

12th Annual Women in Math and Computing Day

York College, CUNY
November 10, 2023
1pm – 5pm

Event Program



The 12th Annual Women in Math and Computing Day is made possible by generous grants from the York College Auxiliary Enterprises, the Simons Foundation, and the National Science Foundation's S-STEM Program.

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Schedule of Events*

Introductory Remarks
1:00pm - 1:30pm

Buildings, Surfaces, Quaternions and Ramanujan Complexes
Dr. Alina Vdovina
Professor & Chair, Department of Mathematics
The City College of New York, CUNY
1:30pm-2:30pm

Break
2:30pm - 2:40pm

Dynamic mixed Data Analysis through Bayesian Factor Modeling
Dr. Samira Zaroudi
Doctoral Lecturer, Department of Mathematics and Computer Science
John Jay College of Criminal Justice, CUNY
2:40pm-3:40pm

Recognition of Service Award
Honoring Samira Daher
Lecturer, Department of Mathematics and Computer Science
York College, CUNY
3:40pm - 4:00pm

Lunch
Catered by Sangría Restaurant
9541 Sutphin Blvd. Jamaica, NY 11435
718-291-7488
4:00pm - 5:00pm

*All events will take place at York College in the Faculty Dining Room, AC/2D01

Summary of Talks & Speaker Biographies

Title: *Buildings, Surfaces, Quaternions and Ramanujan Complexes*

Abstract: We present explicit constructions of new infinite families of CW-complexes of arbitrary dimension with buildings as the universal covers. We will also present the first infinite series of quaternionic groups of finite characteristic and non-residually finite groups acting on cube complexes. Quotients of these groups give rise to new series of examples of Ramanujan complexes. We plan to finish with a long list of open problems which can be tackled by our methods.

Speaker: Dr. Alina Vdovina



Bio: Prof. Alina Vdovina arrived at CCNY as Professor and Chair of the Department of Mathematics starting in Fall 2022. Her research lies in the geometric and analytic properties of groups and spans a broad range of areas. Her 1996 doctoral degree is from Moscow State University. She has been Senior Lecturer in Mathematics at Newcastle University, held research positions at the University of Bonn and the Max Planck Institute for Mathematics in Germany, as well as the École Normale Supérieure in Lyon and the Institute Fourier in Grenoble, France.

Title: *Dynamic mixed Data Analysis through Bayesian Factor Modeling*

Abstract:

In this presentation, we introduce the concept of Bayesian copula factor analysis for time series mixed data. This innovative model assumes conditional independence and incorporates latent factors into both the response time series and the high-dimensional mixed-type covariates using a quadratic regression framework. The model framework facilitates effective dimension reduction and delineates the primary effects and interactions of the covariates by integrating latent variables into the response time series. We utilize a semiparametric time series extended rank likelihood for the explanatory variable margins, which serves to reduce the number of estimated parameters and offers a rapid computational algorithm. A flexible Bayesian algorithm is proposed to compute the posterior distribution of latent factors and model parameters with Metropolis-Hastings and Forward Filtering Backward methods within Gibbs sampling. We assess the theoretical outcomes and Monte Carlo Markov Chain (MCMC) computations through the simulation studies. Additionally, we put the proposed model to practical use by applying it to analyze a quarterly dataset of the U.S. economy.

Speaker: Dr. Samira Zaroudi



Bio: Dr. Samira Zaroudi's research interests lie broadly in developing statistical tools for analyzing complex, dynamic, and dependent data, in particular in the context of dimension reduction for multivariate time series. Technically, she conducts theoretical and applied research in Bayesian statistics, multivariate time series, factor analysis, regression analysis, machine learning, copula models, and dependencies. Dr. Samira Zaroudi is a Doctoral Lecturer in the Department of Mathematics and

Computer Science at John Jay College of Criminal Justice (CUNY) since 2022. Samira received her PhD degree from Azad University in Statistics in 2018, one master's degree from Southern Illinois University in Mathematics in 2021, and another Master's degree from Shahid Beheshti (National) University in actuarial science in 2011, and an undergraduate degree from Shahid Beheshti University in statistics in 2007. She was granted the PSC-CUNY Research Award for her research excellence from the Research Foundation of CUNY in 2023.

Recognition of Service Award Honoree Biography

Samira Daher



Samira Daher is a long-time member of the faculty of the Department of Mathematics and Computer Science at York College, CUNY. She began her career at CUNY as an Adjunct Lecturer at both York College (2001-2006) and Queensborough Community College (2000-2006). Samira later joined the full-time faculty at York College in 2007. Samira's teaching focuses on 100-level mathematics courses, often a student's very first, and in some cases only, college-level mathematics course. A beloved faculty member, Samira's classes consistently fill up semester after semester as student seek her out due to her ability to actively engage students in the learning of mathematics, her willingness to work with and support students and her genuine care and concern for her students. Samira served

on various committees while at York offering service to the Elections Committee and the SEEK program as well as serving on search committees. Samira is CUNY graduate receiving her BS in Pure Mathematics from York College and her MA in Applied Mathematics from Queens College. She has served the students of York College, the Department of Mathematics and Computer Science and York College as a whole for over two decades.

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Funding

This event was made possible by funding from:

York Auxiliary Services Grant
Dr. Lidia Gonzalez, Recipient

Simons Foundation Grant
Dr. Radoslaw Wojciechowski, Director

National Science Foundation S-STEM Program
Dr. Thitima Srivatanakul, Principal Investigator (PI)
Dr. Radoslaw Wojciechowski, Co-PI
Dr. Fenio Annansingh-Jamieson, Co-PI
Dr. Leslie Keiler, Co-PI
Provost Derrick Brazill, Co-PI



Planning Committee

The 2023 planning committee consists of the following faculty members from the Department of Mathematics and Computer Science at York College.

Dr. Lidia Gonzalez

Dr. Rishi Nath

Dr. Thitima Srivatanakul

Dr. Virginia Thompson

Dr. Radoslaw Wojciechowski