



SERGEJ FLACH

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Academic qualifications

1998, Habilitation, Theoretical Physics, Technische Universität Dresden, Germany
1989, Promotion (similar to PhD), Theoretical Physics, Technische Universität Dresden
1986, Diplom (similar to Master), Physics, Technische Universität Dresden

Professional positions held

Since 2017 Honorary Research Fellow, New Zealand Institute for Advanced Study
Since 2015 Professor, University of Science and Technology, Daejeon
Since 2014 Director of Research Center, Institute for Basic Science, Daejeon
2012-2016 Professor, New Zealand Institute for Advanced Study, Massey University
1997-2012 Head Visitors Program, MPI for the Physics of Complex Systems, Dresden
1994-1997 Guest Scientist, MPI for the Physics of Complex Systems, Dresden
1992-1994 Postdoc, Boston University
1991-1991 Fellow, Alexander von Humboldt Stiftung, TU München
1988-1992 Research Assistant, TU Dresden

Present research/professional speciality

Nonlinear quantum and classical waves in complex systems
Nonlinear waves in localizing media – classical and quantum
Fano resonances in nanoscale structures
Flat bands with disorder, topological insulators
Exciton-polariton BEC dynamics
Transport properties of strongly driven classical and quantum systems far from equilibrium
Cryptography with nonlinear waves at criticality
Mode localization in classical and quantum finite systems
Applications to dynamics of Josephson junction networks
Applications to light propagation in structured media
Applications to dynamics of ultracold atomic gases in optical potentials

Professional distinctions

- Over 180 publications
- Editorial Board member of Chaos (AIP) (since 2016)
- Editorial Board member of Physical Review E (2009-2011)
- Coordinator of over 10 workshops and conferences
- Guest editor of three special journal/book issues
- Stefanos Pnevmatikos Award for Nonlinear Science, for contributions in the theory of discrete breathers with applications to localized modes in atomic and molecular crystals and to coupled arrays of Josephson junctions
- Prize of Joint Institute for Nuclear Research Dubna (Russia) for the work on anharmonic models of high-temperature superconductors, together with V.L. Aksenov, N.N. Bogoliubov, S.L. Drechsler and N.M. Plakida