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# DNA Computing and Molecular Programming

20th International Conference, DNA 20  
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Proceedings



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# Preface

This volume contains the papers presented at DNA 20: 20th International Conference on DNA computing and Molecular Programming held during September 22–26, 2014 at Kyoto University, Kyoto, Japan. The DNA conference series aim to draw together computer science, mathematics, chemistry, nanotechnology, molecular biology, and physics to address the analysis, design, and synthesis of information-based molecular systems.

Presentations are sought in all areas that relate to biomolecular computing, including, but not restricted to: algorithms and models for computation on biomolecular systems; computational processes in vitro and in vivo; molecular switches, gates, devices, and circuits; molecular foldings and self-assembly of nanostructures; analysis and theoretical models of laboratory techniques; molecular motors and molecular robotics; studies of fault-tolerance and error correction; software tools for analysis, simulation, and design; synthetic biology and in vitro evolution; applications in engineering, physics, chemistry, biology, and medicine.

Authors who wished to present their works were asked to select one of two submission tracks: Track (A) (full paper) or Track (B) (one page abstract with supplementary document). Track (B) is primarily for authors submitting experimental results who plan to submit to a journal rather than publish in the conference proceedings.

We received 55 submissions for oral presentations: 20 submissions in Track (A) and 35 submissions in Track (B). Each submission was reviewed by at least 3 reviewers. The Program Committee finally decided to accept 10 papers in Track (A) and 13 papers in Track (B). The topics of accepted presentations are well balanced between theoretical and experimental works. This volume contains the accepted Track (A) papers.

We express our sincere appreciation to Shawn Douglas, Cristian S. Calude, Hiroshi Sugiyama, Rhiju Das, Anne Condon, and Masaki Sano for their excellent keynote talks. Thanks are also given to all the authors who presented their works at oral and poster sessions. We would like to thank Nadrian C. Seeman and Hiroyuki Asanuma for their excellent special talks in a one-day workshop on molecular robotics. Last but not least, the editors would like to thank the members of the Program Committee and the reviewers for all their hard work of reviewing and providing constructive comments to authors.

July 2014

Satoshi Murata  
Satoshi Kobayashi

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DNA 20 was organized by Kyoto University in cooperation with the International Society for Nanoscale Science, Computation, and Engineering (ISNSCE).

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