The Second Annual Innovative Practices in Developmental Mathematics Conference (IPDM - 2017) would not have been possible without the contributions and support of many colleagues. We are pleased to express our gratitude to:

Dr. Gail O. Mellow, President, LaGuardia Community College, for her devotion to professional development, and for her efforts to engage faculty in rich and fruitful dialogues focused on effective pedagogies. We also thank Dr. Mellow for discussing her work with utilizing collaborative and reflective online approaches to improving teaching during our final afternoon session.

Dr. Paul Arcario, Provost and Senior Vice President for Academic Affairs; Dr. Bret Eynon, Associate Provost and Assistant Vice President for Academic Affairs; Dr. Ann Feibel, Associate Provost and Dean for Academic Affairs; and Eric Hofmann, Assistant Dean for the Center for Teaching and Learning, who provide leadership and support for exploring new approaches to pedagogy and professional development at LaGuardia.

Dr. Abderrazak Belkharraz, Chair of the Mathematics, Engineering, and Computer Science Department, whose interest in providing students with new and accelerated pathways through developmental mathematics has been instrumental to our efforts to both improve our pedagogies and provide our students with opportunities for success in mathematics and beyond.

Executive Vice Chancellor Vita Rabinowitz, Professor Myra Snell, and Dr. Paul Arcario, who will engage us in an examination of best practices in math remediation, and current CUNY efforts to increase student success, and invite us to continue our explorations of ways to improve our pedagogy as well as our services to students.

Dr. Mari Watanabe-Rose, Director of Undergraduate Studies, CUNY, for her help with organizing our keynote panel, and for offering her help to make this a successful and meaningful conference.

Dr. David Crook, University Dean for Institutional Research and Assessment, for his assistance with publicizing our conference across all CUNY campuses.
The staff of the Mathematics, Engineering, and Computer Science Department and the LaGuardia Center for Teaching and Learning who work very hard to ensure smooth operations. Special thanks to Ros Orgel for coordinating logistics, Abdellah Ait Elouden (MEC) for designing the conference website, and to Priscilla Stadler (CTL), designer of the conference program. Karen McKeon and the Events Office staff without whose expertise, generosity, and active involvement, this conference would not succeed. We thank them for their efforts on our behalf.

Our colleagues in Buildings and Grounds, the LaGuardia Print Center, and Media Services, whose daily labor contributes to the well-being of us all, and whose extra efforts for this event have been crucial.

**Conference Focus**

LaGuardia Community College is excited to host the second Innovative Practices in Developmental Mathematics Conference. The aim of this conference is to bring together experts and practitioners in the field of developmental mathematics to discuss best practices that address students’ needs holistically.

As you go through the program, you will see that the talks cover a range of topics from accelerated/integrated models to interventions that boost student motivation and achievements. Additionally, a panel will discuss CUNY efforts to investigate how we provide access to college-level math, and the work of CUNY’s Remediation Task Force.

In the future, we hope to continue the conversation about developmental mathematics at CUNY and beyond. Possible focus areas for future conferences include effective ways to teach critical thinking skills in relation to math, the possibilities of First Year Seminar and developmental math learning communities, and formulating holistic approaches to student success in developmental math.
KEYNOTE SPEAKERS

Dr. Myra Snell
Professor of Mathematics
Los Medanos College
Myra Snell has been teaching mathematics at Los Medanos College for 24 years. At LMC she has served as Math Department Chair, Director of the Developmental Education Program, and SLO Assessment Coordinator. In 2010, Professor Snell co-founded the California Acceleration Project with Katie Hern. Over the last six years, CAP has helped 35 California community colleges to implement placement and remediation reform in math. Some of these colleges have transformed their math programs, dramatically improved completion rates of college-level math and substantially narrowed equity gaps. In 2014, Professor Snell was one of four finalists for the national Faculty Innovation Award from the American Association of Community Colleges. In 2016 Washington Monthly included Professor Snell and Katie Hern in their list of the 16 Most Innovative People in Higher Education.

Dr. Vita C. Rabinowitz
Executive Vice Chancellor and University Provost
City University of New York
For nearly a decade prior to her current appointment, Dr. Rabinowitz served as Provost and Vice President for Academic Affairs at Hunter College, where she has been a dedicated faculty member for her entire academic career. In addition to teaching and mentoring thousands of students over the course of her 37 years at Hunter, she held a variety of administrative positions before assuming the role of provost, including chairperson of the Department of Psychology, acting associate provost, and acting provost. While at Hunter, Dr. Rabinowitz was the recipient of major NSF grants, including one that established Hunter’s Gender Equity Project (GEP), which sought to advance women faculty in the natural and social sciences and became an incubator for faculty development at Hunter. She served as co-director of the GEP for eight years. As provost, she received an NSF award to strengthen the many STEM enrichment programs at Hunter College and launch Hunter’s Undergraduate Research Initiative. In addition to her extensive service at Hunter, since 1978 Dr. Rabinowitz has been a member of the doctoral program in Psychology at CUNY Graduate Center, where she served as acting program head of the Social/Personality doctoral subprogram.

4:00 - 5:00  AFTERNOON KEYNOTE & CLOSING REMARKS
LITTLE THEATER

DR. GAIL MELLOW
LaGuardia Community College’s Reflect2Learn is a collaborative, reflective, online approach to teaching improvement which has been developed in partnership, and used over a 6-year period, by faculty members from 36 colleges across the country. Reflect2Learn is the subject of the book co-authored by President Mellow, Taking College Teaching Seriously: Pedagogy Matters! published in 2015.

This unique approach to fostering student success provides faculty members with an online platform and carefully designed methodology to examine their pedagogy, understand their unique teaching style through the use of research-designed pedagogy tags, and collaboratively reflect on improvement approaches in community with a small circle of peers. Originally used by community college faculty teaching developmental math and English, it now is being used or considered in a wide array of higher education teaching contexts.

5:00  CELEBRATION!
M BLDG SKYLIGHT AREA
study asserts that social media can enable the discursive interactions necessary to facilitate SRL-d, which serves to increase students’ mathematical conceptions, academic performance, and retention rates. This research contends that virtual interactions can adequately stimulate students’ enthusiasm, passion, insight, interest, and curiosity - all of which are primary tenets of SRL-d. The research argues that a virtual platform can serve to aid the contextualization of mathematical concepts which, invariably, leads to higher order mathematical elaborations. Our findings indicated a significant difference in the performance and retention rates of students who used a SIP vs the general student population.

3:15 - 3:25
M Bldg Skylight Area
COFFEE BREAK

3:30 - 4:00
Little Theater
GENERAL TALKS

OUTCOMES AND DIRECTIONS FOR THE NEW CUNY ELEMENTARY ALGEBRA FINAL EXAM
MICHAEL GUY, UNIVERSITY LEADERSHIP FELLOW FOR UNDERGRADUATE STUDIES (CUNY)
In Fall 2016, a revised version of the CEAFE was fully implemented. We will explore the outcomes with an eye toward improving student learning. We will also take a first look at how the new “lower stakes” CEAFE requirement affected student success in Elementary Algebra.

THE CURRENT STATE AND FUTURE OF CUNY’S DEVELOPMENTAL PLACEMENT PRACTICES
SARAH TRUELSCH, DIRECTOR OF POLICY RESEARCH, DAVID CROOK, ASSOCIATE PROVOST, AND EDWARD RUBIO, SENIOR POLICY ANALYST (CUNY)
In Fall 2016 CUNY introduced several changes to its developmental placement practices, which stemmed from a combination of policy choices and practical considerations for changes in the assessments used for placement. This presentation will discuss the placement practices in effect for 2017, including new Accuplacer exams, a new re-testing policy, and new placement cut scores on SAT and Regents Exams. We will discuss what we know so far about the results of these changes for Spring 2017 and the anticipated impacts on placement in Fall 2017. Finally, we will present plans to improve the accuracy of developmental placement by incorporating additional factors, such as high school grades, into placement decisions, the evidence that supports new placement practices, and practical implementation challenges.

Dr. Gail O. Mellow
President
LaGuardia Community College
An expert on the history, development, and future of the American community college, Dr. Mellow co-authored *Minding the Dream: The Process and Practice of the American Community College* (Rowman & Littlefield, 2nd ed. 2014) and the book *Taking College Teaching Seriously: Pedagogy Matters!* (Stylus, 2015). She is frequently sought as a commentator on the changing landscape of higher education, strategies for improving the nation’s graduation rate and the important role community colleges play in growing America’s middle class and strengthening the economy. She has been quoted in a range of publications, including *The New York Times, The Wall Street Journal,* and *Bloomberg Businessweek,* and has appeared on national radio and television broadcasts on NPR, MSNBC and PBS. Dr. Mellow received an A.A. from Jamestown Community College, a B.A. from SUNY Albany, where she graduated Phi Beta Kappa, and her M.A. and PhD. in Social Psychology from George Washington University.

Dr. Paul Arcario
Provost and Senior Vice President for Academic Affairs
LaGuardia Community College
As the chief academic officer for the College, Dr. Arcario supervises the creation, development, and assessment of over 50 academic programs and majors. He has overall responsibility for divisional initiatives and provides guidance for advisement, outcomes assessment, student success programs, faculty professional development, electronic portfolios, and first-year experience programs. He has a long-standing interest in technology-based pedagogy, having conducted workshops in teaching ESL with video and other media for the ESL master’s degree program at Teachers College, Columbia University, as well as having produced educational videos for teaching ESL, including the first American English-language teaching video broadcast in the People’s Republic of China. He has authored language textbooks as well as articles on LaGuardia’s ePortfolio, First-Year Experience, and online advising programs. Dr. Arcario’s work with first-year programs and learning communities led to him being recognized as an Outstanding First-Year Advocate by the National Resource Center for The First-Year Experience and Students in Transition in 2007.
MYRA SNELL, VITA RABINOWITZ, and PAUL ARCARIO

Many community college students are placed into math remediation. Most will never complete math requirements for a degree. This is often cast as the problem of the underprepared student. But many colleges are reexamining their definitions of college readiness in the light of research into the validity of placement testing. These colleges are broadening access to college-level math and implementing new approaches to remediation. The result has been dramatic improvements in college math completion and the narrowing of equity gaps. Dr. Snell will examine the high leverage strategies underlying these gains.

Executive Vice Chancellor and University Provost Vita C. Rabinowitz will share examples of innovation in developmental math education that are currently underway across CUNY. She will discuss the genesis of university-wide reform, including the work of CUNY’s Remediation Task Force to address key issues such as placement into, and exit from, developmental coursework, alignment of developmental instruction within different majors, and mechanisms for supporting student success. Her talk will also delve into the social and psychological barriers that interfere with academic performance, and will highlight examples of innovation that are making a difference for students at individual colleges, and through collaborative efforts among CUNY colleges.

Provost Paul Arcario of LaGuardia will answer questions related to LaGuardia’s commitment to co-requisite models, and the college’s long term plan for sustaining and maintaining those models.

INTEGRATING SOCIOLOGY AND ELEMENTARY ALGEBRA FOR STUDENT LEARNING AND SOCIAL JUSTICE - ROOM M135
Jonathan Cornick (Queensborough Community College) and Stuart Parker (Kingsborough Community College)
In Spring 2016, elementary algebra was contextualized into three modules of the Introduction to Sociology course at Kingsborough and Queensborough Community Colleges. The modules were collaboratively designed by math and sociology faculty to align with CUNY elementary algebra outcomes and the CEAFE. Themes included: marijuana use among young people in certain states; the correlation between poverty levels and elementary school state test scores in New York City; and changing racial demographics in the USA. We’ll discuss our outcomes data, the experience/challenges of sociology faculty teaching and facilitating mathematical content, and our students’ reflections.

SOCIAL MEDIA - A SUPPLEMENTAL INSTRUCTIONAL PLATFORM TO PROMOTE DYNAMIC SELF-REGULATED LEARNING: DECONSTRUCTING MATHEMATICAL PRECEPTS THROUGH VIRTUAL SOCIAL CONSTRUCTIVISM LENSES ROOM M137
Wayne Russell, Saskia King, Kedie Pinto (Medgar Evers College)
The objective of this research is to determine the effectiveness of using social media as a Supplemental Instructional Platform (SIP) to promote dynamic self-regulated learning (SRL-d) among developmental mathematics college students. This
DESIGN INNOVATIONS FOR ACCELERATED COURSES WITH DEVELOPMENTAL MATH
ROOM M107
Steven Cosares and Milena Cuellar (LaGuardia Community College)
Accelerated courses enable many students to complete college. For the past three years, we’ve designed Statistics and Elementary Algebra so students complete developmental math requirements while earning college credit for Elementary Statistics. Designing effectively for fewer contact hours than the two courses it replaces requires a) organizing the curriculum to address overlaps, b) taking advantage of adaptive learning platforms, ePortfolios, and social media, and c) innovative pedagogy that promotes greater student engagement during the immersive semester. We’ll share our results and observations, including students’ successes in subsequent college experiences.

CONTEXTUALIZING COLLEGE ALGEBRA WITH ECONOMICS
ROOM M135
Tao Chen, Glen Henshaw, Soloman Kone, Choon Shan Lai (LaGuardia Community College)
To meet mathematical needs throughout college programs, the Mathematical Association of America (MAA) gathered information through a series of 11 discipline-specific workshops, producing general recommendations for mathematics curricula, particularly for courses offered during the first two years. As part of an NSF-supported five-year cohort of 10 universities and colleges throughout the U.S, the project will enable us to (1) integrate economics into college algebra and (2) show the web-applets we created to facilitate students’ understanding.

WHY GRAPHING CALCULATORS SHOULD BE USED FOR ALGEBRA CLASSES
ROOM M137
Salvatore Sommella (LaGuardia Community College)
This presentation will examine the myths and benefits of graphing calculators in a community college algebra course. The use of the graphing calculator would enhance the learning experience and improve a student’s higher order thinking skills.

GUIDED READING IN INTRODUCTORY STATISTICS - ROOM M107
Audrey Nasar and Jae Ki Lee (Borough of Manhattan Community College)
For community college students, the task of reading college-level mathematics and science textbooks can be daunting. When students do not read well, they are less likely to grasp difficult concepts and complete their coursework successfully (Ryan, 2006). For the past two semesters, the researcher has been using guided reading questions in introductory statistics at both Guttman Community College and BMCC. The majority of students completed the guided reading questions weekly. Students who kept up with the readings reported feeling more comfortable with the textbook, and felt more confident in class when new topics were introduced.

DIGITAL DEVELOPMENTAL MATH - ROOM M135
Samar ElHitti and Marianna Bonanome (NY CITY COLLEGE OF TECHNOLOGY)
We discuss a hybrid developmental math class at New York City College of Technology which utilizes technology in and out of the classroom and draws inspiration from flipped-classroom techniques. In this course, students have access to a custom open-source material e-textbook and WeBWorK assignments authored by our team. We discuss the development of our classroom approach in serving the needs of CUNY students, the unique structure of our course and its focus on college-preparedness skills, our use of I-Pads in the classroom and their management, along with our assessment best practices.

IMPROVING STUDENTS’ OUTCOMES BY INCORPORATING GROUP PROJECTS IN MATH - ROOM M137
Inna Tokar (City College)
At City College, Mathematics for the Contemporary World satisfies graduation requirements for liberal arts majors. To improve students’ engagement, interest, and success rate, I assign a project that allows students to virtually travel to a country of their choice, incorporating mathematics they have learned in the course. Students create a scaled map, equations representing costs and discounts, perform conversions of prices in different currencies, and incorporate discounts and taxes. The project fosters a sense of community as many students share stories about their native countries and cultures. This creative project helps students engage with and retain more course material.
12:05 - 12:35  Concurrent Sessions

DEVELOPMENTAL STUDENTS - ROOM M107
Marla Sole (Guttman Community College)
Students who bypass the developmental mathematics sequence can learn statistics by being given the opportunity to model the way statisticians work in the real world. A project on coffee pricing actively engages students and builds an understanding of what it means to be an empirical researcher. This project illustrates issues that may arise in the data collection phase and the benefit of using a mixed method design, often overlooked in introductory statistics classes. An alternative way to assess student learning, illustrating the depth and breadth of authentic investigations students can perform will be described.

INTEGRATED STEM MAJOR MATHEMATICS COURSE IN A FLIPPED CLASSROOM MODEL - ROOM M135
Jae Ki Lee, Susan Licwinko, and Matthew Meangru (Borough of Manhattan Community College)
At BMCC, we are developing an accelerated course, Precalculus with Algebra and Trigonometry Review, for STEM major students using a flipped classroom model. We expect this course to 1) decrease DFW rates by at least 20%; 2) increase retention of knowledge of algebra and trigonometry and their application to functional analysis in precalculus; 3) increase students motivation to stay in STEM majors, and attract more students to STEM careers by reducing the developmental math sequence; and 4) through the flipped classroom model, develop students’ ability to learn independently.

ACTIVE LEARNING: REVISING CLASS MATERIALS BASED ON FORMAL AND INFORMAL ASSESSMENTS OF STUDENTS’ LEARNING - ROOM M137
Małgorzata Marciniał (LaGuardia Community College)
Active learning is described as a process where students engage actively in problem solving that promotes analysis and synthesis of class topics. In light of recent findings and publications, the active learning style of teaching is more efficient in STEM fields than the traditional lecturing style, where students listen passively. The presentation will include sample worksheets and a description of methods of implementing them in the classroom. The most important aspect of this study presents motivations and methods of revising the worksheets based on formal and informal assessments of students’ learning.

1:30 - 2:00  Concurrent Sessions

IMPROVE STUDENT SUCCESS IN DEVELOPMENTAL AND GATEWAY MATH COURSES - ROOM M107
Reem Jaafar, Andi Toce, Angela Cornelius, Joyce Zaritsky (LaGuardia Community College)
Based on the national Supplemental Instruction (SI) model, Academic Peer Instruction is a peer tutoring program at LaGuardia Community College. Since 1993, it has supported over 13,000 students in “high risk” courses. Our program has been successful with participating students achieving on average one-half to one letter grade higher than non-participating students. Since 2012, the program has targeted developmental math courses, and more recently, accelerated courses, to support the “at risk” population. We will discuss (1) the need for these courses, (2) how we adapted the SI model for these courses, (3) the assessment tools we use. Finally, a veteran tutor will share insights.

MY MATH GPS - SCALING IMPROVED ELEMENTARY ALGEBRA OUTCOMES - ROOM M135
Karan Puri, Danielle Cifone (Queensborough Community College)
Improving student success in Elementary Algebra has been a major challenge across CUNY. Jonathan Cornick, Michael Guy and Karan Puri designed an approach to teaching Elementary Algebra with contextualized arithmetic, wrote an OER textbook (My Math GPS), and added hundreds of algorithmic problems into MapleTA. After a very successful pilot implementation in the first year, the next step entailed scaling this work across a larger number of sections. Karan Puri will provide a brief background. Danielle Cifone, who has used the textbook and accompanying pedagogy for five semesters will share her experiences, the challenges she faced, and her takeaways.

USE OF MYOPENMATH SOFTWARE TO DEVELOP A “ZERO TEXTBOOK COST” SECTION - ROOM M137
Tanvir Prince (Hostos Community College)
In Fall 2016, I developed a “zero textbook cost” section for Introduction to College Mathematics to be offered in Spring 2017 using the MyOpenMath platform which provides free hosting. The intent is to provide classroom use of the platform, without any required cost to students and to provide students self-study opportunities. I will demonstrate and discuss the pros and cons of MyOpenMath. After the presentation, participants will have a basic idea about the platform and will be able to start developing their own course. Participants are encouraged to bring a laptop for a hands-on experience.