Sepehr Vakil

School of Education and Social Policy
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ACADEMIC DEGREES

Ph.D., Education in Mathematics, Science, and Technology, Summer 2016
University of California, Berkeley; Berkeley, CA

M.S., Electrical Engineering, June 2007
University of California, Los Angeles; Los Angeles, CA

B.S., Electrical Engineering, June 2006
University of California, Los Angeles; Los Angeles, CA

PROFESSIONAL EXPERIENCE

Assistant Professor, Fall 2018-Present
Northwestern University**,** School of Education and Social Policy
Tenure-track faculty in the Learning Sciences department.

Assistant Professor, Fall 2016-Summer 2018
University of Texas at Austin**,** College of Education, Austin, TX.
Tenure-track faculty in the STEM Education Program, Department of Curriculum and Instruction.

Associate Director of Equity & Inclusion, Fall 2016-Summer 2018
Center for STEM Education, University of Texas at Austin.

Dissertation Fellow, 2015-2016
School of Education, University of San Francisco.

Instructor, 2015-2016
University of San Francisco, San Francisco, CA.
Taught *Teaching for Diversity and Social Justice* and *Critical Analysis of Urban Schooling* in the Teacher Education and International and Multicultural Education (IME) Departments.

Graduate Student Instructor, Fall 2015
University of California, Berkeley, Berkeley, CA.
Co-taught *Urban Education* with Dr. Jabari Mahiri.

Pedagogy Design Lead, Fall 2015
Level the Playing Field Institute (LPFI), Oakland, CA.
Provided a series of professional development workshops for math, science, and computer science instructors in the UCLA Summer Math and Science Honors Academy (SMASH) program.

Founder and Director, 2009-2013
The Oakland Science and Mathematics Outreach (OSMO) Project.
Afterschool STEM program based out of the Boys and Girls Clubs of Oakland, CA.

Technology Consultant, 2013
Level the Playing Field Institute (LPFI), Oakland, CA.
Designed curriculum and led professional development workshops for mentors in Youth Civic Hackathon.

Classroom Teacher, 2012-2014
REALM Charter High School, Berkeley, CA.
Taught Introductory Computer Science.

Lead Instructor, 2012-2014
Level the Playing Field Institute (LPFI), Oakland, CA.
Taught Computer Science and Calculus in summer and academic year programs (the UC Berkeley Summer Math and Science Honors Academy (SMASH) program and the SMASH: Prep program, respectively).

PUBLICATIONS

Peer-Reviewed Journal Articles

Vakil, S. (2020). "I've Always Been Scared That Someday I'm Going to Sell Out": Exploring the relationship between Political Identity and Learning in Computer Science Education. *Cognition and Instruction, 38*(2), 87-115.

Vakil, S., Higgs, J. (2019). It's About Power: A Call to Rethink Ethics and Equity in Computing Education. *Communications of the ACM, 62*(3), 31-33.

Vakil, S., & McKinney de Royston, M. (2019). Exploring politicized trust in a racially diverse computer science classroom. *Race Ethnicity and Education, 22*(4), 545-567.

Vakil, S., & Ayers, R. (2019). The racial politics of STEM education in the USA: Interrogations and explorations. *Race Ethnicity and Education*, 22(4), 449–458.

Vakil, S. (2018). Ethics, Identity, and Political Vision: Toward a Justice-Centered Approach to Equity in Computer Science Education. *Harvard Educational Review, 88*(1), 26-52.

McKinney de Royston, M., Vakil, S., Nasir, N.S., ross, k.m., Givens, J., & Holman, A. (2017). "He's More Like a 'Brother' Than a Teacher": Politicized Caring in a Program for African American Males. *Teachers College Record*, 119(4), 1-40.

Nasir, N., Vakil, S. (2017). STEM-focused academies in urban schools: Tensions and possibilities. *Journal of the Learning Sciences*, 26(3), 376-406.

Gutiérrez, K., Cortes, K., Cortez, A., DiGiacomo, D., Higgs, J., Johnson, P., Lizarraga, J., Mendoza, E., Tien, J., & Vakil, S. (2017). Replacing Representation with Imagination: Finding Ingenuity in Everyday Practices. *Review of Research in Education, 41(1),* 30-60.

Vakil, S., McKinney de Royston, M., Suad Nasir, N. I., & Kirshner, B. (2016). Rethinking race and power in design-based research: Reflections from the field. *Cognition and Instruction, 34(3),* 194-209.

ross, k. m., Nasir, N. I. S., Givens, J. R., de Royston, M. M., Vakil, S., Madkins, T. C., & Philoxene, D. (2016). "I Do This for All of the Reasons America Doesn't Want Me To": The Organic Pedagogies of Black Male Instructors. *Equity & Excellence in Education, 49(1)*, 85-99.

Vakil, S. (2014). A Critical Pedagogy Approach for Engaging Urban Youth in Mobile App Development in an After-School Program. *Equity & Excellence in Education, 47*(1), 31-45.

Book Chapters/Conference Proceedings

Gutiérrez, Jurow, & Vakil (2020). Social Design-Based Experiments: A Utopian Methodology for Understanding New Possibilities for Learning in N.S. Nasir, C.D. Lee, R. Pea, & M. McKinney de Royston (Eds.), *Handbook of the Cultural Foundations of Learning*. New York: Routledge.

Vakil, S, Marshall, J., & Ibrahimovic (2020). "That's Bogus as Hell!": Getting under the hood of surveillance technologies in an out of school STEM learning environment. In Proceedings of the *International Conferences of the Learning Sciences*.

Vakil, S. & Elham, B. (2020). Theorizing the politics of identity in engineering: Reflections from the University of Tehran, Iran. In Proceedings of *International Conferences of the Learning Sciences*.

Vossoughi, S. & Vakil, S. (2018). Towards what ends? A critical analysis of militarism, equity and STEM education. In A. Ali & T. L. Buenavista (Eds.), *At War!: Challenging Racism, Materialism, and Militarism in Education*. New York, NY: Fordham University Press.

Vakil, S., McKinney de Royston, M. (2018). Conceptualizing Sociopolitical Designs for Learning and Practice: How "Social Justice" Became Unjust in a Youth Hackathon. In Mendoza, E., Kirshner, B., & Gutierrez, K (Eds.), *Designing for equity: Bridging*

learning and critical theories in learning ecologies for youth. Charlotte, NC: Information Age Publishing.

Van Wart, S. J., Vakil, S., & Parikh, T. S. (2014, June). Apps for social justice: motivating computer science learning with design and real-world problem solving. In *Proceedings of the 2014 conference on Innovation & technology in computer science education* (pp. 123-128). ACM.

SCHOLARLY PRESENTATIONS

Peer-Reviewed Conference Presentations

Vakil, S. (June, 2020) Imagining socio-political and ethical horizons of the Learning Sciences: Learning with and from junior and senior scholars. Special session, International Conference of the Learning Sciences, Nashville, Tennessee.

Vakil, S., Harron, J., Gingell, G., & Russo-Tait, T. (April, 2019) Teachers Making Sense of Algorithms and Their Politics. Paper presented at the American Educational Research Association, Toronto, Canada.

Vakil, S., & McKinney de Royston, M. (April, 2019) "You're so Far Out, and You're Trying to Look In": Exploring Politicized Trust in a Racially Diverse Computer Science Classroom. Paper presented at the American Educational Research Association, Toronto, Canada.

Nasir, N., & Vakil, S. (April, 2018). Politicized Trust: Theorizing a Critical Component of University-Community-School Partnerships. Paper presented at the American Educational Research Association, New York, NY.

Vossoughi, S., & Vakil, S. (April, 2018). Imagining Otherwise: Militarism, STEM Education, and Racial Justice. Paper presented at the American Educational Research Association, New York, NY.

Nasir, N., Vakil, S. (April, 2017). The Complex Ecology of Racial and Learning Identities: Consequences of Racial Stratification in Schools. Paper presented at the American Educational Research Association Conference, San Antonio, TX.

McKinney de Royston, M., & Vakil, S. (November, 2016). Rethinking Race and Power in Design Based Research: Reflections from the Field. Symposium presentation at the American Anthropological Association Conference, Minneapolis, MN.

Vakil, S., Vossoughi, S. (April, 2016). "What are the politics of your technology?": Sociopolitical Thinking in an Introductory Computer Science Course. Paper presented at the American Educational Research Association Conference, Washington, DC.

Nasir, N., Vakil, S. (April, 2016). Designing STEM Classrooms for Racial Equity. Symposium presentation at the American Educational Research Association Conference, Washington, DC.

Vakil, S., ross, k., Philoxene, D., Nasir, N. (April, 2016). Creating Spaces to Combat Racial Harm: Lessons from a Research-Community Partnership. Poster presentation at the American Educational Research Association Conference, Washington, DC.

Seiki, S., Ayers, R., Vakil, S. (2015). Explorations at the Intersections: Critical Science, Mathematics, & Social Justice Education. Workshop presentation at the Teachers for Social Justice Conference, San Francisco, CA.

Vakil, S., Vossoughi, S. (2015). Computational Thinking, Digital Literacy, and Civic Engagement: Toward Democratic Possibilities and Designs. Panel presentation at the Digital Media and Learning Conference, Los Angeles, CA.

Vakil, S., McKinney de Royston, M. (2015). Towards Empirically Grounded Design for Emancipatory Learning: Integrating Learning Sciences and Critical Theory Perspectives. Roundtable paper presented at the American Educational Research Association Conference, Chicago, IL.

Vossoughi, S., Vakil, S. (2015). Towards What End? A Critical Analysis of Militarism and STEM Education. Symposium presentation at the American Educational Research Association Conference, Chicago, IL.

ross, k., Nasir, N., Givens, J., Vakil, S., Philoxene, D., McKinney de Royston, M., Madkins, T. (2015) "I do this for every reason America doesn't want me to": African American Male Instructors' Organic Pedagogies of Love and Resistance. Poster session at the American Educational Research Association Conference, Chicago, IL.

Vakil, S. (2014). Computational Thinking in an Afterschool Program: How Critical Pedagogy Can Facilitate Engagement for Urban Youth. Roundtable paper presented at the American Educational Research Association Conference, Philadelphia, PA.

Vakil, S., McKinney de Royston, M., Givens, J., ross, k., & Nasir, N. (2014). A Microethnographic Study of "Politicized Caring" in an All-Black, All-Male Alternative Classroom Setting. Roundtable paper presented at the American Educational Research Association Conference, Philadelphia, PA.

Nasir, N., McKinney de Royston, M., ross, k., Givens, J., & Vakil, S. (2014). The Intersections of Ideology, Identity, and Learning in an Alternative Space for African American Male Students. Symposium presented at the American Educational Research Association Conference, Philadelphia, PA.

Vakil, S., Van Wart, S., Parikh, T. (2014). Youth Citizen Design: An Equity Pedagogy for Teaching Design Thinking. Workshop presentation at the Creating Balance: Math Education and Social Justice Conference, Los Angeles, CA.

Sims, J., Vakil, S., Weathersby, K., Scott, A., Gupta, V. (2014). Making the Argument for Centering Critical Pedagogy in Socially Just STEM Education for Middle School, Urban

African American Males. Workshop presentation at the Creating Balance: Math Education and Social Justice Conference, Los Angeles, CA.

Holman, A., & Vakil, S. (2013). African-American parents' experiences with schools: How a community-based program can strengthen family-school relationships. Roundtable paper presented at the American Educational Research Association Conference, San Francisco, CA.

Invited Talks

Vakil, S. (2020). *Youth as Engaged Philosophers of Technology.* Educational Communications and Technology Brownbag Series, New York University. November 5, 2020.

Vakil, S. (2020). *What does equitable and effective K-12 CS education look like?* Illinois Statewide K-12 CS Education Summit, September 25, 2020.

Vakil, S. (2020). *Youth as Engaged Philosophers of Technology.* Critical Digital Pedagogies Expo, University of Colorado, Boulder. July 2, 2020.

Vakil, S. (2019). *The Opportunity and Responsibility of the Computer Science Education Movement.* Keynote presentation given at the annual OCEP STEM Summit, Prairie State College, November 14, 2019.

Vakil, S. (2019). *Designing for the Edges and Peaks: Reflections on Identity, Race, and Ethics in Computing Education.* Presentation given to the National Academies Board on Science Education Committee on the Role of Authentic STEM Learning Experiences in Developing Interest and Competencies for Technology and Computing, June 27, 2019.

Vossoughi, S., & Vakil, S. (2019). *Politics, Identity, and Ethics in STEM Learning: Global Perspectives and Challenges*. Presentation given at the Buffett Institute, Northwestern University, May 24, 2019.

Vakil, S. (2019). *Political Identity, Race, and Ethics: What are these doing in a nice field like computing education?* Presentation given at the Center for Connected Learning and Computer-Based Modeling, Northwestern University, May 1, 2019.

Vakil, S. (2016). *The Political Imagination(s) of STEM Education: Moving Beyond Equity, Inclusion, and Diversity*. Presentation given at the Equity Summit hosted by Skyline College. San Bruno, CA.

Vakil, S. (2014). *Moving Past Access in Computer Science Education*. Presentation given at the Kapor Center for Social Impact. Oakland, CA.

Vakil, S. (2014.). *Engineering and Equity: Connections and Tensions*. Presentation given at the National Society of Black Engineers, Stanford University. Palo Alto, CA.

Vakil, S. (2014.). *Equity-Based Approaches to University-Based STEM Outreach*. Presentation given at the Coalition for Education & Outreach, University of California, Berkeley.

Berkeley, CA.

Vakil, S. (2014.). *Rethinking the role of technology in STEM Education*. William & Mary Jane Brinton Family Chair Talks on Urban Teaching. Graduate School of Education, University of California, Berkeley. Berkeley, CA.

FUNDED RESEARCH ACTIVITY

(2020-2022) Principal Investigator, *Spencer Large Grant: A Modernizing Engineering Education within a Traditional Islamic Society: A Study of Knowledge, Learning and Identity in the Early Life of Sharif University of Technology, 1966-1979.* Spencer Foundation.

(2018-2023) Principal Investigator, *CAREER: Investigation of Undergraduate Learning Contexts Considering Ethical, Racial, and Disciplinary Identities of Students in Engineering and Computer Science*. National Science Foundation.

(2018-2021) Principal Investigator, *A Comparative Case Study of the Cultural Production of Political Identity for Undergraduate Students of Color in Engineering and Computer Science*. Spencer Foundation.

(2016-2018) Co-Principal Investigator, *Pre-CS Fellows: Building CS Capacity with Teachers of Color* (with Carol Fletcher, Deputy Director of Center of STEM Education, University of Texas at Austin). Awarded a $300,000 Research Grant from Google, Computer Science Education.

(2012-2013) Principal Investigator, *Oakland Science and Mathematics Outreach (OSMO) Project*. Innovation Grant. Awarded $13,500 from Division of Equity & Inclusion, University of California, Berkeley.

COURSE INSTRUCTION

Northwestern University

CS 396	Computing, Ethics, and Society. Fall, 2020.
SESP 351	Analyzing Intersections of Technology, Ethics, Power, and Education Fall, 2019; Winter, 2020

University of Texas at Austin

STM 390	Equity and STEM Education (Graduate Course) Fall, 2016; Spring, 2018
EDC 365D	Classroom Interactions (Undergraduate Course) Spring, 2017; Fall, 2017; Spring, 2018
EDC 380F	Sociocultural Foundations of Education (Graduate Course) Fall, 2017

University of San Francisco

TEC 618	Teaching for Diversity and Social Justice (Undergraduate Course) Fall, 2015
IME 706	Critical Analysis of Urban Schooling (Graduate Course) Co-Instructor with Dr. Lance McCready Spring, 2016

HONORS & AWARDS

2020	**Alumnae Award for Curriculum Innovation, Northwestern University**
2018	**NAEd/Spencer Postdoctoral Fellowship**
2016	**NAEd/Spencer Dissertation Fellowship (awarded but declined)**
2015-2016	**Gerardo Marin Diversity Dissertation Fellowship** College of Education University of San Francisco, San Francisco, CA.
2015	**Recipient, UC Berkeley Graduate Dean's Summer Research Grant**
2015	**Recipient, Thomas I. Yamashita Foundations for Social Change Prize** University of California, Berkeley, Berkeley, CA.
2014-2015	**Recipient, Patricia Cross Collaborative Scholarship Award for Research on Teaching and Learning** University of California, Berkeley, Berkeley, CA.
2011-2015	**Research in Cognition and Mathematics Education (RCME) Fellowship.** University of California, Berkeley, Berkeley, CA.
2011-2013	**Cota Robles University Diversity Fellowship.** University of California, Berkeley, Berkeley, CA.

SERVICE & LEADERSHIP

Professional

2018-Present	**Proposal Reviewer** International Conference of the Learning Sciences
2017-Present	**Proposal Reviewer** AERA Annual Conference, Division G (Social Context of Education) & Division C (Learning and Instruction)
2017-Present	**Advisory Panel** National Science Foundation (NSF).
2016-Present	**Reviewer** Cognition and Instruction.
2015-Present	**Reviewer** Journal of the Learning Sciences.

Departmental/Institutional

2019-Present	**Learning Sciences-Computer Science Faculty Affiliate** Northwestern University
2019-Present	**Learning Sciences PhD Admissions Committee member**

Northwestern University

2018-Present	**Cognitive Science Committee member** Northwestern University
2017-2019	**Teacher Education Committee member** College of Education, UT Austin
2016-2019	**Associate Director of Equity & Inclusion** Center for STEM Education.
2016-2019	**Advisory Council Member** Ronald E. McNair Scholars Program
Spring 2017	**Search Committee Member** STEM Education faculty search

PROFESSIONAL AFFILIATIONS

Memberships

- SIGCSE
- American Educational Research Association (AERA)