

Program

Sunday, 16 June 2019

16:00 – 21:00 Registration

from 18:00 *BUFFET SUPPER / Informal get together*

19:45 – 20:00 Scientific organizers **Opening and welcome**

Chair: Heike Riel

20:00 – 21:00 Charles Bennett **Quantum information's birth, growth, and significance**

Monday, 17 June 2019

07:45 *BREAKFAST*

Chair: Katharina Franke

08.45 – 09:30 Werner Wegscheider **Cleaved Edge Overgrowth – current status, perspectives and experimental challenges**

09:30 – 10:15 Jelena Klinovaja **Andreev bound states and Majorana fermions in helical 1D systems**

10:15 – 10:45 *COFFEE BREAK*

Chair: Stefan Ludwig

10:45 – 11:30 Dominik Zumbühl **Edge state spectroscopy with a GaAs quantum wire**

11:30 – 12:30 **Poster flash presentations (60 sec. each / 1 slide)**

12:30 *LUNCH*

Program

Monday, 17 June 2019

Chair: Jan von Delft

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|---------------|---------------------|--|
| 14:00 – 14:45 | Oleg Yevtushenko | Helicity-protected transport in magnetically doped one-dimensional wires |
| 14:45 – 15:30 | Fabrizio Nichele | InAs/Al two-dimensional electron gases |
| 15:30 – 16:15 | Hongqi Xu | Semiconductor InSb nanolayers: A new platform for developments of quantum and topological devices |
| 16:15 – 17:00 | Yuval Oreg | Insulating phases of topological superconductors – the super-symmetric Majorana-zero modes point of view |
| 17:00 – 17:30 | <i>COFFEE BREAK</i> | |
| 17:30 – 18:30 | Poster session I | |
| 18:30 | <i>DINNER</i> | |

Chair: Christian Schönenberger

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|---------------|-----------------|---|
| 20:00 – 21:00 | Leo Kouwenhoven | 1D hybrid nanowires of superconducting and semiconducting materials as a scalable platform for qubit circuits |
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Program

Tuesday, 18 June 2019

07:45 *BREAKFAST*

Chair: Thomas Schäpers

08:45 – 09:00 Stefan Jorda **About the Wilhelm and Else Heraeus-Foundation**

09:00 – 09:45 Koji Ishibashi **Quantum structures with carbon nanotubes**

09:45 – 10:30 Jan von Delft **Multiloop functional renormalization group: Computing finite-temperature transport through inhomogeneous quantum wires**

10:30 – 11:00 *COFFEE BREAK*

Chair: Charles Marcus

11:00 – 11:45 Katharina Franke **From single magnetic adatoms on superconductors to coupled spin chains**

11:45 – 12:30 Erik Bakkers **Bottom-up grown nanowire quantum devices**

12:30 **Conference Photo**

12:40 *LUNCH*

Program

Tuesday, 18 June 2019

Chair: Piet Brouwer

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|---------------|---------------------|--|
| 14:00 – 14:45 | Peter Krogstrup | Engineering electronic hybridization in epitaxial materials |
| 14:45 – 15:30 | Eduardo Lee | Andreev bound states in hybrid superconductor-semiconductor nanowire devices |
| 15:30 – 16:15 | Vadim Khrapai | Heat conductance of an InAs nanowire proximitized by a superconductor |
| 16:15 – 16:45 | <i>COFFEE BREAK</i> | |

Chair: Heike Riel

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|---------------|---|---|
| 16:45 – 17:30 | Julia Meyer | Multiterminal Josephson junctions based on helical states |
| 17:30 – 18:15 | Panel discussion | |
| 18:15 | <i>HERAEUS DINNER at the Physikzentrum
(cold & warm buffet, free beverages)</i> | |
| 20:00 | Poster session II | |

Program

Wednesday, 19 June 2019

08:00 *BREAKFAST*

Chair: Julia Meyer

09:00 – 09:45 Piet Brouwer Quantum tomography of solitary electrons

09:45 – 10:30 Floris Zwanenburg Quantum dots and superconductivity in GeSi nanowires

10:30 – 11:00 *COFFEE BREAK*

Chair: Eduardo Lee

11:00 – 11:45 Thomas Schäpers In-situ prepared nanowire-based Josephson junctions for qubit applications

11:45 – 12:30 Martin Stehno Topological superconductivity in HgTe-based topological materials

12:30 *LUNCH*

Chair: Koji Ishibashi

14:00 – 14:45 Anton Akhmerov Majoranas in zigzag devices: Why shape matters

14:45 – 15:30 Charles Marcus Vortices, Majorana zero modes, and quantum phase transitions in full-shell hybrid nanowires

15:30 – 15:45 Scientific organizers Poster awards and closing remarks

End of the seminar and FAREWELL COFFEE / Departure

*Please note that there will be **no** dinner at the Physikzentrum on Wednesday evening for participants leaving the next morning.*