

# 30th International Conference on DNA Computing and Molecular Programming

DNA 30, September 16–20, 2024, Baltimore, Maryland, USA

Edited by

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## ■ Preface

This LIPIcs volume contains the papers that have been accepted to Track A of the 30th International Conference on DNA Computing and Molecular Programming (DNA 30), organized by Rebecca Schulman and her team at Johns Hopkins University in Baltimore, Maryland, the United States of America during September 16–20, 2024, under the auspices of the International Society for Nanoscale Science, Computation, and Engineering (ISNSCE).

The DNA conference series aims at providing researchers from the fields of mathematics, computer science, physics, chemistry, biology, and nanotechnology, among others, with a forum to collaboratively address the analysis, design, and synthesis of information-based molecular systems. Papers and presentations were sought in all areas that relate to biomolecular computing including, but not restricted to, algorithms and models of computation on biomolecular systems, computational processes *in vitro* and *in vivo*, molecular switches, gates, devices, and circuits, molecular folding and self-assembly of nanostructures, analysis and theoretical models of laboratory techniques, molecular motors and molecular robotics, information storage, studies of fault-tolerance and error correction, software tools for analysis, simulation, and design, synthetic biology and *in vitro* evolution, and applications in engineering, physics, chemistry, biology, and medicine.

Authors who wished to orally present their work were asked to select one of the two submission tracks: Track A (full paper) or Track B (one-page abstract accompanied with supplementary document). Track B is primarily for those who plan to submit experimental or theoretical results to a journal rather than publish in the conference proceedings. There were 36 submissions for oral presentations (11 to Track A and 25 to Track B), among which two were withdrawn, from Austria, Canada, Finland, Germany, India, Ireland, Sweden, the UK, and the USA. Each of the 34 qualified submissions was reviewed by at least three reviewers, with most reviewed by four or more, and thoroughly discussed by the Program Committee (PC). The committee decided to accept 5 papers for Track A (45%) and 17 papers for Track B (68%). We also received 68 submissions for Track C (poster), of which 6 were selected as additional short oral presentations.

We warmly thank Kate Adamala, Clifford P. Brangwynne, Andrea Liu, Julius B. Lucks, and Thomas Ouldridge for their mind-stimulating invited talks and all the authors of the submissions for making DNA 30 successful. As the PC co-chairs, we would like to express our cordial gratitude towards the PC members and the external reviewers for their hard work in reviewing the papers within a tight schedule and for providing insightful and constructive comments in order to keep high standard of the DNA conferences. We would like to thank the editorial staff of Dagstuhl Publishing Team, and in particular Michael Wagner for his guidance and help during the process of publishing this volume. Last but not the least, we are grateful to the Organizing Committee members: Ishan Barman, Yun Chen, Amber Foster, Stavros Gaitanaros, Yanqi Jiang, Jacob Majikes, Samuel Schaffter, Rebecca Schulman, and Thi Vo.

We are all looking forward to DNA 31 at École Normale Supérieure de Lyon in France.

Shinnosuke Seki  
Jaimie Marie Stewart  
September 2024







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