



# creating balance in an unjust world

math education &  
social justice  
mission high school  
san francisco, california



Conference on Math Education and Social Justice  
January 18th-20th, 2013

# Welcome

Welcome to the fifth conference on mathematics education and social justice. The Creating Balance in an Unjust World conference brings 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, 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.

This conference is primarily organized by current and former public school teachers. We are open to having other voices and people participate in the planning of future conferences.

# Schedule

## Friday, January 18th

All Day School Visits

6:30 PM Networking Event

## Saturday, January 19th

8:00 - 9:00 AM Registration and Breakfast

9:00 - 10:00 AM Keynote: Rochelle Gutiérrez

10:00 - 11:20 PM Workshop Session 1

11:30 - 12:30 PM Lunch (Cafeteria)

12:30 - 1:50 PM Workshop Session 2

2:00 - 3:20 PM Workshop Session 3

3:30 - 4:45 PM Featured Panelists (Auditorium)

*Panel Theme: How do systems of evaluation (for teachers and students) impact teaching and learning? How does social justice change or challenge those systems?*

## Sunday, January 20th

9:30 - 10:30 AM Networking Breakfast

10:40 - 12:00 PM Workshop Session 4

12:00 - 1:00 PM Working Meetings, Lesson Planning Space, Networking (Lunch provided)

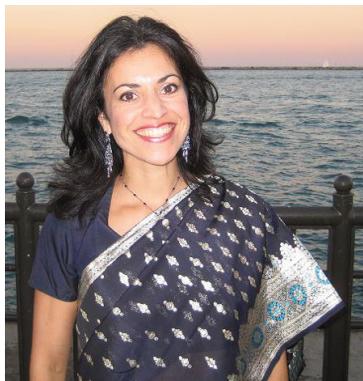
## School Visit Sites

Mission High School

June Jordan School for Equity

Oakland High School

## Keynote Speaker



### **Rochelle Gutiérrez**

#### **Mathematics Teaching as Subversive Activity: The Role of Creative Insubordination**

We are in an era of high stakes testing and common core standards, where public education is under attack. It is not enough for teachers to have deep and flexible knowledge of their field;

the ability to relate well with students; or be able to draw upon students' linguistic and cultural knowledge as they develop lessons. Those teachers who cannot skillfully negotiate the politics of language, racism, and testing cannot adequately support their students to learn. Nowhere is this more true than in the mathematics classroom, where teaching is always a political endeavor. This session will explore how all mathematics teaching is political and will provide examples of teachers using creative insubordination in order to be effective advocates for their students to develop robust mathematical understanding and mathematical identities.

Rochelle Gutiérrez ([rg1@illinois.edu](mailto:rg1@illinois.edu)) is Professor of Curriculum and Instruction and Latina/Latino Studies at the University of Illinois, Urbana-Champaign, USA. Her research focuses on equity in mathematics education, race/class/language issues in teaching and learning mathematics, effective teacher communities, and the achievement gap. Two of her current research projects include: 1) understanding and developing pre-service teachers' knowledge and identities around advocating for marginalized youth and 2) using "Nepantla" as a way to theorize knowledge for teaching.

## Keynote Speaker (cont'd)

Dr. Gutiérrez has served as a member of the RAND National Mathematics Study Panel, the National Academy of Sciences' Committee on Increasing Urban High School Students' Engagement and Motivation to Learn, and the board of directors of Society for Advancement of Chicanos and Native Americans in Science (SAC-NAS). In 2011, the Association of Mathematics Teacher Educators awarded her the Excellence in Scholarship Award for the empirical research she has conducted and the theories on equity she has offered to the field. In 2009, Pace University recognized her as a Distinguished Educator in the Pedagogy of Success in Urban Schools. On a Fulbright fellowship in 2004-2005, she studied secondary mathematics teachers in Zacatecas, México, where she was able to document the different cultural practices and algorithms used in Mexican classrooms. Dr. Gutierrez recently served as editor for a special issue on identity/power for the Journal for Research in Mathematics Education. Her work has been published in such journals as Mathematical Thinking and Learning, Journal of Curriculum Studies, Harvard Educational Review, American Educational Research Journal, Democracy and Education, and the Urban Review. Before and throughout graduate school, she taught middle and high school mathematics to adolescents in East San José, California. She currently is the Principal Investigator on an NSF grant that seeks to understand what it takes to develop high school mathematics teachers who engage their students in rigorous and creative mathematics and are committed to social justice.



## Featured Panelists

### Jonathan Osler



Jonathan Osler taught 9-12th grade math at El Puente Academy for Peace and Justice in Brooklyn for six years. During this time he authored and collaborated on the development of curriculum integrating issues of social, racial, and economic justice with standards-based math. He also created RadicalMath.org and co-founded the Creating Balance in an Unjust World Conference.

Since then, Jonathan has worked as a math coach in Los Angeles, and as a Vice Principal and Co-Principal at middle and high schools in the Bay Area. His major focus as an administrator has been on addressing issues of equity in school policies and practices. Jonathan is passionate about supporting teachers to master equitable and engaging instructional practices. He has also helped train other administrators on how drive instructional improvement through the teacher evaluation process.

Jonathan holds a Masters Degree from UC Berkeley's Principal Leadership Institute. He lives with his wife and daughter in Oakland, CA.

### Crystal Proctor



I've been teaching math at June Jordan School for Equity for the past 6 years after receiving my BA in mathematics and teaching credential from San Francisco State University. As a math major, I've always had a great love and appreciation for mathematics and its strengths, but was particularly drawn to the actual learning of math and how much it required people to work cooperatively

with each other. Now as a teacher, I often use group work and am a strong believer in its connection with social justice. The more students are given the opportunity to learn from each other and see themselves and their community as great thinkers, the more access they have to understanding mathematics and becoming people of social change.

## Featured Panelists (cont'd)



### **karen salazar**

karen salazar is a long-time member of the Association of Raza Educators (ARE), organizing around issues including (im)migration reform and culturally-responsive education. ARE also helps to design and carry out autonomous teacher education centered around a decolonizing pedagogy. karen now teaches 9th and 10th grade Humanities at ARISE

High School in East Oakland. A graduate of UCLA's Teacher Education Program, she taught high school Critical Literacy (aka English) in Watts and South Central Los Angeles before transitioning up to the Bay Area.



### **Joi Spencer**

Dr. Spencer's work focuses on mathematics education, teacher education, and educational equity in urban and minority communities. Her research has examined mathematics learning opportunities in the poorest middle schools in Los Angeles, as well as the impact of video-based mathematics professional development on student learning and teacher development. Dr. Spencer was a member of the National

Science Foundation's Diversity in Mathematics Education Center for Learning and Teaching, and a research associate for the LessonLab Research Institute, which conducted the TIMSS (Third International Mathematics and Science Study) video study. In 2011, Dr. Spencer was selected as the Greater San Diego Mathematics Council's Outstanding Post Secondary Mathematics Teacher of the Year. Most Recently she led a team of graduate students from SOLES to Ghana, West Africa to conduct academic needs assessments and to provide teacher professional development in affordable private schools.

PhD, University of California, Los Angeles

MA, Stanford University

BA, Stanford University

## Featured Panelists (cont'd)

### **Reyna Maldonado Emilio Gomez-Wong (Youth Panelists)**

Emilio Gomez-Wong and Reyna Maldonado are both graduates of Mission High School. Emilio, class of 2012, is currently a student at San Francisco State University. Reyna Maldonado, class of 2011, is currently a student at City College of San Francisco.



### **Patrick Camangian (Panel Facilitator)**

Patrick Camangian is an assistant professor in the Teacher Education Department at the University of San Francisco and currently teaches twelfth grade English at Fremont High School in Oakland as co-director of the East Oakland Step to College program. Though he teaches high school, he did not finish high school. Instead of scribbling on worksheets teachers used to distribute to

pacify their students, he was walking the streets, memorizing and articulating social analysis evoked in him through albums like NWA's "Straight Outta Compton" and KRS-ONE's "Edutainment." As a fifth year professor, he has since become more academic with the ways he is resisting social injustice, as his research is geared towards developing the type of humanizing education he wishes he had when he was supposed to be in school. His research interests and areas of expertise include: critical pedagogy and transformative teaching in urban schools; critical literacy, culturally empowering education, and urban teacher development.



# Workshop Session 1

## **Developing Computational Fluency with all Elementary School Math Students: An Issue of Rigor and Equity in the Schools Rather than Inequity outside of School**

*Julie Broderick*

*The School at Columbia University*

*New York, NY*

Room 209

E, PS, PF, UG, GS

An elementary math classroom that develops computational fluency in a rigorous way will provide students with an equitable opportunity to succeed in middle and high school math. When elementary math teachers are knowledgeable about how best to develop computationally fluent students, then families have great confidence in a school's well-balanced math program. Families with greater financial resource are less likely to seek outside test prep organizations and private tutors to work intensively with their children, thus allowing for all students to benefit from the same, rich school math program. It becomes a concerning issue of equal access when some students are receiving significantly different outside math instruction from those students whose families are relying on the school for this education. This conference session will examine how elementary school teachers can incorporate this work with number fluency into their balanced math workshop. How can whole class number string sessions and connected homework develop all students' flexibility, accuracy, and efficiency when adding, subtracting, multiplying, and dividing?

### **Intended Audience Guide**

**E**-Elementary School Teachers, **MS**-Middle School Teachers, **HS**-High School Teachers,

**UG**-Undergraduate Students, **GS**-Graduate Students, **PF**-Professors/Faculty,

**PS**-Parents, **Youth**-Workshop audience may include youth, **Community**-Workshop audience includes community members and activists

# Workshop Session 1 (cont'd)

## **Students Becoming Socially Conscious Mathematicians**

*Marty Romero*

*UCLA*

*West Covina, CA*

Room 222

MS, HS, PF, UG, GS

This workshop will examine the meaning of a socially conscious-critical mathematics pedagogy. Additionally, a working definition of mathematics will be presented that can be used to help educators implement social justice in their classroom while at the same time engaging students in the practice of mathematics. Sample activities, projects, and instructional strategies will be shared that can easily be partnered with the Common Core Standards and its Standards of Mathematical Practices.

## **Creating a Schoolwide Culture of Math: starting with the adults!**

*Marcus Hung, Bridget Brew, Crystal Proctor*

*June Jordan School for Equity*

*San Francisco, CA*

Room 311

MS, HS, Community, PF, UG, GS

This interactive session will explore the process of establishing a strong foundation for creating a school-wide culture of mathematics. Often other school staff do not realize how their admissions of “I’m not good at math” undermine the equitable practices that we work hard to create within our classroom. The June Jordan School for Equity math team will share their experience of beginning to help fellow social justice educators understand the strong connection between equity and mathematics. This session will help participants begin to think through the practical steps to creating a schoolwide culture of equitable math practices at their own school.

## Workshop Session 1 (cont'd)

### **Stereotypes + kids = inequity... and what you can do about it**

*Alison Park*

*Blink Consulting*

*Mill Valley, CA*

Room 328A

E, MS, HS, Youth, PS, PF, UG, GS

We all know the stereotypes: Asians are good at math; girls aren't. And even though we know better, these generalizations still affect educators and students. In this workshop, participants will learn about stereotype threat and protection, and how we can interrupt those effects to empower all students to learn math without fear that who they are determines what they can achieve. For educators, parents/guardians and students, this session will explore a theoretical framework, practical language and strategies for understanding how stereotypes matter and how intentional intervention can create more equitable learning environments where every student is learning and thriving.

### **What is Fair & Equitable Instruction?: Teaching Critical Thinking versus Teaching to the High-Stakes Test**

*Cassandra Wallace, Chris Flaherty*

*Boston Arts Academy*

*Boston, MA*

Room 306

E, MS, HS, Youth, PS, Community, PF, UG, GS

This interactive session will explore the multi-layered issues of teaching students who are required to pass high-stakes tests. With the increased pressures of NCLB and RTTT, math teachers are finding themselves spending more time on test prep and less time teaching critical thinking and problem-solving skills. According to statistics, students with disabilities and ELL students disproportionately fail such high-stakes tests. How can we ensure we are providing a quality education to all students (and help them pass these tests) while also brainstorming how we can be a force for change in current legislation?

## Workshop Session 1 (cont'd)

### **Developing as Social Justice Math Educators in the Neoliberal Era**

*Mary Candace Full, Miruna Outa-Lascar, David Velasquez*

*High school teachers*

*Los Angeles, CA*

Room 224

E, MS, HS, PF, GS, Teacher Educators

This collaborative workshop will focus on supporting the next generation of math teachers passionate about social justice. How can teachers and teacher education programs support new teachers to develop as critical math educators and work in solidarity to resist oppressive education policies opposing this work in schools? Facilitated by students and graduates of a social justice-focused teacher education program, we argue that the next generation of teachers needs to develop as critical math pedagogues and organizers, equipped with skills to fight for social justice curriculum. This workshop encourages the participation of teachers and teacher educators to devise collaborative action steps to be implemented in teacher education and to create a community listserv of educators to support each other in continuing this work.

### **Developing Children's Mathematical Agency -- to Write the World with Mathematics**

*Bryan Meyer, Brian R Lawler*

*High Tech High North County*

*San Marcos CA*

Room 325

MS, HS, PS

"Learners must see the need for writing one's life and reading one's reality." (Freire 1985). In this session, we will share classroom video of high school students engaged in mathematical activity, in a classroom intentionally designed to foster the sort of mathematical agency Freire encourages. The nature of classroom tasks and pedagogical challenges will be examined.



## Workshop Session 2

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

*Jessica Hopson*

*Portland YouthBuilders*

*Portland, OR*

Room 222

MS, HS

In this interactive workshop, I will share a unit I designed and taught, which explores whether police traffic stop data is proportionate to racial demographic data. Participants will engage in critical thinking as they work through key lessons within the unit. Through questioning, inquiring, and relating personal experiences, participants will discover who gets pulled over and discuss the meaning and implication of the proportionality of police traffic stop statistics. Finally, participants will offer their feedback on the unit, specifically discussing how they would use this unit to empower students to see themselves as agents of change.

### **Flagway Games**

*Marquis Lowe, Albert Sykes*

*The Young People's Project*

*Jackson, MS*

Gymnasium

E, MS, Youth, PS

The Young People's Project has created board games and physical games that can be played in classrooms, gymnasiums, and playgrounds that capitalize on young students propensity for running, the galvanizing energy of team competition.

### **Intended Audience Guide**

**E**-Elementary School Teachers, **MS**-Middle School Teachers, **HS**-High School Teachers,

**UG**-Undergraduate Students, **GS**-Graduate Students, **PF**-Professors/Faculty,

**PS**-Parents, **Youth**-Workshop audience may include youth, **Community**-Workshop audience includes community members and activists

## Workshop Session 2 (cont'd)

**'I feel so included. For once.' Engaging and involving parents in a non-deficit way to affect change.**

*Carolee Koehn Hurtado, Brett Davis*

*UCLA Mathematics Project*

*Lawndale, CA*

Room 311

E, MS, HS, PS, Community

Teachers often want to engage parents but rarely are given tools to meet this goal. The ways schools traditionally engage parents are divorced from the mathematics content of our classes. True engagement goes beyond back to school nights and contacting parents solely for discipline purposes.

How might we utilize parents' willingness to help enhance their child's success? How can we use the unifying language of mathematics to support parents in helping their students?

In this session, we share some concrete, tested ways to include and engage parents in mathematics classes and provide a space for participants to share and develop ideas for authentic family engagement.

**Bringing English Learners into the Math Discussion**

*Leslie Banes, Rachel Restani*

*UC Davis*

*Sacramento, CA*

Room 218

E, MS

How do we ensure equitable participation for English learners in mathematics? This workshop explores ways to support ELs in joining the class discussion and expressing their mathematical thinking. Participants will increase their knowledge of the research on learning math in a second language and gain insight from interviews with bilingual students. Participants will work in grade-level groups (K-8) to identify the linguistic demands of a lesson on fractions and discuss ways to support ELs in "talking mathematics." Participants will learn and share strategies to take back to the classroom.

## Workshop Session 2 (cont'd)

### **Special Education: Mathematics, social justice, and students with special needs**

*Theodore Chao, Jessica Hunt, Lauren Schiller*

*Harvard University*

*Cambridge, MA*

Room 328A

E, MS, HS, PS, Community, PF, GS

A gathering designed for special educators and those interested in special education. In this discussion, we discuss ways to implement mathematics lessons and projects using social justice in various classroom situations for students with special needs. We explore different school environments, such as inclusion, resource rooms, and life skills, which students with special needs work in as they learn mathematics. Finally, we discuss the deeper political/critical issues involved with students with special needs and mathematics content, such as the racial and socioeconomic disparities within our special education population, the preparation and support of special education teachers, and current policies such as response to intervention.

#### **Intended Audience Guide**

**E**-Elementary School Teachers, **MS**-Middle School Teachers, **HS**-High School Teachers,

**UG**-Undergraduate Students, **GS**-Graduate Students, **PF**-Professors/Faculty,

**PS**-Parents, **Youth**-Workshop audience may include youth, **Community**-Workshop audience includes community members and activists

## Workshop Session 2 (cont'd)

### **Henry's Freedom Box: A Journey Within and Outside of the Box of Social Justice Mathematics**

*Diana Erchick, Cynthia Tyson, Phyllis Gorman*

*Ohio State University at Newark*

*Columbus, OH*

Room 209

E, MS, PF

In this session K-8 participants will experience and further explore grade level appropriate mathematics and pedagogy for a lesson and using Henry's Freedom Box: A True Story from the Underground Railroad, by Ellen Levine and Kadir Nelson. The story is a fictionalized account of Henry "Box" Brown's escape to freedom by shipping himself in a wooden crate from Richmond to Philadelphia. Size and scale issues regarding the crate, time in transit, and other factors provide the frame for a problem-solving task regarding the box. Participants will be in the roles of both learner and teacher in this workshop session.

### **Justice for All: Exploring Social Justice Possibilities in the College Algebra, Pre-Calculus and Statistics Classrooms**

*Patrice Parker, Kori Maxwell, Morgin Jones Williams, Jason Hunter*

*Georgia State University*

*Atlanta, GA*

Room 224

PS, Community, PF, UG, GS

This workshop will address the utilization of social justice lesson plans in undergraduate mathematics classrooms. More specifically, this workshop will explore and build on the importance and use of social justice in college algebra, pre-calculus and statistics. Participants will not only experience an interactive and practical demonstration of social justice in action, but three lesson plans will be provided that can be incorporated in their own classrooms. A collaborative environment will also be fostered where ideas can be shared and concerns can be addressed, which will aid in building the community and propelling the social justice for mathematics movement forward

## Workshop Session 2 (cont'd)

### Mathematics and Social Change Simple Mathematics Examples that Inspire, Motivate, and Empower

*Aris Winger*

*Georgia Gwinnett College*

*Lawrenceville, GA*

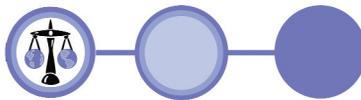
Room 306

E, MS, HS, Youth, PS, Community, PF, UG, GS

This workshop focuses on a number of real world situations where mathematics plays a tremendous role. These examples are rooted in events that are cultural, and social in nature while being easily understood. Such examples include:

- I. Why Barack Obama won (again) and would win again if he could run- Power and Elections .
- II. Why Racial profiling doesn't work- Why Bayes' Theorem is easier than we think.
- III. Why Income inequality is deeply tied to innumeracy and how to overcome it.

After the examples are presented, we discuss potential new ones, and how to move forward actively and aggressively.



#### **Intended Audience Guide**

**E**-Elementary School Teachers, **MS**-Middle School Teachers, **HS**-High School Teachers,

**UG**-Undergraduate Students, **GS**-Graduate Students, **PF**-Professors/Faculty,

**PS**-Parents, **Youth**-Workshop audience may include youth, **Community**-Workshop audience includes community members and activists

## Workshop Session 3

### **Powerful Numbers in a Social Justice Algebra Classroom: catalyzing critical thinking, rigorous mathematical learning, and student voice**

*Alice Cook Henke*

*University of Maryland*

*Justin Robinson, Tyler Rogers, Clara Lincoln*

*Capital City Public Charter School*

Room 222

MS, HS, Youth, PS, Community, UG

In the Powerful Numbers Expedition, a four-month Algebra 2 unit, students learned the power of functions and data through analysis of the HIV/AIDS crisis in Washington, D.C. Student learning was mathematically rigorous, based on Common Core Standards, and aligned to the Expeditionary Learning Model. In this workshop, co-presenters Alice Cook Henke and Seniors from Capital City Public Charter School will engage participants in activities from the unit, examine student work and artifacts, and discuss the ways that this project used student voice, community, and social justice to create a more equitable, engaging, and high-standards mathematics learning environment.

### **Mathematizing social justice: bringing community, school, and university events into the mathematics classroom**

*Ksenija Simic-Muller*

*Pacific Lutheran University, Tacoma, WA*

Room 311

MS, HS, PF, GS, Youth

We discuss two projects assigned in a course for preservice teachers. Students attended a symposium about water and the Tunnel of Oppression, and reflected on the presence of mathematics in both events. Then they wrote mathematics lessons about water scarcity, and used mathematics to argue about a context featured in the Tunnel. In the workshop, we will look at student work, work on some of the lessons, and discuss ways in which community, school, or university events can be connected to the mathematics curriculum. Though the projects were used in a university classroom, they can be modified for other settings.

## Workshop Session 3 (cont'd)

### **Walking in another's shoes: two middle-school math projects that examine social inequalities**

*Liz Caffrey*

*Live Oak School*

*San Francisco, CA*

Room 218

MS, HS

I will show two projects that demonstrate how issues such as race, gender and socio-economic status can be examined through a mathematical lens. In one project, students use census data for income levels based on race, gender, and education level. They must create a budget for a person living in San Francisco with that income (including doing their taxes!). In the second project, students examine voting rights by being assigned a specific demographic in the US and examining how the presidential election would turn out if only their demographic voted. Both projects are designed for middle school students (but could easily be extended to high school) and involve heavy use of technology.

### **Liberating Math Education for Elementary Girls**

*Nini Hayes*

*UMass Amherst*

*Holyoke, MA*

Room 209

E, MS, HS, Youth, PS, Community, PF, UG, GS

This interactive session will help math educators working with elementary girls to empower their students with their own mathematical agency by clueing them into the power of a fixed vs. malleable belief of one's intelligence based on the work of Dr. Carol Dweck, the power of self-talk, recognizing and unpacking ways girls are socialized to internalize math inferiority and helping to create a math bill of rights and responsibilities.

Participants will experience working in various formats to experience and discuss ways to highlight and sustain the mathematical agency of their female students using example activities and forms of media engaging for students.

## Workshop Session 3 (cont'd)

### **The Two Faces of “Smartness”: Liberation and Exclusion in the Mathematics Classroom**

*Nicole Louie, Evra Baldinger*

*University of California Berkeley*

*Berkeley, CA*

Room 328A

E, MS, HS, Youth, PS, Community, PF, UG, GS

In this workshop, participants will consider two faces of smartness - as liberatory and oppressive - in contemporary American discourse. Together, we will examine and experience scenarios in which the label “smart” reproduces hierarchies, as well as scenarios in which “smart” is used to equalize status and highlight the contributions every learner can make to collective learning and problem solving. We will work to re-imagine smartness in math classrooms and generate strategies that educators can use to break down exclusive aspects of “smartness” so that all students have access to rich mathematical learning and to visions of themselves and those around them as “smart.”

### **Creating Real(world) Opportunities in Urban Classrooms**

*AJ Stachelek, Sarah Lewis, Soledad Fernandez, Phiola Mcfarlane*

*Centering the Teaching of Mathematics on Urban Youth (CTMUY)*

*Brooklyn, NY*

Room 224

HS

This session is presented by high school teachers from the Centering the Teaching of Mathematics on Urban Youth (CTMUY) group in NYC. Our collaborative professional learning team explores improving teaching practices, specifically in urban schools. This session will focus on two related goals: how we 1) become more familiar with the lived experiences of our students and 2) incorporate high-level mathematical tasks in our lessons. The session will create a collaborative structure for participants to these goals and how they are related. We will also share sample lesson activities for students.

## Workshop Session 3 (cont'd)

### **Supporting Gender Diversity among Youth through Teaching Mathematics for Social Justice**

*Kat Rands*

*Elon University, NC*

Room 325

MS, PF, pre-service teachers

This workshop involves interactive discussion of a yet-to-be-implemented plan for a middle grades mathematics project in which students engage with the data from the 2007 and 2009 National School Climate Survey of the Gay, Lesbian, and Straight Education Network (GLSEN) to examine how often the participants reported that a student intervened when another student made negative remarks about someone's gender expression. Through exploring this data, students learn about proportional reasoning and statistical concepts. Students then develop their own school survey and formulate an action plan for increasing the frequency of student interventions in response to negative remarks.

### **Murder by numbers - A critical analysis of the murder rate in Oakland using proportional reasoning as an investigative lens for social justice issues**

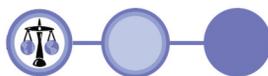
*Tim Weekes*

*Lighthouse Community Charter School, Oakland, CA*

Room 306

HS, Youth, PS, Community, PF, UG, GS, School Administrators

This workshop will demonstrate a how a social justice approach to presenting mathematics can lead to deeper classroom engagement and increased conceptual understanding. We will investigate the murder rate in Oakland by using proportional reasoning to compare it to other regions in the U.S while comparing the socio-economic data for those areas to create a lens for the students to make a critical analysis of the situation. We will also review data from a preliminary study I did which investigated the mathematical problem-solving skills African-American teenage males.



## Workshop Session 4

### **Mathematics Serving the Community: Empowering Community Organizations with Youth Research**

*Brad Kohl, Nicholas Thyr, Eden Motto, Daniel Bergerson*

*Breck School*

*Minneapolis, MN*

Room 311

HS, Youth, Community, PF, UG, GS

Can math and service learning go together? Mathematics Research empowers promising high school mathematics students, passionate for community service, to use their math skills on behalf of nonprofit clients in their areas of interest. These pro bono mathematicians volunteer with their organizations, then take on an initiative where they use statistical and analytical skills to create resources and make recommendations, giving organizations the credibility and power of mathematics. Student researchers will share their experiences and lead participants through activities and assessments they have created. Participants will work with student leaders to explore ways to create community-based research opportunities for students.

### **Math for Everyone: Promoting Equity for Students with Disabilities**

*Lauren Schiller*

*Harvard University*

*Brookline, MA*

Room 328A

E, MS, HS, Youth, PS, Community, PF, UG, GS

There exists a pervasive view in our society that math is inaccessible to some; people either possess mathematical ability or they don't. As such, middle school students with disabilities become so jaded that they realize it is absolutely acceptable to admit, "I can't do math." This workshop will focus on debunking this pervasive societal view by focusing on ways to make math accessible and enjoyable for all. Areas that will be covered include encouraging a mathematical growth mindset through lessons about the brain, designing thematic units that connect mathematical ideas to the world, and utilizing games to promote confidence.

## Workshop Session 4 (cont'd)

### **Thanks to the 2012 Election, Statistics is Cool (again)!**

*Eleanor Terry*

*High School of Telecommunication Arts and Technology*

*Brooklyn, NY*

Room 222

MS, HS, Community, PF

This summer, Eleanor Terry received a Fund for Teachers Grant this summer to work alongside presidential campaign statisticians in the predominately Hispanic swing states of Florida, New Mexico, Nevada, and Colorado. Eleanor is committed to her students becoming statistically literate and, alongside her 33 AP Statistics students, conducted Exit Polls on November 6th at polling sites across Kings County- giving her classroom enough data to last the whole year. This workshop will focus on developing experiential learning through Statistics- where students create their own measurement tools, design their own studies, and write their own conclusions. Visit [www.hstatistics.blogspot.com](http://www.hstatistics.blogspot.com) for more information.

### **Multiplication isn't Just for White People: Strategies to Engage Boys of Color in Mathematics**

*Terra Holman*

*George Jackson Academy*

*New York, NY*

Room 218

E, MS, HS, PS, Community, PF, UG, GS

This presentation will explore the statistics regarding the mathematics achievement of boys of color (predominately Hispanic and African American boys). Participants will discuss the inherent traits in boys of color that allow them to have success in mathematics and share lessons, projects, and strategies proven to be successful in promoting their achievement.

## Workshop Session 4 (cont'd)

### **Math for Social Justice in the Real World**

*Indigo Esmonde, Dominique Riviere, Joe Curnow*

*University of Toronto*

*Toronto, Canada*

Room 209

E, MS, HS, Youth, PS, Community, PF, UG, GS

This workshop will focus on activism in the ‘real world,’ and consider implications for schools and communities. The workshop will use the example of a Toronto-based group Stop the Cuts (StC) to examine one case study of how mathematics was done as a part of community activism. Our goal is to use the case study to support a broader discussion of the links between mathematics teaching/learning and community activism. We will discuss ways to strengthen the activist content of schools, and the mathematics content of activist efforts. Teachers, researchers, community organizations, youth and parents are all welcome to attend.

### **Preparing Teachers to Address Social Justice Issues in the Elementary Math Classroom: Two Perspectives**

*Joan Kwako, University of Minnesota Duluth, MN*

*James Clayton, Jersey City, NJ*

Room 224

E, Youth, PS, Community, PF, UG, GS

Pre-service teachers in two very diverse geographic and socio-economic settings who are enrolled in elementary mathematics methods courses were challenged to prepare lessons that address issues of social justice. The students at the two institutions shared their lesson plans with each other and provided feedback to each other based on their personal experience in terms of what constitutes a solid social justice lesson. In one case, the students had a significant amount of time schools; in the other, the time was limited. Also, in one case, the students were very homogeneous; in the other, the students were quite diverse. The facilitators will discuss the results of their long distance collaboration.

## Workshop Session 4 (cont'd)

### THE FACES OF MATH TALKS - Examining perspectives of mathematical discussions

*Rachel Restani, Leslie Banes*

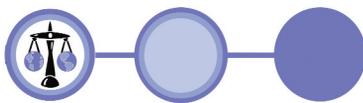
*UC Davis*

*Davis, CA*

Room 325

E, MS, HS, Youth, PS, Community, PF, UG, GS

The use of discourse in math classrooms is strongly emphasized in the national reform documents as well as the common core standards that are beginning to be implemented. Because each student is unique, these discussions will also be unique from classroom to classroom. Learn how teachers are currently intertwining the ideas of mathematical discussion and identity. Communicate with other teachers and parents about how to encourage students to talk about math, inside and outside of the classroom. Read researcher's perspectives on how mathematics should be discussed. Develop a collaborative understanding of how students perceive math in relation to themselves.



#### **Intended Audience Guide**

**E**-Elementary School Teachers, **MS**-Middle School Teachers, **HS**-High School Teachers,

**UG**-Undergraduate Students, **GS**-Graduate Students, **PF**-Professors/Faculty,

**PS**-Parents, **Youth**-Workshop audience may include youth, **Community**-Workshop audience includes community members and activists

**Saturday, January 19th**

**Workshop Session 1 (10:00-11:20 AM)**

Students Becoming Socially Conscious Mathematicians	Creating a Schoolwide Culture of Math: starting with the adults!	Developing Computational Fluency with all Elementary School Math Students: An Issue of Rigor and Equity in the Schools Rather than Inequity outside of School	Stereotypes + kids = inequity... and what you can do about it
Room 222	Room 311	Room 209	Room 328A
Developing as Social Justice Math Educators in the Neoliberal Era	Developing Children's Mathematical Agency -- to Write the World with Mathematics	What is Fair & Equitable Instruction?: Teaching Critical Thinking versus Teaching to the High-Stakes Test	
Room 224	Room 325	Room 306	

**Workshop Session 2 (12:30-1:50 PM)**

Who gets pulled over?: Mathematics as a tool for exploring the (dis)proportionality of police traffic stop data	Henry's Freedom Box: A Journey Within and Outside of the Box of Social Justice Mathematics	'I feel so included. For once.' Engaging and involving parents in a non-deficit way to affect change.non-deficit way to affect change	Mathematics and Social Change Simple Mathematics Examples that Inspire, Motivate, and Empower
Room 222	Room 209	Room 311	Room 306
Bringing English Learners into the Math Discussion	Flagway Games	Justice for All: Exploring Social Justice Possibilities in the College Algebra, Pre-Calculus and Statistics Classrooms	Special Education: Mathematics, social justice, and students with special needs
Room 218	Gymnasium	Room 224	Room 328A

<b>Workshop Session 3 (2:00-3:20pm)</b>			
Creating Real(world) Opportunities in Urban Classrooms	Walking in another's shoes: two middle-school math projects that examine social inequalities	Powerful Numbers in a Social Justice Algebra Classroom: catalyzing critical thinking, rigorous mathematical learning, and student voice	The Two Faces of "Smartness": Liberation and Exclusion in the Mathematics Classroom
Room 224	Room 218	Room 222	Room 328A
Supporting Gender Diversity among Youth through Teaching Mathematics for Social Justice	Mathematizing social justice: bringing community, school, and university events into the mathematics classroom	Murder by numbers - A critical analysis of the murder rate in Oakland using proportional reasoning as an investigative lens for social justice issues	Liberating Math Education for Elementary Girls
Room 325	Room 311	Room 306	Room 209

<b>Sunday, January 20th</b>			
<b>Workshop Session 4 (10:00-11:20am)</b>			
Thanks to the 2012 Election, Statistics is Cool (again)!	Math for Everyone: Promoting Equity for Students with Disabilities	Preparing Teachers to Address Social Justice Issues in the Elementary Math Classroom: Two Perspectives	Math for Social Justice in the Real World
Room 222	Room 328A	Room 224	Room 209
THE FACES OF MATH TALKS - Examining perspectives of mathematical discussions	Mathematics Serving the Community: Empowering Community Organizations with Youth Research	Multiplication isn't Just for White People: Strategies to Engage Boys of Color in Mathematics	
Room 325	Room 311	Room 218	

# Notes

The Creating Balance in an Unjust World Conference on Mathematics Education and Social Justice began in New York City in 2007 through a grant Jonathan Osler secured to create the website [RadicalMath.org](http://RadicalMath.org) which provides instructional resources for social justice math educators. Jonathan along with Sam Anderson, Marilyn Frankenstein, Ben Griesinger, Rico Gutstein, Kari Kokka, Erica Litke, Tara Mack, Charlotte Marchant, Taeko Onishi, Sara Soullom, and Beth Wehner planned the first conference that drew teachers, professors, graduate students, youth, and community members from across the country and featured Bob Moses, dedicated civil rights organizer through SNCC, author of *Radial Equations*, and founder of the Algebra Project that aims to achieve social justice by empowering all citizens with mathematical literacy.

The current core organizing committee consists of Geoffrey Enriquez, Taica Hsu, Kari Kokka, Tol Lau, and Michelle Wong. We are excited for this fifth annual conference at Mission High School. The organizing committee has always been a grassroots group of teachers who volunteer their time and energy in the hopes of bringing together math educators and activists to network, recharge, build, learn from, and inspire each other in their collaborative social justice work. The committee is always seeking feedback ideas and volunteers to improve conference workshops, talks, panels, and networking opportunities for participants. This conference only exists with your continued support, thank you for joining, and email if interested in organizing with us [info@creatingbalanceconference.org](mailto:info@creatingbalanceconference.org). Thank you!

