

Quantum Physics and Logic 2015

Revised Conference Schedule

15-17 July 2015

Invited

Contributed

Submission number given in brackets

| | Wednesday | Thursday | Friday |
|--------------|---|--|--|
| 09:30 | REGISTRATION & COFFEE | COFFEE | COFFEE |
| 10:00 | <i>Chair: Vicary</i> | <i>Chair: Selinger</i> | <i>Chair: Baez</i> |
| | Hardy: Probabilistic general relativity with agency in an operational framework | Busch: Quantum measurement uncertainty: reading Heisenberg's mind or invoking his spirit? | Douglas: Topological defects and anyon teleportation |
| 10:50 | (5) Sainz, Henson: Macroscopic non-contextuality as a principle for almost-quantum correlations | (2) Gogioso: Categorical semantics for Schrödinger's equation | (35) Marsden: A graph theoretic perspective on CPM(Rel) |
| | (7) Ried, Agnew, Vermeyden, Janzing, Spekkens, Resch: A quantum advantage for causal inference | (69) Cunningham, Heunen: Axiomatizing complete positivity | (64) Gogioso: A bestiary of sets and relations |
| | (49) Mohammady, Mohseni, Omar: Minimising the heat dissipation of information erasure | (48) Backens: Making the stabilizer ZX-calculus complete for scalars | (61) Heunen, Tull: Categories of relations as models of quantum theory |
| 12:05 | LUNCH | LUNCH | LUNCH |
| 13:30 | <i>Chair: Hoban</i> | <i>Chair: Heunen</i> | <i>Chair: Duncan</i> |
| | Browne: Contextual qubit models from Wigner functions | (20) Cho, Jacobs, Westerbaan, Westerbaan: Quotient- comprehension chains | (54) Hadzihasanovic: A diagrammatic axiomatisation of the GHZ and W quantum states |
| | | (58) Cho: Total and partial computation in categorical quantum foundations | (55) Musto, Vicary: Quantum Latin squares and unitary error bases |
| 14:20 | (10) Pusey, Leifer: Logical pre- and post-selection paradoxes are proofs of contextuality | (42) Staton, Uijlen: Effect algebras, presheaves, non-locality and contextuality | (59) Quick: Encoding !-tensors as !-graphs with neighbourhood orders |
| | (50) Kunjwal, Spekkens: From the Kochen-Specker theorem to noncontextuality inequalities | (23) Heunen, Lindenhovius: DCPOs of commutative C*-subalgebras | (6) Baez, Erbele: Categories in control |
| | (30) Gogioso, Zeng: Mermin non-locality in abstract process theories | (4) Palmer: Invariant set theory: violating measurement independence without fine tuning, conspiracy, constraints on free will or retrocausality | (74) Ranchin: Depicting qudit quantum mechanics and mutually unbiased qudit theories |
| 15:35 | COFFEE | COFFEE | COFFEE |
| 16:00 | <i>Chair: Kendon</i> | <i>Chair: Leifer</i> | <i>Chair: Coecke</i> |
| | (27) Abramsky, Barbosa, Kishida, Lal, Mansfield: Contextuality, cohomology and paradox | (13) Chiribella, Scandolo: Operational axioms for diagonalizing states | (16) Brunet: Quantum measurements from a logical point of view |
| | (25) Rennela, Staton: Complete positivity and natural representation of quantum computations | (68) Barnum, Barrett, Krumm, Mueller: Entropy, majorization and thermodynamics in general probabilistic theories | (52) Horsman, Abramsky: DEMONIC programming: A computational language for single-particle equilibrium thermodynamics, and its formal semantics |
| | (70) Furber, Westerbaan: Unordered tuples in quantum computation | (1) Lee, Barrett: Computation in generalised probabilistic theories | (9) Eva: Towards a paraconsistent quantum set theory |
| | (29) Badescu, Panangaden: Quantum alternation: prospects and problems | (62) Barnum, Graydon, Wilce: Some nearly-quantum theories | (40) Boender, Kammüller, Nagarajan: Formalization of quantum protocols using Coq |
| | (66) Honda: Analysis of quantum entanglement in quantum programs using stabilizer formalism | (21) Tosini, D'Ariano, Manessi, Perinotti: Fermionic quantum theory and superselection rules for operational probabilistic theories | (60) Fong, Nava-Kopp: Additive monotonies for resource theories of parallel-combinable processes with discarding |
| 18:05 | POSTER SESSION & DRINKS RECEPTION | CONFERENCE DINNER | |