Schedule of Talks

28th Annual Fall Workshop on Computational Geometry

October 26-27, 2018

Queens College, CUNY

Flushing, NY

**Sponsored by the National Science Foundation and the
Department of Computer Science, Queens College, CUNY**

Program Committee:

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Megan Owen (Lehman College, CUNY)
Christiane Schmidt (Linkoping University, Sweden)
Jack Snoeyink (University of North Carolina)

Friday, October 26, 2018: Rosenthal Library, RO-230

9:20-9:30 Opening Remarks

9:30-9:50 "Condensation for the Approximate Nearest Neighbor Rule", Alejandro Flores Velazco and David Mount

9:50-10:10 "Lower Bounds for Indexing the K-Nearest Neighbor Problem", Paul Cesaretti and Mayank Goswami

10:10-10:30 "Colored Range Closest-Pair Problem Under General Distance Functions", Jie Xue

10:30-11:00 *Break*

11:00-11:20 "Exact Fast Parallel Intersection of Large 3-D Triangular Meshes (Extended Abstract)", Salles V.G. Magalhães, W Randolph Franklin and Marcus Andrade

11:20-11:40 "Computing Simple Polygonizations of Disjoint Line Segments Is NP-Complete", Hugo Akitaya, Matias Korman, Mikhail Rudoy, Diane Souvaine and Csaba Toth

11:40-12:00 "Challenges in Reconstructing Shapes from Euler Characteristic Curves", Brittany Terese Fasy, Samuel Micka, David L. Millman, Anna Schenfisch and Lucia Williams

12:00-12:20 "Geometric Optimization Problems with Rectangles", Joseph S. B. Mitchell and Supantha Pandit

12:20-12:40 "Local Cliques in ER-Perturbed Random Geometric Graphs", Matthew Kahle, Minghao Tian and Yusu Wang

12:40-1:40 Lunch (provided)

1:40-2:40 INVITED TALK: SHUBHANGI SARAF

2:40-3:00 "Topological Distance Between Nonplanar Transportation Networks", Ahmed Abdelkader, Geoff Boeing, Brittany Terese Fasy and David L. Millman

3:00-3:20 "Approximating Global Optimum for Probabilistic Truth Discovery", Minwei Ye, Shi Li and Jinhui Xu

3:20-3:50 *Break*

3:50-5:00 OPEN PROBLEM SESSION

Saturday, October 27, 2018: Rosenthal Library, RO-230

9:30-9:50 "An Improved Lower Bound on Non-Trivial Reach", David Stalfa, Hugo Akitaya and Csaba Toth

9:50-10:10 "Time Window Frechet and Metric-Based Edit Distance for Passively Collected Trajectories", Jiaxin Ding, Jie Gao and Steven Skiena

10:10-10:30 "Computing Trajectory with Clearance for an Articulated Probe", Ovidiu Daescu, Kyle Fox and Ka Yaw Teo

10:30-11:00 *Break*

11:00-11:20 "A Greedy Linear-Time Algorithm for the Altitude Terrain Guarding Problem", Ovidiu Daescu, Hemant Malik and Christiane Schmidt

11:20-11:40 "Package Delivery with Trucks and Drones: The Horsefly Problem", Joseph Mitchell and Gaurish Telang

11:40-12:00 "Soft Subdivision Motion Planning for Complex Planar Robots", Bo Zhou, Yi-Jen Chiang and Chee Yap

12:00-1:00 Lunch (provided)

1:00-2:00 INVITED TALK: JIE GAO

2:00-2:20 "A New Cost Function for Hierarchical Cluster Trees", Dingkan Wang and Yusu Wang

2:20-2:40 "Faraway Spanning Trees", Shih-Yu Tsai, Hao-Tsung Yang, Jie Gao, Mayank Goswami and Rebecca Schley

2:40-3:00 "Red-Blue-Partitioned MST, TSP, and Matching", Matthew P. Johnson

3:00-3:20 "The Strength of Marble-Powered Computing", Matthew P. Johnson

3:20-3:50 *Break*

3:50-4:10 "Characterizing Topological Discrepancies in Additive Manufacturing", Morad Behandish and Saigopal Nelaturi

4:10-4:30 "Fibres of Failure: Using Mapper to Find Failure Modes in Predictive Processes", Mikael Vejdemo-Johansson, Gunnar Carlsson and Leo Carlsson

4:30-4:50 "An Optimal Min-# Curve Simplification Problem", Mees van de Kerkhof, Irina Kostitsyna, Maarten Loffler, Majid Mirzanezhad and Carola Wenk

4:50-5:10 "Threshold-Based Graph Reconstruction Using Discrete Morse Theory", Brittany Terese Fasy, Sushovan Majhi and Carola Wenk