Summer School on Modern Quantum Technologies 2018
Program

| | Mon 10/Sep 18 | Tue 11/Sep 18 | Wed 12/Sep 18 | Thu 13/Sep 18 | Fri 14/Sep 18 |
|---|---|---|---|---|---|
| 8:30-9:00 | Opening | | | | |
| 9:00-10:45 | Vogel | Hage | Shevchenko | Szameit | Zolotaryuk |
| 10:45-11:00 | Coffee break | | | | |
| 11:00-12:00 | Gusynin | Kordyuk | Scheel | Scheel | Shevchenko |
| 12:00-13:00 | | | | Szameit | Tutorials Shevchenko |
| 13:00-14:30 | Lunch | | | | |
| 14:30-15:30 | Vogel | Hage | Tutorials Scheel\Stielow | Tutorials Szameit\Pollmann | Zolotaryuk |
| 15:30-15:45 | Coffee break | | Excursion | Coffee break | |
| 15:45-16:45 | Tutorials Gusynin | Kordyuk | | Febvre | Tutorials Zolotaryuk |
| 16:45-17:00 | Coffee break | | | Coffee break | |
| 17:00-17:45 | Tutorials Vogel | Tutorials Hage\Barnscheidt | | Poster session | Closing lecture Vogel |
| 17:45-18:35 | Welcome BBQ | Tutorials Kordyuk\Belogolovskii | | | |
| 18:35-21:00 | | | | | |

Main Topics

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|---|---|
| | Quantum optics |
| | Physics of graphene |
| | Superconductors and Josephson junctions |
| | Quantum computing |

List of lectures

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|---|---|
| Prof. Dr. Werner Vogel | Measurement theory in quantum optics |
| Prof. Dr. Sc. Valery Gusynin | Graphene and quantum electrodynamics in 2+1 dimensions |
| Prof. Dr. Stefan Scheel | Quantum theory of light in dielectrics — from linear optics to boson sampling |
| Prof. Dr. Sc. Alexander Kordyuk | Introduction to superconductivity / Electronic band structure and high temperature superconductivity |
| Prof. Dr. Boris Hage | Squeezed light generation and application |
| Prof. Dr. Alexander Szameit | Classical and quantum optics in waveguide arrays |
| Prof. Dr. Sc. Sergey Shevchenko | Quantum computation from the physicists viewpoint |
| Dr. Sc. Yaroslav Zolotaryuk | Nonlinear wave phenomena in Josephson junctions |
| Prof. Dr. Pascal Febvre | Superconducting computing: An energy-efficient quantum-based technology for supercomputers |