

**EmQM17** | Day 1: Thursday, October 26th 2017

**Chair: Jan Walleczek**

- 8:45–9:00 Welcome Address  
9:00–9:30 Jan Walleczek (*Phenosience Laboratories, Berlin, DE*)  
Towards Ontology of Quantum Mechanics and the Conscious Agent  
9:30–10:15 **KEYNOTE LECTURE**  
Basil Hiley (*University of London, UK*)  
Bohm, Physicist Philosopher: The Battle to find a Satisfactory Quantum Ontology  
10:15–10:30 Coffee break  
10:30–11:00 Howard Wiseman (*Griffith University, Brisbane, AU*)  
Relativistic Causality and Bell's Theorems  
11:00–11:30 Shan Gao (*Shanxi University, CN*)  
A Particle Ontological Interpretation of the Wave Function  
11:30–12:00 Roderich Tumulka (*University of Tübingen, DE*)  
Bohmian Trajectories as the Foundation of Quantum Mechanics  
and Quantum Field Theory  
12:00–13:30 Lunch break

**Chair: Howard Wiseman**

- 13:30–14:15 **KEYNOTE LECTURE**  
Aephraim Steinberg (*University of Toronto, CA*)  
Experimental studies of quantum reality  
14:15–14:35 Chuan-Feng Li (*University of Science and Technology of China, Hefei, CN*)  
Experiment on nonlocal steering of Bohmian trajectories  
14:35–15:05 Lev Vaidman (*Tel Aviv University, IL*)  
Are expectation values and weak values properties of single quantum systems?  
15:05–15:20 Coffee break  
15:20–15:50 Herman Batelaan (*University of Nebraska-Lincoln, USA*)  
Quantum forces and non-dispersivity in the Aharonov-Bohm effect  
15:50–16:10 Peter Barker (*University College London, UK*)  
Weak Measurements of Atomic Momentum  
16:10–16:30 Robert Flack (*University College London, UK*)  
Observation of the weak value of spin using a metastable form of helium  
16:30–16:50 Markus Arndt (*University of Vienna, AT*)  
What quantum-interference assisted molecule metrology can tell us about  
reality and non-locality  
16:50–17:05 Coffee Break

**Chair: Robert Flack**

- 17:05–17:50 **KEYNOTE LECTURE**  
Matthew Leifer (*Chapman University, Orange, USA*)  
The Problem of Fine-Tuning in Quantum Theory  
17:50–18:20 Basil Hiley (*University of London, UK*)  
Aspects of Non-commutative Geometry: Deformation Quantum Mechanics  
18:20–18:50 Gerhard Grössing (*Austrian Institute for Nonlinear Studies, Vienna, AT*)  
Vacuum Landscaping: Cause of Nonlocal Influences without Signalling  
19:00–21:00 Poster Presentations, Dinner Buffet, Discussion