

AUGUST 1-6, 2016


FULL PROGRAM WWW.MAA.ORG/PN-PROGRAM



MAA Project NExT Red'15 Fellows at MAA MathFest 2015

## SCHEDULE

## MONDAY, AUGUST 1 (GREEN‘16)

| 11:00-1:00 Р.м. | REGISTRATION | COUNTY FOYER |
| :---: | :---: | :---: |
| 1:00-1:40 Р.м. | PLENARY <br> Welcome \& Icebreaker <br> Dave Kung, St. Mary's College of Maryland, Gold (2000) Director, MAA Project NExT | FAIRFIELD |
| 1:40-2:00 Р.м. | BREAK |  |
| 2:00-3:20 Р.м. | PLENARY <br> Life Scripts in the Classroom <br> Carol Schumacher, Kenyon College | FAIRFIELD |
| 3:20-4:00 Р.м. | BREAK (WITH SNACKS) | COUNTY FOYER |
| 4:00-5:20 р.м. | DEMONSTRATION <br> Interactive Teaching Methods <br> MAA Project NExT Leadership Team: Julie Barnes, Western Carolina University, Blue (1996) <br> Alissa S. Crans, Loyola Marymount University, Orange (2004) <br> Matt DeLong, Taylor University, Brown (1999) <br> Anthony Tongen, James Madison University, Sterling (2005) | FAIRFIELD |
| 5:20-6:00 Р.м. | BREAK |  |
| 6:00-7:00 р.м. | DINNER <br> MAA President Francis Su, Harvey Mudd College, Blue (1996) | MORROW |
| 7:00-8:20 Р.м. | SMALL GROUPS <br> What Methods Might Work for You? <br> Alissa S. Crans, Loyola Marymount University, Orange (2004) | MORROW |

## TUESDAY, AUGUST 2

| 7:20-8:20 А.м. | BREAKFAST | MORROW |
| :---: | :---: | :---: |
| 8:20-9:20 А.М. | PLENARY <br> Teaching Math in the $\mathbf{2 1}$ st Century <br> Tara Holm, Cornell University, Sepia (2006) | FAIRFIELD |
| 9:20-9:40 А.М. | BREAK |  |
| 9:40-11:00 А.М. | BREAKOUT SESSIONS <br> a. Math Teachers' Circles: How to Create AHA! Moments - Judith Covington <br> b. Spreadsheets: A Tool to Enliven and Animate Mathematics - Bob DeVaney <br> c. Student-Centered, Advanced Mathematics Courses - Brian Katz <br> d. Helping Students Learn to Write Proofs - Chris Stevens <br> e. Show me the Data: Using Data to Engage Student Learning - Talithia Williams | FAYETTE <br> CHAMPAIGN <br> MADISON <br> kNOX <br> MARION |

## 11:00-11:20 A.M. BREAK

11:20-12:00 P.M. SMALL GROUPS - ON PROFESSIONAL LIFE AT AN INSTITUTION LIKE YOURS
i. FAYETTE (FRONT)
vi. MADISON (BACK)
ii. FAYETTE (BACK)
vii. KNOX (FRONT)
iii. CHAMPAIGN (FRONT)
viii. KNOX (BACK)
iv. CHAMPAIGN (BACK)
ix. MARION (FRONT)
v. MADISON (FRONT)
X. MARION (BACK)


## WEDNESDAY, AUGUST 3



## TUESDAY, AUGUST 2

PEPPERCORN

## WEDNESDAY, AUGUST 3



## WEDNESDAY, AUGUST 3 (CONT)



RED'15 fellows: see your email for course assignments

THURSDAY, AUGUST 4 \& FRIDAY, AUGUST 5

| 1:00-3:00 Р.м. | COURSE Y <br> Teaching Introductory Statistics in a Data-Driven World <br> Michael Posner, Sepia (2006), Villanova | GRANT |
| :---: | :---: | :---: |
| 1:00-3:00 Р.м. | COURSE V Inquiry-Based Learning in Mathematics for Liberal Arts Courses Philip Hotchkiss, Green (1995), Westfield State College | GARFIELD |
| 1:00-3:00 Р.м. | COURSE W <br> Moving \& Learning: Embodying Mathematics <br> Hortensia Soto, Blue (1996), University of Northern Colorado | HARDING |
| 3:20-5:20 Р.м. | COURSE X <br> NSF Basics: Overview, Funding Opportunities, \& Grant-Writing Tips <br> Lloyd Douglas, MAA and Sandra Richardson, Sterling (2005), National Science Foundation <br> Getting Your Research Off to a Good Start <br> Anthony Tongen, Sterling (2005), James Madison University | HARDING |
| 3:20-5:20 Р.м. | COURSE U <br> An Inquiry-Oriented Smorgasbord <br> Valerie Peterson, Green'09, University of Portland | GRANT |
| 3:20-5:20 Р.м. | COURSE Z <br> Undergraduate Research - How to Make It Work <br> Aparna Higgins, University of Dayton | GARFIELD |

## 2016-2017 PROJECT NEXT FELLOWS GREEN'16 COHORT

| Leyda Almodovar Velazquez Stonehill College |  |
| :---: | :---: |
|  | $0, b, v i i i, j, A, G, X$ |
| Ibukun Amusan |  |
| Kentucky State University |  |
|  | 1, b, vii, j, A, J, Y |
| Meredith Anderson <br> Adams State University |  |
|  |  |
|  | 2, a, ix, h, E, F, V |
| Phillip Andreae Meredith College |  |
|  |  |
|  | 3,e,vii,h, E, I, Z |
| Leesa Anzaldo |  |
| University of Wisconsin-Madison |  |
| Drew Ash |  |
| Davidson College $5, \mathrm{~d}, \mathrm{i}, \mathrm{f}, \mathrm{E}, \mathrm{l}, \mathrm{V}$ |  |
|  |  |
| Kyle Besing |  |
| Kentucky Wesleyan College |  |
|  | 6, c, vi, g, A, J, V |
| Derdei Bichara |  |
| California State University, Fullerton |  |
| May Chaar |  |
| Framingham State University |  |
|  | 8,a,x, g, E, I, X |
| Shih-Wei Chao |  |
| University of North Georgia |  |
|  | 9, b, x, i, A, l, V |
| Timothy Chumley <br> Mount Holyoke College |  |
|  |  |
|  | 0, d, ii, j, D, H, Z |
| Craig Collins |  |
| Murray State University |  |
|  | 1, a, iii, i, B, F, Z |
| Benjamin Coté |  |
| Bridgewater State University |  |
|  | 2,e,iv, f, C, F, Z |
| Megan Cream <br> Spelman College |  |
|  |  |
|  | 3, d, vii, j, A, I,V |
| Douglas Dailey |  |
| University of Dallas |  |
|  | 4,c,i, , ¢, C, F, V |


| Alexander Diaz-Lopez <br> Swarthmore College | Sarah Hanusch |
| :---: | :---: |
|  | SUNY Oswego |
| 6, c, ii, i, C, F, X | 1, c, iv, f, C, J, W |
| Sarah Dumnich | Scott Hottovy |
| Frostburg State University | United States Naval Academy |
| 7,e, $\mathrm{x}, \mathrm{i}, \mathrm{E}, \mathrm{H}, \mathrm{U}$ | 2,b, iii,h, A, J, Z |
| Timothy Ferdinands | Kenan Ince |
| Bethel College | Westminster College, Salt Lake City |
| 8, c, vi, g, B, H, V | 3, a, v, h, B, I, z |
| Neville Fogarty | Samuel Ivy |
| Christopher Newport University | United States Military Academy |
| 9, c, iii, g, C, F, V | 4, d, i, h, E, F, Z |
| Brendan Fry | William Jamieson |
| Metropolitan State University of Denver $0, e, i v, g, E, H, X$ | Southern New Hampshire University $5, e, v, h, A, H, Y$ |
| Benjamin Gaines Iona College | Mary Karker |
|  | Connecticut College |
| 1,d, viii,h, D, H, Z | 6, d, i, j, B, J, Y |
| Amy Givler | Daniel Kline |
| Virginia Military Institute | Milligan College |
| 2,b,vii,h, C, J, X | 7, c, vi, i, B, F, v |
| Heidi Goodson | Jakob Kotas |
| Haverford College | University of Portland |
| 3, a, i,h, D, F, U | 8,d,viii, j, A, H, V |
| Lauren Grimley | Alona Kryshchenko |
| Spring Hill College $\quad 4, d, v i, h, B, F, Z$ | California State University Channel Islands 9, b, iii, j, D, G,Y |
| Rachel Grotheer | Benjamin Levy |
| Goucher College | Fitchburg State University |
| 5,b,vii, j, E, G, V | $0, a, x, j, E, F, Y$ |
| Emily Gunawan | Benjamin Linowitz |
| Gustavus Adolphus College | Oberlin College |
| 6, d, i, j, B, I, X | 1, c, ii, f, D, F, Z |
| Neha Gupta | Marcos Lopez |
| Harvard University | Midwestern State University |
| 7,a,v,g, B, I, W | $2, c, x, f, D, F, Z$ |
| Rosemary Guzman University of Illinois at UrbanaChampaign | Jason Lutz |
|  | Gonzaga University |
|  | 3, c, viiii, i, A, J, U |
| 8, c, ii, j, D, H, X | Peter Maceli |
| James Hammer | Canisius College |
| Cedar Crest College | 4, a, ix, i, B, H, V |
| 9,d,v,f, E, G, Z | Alicia Machuca |
| Eric Hanson | Texas Woman's University |
| Texas Christian University $0, e, v, g, D, J, Y$ | $5, \mathrm{e}, \mathrm{iv}, \mathrm{h}, \mathrm{E}, \mathrm{G}, \mathrm{U}$ |
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## 2016-2017 PROJECT NEXT FELLOWS

GREEN'16 COHORT

| Tetyana Malysheva <br> University of Wisconsin - Green Bay |  |
| :---: | :---: |
|  |  |
| Chad MangumNiagara University |  |
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| 7,b,viii, i, A, H, X |  |
| Megan Martinez Ithaca College |  |
| 8,e,ix, g, D, G, Z |  |
| Nathan McNew Towson University |  |
|  |  |
| 9, d, iii, j, C, J, X |  |
| Brittney Miller Coe College |  |
|  |  |
|  | 0,a,vii,h, C, I,V |
| Nadia Monrose Mills |  |
| University of the Virgin Islands |  |
| 1, b, ix, f, B, H, w |  |
| Sarah Nelson <br> Lenoir-Rhyne University |  |
|  |  |
| 2,a,viii, i, B, I, W |  |
| Suzanne Marie O'Regan <br> North Carolina A\&T State University 3,b, ii, i, E, I, Z Z |  |
|  |  |
| Jesus Oliver |  |
| California State University East Bay |  |
| Nicole Panza <br> Francis Marion University |  |
|  |  |
| 5,a,vii,j, C, G, Z |  |
| Caitlyn Parmelee <br> Keene State College |  |
|  |  |
| 6,d, X, j, A, J, Y |  |
| Catherine Patterson <br> Austin College |  |
|  |  |
|  | 7,d,vi,h, E, G, Z |
| Terrance Pendleton Drake University |  |
|  |  |
| 8, c, ix, g, C, F, Z |  |
| Geremias Polanco Hampshire College |  |
|  |  |
|  | 9,b,vii,h, A, J, Z |
| Margaret Rahmoeller Roanoke College$0, e, i, i, B, H, Z$ |  |
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| Jenna Reis Fitchburg State University | Benjamin Wilson |
| :---: | :---: |
|  | Stevenson University |
| 1, C, , , i, A, H, X | 7, c, ix, g, B, J, V |
| Amanda Ruiz | Na Yu |
| University of San Diego ${ }_{\text {2,e, viii, f, D, H, Z }}$ | Lawrence Technological University $8, b, i x, h, C, G, X$ |
| Hwayeon Ryu |  |
| University of Hartford |  |
| Jason Siefken |  |
| Northwestern University |  |
| 5, c, i, i, C, J, Y |  |
| Gabriel Sosa Castillo |  |
| Amherst College |  |
| 6, c, ii, f, C, I, V |  |
| Roberto Soto |  |
| California State University, Fullerton |  |
| Julia St. Goar |  |
| Merrimack College |  |
| 8, c, vi, f, B, I, W |  |
| Felicia Tabing |  |
| Rose-Hulman Institute of Technology |  |
| Amanda Taylor |  |
| Alfred University |  |
| $0, c, v i i, i, D, G, U$ | Ice Breaker, Small |
| Christine Uhl | Group, Breakout, and |
| St. Bonaventure University $\quad$ Course Assignment |  |
| 1,a,viii,h,C,G,V chronological orde |  |
| Alana Unfried See the schedule for |  |
| California State University, Monterey Bay | locations. |

WORKSHOP LEADER BIOS

David Austin is Professor of Mathematics at Grand Valley State University and writes for the American Mathematical Society's online Feature Column. He is interested in computation and mathematical illustration as tools for understanding and explaining mathematical thinking. When not drawing pictures on a computer, he is programming robots with high school students or playing the guitar.

Julie Barnes (Blue, 1996) is a Professor of Mathematics at Western Carolina University and is an Associate Director for MAA Project NExT. Her mathematical interests include using tactile teaching activities and complex dynamics. She won an MAA Allendoerfer Award (2016) for an article written with a longtime friend and two postdocs. In her spare time she enjoys hiking and playing racquetball.

Linda Braddy (Cardinal, 2001) is Vice President for Academic Affairs at Tarrant County College Northeast Campus. As Deputy Executive Director of the MAA, her 20-1 record of successful NSF grant applications produced a portfolio of over $\$ 16.5$ million. An award-winning teacher, she is always improving her own time management so she can do more with less leaving time to spend with her grandkids.

Tim Chartier (Forest, 2002) teaches at Davidson College. He focuses on sports analytics, researching questions for ESPN, the NBA and NASCAR teams. He collaborates extensively with a team of undergraduates. He is Second Vice President of the MAA. Tim has served as a resource for a variety of media inquiries, including appearances with NPR, the CBS Evening News, USA Today, and The New York Times.

Judith Covington (Red, 1994) is a Professor of Mathematics at Louisiana State University Shreveport, director of the North Louisiana Mathematics Teachers' Circle, newly elected Governor for the LA/MA Section of the MAA and a 2015 Haimo award winner. Judith served for seventeen years on the leadership team for MAA Project NExT.

Matt DeLong (Brown, 1999) is a Professor of Mathematics at Taylor University and an Associate Director of MAA Project NExT. His interests include knot theory and faculty development. He was awarded the Alder Award and the Haimo Award for distinguished teaching from the MAA. His hobbies used to include singing in choir and performing in musical theater, but now he watches his three kids do the same.

Robert L. Devaney is Professor of Mathematics at Boston University and is currently immediate past-president of the MAA. His area of research is complex dynamics and chaos theory. Given his eight grandchildren who were born in the last ten years, he has recently become one of the world's leading experts in chaos!

Lloyd E. Douglas is a Certified Research Administrator who has been a MAA Project NExT consultant since 1995. He has held research administration positions at the University of Nevada, Reno and the University of North Carolina at Greensboro after spending 23 years at the National Science Foundation.

Aparna Higgins is a Professor at the University of Dayton. Her doctoral work was done at the University of Notre Dame. Her research interests are in graph theory, which she enjoys sharing with undergraduate researchers. She was honored with the MAA's Haimo Award for Distinguished Teaching in 2005. She has been involved with MAA Project NExT since 1998, and served a five-year term as its director.

Tara Holm (Sepia, 2006) teaches at Cornell University and conducts research in symplectic geometry, algebraic geometry and topology. She is a member of the AMS Committee on Education, chairing it from 2012 to 2016, and on the leadership team of TPSE Math. Holm is the President/CEO of the corporation running the Budapest Semesters. She is a Fellow of the AMS and her favorite pie is lemon meringue.

Philip Hotchkiss (Green, 1995) is a Professor of Mathematics at Westfield State University and a member of the Discovering the Art of Mathematics (DAoM) team. He loves working with mathematics for liberal arts (MLA) students and helping them gain a deeper appreciation for mathematics. Outside of mathematics, his interests include singing and cycling.

Brian Katz (Pine'09) is an Associate Professor at Augustana College and will visit Rutgers and San Diego State this year to do sabbatical research on math education. Brian is the co-author of an MAA Textbook, an associate editor for a special issue of PRIMUS entitled "Teaching Inquiry", and the chair-elect for a new SIGMAA for IBL. Brian loves to sing and has kittens named Simon and River.

Dave Kung (Gold, 2000) teaches at St. Mary's College of Maryland and directs MAA Project NExT. After studying analysis, he switched to mathematics education, looking at instructor knowledge of student thinking. He has won his MAA section's teaching award, and he has passionately pushed to diversify the mathematics community. In his spare time, he runs, bikes, and coerces his daughter to practice her violin.

Deborah Loewenberg Ball is the William H. Payne Collegiate Professor in education at the University of Michigan, and an Arthur F. Thurnau Professor. An elementary school teacher for more than 15 years, she is an expert on teacher education, with a particular interest in how professional training and experience combine to equip beginning teachers with the skills and knowledge needed for responsible practice. Ball has authored or co-authored more than 150 publications and has been elected to the American Academy of Arts and Sciences and is a fellow of the American Mathematics Society.

Valerie Peterson (Green'09) earned her PhD from the University of Illinois and is now an Associate Professor of Mathematics at the University of Portland. When she's not thinking about cube complexes or how to transform STEM education, she enjoys exploring Portland's excellent food cart scene (by bike, of course!) and playing the drums (not by bike... yet).

Michael Posner (Sepia, 2006) is an Associate Professor of Statistics and founding Director of the Center for Statistics Education at Villanova University. He has served on numerous national committees of statistics education, has three NSFfunded grants totaling $\$ 3.2$ million, and has received teaching awards from Villanova, ASA, and MAA. He is a retired competitive ballroom dancer.

Sandra Richardson (Sterling, 2005) is a Program Director and co-lead of the Robert Noyce Teacher Scholarship Program at the National Science Foundation (NSF) in the Directorate of Education and Human Resources, Division of Undergraduate Education. Her scholarly interests include advancing pedagogical content knowledge of mathematics teachers, studying minority and underrepresented students' mathematical thinking, and mathematics teacher education.

Carol Schumacher is Professor of Mathematics at Kenyon College. The winner of Kenyon's Trustee Teaching Award, she authored Chapter Zero and Closer and Closer, books that use inquiry-based learning for a bridge class and real analysis. She served as co-chair for the CUPM Curriculum Guide, and currently chairs the Kenyon Faculty. When not thinking about math or teaching, she loves to read with a cat in her lap, take long walks with friends, and most of all she loves to travel.

Hortensia Soto (Blue, 1996) is a professor in the School of Mathematical Sciences at the University of Northern Colorado, where she trains K-20 teachers. She is a mathematics educator whose research interests focus on the teaching and learning of complex analysis. She adopts the philosophy of embodied cognition into her teaching and research and thus, bodily movement is an integral part of her work.

Christine Stevens is an Associate Executive Director of the American Mathematical Society. Before joining the AMS in 2014, she was a Professor of Mathematics and Computer Science at Saint Louis University. Her research interests are in topological groups and the history of mathematics. In 1994, together with the late Jim Leitzel, she founded MAA Project NExT, which she led until 2009.

Anthony Tongen (Sterling, 2005) is a Professor at James Madison University and Assistant Director of MAA Project NExT. He has mentored more than 65 undergraduate research projects and written Keeping it R.E.A.L.: Research Experiences for All Learners, a collection of undergraduate classroom research projects. Anthony enjoys spending time with his wife and kids on $\pi$-acres in addition to sharpening his mentoring skills in his church.

Talithia Williams (Green'09) is an Associate Professor of Mathematics at Harvey Mudd College. She has made it her life's work to get people more excited about the possibilities inherent in a STEM education. In her popular TED Talk, "Own Your Body's Data", she demystifies the mathematical process in amusing and insightful ways, using statistics as a way of seeing the world in a new light.

Holly Zullo (Green, 1995) is Professor of Mathematics at Westminster College (UT). She has also taught at Eastern Oregon University and at Carroll College (MT). Holly has been PI or co-PI on four NSF grants: two to develop questions for and study the pedagogy of classroom voting, and two CSEMS/S-STEM grants. Proficient at solving the two-body problem, she is also mom to four cats and one human.

## SUPPORTERS OF MAA PROJECT NEXT

The MAA acknowledges the generosity of the following donors
(in declining order of number of 2016-17 Fellows supported)

Mary P. Dolciani Halloran Foundation
Richard Good Fund
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Educational Advancement Foundation
Miscellaneous MAA Sections and Individuals
Green Dot Challenge: Green (1995), Forest (2002), and Green'09
Marcia Sward
Lynn and Mary Steen
American Statistical Association
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