Workshop Descriptions

**Fun with Fractals**  PH 119
Explore real-life applications of fractals and work together to build both two-dimensional and three-dimensional fractals.
-Kendal Askins, Pleasant Valley Intermediate School

**Surprising and Strange Complex Partners**  PH 116
Learn how the idea of compound interest extends to the complex plane to produce the unit circle and Euler's formula.
-Andy Davidson, FiCycle: Financial Life Cycle Mathematics

**Games of Chance and Life Lessons**  PH 118
Probability underlies many games of chance, but it's not all fun and games. Is cell phone insurance a good idea? What about auto or home insurance? How does FEMA decide if it's going to rescue people in a disaster? Learn how to determine the best choices for yourself.
-Philip Dituri & Jack Marley-Payne, FiCycle: Financial Life Cycle Mathematics

**All the People in the World**  PH 012
In 2011, the seven billionth person was born! What does that number really mean? Let's explore!
-Arielle Eager Leavitt, The Queens School of Inquiry

**The Great Escape**  PH 121
Who wants to get locked in a room for almost an hour with puzzles and clues to figure out an escape? Basic math knowledge is all that is required, plus a sense of urgency, teamwork and, of course, logic!
-Jillian Ellis, Coney Island Prep High School

**The Stable Marriage Problem**  PH 202
Is it possible to be the perfect matchmaker? Explore the mathematics behind stable pairings, act out a proof-by-construction through proposals and rejections, and tackle advanced logic. Discuss why the solution to this problem was worthy of a Nobel prize and how it has had a direct impact on every person in attendance.
-Ryan Fox, Maspeth High School

**Catch the Culprit!**  PH 156
A crime has taken place! Create a model to narrow down the list of suspects and use mathematics to solve the mystery.
-Sabrina Joseph, John Bowne High School and Math for America

**Go the Distance!**  PH 153
How is distance defined in mathematics? Explore reasons why a mathematical distance is the shortest.
-Eliza Kuberska, Hunter College High School and Math for America
The Irrational Hippasus and the Pythagoreans  PH 204
Look back in time to Ancient Greece, the Pythagoreans, and the life of Hippasus. Discover the need for irrational numbers and learn about Hippasus' "reward" for creating them.  
-Tallin Lamonaca, Louis Armstrong Middle School

Exploding Dots  PH 211
What do numbers and algebra have to do with dots? Play with exploding dots, a new way to represent and explore many familiar mathematical concepts that you have learned from elementary school all the way through high school in a fascinating way!
-Maria Leon Chu, Francis Lewis High School and Math for America

Thinking Deeply About Simple Things  PH 151
Discover mathematical patterns and symmetries and explore what they reveal. Learn how such problem solving is both useful and powerful.  
-Pei-Hsin Lin, New York Math Circle

Proof Without Words: A Visual Approach to Mathematical Proof  SU 310
Make mathematical conjectures and prove them using visual methods.  
-Mara Markinson, Queens College, CUNY

Forest Fire Probability  PH 004
From the Long Island Pine Barrens to California, forest fires occur too often and can cause much damage. Use mathematics to determine if it is possible to predict what percentage of a forest will be burned down.  
-Joseph Mendez, P.S./M.S. 4

Computer Science: Robotics  PH 008
Explore the use of algorithms and abstraction with VEX Coding Studio and self-driving vehicles.  
-Thomas O'Neill, Benjamin N. Cardozo High School

Mathematicians in the Animal Kingdom  PH 157
Learn about the mathematical concepts that some animals have mastered in order to survive and the implications for us as human mathematicians.  
-Julio Penagos, SolvED Education Consultants

The 12 Most Controversial Facts in Mathematics  SU 307
If you're looking for a mathematical way to impress your friends and beguile your enemies, here's a good place to start. Explore proofs that are outstandingly controversial among students of mathematics but are nonetheless correct.  
-Michael Riccardo, Bayside High School and Math for America

Teacher Sessions

Session I: Character vs. Gender in Mathematics and Beyond  PH 112
Meet the keynote speaker for a Q&A and a talk about the differences between teaching abstract mathematics to art students who were turned off by math in previous parts of their education and math majors who were turned on to math in high school. Learn how classroom activities can be designed to appeal to the interests of all students.  
-Dr. Eugenia Cheng, School of the Art Institute of Chicago

Session II: Teacher's Choice!
Attend the workshop of your choice.