## Program

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday 7 March</th>
<th>Tuesday 8 March</th>
<th>Wednesday 9 March</th>
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<tbody>
<tr>
<td>8:45</td>
<td>Opening</td>
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<tr>
<td>9:00</td>
<td>Roditchev</td>
<td>Massarotti</td>
<td>Geshkenbein</td>
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<td>9:25</td>
<td>Ast</td>
<td>Poggio</td>
<td>Gaggioli</td>
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<td>9:50</td>
<td>Bauch</td>
<td>Koelle</td>
<td>Dobrovolskiy</td>
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<td>10:15</td>
<td>Cayao</td>
<td>Giazotto</td>
<td>Menghini</td>
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<td>10:40</td>
<td>Rogeri</td>
<td>Nulens</td>
<td>Aragón</td>
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<td>11:05</td>
<td>Coffee Break</td>
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<td>Coffee Break</td>
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<tr>
<td>11:30</td>
<td>Zalom</td>
<td>Böhmer</td>
<td>Buzdin</td>
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<td>11:55</td>
<td>Novotný</td>
<td>Leridon</td>
<td>Kalaboukhov</td>
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<td>12:20</td>
<td>Hasanién</td>
<td>Chakraborty</td>
<td>Willa</td>
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<td>12:45</td>
<td>Steffensen</td>
<td>Crisan</td>
<td>Fomin</td>
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<td>13:10</td>
<td>Ye</td>
<td>Szabó</td>
<td>Ridderbos</td>
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<td>13:35</td>
<td>Lunch</td>
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<tr>
<td>15:00</td>
<td>Session 3: Coexisting phases in layer materials</td>
<td>Session 7: Other unconventional SC</td>
<td>Session 10: Josephson junctions and resonators</td>
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<tr>
<td>15:00</td>
<td>Session 2: Hybrid SC devices</td>
<td>Session 6: Pnictide SC</td>
<td>Session 9: Low dimensional SC</td>
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<tr>
<td>15:00</td>
<td>Anahory</td>
<td>Lang</td>
<td>Lado</td>
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<td>15:25</td>
<td>Baldović</td>
<td>Mishonov</td>
<td>Martínez-Pérez</td>
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<td>15:50</td>
<td>Manas</td>
<td>Farrar</td>
<td>Gómez</td>
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<td>16:15</td>
<td>Calderón</td>
<td>Babaev</td>
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<td>16:40</td>
<td>Giraldo-Gallo</td>
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<td>17:05</td>
<td>Coffee Break</td>
<td>Free time</td>
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<tr>
<td>17:40</td>
<td>Poster Session 1</td>
<td>Guided Walk Madrid (18:00-20:00)</td>
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<td>19:00</td>
<td>Cocktail Dinner</td>
<td>20:00 Conference Dinner</td>
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7 March 2022, from 8h45 to 13h00 CET

Zoom Session, day 1:
https://us02web.zoom.us/j/84376949987?pwd=S004cVV6eFN6bWZtWitBcoRaTmpCQT09
ID: 843 7694 9987
Code: 595594

08h45-09h00: Organizers, opening.

Session 1: Topological superconductivity. Chair: Hermann Suderow

09h00-09h25: Dimitri Roditchev, ESPCI-Paris, “Resonant transmission of Josephson current in Nb-Bi$_2$Te$_{2.3}$Se$_{0.7}$-Nb junctions via Andreev bound states”.

09h25-09h50: Online. Christian Ast, MPI Stuttgart, “Supercurrent Reversal through Atomic Scale Yu-Shiba-Rusinov States”.

09h50-10h15: Online. Thilo Bauch, Chalmers University, “Circuit-QED probing of Majorana bound states in TI nano Josephson junctions”.

10h15-10h40: Jorge Cayao, Uppsala University, “Highly tunable exceptional points in non-hermitian Rashba superconductors”.

10h40-11h05: Celia Rogero, CFM-UPV/EHU, “Ferromagnetic insulator/superconductor interfaces as a platform for the superconducting-based nanodevices”.

11h05-11h30 BREAK

Session 2: Hybrid superconducting devices. Chair: Eduardo Lee

11h30-11h55: Peter Zalom, Czech Academy of Sciences, “Fast numerical renormalization group algorithms for multiterminal quantum dot devices”.

11h55-12h20: Tomáš Novotný, Charles University, “Critical reassessment of YSR states in quantum impurities in contact with superconductors: effects of the quantum spin degree of freedom”.

12h20-12h45: Abdou Hasanien, Stefan Institute, “Self-assembled antiferromagnetic chains within a single layer of organic superconductor”.

12h45-13h10: Gorm Steffensen, Universidad Autónoma de Madrid, “Direct Transport between Superconducting Subgap States in a Double Quantum Dot”.

13h10-13h35: Online. Jianting Ye, University of Groningen, “Field Effect Control of Quantum Phases in 2D Materials”.

13h35-15h00 LUNCH BREAK
7 March 2022, from 15h00 to 17h05 CET

**Session 3: Coexisting phases in layered materials. Chair: Dimitri Roditchev**

15h00-15h25: Yonathan Anahory, Hebrew University, “Interior and edge magnetization in thin exfoliated CrGeTe3 films”.

15h25-15h50: Jose Baldoví, University of Valencia, “Electronic structure and magnetism in 2D van der Waals materials”.

15h50-16h15: Samuel Mañas, University of Valencia, “Superconductivity in strongly correlated van der Waals heterostructures”.

16h15-16h40: Maria José Calderón, ICMM-CSIC, “Correlated states in ABC trilayer graphene/hBN moiré heterostructures”.

16h40-17h05: Online. Paula Giraldo-Gallo, University Los Andes, “Charge Density Wave Formation In The Quasi-1D Transition Metal Tetrachalcogenides”.

**Session 4: Poster session.**
8 March 2022, from 09h00 to 13h00 CET

Zoom Session, day 2:
https://us02web.zoom.us/j/81715064843?pwd=YVZCdHNGbGlnOEF2TURwc2NobTlzZz09
ID: 817 1506 4843
Code: 794028

Session 5: Josephson junctions and SQUID. Chair: Yonathan Anahory

09h00-09h25: Davide Massarotti, Naples University, “Unconventional Josephson devices and circuits for quantum architectures”.

09h25-09h50: Martino Poggio, Basel University, “Magnetic, thermal, and topographic imaging with a nanometer-scale SQUID-on-lever scanning probe”.

09h50-10h15: Dieter Koelle, Tübingen University, “Niobium nanosquids patterned by Helium or Neon Focused ion beams”.

10h15-10h40: Online. Francesco Giazotto, NEST-CNR Pisa, “Quantum interference superconducting thermal nanovalve”.

10h40-11h05: Lukas Nulens, University of Leuven, “Metastable states and hidden phase slips in nanobridge SQUIDs”.

11h05-11h30 BREAK

Session 6: Pnictide Superconductivity. Chair: Wolfgang Lang

11h30-11h55: Anna Böhmer, University Bochum, “Local nematicity in iron-based superconductors induced by random strain fields”.

11h55-12h20: Brigitte Leridon, ESPCI Paris, “Granular metallicity and inhomogeneous superconductivity in thin films”.

12h20-12h45: Debmalya Chakraborty, Uppsala University, “Disorder-robust phase crystal in high-temperature superconductors from topology and strong correlations”.

12h45-13h10: Adrian Crisan, National Institute of Materials, “Multi-harmonic Susceptibility, DC Magnetization and Magnetic Relaxation Measurements in Iron-based Superconducting Single Crystal CaKFe₄As₄”.

13h10-13h35: Pavol Szabo, Slovak Academy of Sciences, “Interface induced pair-breaking effects in strongly disordered superconducting MoN ultra-thin films”.

13h35-15h00 LUNCH BREAK
8 March 2022, from 15h00 to 17h05 CET

Session 7: Other unconventional superconductors. Chair: Alexandre Buzdin

15h00-15h25: Wolfgang Lang, University of Vienna, “Probing the anisotropic properties of YBCO with vicinal-grown films”.

15h25-15h50: Todor Mishonov, Bulgarian Academy of Sciences, “Hot and cold spots along the Fermi contour of High-Tc cuprates in the framework of Shubin-Kondo-Zener s-d exchange interaction”.

15h50-16h15: Online. Liam Farrar, St Andrews, “Superconducting Quantum Interference in Twisted van der Waals Heterostructures”.

16h15-16h40: Online. Egor Babaev, KTH Royal Institute of Technology, “Superconducting boundary states”.

16h40-17h05 BREAK
9 March 2022, from 09h00 to 13h00 CET

**Zoom Session, day 3:**
https://us02web.zoom.us/j/87129237980?pwd=RHZkRGtFanBmZW8tbDc3dVBHMyhzUT09
ID: 871 2923 7980
Code: 553841

**Session 8: Vortex Matter. Chair: Jose Luis Vicent**

09h00-09h25: Vadim Geshkenbein, ETH Zurich, “Flux creep and the Campbell response in type II superconductors”.

09h25-09h50: Filippo Gaggioli, ETH Zurich, “Strong pinning transition with arbitrary defect potentials”.

09h50-10h15: Dobrovolskiy Oleksandr, University Vienna, “Vortex jets in superconductors”.

10h15-10h40: Mariela Menghini, IMDEA Nanoscience, “Vortex dynamics and phase diagram modifications induced by magnetic nanostructures”.

10h40-11h05: Jazmín Aragón, MPI Dresden, Bariloche, “Disordered hyperuniform vortex matter with rhombic distortions in FeSe at low fields”.

11h05-11h30 BREAK

**Session 9: Low Dimensional Superconductivity. Chair: José Baldoví**

11h30-11h55: Alexandre I. Buzdin, University of Bordeaux, “Influence of a circular polarized radiation on the spontaneous current generation in superconducting ring”.

11h55-12h20: A. Kalaboukhov, Goteborg University, “Probing unconventional superconductivity in the LaAlO$_3$/SrTiO$_3$ interface using transport in nanowires”.

12h20-12h45: Roland Willa, KIT, “Inhomogeneous strain causes Time reversal symmetry breaking in Sr$_2$RuO$_4$”.

12h45-13h10: Online. Vladimir Fomin, Moldova State University, “Topological transitions in ac/dc-driven open superconductor nanotubes”.

13h10-13h35: Online. Joost Ridderbos, University of Twente, “Induced superconductivity in Ge-Si core-shell nanowires”.

13h35-15h00 LUNCH BREAK
8 March 2022, from 15h00 to 16h40 CET

**Session 10: Josephson junctions and resonators. Chair: Dieter Koelle**

**15h00-15h25:** Jose Lado, Aalto University, “Topological and nodal superconductivity in van der Waals materials”.

**15h25-15h50:** Maria José Martínez-Pérez, University of Zaragoza, “Interfacing magnonic and superconducting quantum circuits”.

**15h50-16h15:** Alicia Gómez, IMDEA Nanoscience, “Superconducting Resonators for Space and Quantum Applications”.