

Welcome

Welcome to the 7th Creating Balance in an Unjust World Conference on Mathematics Education and Social Justice! The Creating Balance conference aims to bring together educators, parents, students, activists and community members to explore the connections between math education and social justice. Through school visits, workshops, and featured speakers we hope to strengthen and extend the network of educators who implement social justice curricula, engage students through equitable pedagogical practices, promote the use of alternative assessments, and explore culturally relevant and accessible math programs at schools and community groups across the country. This conference exists because of your continued work in the field of mathematics education at schools, universities and in local communities. Through your struggles in sustaining and campaigning for educational justice, we continue to strengthen our network. Your participation and contributions help to keep the conference accessible for educator and youth participants. Thank you for participating in this conference and joining us in this journey.

One of our main goals of this conference is to foster networking. For example, we have lengthened the "passing period" time between workshops. Often, when we chat with other participants before or after a workshop we make connections that have the potential to become long lasting opportunities to collaborate and work together. We hope that you will take advantage to introduce yourself to others and talk with new colleagues during this time. Food is complimentary and we encourage you to stay, talk with, and get to know others. In addition, the kick off event is another opportunity to meet other like-minded educators. The get-to-know-you activities are intended to help conference participants network to collaborate in the future.

This conference is a grassroots, volunteer "labor of love," organized by current and former public school math teachers, and we thank you for joining us. We look forward to seeing you for the next conference in 2018. (Creating Balance is now biennial, held every two years.)

Thank you!

Carolee, Geoffrey, Kari, Mike, Taica, and Tol

Schedule

Friday, January 15th

All Day School Visits

4:00-6:00 PM Networking Event

Saturday, January 16th

8:00 - 9:00 AM Registration and Breakfast

9:00 - 10:00 AM Keynote: Rico Gutstein

10:20 - 11:35 PM Workshop Session 1

11:35 - 12:35 PM Lunch (Cafeteria)

12:35 - 1:50 PM Workshop Session 2

2:10 - 3:25 PM Workshop Session 3

3:45 - 5:00 PM Panel

Sunday, January 19th

9:30 - 10:00 AM Networking Breakfast

10:00 - 11:15 AM Workshop Session 4

11:15 - 12:15 PM Networking Lunch

Note: Please take advantage of the increased "passing period" between sessions. One of the goals of this conference is to network and meet others to collaborate with in the future. Oftentimes it's the time before or after a workshop where we have opportunities to meet new folks. Introduce yourself and strike up a conversation!

Saturday, January 16th

Workshop Session 1 (10:20-11:35 AM)

Interdisciplinary Unit: Using Statistics to Examine Human Rights and the School-to-Prison Pipeline	Room 218
See them taught, see them solved: Social justice mathematics lessons taught by pre-service teachers and solved by elementary students	Room 332
Parent leaders in math for social justice	Room 330
That's Not Fair and Why: Activist Mathematical Activities for Children	Room 224
Payday Loans for Predatory Lending: investigating using technology in an Algebra 2 classroom	Room 328A

Workshop Session 2 (12:35-1:50 PM)

Mathematics and Fair Voting	Room 218
Critical Education in Science, Mathematics and Technology: An advanced mathematical approach of urban gentrification and indices of dissimilarity	Room 332
Next Steps for the Middle Grades: Building on Opportunities from Foundation Concepts of Early Childhood Education	Room 224
Project and Problem Based Learning in the Math Classroom	Room 328A

Workshop Session 3 (2:10-3:25 PM)

Critical Mathematics Education: The Issue of Apportionment	Room 218
Restorative Justice, Culturally Responsive Pedagogy & Hip Hop Chess	Room 332
Developing mathematics teachers for social justice	Room 330
Early Childhood Mathematics and Social Justice: Developing an Asset-Based Discourse about our Youngest Mathematicians	Room 224
Getting the Most Out of a Test	Room 328A

Sunday, January 19th

Workshop Session 4 (10:00-11:15 AM)	
Who gets pulled over?: Mathematics as a tool for exploring the (dis)proportionality of police traffic stop data	Room 218
Teaching Math for Social Justice: Getting Started and Keeping Going	Room 332
Teaching Mathematics for Social Justice and the Political Ideologies of Mathematics Teachers	Room 330
Project Based Learning: Education Remix	Room 328A



Keynote Speaker

Rico Gutstein

Rico Gutstein is a mathematics education professor in the UIC College of Education. He writes and teaches about critical and Freirean pedagogies, and mathematics and urban education policy. Rico has taught middle and high school mathematics in Chicago public schools and is the author of *Reading and Writing the World*



with *Mathematics: Toward a Pedagogy for Social Justice* (2006). He co-edited *Rethinking Mathematics: Teaching Social Justice by the Numbers* (2nd Ed) (2013). He is a founding member of Teachers for Social Justice (Chicago), a 17-year old group of educators that supports teachers to develop culturally relevant and critical classrooms, and that is active in the struggles to keep public education public—not private—locally, nationally, and internationally. Rico was a member of the design team that founded the Social Justice HS in the Lawndale community (Chicago’s Westside), which opened in 2005 and is currently a quality neighborhood, open-enrollment, public school. He is currently the co-facilitator of the design team working on the proposal to revitalize (and re-open) Walter H. Dyett HS (a school closed by the district located on Chicago’s Southside), representing both Teachers for Social Justice and the UIC College of Education.

Featured Panelists



Nate Alexander

Nathan Alexander, PhD, is an assistant professor of mathematics and education at the University of San Francisco (USF). At USF, Nathan is a founding faculty member of the Critical Education in Science, Mathematics, and Technology Group (CESMT), a growing network of educators who engage critical theories and pedagogies with/in STEM. Prior to joining USF, Nathan was a Visiting Scholar and researcher at UC Berkeley in the Mathematics department and the Graduate School of Education. As a former high school mathematics teacher and a current teacher educator, his interests span the fields of pure and applied mathematics, the arts, and conceptions of critical and social justice pedagogies.



Michele Cody

Michelle is a native San Franciscan and a product of San Francisco Unified School District. She graduated from Howard University in Washington, DC with a degree in Economics. There she was exposed to education system through the lens of African and African American students, leaders and teachers. During the summers, she would find herself working at Aim High, a program that works to closes the opportunity gap for under-resourced middle school youth by providing them with a free summer learning program. It was during these years, that she was called to education. She has worked both in elementary schools in Washington DC and San Francisco and middle schools in San Francisco .She studied at USF in the Urban Education and Social Justice Program, focusing her thesis on how African Americans students see themselves in schools using James Baldwin as a guiding point. She is currently a founding member of the new Willie Brown Middle School as a Math Teacher where is working to help support students to see themselves in learning process.

Featured Panelists (cont'd)

Sandra Fewer



Sandra Lee Fewer is a fourth generation Chinese American San Franciscan. She was elected to the San Francisco Board of Education in 2008 and re-elected in 2012. From 2001-2009, she was the Director of Parent Organizing and Education Policy at Coleman Advocates for Children and Youth. While there she authored the resolution to create a Parent Advisory Council to the Board of Education and helped craft the first Education Equity Platform for San Francisco public schools. She has held workshops to over 3000 parents on

parent rights in the schools. Since being on the Board Sandra has been the author of many resolutions, including resolutions to implement restorative practice approaches to student discipline, institute ethnic studies classes in high schools, create a parent engagement plan, re -committ to the anti-discrimination of LGBTQ youth and to create the first ever local hire policy for the San Francisco Unified School District. She has been a PTA President for 12 terms and has served on 11 school site councils. Sandra is a SFUSD graduate and the mother of three SFUSD graduates. She is married to a retired San Francisco police officer. She has been the recipient of the Champion of Justice award from Chinese for Affirmative Action, the Parent Leadership Award from the Bay Area Parent Leadership Action Network, the Community Leadership award from Coleman Advocates for Children and Youth, the Community Ally award from the Harvey Milk Democratic Club, the Ally award from Our Family Coalition, the BOLD award from the LGBT Center and the Advocate Award from Coleman Advocates for Children and Youth “For being a champion of change for the next generation”. She holds a BA in Justice Administration and an MA in Public Administration. She has taught a course entitled, “Race, Organizing and Political Power” in the University of San Francisco Master’s of Public Affairs Program.

Featured Panelists (cont'd)

Julia Aguirre



Julia Maria Aguirre is an associate professor of education and the University of Washington Tacoma. Her Ph.D. is from University of California Berkeley. Her work examines issues of equity in mathematics teaching and learning, teacher education and culturally responsive mathematics pedagogy. She investigates the role of student mathematical thinking, cultural/linguistic funds of knowledge and issues of power and status in mathematics instruction. A primary goal of her work is preparing new generations of teachers to work effectively with today's youth to make mathematics education accessible, meaningful and relevant. She has

taught middle and high school mathematics in formal and out-of school settings and has worked with k-12 teachers in Seattle/Tacoma, Chicago, San Francisco Bay Area and the Monterey Bay Area. The National Science Foundation, Carnegie Foundation and Spencer Foundation have funded her work. She is currently a co-PI of a 3 million dollar NSF project called TEACH MATH, Teachers Empowered to Advance Change in Mathematics. She is a co-author of *The Impact of Identity in k-8 mathematics: Rethinking equity-based practices* (National Council of Teachers of Mathematics, 2013).

Marcus Hung



Marcus Hung is a National Board Certified mathematics teacher at June Jordan School for Equity in the Excelsior neighborhood of San Francisco. He works closely with the other JJSE math teachers to design curriculum and pedagogy that best serves their students. In addition to his daily work teaching 9th and 10th graders Geometry and Algebra, Marcus works closely with The Algebra Project as a teacher consultant as well as The Young People's Project as a site coordinator.

Featured Panelists (cont'd)



Matt Haney

Matt is lifelong Bay Area resident and advocate for public education. As Vice President for the San Francisco Board of Education, he determines policy for all public schools, from kindergarten through twelfth grade, in the San Francisco Unified School District, City and County of San Francisco. The Board is responsible for establishing educational goals and standards; approving curriculum; setting the District budget; confirming appointment of all personnel; and approving purchases and union contracts.

Over the past ten years, Matt has fought for public education as an advocate, educator, organizer and policy analyst. As National Policy Director at Rebuild the Dream, he leads policy advocacy for #cut50, a bipartisan initiative to cut the prison population in half in ten years, and #YesWeCode, an initiative to create a pipeline for 100,000 low opportunity youth to become the best coders, computer engineers and designers in the world.

Matt is an Education Fellow and Adjunct Faculty Member at the Stanford University d.school, where he uses design thinking and human centered design to incubate new ideas in education relating to student voice and student engagement. As the former Executive Director of the University of California Student Association, Matt worked directly for the over 200,000 students in the UC system, managing a budget of over half a million dollars and a team of dedicated professional staff, to ensure public education is protected for current and future generations. Matt is the Co-founder and Chair of Citizen Hope, a Bay Area organization which encourages civic engagement and community service.

Matt has a BA from UC Berkeley, an MA from Stanford University School of Education, a JD from Stanford Law School with a focus on education law, and an LLM in Human Rights from National University of Ireland where he was a Senator George Mitchell Scholar.

Workshop Session 1

Interdisciplinary Unit: Using Statistics to Examine Human Rights and the School-to-Prison Pipeline

Katie Gates, katie.e.gates@gmail.com

Sunshine Campbell, campbels@evergreen.edu

Evergreen State College

Room 218

In this session, participants will experience some of the instructional strategies and math tasks that one of the presenters has used with her 9th grade Algebra students during their human rights statistics unit. This interdisciplinary unit was co-created by humanities and math teachers, and includes topics such as bullying, suspension, incarceration, police brutality, race, and gender. In addition to learning about this specific example of a social justice math unit, participants will also have an opportunity to engage in the process of planning a social justice themed unit or lesson, and gain experience searching for data. Resources and planning tools will be provided.

Intended Audience: Middle School Teachers, High School Teachers

See them taught, see them solved: Social justice mathematics lessons taught by preservice teachers and solved by elementary students

Joan Kwako, jkwako@d.umn.edu

Jim Clayton, jclayton@saintpeters.edu

University of Minnesota Duluth

Room 332

Participants will view videos of preservice elementary teachers (PSTs) teaching, and elementary students solving, math lessons using social justice (SJ) contexts such as budgeting for groceries and racial profiling. The PSTs had been introduced to using SJ contexts to teach mathematics and will share the teaching of their own SJ mathematics lessons via videos.

Elementary students will then share their solution strategies to those lessons as they work in groups to solve the problems, again, via videos. Additional SJ lessons written by PSTs from both a homogeneous, public Midwest university and a diverse, private East Coast university will be available for critique.

Intended Audience: Elementary Teachers, Middle School Teachers, High School Teachers, Youth, Parents, Community Activists, Professors, Undergraduate Students, Graduate Students

Workshop Session 1 (cont'd)

Parent leaders in math for social justice

Carolee Koehn Hurtado, koehn@gseis.ucla.edu

UCLA Math Project

Room 330

Parent engagement in a mathematics context? What might that look like and what goals frame this work? Families can and should be included in our quest for teaching mathematics for social justice. In this session, we share what we have learned from our efforts in school around parent engagement leadership and considerations for engaging in this work. We invite others to begin or enhance their parent engagement efforts, and will provide a space for participants to share and develop ideas for plans at their sites.

Intended Audience: Elementary Teachers, Middle School Teachers, High School Teachers, Parents, Community Activists, Graduate Students

That's Not Fair and Why: Activist Mathematical Activities for Children

Theodore Chao, chao.160@osu.edu

DeAndrea Jones, djones2114@columbus.k12.oh.us

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Marguerethe Jaede, mjaede3827@columbus.k12.oh.us

Room 224

Mathematics is an overlooked and powerful tool for children to document and understand injustice in their world. In this session, we introduce a series of games based on historic (Rosa Parks) and current events (Ferguson) for Pre-K and Elementary-aged children to a) understand how to recognize unfairness, b) use mathematics to talk about why things are unfair, and c) use technology (mobile phones and tablets) to recognize, document, and speak about the unfairness they see.

Intended Audience: Elementary Teachers, Community Activists, Undergraduate Students, Graduate Students

Workshop Session 1 (cont'd)

Payday Loans and Predatory Lending: investigating using technology in an Algebra 2 classroom

Joel Walsh, jwalsh@uschybridhigh.org

USC Hybrid High School

Room 328A

The USC Hybrid High School follows a 1:1 chromebook to student model where Google docs, the Canvas learning management system, and blended learning are prevalent. During a unit on logarithms and exponential equations students were tasked with investigating the business practices of payday loans providers in their own neighborhoods. What followed was an eye opening look at an under-regulated industry that relies on exploiting low-income and minority communities to survive. (Laptops highly recommended)

Intended Audience: Middle School Teachers, High School Teachers



Workshop Session 2

Mathematics and Fair Voting

Ken Collins, kcollins@charlottelatin.org

Charlotte Latin School

Room 218

Voting issues have become a hot topic. What are some techniques that are used to “unfairly” affect the outcome? In a multicandidate race, how can we use mathematics to help election outcomes reflect the “will of the people”?

Intended Audience: Middle School Teachers, High School Teachers, Youth, Parents

Critical Education in Science, Mathematics and Technology: An advanced mathematical application of urban gentrification and indices of dissimilarity

Nathan Alexander, nnalexander@usfca.edu

Sepehr Vakil, Sumer Seiki, and Rick Ayers

University of San Francisco

Room 332

In this session, we will address and critique inequities within and outside of mathematics education using social and geo-spatial frameworks.

Participants will be prompted to discuss shifts related to and prompted by reform-oriented narratives, as well as problematizing implications related to gentrification, schooling and mathematics education. Participants will engage in work being developed in a set of new Initiatives in the Center for Critical Education in Science, Mathematics and Technology (CESMT) at USF, and describe the collective’s short- and long-term goals. Specifically, this workshop will include hands on work focusing on an advanced mathematical application of gentrification and urbanization, which will include discussions related to the practical integration of critical education topics in K-12 mathematics. One overarching goal for this workshop is to allow attendees to imagine possible futures and generate new possibilities for K-12 mathematics, science and technology using critical frameworks.

Intended Audience: High School Teachers, Youth, Community Activists, Professors, Undergraduate Students, Graduate Students

Workshop Session 2 (cont'd)

Next Steps for the Middle Grades: Building on Opportunities from Foundation Concepts of Early Childhood Social Justice Education

Diana Erchick, erchick.1@osu.edu

Martha Melgoza, martha.melgoza@sbcglobal.net

Ohio State University at Newark

Room 224

Following a brief introduction of four concepts we propose as foundational to early childhood pedagogy (Context, Caring, Commitment, and Content), participants in this session will discuss these foundations and how they relate to and can be directly capitalized upon in intermediate and middle grades social justice mathematics classrooms. Participants and facilitators together also will discuss specific pedagogies and curriculum that support the development of these foundational concepts into the intermediate and middle grades. Goals include discovery of opportunities to build upon early childhood foundations, generating ideas about more strategies, and creating opportunities to collaborate over time.

Intended Audience: Elementary Teachers, Middle School Teachers, Professors, Undergraduate Students, Graduate Students

Project and Problem Based Learning in the Math Classroom

Dina Mahmood, dmahmood@gmail.com

The Academy High School

Room 328A

Participants will be guided through the process of planning a project or series of problems that will engage students in learning mathematics as it applies to the real world. Templates, samples, will be provided as participants are expected to share out their project idea for critical friends at the end of the session.

Intended Audience: Middle School Teachers, High School Teachers, Professors, Graduate Students



Workshop Session 3

Critical Mathematics Education: The Issue of Apportionment

Leah Frazee, frazee.65@osu.edu

Stephen Lewis, lewis.813@osu.edu

Azin Sanjari, sanjaripirmahaleh.1@osu.edu

The Ohio State University

Room 218

In this session we will address the issue of Congressional Apportionment through a Critical Mathematics (CM) instructional perspective. We present a new model in which CM instruction critiques the seemingly bias-free mathematical processes that create issues of inequity when applied to real-world issues. The mathematical processes historically used in apportioning representatives empower or devalue individuals regardless of race, gender, sexual orientation, ability, or religion, thus making it an issue of global inequity. We present a critique of an existing apportionment unit and make recommendations to enhance the unit in both mathematical content and in critical examination of issues of inequity.

Intended Audience: High School Teachers, Community Activists, Professors, Graduate Students

Restorative Justice, Culturally Responsive Pedagogy, & Hip Hop Chess

Arash Daneshzadeh, arashdaneshzadeh@gmail.com

Adisa Banjoko, abanjoko@gmail.com

Hip Hop Chess Federation, Skyline College

Room 332

We will introduce participants to the theoretical frameworks and historical precedents that cause the school-to-prison pipeline epidemic. Using both academic research and an infusion of hip hop/chess/jiu jitsu pedagogy that undergird the curriculum and programs at HHCF, participants will explore how culturally relevant pedagogy can help dismantle this burgeoning crisis in schools that disproportionately impact low-income students and students of color. Participants will receive demonstrations of lesson plans, see videos of case studies in which curriculum has served incarcerated youth, and develop their own leadership strategies to create more holistic and culturally responsive educational spaces for under-served students and their communities.

Intended Audience: Elementary Teachers, Middle School Teachers, High School Teachers, Youth, Parents, Community Activists, Professors, Undergraduate Students, Graduate Students

Workshop Session 3

Developing mathematics teachers for social justice

Jessica Alyce Wilson, jwilson17@mail.usf.edu

Karina K. R. Hensberry, khensberry@mail.usf.edu

University of South Florida

Room 330

This session focuses on the experiences of mathematics teacher educators and their work in preparing teachers to teach math for social justice. From a panel of experienced teacher educators ranging from junior to full professors, participants will gain insight into how these teacher educators came to be involved with social justice work, how they engage preservice and inservice teachers, and what challenges they've faced — and how they've overcome those challenges. Participants will have the opportunity to ask questions and engage in a discussion with the panel.

Intended Audience: Professors, Graduate Students

Getting the Most Out of a Test

Katie Waddle, kwaddle87@gmail.com

Nick Chan, nicholaschan@sfinternational.net

San Francisco International High School

Room 328A

We found that tests weren't showing us what all students had learned, but we weren't ready to completely abandon a traditional assessment structure. We will describe the progress we've made in developing tests that actually show us what students know. These small changes have really made a difference for our teaching, and for our students. We teach in EL classrooms, but this workshop will be applicable to any context.

Intended Audience: Middle School Teachers, High School Teachers

Workshop Session 3 (cont'd)

Early Childhood Mathematics and Social Justice: Developing an Asset-Based Discourse about our Youngest Mathematicians

Mary Candace Raygoza, marycandaceraygoza@gmail.com

Brandon McMillan, brandon.g.mcmillan@gmail.com

Nicholas Johnson, nicko@ucla.edu

Megan Franke, mfranke@ucla.edu

Angela Chan Turrou, achan@gseis.ucla.edu

University of California, Los Angeles

Room 224

Current discourse in early childhood mathematics positions students, particularly low-income Students of Color, as knowing little. This session will focus on our work with early childhood teachers and students across a major metropolitan area. Drawing on teacher professional development, classroom observations, and student assessments, we will give examples of how more mathematically challenging, open-ended tasks enable teachers and students to show what they know. Session participants will engage in dialogue on collectively advancing an asset-based discourse about our youngest mathematicians.

Intended Audience: Elementary Teachers, Youth, Parents, Community Activists, Professors, Undergraduate Students, Graduate Students



Workshop Session 4

Who gets pulled over?: Mathematics as a tool for exploring the (dis)proportionality of police traffic stop data

Jessica Burbach, jfhopson29@gmail.com

Portland YouthBuilders, Portland State University

Room 218

This workshop will engage participants in a Culturally Responsive Mathematics (CRM) curriculum unit with a social justice focus. Through interacting with the CRM lessons in the “Who gets pulled over?” unit, participants will see how mathematics can be used as a lens for exploring social justice issues in our communities. We will also discuss how we can create spaces of empowerment in our classrooms where students can take action against injustices in their communities. My hope is that participants will leave with the confidence to implement a CRM lesson using the materials provided or by creating their own lesson.

Intended Audience: Middle School Teachers, High School Teachers, Youth, Community Activists, Professors, Undergraduate Students, Graduate Students

Teaching Math for Social Justice: Getting Started and Keeping Going

Rico Gutstein

University of Illinois, Chicago

Room 332

This workshop is for teachers/pre-service teachers/teacher educators with a range of experiences in teaching math for social justice, or supporting others to do so—from “beginners” to “experienced” practitioners, and everyone in between. We will discuss some of the organizing theory and principles in doing this work, draw on concrete examples from practice, and discuss specific ways of starting and continuing this work. The framing is that we all need to “reinvent” in our own situations what others have done in theirs, to support students in learning to read and write the world with mathematics.

Intended Audience: Elementary Teachers, Middle School Teachers, High School Teachers, Youth, Parents, Community Activists, Professors, Undergraduate Students, Graduate Students

Workshop Session 4 (cont'd)

Teaching Mathematics for Social Justice and the Political Ideologies of Mathematics Teachers

Mary Candace Raygoza, marycandaceraygoza@gmail.com

University of California, Los Angeles

Room 330

This session describes the results of two studies. The first study investigates teaching mathematics for social justice. Interviews with fifteen diverse high school teachers from urban cities across the U.S. were conducted to uncover social justice mathematics teachers' commitments, challenges, and what they envision for the future of urban mathematics education. The second study draws on a national teacher survey to report on the political ideologies of U.S. mathematics teachers. Session participants will discuss how we may expand social justice mathematics, considering different city, district, and school contexts and what we know about mathematics teachers' ideologies.

Intended Audience: Elementary Teachers, Middle School Teachers, High School Teachers, Youth, Parents, Community Activists, Professors, Undergraduate Students, Graduate Students

Project Based Learning: Education Remix

Vanson Nguyen, vansonnguyen@peralta.edu

College of Alameda

Room 328A

Participants will learn about and engage with innovative projects employed at various levels of mathematics. Descriptions of projects and student work will be presented including hip-hop lyrical analysis, creative teaching, and data regression for improvement. Following, participants will be able to think tank other innovative project ideas.

Intended Audience: Middle School Teachers, High School Teachers, Youth, Community Activists, Professors, Undergraduate Students, Graduate Students



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Special Thanks

Special thanks to all of the teachers at the school visit sites:

Mission High School

June Jordan School for Equity

Burton High School

SF International High School

James Denman Middle School

Oakland Life Academy

East Bay Innovation Academy

