



Complex Photonic Systems with Broken Symmetries: Synergetic Effects of Wave Chaos and Non-Hermiticity

International Seminar and Workshop 17 - 26 June 2025 (Workshop week 17 - 20 June)

Complex photonic systems based on microcavities, lasing devices or metamaterials provide a unique platform at the intersection of non-Hermiticity, wave chaos, and nonlinear dynamics inherent to open systems with broken symmetries. The workshop and seminar aim at discussing recent achievements of these subfields, and explore their synergetic effects to gain deeper physical insight.

Topics

- Complex and non-Hermitian photonic systems
- Wave chaos in microcavities
- Nonlinear lasing dynamics
- Non-Hermitian quantum/wave phenomena
- Asymmetric and coupled microcavities and metamaterials
- Topological photonic devices
- Symmetry-based classification
- Semiclassical approaches in quantum/wave systems
- Quantum ergodicity in open systems
- Non-Euclidean and non-Hermitian photonics
- Sensing and information processing using photonic devices

Applications received before 31st March 2025 are considered preferentially.

We plan an on-site seminar and workshop. Talks and posters will exclusively be presented on-site.

Applications are welcome and should be made by using the application form on the website of the event. The number of attendees is limited. The **registration fee** for the international seminar and workshop is 200 Euro and should be paid by all participants. Costs for **accommodation and meals** will be covered by the Max Planck Institute. Limited funding is available to partially cover **travel expenses**.



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Invited speakers

Alexander Altland (DE)
 Muhan Choi (KR)
 Barbara Dietz (KR)
 Balázs Dóra (HU)
 Takahisa Harayama (JP)
 Naomichi Hatano (JP)
 Roland Ketzmerick (DE)
 Ulrich Kuhl (FR)
 Mélanie Lebental (FR)
 Fabrice Mortessagne (FR)
 Klaus Richter (DE)
 Henning Schomerus (UK)
 Sang Soon Oh (UK)
 Satoshi Sunada (JP)
 Alexander Szameit (DE)
 Clara Wanjura (DE)
 Jan Wiersig (DE)
 Chang-Hwan Yi (KR)

Scientific coordinators

Martina Hentschel
 Technische Universität Chemnitz,
 Germany

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 Institute for Basic Science,
 South Korea

Susumu Shinohara
 Komatsu University,
 Japan

Organisation

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