

Preface

Since its inception in 2007, the conference series on Quantum Interaction is by now a tradition of its own. The eighth meeting within the series took place at the Conferene Center Lihn (Filzbach, Switzerland), in an exciting environment close to Lake Walensee and the Glarner Alps, from June 30 to July 3, 2014. It was co-hosted by Collegium Helveticum, an interdisciplinary research institute jointly operated by the University of Zurich and the Swiss Federal Institute of Technology (ETH) at Zurich, and by the International Society for Mind-Matter Research.

For the uninitiated, the term Quantum Interaction may need a bit of commentary. It is important to emphasize that it does not refer to interactions between particles or fields in quantum physics. Rather, it addresses areas of research in which – for good reasons – mathematical tools of quantum physics (non-commutative operations, Bell-type inequalities, Hilbert space models, etc.) are applied to a variety of topics outside the natural remit of physics.

The Quantum Interaction conferences have provided a debating ground for such applications and have developed into an emerging interdisciplinary area of science, combining research topics in mathematics, physics, psychology, economics, cognitive, and computer science. The breadth reflected in this list of disciplines remains a challenge for a coherent framework in which all the different approaches find their systematic place.

The presentations at the Quantum Interaction conference covered essentially five thematic fields: (1) fundamental issues, (2) semantics and memory, (3) decision making, (4) games, politics, and social aspects, and (5) nonlocality and entanglement. Three distinguished keynote speakers, Michael Turvey (University of Connecticut), Paavo Pykkänen (Universities of Skövde and Helsinki), and Günter Mahler (University of Stuttgart) added exciting novel perspectives to these fields.

The 21 papers included in this volume are based on the contributions to the conference. Each one of them was assessed by three referees and revised according to their comments. We are grateful to all members of the Program Committee for their hard work and for due delivery of reports. In an interdisciplinary area like this careful and accurate reviews are certainly not a matter of course.

We are grateful for the splendid hospitality we experienced at the Lihn and thank Hannes Hochuli and his staff for their sensitive cooperation in matters large and small, ensuring the success of the conference. Alfred Hofmann and Anna Kramer at Springer International Publishing provided helpful advice for the smooth and speedy publication of the proceedings in the Springer Series Lecture Notes in Computer Science. And, last but not least, we thank Gerd Folkers, director at Collegium Helveticum, for his invaluable support.

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Papers

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