Date: 30.11.2023

R E S U M E

PERSONAL DETAILS

Full Name: **IVAN SAVENKO**
Identity No. and nationality: Russian
Date and place of birth: 10.V.1987, Saint-Petersburg, Russia
Marital status: married
Phone numbers: +86–1787 540 9810
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ACADEMIC DEGREES

Degree	From	To	Department	Institution	Name of Advisor/s
BSc	**09/ 2004**	**06/ 2008**	**Electronics and Microelectronics, Semiconductors**	**St.-Petersburg National Polytechnical University**	**A. Ushakov**
MSc	**09/ 2008**	**06/ 2010**	**Physics**	**Zh. Alferov Academic University, St.-Petersburg**	**M. Kaliteevskii**
PhD	**09/ 2010**	**06/ 2013**	**Science Institute**	**University of Iceland, Reykjavik**	**I. Shelykh**
Habili-tation	**The defence was on April 19, 2022**		**Theoretical Physics Sector**	**Rzhanov Institute of Semiconductor Physics, Russia**	**(consultant) V. Kovalev**

ACADEMIC APPOINTMENTS

From	To	Rank or position	Department	Institution	Remarks
01/2011	08/2011	Summer PhD trainee	-	International Institute of Physics (IIP), Natal, Brazil	Supervisor: Prof. I. Shelykh
01/ 2012	02/ 2012	Visiting PhD fellow of Nordita	-	NORDITA, Stockholm, Sweden	Supervisor: Prof. I. Shelykh
05/ 2012	05/ 2013	Research Assistant	Mathematics and Applied Physics	Nanyang Technological University (NTU), Singapore	Supervisor: Prof. I. Shelykh
08/ 2013	01/ 2016	Postdoctoral Researcher	Physics	Aalto University, Espoo, Finland	Supervisors: Prof. M. Mottonen, Prof. T. Ala-Nissila, Prof. Y. Pekkola
09/2015	01/2016	Senior Research Fellow	Applied Physics	ITMO University,	Supervisor: N. Rosanov

				St.-Petersburg, Russia	
01/2016	06/2017	Early-Career Researcher (DECRA Fellow)	Physics	Australian National University, Canberra, Australia	No supervisor (principle investigator)
02/2016	02/2023	Junior Research Team Leader	Center for Theoretical Physics of Complex Systems (PCS)	Institute for Basic Science (IBS), Daejeon, South Korea	No supervisor. The Director of the PCS Center is Prof. S. Flach
03/2017	03/2019	Assistant Professor	Physics	University of Science and Technology, Daejeon, South Korea	-
03/2019	till now	Associate Professor	Physics	University of Science and Technology, Daejeon, South Korea	-
09/2018	12/2021	Senior Researcher	Theoretical Physics	Rzhanov Institute of Semiconductor Physics, Novosibirsk, Russia	-
06/2023	Till now	Associate Professor	Physics	Guangdong Technion - Israel Institute of Technology (GTIIT)	-

RESEARCH INTERESTS (*briefly*)

Prof. Savenko fields of scientific interests include light-controlled superconductivity, light-matter interaction in 2D systems and hybrid Bose-Fermi systems, spin-valley phenomena in 2D materials (MoS_2), and spatial and temporal coherence of exciton-polariton condensates.

Major scientific achievements include:

1. A series of works devoted to the coherence properties of exciton-polariton condensates [***Phys. Rev. Lett.*** 131, 206901 (2023); **ACS Photonics** 8 (2021); ***Phys. Rev. Lett.*** 113, 203902 (2014); *Phys. Rev. B* 83, 165316 (2011), Phys. Rev. B 84, 195308 (2011)].
2. Superconductivity in hybrid Bose-Fermi systems [**2D Materials** 8, 031004 (2021); ***Phys. Rev. Lett.*** 123, 095301 (2019).]
3. Proposal for a nonequilibrium photoinduced Hall effect [Phys. Rev. B Lett. 108, L180509 (2023); Phys. Rev. B 103, 035434 (2021)];

4. Discovery of the mechanism of coupling light to superconductors via interaction with electrons [***Phys. Rev. Letters*** 124, 207002 (2020)]
5. Proposal of a THz transistor on graphene-superconductor hybrid [***Phys. Rev. Lett.*** 124, 087701 (2020).]
6. Discovery of the Valley Acoustoelectric Effect [***Phys. Rev. Lett.*** 122, 256801 (2019)].
7. Theoretical description of a new type of coherent source: an electrically pumped polariton laser [***Nature*** 497, 348 (2013)].
8. Proposal for an exciton-polariton quantum router [***Appl. Phys. Lett.*** 103, 201105 (2013)].

TEACHING EXPERIENCE

1. Quantum mechanics: problem-solving classes, undergraduate students (Sep 2010 – Dec 2010, Aug 2011 – Dec 2011).
2. Continual integral applications in physics: lectures for undergraduate and graduate students (Sep 2011 – Dec 2011). I took part in the development and teaching of this course.
3. Quantum mechanics II – second quantization: problem-solving classes (2012).
4. Advanced Solid-State Physics Lectures, PhD and graduate students (2017; 2020). Developed this course and gave the lectures.
5. Green's functions seminars for PhD students and postdocs (2019). I participated in the design and development of this course. Conducted seminars.
6. Electromagnetism – for undergraduate students at GTIIT (China). Lecturer.
7. (upcoming course in 2024) **at GTIIT** – Statistical Physics. Lecturer.

AWARDS AND HONORS

(Year, honor. List prizes and awards. Do not list fellowships that paid your salary.)

1. 2010, "UMNIK" (literally, "Participant of Innovative Competition for Young Scientists") for scientific research devoted to
   1) Stripe lasers with features (Mar 2010 – Mar 2011);
   2) Terahertz sources and detectors (Apr 2011 – Apr 2013).
2. "DYNASTY" award – for scientific research at the ITMO University (St.-Petersburg, Russia) in 2015-2016.
3. "PRESIDENT" award – for scientific research at the ITMO University (St.-Petersburg, Russia) in 2016-2017.
4. "Researcher of the Year" award from the Institute for Basic Science in 2020.

GRADUATE STUDENTS

(Only students officially supervised by you, as appears in the university records.)

Completed PhD theses

Student name	Start. year	Grad. year	Grad. institute	Title of thesis	Primary advisor	Additional advisors
Meng Sun	2016	2020	UST, Daejeon, South Korea	Exciton-Polaritons in Artificial Lattices and Electron Transport in Bose-Fermi Hybrid Systems	Prof. I. Savenko	Prof. S. Flach
Kabyashree Sonowal	2020	2023	UST, Daejeon,	Acoustoelectric transport and optical	Prof. I. Savenko	Prof. J.-W. Ryu

			South Korea	response in 2D materials in fluctuating regime		
Dogyun Ko	2018	2023	UST, Daejeon, South Korea	Light-matter interaction in 2D materials in weak and strong-coupling regimes	Prof. I. Savenko	Prof. A.Andreanov

SPONSORED LONG-TERM VISITORS AND POST-DOCTORAL ASSOCIATES IN YOUR LABORATORY

Name	Start. year	Ending year	Main subject	Primary advisor	Additional advisors
K.H.A.Villegas	2017	2019	Transport in hybrid Bose-Fermi systems	Prof. I. Savenko	-
S.Yoon	2016	2019	Exciton-polaritons	Prof. I. Savenko	-
Yu. Rubo	2018	2018	Exciton-polaritons	(long-term visitor)	-
V. Kovalev	2018	2019	Electronic transport in 2D systems	(long-term visitor)	-

RESEARCH GRANTS

(List only grants in which you officially served as PI or Co-PI.)

From	To	Granting agency	Title	Total amount	Amount to you	Names of PIs
2012	2013	"EIMSKIP" foundation	"EIMSKIP" foundation personal grant on PhD research	~USD 30,000/year	same	I.Savenko
2016	2017	The Australian Research Council	"DECRA" grant – for scientific research at the Australian National University (Canberra, Australia)	~300,000 USD for 3 years	~300,000 USD	I.Savenko

PUBLICATIONS

Theses

PhD Thesis, "Strong Light-Matter Coupling in Systems of Different Dimensionality", 18.06.2013, University of Iceland, Reykjavik, Iceland

https://skemman.is/bitstream/1946/14506/1/Thesis_IvanSavenko.pdf

Habilitation Thesis, "Photoelectric phenomena and superconductivity in hybrid Bose-Fermi systems based on two-dimensional semiconductor structures and graphene", 19.04.2022, Rzhanov Institute of Semiconductor Physics, Novosibirsk, Russia

https://www.isp.nsc.ru/institut/dissertatsionnyj-sovet/zasedaniya/savenko-ivan-grigorevich

Published papers

(Include all co-authors in the order they appear on the paper, title of paper, journal, volume, first and last pages, and year of publication. ***Underline people that you officially supervised.***

2023

1. A. V. Parafilo, V. M. Kovalev, and I. G. Savenko, Photoinduced anomalous supercurrent Hall effect, Phys. Rev. B Lett. 108, L180509 (2023).

2. H. Shan, J.-C. Drawer, Meng Sun, C. Anton-Solanas, M. Esmann, K. Yumigeta, K. Watanabe, T. Taniguchi, S. Tongay, S. Höfling, Ivan Savenko, C. Schneider, Second-order temporal coherence of polariton lasers based on an atomically thin crystal in a microcavity, Phys. Rev. Lett. 131, 206901 (2023).

3. A. V. Parafilo, V. M. Kovalev, and I. G. Savenko, Probing Luttinger liquid properties in a multichannel two-site charge Kondo simulator, Phys. Rev. B Lett. 108, L201101 (2023).

4. D.S. Eliseev, M.V. Boev, V.M. Kovalev, and I.G. Savenko, Piezoresistive effect in two-dimensional Dirac materials, Phys. Rev. B 108, L121403 (2023).

5. K. Sonowal, A.V. Parafilo, M.V. Boev, V.M. Kovalev, I.G. Savenko, Second-harmonic generation in fluctuating Ising superconductors, 2D Materials 10 (4), 045004 (2023).

6. D. Ko, M. Sun, V.M. Kovalev, and I.G. Savenko, Bogolon-mediated light absorption in atomic condensates of different dimensionality, Sci. Reports 13 (1), 6358 (2023).

2022

7. K. Sonowal, D.V. Boev, A.V. Kalameitsev, V.M. Kovalev, I.G. Savenko, Valley spin-acoustic resonance in MoS_2 monolayers, Phys. Rev. B 106, 155426 (2022).

8. A.V. Parafilo, M.V. Boev, V.M. Kovalev, I.G. Savenko, Photogalvanic transport in fluctuating Ising superconductors, Phys. Rev. B 106, 144502 (2022).

9. D. Choi, M. Park, B.Y. Oh, M.-S. Kwon, S.-I. Park, S. Kang, J.- D. Song, D. Ko, M. Sun, I.G. Savenko, Y.-H. Cho, H. Choi, Observation of a single quantized vortex vanishment in exciton-polariton superfluids, Phys. Rev. B 105, L060502 (2022).

2021

10. T. H. Harder*, M. Sun, O. A. Egorov, I. Vakulchyk, J. Beierlein, P. Gagel, M. Emmerling, C. Schneider, U. Peschel, I. G. Savenko, S. Klembt, and S. Höfling, Coherent Topological Polariton Laser, ACS Photonics 8(5) 1377 (2021).

11. M. Sun, A. Parafilo, K.H.A. Villegas, V.M. Kovalev, and I.G. Savenko, Bose–Einstein condensate-mediated superconductivity in graphene, 2D Materials (Letter) 8, 031004 (2021).

12. M. Sun, A. Parafilo, V.M. Kovalev, and I.G. Savenko, Strong-coupling theory of condensate-mediated superconductivity in two-dimensional materials, Phys. Rev. Research 3, 033166 (2021).

13. M. Boev, I. G. Savenko, V. M. Kovalev, Impurity-band optical transitions in two-dimensional Dirac materials under strain-induced synthetic magnetic field, Phys. Rev. B 103, 245402 (2021).

14. D. Ko, A. V. Morozov, V. M. Kovalev, and I. G. Savenko, Optical valleytronics of impurity states in two-dimensional Dirac materials, Phys. Rev. B Letters 103, L161301 (2021).

15. M. Sun, A. V. Parafilo, K. H. A. Villegas, V. M. Kovalev, and I. G. Savenko, Theory of BCS-like bogolon-mediated superconductivity in transition metal dichalcogenides, New J. Physics 23 023023 (2021).

16. I. Vakulchyk, V. M. Kovalev, and I. G. Savenko, Nonequilibrium Theory of Photoinduced Valley Hall Effect, Phys. Rev. B 103, 035434 (2021).

17. V. M. Kovalev, K Sonowal, and I. G. Savenko, Coherent photogalvanic effect in fluctuating superconductors, Phys. Rev. B 103, 024513 (2021).

18. K. Sonowal, V.M. Kovalev, and I.G. Savenko, Magnetoplasmon resonance in two-dimensional fluctuating superconductors, New J. Physics 23, 093009 (2021).

2020

19. V. M. Kovalev and I. G. Savenko, Proposal for plasmon spectroscopy of fluctuations in low-dimensional superconductors, Phys. Rev. Lett. 124, 207002 (2020).

20. K. H. A. Villegas, F. V. Kusmartsev, Y. Luo, and I. G. Savenko, Amplification of radiation in a broadband THz domain in graphene-superconductor hybrids, Phys. Rev. Lett. 124, 087701 (2020).

21. I. G. Savenko, A. V. Kalameitsev, L. G. Mourokh, and V. M. Kovalev, Acoustomagnetoelectric effect in two-dimensional materials: Geometric resonances and Weiss oscillations, Phys. Rev. B 102, 045407 (2020).

22. D. Ko, M. Sun, A. Andreanov, Y. G. Rubo, and I. G. Savenko, Partial quantum revivals of localized condensates in distorted lattices, Optics Lett. 45(6), 1571 (2020).

23. M. V. Boev, I. G. Savenko, V. M. Kovalev, Interplay between collective modes in hybrid electron-gas–superconductor structures, Phys. Rev. B 101, 165430 (2020).

24. K. Sonowal, A. Kalameirsev, V. M. Kovalev, and I. G. Savenko, Acoustoelectric effect in two-dimensional Dirac materials exposed to Rayleigh surface acoustic waves, Phys. Rev. B 102, 235405 (2020).

2019

25. A. Kalameitsev, V. M. Kovalev, and I. G. Savenko, Valley Acoustoelectric Effect, Phys. Rev. Lett. 122, 256801 (2019).

26. K. H. A. Villegas, M. Sun, V. M. Kovalev, and I. G. Savenko, Unconventional Bloch-Grüneisen scattering in hybrid Bose-Fermi systems, Phys. Rev. Lett. 123, 095301 (2019).

27. M. Sun, D. Ko, D. Leykam, V. M. Kovalev, and I. G. Savenko, Exciton-Polariton Topological Insulator with an Array of Magnetic Dots, Phys. Rev. Applied 12, 064028 (2019).

28. S. Yoon, M. Sun, Y. G. Rubo, I. G. Savenko, Phase selection and intermittency of exciton-polariton condensates in 1D periodic structures, Phys. Rev. A 100, 023609 (2019).

29. V. M. Kovalev and I. G. Savenko, Photogalvanic currents in dynamically gapped transition metal dichalcogenide monolayers, Phys. Rev. B 99, 075405 (2019).

30. M. Sun, K. H. A. Villegas, V. M. Kovalev, and I. G. Savenko, Bogolon-mediated electron scattering in graphene in hybrid Bose-Fermi systemss, Phys. Rev. B 99, 115408 (2019).

31. M. V. Boev, V. M. Kovalev, and I. G. Savenko, Coulomb drag of excitons in Bose-Fermi systems, Phys. Rev. B 99, 155409 (2019).

32. V. M. Kovalev and I. G. Savenko, Quantum valley Hall effect for bosons, Phys. Rev. B Rapid Communications 100, 121405(R) (2019).

2018

33. V. M. Kovalev and I. G. Savenko, Photoinduced electric currents in Bose-Einstein condensates, Phys. Rev. B Rapid Comm. 98, 201405(R) (Editor's Suggestion) (2018).

34. M. Sun, I. G. Savenko, S. Flach, Y. G. Rubo, Excitation of localized states in the flat band of exciton-polariton Lieb lattice, Phys. Rev. B Rapid Comm. 98, 161204(R) (2018).

35. M. Klaas, H. Flayac, M. Amthor, I. G. Savenko, S. Brodbeck, T. Ala-Nissila, S. Klembt, C. Schneider, and S. Höfling, Evolution of Temporal Coherence in Confined Exciton-Polariton Condensates, Phys. Rev. Lett. 120, 017401 (2018).

36. K. H. Villegas, V. M. Kovalev, F. V. Kusmartsev, I. G. Savenko, Shedding light on topological superconductors, Phys. Rev. B 98, 064502 (2018).

37. V. M. Kovalev, M. V. Boev, I. G. Savenko, Proposal for Frequency-Selective Photodetector Based on Resonant Photon Drag Effect in a Bose-Einstein Condensate of Indirect Excitons, Phys. Rev. B Rapid Commun. 98, 041304(R) (2018).

38. V. M. Kovalev, W.-K. Tse, M. V. Fistul and I. G. Savenko, Valley Hall transport of photon-dressed quasiparticles in two-dimensional Dirac semiconductors, New J. Physics 20, 083007 (2018).

39. M. V. Boev ,V. M. Kovalev, I. G. Savenko, Resonant photon drag of dipolar excitons, JETP Lett. 107(12), 737 (2018).

40. V. M. Kovalev, A. E. Miroshnichenko, I. G. Savenko, Radiation pressure quantization arXiv:1804.03283, *accepted* to Phys. Rev. B (2018).

41. M. V. Boev, V. M. Kovalev, I. G. Savenko, Bogolon–mediated electron capture by impurities in hybrid Bose–Fermi systems, Phys. Rev. B 97, 165305 (2018).

42. D. V. Karpov, I. G. Savenko, Polariton condensation in photonic crystals with high molecular orientation, New J. Physics 20, 013037 (2018).

2017

43. V.Kovalev, I. G. Savenko, Paramagnetic resonance in spin-polarized disordered Bose-Einstein condensates, Sci. Reports 7, 2076 (2017).

44. T. C. H. Liew, H. Flayac, D. Poletti, I. G. Savenko, and F. P. Laussy, Kinetic Monte Carlo approach to nonequilibrium bosonic systems, Phys. Rev. B 96, 125423 (2017).

45. M.Sun, I. G. Savenko, H. Flayac, T.C.H. Liew, Multivalley engineering in semiconductor microcavities, Sci. Reports 7, 45243 (2017).

2016

46. M. V. Boev, V.M. Kovalev and I. G. Savenko, Magnetoplasmon Fano Resonance in Bose-Fermi Mixtures, Phys. Rev. B Rapid Comm. 94 241408(R) (2016).

47. D. M. Karpov and I. G. Savenko, Operation of a semiconductor microcavity under electric excitation, Appl. Phys. Lett. 109(6), 061110 (2016).

48. K. Winkler, O. Egorov, I. G. Savenko, T. C. H. Liew, X. Ma, S. Muller, M. Kamp, E. A. Ostrovskaya, S. Höfing, and C. Schneider, Collective state transitions of exciton polaritons loaded into a periodic potential, Phys. Rev. B Rapid Comm. 93 121303(R) (2016).

49. V. M. Kovalev, I. G. Savenko, I. V. Iorsh, Ultrafast exciton–polariton scattering towards the Dirac points, J. Phys.: Condens. Matter 28, 105301 (2016).

50. V. P. Kochereshko, M. V. Durnev, L. Besombes, H. Mariette, V. F. Sapega, A.Askitopoulos, I. G. Savenko, et. al., Lasing in Bose-Fermi mixtures, Sci. Reports 6, 20091 (2016).

2015

51. D. Karpov, I. G. Savenko, H. Flayac, and N. Rosanov, Dissipative soliton protocols in semiconductor microcavities at finite temperatures, Phys. Rev. B 92, 075305 (2015).

52. J. Govenius, Y. Matsuzaki, I. G. Savenko, M. Möttönen, Parity measurement of remote qubits using dispersive coupling and photodetection, Phys. Rev. A 92, 042305 (2015).

53. H. Flayac, I. G. Savenko, T. Ala-Nissilä, and M. Möttönen, Quantum treatment of the Bose-Einstein condensation in nonequilibrium systems, Phys. Rev. B 92, 115117 (2015).

54. S. Suomela, J. Salmilehto, I. G. Savenko, T. Ala-Nissilä, and M. Möttönen, Fluctuations of work in nearly adiabatically driven open quantum systems, Phys. Rev. E 91, 022126 (2015).

2014

55. J. Fischer, I. G. Savenko, M. D. Fraser, S. Holzinger, S. Brodbeck, M. Kamp, I. A. Shelykh, C. Schneider, and S. Höfling, Spatial Coherence Properties of One Dimensional Exciton-Polariton Condensates, Phys. Rev. Lett. 113, 203902 (2014).

2013

56. H.Flayac and I.G.Savenko, An exciton-polariton mediated all-optical router, Appl. Phys. Lett. 103, 201105 (2013).

57. I.G.Savenko, R.G.Polozkov, I.A.Shelykh, Spin Aharonov-Bohm quantum ring with exchange interaction, Phys. Rev. B 88, 195430 (2013).

58. C.Schneider, A.Rahimi-Iman, Na Y.Kim, J.Fisher, I.G.Savenko, et al, An electrically pumped polariton laser, Nature 497, 348-352 (2013).

59. A.A.Pervishko, T.C.H.Liew, V.M.Kovalev, I.G.Savenko, I.A.Shelykh, Nonlinear effects in multi-photon polaritonics, Optics Express 21 (13), 15183 (2013).

60. N.Yu.Gordeev, O.I.Rumyantsev, I.G.Savenko, et al, Refractive index of laser active region based on InAs/InGaAs quantum dots, J. of Nanophotonics 7, 073087 (2013).

61. I.G.Savenko, T.C.H.Liew, I.A.Shelykh, Stochastic Gross-Pitaevskii equation for the dynamical thermalization of Bose-Einstein condensates, Phys. Rev. Lett. 110, 127402 (2013).

62. I.V.Iorsh, V.M.Kovalev, M.A.Kaliteevski and I.G.Savenko, Rashba plasmon polaritons in semiconductor heterostructures, Appl. Phys. Lett. 102, 101105 (2013).

2012

63. O. Bozat, I. G. Savenko, I. A. Shelykh, Spin multistability in dissipative polariton channels, Phys. Rev. B 86, 035413 (2012).

64. I. G. Savenko, O. V. Kibis, and I. A. Shelykh, Asymmetric quantum dot in a microcavity as a nonlinear optical element, Phys. Rev. A 85, 053818 (2012).

65. I. G. Savenko, I. V. Iorsh, M. A. Kaliteevski, and I. A. Shelykh, Spatial coherence in one-dimensional polariton channels, JETP 116 (1) [RUS: ZEiTF 143 (1)].

66. I. G. Savenko, R. G. Polozkov, and I. A. Shelykh, Giant Rabi splitting in metallic cluster – cavity system, J. Phys. B 45, 045101 (2012).

2011

67. E. B. Magnusson, I. G. Savenko, and I. A. Shelykh, Bistability phenomena in one-dimensional polariton wires, Phys. Rev. B 84, 195308 (2011).

68. I. G. Savenko, I. A. Shelykh, and M. A. Kaliteevski, Nonlinear terahertz emission in semiconductor microcavities, Phys. Rev. Lett. 107, 027401 (2011).

69. I. G. Savenko, E. B. Magnusson, I. A. Shelykh, Density-matrix approach for an interacting polariton system, Phys. Rev. B 83, 165316 (2011).

CONFERENCES

Plenary, keynote or invited talks

Upcoming:
QLIN 2024 (Abu Dhabi) Invited Talk
//
Passed:
EPIC conference 2023 (Singapore) Invited Talk
SPP conference 2023 (Philippines) Invited Talk
Metamaterials 2020 (14 International congress) Invited Talk
Metanano 2018 (September 17-21 2018, Sochi, Russia) Invited Talk
Terametanano-3, 2018 (March 22-29 2018, Uxmal, Mexico) Invited Talk
Meta 2017 (Jul 25-28 2017, South Korea) Invited Talk
Asian Network School on Complex Condensed Matter Systems (Nov 19-25 2017, Vietnam) Invited Lecture
Metanano 2017 (Sep 18-22 2017, Russia) Invited Talk
FNM 2016 (Sep 6-10 2016, Tbilisi, Georgia) Invited Talk
Nonlinear Photonics 2015 (Jun 29-Jul 02 2015, S.-Pb., Russia) Invited Talk

Contributed Talks

PLMCN 20 (July 2019, Moscow) Talk
PLMCN 18 (Jul 09-14 2017, Germany) Talk

ORGANIZING SCIENTIFIC CONFERENCES

(Conference title, location, date, organizational function, e.g., chairperson, member of scientific committee, member of the local organization committee. Estimated number of participants. If available, provide link to the conference.)

1. International Workshop "Physics of Exciton-Polaritons in Artificial Lattices" (May **2017**), Daejeon, Korea. Organizer. ~ 50 participants.

   https://pcs.ibs.re.kr/PCS_Workshops/PCS_Physics_of_Exciton-Polaritons_in_Artificial_Lattices.html

2. International Workshop "Spintronics and Valleytronics of Two-dimensional Materials" (May **2019**), Daejeon, Korea. Organizer. ~ 50 participants.

   https://pcs.ibs.re.kr/PCS_Workshops/PCS_SpinVall.html

3. Retreat "Description of light-matter coupling in complex quantum systems using conventional approaches and machine learning" (December **2021**, High1, Korea). 20 participants

4. International Workshop "Exciton-Polaritons in Emerging Materials" (September **2023**), Daejeon, Korea. Organizer. ~ 50 participants.

   https://pcs.ibs.re.kr/PCS_Workshops/PCS_PEM_Home_2023.html