האקדמיה הלאומית הישראלית למדעים
المجمع الوطني الإسرائيلي للعلوم والآداب
THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES

The Israel Academy of Sciences and Humanities
cordially invites you to a symposium on

האקדמיה הלאומית הישראלית למדעים
מתכבדת להזמינכם ליום עיון בנושא

Quantum Connections

The symposium will take place on
Thursday, May 30, 2019
9:45–17:30

at The Israel Academy of Sciences and Humanities
Albert Einstein Square, 43 Jabotinsky Street, Jerusalem

Paid on-street parking is generally available in the vicinity of the Academy.

Please register in advance

יום העיון יתקיים ביום חמישי
כ"ה באייר תשע"ט, 30 במאי 2019
בשעות 17:30-9:45

בבית האקדמיה, כיכר אלברט איינשטיין
רחוב ז'בוטינסקי 43, ירושלים

חניה ציבורית ברחובות הסמוכים לאקדמיה.

אנא הירשמו מראש

Program

09:00 **Gathering**

09:45 **Opening remarks**

10:00 **Quantum Characterization and Verification**

Moderator: Roee Ozeri, Weizmann Institute of Science

Itai Arad, Technion – Israel Institute of Technology
Learning Quantum Hamiltonians

Zvika Brakerski, Weizmann Institute of Science
How to Utilize an Untrusted Quantum Device

Alex Retzker, The Hebrew University of Jerusalem
Quantum Sensing at the Nano-Scale

11:15 **Coffee Break**

11:45 **Quantum States and Error Correction**

Moderator: Dorit Aharonov, The Hebrew University of Jerusalem

Uri Bader, Weizmann Institute of Science
Constructions of Homological Codes Using Higher Dimensional Manifolds

Or Sattath, Ben-Gurion University of the Negev
Quantum States: What Are They Good For?

Leonid Polterovich, Tel Aviv University
Quantum Speed Limit and Symplectic Topology

13:00 **Lunch break**

14:30 **Quantum universality**

Moderator: Ady Stern, Academy Member; Weizmann Institute of Science

Emanuele Dalla Torre, Bar-Ilan University
Symmetries and Noise on an IBM Quantum Computer

Erez Berg, Weizmann Institute of Science
Bounds on Transport, Chaos, and Strange Metals

Shay Hacohen-Gourgy, Technion – Israel Institute of Technology
Can a Machine Infer Quantum Mechanics?

15:45 **Coffee Break**

16:15 **Quantum Information and Machine Learning**

Moderator: Netanel Lindner, Technion – Israel Institute of Technology

Zohar Ringel, The Hebrew University of Jerusalem
Renormalization Group as an Information Bottleneck Problem

Yoav Levine, The Hebrew University of Jerusalem
Investigation of Interacting Quantum Systems with Deep Neural Networks

Yonina Eldar, Academy Member; Weizmann Institute of Science
Recovering Lost Information in Classical and Quantum Systems

17:30 **Reception**