

**K. Yu. Arutyunov**  
**Invited Talks & Seminars**

1. "Normal Metal - Insulator – Superconductor Mesoscopic Analogue of an Optical Interferometer", invited seminar at University of Antwerpen, Belgium, 20.01.2004
2. "Evidence of macroscopic quantum tunneling in ultra-narrow aluminum nanowires", invited seminar at University of Antwerpen, Belgium, 21.01.2004
3. "Normal Metal - Insulator – Superconductor Mesoscopic Analogue of an Optical Interferometer", invited seminar at University of Lancaster, UK, 03.02.2004
4. "Normal Metal - Insulator – Superconductor Mesoscopic Analogue of an Optical Interferometer", invited seminar at University of Leeds, UK, 04.02.2004
5. K. Yu. Arutyunov "Normal Metal - Insulator – Superconductor Interferometer", invited talk at the 8<sup>th</sup> International workshop "From Andreev reflection to the International space Station", Björkliden, Kiruna, Sweden, March 20-27, 2004.
6. "Mesoscopic NIS interferometers", invited seminar in Physikalisch-Technische Bundesanstalt, Braunschweig, Germany, 09.09.2004.
7. K. Arutyunov , "Normal metal – Insulator- Superconductor Quantum Interferometer", invited talk at the International Workshop "Nanoscale Dynamics and Quantum Coherence", Hamburg, 19.09-23.09, 2004.
8. "Quantum size phenomena in low dimensional semimetals", invited talk at the international workshop "Quantum coherence and decoherence at the nanoscale", 28.08 – 02.09.2005, Corfu, Greece.
9. K. Arutyunov, "Quantum tunneling in 1D aluminum nanowires", invited talk at the 9<sup>th</sup> International workshop "From Andreev reflection to the Earliest Universe", Björkliden, Kiruna, Sweden, April 2-9, 2005.
10. "Quantum size phenomena in ultra-narrow 1D nanowires", invited seminar at University of Turku, Wihuri lab, 02.12.2005.
11. K. Arutyunov, "Quantum size phenomena in ultra-narrow 1D nanowires", invited talk at the International Conference NANOELECTRONICS-2006, 8-11 January 2006, Lancaster, UK.
12. K. Arutyunov, "Size Dependent Breakdown of Superconductivity in Ultra-Narrow Nanowires", invited talk at APS meeting,, March 13-17, 2006, Baltimore, US.

13. K. Arutyunov, , “Ion beam-assisted methods of nanostructure fabrication”, oral talk at International Congress and Exhibition “ Nanotechnology in Northern Europe”, 16-18 May 2006, Helsinki, Finland.
14. K. Arutyunov, “Quantum phase slip phenomena in ultra-narrow 1D superconductors”, invited talk at International Seminar and Workshop “Quantum coherence, noise and decoherence in nanostructures”, May 15-26, 2006, Dresden, Germany.
15. K. Arutyunov, invited talk “Tunneling spectroscopy of persistent currents in mesoscopic-size superconducting loops”, international Workshop “Quantum transport and noise”, Ermones, Greece, 03.09 – 15.09.06.
16. K. Arutyunov, invited talk “Phase Slip Phenomena in Superconducting Nanowires”, international Workshop “Quantum transport and noise”, Ermones, Greece, 03.09 – 15.09.06.
17. “Phase slip phenomena in superconducting nanowires”, invited seminar at University of Antwerpen, Belgium, 18.10.2006
18. “Phase slip phenomena in superconducting nanowires”, invited seminar at University of Leven la Neuve, Belgium, 19.10.2006.
19. “Tunneling spectroscopy of persistent currents in superconducting mesoscopic rings”, invited seminar at University of Antwerpen, Belgium, 20.10.2006
20. “Tunneling spectroscopy of persistent currents in superconducting mesoscopic rings”, invited talk at NordForsk workshop “Low dimensional physics: the theoretical basis of nanotechnology”, NanoScience Centre, University of Jyväskylä, 25.10.2006
21. “Superconductivity in ultra-narrow nanowires”, invited seminar at UC Irvine, USA, 29.11.2006
22. “Quantum fluctuations in superconducting nanowires”, invited seminar at UC Riverside, USA, 30.11.2006
23. “Superconductivity in ultra-narrow nanowires”, invited seminar at University of Urbana Champaign, Illinois, USA, 05.12.2006
24. “Tunneling spectroscopy of persistent currents in superconducting mesoscopic rings”, invited seminar at University of Urbana Champaign, Illinois, USA, 06.12.2006
25. “Quantum fluctuations in superconducting nanowires”, invited seminar at SUNY, Stony Brook, USA, 08.12.2006
26. “Tunneling spectroscopy of persistent currents in superconducting mesoscopic rings”, **invited talk** at SFINX workshop, Oslo, 01-02 March 2007.

27. K.Yu.Arutyunov, Relaxation of non-equilibrium quasiparticles injected into a superconductor at ultra-low temperatures, **invited talk** at European Workshop on Electron Interactions in Ultra 1D Nanostructures, 15-20 May 2007, Nice, France.
28. “Quantum phase slip phenomena in ultranarrow superconducting nanostructures”, **invited talk** at “Fluctuations & Phase Transitions in superconductors”, June 10-14, 2007, Nazareth Ilit, Israel.
29. “Phase slips in 1D superconductors”, **invited talk** at International workshop “Physics of nanoscale superconducting heterostructures”, Leiden, The Netherlands, 02-07.07.2007.
30. “Quantum phase tunneling in superconducting nanostructures” **invited talk** at International symposium SPIN&QUBIT, Niels Bohr Institute, 28.08.2007, Copenhagen, Denmark.
31. “Relaxation of non-equilibrium quasiparticles injected into a superconductor at ultra-low temperatures”, **invited talk** at seminar at CNRS-CRTB & University J. Fourier, Grenoble, France, 12.12.2007.
32. “Quantum phase tunneling in superconducting nanowires”, **invited talk** at seminar at CNRS-CRTB & University J. Fourier, Grenoble, France, 13.12.2007.
33. “Quantum tunneling in superconducting nanowires and nanorings”, **invited talk** at Joint International Workshop on "A new generation of ultra-sensitive detectors for dark energy and cosmology experiments", Bjorkliden, Kiruna, Sweden, March 30 - April 6, 2008.
34. “Fundamental limitations of electric conductivity at nanoscales”, **invited lecturer** at Summer School, 24-31.08.2008, Ivanova Korita, Montenegro.
35. K. Yu. Arutyunov , **invited talk** “Quantum tunneling phenomena in superconducting nanostructures”, International Conference on Quantum Transport and Fluctuations at Nanoscale, Montenegro, 31 August- 05 Septemeber 2008.
36. K. Yu. Arutyunov , **invited talk** “Relaxation of non-equilibriumm qausiparticles in superconductors”, National Physical Laboratory, Teddington, UK, 26.11.2008
37. K. Yu. Arutyunov , **invited talk** “Quantum phase slip phenomena in superconducting nanowires”, National Physical Laboratory, Teddington, UK, 27.11.2008
38. K. Yu. Arutyunov , **invited talk** “Quantum tunneling in superconducting nanowires and nanorings”, JSPS-ESF International conference on NanoScience in Superconductivity, 23-26 March, 2009, Tsukuba, Japan.
39. K. Yu. Arutyunov , **invited talk** “Quantum tunneling in superconducting nanowires and nanorings”, NEC, 27 March, 2009, Tsukuba, Japan.

40. K. Yu. Arutyunov , **invited talk** “Relaxation of non-equilibrium quasiparticles in superconductors”, NEC, 27 March, 2009, Tsukuba, Japan.
41. K. Yu. Arutyunov , **invited talk** “Relaxation of non-equilibrium quasiparticles in a superconductor at ultra-low temperatures”, MESO-2009, 15 June 2009, Chernogolovka, Russia.
42. K. Yu. Arutyunov , **invited talk** “Relaxation of non-equilibrium quasiparticles in a superconductor at ultra-low temperatures”, International Conference on Quantum Phenomena at Nanoscale, Montenegro, August 30 – September 4, 2009.
43. K. Yu. Arutyunov , **invited talk** “Fundamental size limitations in quantum nanoelectronics: dead end or future development?”, International Workshop Nanotechnological Revolution, 27 September- 3 October 2009, Basita, France.
44. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in superconducting nanostructures”, KIT, Dept. of Physics, Karlsruhe, Germany, 23.11.2009.
45. K. Yu. Arutyunov , **invited talk** “Relaxation of non-equilibrium quasiparticles in superconductors at ultra-low temperatures”, KIT, FZK, Karlsruhe, Germany, 25.11.2009
46. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in superconducting nanostructures”, PTB, Braunschweig, Germany, 26.11.2009.
47. K. Yu. Arutyunov , **invited talk** “Ion beam nano-scale accurate treatment of steel surfaces”, VTT, Helsinki, 02.12.2009.
48. K. Yu. Arutyunov , **invited talk** “Fundamental limitations and perspective of development of nanoelectronics”, Russian Corporation of Space Engineering and Information, Moscow 28.06.2010.
49. K. Yu. Arutyunov , **invited talk** “Fundamental limitations and perspective of development of nanoelectronics”, International conference “Dialogue”, 30.03-02.04.2010, Tomsk, Russia.
50. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in superconducting nanowires and nanorings”, International conference and summer school “Mesoscopic systems: physics and applications”, 20-26.06.2010, Novosibirsk (Erlagol), Russia.
51. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in superconducting nanowires and nanorings”, SM2010-International Conference on Superconductivity and Magnetism: hybrid proximity nanostructures and intrinsic phenomena, Paestum, Salerno (Italy), 5-11.09.2010.
52. K. Yu. Arutyunov , **invited talk** “Quantum phase slip junction standard of electric current”, Joint iMERaplus Dissemination Meeting and EURAMET Expert Meeting on quantum electrical metrology, 18-20 May, 2011, Berlin, Germany.

53. K. Yu. Arutyunov , **invited talk** “Ion beam super-fine surface shaping and polishing”, Working Seminar on Global Cooperation in Nanotech Business Jyvaskyla, Finland, 07.06.2011
54. K. Yu. Arutyunov , **invited talk** “Insulating state of a superconductor”, Moscow International Symposium on Magnetism MISM-2011, August 21-25, 2011, Moscow, Russia.
55. K. Yu. Arutyunov , **invited talk** “Insulating state of a superconductor”, Workshop Nanotechnological revolution, NTR-2011, 04-10 August, 2011, Becici, Montenegro.
56. K. Yu. Arutyunov , **invited talk** “Insulating state of a superconductor”, Seventh International Conference on Vortex matter in Nanostructured Superconductors, VORTEX-VII, 10-17 September 2011, Rhodes, Greece.
57. K. Yu. Arutyunov , **invited talk** “Coulomb effects in superconducting nanowires”, NANO-2011, 6-9 October, Chisinau, Moldova.
58. K. Yu. Arutyunov , **invited talk** “Ion beam superfine surface finishing”, Nanotechnology workshop, 30 November 2011, Jyväskylä, Finland.
59. K. Yu. Arutyunov , **invited talk** “How to become an evaluator for FP7”, FP7 workshop, Friday 9.12.2011, Jyväskylä, Finland.
60. K. Yu. Arutyunov , **invited talk** “Quantum phase slip phenomena in superconducting nanostructures”, International conference MAMA-ProTheo - Multifunctional Advanced Materials: Probe and Theory, 19-23.03.2012, Vietri sul Mare, Italy.
61. K. Yu. Arutyunov , **invited talk** ”Quantum phase slip junction”, International Workshop “Superconducting NanoHybrids” SNh-2012, September 3-7, San Sebastian, Spain.
62. K. Yu. Arutyunov , **invited talk** ”Quantum fluctuations in low dimensional superconductors” 01.10.2012, ENEA, Frascati, Italy.
63. K. Yu. Arutyunov , **invited talk** ”Fundamental limitations and perspectives of development of nanoelectronics”, University of Salerno, 03.10.2012.
64. K. Yu. Arutyunov , **invited talk** ”Quantum fluctuations in superconducting nanostructures: physics and applications”, University of Salerno, 03.10.2012.
65. K. Yu. Arutyunov , **invited talk** ”Fundamental limitations and perspectives of development of nanoelectronics”, National Institute of Microtechnology (Bucharest), Romania, 08.01.2013.
66. K. Yu. Arutyunov , **invited talk** “Coherent quantum phase slip phenomena” 22.01.2013, LPTHE, Pierre and Marie Curie University (Paris VI), Paris, France.

67. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in superconducting nanostructures” , 24.01.2013, ESPCI, (CNRS-UMR8213) Paris, France
68. J. Lehtinen and K. Yu. Arutyunov, Superconducting nanowire as a quantum standard of electric current, **invited talk**, EURAMET meeting, May 21-22, 2013, Madrid / Tres Cantos.
69. K. Yu. Arutyunov, **invited talk** “Quantum fluctuations in nanoscale superconductors “, International Conference SUPERSTRIPES 2013, Ischia, Italy, May 27-June 1, 2013.
70. K. Yu. Arutyunov, **invited talk** “Quantum fluctuations in 1D superconductors: physics and applications “, 2<sup>nd</sup> International Conference "Mesoscopic structures: fundamentals and applications", Novosibirsk, Russia, 23-29 June 2013.
71. K. Yu. Arutyunov, **invited talk** at seminar “Quantum fluctuations in 1D superconductors: physics and applications “, Moscow State Pedagogical University, 02 July 2013.
72. K. Yu. Arutyunov, **invited talk** “Quantum fluctuations in 1D superconductors: physics and applications”, MicroKelvin Workshop, Sannäs Manor House, Porvoo, Finland 9 – 13 September, 2013. [http://itl.tkk.fi/wiki/Events/Microkelvin\\_2013](http://itl.tkk.fi/wiki/Events/Microkelvin_2013)
73. Yu. Arutyunov, **invited talk** “Quantum fluctuations in 1D superconductors: physics and applications”, Eighth International Conference in School format on Vortex Matter in Nanostructured Superconductors VORTEX-III, Rhodes-Greece, 21-26 September, 2013.
74. K. Yu. Arutyunov , **invited talk** ”Fundamental limitations and perspectives of development of nanoelectronics”, National Center for Scientific Research "Demokritos", Greece, 20.11.2013.
75. K. Yu. Arutyunov , **invited talk** ”Fundamental limitations and perspectives of development of nanoelectronics”, Institute of Electronic Structure & Laser (IESL) and Foundation for Research & Technology Hellas (FORTH), Greece, 22.11.2013.
76. K. Yu. Arutyunov , **invited talk** “Nano treatment of intraocular lenses”, NanoVision Workshop, Moscow, 24-25.01.2014
77. K. Yu. Arutyunov , **invited talk** “Insulating state of a quasi-1D superconductor stimulated by quantum phase slippage”, International workshop on strongly disordered superconductors & the superconductor – insulator transition SIT2014, 9-14 February 2014, Villard-de-Lans, France.
78. K. Yu. Arutyunov , **invited talk** “Quantum fluctuations in quasi-1D superconductors: physics and applications”, 13 February 2014, Grenoble CNRS, France.
79. K. Yu. Arutyunov , **invited talk**, " Quantum fluctuations in quasi-1D superconductors: Physics and applications", NanoPeter-2014, 21.06-27.06.2014, St. Petersburg.

80. K. Yu. Arutyunov, **invited talk** "Quantum fluctuations in superconducting nanostructures", Moscow International Symposium on Magnetism: MISM-2014, 29.06-03.07.2014, Moscow.
81. K. Yu. Arutyunov, **invited talk** "Fundamental limitations and future trends in nanoelectronics", seminar at University of Otago, New Zaland, 04.08.2014.
82. K. Yu. Arutyunov, **invited talk** "Fundamental limitations and future trends in nanoelectronics", seminar at School of Physics and Astronomy, University of Canterbury, New Zaland, 08.08.2014.
83. К. Ю. Арутюнов, **приглашенный доклад** "Фундаментальные ограничения и перспективы развития нанoeлектроники", семинар Лаборатории Криогенной Нанoeлектроники, Нижний Новгород, 23.01-26.01.2015.
84. К. Ю. Арутюнов, **приглашенный доклад** "Квантовые флуктуации в сверхпроводниках: физика и приложения", семинар Лаборатории Криогенной Нанoeлектроники, Нижний Новгород, 23.01-26.01.2015.
85. К. Ю. Арутюнов, **мастер-класс** "Нанoeлектроника - перспективы развития и фундаментальные ограничения", зимняя Инженерно-техническая школа НИУ ВШЭ, Вороново, 25.01-29.01.2015.