Detailed Program

**(All times below are India Time)**

**Time conversion for some time zones indicated at the end of the table\*. Please convert the times shown in Indian time to your time.**

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| Day 1:  27th May, 2021, Thursday | |
| 16:25 - 16:55 | Inauguration |
|  | Inaugural remarks |
|  | Address by Director IIT Kanpur, Prof. Abhay Karandikar |
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|  | Session: Vortex imaging/Pairing symmetry and Vortices  Chair: Gianni Blatter , ETH Zurich, Switzerland  Co-Chair: Gorky Shaw, KIIT Orissa, India |
| 17:00 - 17:30 | Tetsuo Hanaguri, RIKEN, Japan  Title: High-field superconducting phase in FeSe investigated by spectroscopic-imaging scanning tunneling microscopy |
| 17:30 - 18:00 | Hermann Suderow, IFIMAC, Universidad Autónoma de Madrid, Spain  Title: Scanning tunnelling microscopy of bound states in superconductors |
| 18:00 - 18:30 | Dimitri Roditchev, Sorbonne University, France  Title: Crossover from ferromagnetic superconductor to superconducting ferromagnet in p-doped EuFe2(AsP)2 |
| 18:30 - 19:00 | Simon Bending, University of Bath, United Kingdom  Title: Imaging the Suppression of Superconductivity by Correlated Magnetic Fluctuations in RbEuFe4As4 |
| 19:00 - 19:30 | Break |
|  | Session: Multigap superconductors, disorder: effect on order parameter symmetry/ phase diagrams/pinning/ applications  Chair: T. V. Ramakrishnan, IISc Bangalore  Co-Chair: Deepshikha Jaiswal Nagar, IISER Thiruvanathapuram, India |
| 19:30 - 20:00 | Marcin Konczykowski, Laboratoire des Solides Irradies, Institut Polytechnique de Paris, France  Title: Tuning of Composition - Temperature Phase Diagram of Iron-Based Superconductors by Disorder |
| 20:00 - 20:30 | Vadim Geshkenbein, Affiliation Institut for Theoretical Physics ETH Zu ̈rich, Switzerland  Title: Creep effects on the Campbell response in type II superconductors |
| 20:30 - 21:00 | David Larbalestier, National High Magnetic Field Laboratory, Florida State University, USA  Title: Mysteries of Vortex Pinning in Nb47wt.%Ti |
| 21:00 - 21:30 | Morten Ring Eskildsen, University of Notre Dame, Notre Dame, USA  Title: Localized and reversible ordering and disordering of the vortex lattice in UPt3 |
| 21:30 - 22:00 | Ruslan Prozorov, Ames Laboratory, Iowa State University, USA  Title: Temperature-dependent anisotropy of London penetration depth in single- and two-band superconductors |
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| Day 2:  28th May, 2021, Friday | |
| 16:00 – 16:50 | Poster Session |
|  | Session: Soft matter systems, skrymions - connections with vortex physics  Chair: Arghya Taraphdar, IIT Kharagpur, India. |
| 17:00 - 17:30 | Ajay Sood, Indian Institute of Science, Bangalore, India  Title: New Paradigms in Driven Soft Matter: Instabilities, Rheo-chaos, Memory encoding and retrieval |
| 17:30 - 18:00 | Pietro Tierno, Universitat de Barcelona, Spain  Title: Collective dynamics of driven colloids on ordered and disordered magnetic landscapes |
| 18:00 – 18:30 | Christos Panagopoulos, Nanyang Technological University, Singapore  Title: Coupling Topological Solitons in Hybrid Quantum Materials |
| 18:30 - 19:00 | Charles Reichhardt, Los Alamos National Laboratory, New Mexico, USA  Title: Vortex and skyrmion dynamics on moire superlattices |
| 19:00 - 19:30 | Break |
|  | Driving Vortices in bulk/nano/heterostructures/hybrids  Chair: Subroto Mukerjee, IISc Bangalore, India |
| 19:30 - 20:00 | Oleksandr Dobrovolskiy, University of Vienna, Austria  Title: Microwave stimulation of superconductivity in the vortex state |
| 20:00 - 20:30 | Ankit Kumar, Indian Institute of Technology, Kanpur, India  Title: Imaging the drive current effect on the low-field vortex melting phenomenon in a Ba0*.*6K0*.*4Fe2As2 superconductor |
| 20:30 - 21:00 | Ulrich Welp, Argonne National Laboratory, Argonne, USA  Title: Superconductivity and Magnetism in RbEuFe4As4 |
| 21:00 - 21:30 | Alex Gurevich, Old Dominion University, Norfolk, USA  Title: Nonlinear dynamics of a vortex driven by a strong ac Meissner current |
| 21:30 - 22:30 | Poster session |

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| Day 3:  29th May, 2021, Saturday | |
| 16:00 – 16:50 | Poster Session |
|  | Session: Superconductivity / Vortices in 2D systems, HTSC and interfaces  Chair: Hermann Suderow, IFIMAC, Universidad Autónoma de Madrid Spain  Co-Chair: Ajay Thakur, IIT Patna, India |
| 17:00 - 17:30 | Koichiro Ienaga, Tokyo Institute of Technology, Japan  Title: Quantum criticality in the field-induced metallic state of disordered superconducting thin films probed by thermoelectric effects |
| 17:30 - 18:00 | Hemanta Kumar Kundu, Indian Institute of Science, Bangalore, India  Title: Effect of dimensionality on vortex dynamics in type-II superconductor |
| 18:00 - 18:30 | Alexander Buzdin, Université de Bordeaux and CNRS, France  Title: Spontaneous currents and vortex generation via the spin-orbit mechanism at S/F interfaces |
| 18:30 - 19:00 | Mandar M Deshmukh, TIFR, Mumbai, India  Title: Tuning and modification of superconductivity in a 2d high TC superconductor Bi2Sr2CaCu2O8+δ |
| 19:00 - 19:30 | Break |
|  | Session: Topological superconductors/ hybrids (FM-SC)  Chair: Prof. C. V. Tomy, IIT Bombay, India.  Co-Chair: Surjeet Singh, IISER Pune, India |
| 19:30 - 20:00 | Tomasz Cichorek, Institute of Low Temperature and Structure Research, Poland  Title: Destruction of a sign-changing order parameter by artificial atomic defects in multiband superconductor PrOs4Sb12 |
| 20:00 - 20:30 | Irina V. Grigorieva, University of Manchester, UK  Title: Magnetization signature of topological surface states in a non-symmorphic superconductor |
| 20:30 - 21:00 | Alexei E. Koshelev, Argonne National Laboratory, Illinois, USA  Title: Influence of correlated magnetic fluctuations on parameters of magnetic superconductors |
| 21:00 - 21:30 | Valerii Vinokur, Terra Quantum AG, Switzerland  Title: Topological nature of high temperature superconductivity |
| 21:30 - 22:30 | Poster session |
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| Day 4, 30th May, 2021, Sunday  **No Sessions on this Day – Full day BREAK** | |

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| Day 5  31st May, 2021, Monday | |
| 16:00 – 16:50 | Poster Session |
|  | Session: Novel superconducting devices / Structures/ applications  Chair: Wilson Ortiz, Universidade Federal de São Carlos, Brazil  Co-Chair: Pallavi Kushwaha, NPL New Delhi, India |
| 17:00 - 17:30 | Yosi Yeshurun, Bar-Ilan University, Israel  Title: DNA-assembled superconducting nanoscale architectures |
| 17:30 - 18:00 | R. Vijayaraghavan, Tata Institute of Fundamental Research, Mumbai, India  Title: Long-range connectivity in superconducting qubits using a ring resonator |
| 18:00 - 18:30 | Alejandro Silhanek, Université de Liège, Belgium  Title: Direct Visualization of Current-Stimulated Oxygen Migration in YBa2Cu3O7-δ Thin Films |
| 18:30 - 19:00 | Javier Villegas, Université Paris-Saclay, Palaiseau, France  Title: Revisiting photodoping, photoconductivity and photo - superconductivity in the cuprates |
| 19:00 - 19:30 | Break |
|  | Session: Josephson Junctions / THz / Applications  Chair: Milorad Milosovic, University of Antwerp, Belgium  Co-Chair: Prof. Neeraj Khare, IIT Delhi, New Delhi, India |
| 19:30 - 20:00 | Joris Van de Vondel, KU Leuven, Belgium  Title: Giant fractional Shapiro steps in anisotropic Josephson junction arrays |
| 20:00 - 20:30 | Vladimir Krasnov, Stockholm University, Sweden  Title: Vortex-based Electronics |
| 20:30 - 21:00 | N. Peter Armitage, The Johns Hopkins University, Baltimore, USA  Title: Nonlinear THz electrodynamics of unconventional and disordered superconductors |
| 21:00 - 21:30 | Valentine Novosad, Argonne National Laboratory, Lemont, USA  Title: Superconducting sensors: From basic physics to large scale science experiments |
| 21:30 – 22:00 | Vasily Stolyarov, Moscow Institute of Physics and Technology, Dolgoprudny, Russia  Title: Low dissipative Josephson vortex dynamics |
| 22:00 - 22:30 | Poster session |

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| Day 6  1st June 2021, Tuesday | |
| 16:00 – 16:50 | Poster Session |
|  | Session: Vortex imaging/Pairing symmetry/Vortices in New systems  Chair: Vladimir Krasanov, Stockholm University, Sweden  Co-Chair: Dilip Pal, IIT Guwahati, India |
| 17:00 - 17:30 | Hai Hu Wen, Nanjing University, China  Title: Vortex and its bound states in a layered superconductor KCa2Fe4As4F2 |
| 17:30 - 18:00 | Beena Kalisky, Bar-Ilan University, Ramat-Gan, Israel  Title: Imaging the magnetic landscape in chiral superconductor candidate 4Hb-TaS2 |
| 18:00 - 18:30 | Yanina Fasano, Centro Atómico Bariloche, Argentina  Title: Non-gaussian tail in the force distribution: A hallmark of correlated disorder in the host media of elastic objects |
| 18:30 - 19:00 | Surajit Dutta, TIFR, Mumbai, India  Title: Observation of two-dimensional melting and zero-point fluctuation of vortices in a very weakly pinned a-MoGe thin film |
| 19:00 - 19:30 | Break |
|  | Session: Superconductivity in 2D materials/HTSC and interfaces  Chair: Marcin Konczykowski, Institut Polytechnique de Paris, France  Co-Chair: Pallavi Kushwaha, NPL, New Delhi India |
| 19:30 - 20:00 | Philip Kim, Harvard University, Cambridge, USA  Title: Toward realization of novel superconductivity based on twisted van der Waals Josephson junction in cuprates |
| 20:00 - 20:30 | Floriana Lombardi, Chalmers University of Technology, Sweden  Title: Reshaping the phase diagram of HTSC by nm thin films and nanodevices |
| 20:30 - 21:00 | Goutam Sheet, Indian Institute of Science Education and Research, Mohali, India  Title: Tip-induced superconductivity |
| 21:00 - 21:30 | Maria Iavarone, Temple University, Philadelphia, USA  Title: Proximity induced superconductivity in monolayer MoS2 |
| 21:30 - 22:30 | Poster session |
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| Day 7  2nd June 2021, Wednesday | |
| 16:00 – 16:50 | Poster Session |
|  | Session: Vortex Pinning/ Vortex Dynamics/ Fluctuations/ Applications  Chair: Mauro Doria, Universida de Federal do Rio de Janeiro, Brazil  Co-Chair: Prof. Anjan Gupta, IIT Kanpur, India |
| 17:00 - 17:30 | Atsutaka Maeda, University of Tokyo, Japan  Title: Large Hall angle in the flux flow of high-*T*c cuprate superconductors measured by microwave Hall effect |
| 17:30 - 18:00 | Tsuyoshi Tamegai, The University of Tokyo, Japan  Title: Impacts of defects on the peak effect in NbSe2 |
| 18:00 - 18:30 | Wilson Ortiz, Universidade Federal de São Carlos, Brazil  Title: Recording magnetic flux in the mixed state of superconducting thin films |
| 18:30 - 19:00 | Lara Benfatto, University of Rome, Rome, Italy  Title: Dynamical signatures of a fragile glass transition in thin superconducting films |
| 19:00 - 20:00 | Sarod Concert: Indian Classical Instrumental Music program (19:00 - 19:45)  Shri. Debanjan Bhattacharjee  [www.DebanjanBhattacharjee.com](http://www.DebanjanBhattacharjee.com) |
|  | Session: Superconductivity and 2D Quantum Materials-Synergy  Chair: Arindam Ghosh, IISc Bangalore, India |
| 20:00 - 20:30 | Pablo Jarillo – Herrero, MIT, Cambridge, USA  Title: Moiré Magic 3.0 |
| 20:30 – 21:00 | Dmitri Efetov, ICFO, Barcelona, Spain  Title: Competing phases of correlated Chern insulators in Superconducting Twisted Bilayer Graphene |
| 21:00 - 21:30 | Sameer Grover, Weizmann Institute of Science, Rehovot, Israel  Title: SQUID-on-tip imaging of topological currents in magic-angle graphene |
| 21:30 - 22:00 | Anindya Das, Indian Institute of Science, Bangalore, India  Title: Dynamics of Andreev edge state at the interface of quantum Hall and superconductor |
| 22:00 - 22:30 | Poster Session |
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| Day 8  3rd June, 2021, Thursday | |
| 16:25 - 16:40 | Address by Director TIFR, Prof. S. Ramakrishnan |
|  | Session: Vortex phase diagram, Multi-component superconductivity and connections with Vortex matter vs. pairing symmetry  Chair : Atsutaka Maeda, University of Tokyo, Japan |
| 17:00 - 17:30 | Yoshihiro Iwasa, University of Tokyo, Japan  Title: Two-dimensional BCS-BEC crossover |
| 17:30 - 18:00 | Shigeru Kasahara, Research Institute for Interdisciplinary Science, Okayama University, Japan  Title: Fulde-Ferrell-Larkin-Ovchinnikov States in the BCS-BEC-Crossover Superconductor FeSe |
| 18:00 - 18:30 | Ravi Prakash Singh, Indian Institute of Science Education and Research, Bhopal, India  Title: Time Reversal Symmetry Breaking in Noncentrosymmetric Superconductors |
| 18:30 - 19:00 | Leonardo Civale, Los Alamos National Laboratory, USA  Title: Using vortex dynamics tools to explore magnetic configurations in non-superconducting materials |
| 19:00 - 19:30 | Break |
|  | Session: Statics and dynamics of Vortices in extreme confinement/Nanostrcutures/hybrids  Chair: Arun K. Grover, India  Co-Char: Ravi Prakash Singh, IISER, Bhopal, India |
| 19:30 - 20:00 | Milorad Milosevic, University of Antwerp, Belgium  Title: Advances in multiscale simulations of fluxonic devices |
| 20:00 - 20:30 | Vladimir M. Fomin, Institute for Integrative Nanosciences, Dresden, Germany  Title: Topological effects in advanced superconductor nanoarchitectures |
| 20:30 - 21:00 | Mauro M Doria, Universidade Federal do Rio de Janeiro, Brazil  Title: An unstable giant vortex in the mesoscopic type I superconductor - The spike state |
| 21:00 - 21:30 | Boldizar Janko, University of Notre Dame, Indiana, USA  Title: Superconducting Vortex Matter Under Extreme Confinement: The Effect of Anisotropic Interaction |
|  | Closing Remarks |
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\*Conference time for your time zone

Tokyo: 20:30 to 01:00 (IST + 3 hours 30 minutes)

Beijing : 19:30 - 00:00 (IST + 2 hours 30 mins)

India, IST: 17:00 to 21:30

UK : 12:30 to 17:00 (IST - 4 hour 30 minutes)

Brussels: 13:30 to 18:00 (IST - 3 hours 30 mins)

Paris: 13:30 to 18:00 (IST - 3 hours 30 mins)

Sweden: 13:30 to 18:00 (IST - 3 hours 30 mins)

Buenos Aires: 8:30 to 13:00 (IST - 8 hours 30 mins)

Rio de Janerio: 8:30 to 13:00 (IST - 8 hours 30 mins)

New York: 7:30 to 12:00 (IST - 9 hours 30 mins)

Indianapolis:7:30 to 12:00 (IST - 9 hours 30 mins)

Massachusetts:7:30 to 12:00 (IST - 9 hours 30 mins)

Chicago : 6:30 to 11:00 (IST - 10 hours 30 mins.)

Los Angeles/California: 4:30 to 9:00 (IST - 12 hours 30 mins)

New Mexico: 5:30 - 10:00 (IST - 11 hours 30 mins)