

## **Takumi C. Sato, Ph.D.**

Curriculum Vitae (August 2022)

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856.608.5655

## **Education**

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**Michigan State University**, East Lansing, MI

*Ph.D. in Curriculum, Instruction and Teacher Education – Science Education, 2013*

Dissertation Title: *Examining How Youth of Color Engage Youth Participatory Action Research to Interrogate Racism in Their Science Experiences*

Advisor: Angela Calabrese Barton, Ph.D.

Committee: Charles W. (Andy) Anderson, Ph.D.

Dorinda Carter Andrews, Ed.D.

Django Paris, Ph.D.

**University of Florida**, Gainesville, FL

*40 hours of graduate coursework completed in Science Education*

Advisor: Troy D. Sadler, Ph.D.

**Washington University**, St. Louis, MO

*Bachelor of Arts in Biology, 1996*

## **I. Professional Experience**

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***Program Officer for Teacher Development, Knowles Teacher Initiative***

July 2022 – current, Moorestown, NJ

***Clinical Associate Professor, Science Education, School of Education, Virginia Tech***

2022, Blacksburg, VA

***Clinical Assistant Professor, Science Education, School of Education, Virginia Tech***

2013-2021. Blacksburg, VA

***Faculty Affiliate, Africana Studies Program, Department of Sociology, Virginia Tech***

December 2015-2022, Blacksburg, VA

***Facilitator, Florida PROMiSE Grant Professional Development Design Team***

April 2008, Orlando, FL

***State Science Standards Writing Committee, Florida Department of Education***

Summer 2007 – February 2008, Orlando, FL

**Secondary Science Specialist, Orange County Public Schools**  
September 2006 – August 2007, Orlando, FL

**Florida Comprehensive Assessment Test Science Item Content Review Committee, Florida Department of Education**  
November 2006, Jacksonville, FL

**Science Teacher, Orange County Public Schools**  
August 2003 – September 2006, Orlando, FL  
October 1998-May 2002

**Courses Taught:**

**Olympia High School, Orlando, FL**

- Biology: Regular, Honors and pre-Advanced Placement
- Physics: Regular and Honors
- Integrated Science II: Regular

**Meadow Woods Middle School, Orlando, FL**

- Comprehensive Science: Grade 7

**Gotha Middle School, Orlando, FL**

- Comprehensive Science: Grade 6
- World Geography: Grade 6
- Reading: Grade 6

**Science Teacher/Science Club Leader, Windermere Preparatory School**  
August 2002 – June 2003, Windermere, FL

**Courses Taught:**

- Biology: Honors
- Chemistry: Honors
- Physics: Honors
- Life-Management Skills: Grade 7

**Educator I, Sea World of Florida**  
September 1996 - October 1998, Orlando, FL

**Unit Coordinator, The Boggy Creek Gang Camp**  
May 1996 – August 1996, Cassia, FL

## **II. Research Experience**

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*Co-Principal Investigator, Actualizing STEM Potential in the Mississippi Delta, July 2015 – June 2019, Funded by the National Science Foundation*  
Principal Investigator: Brenda Brand, Ph.D.

*Principal Investigator, STEM Makerspace Program, September 2013 - 2022*

*Research Assistant*, Green Energy Technology in the City, May 2010-August 2013, Funded by the National Science Foundation

Principal Investigator: Angela Calabrese Barton, Ph.D.

*Graduate Assistant*, Journal of Research in Science Teaching, May 2011-August 2013

Co-editors: Angela Calabrese Barton, Ph.D. and Joe Krajcik, Ph.D.

*Graduate Assistant*, Video-based professional development to support beginning physics teachers' PCK, August 2009-May 2010

Principal Investigator: Alicia Alonzo, Ph.D.

*Graduate Assistant*, Teachers for a New Era Project, August 2008-May 2009

Principal Investigators: Charles Anderson, Ph.D. and Gail Richmond, Ph.D.

*Graduate Assistant*, Engaging Future Scientists, August 2007-May 2008

Principal Investigators: Troy D. Sadler, Ph.D. and Luis Ponjuan, Ph.D.

## Publications

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1. **Sato, T.** (2019). Ignored, Pacified, and Deflected. In N.D. Hartlep & D. Ball (Eds.), *Racial Battle Fatigue in Higher Education*. Routledge.
2. House-Niamke, S., & **Sato, T.** (2018). Resistance enacted in a diversity course for pre-service teachers. *Educational Studies*, DOI: [10.1080/00131946.2018.1501567](https://doi.org/10.1080/00131946.2018.1501567)
3. **Sato, T.** (2015). [Review of the book *Deep Knowledge: Learning to Teach Science for Understanding and Equity*, by D.B. Larkin]. *Science Education*, 99(3), 611-613.
4. Calabrese Barton, A., Birmingham, D., **Sato, T.**, Tan, E. & Calabrese Barton, S. (Fall 2013). Youth as community science experts in green energy technologies. *Afterschool Matters*.

## Conference Presentations

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1. **Sato, T.**, (March 2021). *Eliminating Barriers: Reviewing Teacher Education Policies and Practices that Exclude Diverse Candidates*. Presented in a virtual Poster Session at the 2021 Virginia Association of Colleges and Teacher Educators Conference, Online.
2. **Sato, T.**, & Birmingham, D. (March 2020). *Toward a Conception of Humanizing Science Learning*. Accepted in a Paper Session at the 2020 NARST Conference, Portland, OR.\*
3. **Sato, T.** (May 2019). *Tactics to Avoid Race and Racism and the Impact on Faculty of Color*. Presented in a Poster Session at the 32<sup>nd</sup> Annual National Conference on Race & Ethnicity in American Higher Education (NCORE 2019), Portland, OR.

4. Birmingham, D., & **Sato, T.** (April 2019). *Searching for humanizing practices and experiences in science classrooms*. Presented in a Poster Session at the 2019 NARST Conference, Baltimore, MD.
5. Brand, B., **Sato, T.**, Mitchell, A., & Taylor, L. (April 2018). *A Counternarrative from the Mississippi Delta: Teacher and Student Experiences in a Pre-Engineering Program*. Presented in a Poster Session at the 2018 NARST Conference, Atlanta, GA.
6. House-Niamke, S., & **Sato, T.** (September 2017). *Resistance Enacted in a Diversity Course for Pre-Service Teachers*. Presented in a Symposium Session at the Teacher Diversity Matters: A National Symposium on Preparing, Recruiting, and Retaining Teachers of Color, Northern Kentucky University, Highland Heights, KY.
7. **Sato, T.**, Brand, B., Mitchell, A., & Taylor, L. (June 2017). *Actualizing STEM Potential in the Mississippi Delta*. Presented in a Flash Talk session at the STELAR ITEST PI & Evaluator Summit, Alexandria, VA.
8. Brand, B., **Sato, T.**, and Mitchell, A. (April 2017). *Influencing the Self-Efficacy and Identity of Students in a Pre-engineering Robotics Program*. Presented in a Paper Session at the 2017 NARST Conference, San Antonio, TX.
9. Brand, B., **Sato, T.**, Wright, W.R., Bey, B., and Clifton, S. (April 2016). *Setting the Stage in STEM Research: Influencing Sociocultural Consciousness*. Presented in a Paper Session at the 2016 NARST Conference, Baltimore, MD.
10. **Sato, T.** (May 2015). *Racial, Gender and Science Identities in an Engineering Design Project*. Presented in a Poster Session at the Critical Race Studies in Education Association Conference, Nashville, TN.
11. **Sato, T.** & Coyner, C. (November 2014). *Doing Science with Technology in the Secondary Classroom*. Presented as a Workshop at the 2014 Virginia Association of Science Teachers Annual Professional Development Institute, Roanoke, VA.
12. **Sato, T.** (March 2014). *YPAR and Peer Teaching to Subvert Systemic Racism in Science Learning*. Presented in a Paper Session at the 2014 National Association of Research in Science Teaching Conference, Pittsburgh, PA.
13. **Sato, T.** (September 2013). *Youth Participatory Action Research and Science Opportunities*. Presented in a Poster Session at the 2013 Regional Conference Mid-Atlantic Association for Science Teacher Education, Daniels, WV.
14. **Sato, T.** (April 2013). *Youth Researchers ERASE-ing Disparities in STEM Opportunities*. Presented in a Related Paper Set session titled *Learners in Action: Youth Narratives on Accessing and Transforming Science* at the National Association of Research in Science Teaching Conference, Rio Grande, PR.

15. **Sato, T.** (April 2013). *The Next Generation of Science Education Research: Expanding the Definition of Researcher and Inviting Youth Voices*. Presented in a Symposium session titled *The Next Generation of Science Education Research: The Importance of Collaboration and Interdisciplinary Research Agendas* at the National Association of Research in Science Teaching Conference, Rio Grande, PR.
16. **Sato, T.** & Calabrese Barton, A. (April 2013). *Cultivating Humanity in Science Learning: Quentin's Story of Participation in Science*. Presented in a Symposium session titled *Inside Personally Relevant Science Learning Contexts: How Do Learners Connect Science to their Everyday Lives?* at the National Association of Research in Science Teaching Conference, Rio Grande, PR.
17. **Sato, T.**, Johnson, A., Kenyon, E. & Hernandez, M. (May 2012). *Informing Teacher Education Through Candidates' Responses to Race-based Television Satire*. Presented in a Paper Session at the Critical Race Studies in Education Association Conference, New York, NY.
18. **Sato, T.** & Calabrese Barton, A. (April 2012). *Counterstories for Learning and Engaging Meaningfully in Science in an Informal Setting*. Presented in a Symposium session titled *Reframing Informal Science Education in Light of Diversity, Equity, Democracy and Critical Science Literacy* at the American Educational Research Association Conference, Vancouver, BC.
19. **Sato, T.** (March 2012). *Analysis of Youth Experience With Science Through a Critical Race Theory Lens*. Presented poster for the Sandra K. Abell Institute for Doctoral Students Poster Session at the National Association of Research in Science Teaching Conference, Indianapolis, IN.
20. **Sato, T.** (March 2012). *Considering the Risks and Opportunities of Adopting a Critical Race Theory Lens in Science Education*. Presented in a Scholar Symposium session at the National Association for Multicultural Education Conference, Chicago, IL.
21. Johnson, A., **Sato, T.**, Kenyon, E. & Hernandez, M. (November 2011). *Critical Race Theory, Popular Media, and the Teacher Education Classroom*. Presented in an Interactive Session at the National Association for Multicultural Education Conference, Chicago, IL.
22. **Sato, T.** & Calabrese Barton, A. (April 2011). *Horizontal and Vertical Learning Dimensions of Urban Youth Investigating Energy Efficiency*. Presented as a paper in a Related Paper Set session at the National Association for Research in Science Teaching Conference, Orlando, FL.
23. **Sato, T.** (March 2010). *Suburban Teacher Candidates in Urban Contexts: Social Norms, Rules, and Routines*. Presented in a Symposium session at the National Association of Research in Science Teaching, Philadelphia, PA.

24. Discussion group reporter for *Symposium: Impact of Socioscientific Issues Research on Research, Policy, and Practice*. (April 2008). National Association for Research in Science Teaching Conference, Baltimore, MD.

\*Conference canceled due to COVID-19 pandemic.

## **Funding**

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1. *Actualizing STEM Potential in the Mississippi Delta*, Co-Principal Investigator with Dr. Brenda Brand, National Science Foundation, DRL #1511792, \$1.6 million, July 2015-June 2019.
2. Design & Develop Award, \$8694.50 (to Department for course release) from TLOS, Virginia Tech, October 2014.
3. Engagement Faculty Fellows, \$6,500 from VT Engage, Virginia Tech, May 2014.
4. Faculty Study Group Award with Drs. Jennifer Bondy, Sarah Morris & Claire Robbins, \$1,200 from the Center for Instructional Development and Educational Research, Virginia Tech, October 2013.

## **Workshops & Panels**

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1. Conducting Policy Reviews to Uncover Systemic Barriers into Science Education. Workshop with Daniel Birmingham accepted by the NARST International Conference, Vancouver, BC, March 27-30, 2022.
2. “Asian Crit(ical) Race Theory.” Invited panelist for Critical Race Theory (CRT) Academic Symposium presented at Virginia Tech, Blacksburg, VA, September 24, 2021.

## **III. University Teaching Experience**

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### **Courses taught:**

#### **Virginia Tech**

- Course Instructor, EDCI 5784: Critical Race Theory in Education, Fall 2019, Fall 2017\*, Fall 2015
- Course Instructor, EDCI 5364: Technology in the Science Classroom, Fall 2021, Fall 2020, Fall 2019, Fall 2018, Fall 2017, Fall 2016, Fall 2015, Fall 2014\*, Fall 2013\*
- Course Instructor, EDCI 4024: Humanizing the K12 Classroom, Spring 2022, Spring 2021, Fall 2020, Spring 2020, Spring 2019, Spring 2018, Spring 2017, Spring 2016\*\*, Spring 2015\*\*, Spring 2014\*\*
- Course Instructor, EDCI 6944: Professional Seminar in Science Education, Fall 2014
- Course Instructor, EDCI 5964: Field Studies in Education, Fall 2014
- Course Instructor, EDCI 5724: Teaching in Middle & Secondary Schools I: Science, Spring 2018, Spring 2016, Spring 2014

- Course Instructor, EDCI 5244: Advanced Curriculum and Instruction in Elementary and Middle School Science, Fall 2021, Fall 2020, Fall 2019, Fall 2018, Fall 2017, Fall 2016, Fall 2014, Fall 2013

\*Course number previously listed as EDCI 6984

\*\* Previously listed as EDCI 4984: Dynamics of the 21<sup>st</sup> Century Classroom

### **Michigan State University**

- Course and Field Instructor, TE 804: Reflection and Inquiry in Teaching Practice II - Secondary Science, Spring 2011
- Course and Field Instructor, TE 802: Reflection and Inquiry in Teaching Practice I - Secondary Science, Fall 2010
- Course and Lab Instructor, TE 408: Crafting Teaching Practices - Secondary Science, Spring 2010
- Course and Lab Instructor, TE 407: Teaching Subject Matter to Diverse Learners - Secondary Science, Fall 2009

## **IV. Honors and Awards**

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Diggs Teaching Scholar Award, Diggs Teaching Scholar Association, Virginia Tech, 2020.

Volunteer of the Year Award, Boys & Girls Club of Southwest Virginia, 2014.

College of Education Dissertation Completion Fellowship, Michigan State University, May 2013.

Volunteer of the Year Award, Boys & Girls Club of Lansing (MI), 2012.

College of Education Urban Education Retention Fellowship in Urban Education, Michigan State University, December 2011.

Sandra K. Abell Institute for Doctoral Students, National Association for Research in Science Teaching, Colorado Springs, CO, July 2011.

College of Education Urban Education Retention Fellowship in Urban Education, Michigan State University, May 2010.

## **V. Service**

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Co-strand Coordinator (Strand 7: Pre-service Science Teacher Education), NARST International Conference Program Committee, July 2020 – current.

Member, School of Education Policy and Procedure Document Review Committee, July 2020 – May 2021.

Reviewer, *Science Education*, October 2019 – current.

Reviewer, *Educational Studies*, September 2018 – current.

At-large Member, Commission on Equal Opportunity and Diversity, Virginia Tech, September 2015 – May 2018.

Committee Member, School of Education Equity, Inclusion & Student Experience Committee, Virginia Tech, September 2017 – May 2018.

Reviewer, VT Engage Program Review Committee, October 2015 – May 2016.

Reviewer, *Journal of Research in Science Teaching*, June 2014 – current.

Committee Member, College of Liberal Arts and Human Services Library Committee, Virginia Tech, August 2013 – August 2016.

Committee Member, School of Education Ad hoc Dispositions Committee, Virginia Tech, March 2014 – September 2014.

Proposal Reviewer, National Association of Research in Science Teaching Annual Conference, Strand 6 – Science Learning in Informal Contexts; Strand 11 - Cultural, Social, and Gender Issues, 2013 – current.

Proposal Reviewer, American Educational Research Association Annual Conference, Division K – Teacher & Teacher Education; SIG - Critical Examination of Race, Ethnicity, Class and Gender in Education, 2013.

Graduate Student Member, Membership & Elections Committee, National Associate for Research in Science Teaching, Spring 2012 – Spring 2014.

Lead organizer, Graduate Student Representation Proposal to the Board of Directors for the National Association for Research in Science Teaching, 2011 – 2014.

Goal: To request re-evaluation and change to the NARST bylaws to add a graduate student representative on the board with voting power.

Co-organizer, Graduate Student and Early Career Scholars Social Event at the Annual Conference for the National Association for Research in Science Teaching, April 2011 & March 2012.

Goal: To develop networks in person and through social media and increase support for graduate students and early career scholars.

Co-organizer, Equity & Ethics Committee Workshop: *Enacting Equity and Social Justice in Science Education Careers* at the National Association for Research in Science Teaching Conference, 2012.



Member, Race, Culture, and Equity in Education Focal Group, Michigan State University, Spring 2012 – Spring 2013.

Committee Member, Math and Science Faculty Search Committee, Michigan State University, Fall 2011 – Spring 2012.

Organizer, Science Education Brown Bag Sessions, Michigan State University, Spring 2011.

Chair Advisory Committee, Department of Curriculum, Instruction and Teacher Education, Michigan State University, Fall 2010-Spring 2011.

### **Academic Organizations**

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National Association of Research in Science Teaching, Member

## **VI. Relevant Experience**

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### **Professional Certification**

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Professional Educator's Certificate, State of Florida Department of Education  
*Biology (Grades 6-12)*, Valid July 1, 2006 - June 30, 2011

### **Publications and Presentations**

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*Florida Standards Development Update: Life Science*, October 24, 2007  
Florida Association of Science Supervisors Fall Meeting

*Grade 11 FCAT Science Blitz Package*, December 2006  
Contributed and edited a collection of inquiry science laboratory lessons designed to target annually assessed high-stakes science test benchmarks for Orange County Public Schools.

*Biology Task Analysis and Pre- and Post-Assessments*, June 2005  
Served on the three member Orange County Public Schools science curriculum writing team.

*Junior Solar Sprint*, Orange County Science Pre-Planning Conference, August 2004  
Presented a breakout session for middle school science teachers at a district wide conference.