Chin C, Duncan RA, editors. London, UK: Routledge; 2021. Scaling up design of inquiry environments.

   b. Roschelle J, Noss R, Blikstein P, Jackiw N. Compendium for research in mathematics education. Cai J, editor. Reston, VA: NCTM; 2017. Technology for learning mathematics.

   c. The SimCalc vision and contributions. Hegedus SJ, Roschelle J, editors. Berlin: Springer; 2013. Available from: https://link.springer.com/book/10.1007%2F978-94-007-5696-0

3. Leadership in research communities

   a. Roschelle,Jeremy,, Lester,James,, Fusco,Judi,. AI and the future of learning: Expert panel report. Washington, DC: Digital Promise; 2020. Available from: https://circls.org/reports/ai-report

   b. Foshay WR, Roschelle J. The Sciences of Learning and Instructional Design: Constructive Articulation Between Communities. Lin L, Spector MJ, editors. New York: Routledge; 2018. Learning Sciences and Instructional Design: Big Challenges and Multi-Field, Multidisciplinary Solutions. 64-78p. DOI: 10.4324/9781315684444-5

   c. Cyberlearning community report. Roschelle J, Martin W, Ahn J, Schank P, editors. online: Digital Promise Global; 2017. Available from: http://hdl.handle.net/20.500.12265/3

4. Computer Supported Collaborative Learning

   a. Roschelle J. A review of the International Handbook of Computer-Supported Collaborative Learning 2021. International Journal of Computer-Supported Collaborative Learning. 2020 December 16; 15(4):499-505. Available from: http://link.springer.com/10.1007/s11412-020-09336-0 DOI: 10.1007/s11412-020-09336-0

   b. Roschelle J, Rafanan K, Estrella G, Nussbaum M, Claro S. From handheld collaborative tool to effective classroom module: Embedding CSCL in a broader design framework. Computers & Education. 2010 November; 55(3):1018-1026. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0360131510001193 DOI: 10.1016/j.compedu.2010.04.012

   c. Roschelle J. Learning by Collaborating: Convergent Conceptual Change. Journal of the Learning Sciences. 1992 July; 2(3):235-276. Available from:

http://www.tandfonline.com/doi/abs/10.1207/s15327809jls0203_1 DOI: 10.1207/s15327809jls0203_1

D. Additional Information: Research Support and/or Scholastic Performance

<u>Ongoing Research Support</u>

TPD, Department of Education   Roschelle, Jeremy   01/01/21-12/01/26
EIR   (PI)   Instructional
Coaching for Tech-Enhanced Approaches in Mathematics
Develops training and systems for instructional coaches to help teacher integrate technology effectively into mathematics instruction. 3% time per year (consulting role)
Role: KP

pending, National Science Foundation   Roschelle, Jeremy   07/01/21-
       (PI)   06/01/26
AI Institute: Institute for an AI-Engaged Future of Learning
The Institute will purpose advances in AI for learning. My role is community building and dissemination. 12.5% effort per year.
Role: PI

pending, National Science Foundation   Burke (PI)   09/01/21-08/01/25
Districts Helping Districts: Scaling Inclusive CT Pathways
Will scale up a successful project that helped districts to create inclusive CT pathways. 12.5% time per annum
Role: CPI

pending, IES   Roschelle, Jeremy   07/01/21-06/01/24
       (PI)   Research based tutor training and fidelity
measures for remote fractions tutoring
Will develop and measure materials for training tutors who support struggling mathematics learners in an online tutoring system. 10% time per annum.
Role: CPI

pending, National Science Foundation   Roschelle, Jeremy   06/01/21-
       (PI)   05/01/24
Mapping, Clarifying and Communicating Key Ideas in Collaborative Learning to Broader Audiences
A research synthesis project to communicate research about collaborative learning to practitioners. 10% effort per annum.
Role: PI

2021159, National Science Foundation   Roschelle, Jeremy   10/01/20-
                                          (PI)   09/01/23
Center for Integrative Research in Computing and Learning Sciences
Network lead for a community of research awards, each which integrates computing
and learning sciences to investigate emerging technology. 25% time per annum.
Role: PI

1818635, National Science Foundation   Podkul (PI)   09/01/18-08/01/23
INCLUDES Coordination Hub
Provide support to the network lead of a hub that coordinates funding projects. The
projects seek more inclusive STEM education. Minor role -- 3% effort per year or
less.
Role: KP

n/a, Carnegie Corporation of   Roschelle, Jeremy   10/01/20-09/01/22
NY   (PI)   OpenSciEd Research
Agenda Planning
Leading a community effort to specify a research agenda related to the OpenSciEd
curriculum. 5% effort per annum.
Role: CPI

18373786, National Science Foundation   Roschelle, Jeremy   09/01/18-
                                           (PI)   08/01/21
Developing inclusive K-12 Computing Pathways for the League of Innovative Schools
A researcher-practitioner partnership with three districts, building K-12 scope and
sequence and implementation plans to integrate community more inclusively.
Role: PI

2040753, National Science Foundation   Roschelle, Jeremy   08/01/20-
                                          (PI)   07/01/21
AI and the Future of STEM Learning: Engaging Research and Practitioner Audiences
Disseminating information about AI and the future of learning to a broad audience of
practitioners. 3% effort; will end by summer 2021.
Role: PI

Completed Research Support

1837463, National Science Foundation   Roschelle, Jeremy   01/01/18-
                                          (PI)   09/01/20
Center for Innovative Research on Cyberlearning (CIRCL)
CIRCL served as network lead for a network of NSF-funded projects that integrated
computing and learning sciences to investigate emerging technologies
Role: PI