

Invited Talks

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11 April 2025

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Invited Talks at International Conferences, Workshops and Schools

- Ti1. *Ultra Miniaturized Pressure Sensors*. Invited Talk to "Sensors and Nanotech", the 20th anniversary of the Swiss Society for Sensor Technology (SSST), Fribourg, Switzerland, (03.07.2007)
- Ti2. *Tunable Coulomb blockade in nanostructured graphene*. Invited Talk at the Joint Conference on Interactions among Nanostructures (VC-IAN), February 03.- 08, Orlando, Florida, USA, (05.02.2008)
- Ti3. *Tunable Coulomb blockade in nanostructured graphene*. Invited Talk at the 18th International Conference on High Magnetic Fields in Semiconductor Physics and Nanotechnology (HMF18), 03. - 08. August, Sao Pedro, Brazil, (05.08.2008)
- Ti4. *Electromechanical Transducers based on Single-Walled Carbon Nanotubes*. Invited Talk at the SPIE Conference on NanoScience+Engineering, San Diego, USA, August 10 to 14, (10.08.2008)
- Ti5. *Graphene Quantum Dots*. Invited Talk at the International Conference on Quantum Transport and Fluctuations at the Nanoscale, Dusica Obradovic, Montenegro, September 01 to 05, (01.09.2008)
- Ti6. *Graphene Quantum Dots*. Invited Talk at the Conference on Concepts in Electron Correlation, Hvar, Croatia, September 24 to 30, (26.09.2008)
- Ti7. *Quantum Confinement in Graphene Quantum Dots*. Invited Talk at the SLAFES XIX, Latin American Symposium on Solid State Physics, Puerto Iguazú, Argentina, October 05 to 10, (07.10.2008)
- Ti8. *Stress-Induced Conductivity Changes in Carbon Nanotubes and Graphene Materials*. Invited Talk at the 10th International Workshop on Stress-Induced Phenomena in Metallization, The University of Texas at Austin, USA, November 05 to 07, (07.11.2008)
- Ti9. *Graphene quantum dots*. Invited Talk at the XXIIIrd International Winterschool/Euro-conference on Electronic Properties of Novel Materials, Kirchberg, Austria, (09.03.2009)
- Ti10. *Carbon nanomaterials: from nano electromechanical systems to quantum dots*. Invited Talk at the 215th Electrochemical Society (ECS) Meeting, San Francisco, USA, May 24 to 29, (25.05.2009)
- Ti11. *Transport in Graphene Quantum Dots*. Invited Talk at the Graphene 2009 Meeting, Centro de Ciencias de Benasque Pedro Pascual, Benasque, Spain, (04.08.2009)
- Ti12. *Graphene Quantum Dots*. Invited Lecture at the INT-09-02b Program "From Femtoscience to Nanoscience: Nuclei, Quantum Dots, and Nanostructures", University of Washington, Seattle, USA, (13.08.2009)
- Ti13. *Graphene Quantum Devices*. Invited Talk at the 21st Edgar Lüscher Seminar, Klosters, Switzerland, (06.02.2010)
- Ti14. *Transport in Graphene Nanostructures*. Invited Talk at the 2010 Annual APS March meeting, Portland, USA, March 15 to 19, (16.03.2010)
- Ti15. *Graphene Quantum Dots*. Invited Talk at the E-MRS 2010 Spring Meeting, Congress Center Strasbourg, France, June 7 to 11, (07.06.2010)

- Ti16. *Spin States in Graphene Quantum Dots*. Invited Talk at the ECI conference on "Recent Advances in Graphene and Related Materials", Novotel Clark Quay, Singapore, August 1 to 6, (03.08.2010)
- Ti17. *Graphene introduction*. Invited Talk at the Nanoelectronics Days 2010, Aachen, Germany, October 4 to 7, (05.10.2010)
- Ti18. *Graphene Quantum Devices*. Invited Talk at the Dutch National Seminar Condensed Matter Physics (CMP), Nijmegen, Netherlands, (29.04.2011)
- Ti19. *Graphene Quantum Circuits*. Invited Talk at the 38th International Symposium on Compound Semiconductors- ISCS 2011, Berlin, Germany, (23.05.2011)
- Ti20. *Quantum Dots in Graphene*. Invited Talk at the German-Russian Workshop on Future Trends in Nanoelectronics, Jülich, Germany, (16.06.2011)
- Ti21. *Single- and Bi-Layer Graphene Quantum Dots*. Invited talk at the 2nd German French Workshop on NanoScience, Parkhotel Landau, Germany, (31.08.2011)
- Ti22. *Single- and Bi-Layer Graphene Quantum Dots*. Invited talk at the International Workshop on Graphene Nanostructures, 28.-30. September 2011, Regensburg, Germany, (29.09.2011)
- Ti23. *Pulse Gating on Graphene Quantum Dots*. Invited talk at the XIXrd International Winterschool/Euroconference on Electronic Properties of Novel Materials (IWEPM), Kirchberg, Austria, (05.03.2012)
- Ti24. *Graphene Quantum Devices*. Invited talk at the 221st ESC Meeting, May 06.-11., 2012, Seattle, USA (08.05.2012)
- Ti25. *Raman imaging of graphene and carbon nanotubes*. Invited talk at the Workshop "Introduction to Confocal Raman and Scanning Probe Microscopy", May 10th 2012, Forschungszentrum Jülich, Germany (10.05.2012)
- Ti26. *Graphene - Carbon of the 21st century*. Invited plenary talk at the 5th NRW Nano-Konferenz 2012, Dortmund, Germany (18.09.2012)
- Ti27. *Probing relaxation times in graphene quantum dots*. Invited talk at "Trends in Nanoscience 2013", Kloster Irsee, Germany (25.02.2013)
- Ti28. *Probing relaxation times in graphene quantum dots*. Invited talk at the workshop on "Building blocks for carbon-based electronics: From molecules to nanotubes", Regensburg, Germany (12.04.2013)
- Ti29. *Graphene quantum devices*. Invited talk at the international workshop on "Different aspects on condensed matter physics", dedicated to Gernot Güntherodt on the occasion of his 70th birthday, Aachen, Germany (03.05.2013)
- Ti30. *Transport in Graphene-based Nanodevices*. Invited Talk at the 223rd Electrochemical Society (ECS) Meeting, Toronto (ON), Canada, May 12 to 16, (14.05.2013)
- Ti31. *Progresses in etched graphene quantum dots*. Invited Talk at the Workshop on Nanostructured Graphene, Antwerp, 21-24 May 2013, Belgium (23.05.2013)
- Ti32. *Graphene quantum devices*. Invited Talk at the NTH Nano Workshop (NTH School for Contacts in Nanosystems), Goslar, 13-15 June 2013, Germany (14.06.2013)

- Ti33. *Raman Imaging of Graphene and Carbon Nanotubes*. Invited talk at the 10th Symposium on Confocal Raman Imaging, Ulm, 30. Sept. – 2. Oct. 2013, Germany (01.10.2013)
- Ti34. *Graphene: Electronic Properties and Ballistic Transport*. Invited talk at the 25th Edgard-Lüscher Seminar, 40 Jahre Seminar Serneus (01.02-07.02.2014), Klosters, Switzerland (03.02.2014)
- Ti35. *Graphene Quantum Electronics*. Invited talk at 2. Sitzung der NRW Fachgruppe „Graphen und 2D-Materialien“, NETZ Duisburg, Germany (14.02.2014)
- Ti36. *Ballistic transport in graphene nanostructures*. Invited talk at the XXVIIIth International Winterschool/Euroconference on Electronic Properties of Novel Materials (IWEPNM), Kirchberg, Austria (11.03.2014)
- Ti37. *Graphene-based quantum circuits*. Invited talk to the Symposium of CMOS Emerging Technologies Research 2014, Grenoble, France (08.07.2014)
- Ti38. *Discovery! Quantum Technology*. Invited to the Annual Meeting of the New Champions by the World Economic Forum (WEF), Tianjin, China (11.09.2014)
- Ti39. *Quantum transport through nanostructured graphene*. Invited talk at the 575. Wilhelm-Else Hereaus Seminar on “Functional metalorganics and hybrids”, Bonn, Germany (18.11.2014)
- Ti40. *Kirchberg Summary 2015*, Invited talk at the XXIXth International Winterschool/Euroconference on Electronic Properties of Novel Materials (IWEPNM), Kirchberg, Austria, (07.03-14.03.2015)
- Ti41. *Transport and electron scattering in graphene*, Flagship Graphene Study 2015, Kaprun, Austria (25.03.2015)
- Ti42. *About the mechanism limiting the speed of carriers in graphene* invited talk at the workshop “Spin coherence and relaxation phenomena in low-D systems” of DFG Research Unit FOR 912, Aachen, Germany (25.03.-27.03.2015)
- Ti43. *Road to large-scale high-mobility graphene*, Nanoelectronic Days 2015, Jülich, Germany (27.04.2015)
- Ti44. *Size quantization of Dirac fermions in graphene quantum point contacts*, Workshop on Interaction effects in graphene and related materials (IEGR), San Sebastian, Spain 13.-17. July 2015 (12.07.2105)
- Ti45. *Switchable Coupling to Vibrations to Two-Electron Carbon-Nanotube Quantum Dot States*, Single Molecule Electronics Workshop 22-23 September 2015, Oxford, UK (22.09.2015)
- Ti46. *Coupling of Vibrations to Spin States in Carbon-Nanotube Quantum Dots*, Invited talk at the Newspin4 conference, Utrecht, Netherlands (14.12.2015)
- Ti47. *Ultrahigh-mobility graphene devices from chemical vapor deposition on reusable copper*, Invited Talk at the SPIE Photonics Europe, Brussels, 4-7 April 2016, Belgium (05.04.2016)
- Ti48. *Ballistic transport exceeding 28 μm in CVD grown graphene*, Invited Talk at the D3 Graphen-Flagship meeting, Gothenburg, Sweden (07.04.2016)
- Ti49. *Quantum Point Contacts in Graphene*, Invited Talk at the Umbrella 2016 meeting, “From Quantum Matter to New Materials”, Jülich, Germany (11.04.2016)

- Ti50. *Ultrahigh-mobility graphene devices from chemical vapor deposition on reusable copper*, Invited Talk at CAPE Colloquium at Electrical Engineering Department at Cambridge University, Cambridge, UK (07.05.2016)
- Ti51. *Size quantization of Dirac fermions in graphene constrictions*, Invited Talk at 7th Symposium on carbon and related nanomaterials (Carbonhagen 2016) Copenhagen, Denmark (18.08.2016)
- Ti52. *How to quantify the quality of graphene for the use in high performance electronics?* Invited talk at the GRAPCHINA2016, International Graphene Innovation Conference, Qingdao, China (22-24.09.2016)
- Ti53. *Ultrahigh-mobility graphene from chemical vapor deposition on reusable copper*. Invited talk to the EU Graphene Flagship - US NSF Workshop on 2D Materials, Heterostructures and Devices, at the National Graphene Institute, Manchester (10-12 10 2016).
- Ti54. *Invited talk at Workshop on Scientific Directions for Future Transmission Electron Microscopy*, Forschungszentrum Jülich, Germany 24–26.10.2016 (24.10.2016)
- Ti55. *Mechanically tunable strain fields in suspended graphene resonators*, Invited talk at the International Workshop on “Frontiers of Nanomechanical Systems”, FNS 2017, La Thuile, Italy (05-10.02.2017)
- Ti56. *Kirchberg Summary 2017*, Invited talk at the XXXIth International Winterschool/Euroconference on Electronic Properties of Novel Materials (IWEPNM), Kirchberg, Austria (11.03.2017)
- Ti57. *Ballistic transport in mesoscopic graphene devices*. Invited talk at the DPG March Meeting 2017, Dresden, 19- 24 March (23.3.2017)
- Ti58. *High-mobility graphene from chemical vapor deposition on reusable copper*. Invited talk at Graphene 2017 – March 28-31, Barcelona, Spain (30.03.2017)
- Ti59. *Physikexperimente mit dem Smartphone*, Hauptvortrag für Physik am 108. MNU Bundeskongresses in Aachen, Germany (08.04.2017)
- Ti60. *High-mobility single- and bi-layer graphene from chemical vapor deposition on reusable copper*. Invited talk at EU Flagship-Japan Second Workshop, Barcelona, 6th-8th May 2017, 2017, Spain (06.05.2017)
- Ti61. *Spin lifetimes exceeding 10 ns in graphene nonlocal spin valve devices*. Invited talk at the SPICE Workshop on "Spin Dynamics in the Dirac Systems", Mainz, Germany, June 6th - 9th 2017 (08.06.2017)
- Ti62. *Lectures on high-quality graphene*. Invited talk at the Graphene Study 2017, 25-30 June 2017, Gothenburg, Sweden (25. and 26.06.2017)
- Ti63. *Ballistic transport and Aharonov-Bohm interference in graphene*. Invited talk at the Solvay Workshop “From physics of graphene to physics with graphene”, Brussel, Belgium September 6-8, 2017 (06.09.2017)
- Ti64. *Ballistic transport in CVD graphene*. Invited talk at the Flagship-NSF (EU-USA) meeting on 2D Materials 23-25 October 2017 in Arlington/Washington, USA (24.10.2017)

- Ti65. *Kirchberg Summary 2018*. Invited talk at the XXXIIth International Winterschool/Euroconference on Electronic Properties of Novel Materials (IWEPNM), Kirchberg, Austria (23.03.2018)
- Ti66. *Electronic properties of 2 D heterostructures*. Invited talk at Frontier Research in 2D Materials, Cargese, Corsica, France (09.04.2018)
- Ti67. *Van-der-Waals heterostructures based on dry transferred high-mobility CVD*. Invited talk at the 3rd International Workshop on Materials Physics (IWMP), Magurele (Bukarest), Romania (29.05.2018)
- Ti68. *How technology improvements allow to access interesting physics in 2D materials?* Invited talk at the “Workshop on the interaction of light with quantum and topological materials”, Barcelona, Spain (20.06.2018)
- Ti69. *Spin states in bilayer graphene quantum point contacts and quantum dots*. Invited talk at the International Workshop on “Frontiers of photonics, pics and electronics with 2D nanosystems” at the Ettore Majorana Foundation and Center for Scientific Culture, Erice (Sicily), Italy (19.07.2018)
- Ti70. *Extraordinary high room-temperature mobility in graphene-WSe₂ heterostructures*. Invited Talk at the International Helmholtz Research School (IHRS) NanoNet 2018, Hotel Augustusberg, Bad Gottleuba-Berggießhübel, Germany (05.09.2018)
- Ti71. *Spin states in gate-controlled bilayer graphene quantum point contracts and quantum dots*. Invited talk at the International Workshop on “Dirac Fermions and Relativistic Effects in 2D Materials”, Regensburg, Germany (20.09.2018)
- Ti72. *Boosting the carrier mobility in graphene*. Invited talk at the European Graphene Forum (EGF 2018) at San Servolo, Venice, Italy (24.10.2018)
- Ti73. *Hall sensors and the role of boosting the carrier mobility in graphene*. Invited talk at the Workshop “Sensing with graphene and 2-dimensional materials”, Aachen, Germany (06.11.2018)
- Ti74. *Progress on dry transfer of CVD graphene*. Invited talk at the EU-Flagship Graphene Division 3 Meeting 2018 Cambridge Graphene Centre, Cambridge, UK (12.11.2018)
- Ti75. *Going beyond the intrinsic limit of graphene’s carrier mobility*. Invited Talk at the 3rd EU-Japan Flagship Workshop on Graphene & 2D Materials 19th - 21st, 2018, Tohoku University, Sendai, Japan (19.11.2018)
- Ti76. *Quantum Point Contacts in Graphene and Bilayer Graphene*. Invited Talk at the EU-JP One-Day Symposium at the University of Tokyo, Tokyo, Japan (22.11.2018)
- Ti77. *Graphene based 2D heterostructures: transport properties and device characterization*. Invited talk at the Graphene Study 2019, Obergurgel, Austria (04.02.2019)
- Ti78. *Mechanically tunable strain fields in suspended graphene resonators*. Invited Talk at the Moriond conference, La Thuile, Italy (21.03.2019)
- Ti79. *Gate-defined quantum point contacts and quantum dots in bilayer graphene*. Invited Talk at the DPG March Meeting in Regensburg, Germany (01.04.2019)

- Ti80. *Phyphox – A user-generated Physics Lab in your pocket for Science Education 4.0*. Invited Keynote at the 17th International Open and User Innovation Conference, Utrecht, Netherlands (08.07.2019)
- Ti81. *Going beyond the intrinsic limit of graphene's carrier mobility*. Invited talk at the TU-D Workshop 2019 (18-20 September), Langenlois, Austria (20.09.2019)
- Ti82. *Enhancing room-temperature carrier mobility in graphene-based heterostructures*. Invited talk at the Graphene Week 2019, Helsinki, Finland (24.09.2019)
- Ti83. *Electrostatically defined quantum devices in bilayer graphene*. Invited talk at the 1st DPG Fall Meeting on Quantum Science and Information Technology, Freiburg, Germany (26.09.2019)
- Ti84. *Gate-Defined Quantum Point Contacts and Quantum Dots in Bilayer Graphene*. Invited Tutorial, Graphene & Co Annual Meeting 2019 (October 27-30), Bad Herrenalb, Black Forest, Germany (30.10.2019)
- Ti85. *On the stacking and flipping of high-quality graphene-based heterostructures*. Invited talk at the AMO Workshop on "Wafer-scale Integration of 2D materials", Aachen, Germany (12.11.2019)
- Ti86. *Spin-valley coupling in bilayer graphene quantum devices*. Invited talk at the 4th Graphene Flagship EU-Japan Workshop on Graphene and related 2D materials (18-20 November), Pisa, Italy (20.11.2019)
- Ti87. *Probing strain variations in graphene*. Invited talk at the 2020 Winter Conference on "Low-dimensional solids in hard and soft condensed matter: mechanics, thermodynamics and electrons" Aspen, USA (02.2020)
- Ti88. *Bilayer graphene – a tunable 2D semiconductor for quantum electronics*, Invited Zoom-talk at the CarbonOnlineHaagen (22.3.2021)
- Ti89. *About Spin- Valley- and Topological Qubits in 2D Materials*. Invited talk at the Zoom-ML4Q Workshop (01.06.2021)
- Ti90. *Benchmarking graphene-based van-der-Waals heterostructures*. Invite Zoom-Talk at the SPP2244 Summer School 2021 on "VdW assembly – more than playing Lego" (02.07.2021)
- Ti91. *Graphene-Based Broadband High-Frequency Ultrasound Detector*. Invited talk at the EUROSENSORS 2021 Virtual Meeting (07.09.2021)
- Ti92. *Single-electron quantum dots in bilayer graphene*. Invited talk at the Graphene Week 2021 virtual edition, which will take place from 20-24 September 202 (24.09.2021)
- Ti93. *Bilayer graphene for quantum information science*. Invited talk at the Graphene2021, Gernoble, France (29.10.2021)
- Ti94. *Bilayer graphene quantum dots*. Invited Key Note at the General Scientific Meeting 2021 of the Belgian Physical Society, Hasselt, Belgium (02.12.2021)
- Ti95. *Controlling strain-fields in graphene and more*. Invited to the "20 Years MNS"-Workshop at ETH Zurich, Switzerland (01.04.2022)
- Ti96. *Towards spin and valley qubits in graphene*. Invited talk at the Spring 2022 INTRIQ meeting, Chateau-Bromont, Canada (24.05.2022)

- Ti97. *On the spin and valley degree of freedom in bilayer graphene quantum dots*. Invited talk at the International Workshop on Quantum Circuits in 2D Materials (May 25-28), Ottawa, Canada (27.05.2022)
- Ti98. *Spin-valley coupling in graphene quantum dots*. Invited zoom talk at the 22nd International Conference on the Science and Applications of Nanotubes and Low-Dimensional Materials (NT22), Sungkyunkwan University in Suwon, Korea (24.06.2022)
- Ti99. *Towards spin and valley qubits in graphene*, Invited talk at the Quantum2022, Barcelona, Spain (23.06.2023)
- Ti100. *Mapping strain fields in graphene by Raman spectroscopy*. Invited talk at the „Industrial Forum“ of the Graphene2022 Conference, Aachen, Germany (07.07.2022)
- Ti101. *Making bilayer graphene ready for spin and valley qubits*. Invited talk at the EU-US Workshop at the Graphene Week 2022, Munich, Germany (09.09.2022)
- Ti102. *Layered 2D materials (graphene and beyond)*. Invited lecture at the MFL School 2022 (21-25 September), Kerkrade, Netherlands (23.09.2022)
- Ti103. *Boosting mobility in vdW heterostructures for high-frequency devices*. Talk at the Aachen Graphene Center Workshop 2023, Aachen, Germany (30.01.2023)
- Ti104. Graphene Quantum Dots. Invited overview talk at the Söllerhaus Meeting 2023, Hirschegg, Austria (13.03.2023)
- Ti105. *Tunable twistrionics*. Final Workshop of the 1st funding period of the SPP2244, Bad Honnef, Germany (16.03.2023)
- Ti106. *Summary of the IWPENM 2023*. Invited talk at the IWPENM2023 Winterschool in Kirchberg, Austria (23.03.2023)
- Ti107. *Phyphox – A pocketful of physics*. Invited talk at DPG March Meeting in Dresden, Germany (29.03.2023)
- Ti108. *Raman imaging of gated graphene and twisted bilayer graphene*. Invited talk at the 6th ETH Raman Workshop, ETH Hönggerberg, Zürich Switzerland (08.06.2023)
- Ti109. *Quantum dots in bilayer graphene*. Invited talk at the CMD30 FisMat 2023, Milan, 4th – 8th September, Italy (05.06.2023)
- Ti110. *Transport properties and quantum transport in 2D materials and van der Waals heterostructures*. In total 4 invited lectures at the Thematic School “Advanced Physics of van der Waals Heterostructures” Roscoff, 24-30 September, France (28-30.09.2023)
- Ti111. *Symmetry protected spin-valley blockade in graphene quantum dots*. Invited talk at the APS March Meeting in Minneapolis, 3rd – 8th March, USA (05.03.2024)
- Ti112. *Quantum dots in bilayer graphene*, Invited plenary talk at the 12th International Conference on Quantum Dots (QD2024), München, 18th – 22nd March, Germany (22.03.2024)
- Ti113. *Symmetry protected spin-valley blockade in graphene quantum dots*. Invited talk at the International Workshop of the CRC1277 “Emergent Relativistic Effects in Condensed Matter”, 10th – 12th April, Regensburg, Germany (10.04.2024)

- Ti114. *Gate-defined charge confinement in Bernal-stacked and twisted bilayer graphene*. Invited talk at the International Conference “Quantum sensing”, Collège de France, 4-6 June, Paris, France (04.06.2024)
- Ti115. *Electronic states in bilayer graphene quantum dots*. Invited talk at the SPP2244 Summer School 2024 on "Advanced Experimental and Theoretical Control of Electronic States in Matter", September 2-4 in Göttingen, Germany (03.09.2024)
- Ti116. *Electrostatically defined quantum dots in bilayer graphen*. Invited talk at the Flatlands 2024 September 9-13, Wroclav, Poland (10.09.2024)
- Ti117. *Emerging 2D materials and related van der Waals heterostructures: Exploring the properties of two-dimensional materials such as graphene, transition metal dichalcogenides (TMDs) for advanced nanoscale applications*. Invited lecture at the NanoFabMat2024, LIMNI Summer School on Exploring Novel Materials and Advanced Fabrication Techniques for Micro- and Nanosystems, September 16 -20 Leuven, Belgium (16.09.2024)
- Ti118. *Quantum Dots in Bilayer Graphene*. Invited planery talk at the 73rd Annual Meeting of the Austrian Physical Society (23-27 September) and "Central European Condensed Matter Physics Day", Linz, Austria (25.09.2024)
- Ti119. *2D Materials for Next Generation Computing*. Invited talk at the PGI-Forum 2025 at the Forschungszentrum Jülich, Jülich, Germany (05.02.2025)
- Ti120. *Charge confinement in twisted bilayer graphene*. Invited talk at the Recontres de Moriond, Mesoscopic Physics, March 23-30, La Thuile, Italy (24.03.2025)
- Ti121. *Machine learning for real-time detection and classification of 2D material flakes*, Invited talk at the 2025 MRS Spring Meeting April 7-11, Seattle, USA (10.04.2025)

Seminars and Colloquia

- S1. *Nano electromechanical systems based on carbon nanotubes*. Invited Talk at the Max Planck Institute (MPI) Stuttgart, Germany (2004)
- S2. *Nano Electromechanical Transducer based on Single Walled Carbon Nanotubes*. Invited Talk at the Department of Micro Engineering, Kyoto University, Kyoto, Japan (2005)
- S3. *Electromechanical Transducers based on Single-Walled Carbon Nanotubes*. Invited Talk at the Institute for Solid State Electronics, Vienna University of Technology, Vienna, Austria (2006)
- S4. *Electromechanical Transducers based on Single-Walled Carbon Nanotubes*. Invited Talk at the Physical Electronics Laboratory (PEL) at the ETH Zurich, Zurich, Switzerland (2006)
- S5. *Electromechanical Transducers based on Single-Walled Carbon Nanotubes*. Invited Talk to the von-Klitzing Seminar at the Max Planck Institute (MPI) Stuttgart, Germany (2006)
- S6. *Electromechanical Properties of Single-Walled Carbon Nanotubes*. Seminar Talk at the Nanophysics group at the ETH Zurich, Zurich, Switzerland, (October 2006)
- S7. *Electromechanical Properties of Single-Walled Carbon Nanotubes*. Seminar Talk at the Cornell University, Ithaca NY, USA (October 2006)

- S8. *Electromechanical Properties of Single-Walled Carbon Nanotubes*. Seminar Talk at the Columbia University, New York City, USA (October 2006)
- S9. *Electromechanical Properties of Single-Walled Carbon Nanotubes*. Seminar Talk at the Yale University, New Haven, USA (October 2006)
- S10. *Spatially Resolved Raman Spectroscopy of Single- and Few-Layer Graphene*. Seminar Talk at the Institute for Theoretical Physics, Vienna University of Technology, Vienna, Austria, (October 2006)
- S11. *Electromechanical Transducers based on Single-Walled Carbon Nanotubes*. Invited Talk at the Institute for Electronic, Microelectronic and Nanotechnology (IEMN), Lille, France, (19.06.2007)
- S12. *Ultra miniature Pressure Sensors based on Nanotubes on ultra-thin alumina membranes*. Invited Talk to INFICON Limited, Balzers, Principality of Liechtenstein, (20.09.2007)
- S13. *Carbon nanomaterials for future information technology*. Invited Talk at the Lehrstuhl J. Kotthaus, LMU, Munich, Germany, (12.02.2008)
- S14. *Graphene and Carbon Nanotube Quantum Dots*. Invited Talk at the Freie University Berlin, Berlin, Germany, (04.04.2008)
- S15. *Graphene and Carbon Nanotube Quantum Dots*. Seminar Talk at the IBM Research Lab Zurich, Rueschlikon, Switzerland, (08.04.2008)
- S16. *Graphene and Nanotube Quantum Dots*. Seminar Talk at the Universite Pierre et Marie Curie, Paris, France, (15.05.2008)
- S17. *Graphene and Carbon Nanotube Quantum Dots*. Invited to the von-Klitzing Seminar at the Max Planck Institute (MPI) Stuttgart, Germany (19.05.2008)
- S18. *Graphene Single Electron Transistors*. Invited talk at the Electrical Engineering Department at Cambridge University, Cambridge, UK (19.06.2008)
- S19. *Graphene Single Electron Transistors*. Invited talk at the RWTH Aachen, Germany (24.06.2008)
- S20. *Carbon Nanotube Transducers*. Seminar Talk at Stanford University in the group of H. Dai, Stanford (CA), USA (18.08.2008)
- S21. *Graphene Quantum Dots*. Seminar talk at Stanford University in the group of D. Goldhaber-Gordon, Stanford (CA), USA (19.08.2008)
- S22. *Graphene and Nanotube Quantum Dots*. Seminar talk at the Physics Department at Oxford University, Oxford, UK (20.11.2008)
- S23. *Nano Electromechanical Systems (NEMS) based on Carbon Materials*. Colloquium at the Materials Department at Oxford University, Oxford, UK (20.11.2008)
- S24. *Carbon Nanomaterials: from Nano Electromechanical Systems to Quantum Dots*. Invited to the CAPE Seminar at the Electrical Engineering Department at Cambridge University, Cambridge, UK (21.11.2008)
- S25. *Graphene Quantum Dots*. Invited seminar talk at the University Würzburg am Hubland in the group of B. Trauzettel, Würzburg, Germany (02.12.2008)

- S26. *Graphene and Nanotube Quantum Dots*. Seminar Talk at the Institute for Theoretical Physics, Vienna University of Technology, Vienna, Austria (28.04.2009)
- S27. *Carbon Nanomaterials: from Nano Electromechanical Systems to Quantum Dots*. Seminar Talk at the Physics Faculty of the University of Vienna, Austria (30.04.2009)
- S28. *Graphene Quantum Dots*. Condensed Matter Seminar Talk at the Department of Physics of the University of Basel, Switzerland (11.05.2009)
- S29. *Electromechanical blockade in nanotube quantum dots*. QSIT Seminar at the Department of Physics of the ETH Zurich, Switzerland (02.07.2009)
- S30. *Roadmap of carbon nanoelectronics*. Workshop "Tubes'nWires", Jülich, Germany (06.10.2009)
- S31. *Graphene Quantum Dots and Nanoribbons*. Seminar Talk at the Freie University Berlin in the group of S. Reich, Berlin, Germany, (30.10.2009)
- S32. *Graphene Quantum Devices*. Seminar Talk at the Institute of Bio and Nanosystems (IBN-3/4) at the Research Center Jülich, Germany, (25.11.2009)
- S33. *Graphene and Nanotube Quantum Dots*. Seminar Talk at the RWTH Aachen University in the group of H. Schoeller, Aachen, Germany, (17.12.2009)
- S34. *Graphene Quantum Devices*. Invited to the Walter Shottky Seminar at the Technical University Munich, Germany, (09.02.2010)
- S35. *Electromechanical blockade in nanotube quantum dots*. Invited Seminar Talk at the Technical University Delft, Netherlands (15.02.2010)
- S36. *Spin States in Graphene Quantum Dots*. Invited Seminar Talk at the Institute for Electronic, Microelectronic and Nanotechnology (IEMN), Lille, France (23.04.2010)
- S37. *Graphene and Carbon Nanotube Quantum Dots*. Invited Seminar Talk at the Università degli Studi di Genova in the group of M. Sassetti, Genova, Italy (04.05.2010)
- S38. *Electromechanical blockade in nanotube quantum dots*. Seminar Talk at the RWTH Aachen University in the group of H. Schoeller, Aachen, Germany (17.06.2010)
- S39. *Graphene and nanotube quantum dots*. Seminar Talk at the Research Center Jülich in the group of P. Kögeler, Jülich, Germany (21.06.2010)
- S40. *Graphene quantum dots*. Invited SFB Colloquium at the Physics Department at the University of Konstanz, Germany (15.07.2010)
- S41. *Graphene quantum dots*. Invited Seminar Talk at the Max Planck Institute (MPI) Stuttgart in the group of K. Kern, Stuttgart, Germany (08.12.2010)
- S42. *Graphene quantum dots*. Invited Seminar talk at the Heinrich-Heine-University Düsseldorf in the group of T. Heinzel, Düsseldorf, Germany (13.12.2010)
- S43. *Chemical modifications of graphene surfaces*. Seminar Talk at the Institute of Bio and Nanosystems (IBN-2) in the group of A. Offenhäusser at the Research Center Jülich, Germany (11.01.2011)
- S44. *Graphene and Nanotube Quantum Devices*. Seminar Talk at the Freie University Berlin, Berlin, Germany (15.06.2011)

- S45. *Carbon-based artificial atoms and molecules*. Invited Seminar Talk at the RWTH Aachen University, Aachen, Germany (04.10.2011)
- S46. *Graphene based Single Electron Transistors and Quantum Dots*. Invited Colloquia Talk at the PTB Braunschweig, Braunschweig, Germany (18.11.2011)
- S47. *Carbon-based artificial atoms and molecules*. Invited Seminar Talk at the University of Stuttgart, Stuttgart, Germany (12.01.2012)
- S48. *Carbon-based artificial atoms and molecules*. Invited CeNS Colloquia talk at the LMU Munich, Munich, Germany (20.01.2012)
- S49. *Graphene Quantum Electronics*. Invited Seminar Talk at the “Klausurtagung des Jungen Kollegs der Nordrhein-Westfälischen Akademie der Wissenschaften, Schloss Krickenberg”, Nettetal, Germany (11.02.2012)
- S50. *Relaxation in Graphene Quantum Dots*. Seminar Talk at the Institute for Theoretical Physics, Vienna University of Technology, Vienna, Austria (18.04.2012)
- S51. *Graphene Quantum Devices*. Invited Seminar Talk at the Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria (19.04.2012)
- S52. *Electron-vibron coupling in suspended carbon nanotube quantum dots*. Invited Seminar Talk at the University of Regensburg, Regensburg, Germany (25.05.2012)
- S53. *Graphene nanoribbons and quantum dots*. Invited Seminar Talk at the Material Department of Oxford University, Oxford, UK (06.07.2012)
- S54. *Quantum transport through graphene on different substrates*. Invited seminar talk at ICFO (group of A. Bachtold), Barcelona, Spain (21.11.2013)
- S55. *Ballistic transport in nanostructured graphene*. Invited seminar talk at the University of Basel (group of C. Schönenberger), Switzerland (06.10.2014)
- S56. *Phyphox - Physikexperimente mit dem Smartphone*. Invited talk at the „Lunch Lehre“ ETS, in Aachen, Germany (19.04.2017)
- S57. *Phyphox - Physikexperimente mit dem Smartphone*. Invited talk at the “Konferenz der Fachbereiche Physik“, Bad Honnef, Germany (06.06.2017)
- S58. *Physikexperimente mit dem Smartphone*. Invited talk at the “Talk Lehre 2017“ Event, Aachen, Germany (21.06.2017)
- S59. *Quantum Point Contacts in Graphene*, Invited Colloquia, Radboud University, Nijmegen, Netherlands (19.06.2017)
- S60. *Quantum Point Contacts in Graphene*. Invited Seminar talk at the UCL Louvain-la-Neuve, Belgium (13.10.2017)
- S61. *Graphene and Related Two-Dimensional Materials*. Invited talk at the RWTH Aachen Faculty Club, Aachen (17.11.2017)
- S62. *Digitale Innovationen in der Hochschullehre - Physikexperimente mit dem Smartphone*. Invited Physikalisches Kolloquium an der Fakultät für Physik und Astronomie der Ruhr-Universität Bochum, Germany (28.05.2018)

- S63. *Electrostatically defined bilayer graphene quantum devices*. Invited seminar at the Univ. of Basel (Group of C. Schönenberger), Basel, Switzerland (07.01.2020)
- S64. *Spin states in bilayer graphene quantum devices*. Invited Zoom-Colloquium at the Univ. Konstanz, Germany (01.12.2020)
- S65. *The phyphox App – Smartphones for science education*. Invited Zoom-Seminar at the National Univ. of Singapore (NUS), Singapore (17.12.2020)
- S66. *Bilayer graphene – a tunable 2D semiconductor for quantum electronics*. Invited Zoom-Colloquium at the Univ. Ottawa, Canada (11.03.2021)
- S67. *About spin-, valley-, and topological-qubits in 2D materials*, Invited Zoom-Seminar at the ML4Q Focus Area F1 Meeting (01.06.2021)
- S68. *Mechanically tunable strain fields in suspended graphene resonators*, DMN distinguished lecture / invited talk (via zoom), TU Delft, Netherlands (14.12.2021)
- S69. *Spin and valley degrees of freedom in graphene quantum dots*, Invited seminar at the Laboratory of Physics of ENS (LPENS) Paris, France (11.04.2022)
- S70. *Coherent charge oscillations and shell filling in bilayer graphene quantum dots*, Invited seminar talk at ETH Zurich (Group of K. Ensslin), Zurich, Switzerland (09.06.2023)
- S71. *Fully automated platform for 2D material flake detection using real-time machine learning techniques*, Talk at the TATTOOS Final Workshop at the French Center for Nanoscience and Nanotechnology (C2N), Palaiseau, France (18.09.2023)
- S72. *Quantum Dots in Bilayer Graphene*, Invited TU-D Seminar at the TU Vienna (hosted by Prof. Florian Lbisch), Austria (06.11.2023)
- S73. *Quantum Dots in Bilayer Graphene*, Invited Physical Science Seminar (hosted by Hryhoriy Polshyn), ISTA, Klosterneuburg, Austria (07.11.2023)
- S74. *Quantum Dots in Bilayer Graphene*, Invited Seminar Talk at the Physics Departement of the University of Regensburg, Germany (06.12.2023)
- S75. *Confining electrons in twisted and proximity-coupled bilayer graphene*, SPP2244 Kick-Off Meeting in Dresden, Germany (28.05.2024)
- S76. *Quantum Dots in Bilayer Graphene*, Invited to Berlin Physics Colloquium (BPK), Magnus Haus, Berlin, Germany (30.01.2025)

Talks for a General Audience

- GA1. *Graphen - Ein zweidimensionaler Werkstoff mit einzigartigen Eigenschaften*. Invited talk at the „5 vor 12 RWTH Wissenschaftsnacht“, Aachen, Germany (08.11.2013)
- GA2. *Graphen: Vielseitiges Wundermaterial in zwei Dimensionen*, Veranstaltung MINT-Initiative, Bozen (23.10.2015)

- GA3. *Graphen: Vielseitiges Wundermaterial in zwei Dimensionen*, Invited talk at the Gewerbeoberschule „Max Valier“, Bozen, Italien (06.06.2016)
- GA4. *Phyphox: Physikexperimente mit dem Smartphone*, RWTH-Novembervorlesung (Physik verstehen!), Aachen, Germany (18.11.2017)
- GA5. *Your smartphone is a mobile lab*. Invited talk at the TEDx RWTH Aachen Conference, Aachen, Germany (09.06.2018)
- GA6. *Phyphox - Physikalische Experimente mit dem Smartphone* Festvortrag am Tag der Physik der RWTH Aachen, Germany (18.01.2019)
- GA7. *Phyphox - Physikalische Experimente mit dem Smartphone* Festvortrag am Tag der Physik der RWTH Aachen, Germany (24.01.2020)
- GA8. *Graphen – Vielseitiges Wundermaterial in zwei Dimensionen*, Vortrag im Rahmen der FZJ „Wissenschaft Online“ Vortragsreihe, Jülich, Germany (25.11.2021)
- GA9. *Quantenpunkte: Bausteine einer Welt, in der Quantenmechanik und Alltag aufeinander treffen*, Vortrag im Rahmen der Reihe „Die RWTH erklärt den Nobelpreis: Chemie“, Aachen, Germany (06.12.2023)
- GA10. *Nutzung von LLMs in Lehrveranstaltungen – Chancen und Risiken*, Impulsvortrag im Rahmen der Tagung der Studiendekan*innen 2025, Burg Obbendorf, Niederzier, Germany (12.02.2025)