

# PROGRAMME

Please notice that the time of the programme is Lisbon time (GMT+1/UTC)

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## DAY 1 – Monday, 26 July

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Chairs: Paulo Castro & Aurélien Drezet

14:00 – 14:20	Opening
14:20 – 15:10	<b>John W. M. Bush</b> (MIT, USA) // <b>keynote speaker</b> <i>Hydrodynamic quantum analogs</i>
15:10 – 15:40	<b>Matthieu Labousse</b> (ESPCI Paris, CNRS, PSL University, France) <i>Mechanisms of macroscopic eigenstates</i>
15:40 – 16:10	<b>Guido Bacciagaluppi<sup>1</sup> &amp; Maaneli Derakhshani<sup>2</sup></b> ( <sup>1</sup> Utrecht University, The Netherlands / <sup>2</sup> Department of Mathematics at Rutgers university, New Brunswick, USA) <i>On Multi-Time Correlations in Stochastic Mechanics</i>
16:10 – 16:40	Break
16:40 – 17:30	<b>Ana María Cetto</b> (UNAM, Mexico) // <b>keynote speaker</b> <i>On the origin and nature of the wave element in quantum mechanics according to stochastic electrodynamics</i>

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## DAY 2 – Tuesday, 27 July

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Chairs: José Croca & Ana María Cetto

14:00 – 14:30	<b>Yuval Dagan</b> (Faculty of Aerospace Engineering, Technion, Israel) <i>A Hydrodynamically-inspired relativistic pilot-wave theory</i>
14:30 – 15:00	<b>Augusto Garuccio<sup>1</sup> &amp; Angela Laurora<sup>2</sup></b> ( <sup>1</sup> University of Bari, Italy / <sup>2</sup> University of Basilicata-Matera Campus, Italy) <i>John Bell's unpublished notes about de Broglie's Pilot Wave</i>
15:00 – 15:30	<b>Maxime Hubert</b> (PULS group, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany) <i>Overload wave-memory induces amnesia of a self-propelled particle</i>
15:30 – 16:00	<b>Valeri Frumkin</b> (MIT, USA) <i>Superradiant droplet emission and hydrodynamic non-separability</i>
16:00 – 16:30	Break
16:30 – 17:20	<b>José Croca</b> (CFCUL/GI2, Portugal) // <b>keynote speaker</b> <i>The Quest for the Ontic Nature of the Quantum Waves</i>
17:20 – 17:50	<b>Philipp Roser</b> (Western Washington University, USA) <i>Unquantizing quantum physics: dynamics without the quantisation condition</i>

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**DAY 3 – Wednesday, 28 July**

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Chairs: John W. M. Bush &amp; Gildo Magalhães

- 14:00 – 14:30 **André Nachbin** (Instituto Nacional de Matemática Pura e Aplicada, Brazil)  
*Wave-mediated Kuramoto-like synchronization for droplets interacting at a distance*
- 14:30 – 15:00 **Paul Milewski** (University of Bath, UK)  
*Faraday Pilot Wave Dynamics in One Dimension: where did the memory go?*
- 15:00 – 15:30 **Harold “Sonny” White** (The Limitless Space Institute, USA)  
*Dynamic Vacuum Model Development*
- 15:30 – 16:00 **Loïc Tadrif** (Aix-Marseille University, France)  
*Realisation of a beam splitter for walking droplets*
- 16:00 – 16:30 Break
- 16:30 – 17:20 **Thomas Durt** (Ecole Centrale de Marseille · Institut Fresnel, France) // **keynote speaker**  
*De Broglie’s double solution program, nearly one century later: a survey*
- 17:20 – 17:50 **Herman Batelaan** (University of Nebraska-Lincoln, USA)  
*Decoherence and Degeneracy in Electron Matter Wave Experiments*

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**DAY 4 – Thursday, 29 July**

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Chairs: André Nachbin &amp; João L. Cordovil

- 14:00 – 14:30 **Tapio Simula** (Swinburne University of Technology, Australia)  
*Droplets and superfluids*
- 14:30 – 15:00 **Anand Oza** (New Jersey Institute of Technology, USA)  
*Exploring diffraction with a pilot-wave model*
- 15:00 – 15:30 **Pedro Saenz** (University of North Carolina, USA)  
*Hydrodynamic Spin Lattices*
- 15:30 – 16:00 **Aurélien Drezet** (Univ. Grenoble Alpes, CNRS, Institut Néel, France)  
*A mechanical analog of the Bohr and de Broglie atomic model*
- 16:00 – 16:30 Break
- 16:30 – 17:20 **Valia Allori** (Philosophy Dept, Northern Illinois University, USA) // **keynote speaker**  
*“What If?” Speculations about the Best of All Possible Quantum Worlds*
- 17:20 – 17:50 **Gildo Magalhães** (University of S. Paulo, Brazil)  
*Form and function as expressions of the historical and epistemological problem of continuity*

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**DAY 5 – Friday, 30 July**

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Chairs: Tapio Simula &amp; Valia Allori

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| 14:00 – 14:50 | <b>Lee Smolin</b> (Perimeter Institute for Theoretical Physics, Canada) // <b>keynote speaker</b><br><i>Views, variety and the quantum</i>   |
| 14:50 – 15:20 | <b>Louis Vervoort</b> (University of Tyumen, Russia)<br><i>Probability theory as a physical theory points to superdeterminism; and implications for hidden-variable theories</i>         |
| 15:20 – 15:50 | <b>João L. Cordovil</b> (CFCUL/GI2, Portugal)<br><i>An emergentist perspective of the QM's measurement problem</i>   |
| 15:50 – 16:20 | Break  |
| 16:20 – 16:50 | <b>Jonathan Tennenbaum</b> (CFCUL/GI2)<br><i>The Douboschinski pendulum – a paradigm for quantization through nonlinear interactions</i>   |
| 16:50 – 17:40 | <b>Paulo Castro</b> (CFCUL/GI2, Portugal) // <b>keynote speaker</b><br><i>A strong nomological interpretation of Quantum Mechanics. Towards a theory of physical encoded information</i> |
| 17:40 – 18:00 | Closing remarks  |