



Curriculum Vitae – Prof. Dr. Dmitri K. Efetov

Birthday: 05.09.1980 **Citizenship:** Germany **ORCID:** 0000-0001-5862-0462

Email: Dmitri.Efetov@lmu.de

Website: <https://www.quantummatter.physik.lmu.de>

Address: Ludwig-Maximilians-Universität München, Fakultät für Physik
Room N103, Geschwister-Scholl-Platz 1, 80539 München, Germany

Research Interests

- Graphene and 2D Materials • Van der Waals Heterostructures • Moiré Materials • Strongly Correlated Electrons • Topological systems • Superconductivity • 2D Magnetism • Quantum Sensing •

I am interested in engineering exotic quantum effects in the emerging class of 2D moiré materials, and exploring the transport and optical properties of their correlated, superconducting, magnetic and topological phases at low temperatures (10mK), high magnetic fields (35T) and ultra-fast time-scales (ps).

Education

- 2014 PhD in Physics (also MA and MPhil), Department of Physics, Columbia University, USA
Supervisor: Prof. Philip Kim
- 2007 Diploma (MSc) in Physics, Department of Physics, ETH Zurich, CH
Supervisor: Prof. Philip Kim (thesis at Columbia University)

Academic Positions

- 2025 – Visiting Professor, DIPC San Sebastian, SP
- 2021 – Full Professor (W3) and Chair of Experimental Solid State Physics, LMU Munich, GER
- 2017 – 2022 Assistant Professor/Group Leader, ICFO Barcelona, SP
- 2014 – 2017 Postdoctoral Researcher, Group of Prof. Dirk Englund, MIT, USA
- 2007 – 2014 Graduate Researcher, Group of Prof. Philip Kim, Columbia University, USA

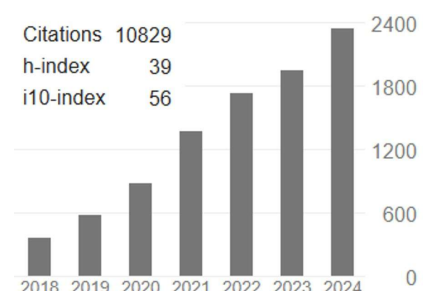
Awards and Honors

- 2024 Gottfried Wilhelm Leibniz Preis, German Research Foundation (DFG), GER
- 2022 IUPAP Early Career Scientist Prize, International Union of Pure and Applied Physics
- 2020 Finalist of the LaVanguardia Science Prize, SP
- 2020 ERC Starting Grant “SuperTwist”, EU
- 2018 Junior Leader Fellowship, Obra Social “laCaixa”, SP
- 2012 Charles H. Townes Fellow Award, Columbia University, NY, USA
- 2007 Faculty PhD Fellowship, Columbia University, USA

Publications and Invited Presentations Summary

> 80 publications with > 12000 citations, h-index > 44 in Nature/Science (7x), Nature Phys./Nano./Mat., PRL (21x) etc. and were covered by news outlets like The New York Times, Le Monde, Physics Today, Physik Journal etc.

> 200 invited seminars/colloquia including MIT, Harvard, Princeton, Yale, Stanford, Caltech, ETH, Cambridge, Oxford, Max Planck, Beijing U., Weizmann, Gordon Conference, Aspen, KITP, APS, DPG etc.



Leadership and Responsibilities

2025 –	Coordinator “Quantum materials” of MCQST excellence cluster, LMU Munich, GER
2024	Writing team of “MCQST II” DFG Excellence cluster proposal, LMU Munich, GER
2022 – 2026	Board member, Center of Nano Systems (CeNS), LMU Munich, GER
2022 –	Head, Quantum Technology Park cleanroom of Munich Quantum Valley, LMU Munich, GER
2018 – 2022	Spokesperson, EU Quantum Flagship project “2D-SIPC”.
2018 – 2022	Board member of the Science and Engineering Board (SEB), EU Quantum Flagship.
2000 – 2001	Military Service at “Lebenshilfe Bochum eV” - attendant in a home for the mentally disabled.

Organization of Conferences and Scientific Meetings

2026	Organizer 862. Hereaus Seminar on “Recent Advances in Moiré Materials”, Munich, GER
2026	Organizer “Enrico Fermi-Simon research school on Quantum Matter”, Lago di Como, IT
2025	Organizer “International Symposium on Moiré Materials”, Munich, GER
2023	Member international advisory committee EP2DS 2023 conference, Grenoble, FR
2023	Organizer CeNS Venice workshop, Venice International University, IT
2023	Organizer/session chair at the European Physical Society (EPS) meeting, Milan, IT
2022	Organizer/session chair at the Materials Research Society (MRS) meeting, Honolulu, USA
2020	Organizer/session chair at the European Physical Society (EPS) meeting, Madrid, SP
2020	Organizer of ICFO&MIT school on "Moiré materials" (>1200 participants), ICFO, SP
2018 – 2022	Organizer of the 2D-SIPC Quantum Flagship project meetings (3x), ICFO, SP
2017 –	Conference session chair – APS March meeting, CLEO Europe, Graphene 2022 etc.
2010	Organizer of the Gotham-Metro meetings, New York Academy of Sciences, USA

Member of Academic Societies

2025 –	Full member Center of Advanced Studies, LMU Munich, GER
2023 –	German Physical Society DPG, GER
2022 –	Center of Nano Systems (CeNS), LMU Munich, GER
2021 –	Munich Quantum Valley (MQV), LMU Munich, GER
2021 –	Munich Center of Quantum Science and Technology (MCQST), LMU Munich, GER
2008 –	American Physical Society APS, USA

Supporting Young Researchers

I have supervised > 15 BSc and MSc students, > 7 PhD students and > 8 postdocs. Since 2017, from the young researchers working in my group 4 received a PhD – Dr. I. Das, Dr. J. Díez-Mérida, Dr. R. Luque Merino, Dr. Giorgio di Battista and 6 became professors in internationally recognized institutions - Prof. Dr. X. Lu (Beijing University, China), Prof. Dr. P. Stepanov (University of Notre Dame, USA), Prof. Dr. P. Seifert (Universität der Bundeswehr, Germany), Prof. Dr. S. Yang (SUSTECH, China), Prof. Dr. C. Shen (Chengdu, China), Prof. Dr. M. Lee (TU Eindhoven, NL).

Major Scientific Collaborations

- Prof. A. B. Bernevig, theory of topology in twistrionic materials, Princeton, USA
- Prof. L. Levitov, theory of scattering mechanisms in twistrionic materials, MIT, USA
- Prof. A. MacDonald, theory of superconductivity in graphene, UT Austin, USA
- Prof. P. Kim, thermal transport in magic angle graphene, Harvard, USA
- Prof. P. Törmä, quantum geometry, Aalto, FIN
- Prof. E. Zeldov, scanning probe of graphene, Weizmann, IL

Brief Research Summary

Dmitri Efetov has been one of the pioneers in the research field of strongly correlated quantum phases in two-dimensional materials, which was recently realized in the form of “magic” angle twisted bilayer graphene. He has initiated this research direction during his PhD Thesis: “Towards inducing superconductivity into graphene”, and ever since he has been at the forefront of the key development in this field, where he holds a leading position in Europe. His group is credited to have developed ultra-clean fabrication protocols for magic angle twisted bilayer graphene, and is recognized to produce devices with the most homogeneous and precise twist-angles. Low temperature transport studies of these systems led to the discovery of a multitude of novel superconducting and correlated insulator phases. Further milestones in the research of this materials platform were the demonstration of tuned electronic correlations via dielectric engineering, the discovery of an unconventional sequence of topologically non-trivial Chern insulators and orbital magnets and the demonstration of a strange metal phase. Dmitri Efetov also tackled an enduring problem in the fields of radio astronomy and quantum computation, where a lack of sensitive photo-detectors for long wavelength light significantly slowed scientific development, where he led the development of ultrasensitive graphene Josephson junction based photo-detectors that can detect single light quanta even at very low photon energies.

Major Scientific Achievements (Short List)

- First group in Europe (third worldwide) to observe superconductivity in magic angle graphene. *Nature*, 574, 653 (2019), *Physics Today*, 77 (4), 38 (2024), *Newton*, 1, 100007 (2025).
- Demonstration of independent insulating and superconducting orders in magic-angle graphene. *Nature*, 583, 375–378 (2020).
- Observation of symmetry-broken Chern insulators in magic-angle bilayer graphene. *Nature Physics*, 17, 710 (2021).
- Observation of quantum-critical behavior in magic-angle twisted bilayer graphene. *Nature Physics*, 18, 633 (2022).
- Demonstration of Dirac spectroscopy and strongly correlated phases in twisted trilayer graphene. *Nature Materials*, 22, 336 (2023).
- First realization of a GHz and mid-IR single photon detectors in graphene Josephson junctions. *Nature* 586, 42–46 (2020); *Science*, 372, 6540 (2021).
- Established a novel and highly multidisciplinary technique, which combines mK sensitive microwave thermometry of a nano-scale electron ensemble with fs fast laser excitation, resulting in the first measurements of electronic specific heat and entropy measurements of nano-scale materials. *Nature Nanotechnology*, 13, 797–801 (2018), *Nano Letters*, 21, 12, 5330 (2021).
- First experimental demonstration of specular interband Andreev reflections. *Nature Physics*, 12, 328–332 (2016).
- Pioneering electrolytic gates of 2D materials and demonstration of Bloch-Grüneisen behaviour. *Physical Review Letters*, 105 (25), 256805 (2010).

Group Alumni

Postdocs

2017 – 2020	Dr. Aamir Ali - now Researcher at Chalmers University, SWE
2017 – 2020	Prof. Dr. Xiaobo Lu - now Assistant Professor Peking University, CN
2018 – 2020	Dr. Nicholas Moore - now Postdoc Tohoku University, JAP
2018 – 2020	Prof. Dr. Petr Stepanov - now Assistant Professor University of Notre Dame, USA
2018 – 2021	Prof. Dr. Paul Seifert - now Junior Professor Bundeswehr Universität, GER
2019 – 2020	Dr. Jose Ramon Duran Retamal - now Postdoc ICN2, SP
2020 – 2022	Prof. Dr. Cheng Shen - now Assistant Professor Chengdu University, CN
2020 – 2022	Prof. Dr. Shuoying Yang - now Assistant Professor SUSTECH, CN
2020 – 2023	Dr. Alexandre Jaoui - now researcher Chipiron, FR
2022 – 2025	Prof. Dr. Martin Lee - now Assistant Professor TU Eindhoven, NL

PhD Students

2018- 2023	Dr. Ipsita Das - now PCMM Postdoctoral Fellow at Princeton, USA
2019 - 2024	Dr. Jaime Díez-Mérida - now Postdoc at ICFO, SP
2019 - 2024	Dr. Rafael Luque Merino – now EU Marie Curie Postdoctoral Fellow at ICMM, SP
2020 - 2024	Dr. Giorgio di Battista – now Subgroup leader (Akademischer Rat) at LMU Munich, GER
2020 - 2025	Dr. Andrés Díez-Carlón – now Postdoc at Universidad de Oviedo, SP

Teaching Activities

2023 –	Professor, LMU Munich, GER
2015	Substitute Lecturer, MIT, USA
2007 – 2012	Teaching Assistant/Instructor/Lecturer, Columbia University, USA
2005 – 2006	Teaching Assistant, ETH Zurich, CH

All On-Going and Past Research Grants

2026 – 2030	DFG FOR 5249 (GER), Ref: 449872909, 273.300€.
2025 – 2028	Kavli, Tschira, Wells Foundations (Private Donation), SuperC collaboration, undisclosed.
2024 – 2031	DFG Leibniz Price, 2.500.000€.
2024 – 2027	DFG SPP2244 Priority program (GER), Ref: 535146365, 268.522€.
2023 – 2027	Keele Foundation (Private Donation), SuperC collaboration, 315.000€.
2023 – 2027	FLATS, EU EIC Pathfinder Grant (EU), Ref: 101099139, 656.750€.
2022 – 2032	Core-member MCQST (GER), Ref: 390814868, 77.000€/year.
2021 – 2026	MQV Quantum Technology Park (GER), Ref: 1705414, 8.831.894€.
2020 – 2026	SuperTwist, ERC Starting Grant (EU), Ref: 852927, 1.780.000€.
2023	DFG FUGG, 50% Dill. Fridge with vector magnet (GER), Ref: INST 86/2236-1, 418.500€.
2023	DFG FUGG, 50% Dill. Fridge with 14T magnet (GER), Ref: INST 86/2235-1, 414.000€.
2018 – 2022	2D-SIPC, EU Horizon 2020 Quantum Flagship (EU), Ref: 820378, 530.000€.
2018 – 2021	2DSC, LaCaixa foundation Junior Leaders fellowship (SP), 305.700€.

Full Publication List Dmitri K. Efetov:

79. Moiré and More: From Twisted Bilayer Graphene to Fractional Chern Insulators

B.A. Bernevig, X. Xu, D. Xiao, A. MacDonald and **D.K. Efetov**

Review of Modern Physics - In preparation.

78. Revealing electron-electron interactions in graphene at room temperature with the quantum twisting microscope

M. Lee*, I. Das*, J. Herzog-Arbeitman*, J. Papp, J. Li, M. Daschner, Z. Zhou, M. Bhatt, M. Curre, J. Yu, Yi Jiang, M. Becherer, R. Mittermeier, P. Altpeter, C. Obermayer, H. Lorenz, G. Chavez, B. T. Le, J. Williams, K. Watanabe, T. Taniguchi, B. A. Bernevig and **D. K. Efetov**

arXiv:2507.03189

77. The Thermoelectric Effect and Its Natural Heavy Fermion Explanation in Twisted Bilayer and Trilayer Graphene

D. Calugaru, H. Hu, R. Luque Merino, N. Regnault, **D. K. Efetov** and B. A. Bernevig

arXiv:2402.14057.

76. 2D Theoretically Twistable Material Database

Y. Jiang, U. Petralanda, G. Skorupskii, Q. Xu, H. Pi, D. Călugăru, H. Hu, J. Xie, R.A. Mustaf, P. Höhn, V. Haase, M.G. Vergniory, M. Claassen, L. Elcoro, N. Regnault, J. Shan, K.F. Mak, **D.K. Efetov**, E. Morosan, D.M. Kennes, A. Rubio, L. Xian, C. Felser, L.M. Schoop, B.A. Bernevig

Science, in press (2025) – (arXiv:2411.09741).

75. Probing the flat-band limit of the superconducting proximity effect in Twisted Bilayer Graphene Josephson junctions

A. Díez-Carlón, J. Díez-Mérida, P. Rout, D. Sedov, P. Virtanen, S. Banerjee, R. P. S. Penttilä, P. Altpeter, K. Watanabe, T. Taniguchi, S. Goswami, S.-Y. Yang, K.T. Law, T. T. Heikkilä, P. Törmä, M. S. Scheurer and **D. K. Efetov**

Physical Review X, in press (2025) - (arXiv:2411.18684).

74. The 2025 2D materials roadmap

W. Ren, P. Bøggild, J. Redwing, K. Novoselov, L. Sun, Y. Qi, K. Jia, Z. Liu, O. Burton, J. Alexander-Webber, S. Hofmann, Y. Cao, Y. Long, Q.-H. Yang, D. Li, S. H. Choi, K. K. Kim, Y. H. Lee, M. Li, Q. Huang, Y. Gogotsi, N. Clark, A. Carl, R. Gorbachev, T. Olsen, J. Rosen, K. S. Thygesen, **D. K. Efetov**, B. S. Jessen, M. Yankowitz, J. Barrier, R. Krishna Kumar, F. H. L. Koppens, H. Deng, X. Li, S. Dai, D. N. Basov, X. Wang, S. Das, X. Duan, Z. Yu, M. Borsch, A. C. Ferrari, R. Huber, M. Kira, F. Xia, X. Wang, Z.-S. Wu, X. Feng, P. Simon, H.-M. Cheng, B. Liu, Y. Xie, W. Jin, R. R. Nair, Y. Xu, A. Katiyar, J.-H. Ahn, I. Aharonovich, M. C. Hersam, S. Roche, Q. Hua, G. Shen, T. Ren, H.-B. Zhang, C. M. Koo, N. Koratkar, V. Pellegrini, R. J. Young, B. Qu, M. Lemme and A. J. Pollard

2D Materials – in press (arXiv:2503.22476).

73. Superconducting junctions with flat bands

P.Virtanen, R.P.S. Penttilä, P. Törmä, A. Díez-Carlón, **D.K. Efetov**, T.T. Heikkilä

Physical Review B, 112, L100502 (2025) - (Editor's suggestion).

72. Roadmap for Photonics with 2D Materials

F. J. García de Abajo, D. N. Basov, F. H. L. Koppens, L. Orsini, M. Ceccanti, S. Castilla, L. Cavicchi, M. Polini, P. A. D. Gonçalves, A. T. Costa, N. M. R. Peres, N. A. Mortensen, S. Bharadwaj, Z. Jacob, P. J. Schuck, A. N. Pasupathy, M. Delor, M. K. Liu, A. Mugarza, P. Merino, M. G. Cuxart, E. Chávez-Angel, M. Svec, L. H. G. Tizei, F. Dimberger, H. Deng, C. Schneider, V. Menon, T. Deilmann, A. Chernikov, K. S. Thygesen, Y. Abate, M. Terrones, V. K. Sangwan, M. C. Hersam, L. Yu, X. Chen, T. F. Heinz, P. Murthy, M. Kroner, T. Smolenski, D. Thureja, T. Chervy, A. Genco, C. Trovatiello, G. Cerullo, S. Dal Conte, D. Timmer, A. De Sio, C. Lienau, N. Shang, H. Hong, K. Liu, Z. Sun, L. A. Rozema, P. Walther, A. Alù, M. Cotrufo, R. Queiroz, X.-Y. Zhu, J. D. Cox, E. J. C. Dias, Á. Rodríguez Echarri, F. Iyikanat, A. Marini, P. Herrmann, N. Tornow, S. Klimmer, J. Wilhelm, G. Soavi, Z. Sun, S. Wu, Y. Xiong, O. Matsyshyn, R. Krishna Kumar, J. C. W. Song, T. Bucher, A. Gorlach, S. Tsesses, I. Kaminer, J. Schwab, F. Mangold, H. Giessen, M. Sánchez Sánchez, D. K. Efetov, T.

Low, G. Gómez-Santos, T. Stauber, G. Álvarez-Pérez, J. Duan, L. Martín-Moreno, A. Paarmann, J. D. Caldwell, A. Y. Nikitin, P. Alonso-González, N. S. Mueller, V. Volkov, D. Jariwala, T. Shegai, J. van de Groep, A. Boltasseva, I. V. Bondarev, V. M. Shalaev, J. Simon, C. Fruhling, G. Shen, D. Novko, S. Tan, B. Wang, H. Petek, V. Mkhitarian, R. Yu, A. Manjavacas, J. Enrique Ortega, X. Cheng, R. Tian, D. Mao, D. Van Thourhout, X. Gan, Q. Dai, A. Sternbach, Y. Zhou, M. Hafezi, D. Litvinov, M. Grzeszczyk, K. S. Novoselov, M. Koperski, S. Papadopoulos, L. Novotny, L. Viti, M. S. Vitiello, N. D. Cottam, B. T. Dewes, O. Makarovskiy, A. Patané, Y. Song, M. Cai, J. Chen, D. Naveh, H. Jang, S. Park, F. Xia, P. K. Jenke, J. Bajo, B. Braun, K. S. Burch, L. Zhao, X. Xu

ACS Photonics, **12** (8), 3961–4095 (2025).

71. Flat band Josephson junctions with quantum metric

Z.C.F. Li, Y. Deng, S.A. Chen, **D.K. Efetov**, K.T. Law

Physical Review Research, **7**, 023273 (2025).

70. Moiré fractional Chern insulators. III. Hartree-Fock phase diagram, magic angle regime for Chern insulator states, role of moiré potential, and Goldstone gaps in rhombohedral graphene superlattices

Y. H. Kwan, J. Yu, J. Herzog-Arbeitman, **D. K. Efetov**, N. Regnault, B. A. Bernevig

Physical Review B, **112** (7), 075109 (2025).

69. Moiré materials based on M-point twisting

D. Călugăru, Y. Jiang, H. Hu, H. Pi, J. Yu, M.G. Vergniory, J. Shan, C. Felser, L. M. Schoop, **D.K. Efetov**, K.F. Mak, B.A. Bernevig

Nature, **643**, 376–381 (2025).

68. Interplay between light and heavy electron bands in the thermoelectric transport of magic-angle twisted bilayer graphene

R. Luque Merino, D. Călugăru, H. Hu, J. Díez-Mérida, A. Díez-Carlón, T. Taniguchi, K. Watanabe, P. Seifert¹, B. A. Bernevig and **D. K. Efetov**

Nature Physics, **21**, 1078–1084 (2025).

67. Mit einem Dreh zur Supraleitfähigkeit

D. K. Efetov

Physik Journal, **24**, 2 (2025).

66. Ein „magischer“ Einzelphotonendetektor

G. di Battista and **D.K. Efetov**

Physik in unserer Zeit, **56**, 2 (2025).

65. High-yield fabrication of bubble-free magic-angle twisted bilayer graphene devices with high twist-angle homogeneity

J. Díez-Mérida, I. Das, G. Di Battista, A. Díez-Carlón, M. Lee, L. Zeng, K. Watanabe, T. Taniguchi, E. Olsson and **D. K. Efetov**

Newton, **1**, 100007 (2025).

64. Infrared single-photon detection with superconducting magic-angle twisted bilayer graphene

G. DiBattista, K. C. Fong, A. Díez Carlón, C. Shen, K. Watanabe, T. Taniguchi and **D. K. Efetov**

Science Advances, **10**, 38 (2024).

63. Chirality probe of twisted bilayer graphene in the linear transport regime

D. A. Bahamon, G. Gómez-Santos, **D. K. Efetov**, T. Stauber

Nano Letters, **24**, 15, 4478–4484 (2024).

62. Moiré Fractional Chern Insulators II: First-principles Calculations and Continuum Models of Rhombohedral Graphene Superlattices

J. Herzog-Arbeitman, Y. Wang, J. Liu, P. M. Tam, Z. Qi, Y. Jia, **D. K. Efetov**, O. Vafek, N. Regnault, H. Weng, Q. Wu, B. A. Bernevig and J. Yu

Physical Review B, **109**, 205122 (2024).

61. Twisted bilayer graphene's gallery of phases
B. A. Bernevig and **D.K. Efetov**
Physics Today, 77 (4), 38 (2024).
60. Ultrafast Umklapp-assisted electron-phonon cooling in magic-angle twisted bilayer graphene
J. D. Mehw, R. Luque Merino, H. Ishizuka, A. Block, J. Díez-Mérida, A. Díez-Carlón, K. Watanabe, T. Taniguchi, L. S. Levitov, **D. K. Efetov**, K.-J. Tielrooij
Science Advances, 10, 6 (2024).
59. Energy dissipation on magic angle twisted bilayer graphene
A. Ollier, M. Kisiel, M. Poggio, U. Gysin, X. Lu, **D.K. Efetov**, E. Meyer
Communications Physics, 6, 344 (2023).
58. Realizing attosecond core-level X-ray spectroscopy for the investigation of condensed matter systems
A. M. Summers, S. Severino, M. Reduzzi, T. P. H. Sidiropoulos, D. Rivas, N. Di Palo, H.-W. Sun, Y.-H. Chien, I. León, B. Buades, S. Cousin, S.M. Teichmann, T. Mey, K. Mann, B. Keitel, E. Plönjes, **D. K. Efetov**, H. Schwörer, J. Biegert
Ultrafast Science, 3, 0004 (2023).
57. Plethora of many body ground states in magic angle twisted bilayer graphene
S. Y. Yang, A. Díez-Carlón, J. Díez-Mérida, A. Jaoui, I. Das, G. Di Battista, R. Luque-Merino, R. Mech and **D. K. Efetov**
Low Temperature Physics/Fizyka Nizkikh Temperatur, 49, 6 (2023).
56. φ_0 -Josephson junction in twisted bilayer graphene induced by a valley-polarized state
Y.-M. Xie, **D. K. Efetov** and K. T. Law
Physical Review Research, 5, 023029 (2023).
55. Symmetry Broken Josephson Junctions and Superconducting Diodes in Magic Angle Twisted Bilayer Graphene
J. Díez-Mérida, A. Díez-Carlón, S. Y. Yang, Y.-M. Xie, X.-J. Gao, K. Watanabe, T. Taniguchi, X. Lu, K. T. Law and **D. K. Efetov**
Nature Communications, 14, 2396 (2023).
54. Two-dimensional cuprate nanodetector with single photon sensitivity at $T = 20$ K
R. Luque Merino, P. Seifert, J. Duran Retamal, R. Mech, T. Taniguchi, K. Watanabe, K. Kadowaki, R. H. Hadfield, **D. K. Efetov**
2D Materials, 10, 2 (2023).
[News : Nature Nanotechnology News & Views;](#)
53. Dirac spectroscopy of strongly correlated phases in twisted trilayer graphene
C. Shen, P. J. Ledwith, K. Watanabe, T. Taniguchi, E. Khalaf, A. Vishwanath and **D. K. Efetov**
Nature Materials, 22, 336 (2023).
[News : Nature Materials News & Views;](#)
52. Materials and devices for fundamental quantum science and quantum technologies
M. Polini, F. Giazotto, K. C. Fong, I. M. Pop, C. Schuck, T. Boccali, G. Signorelli, M. D'Elia, R. H. Hadfield, V. Giovannetti, D. Rossini, A. Tredicucci, **D. K. Efetov**, F. H. L. Koppens, P. Jarillo-Herrero, A. Grassellino, D. Pisignano
arXiv:2201.09260v1 (2024).
51. Infrared photoresistance as a sensitive probe of electronic transport in twisted bilayer graphene
S. Hubmann, G. Di Battista, I. A. Dmitriev, K. Watanabe, T. Taniguchi, **D. K. Efetov**, S. D. Ganichev
2D Materials, 10, 1 (2022).

50. Revealing the thermal properties of superconducting magic-angle twisted bilayer graphene
G. Di Battista, P. Seifert, K. Watanabe, T. Taniguchi, K.C. Fong, A. Principi and **D. K. Efetov**
Nano Letters, **22**, 6465 (2022).
49. Reentrant correlated insulators in twisted bilayer graphene at 25T (2π flux)
J. Herzog-Arbeitman, A. Chew, **D. K. Efetov** and B. A. Bernevig
Physical Review Letters, **129**, 076401 (2022).
48. Chern mosaic and Berry-curvature magnetism in magic angle graphene
S. Grover, M. Bocarsly, A. Uri, P. Stepanov, G. Di Battista, I. Roy, J. Xiao, A. Y. Meltzer, Y. Myasoedov, K. Pareek, K. Watanabe, T. Taniguchi, B. Yan, A. Stern, E. Berg, **D. K. Efetov** and E. Zeldov
Nature Physics, **18**, 885 (2022).
47. Observation of re-entrant correlated insulators and interaction driven Fermi surface reconstructions at one magnetic flux quantum per moiré unit cell in magic-angle twisted bilayer graphene
I. Das, C. Shen, A. Jaoui, J. Herzog-Arbeitman, A. Chew, C.-W. Cho, T. Taniguchi, K. Watanabe, B. Piot, B. A. Bernevig and **D. K. Efetov**
Physical Review Letters, **128**, 217701 (2022).
46. Quantum-critical behavior in magic-angle twisted bilayer graphene
A. Jaoui, I. Das, G. Di Battista, J. Díez-Mérida, X. Lu, K. Watanabe, T. Taniguchi, H. Ishizuka, L. Levitov and **D. K. Efetov**
Nature Physics, **18**, 633 (2022).
[News: Nature Physics News & Views; Journal Club of Condensed Matter Physics;](#)
45. Nonlinear intensity dependence of photogalvanics and photoconductance induced by terahertz laser radiation in twisted bilayer graphene close to magic angle
S. Hubmann, P. Soul, G. Di Battista, M. Hild, K. Watanabe, T. Taniguchi, **D. K. Efetov** and S. D. Ganichev
Physical Review Materials, **6**, 024003 (2022).
44. Competing zero-field Chern insulators in superconducting twisted bilayer graphene
P. Stepanov, M. Xie, K. Watanabe, T. Taniguchi, X. Lu, A. H. MacDonald, B. A. Bernevig and **D. K. Efetov**
Physical Review Letters, **127**, 197701 (2021).
43. Observation of interband collective excitations in twisted bilayer graphene
N. C. H. Hesp, I. Torre, D. Rodan-Legrain, P. Novelli, Y. Cao, S. Carr, S. Fang, P. Stepanov, D. Barcons-Ruiz, H. Herzig-Sheinfux, K. Watanabe, T. Taniguchi, **D. K. Efetov**, E. Kaxiras, P. Jarillo-Herrero, M. Polini and F. H. L. Koppens
Nature Physics, **17**, 1162–1168 (2021).
42. Multiple flat bands and topological Hofstadter butterfly in twisted bilayer graphene close to the second magic angle
X. Lu*, B. Lian*, G. Chaudhary*, G. Romagnoli, B. A. Piot, K. Watanabe, T. Taniguchi, M. Poggio, A. H. MacDonald, B. A. Bernevig and **D. K. Efetov**
PNAS, **118**, 30 (2021).
41. Ultra-sensitive calorimetric measurements of the electronic heat capacity of graphene
M. A. Aamir*, J. N. Moore*, X. Lu, P. Seifert, D. Englund, K. C. Fong and **D. K. Efetov**
Nano Letters, **21**, 12, 5330 (2021).
40. A high-T_c van der Waals superconductor based photodetector with ultra-high responsivity and nanosecond relaxation time
P. Seifert*, J. R. Durán Retamal*, R. Luque, H. Herzig Sheinfux, J. N. Moore, M. A. Aamir, T. Taniguchi, K. Watanabe, K. Kadowaki, M. Artiglia, M. Romagnoli and **D. K. Efetov**
2D Materials, **8** 035053 (2021).

39. Twisted bilayer graphene. IV. Exact insulator ground states and phase diagram
B. Lian, Z.-D. Song, N. Regnault, **D. K. Efetov**, A. Yazdani and B. A. Bernevig
Physical Review B, **103**, 205414 (2021).
38. Josephson junction infrared single-photon detector
E. D. Walsh, W. Jung, G.-H. Lee, **D. K. Efetov**, B.-I. Wu, K.-F. Huang, T. A. Ohki, T. Taniguchi, K. Watanabe, P. Kim, D. Englund and K. C. Fong
Science, **372**, 6540 (2021).
[News: PhysOrg](#)
37. Symmetry broken Chern insulators and Rashba-like Landau level crossings in magic angle bilayer graphene
I. Das*, X. Lu*, J. Herzog-Arbeitman, Z.-D. Song, K. Watanabe, T. Taniguchi, B. A. Bernevig and **D. K. Efetov**
Nature Physics, **17**, 710 (2021).
[News: PhysOrg](#);
36. The marvels of moiré materials
E. Y. Andrei, **D. K. Efetov**, P. Jarillo-Herrero, A. H. MacDonald, K. F. Mak, T. Senthil, E. Tutuc, A. Yazdani and A. F. Young
Nature Reviews Materials, **6**, 201 (2021) – (Invited Viewpoint Article).
[Editorial: Moiré magic three years on – Nature Reviews Materials](#), **6**, 191 (2021);
35. Effektvolle Drehung
D. K. Efetov
Physik Journal, **03**, 28 (2021) - (Invited Overview – main journal German Research Foundation).
[Cover: Physik Journal](#);
34. Measuring local moiré lattice heterogeneity of twisted bilayer graphene
T. Benschop*, T. de Jong*, P. Stepanov*, X. Lu, V. Stalman, S. J. van der Molen, **D. K. Efetov** and M. Allan
Physical Review Research, **3**, 013153 (2021).
33. Giant enhancement of third-harmonic generation in graphene-metal heterostructures
L. Rozema, D. Alcaraz Iranzo , A. Trenti , J. Cox , A. Kumar , H. Bieliaiev , S. Nanot , C. Peng, **D. K. Efetov**, J. Y. Hong , J. Kong , D. Englund , F. J. García de Abajo, F. H. L. Koppens and P. Walther
Nature Nanotechnology, **16**, 318 (2021).
[News: EurekaAlert; ProPhysik](#);
32. Observation of flat bands in twisted bilayer graphene
S. Lisi, X. Lu, T. Benschop, T. de Jong, P. Stepanov, F. Margot, I. Cucchi, E. Cappelli, A. Hunter, A. Tamai, V. Kandyba, A. Giampietri, A. Barinov, J. Jobst, V. Stalman, M. Leeuwenhoek, K. Watanabe, T. Taniguchi, L. Rademaker, S. J. van der Molen, M. Allan, **D. K. Efetov** and F. Baumberger
Nature Physics, **17**, 189 (2021).
[News: PhysOrg](#);
31. Nuevos estados en el grafeno “mágico”
D. K. Efetov
Investigación y Ciencia (Scientific American Spain) (2020) – (Invited Panorama Article).
30. Graphene-based Josephson junction microwave bolometer
G.-H. Lee, **D. K. Efetov**, L. Ranzani, E. Walsh, J. Crossno, T. A. Ohki, T. Taniguchi, K. Watanabe, Kim, D. Englund and K. C. Fong
Nature **586**, 42–46 (2020).
[News: PhysOrg; NanoWerk](#);
29. Terahertz photogalvanics in twisted bilayer graphene close to the second magic angle
M. Otteneder*, S. Hubmann*, X. Lu, D. A. Kozlov, L. E. Golub, **D. K. Efetov** and S. D. Ganichev
Nano Letters, **20**, 10 (2020).

28. Untying the insulating and superconducting orders in magic-angle graphene
P. Stepanov, I. Das, X. Lu, A. Fahimniya, K. Watanabe, T. Taniguchi, F. H. L. Koppens, J. Lischner, L. Levitov and **D. K. Efetov**
Nature, **583**, 375–378 (2020).
[News: Nature: News and Views;](#)
27. High-order minibands and interband Landau level reconstruction in graphene moiré superlattice
X. Lu, J. Tang, J. R. Wallbank, S. Wang, C. Shen, S. Wu, P. Chen, W. Yang, J. Zhang, K. Watanabe, T. Taniguchi, R. Yang, D. Shi, **D. K. Efetov**, V. I. Fal'ko and G. Zhang
Physical Review B, **102**, 045409 (2020).
26. Superconductivity and strong correlations in moiré flat bands
L. Balents, C. Dean, **D. K. Efetov** and A. F. Young
Nature Physics, **16**, 725 (2020) - (Focus/Perspective – Invited Review Article).
[Journal Club for Condensed Matter Physics: by Senthil Todadri;](#)
25. Magic-angle bilayer graphene nanocalorimeters: toward broadband, energy-resolving single photon detection
P. Seifert, X. Lu, P. Stepanov, J. R. Duran, K. C. Fong, A. Principi and **D. K. Efetov**
Nano Letters, **5**, 20 (2020).
24. Critical role of device geometry for the phase diagram of twisted bilayer graphene
Z. A. H. Goodwin, V. Vitale, F. Corsetti, **D. K. Efetov**, A. A. Mosto and J. Lischner
Physical Review B, **101**, 165110 (2020).
23. Nanoscale imaging and control of hBN defect single photon emitters by a resonant nano-antenna
N. Palombo Blascetta, M. Liebel, X. Lu, T. Taniguchi, K. Watanabe, **D. K. Efetov** and N. F. van Hulst
Nano Letters, **3**, 20 (2020).
22. Superconductors, orbital magnets, and correlated states in magic angle bilayer graphene
X. Lu, P. Stepanov, W. Yang, M. Xie, A. M. Ali, I. Das, C. Urgell, K. Watanabe, T. Taniguchi, G. Zhang, A. Bachtold, A. MacDonald and **D. K. Efetov**
Nature, **574**, 653 (2019).
[News: The New York Times; Le Monde; La Vanguardia; Physics Today; TV3; Spektrum etc.](#)
[Journal Club for Condensed Matter Physics: by Mike Zaletel;](#)
21. Thermal radiation control from hot graphene electrons coupled to a photonic crystal nanocavity
R.-J. Shiue, Y. Gao, C. Tan, C. Peng, J. Zheng, **D. K. Efetov**, Y. D. Kim, J. Hone and D. Englund
Nature Communications, **10**, 109 (2019).
20. Compact mid-infrared graphene thermopile enabled by a nanopatterning technique of electrolyte gates
C. Peng, S. Nanot, R.J. Shiue, G. Grosso, Y. Yang, M. Hempel, P. Jarillo-Herrero, J. Kong, F. H. L. Koppens, **D.K. Efetov** and D. Englund
New Journal of Physics, **20**, 083050 (2018).
19. Fast thermal relaxation in cavity-coupled graphene bolometers with a Johnson noise read-out
D. K. Efetov, R.-J. Shiue, Y. Gao, B. Skinner, E. Walsh, C. Choi, J. Zheng, C. Tan, G. Grosso, C. Peng, J. Hone, K. C. Fong and D. Englund
Nature Nanotechnology, **13**, 797–801 (2018).
[News: MIT News;](#)
18. Probing the ultimate confinement limits of screened graphene plasmons by far-field excitation
D. Alcaraz Iranzo, S. Nanot, E. Dias, I. Epstein, C. Peng, **D. K. Efetov**, M. B. Lundeberg, R. Parret, J. Osmond, J.-Y. Hong, J. Kong, D. Englund, N. M. R. Peres and F. H.L. Koppens
Science, **360**, 291–295 (2018).
[News: Nature Nanotechnology: News and Views;](#)

17. Ultrafast graphene light emitter

Y. D. Kim, Y. Gao, R.-J. Shiue, L. Wang, O. B. Aslan, M.-H. Bae, H. Kim, D. Seo, H.-J. Choi, S. H. Kim, A. Nemilentsau, T. Low, C. Tan, **D. K. Efetov**, T. Taniguchi, K. Watanabe, K. L. Shepard, T. F. Heinz, D. Englund and J. Hone

Nano Letters, **18**, 934–940 (2018).

16. Controlled electrochemical intercalation of graphene/hBN van der Waals heterostructures

S. Y. F. Zhao, G. A. Elbaz, D. K. Bediako, C. Yu, **D. K. Efetov**, Y. Guo, J. Ravichandran, K.-A. Min, S. Hong, T. Taniguchi, K. Watanabe, L.E. Brus, X. Roy and P. Kim

Nano Letters, **18**, 460–466 (2018).

15. A MoTe₂ based light emitting diode and photodetector for silicon photonic integrated circuits

Y. Bie, G. Grosso, M. Heuck, M. M. Furchi, Y. Cao, J. Zheng, E. Navarro-Moratalla, L. Zhou, **D. K. Efetov**, T. Taniguchi, K. Watanabe, J. Kong, D. Englund and P. Jarillo-Herrero

Nature Nanotechnology, **12**, 1124–1129 (2017).

[News: Nature Nanotechnology: News and Views; MIT News;](#)

14. Graphene-based Josephson junction single photon detector

E. D. Walsh, **D. K. Efetov**, G.-H. Lee, M. Heuck, J. Crossno, T. A. Ohki, P. Kim, D. Englund and K. C. Fong
Physical Review Applied, **8**, 024022 (2017) - (Editor's suggestion).

[News: APS Physics Synopsis;](#)

13. Inducing superconducting correlation in quantum Hall edge states

G.H. Lee, K. F. Huang, **D. K. Efetov**, D. S. Wei, S. Hart, T. Taniguchi, K. Watanabe, A. Yacoby and P. Kim
Nature Physics, **13**, 693–698 (2017).

[News: Nature Physics: News and Views;](#)

12. Tunable and high purity room-temperature single photon emission from atomic defects in hexagonal boron nitride

G. Grosso, H. Moon, B. Lienhard, S. Ali, **D. K. Efetov**, M. M. Furchi, P. Jarillo-Herrero, M. J. Ford, I. Aharonovich, and D. Englund

Nature Communications, **8**, 705 (2017).

11. Active 2D materials for on-chip nanophotonics and quantum optics

R.-J. Shiue, **D. K. Efetov**, G. Grosso, C. Peng, K. C. Fong and D. Englund

Nanophotonics, **2016-0172** (2017) - (Invited Review Article).

10. Ambipolar transport and magneto-resistance crossover in a Mott insulator, Sr₂IrO₄

J. Ravichandran, C. R. Serrao, **D. K. Efetov**, D. Yi, Y. S. Oh, S.-W. Cheong, R. Ramesh and P. Kim

Journal of Physics: Condensed Matter, **28**, 505304 (2016).

9. Crossover from retro to specular Andreev reflections in bilayer graphene

D. K. Efetov and K. B. Efetov

Physical Review B, **94** (7), 075403 (2016).

8. Li intercalation into graphite: direct optical imaging and Cahn-Hilliard reaction dynamics

Y. Guo, R. B. Smith, Z. Yu, **D. K. Efetov**, J. Wang, P. Kim, M. Z. Bazant and L. E. Brus

The Journal of Physical Chemistry Letters, **7** (11), 2151–2156 (2016).

7. Specular interband Andreev reflections at van der Waals interfaces between graphene and NbSe₂

D. K. Efetov, L. Wang, C. Handschin, K. B. Efetov, J. Shuang, R. Cava, T. Taniguchi, K. Watanabe, J. Hone, C. R. Dean and P. Kim

Nature Physics, **12**, 328–332 (2016).

6. High-responsivity graphene–boron nitride photodetector and autocorrelator in a silicon photonic integrated circuit

R. J. Shiue, Y. Gao, Y. Wang, C. Peng, A. D. Robertson, **D. K. Efetov**, S. Assefa, F. H. L. Koppens, J. Hone

and D. Englund

Nano letters, **15** (11), 7288–7293 (2015).

5. Multiband transport in bilayer graphene at high carrier densities

D. K. Efetov, P. Maher, S. Glinskis and P. Kim

Physical Review B, **84** (16), 161412 (2011) - (Editor's suggestion).

4. Nanocrystalline graphite growth on sapphire by carbon molecular beam epitaxy

S. K. Jerng, D. S. Yu, Y. S. Kim, J. Ryou, S. Suklyun, C. Kim, S. Yoon, D. K. Efetov, P. Kim and SH. Chun

The Journal of Physical Chemistry C, **115** (11), 4491–4494 (2011).

3. Controlling electron-phonon interactions in graphene at ultrahigh carrier densities

D. K. Efetov and P. Kim

Physical Review Letters, **105** (25), 256805 (2010) - (Editor's suggestion).

[News: APS Physics Viewpoint](#);

2. Electronic transport in locally gated graphene nanoconstrictions

B. Özyilmaz, P. Jarillo-Herrero, D. K. Efetov and P. Kim

Applied Physics Letters, **91** (19), 192107 (2007).

1. Electronic transport and quantum hall effect in bipolar graphene p-n-p junctions

B. Özyilmaz, P. Jarillo-Herrero, D. K. Efetov, D. Abanin, L. S. Levitov and P. Kim

Physical Review Letters, **99** (16), 166804 (2007) - (Editor's suggestion).

Patents

4. Active element for single photon detection, single photon detector and method of manufacturing an active element for single photon detection

G. di Battista and D. K. Efetov

European patent application, Filing Report - EP 24 160 614.4 (2024).

3. A superconducting transition-edge thermal sensor

P. Seifert, J. Duran, X. Lu, P. Stepanov and D. K. Efetov

European patent application, 19382979.3-1212 (2020).

2. A superconducting nanowire single-photon detector, and a method for obtaining such detector

J. Duran, P. Seifert, X. Lu, A. Ali and D. K. Efetov

European patent application, 19382806.8-1020 (2019).

1. Locally gated graphene nanostructures and methods of making and using

B. Özyilmaz, D. K. Efetov, P. Jarillo-Herrero and P. Kim

US Patent, 8,659,009 (2014).

Full List of Invited Talks

2025

- 210. 11/25 – Würzburg Physics colloquium, **Würzburg, GER**
- 209. 11/25 – Conference on Layered Materials and Devices, **INL Braga, SP**
- 208. 11/25 – Munich Quantum Days conference, **Munich, GER**
- 207. 11/25 – PCTS Workshop: Moiré 2.0, **Princeton University, USA**
- 206. 10/25 - Flat-bands, **Bochum University, GER**
- 205. 9/25 - Recent Advances in Moiré Systems, **IIP Natal, BRA**
- 204. 9/25 - FCI ASI, **HKUST, CN**
- 203. 8/25 - Topological many-body systems workshop, **Aspen, USA**
- 202. 8/25 - Low Temperature physics 30, **Bilbao, SP**
- 201. 7/25 - Correlations and Topology in Moiré Materials conference, **Ascona, CH**
- 200. 7/25 - Eddleman Quantum Institute gathering, **Chateau Balleroy, FR**
- 199. 6/25 - Chemistry of Synthetic Two-Dimensional Materials colloquium, **TU Dresden, GER**
- 198. 5/25 - SuperC meeting, **Sant Feliux, SP**
- 197. 5/25 - Superconducting Quantum Circuits Meet Quantum Materials meeting, **Bad Honnef, GER**
- 196. 5/25 - Gordon Research Conference on Superconductivity, **Les Diablerets, CH**
- 195. 4/25 - FLATHF2 conference, **MPI Dresden, GER**
- 194. 3/25 - APS March meeting, **Anaheim, USA**
- 193. 1/25 - Topological dynamics workshop, **Princeton University, USA**
- 192. 1/25 - Programmable Quantum Matter seminar, **Columbia University, USA**
- 191. 1/25 - DIPC seminar, **San Sebastian, SP**

2024

- 190. 12/24 - Physics Colloquium, **Ringberg Castle, GER**
- 189. 12/24 - Frontiers in Physics, **Cambridge University, UK**
- 188. 10/24 - Frontiers in Physics, **LMU Munich, GER**
- 187. 10/24 - Chinese Physical Society meeting (online), **Hainan, CN**
- 186. 9/24 - Workshop on material systems, **Max Planck Halle, GER**
- 185. 9/24 - Memorial conference K.B. Efetov, **Ruhr-Universität Bochum, GER**
- 184. 9/24 - Next generation Quantum Materials school, **Bad Honnef, GER**
- 183. 9/24 - Modeling strongly correlated electrons, **LMU Munich, GER**
- 182. 9/24 - Quast meeting, **Dresden, GER**
- 181. 8/24 - SuperC conference, **Sant Feliux, SP**
- 180. 8/24 - KITP moiré conference, **Santa Barbara, USA**
- 179. 8/24 - Topology conference, **Liyuan, CN**
- 178. 8/24 - Condensed matter physics summer school, **Peking University, CN**
- 177. 7/24 - Correlated physics in 2D materials, **Beijing, CN**
- 176. 6/24 - Joint Taiwan-Germany condensed matter conference, **Starnberg, GER**
- 175. 6/24 - AttoCube 2D Materials conference, **Munich, GER**
- 174. 5/24 - Big Ideas in light-matter interactions, **San Sebastian, SP**
- 173. 5/24 - Quantum Materials 2024, **San Sebastian, SP**
- 172. 4/24 - Topology conference, **Regensburg, GER**
- 171. 3/24 - IXM colloquium, **EPFL, CH**
- 170. 2/24 - Columbia FCMP Lecture (online), **New York, USA**
- 169. 2/24 - Stuttgart Physik Kolloquium, **Stuttgart University, GER**
- 168. 1/24 - CeNS 25th anniversary, **LMU Munich, GER**
- 167. 1/24 - Quantum Materials Symposium, **Bad Honnef, GER**

2023

- 166. 12/23 - Strange Metals in Quantum Materials and Quantum Emulators, **Bad Honnef, GER**
- 165. 11/23 - Quantum technologies colloquium, **Princeton University, USA**
- 164. 10/23 - DFG priority program SSPP24 meeting, **Bad Honnef, GER**

- 163. 10/23 - SFB 953 - Erlangen Symposium, **Erlangen, GER**
- 162. 10/23 - Nobel Institute symposium on magic graphene, **Chalmers, SWE**
- 161. 10/23 - Phase slip in superconductors conference, **London, UK**
- 160. 8/23 - SuperC conference, **Helsinki, FIN**
- 159. 8/23 - Institute Q physics colloquium, **Aalto University, FIN**
- 158. 8/23 - Chinese Physical Society Fall Meeting 2023 (online), **Beijing, CN**
- 157. 8/23 - PSI Condensed matter summer Camp (online), **Zuoz, CH**
- 156. 7/23 - EP2DS, **Grenoble, FRA**
- 155. 6/23 - Physics colloquium, **Hamburg University, GER**
- 154. 6/23 - Topological matter conference, **Cologne, GER**
- 153. 5/23 - FLATS conference, **Saclay, FRA**
- 152. 4/23 - Solid State Physics colloquium, **TU Munich, GER**
- 151. 3/23 - German Physical Society meeting, **Dresden, GER**
- 150. 3/23 - Physics seminar, **MPI-PCS Dresden, GER**
- 147. 3/23 - Moire quantum matter workshop, **Aspen Physics Center, USA**
- 146. 3/23 - APS March meeting, **Las Vegas, USA**
- 145. 2/23 - Mautendorf winter school, **Mautendorf, AUT**
- 144. 2/23 - Chemistry colloquium, **LMU Munich, GER**
- 143. 1/23 - Quantum geometric advantage workshop, **Nanyang Technical University, SIN**

2022

- 142. 12/22 - Physics colloquium, **University Duisburg-Essen, GER**
- 141. 12/22 - Physics colloquium, **RWTH Aachen, GER**
- 140. 12/22 - National Graphene Institute seminar, **University of Manchester, UK**
- 139. 11/22 - Materials Research Society meeting, **Boston, USA**
- 138. 10/22 - Frontiers of Condensed Matter school (online), **Les Houches, FR**
- 137. 10/22 - William Fine physics seminar (online), **University of Minnesota, USA**
- 136. 9/22 - Advances in Quantum Transport in Low-Dimensional Systems workshop (online), **London, UK**
- 135. 9/22 - Nano meets Quantum CeNS workshop, **Venice, IT**
- 134. 8/22 - Graphene Week 2022, **Munich, GER**
- 133. 8/22 - ICTP “Strongly Correlated Matter: from Quantum Criticality to Flat Bands” (online), **Trieste, IT**
- 132. 8/22 - Materials with novel electronic properties (MANEP) workshop (online), **Les Diablerets, CH**
- 131. 8/22 - Low Temperature Physics 29 conference (online), **Sapporo, JP**
- 130. 8/22 - Princeton Condensed Matter Summer school, **Princeton University, USA**
- 129. 7/22 - Novel electronic properties of 2D materials conference, **San Sebastian, SP**
- 128. 7/22 - Graphene 2022 conference, **Aachen, GER**
- 127. 7/22 - Munich Quantum conference MCQST2022, **Sonthofen, GER**
- 126. 6/22 - ICPS 2022 conference (online), **Sydney, AU**
- 125. 6/22 - Gordon Research conference – Correlated materials, **Massachusetts, USA**
- 124. 6/22 - Condensed Matter seminar, **Boston College, USA**
- 123. 6/22 - Quantum seminar, **BBN Raytheon, USA**
- 122. 6/22 - Gordon Research conference - Beyond graphene, **New Hampshire, USA**
- 121. 6/22 - CeNS colloquium, **LMU Munich, GER**
- 120. 5/22 - Physics seminar (online), **IIP Natal, BRA**
- 119. 5/22 - Virtual Science Forum seminar (online), **TU Delft, NL**
- 118. 5/22 - QT Flagship Cluster meeting (online), **Paris, FR**
- 117. 5/22 - Moiré summer school, **Capri, IT**
- 116. 5/22 - Entangled States of Matter conference, **Berlin, GER**
- 115. 4/22 - 2DTech seminar (online), **Chalmers University, SE**
- 114. 4/22 - Landau Institute colloquium (online), **Landau Institute, RU**
- 113. 3/22 - Princeton Physics colloquium, **Princeton University, USA**
- 112. 3/22 - New era of two-dimensional quantum matter workshop, **Princeton University, USA**

2021

- 111. 12/21 - ICAMD 2021 conference (online), **Jeju, KR**

110. 11/21 - EQTC 2021 conference (online), Dublin, IR
109. 10/21 - Condensed matter seminar (online), HKUST, CN
108. 9/21 - Condensed matter seminar, ETH Zurich, CH
107. 7/21 - DFG Priority program 2244 kick-off lecture (online), TU Dresden, GER
106. 6/21 - Nanolithography summer school (online), University of Salamanca, SP
105. 6/21 - NT21 conference (online), Rice University, USA
104. 6/21 - Emergent topological superconductivity workshop (online), Aalto University, FI
103. 6/21 - Vortex Matter workshop (online), IIT Kanpur, IN
102. 6/21 - Quantum materials seminar (online), Flatiron Institute NY, USA
101. 5/21 - Physics colloquium (online), IISc Bangalore, IN
100. 5/21 - Workshop Cavity QED in materials (online), MPI Hamburg, GER
99. 3/21 - Workshop Strong correlations in 2D materials (online), Hebrew University, IL
98. 3/21 - APS March meeting (online), USA
97. 3/21 - Condensed matter Seminar (online), Amherst University, USA
96. 3/21 - Condensed matter Seminar (online), Ohio State University, USA
95. 2/21 - Graphene for US (online), New York, USA
94. 2/21 - Correlated Synthetic Quantum Materials Symposium (online), Bremen, GER
93. 2/21 - APCTP-KIAS Quantum Materials Symposium (online), Seoul, KR
92. 2/21 - Physics Colloquium (online), University of Washington, USA
91. 1/21 - Seminar LMPQ Université de Paris (online), Paris, FR

2020

90. 12/20 - KITP Correlated Systems Workshop (online), UCSB, USA
89. 11/20 - Russian condensed matter Colloquium (online), Moscow, RU
88. 11/20 - Coherent order and transport in spin-active systems SPICE workshop (online), Mainz, GER
87. 11/20 - Saclay Physics Colloquium (online), Paris, FR
86. 10/20 - Condensed matter Seminar (online), Princeton, USA
85. 10/20 - Condensed matter Seminar (online), Harvard, USA
84. 11/20 - Topological Superconductivity SPICE workshop (online), Mainz, GER
83. 10/20 - Chez Pierre Seminar (online), MIT, USA
82. 10/20 - Physics Seminar (online), Harvard, USA
81. 9/20 - 70-th birthday of K. B. Efetov Workshop, Bochum University, GER
80. 9/20 - Nanoscale Phenomena Conference, Samarkand, UZ
79. 8/20 - PSI Summer Camp (online), Zuo, CH
78. 8/20 - MaNEP SWM-2020 Workshop, Les Diablerets, CH
77. 8/20 - 90-th birthday of G.M. Eliashberg Conference (held online 8/21), Moscow, RU
76. 7/20 - Graphene 2020 Conference (online), Phantoms, SP
75. 6/20 - ISTA Physics Seminar, IST Austria, AT
74. 6/20 - Munich Physics Colloquium (online), LMU Munich, GER
73. 6/20 - Electronic Correlations and Topology School, Natal, BR
72. 5/20 - Correlated Quantum Matter Workshop, Belgrade, SRB
71. 5/20 - Entangled States of Matter Workshop, Berlin, GER
70. 5/20 - Correlations Conference, ICTP Trieste, IT
69. 5/20 - Twistronics Workshop, MPI Hamburg, GER
68. 5/20 - Condensed Matter Seminar (online), NTU Singapore, SG
67. 4/20 - IMDEA Seminar (online), Madrid, SP
66. 3/20 - Heraeus-Seminar DFG, Bad Honnef, GER
65. 3/20 - QSIT Colloquium, ETH Zurich, CH
64. 3/20 - Physics Seminar, Paul-Scherrer Institute, CH
63. 3/20 - IWEPM, Kirchberg, AUT
62. 3/20 - APS March Meeting, Denver, USA
61. 2/20 - Physics Seminar, ICMM Madrid, SP
60. 2/20 - Condensed Matter Physics Seminar, Oxford, UK
59. 2/20 - Israel Physics Society Plenary Talk, Weizmann, IL
58. 2/20 - Physics Seminar, IST Austria, AT

2019

- 57. 12/19 - Physics Department Colloquium, **Weizmann, IL**
- 56. 12/19 - Physics Department Colloquium, **University of Geneva, CH**
- 55. 11/19 - ICFO Colloquium, **Barcelona, SP**
- 54. 11/19 - IQFA conference, **Paris, FR**
- 53. 10/19 - Condensed Matter Seminar, **Rutgers, USA**
- 52. 10/19 - Metro-Gotham Meeting, **New York Academy of Sciences, USA**
- 51. 10/19 - Emergent Topology Conference, **Princeton, USA**
- 50. 9/19 - Summer School Nicols Cabrera, **Madrid, SP**
- 49. 9/19 - Hocino Conference, **Barcelona, SP**
- 48. 9/19 - BEC2019, **Sant Feliux, SP**
- 47. 8/19 - Emergent Phenomena in Correlated Quantum Matter, **Cargese, FR**
- 46. 7/19 - Theoretical and Experimental Magnetism, **Abington, UK**
- 45. 7/19 - Physics in the City, **London, UK**
- 44. 7/19 - BIST Workshop, **Barcelona, SP**
- 43. 7/19 - Aspen Physics Workshop, **Aspen, USA**
- 42. 6/19 - Graphene 2019, **Rome, IT**
- 41. 6/19 - CLEO Europe, **Munich, GER**
- 40. 6/19 - Gordon Research Conference, **Hong Kong, CN**
- 39. 6/19 - 2D Materials Conference, **Valencia, SP**
- 38. 6/19 - Moiré in Paris Conference, **Paris, FR**
- 37. 5/19 - Nano Spain Conference, **Barcelona, SP**
- 36. 5/19 - U in Nanoscale Systems Workshop, **Zaragoza, SP**
- 35. 4/19 - University of Seoul Seminar, **Seoul, KR**
- 34. 4/19 - Korean Physical Society Meeting, **Daejeon, KR**
- 33. 4/19 - Spanish Network of 2D Materials, **Granada, SP**
- 32. 3/19 - Max Planck Workshop on Quantum Technologies, **Barcelona, SP**
- 31. 3/19 - IMDEA Seminar, **Madrid, SP**
- 30. 2/19 - European Quantum Technologies Conference, **Grenoble, FR**
- 29. 2/19 - SPIE Photonics West, **San Francisco, USA**
- 28. 2/19 - Van der Waals Colloquium, **Leiden University, NL**
- 27. 1/19 - Applied Physics Seminar, **Caltech, USA**
- 26. 1/19 - Correlations in Moiré, **KITP at UCSB, USA**
- 25. 1/19 - Physics Department Colloquium, **Bochum University, GER**

2018 and before

- 24. 10/18 - Nanotechnology Seminar, **ICN2, SP**
- 23. 9/18 - Physics Department Seminar, **Basel University, CH**
- 22. 7/18 - Magnetism and Superconductivity at the Nanoscale, **Coma-Ruga, SP**
- 21. 6/18 - Interaction of Light with Quantum Materials, **Castelldefels, SP**
- 20. 6/18 - Cambridge Graphene Center Seminar, **Cambridge University, UK**
- 19. 5/18 - BIST Graphene Conference, **ICFO, SP**
- 18. 5/18 - Walter Schottky Institute Seminar, **TU Munich, GER**
- 17. 6/17 - Centre of Ultra-Cold Atoms meeting, **MIT, USA**
- 16. 3/17 - Bacon+ Meeting, **Harvard University, USA**
- 15. 6/16 - ICFO L4G Seminar, **Barcelona, SP**
- 14. 6/16 - SPIE Photonics Europe, **Brussels, BE**
- 13. 9/15 - Graphene Optics Workshop 2015, **Exeter University, UK**
- 12. 9/15 - Superconductivity and Magnetism in Nanosystems, **Moscow, RU**
- 11. 11/14 - Bacon+ Meeting, **Harvard University, USA**
- 10. 10/14 - BBN Raytheon Seminar, **Cambridge, USA**
- 9. 8/14 - High Magnetic Fields 21 Conference, **Panama City, USA**
- 8. 7/14 - Jarillo-Herrero Group Seminar, **MIT, USA**
- 7. 2/14 - Englund Group Seminar, **MIT, USA**
- 6. 11/13 - QDev Seminar, **Niels Bohr Institute, DK**

5. 11/13 - Condensed Matter Seminar, **Stanford University**, USA
4. 11/13 - Applied Physics Seminar, **Yale University**, USA
3. 9/13 - Light for Graphene Seminar, **ICFO**, SP
2. 9/13 - Kouvenhowen Group Seminar, **TU Delft**, NL
1. 5/12 - Electrochemical Society Meeting, **Seattle**, USA