SHERON L. MARK, PH.D.

Assistant Professor, Science Education
University of Louisville
College of Education and Human Development
Department of Middle and Secondary Education, Room 271
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EDUCATION

Ph.D. Boston College 2012
Curriculum and Instruction – Science Education

M.S. Syracuse University 2008
Chemical Engineering

B.S. Syracuse University (*magna cum laude*) 2006
Biochemistry

HONORS, AWARDS, & FELLOWSHIPS

2017 National Science Foundation (NSF) Innovative Technology Experiences for Students and Teachers (ITEST) Fellowship. STEM Learning and Research Center (STELAR).

2016 Nystrand-Offutt Scholar. Nystrand Center of Education Excellence. College of Education and Human Development. University of Louisville. Louisville, KY.

Proposal: Culturally-responsive STEM education: A place for art and social justice.

2015 Jhumki Basu Scholar. National Association for Research on Science Teaching (NARST) Equity and Ethics Committee.

2003 National Academic Scholarship – Science. Republic of Trinidad and Tobago.

ACADEMIC APPOINTMENTS

Assistant Professor 2015 - present
University of Louisville
Department of Middle and Secondary Education

Courses Taught: Developing Cross-Cultural Competence: Teaching Students from Diverse Backgrounds; Culture and Power in STEM Education; Middle and Secondary Science Methods; Capstone

Post-Doctoral Fellow and Keck Foundation Teaching Fellow 2012 – 2015
Loyola Marymount University
Center for Urban Resilience (CURes) ‖ Seaver College of Science and Engineering ‖ Bellarmine College of Liberal Arts

Courses Taught: Biochemistry; General Biology Lab; Ecology of Homelessness; Introduction to Environmental Studies

Graduate Research Assistant 2008 – 2012
Boston College, Lynch School of Education

Graduate Research Assistant 2006 - 2008
Syracuse University, L.C. Smith College of Engineering and Computer Science

PUBLICATIONS

PEER-REVIEWED ARTICLES

Mark, S. L. (under review). New geography for resistance in informal multicultural STEM education.

Mark, S. L. (expected 2017). A bit of both science and economics: A STEM identity narrative for one African American male youth. *Cultural Studies of Science Education.* (impact factor = 0.51)

Mark, S. L. (2016). Psychology of Working Narratives of STEM Career Exploration for Non-dominant Youth. *Journal of Science Education and Technology*, 1-18. doi:10.1007/s10956-016-9646-0 (impact factor = 1.124)

Mark, S. L., DeBay, D., Zhang, L., Haley, J., Patchen, A., Wong, C., & Barnett, M. (2013). Coupling social justice and out-of-school time learning to provide opportunities to motivate, engage and interest under-represented populations in STEM fields. *Career Planning and Adult Development Journal, 29*(2), 93 - 105.

Blustein, D. L., Barnett, M., **Mark, S. L.**, Depot, M., Lovering, M., Lee, Y., et al. (2013). Examining urban students' constructions of a STEM career development intervention over time. *Journal of Career Development. 40* (1): 40 – 67.

Barnett, M., Houle, M., **Mark, S. L.**, Strauss, E. & Hoffman, E. (2010). Learning about urban ecology through the use of visualization and geospatial technologies. *Journal of Technology & Teacher Education. 18* (2): 285 – 314.

Hou, S., Liu, Z., Young, A. W., **Mark, S. L.**, Kallenbach, N. R., & Ren, D. (2010). Effects of Trp- and Arg-containing antimicrobial-peptide structure on inhibition of Escherichia coli planktonic growth and biofilm formation. *Applied and environmental microbiology*, *76* (6), 1967-1974.

BOOK CHAPTERS

Mark, S. L. (expected 2017). Who am I? I am . . . : Activist Art to Author ELL Identities. In T. Dell'Angelo, L. Ammentorp, & L. Madden (Eds.), Using photography and other arts-based methods with English Language Learners: Rowman & Littlefield.

Barnett, M., Houle, M., **Mark, S. L.**, Minner, D., Hirsch, L., Strauss, E., . . . Hufnagel, B. (2014). Participatory professional development: Geospatially enhanced urban ecological field studies. In J. MaKinster, N. Trautmann & M. Barnett (Eds.), *Teaching science and investigating environmental issues with geospatial technology: Designing effective professional development for teachers* (pp. 360). Springer Science+Business Media B.V.

Barnett, M., MaKinster, J., Trautmann, N., Houle. M., & **Mark, S. L.** (2014). Geospatial technologies: The present and future roles of emerging technologies in environmental education. In R. B. Stevenson, M. Brody, J. Dillon, & A. E. J. Wals (Eds.), *The International Handbook of Research on Environmental Education* (331 – 348). New York and London: Routledge.

DeBay, D., Haley, J., **Mark, S. L.**, Barnett, M., Anderson, A., Strauss, E., et al. (2012). Engaging youth in visualizing sustainable urban plans using geographic information systems coupled with computer visualization. In A. Wals, P. Corcoran & H. Brandon (Eds.), *Learning for sustainability in times of accelerating change*: Springer.

NEWSLETTERS

Mark, S. L. (2016). Advancing out of poverty through sport and STEM. *Envision Equity – Jefferson County Public Schools' Newsletter*.

ARTICLES (IN PREPARATION)

Mark, S. L. & *Alexander, O. (in preparation). STEM and the student-athlete.

Mark, S. L. (in preparation). Social Justice-STEM education: Modeling it and enacting it.

Mark, S. L., Gaskins, W., & Honken, N. (in preparation). Implicit bias, identity development, and undergraduate engineering success.

Gougis, R. D. & Mark, S. L. (in preparation). A study of pre-service teachers' understanding of how implicit bias arises.

*indicates a graduate student

INVITED TALKS

Mark, S. L. (February 28th, 2017). Psychology of Working Narratives of STEM Career Exploration for Non-dominant Youth. In the STEM Learning and Research Center (STELAR)

Webinar*: Stories from ITEST - Culturally Competent Projects that Inspire Young People to Pursue STEM Careers (Journal of Science Education and Technology Special Issue)*

Mark, S. L. (December 9th, 2016). Social justice-STEM education: Modeling and enacting it. *2017 Nystrand-Offutt Fellow Award Ceremony.* University of Louisville, Louisville, KY.

Mark, S. L. (2013). STEM Careers and Education. Second Annual Legacy Ladies, Inc. *Just For Girls* Teen Conference. Loyola Marymount University, Los Angeles, CA.

Barnett, M., Blustein, D., & Mark, S. (2010). Enhancing youth motivation for STEM career development. Presented as a part of the Learning Resources Center at the Educational Development Center ITEST webinar series. In ITEST Program Findings on Youth Motivation, Interest, and Identity as it relates to STEM Career Development.

Barnett, M., Mark, S., Blustein, D., Strauss, E., & Hoffman, E. (2010). NARST. Citizen science in urban ecology: Intersection between environmental and STEM education and career development. Presented at the 2010 annual meeting of the National Association for Research in Science Teaching (NARST), Philadelphia, PA.

NATIONAL CONFERENCE PRESENTATIONS

(PEER-REVIEWED)

Mark, S.L. (2017). Intentionality is not the issue here: Race and ethnicity in informal multicultural STEM education. Paper presented for the 2017 Critical Race Studies in Education Association (CRSEA) National Conference. Indianapolis, IN

Mark, S.L. (2017). New geography for resistance: Race and ethnicity in informal multicultural STEM education. Paper presented for the Thirteenth International Congress of Qualitative Inquiry (ICQI). Champaign-Urbana, IL

Mark, S. L. (2017). Formulating a Personalized STEM Education and Career Development Plan from a Lens of Identity Development. Paper presented for the 2017 annual meeting of the National Association for Research in Science Teaching (NARST). San Antonio, TX.

Id-Deen, L. A., Mark, S. L., Thomas, M. S., & Stevens, A. (2017). "Walking on Egg Shells": An Approach Towards Building Authentic and Trusting Relationships with a High School Clinical Model. Paper accepted for the 2017 annual meeting of the American Association of Colleges for Teacher Education (AACTE). Tampa, FL.

Mark, S. (2016). One Step Forward, Three Steps Back: Engaging Race and Ethnicity in STEM Television Programming. Paper presented at the 2016 annual meeting of the National Association for Research in Science Teaching (NARST). Baltimore, MD.

Mark, S. (2016). Representing Race and Ethnicity, STEM in Children's Television, and Healthcare: Potential and Setbacks. Poster presented in the Jhumki Basu Scholars Symposium - Equity and Justice: Perspectives From Emerging Scholars, an invited

symposium sponsored by the Ethics and Equity committee of the National Association for Research in Science Teaching (NARST). Baltimore, MD.

Mark, S. (2015). Making science authentic, local, and relevant: Evaluation of CityEco teacher professional development design and impact. Paper presented at the 2015 annual meeting of the National Association for Research in Science Teaching (NARST), Chicago, IL.

Mark, S. (2014). A psychology of working perspective on the development of science career interests amongst diverse students. Paper presented at the 2014 annual meeting of the American Educational Research Association (AERA) in Philadelphia, PA within the symposium: A New STEM Education Model for a New Era: Integrating Social Justice, Urban Ecology, and Career Development.

Mark, S. (2014). Qualitative examination of diverse students' science career interests. Paper presented at the 2014 Annual Meeting of the Ethnographic and Qualitative Research Conference in Las Vegas, NV.

Mark, S. (2013). An examination of the processes of student STEM career interest development within an informal science learning community. Paper presented at the 2013 annual meeting of the American Educational Research Association (AERA) in San Francisco, CA within the symposium: Working toward Social Justice in Technologically Rich Settings.

Mark, S. (2011). Identity formation and motivation in an informal learning community: Buy-in, bridging and becoming. Paper presented at the 2011 annual meeting of the Ethnographic and Qualitative Research Conference (EQRC), Cedarville, Ohio.

Mark, S., Lee, Y., Barnett, M., Blustein, D., Strauss, E. & Wong, C. (2011, April). Exploring high school students' development of STEM-related career interests. Paper presented at the 2011 annual meeting of the AERA, New Orleans, LA.

Mark, S., Lee, Y., Barnett, M., Blustein, D., Strauss, E. & Wong, C. (2011, April). Exploring high school students' development of STEM-related career interests. Paper presented at the 2011 annual meeting of Innovative Technology Experiences for Students and Teachers (ITEST), Washington, D.C.

Mark, S., Blustein, D., & Barnett, M., (2010, May). Barriers, resources and challenges that urban youth experience and overcome in STEM career development. In M. Barnett's (chair) symposium: STEM career development: Lessons learned from the NSF ITEST program. Paper presented as a part of a symposium at the 2010 annual meeting of the AERA, Denver, CO.

Mark, S., Barnett, M., Houle, M., Strauss, E., Hirsch, L, & Minner, D. (2010, May). Technology-enhanced urban ecology field studies: Impacts on students' science self-efficacy and ecological mindset. In M. Barnett's (chair) symposium: Improving student interest towards science: Results from the NSF ITEST program. Paper presented as a part of a symposium at the 2010 annual meeting of the AERA, Denver, CO.

Barnett, M., Houle, M., Mark, S., & Chen, S. (2010, May). Using geographic information systems to support student learning through urban ecology. Paper presented at the 2010 annual meeting of the AERA, Denver, CO.

Mark, S., Blustein, D. Backus, F. Barnett, M., & Hoffman, E. (2010, March). Helping minority students get into the game: Research outcomes of a technology-enhanced STEM development program. Paper presented at the 2010 annual meeting of the National Association for Research in Science Teaching (NARST), Philadelphia, PA.

REGIONAL CONFERENCE PRESENTATIONS

(PEER-REVIEWED)

Id-Deen, L. A., Mark, S. L., Thomas, M. S., & Stevens, A. (2017). Advancing Equity Through Establishing Trusting Relationships with School Partnerships. Paper presented for the 2017 Professional Development Schools (PDS) National Conference. Myrtle Beach, SC.

Mark, S. (2016). Culturally-responsive STEM education: A place for art and social justice. Paper presented at the 2016 annual meeting of the Mid-Atlantic Association for Science Teacher Educators (MA-ASTE), Gatlinburg, TN.

Mark, S. (2015). Race, ethnicity, and culture in STEM children's television. Paper presented at the 2015 annual meeting of the Mid-Atlantic Association for Science Teacher Educators (MA-ASTE), Lore City, OH.

Mark, S. (2014). Sourcing STEM career interests among diverse students. Paper presented at the 2014 Annual Meeting of the Northeastern Educational Research Association (NERA) in Trumbull, CT.

GRANTS

RESEARCH GRANTS

NGSS – Formative Assessment Strategies for Science Teachers (FAS^{2}T) 2016 – 2018
Mathematics and Science Partnerships (Co-PI, $399, 617)
Kentucky Department of Education (PI, LeeAnn Nickerson, Jefferson County Public Schools)

Culturally-Responsive STEM Education: A Place for Art and Social Justice 2016 – 2017
Women Investing in Education (WIE) (PI, $2700)

Non-traditional Scientific Context of Sport to Support STEM Thinking 2015 – 2017
Research and Faculty Development (RFD) Funds (PI, $3000)
University of Louisville

The Value of Urban Parkland: A Park User Survey Study of the Baldwin Hills 2014
The Baldwin Hills Conservancy, Los Angeles, CA (Co-PI, $295,090)
(PI, Eric Strauss, Loyola Marymount Univ.)

TEACHING GRANTS

Cards2Create2 @ Seneca High School 2015 – 2017
Council for Post-Secondary Education (Key Personnel, $150,000)
University of Louisville (PI, Harrie Bueker, University of Louisville)

Science Teaching for English Learners – Leveraging Academic Rigor 2012 – 2015
United States Department of Education (Key Personnel, ~$100,000)
(PI, Magaly Lavadenz. Loyola Marymount University)

GRANT-FUNDED RESEARCH EXPERIENCES

Informal STEM Program Research Observer 2011 – 2012
Program in Education, Afterschool and Resiliency/Harvard University

Graduate Research Assistant, Boston College 2008 – 2012
Information Technology and College Pathways through Application of Technology to Explore Urban Ecological Challenge
National Science Foundation (NSF) Innovative Technology Experiences for Students and Teachers (ITEST)
PI: Dr. Mike Barnett, Grant #0833624

Graduate Research Assistant, Boston College 2008 – 2012
Urban Ecology Course Materials Created with a Universal Design for Learning Framework
National Science Foundation (NSF), Instructional Materials Grant (IMD)

Graduate Research Assistant, Boston College 2008 – 2011
Urban Ecology, Information Technology and Inquiry Science for Students and Teachers
National Science Foundation (NSF), Innovative Technology Experiences for Students and Teachers (ITEST)
PI: Dr. Mike Barnett, Grant #0525040

Graduate Research Assistant, Boston College 2008 – 2010
Improving Teacher Quality (ITQ)
The United States Department of Education

TEACHING EFFECTIVENESS

DOCTORAL STUDENT EDUCATION

Independent Studies
Terri Tinnell Summer, 2017

Dissertation Committee Membership 2017 - present
Melissa Michael

Doctoral Program Committee Membership
Tytianna Smith, Terri Tinnell, Katherine Ray King 2016 – present

Doctoral Program Comprehensive Exams Reader
William Thornburg 2015
Melissa Michael 2016

DELPHI U – Delphi Center for Teaching and Learning PD, University of Louisville
Developing Online Courses (Participant) 05/08-12/2017

TEACHER CERTIFICATION

Kentucky Teacher Intern Program (KTIP) 2015 – 2016
University Teacher Educator

TEACHER PROFESSIONAL DEVELOPMENT

Communicating Urban Ecological Conceptual Understanding through Writing 11/2014
Center for Equity for English Learners (CEEL)
Loyola Marymount University

Urban Sprawl 10/2014
Center for Equity for English Learners (CEEL)
Loyola Marymount University

Urban Ecology Teacher Summer Institute 08/2013
Center for Equity for English Learners (CEEL
Loyola Marymount University

Urban Ecology Teacher Summer Institute 08/2014
Center for Equity for English Learners (CEEL)
Loyola Marymount University

Urban Ecology Summer Bridge Program – Middle School 07/2013
Center for Equity for English Learners (CEEL)
Loyola Marymount University

Urban Ecology Teacher Professional Development 2012 - 2013
Center for Urban Resilience (CURes)
Loyola Marymount University

Urban Ecology Summer Teacher Institute 07/2009
Boston College

PROGRAM, COURSE AND CURRICULUM DEVELOPMENT

Urban Ecology Graduate Program Development 2013
Loyola Marymount University

KECK Interdisciplinary Undergraduate Course Development 2013
Ecology of Homelessness
Loyola Marymount University

ADDITIONAL PROFESSIONAL TEACHING EXPERIENCES

Guest Lecturer – Urban Ecology – Homelessness 2014
Seaver College of Science and Engineering
Loyola Marymount University

Guest Lecturer – Urban Ecology – Environmental Justice 2013
Seaver College of Science and Engineering
Loyola Marymount University

Guest Lecturer – Urban Ecology Lab – Qualitative Research Methods 2013
Seaver College of Science and Engineering
Loyola Marymount University

Post-Doctoral Teaching Assistant – Urban Ecology 2012
Seaver College of Science and Engineering
Loyola Marymount University

STEM Instructor 2011 - 2012
Boston College - College Bound

Freshman Instructor 2011
Cristo Rey Boston High School
Savin Hill, Boston, MA.

Guest Lecturer – Qualitative Research Methods – Theoretical Frameworks 2011

Graduate Teaching Assistant 2008 – 2011
Boston College

Courses supported: Teaching about the Natural World – Elementary Science Methods; Restructuring Classrooms with Technology; Animal Behavior; Ecology of a Dynamic Planet.

Graduate Teaching Assistant 2007 – 2008
Syracuse University

Courses supported: Statistics II; Introduction to Chemical Engineering.

SERVICE – NATIONAL

Cultural Studies in Science Education Journal 2016 – 2017
Best Paper Award Selection Committee, Member

National Association for Research on Science Teaching (NARST) 2016 – 2017
Equity and Ethics Committee, Pre-conference workshop co-planner

National Association for Research on Science Teaching (NARST) 2016 – 2017
Equity and Ethics Committee, Social Action Project:
Elementary Science Education Book Drive for San Antonio Elementary Schools

SERVICE – COLLEGE

Assessment Review Committee 2016 – present
College of Education and Human Development

Initial Teacher Certification Admissions Committee 2016 – present
College of Education and Human Development

Minority Teacher Recruitment Project (MTRP) – Faculty Meet, Eat, and Greet 04/2016
College of Education and Human Development

SERVICE – DEPARTMENT

Personnel Committee, Member
Department of Middle and Secondary Education 2016

Science, Technology, Engineering, and Mathematics (STEM) Program, Member
Department of Teaching and Learning 2015 – present

Content Methods Instruction Ad Hoc Committee, Member
Department of Middle and Secondary Education 2015 – present

Admissions Interviews, Interviewer
Department of Teaching and Learning 2015 - present

Student Orientations, Faculty Member
Department of Teaching and Learning 2015 - present

SERVICE – COMMUNITY

Seneca High School 2015 – present

Faculty Member, Cards2Create2@Seneca Clinical Partnership for Teacher Preparation

2017 Regional Junior Science and Humanities Symposium 03/04/2017
Faculty Judge

2016 Regional Junior Science and Humanities Symposium 02/27/2016
Faculty Judge

K-12 STUDENT MENTORSHIP EXPERIENCE

High School Science Student Mentorship, Loyola Marymount University Aug, 2012

College Bound, Boston College Spring, 2009 – Spring, 2012
Program Support

NSF ITEST Convening on Youth Motivation in STEM Education Aug – Sept, 2011
Boston College
Graduate Assistant

PROFESSIONAL ORGANIZATIONS

National Association for Research in Science Teaching (NARST)

Association for Science Teacher Education (ASTE)
Mid-Atlantic Association for Science Teacher Education (MA-ASTE)

American Educational Research Association (AERA)

MANUSCRIPT REVIEW

INVITED REVIEWER

Journal of Science Education and Technology 2016

FIELD REVIEWER

Journal of Science Education and Technology 2015 - present
Journal of Career Development 2014 - present
Urban Education 2013 - present

PROFESSIONAL DEVELOPMENT FOR ACADEMIA

Community-Engaged Scholarship 04/2016