The Inaugural US–Israel Blavatnik Scientific Forum on

**Computer Science and Its Impact on Our Future**

Monday–Wednesday, September 16–18, 2019

**Program**

**Monday, September 16, 2019**

10:00 Greetings
   - Nili Cohen, President, Israel Academy of Sciences and Humanities (IASH)
   - Ken Fulton, Executive Director, National Academy of Sciences (NAS)

SESSION I

Chair: David Harel, Weizmann Institute of Science

**Quantum Science & Technology – Part I**
10:15 Charles H. Bennett, IBM Thomas J. Watson Research Center
   *The Quantum Impact on Technology and Fundamental Questions*

11:00 Coffee Break

**Computer Science & Society – Part I**
12:15 Noam Nisan, The Hebrew University of Jerusalem
   *Complexity and Simplicity in Economic Design*

13:00 Omer Reingold, Stanford University
   *Complexity-Theoretic Perspectives on Algorithmic Fairness*

**Lunch Break**

SESSION II

Chair: Michal Feldman, Tel Aviv University

**Computation and the Life Sciences – Part I**
15:00 Aviv Regev, Massachusetts Institute of Technology
   *Design for Inference in Biology*

15:45 Ron Shamir, Tel Aviv University
   *Integrated Computational Analysis in Cancer and Precision Medicine*

16:30 Coffee Break

**AI & Autonomous Systems – Part I**
17:00 Sarit Kraus, Bar-Ilan University
   *Robot-Human Collaboration and Learning for Improving Human Well-Being*

17:45 Eva Tardos, Cornell University
   *Learning in Multi-Agent Environments*

18:30 Amnon Shashua, The Hebrew University of Jerusalem; Mobileye
   *The Promise of Machine Learning and AI in Transforming Industries*

**Tuesday, September 17, 2019**

SESSION III

Chair: Shimon Ullman, Weizmann Institute of Science

**Quantum Science & Technology – Part II**
09:00 Dorit Aharonov, The Hebrew University of Jerusalem
   *Quantum Information Science: A Computational Lens on Quantum Physics*

09:45 Thomas Vidick, California Institute of Technology
   *Secure Computation with Quantum Devices: From Device-Independent Cryptography to Verification of Quantum Computers*

10:30 Coffee Break

**Computer Science & Society – Part II**
11:00 Shafi Goldwasser, Massachusetts Institute of Technology
   *Safe Machine Learning*

11:45 Moshe Vardi, Rice University
   *Humans, Machines, and Work: The Future is Now*

**Wednesday, September 18, 2019**

SESSION IV

Chair: Moshe Vardi, Rice University

**AI & Autonomous Systems – Part II**
09:00 Naftali Tishby, The Hebrew University of Jerusalem
   *Similarities and Differences between Deep Learning and our Biological Brains*

09:45 Gal Kaminka, Bar Ilan University
   *Smart Swarms in the Wild and in the Small*

10:30 Coffee Break

**Computation and the Life Sciences – Part II**
11:00 Uri Alon, Weizmann Institute of Science
   *Big Data, Wellness and Disease*

11:45 Leroy (Lee) Hood, Institute for Systems Biology
   *Closing Remarks*

13:30 David Harel, Weizmann Institute of Science; Vice-President, Israel Academy of Sciences and Humanities

The conference will take place at the Israel Academy of Sciences and Humanities, Albert Einstein Square, 43 Jabotinsky St., Jerusalem.

The lectures will be in English.

The Israel Academy of Sciences and Humanities and the National Academy of Sciences of the United States take pleasure in inviting you to

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