

## Bioengineering and Computation and Neural Systems

Session **H**

Room: 113 Spalding Lab

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| 1:40 - 2:00 PM | <b>Emily Tu</b><br><i>John Stauffer SURF Fellow</i>                       | Episomal DNA isolation for oncogenic virus detection and viral vector discovery                                           | Rustem F. Ismagilov<br><i>Ethel Wilson Bowles and Robert Bowles Professor of Chemistry and Chemical Engineering; Merkin Institute Professor</i><br>Natalie Wu-Woods<br><i>Graduate Student in Bioengineering</i><br>Christopher Neimeth<br><i>Graduate Student in Bioengineering</i>                                     |
| 2:00 - 2:20 PM | <b>Tanvi L. Ganapathy</b>                                                 | Biophysical study on the kinetics of cooperative DNA hybridization in winner-take-all pairwise annihilation reactions     | Lulu Qian<br><i>Professor of Bioengineering</i><br>Matthew Plazola<br><i>Graduate Student in Bioengineering</i>                                                                                                                                                                                                          |
| 2:20 - 2:40 PM | <b>Anthony K. Lindo</b><br><i>Samuel P. and Frances Krown SURF Fellow</i> | Lower time complexity of DNA winner take all neural network combining shared fuel amplification and pairwise annihilation | Lulu Qian<br><i>Professor of Bioengineering</i><br>Matthew Plazola<br><i>Graduate Student in Bioengineering</i>                                                                                                                                                                                                          |
| 2:40 - 3:00 PM | <b>Ritali Jain</b><br><i>Arthur R. Adams SURF Fellow</i>                  | On the computational power of nucleation kinetics                                                                         | Erik Winfree<br><i>Professor of Computer Science, Computation and Neural Systems, and Bioengineering</i><br>Cameron Chalk<br><i>Postdoctoral Scholar Research Associate in Biology and Biological Engineering</i><br>Yancheng Du<br><i>Postdoctoral Scholar Research Associate in Biology and Biological Engineering</i> |
| 3:00 - 3:10 PM | <b>BREAK</b>                                                              |                                                                                                                           |                                                                                                                                                                                                                                                                                                                          |
| 3:10 - 3:30 PM | <b>Clara Yu</b>                                                           | Interpretable deep learning for functional fine-mapping of chromatin QTLs in Alzheimer's Disease                          | David Knowles<br><i>Associate Professor of Computer Science, Columbia University/ NY Genome Center</i><br>Shinsuke Shimojo<br><i>Gertrude Baltimore Professor of Experimental Psychology</i>                                                                                                                             |

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| 3:30 - 3:50 PM | <b><i>Malia A. Christy</i></b>                                            | Unsteady inertial effects in cardiovascular flows: Experimental observations and analysis | Michael Plesniak<br><i>Professor and Chair of Mechanical and Aerospace Engineering, George Washington University</i><br>Kartik Bulusu<br><i>Associate Professor of Mechanical and Aerospace Engineering, George Washington University</i><br>John O. Dabiri<br><i>Centennial Professor of Aeronautics and Mechanical Engineering</i> |
| 3:50 - 4:10 PM | <b><i>Kyra T. Phaychanpheng</i></b><br><i>James J. Morgan SURF Fellow</i> | Wake dynamics and propulsive efficiency of natural and biohybrid robotic jellyfish        | John O. Dabiri<br><i>Centennial Professor of Aeronautics and Mechanical Engineering</i><br>Simon Anuszczyk<br><i>Graduate Student in Aerospace</i>                                                                                                                                                                                   |
| 4:10 - 4:30 PM | <b><i>Jamie H. Kwon</i></b>                                               | Transcriptomic analysis of organ transplant donor for the Tabula Sapiens Atlas            | Stephen R. Quake<br><i>Professor of Bioengineering, Stanford University</i>                                                                                                                                                                                                                                                          |