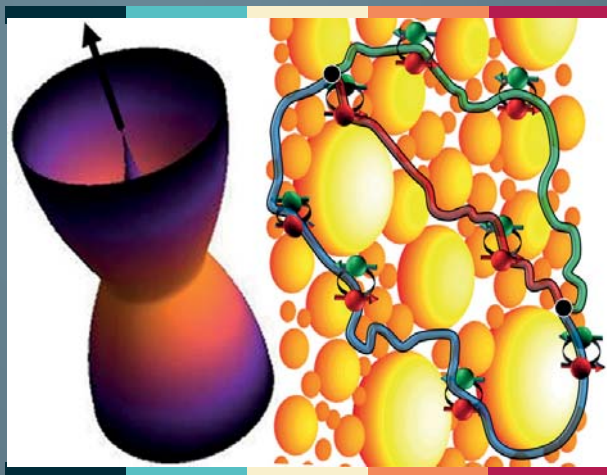


SUPERSTRIPES 2023

Quantum in Complex Matter
International Conference

June 26-July 1, 2023 Ischia, Italy



Meeting Program

SUPERSTRIPES 2023

**Quantum in Complex Matter
International Conference**

ISCHIA (ITALY) JUNE 26-JULY 1, 2023

Chairmen

Antonio Bianconi (RICMASS, Italy)

Yasutomo Uemura (Columbia University, USA)

Organizing Committee

Luis Balicas, Florida State University, USA

Bernd Büchner, IFW Dresden, Germany

Annette Bussmann-Holder, Max-Planck-Institute, Germany

Takeshi Egami, University of Tennessee, USA

Shiping Feng, Beijing Normal University, China

ChangQing Jin, Chinese Academy of Sciences, China

Alessandra Lanzara, Berkeley University, USA

Gennady Logvenov, Max-Planck-Institute, Germany

Andrzej M. Oles, Jagiellonian University, Poland

Andrea Perali, University of Camerino, Italy

Nicola Poccia, IFW Dresden, Germany

Luca Salasnich, University of Padua, Italy

Jan Zaanen, Leiden University, Netherlands

MONDAY, JUNE 26, 2023

1
session

sala **PHITECUSA Plenary** Chair: **A. Bianconi**

9:00 Opening

9:30 Hideo Aoki: *Floquet generation of topological superconductivity and magnetism in the strong-correlation regime*

10:00 Masatoshi Imada: *Ab initio studies and fractionalization in cuprate high-T_c superconductors*

10:30 John M. Tranquada: *Stripes, superconductivity, and their mutual disappearance in overdoped cuprates*

Coffee breaks 11:00 - 16:00

Lunch 13:00

Welcome Party 19:00

MONDAY, JUNE 26, 2023

2
session

sala **PITHECUSA** Chair: **H. Aoki, F. Lombardi**

- 11:30** **Dmitry Reznik:** *Structural changes induced by electric currents in Pr_2CuO_4 as an example of a novel control knob of quantum materials*
- 12:00** **Alexander Gray:** *Adding Depth and Berry Curvature Resolution to the Momentum Microscopy Studies of 2D Materials and Heterostructures*

5
session

sala **PRIMAVERA** Chair: **M. Imada, Z. Guguchia**

- 11:30** **Philip Phillips:** *Beyond BCS: An Exact Model for Superconductivity and Mottness*
- 12:00** **Jose Alarco:** *Superlattices, bonding-antibonding, Fermi surface nesting and superconductivity*
- 12:30** **Neven Zitomir Barisic:** *Experimentally Established Universal and Non-Universal Properties that Define the Physics of Cuprates*

8
session

sala **NITRODI** Chair: **K. Wohlfeld, J. M. Tranquada**

- 11:30** **Francesco Petocchi:** *Fermion quartets and quartet condensation*
- 12:00** **Le Duc Anh:** *Epitaxial growth and topological transport properties of Sn-based quantum heterostructures*
- 12:30** **Gabriele Naselli:** *Nontrivial gapless electronic states at the stacking faults of weak topological insulators*

MONDAY, JUNE 26, 2023

3
session

sala **PITHECUSA** Chair: **P. Werner, A. Lappas**

- 14:30** Matthias Hepting: *Shedding new light on the parent compounds of nickelate superconductors*
- 15:00** Floriana Lombardi: *Strain tuning of the strange metal phase, charge order and superconductivity in underdoped nm scale cuprates*
- 15:30** Ivan Maggio-Aprile: *Scanning tunneling spectroscopy of the d-wave vortex core and periodic conductance modulations in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$*

6
session

sala **PRIMAVERA** Chair: **E. Bozin, Changyoung Kim**

- 14:30** Zurab Guguchia: *Tunable unconventional kagome superconductivity in charge ordered RbV_3Sb_5 and KV_3Sb_5*
- 15:00** Flavio Nogueira: *Topological order and deconfined criticality in superconductors and easy-plane antiferromagnets*
- 15:30** Juris Purans: *Isotopic effect on the lattice dynamics of yttrium hydrides and oxo-hydrates*

9
session

sala **NITRODI** Chair: **W. Pasek, L. Martinelli**

- 14:30** Krzysztof Wohlfeld: *Can the spin polaron concept describe the ARPES of Mott-insulating cuprates?*
- 15:00** Remko Fermin: *Universal size-dependent nonlinear charge transport in single crystals of the Mott insulator Ca_2RuO_4*
- 15:30** Francesco Barantani: *Resonant Inelastic X-Ray Scattering Study of Electron-Exciton Coupling in High-Tc Cuprates*

MONDAY, JUNE 26, 2023

4
session

sala **PITHECUSA** Chair: **M. Hepting, F. Nogueira**

- 16:30** Philipp Werner: *Multi-orbital nature of infinite-layered nickelates*
- 17:00** Karsten Held: *Nickelate superconductors – one-band Hubbard model perspective*
- 17:30** Leonardo Martinelli: *Charge and Spin excitations in infinite-layer superconducting nickelates*

7
session

sala **PRIMAVERA** Chair: **I. Maggio-Aprile, F. Barantani**

- 16:30** Emil Bozin: *Nanoscale off-centering as a path to low thermal conductivity*
- 17:00** Wojciech Pasek: *Confined quasi-1D superconductivity in envelope description*
- 17:30** Alexandros Lappas: *Defect bearing hyper-expanded iron-chalcogenides and their robust superconducting state*

10
session

sala **NITRODI** Chair: **R. Fermin, Le Duc Anh**

- 16:30** Changyoung Kim: *Searching for new electronic properties in ultrathin films of correlated materials via in situ ARPES*
- 17:00** Filippo Pascucci: *Josephson effect and superfluidity in electron-hole bilayer heterostructures*
- 17:30** Giovanni Midei: *Tunable BCS-BEC crossover, reentrant, and hidden quantum phase transitions in two-band superconductors with tunable valence and conduction bands*

TUESDAY, JUNE 27, 2023

11
session

sala **PHITECUSA Plenary** Chair: **J. Tallon, A. Gray**

9:00 Mikhail Eremets: *Superconductivity in superhydrides. New developments*

9:30 Bernd Büchner: *Topological surface superconductivity in PtBi₂*

10:00 Takeshi Egami: *Density wave instability in liquid: From real liquid to electrons*

10:30 Despina Louca: *Dirac mignons in Chromium Halides*

Coffee breaks 11:00 - 16:00

Lunch 13:00

TUESDAY, JUNE 27, 2023

12
session

sala **PITHECUSA** Chair: **B. Büchner, T. Egami**

- 11:30** Steffen Wirth: *Magnetic and electronic properties indicating polaron formation in $\text{Eu}_5\text{In}_2\text{Sb}_6$*
- 12:00** Christian Bernhard: *Analogies of phonon anomalies and electronic gap features in the infrared response of $\text{Sr}_{14-x}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$ and underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$*
- 12:30** Janez Bonca: *Optically driven effective electron-electron attraction in a model with nonlinear electron-phonon interaction*

15
session

sala **PRIMAVERA** Chair: **S. Conradson, A. Mesaros**

- 11:30** Kosmas Prassides: *Coupling of lattice and electronic degrees of freedom in mixed valence rare-earth fullerides*
- 12:00** Claude Pasquier: *Planckian diffusion in $k\text{-(BEDT-TTF)}_2\text{Cu(NCS)}_2$?*
- 12:30** Pascal Simon: *New insights from electronic transport in superconducting bound-states*

18
session

sala **NITRODI** Chair: **M. Eremets, J. Purans**

- 11:30** Alexander Goncharov: *Structure and Composition of High Pressure Polyhydrides*
- 12:00** Frank Marsiglio: *High-Pressure Hydrides and Electron-phonon Superconductivity: questions about the Experiments and questions about the Theory*
- 12:30** Fedor Balakirev: *Probe of Superconducting Order in High-Tc Hydrides*

TUESDAY, JUNE 27, 2023

13
session

sala **PITHECUSA** Chair: **S. Wirth, K. Prassides**

- 14:30** Ryosuke Akashi: *Eliashberg theory in the uniform electron gas revisited*
- 15:00** Teppei Yoshida: *Electron-phonon interaction in the correlated electron systems revealed by angle-resolved photoemission spectroscopy*

16
session

sala **PRIMAVERA** Chair: **P. Simon**

- 14:30** Vladislav Kataev: *Low-energy spin excitations and tunable anisotropy of quasi-2D van der Waals magnets*
- 15:00** Andrej Mesaros: *Robust propagating in-gap modes due to spin-orbit domain walls in graphene*
- 15:30** Christoph Renner: *Determining the nature and strength of proximity induced spin-orbit coupling in graphene by quasiparticle interference imaging*

19
session

sala **NITRODI** Chair: **J. Bonca, C. Bernhard**

- 14:30** Leonardo Degiorgi: *Optical fingerprints of the electronic band reconstruction in van der Waals magnetic materials*
- 15:00** Hideaki Iwasawa: *Electron correlation and electron-phonon interaction in cuprate superconductors evaluated by ARPES with machine learning*
- 15:30** Viktor Könye: *Anisotropic optics and gravitational lensing of tilted Weyl fermions*

TUESDAY, JUNE 27, 2023

14
session

sala **PITHECUSA** Chair: **R. Akashi, V. Kataev**

- 16:30** Takahiro Morimoto: *Geometrical nonlinear optical effects of magnons in multiferroic materials*
- 17:00** Lukasz Plucinski: *Geometry-induced spin-filtering in photoemission maps from WTe₂ surface states*
- 17:30** Enno Joon: *High T_c cuprates d-wave insulators*
- 18:00** Rok Venturini: *Pulsed excitations of 2H-NbSe₂*

17
session

sala **PRIMAVERA** Chair: **V. Gavrichkov, C. Renner**

- 16:30** Steven Conradson: *Saturation of the Superconductivity in Maximally Overdoped ($\rho=1$) Cuprates???*
- 17:00** Annette Bussmann-Holder: *Multi-band superconductivity, polarons and the steep band/flat band scenario*
- 17:30** Eduardo Da Silva Neto: *Low-energy quasi-circular electron correlations with charge order wavelength in BSCCO 2212*
- 18:00** Riccardo Vocaturo: *Ab initio investigation of electronic structure of Weyl semimetal PtBi₂*

20
session

sala **NITRODI** Chair: **V. Könye, T. Yoshida**

- 16:30** Oleg Sushkov: *Exciton condensation in biased bilayer graphene*
- 17:00** Nicola Pompeo: *Vortex motion physics in iron-based and cuprate High-T_c superconductors at microwaves: flux flow, anisotropy, pinning*
- 17:30** Giovanni Ummarino: *Mathematical and Physical Properties of Three-Band s± Eliashberg Theory for Iron Pnictides*
- 18:00** Erik Piatti: *Nodal Multigap Superconductivity in the Anisotropic Iron-Based Compound RbCa₂Fe₄As₄F₂*

WEDNESDAY, JUNE 28, 2023

21
session

sala **PHITECUSA Plenary** Chair: **T. Egami, D. Louca**

9:00 Valerii Vinokur: *Topological Quantum Matter*

9:30 Andrea Perali: *Complex phase-fluctuation effects and novel vortex configurations in superconducting Nb-based nanostructures*

10:00 Antonio Bianconi: *Test of the mechanism of high T_c superconductivity and strange metal phase controlled by quantum geometry in artificial nanoscale heterostructures at atomic limit*

10:30 Gennady Logvenov: *Engineering of complex oxide superconducting heterojunctions*

Coffee breaks 11:00 - 16:00

Lunch 13:00

WEDNESDAY, JUNE 28, 2023

22
session

sala **PITHECUSA** Chair: **A. Perali**

- 11:30** Carlo Trugenberger: *Topological gauge theories of Josephson junction arrays and 2D superconductors*
- 12:00** Maria Cristina Diamantini: *Type III Superconductors*
- 12:30** Sergei Mukhin: *Possible manifestations of Q-ball mechanism of high-T_c superconductivity in diamagnetic response and X-ray diffraction*

25
session

sala **PRIMAVERA** Chair: **U. Bovensiepen, D. Nicoletti**

- 11:30** Taichi Terashima: *Electronic structure studies on iron-based superconductor parent compounds via magnetotransport and quantum-oscillation measurements*
- 12:00** Gianluca Ghigo: *Coexistence and interplay between superconductivity and ferromagnetism in $\text{EuFe}_2(\text{As}_{1-x}\text{P}_x)_2$: a microwave analysis*
- 12:30** Adriana Moreo: *Orbital-selective Mott physics in iron-based ladder systems*

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session

sala **NITRODI** Chair: **G. Prando, T. Ideue**

- 11:30** Kazushi Kanoda: *Conductivity, magnetism and thermoelectric effect by topological excitations in a quasi-1D organic ferroelectric*
- 12:00** Frank Kruger: *Field control of fluctuation-driven modulated magnetism in the metallic ferromagnet PrPtAl*
- 12:30** Toby Perring: *Magnetic Excitations in the Itinerant Electron Ferromagnet Iron Throughout the Brillouin Zone*

WEDNESDAY, JUNE 28, 2023

23
session

sala **PITHECUSA** Chair: **M.C. Diamantini, T. Perring**

- 14:30** Nicola Poccia: *Towards the integration of CMOS electronics in the emergent high temperature superconducting phase of twisted bilayers cuprate heterostructures*
- 15:00** Uri Vool: *Superconducting microwave circuits with novel superconductors for material exploration and quantum technology*
- 15:30** Valentina Brosco: *Unconventional superconducting quantum devices*

26
session

sala **PRIMAVERA** Chair: **N. Kirova, J. Mustre**

- 14:30** Uwe Bovensiepen: *Elementary interactions in condensed matter analyzed by ultrafast soft x-ray absorption spectroscopy*
- 15:00** Daniele Nicoletti: *Coherent emission from surface Josephson plasmons in charge-ordered cuprates*
- 15:30** Satoshi Tsuchiya: *Ultrafast pump-probe spectroscopic study of low-temperature phases in organic Dirac electron systems*

29
session

sala **NITRODI** Chair: **D. Orgad, D. Mihailovic**

- 14:30** Vadim Ksenofontov: *Magnetic flux trapping in high-TC superconducting hydrides*
- 15:00** Giacomo Prando: *Coexisting superconductivity and charge-density wave in hydrogen-intercalated TiSe_2*
- 15:30** Toshiya Ideue: *Photovoltaic effect in symmetry engineered van der Waals nanomaterials*

WEDNESDAY, JUNE 28, 2023

24
session

sala **PITHECUSA** Chair: **V. Brosco, S. Tsuchiya**

16:30

Massimo Capone: *Multiorbital Mott physics: from models to materials and quantum simulators*

17:00

José Mustre: *Resonant X-ray Inelastic Scattering in $\text{FeSe}_{1-x}\text{Te}_x$*

17:30

Dror Orgad: *Quantum Monte Carlo study of a bilayer $U_{(2)x}U_{(2)}$ symmetric Hubbard model*

18:00

Andrzej Ptok: *Dynamical study of the origin of the charge density wave in AV_3Sb_5 compounds*

18:30

Ikuzo Kanazawa: *Quantized gauge fields with massive Higgs-like boson fields and anomalous properties in high- T_c cuprates*

27
session

sala **PRIMAVERA** Chair: **A. Moreo, G. Ghigo**

16:30

Natasha Kirova: *Half-integer combined vortices in incommensurate spin density waves*

17:00

James Freericks: *Emergent quantum critical point for charge-density-wave ordered materials*

17:30

Yingying Peng: *Evolution from charge-order phase to high-temperature superconductivity*

18:00

Liling Sun: *Recent findings in pressurized high- T_c superconductors*

18:30

Yevhenii Vaskivskyi: *Local charge dynamics in the amorphous state of 1T-TaS_2*

30
session

sala **NITRODI** Chair: **V. Ksenofontov, F. Kruger**

16:30

Dragan Mihailovic: *Chaotic fluctuations in the fractionally charged spatial fabric of a polaronic Wigner crystal lattice*

17:00

Tomaz Mertelj: *Ultrafast optical polarimetry in magnetic phases of Kondo semimetal CeSb*

17:30

Choongwon Seo: *Advanced light-control of intertwined orders in high temperature superconductors*

18:00

Konstantin Arutyunov: *Relaxation of non-equilibrium quasiparticles in a mesoscopic scale superconductor*

18:30

Nataliya Pugach: *Magnetodynamics influence on the superconducting condensate in superconducting-magnetic hybrids*

THURSDAY, JUNE 29, 2023

31
session

sala **PHITECUSA Plenary** Chair: **F. Balakirev, F. Marsiglio**

- 9:00** Andrzej M. Oles: *Spin-orbital mechanisms for negative thermal expansion*
- 9:30** Yasutomo Uemura: *Energy-scale phenomenology for condensation, pairing and phase diagrams of unconventional superconductors*
- 10:00** Claudio Mazzoli: *Manipulation of Skyrmions lattice under resonant x-ray conditions: new light on some long standing problems*
- 10:30** Marco Grilli: *Strange metal behavior by overdamped short-range fluctuations in cuprates and elsewhere*

Coffee breaks 11:00 - 16:00

Lunch 13:00

THURSDAY, JUNE 29, 2023

32
session

sala **PITHECUSA** Chair: **U. Vool, N. Poccia**

- 11:30** Peter Samuely: *Ising superconductivity in a bulk*
- 12:00** Kornelius Nielsch: *Micro-Thermoelectric Devices and Nanostructured Topological Insulators*
- 12:30** Luca Chirolli: *Cooper quartets in hybrid superconducting devices*

35
session

sala **PRIMAVERA** Chair: **M. Grilli, D. Chakraborty**

- 11:30** Giniyat Khaliullin: *Magnetoelastic coupling in spin-orbit entangled Mott insulators*
- 12:00** Masato Sakano: *Breaking of spatial inversion symmetry in anti-parallel-stacked transition metal dichalcogenides*
- 12:30** Peter Wahl: *Low energy electronic structure in strontium ruthenates: from surface distortions to magnetic-field control of the electronic structure*

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session

sala **NITRODI** Chair: **K. Quader, Mi Jiang**

- 11:30** Yipeng Cai: *μ SR studies of Kagome magnet (Fe, Co)Sn*
- 12:00** Igor Vinograd: *The CDW of $\text{YBa}_2\text{Cu}_3\text{O}_y$: insights from NMR and XRD*
- 12:30** Lotte Mertens: *Chiral domains in Tantalum disulfide*

THURSDAY, JUNE 29, 2023

33
session

sala **PITHECUSA** Chair: **K. Nielsch, L. Chirolli**

14:30 Khandker Quader: *Correlation-Temperature Phase diagram of Infinite-layer Rare-earth Nickelates: an embedded DMFT perspective*

15:00 Jonathan Pellicciari: *Effect of capping layer on superconducting $Nd_{1-x}Sr_xNiO_2$*

15:30 Mi Jiang: *Role of Ni-Nd Hybridization in Infinite-Layer Nickelates*

36
session

sala **PRIMAVERA** Chair: **G. Khaliullin, P. Wahl**

14:30 Shuichi Murakami: *Anomalous Crystal Shapes of Topological Crystalline Insulators*

15:00 Giovanni Mirarchi: *Interplay between anisotropy and charge fluctuations in cuprates*

15:30 Debmalya Chakraborty: *Disorder-robust phase crystal in high-temperature superconductors from topology and strong correlations*

39
session

sala **NITRODI** Chair: **I. Vinograd, M. Sakano**

14:30 MEMORIAL SESSION for JOHN GOODENOUGH

15:00 Masaki Fujita: *Superconductivity in 214-based structural isomers*

15:30 Elena Gati: *Uniaxial stress control of correlated quantum materials: From superconductors to magnets*

THURSDAY, JUNE 29, 2023

34
session

sala **PITHECUSA** Chair: **J. Pelliciani, G. Mirarchi**

- 16:30** Dirk Manske: *Theory of Higgs spectroscopy for superconductors in non-equilibrium*
- 17:00** Kenneth Burch: *Axial Higgs Mode from Quantum Geometry and a Charge Density Wave*
- 17:30** Brian Andersen: *Recent developments in the understanding of superconductivity of Sr_2RuO_4*
- 18:00** David Neilson: *Chester supersolid of spatially indirect excitons in double-layer semiconductor heterostructures*

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session

sala **PRIMAVERA** Chair: **M. Fujita**

- 16:30** Wojciech Brzezicki: *Unprotected edge modes in quantum spin Hall insulator candidate materials*
- 17:00** Takeshi Mizushima: *Pair Density Waves in Topological Superfluid 3He*
- 17:30** Takeshi Kondo: *Extremely clean doped Mott states in high- T_c cuprates forming small Fermi pockets investigated by ARPES*
- 18:00** Luca Tomarchio: *THz and Pump-Probe Spectroscopy of Co_2MnGa Topological semimetal*

40
session

sala **NITRODI** Chair: **E. Gati, S. Murakami**

- 16:30** Nikolai Zhigadlo: *Exploring 2D materials: growth, properties, and applications*
- 17:00** FabioLa Mattina: *Charge interactions at buried YBCO interface*
- 17:30** Alexander Petrovic: *Skyrmion-vortex pairs: hybrid topological solitons for quantum information*
- 18:00** Lev Vidmar: *Ergodicity breaking transition in zero dimensions*

FRIDAY, JUNE 30, 2023

41
session

sala **PHITECUSA Plenary** Chair: **C. Mazzoli, S. Feng**

- 9:00** Hiroshi Kontani: *Even- and Odd-Parity Density Waves and Superconductivity in Kagome Metals, Nickelates and Other Strongly Correlated Metals*
- 9:30** Takasada Shibauchi: *Nematic quantum critical points and unconventional superconducting states in Fe(Se/S/Te)*
- 10:00** Jorge Hirsch: *Superconductivity in hydrides under high pressure: fact or fiction?*
- 10:30** Francesco Tafuri: *Hybrid Josephson junctions opportunity for quantum hardware and advances in quantum science and engineering*

Coffee breaks 11:00 - 16:00

Lunch 13:00

Conference Dinner 20:00

FRIDAY, JUNE 30, 2023

42
session

sala **PITHECUSA** Chair: J. Haase, G. Seibold

- 11:30** Yuta Mizukami: *Thermodynamic studies on the Majorana gap of Kitaev material α -RuCl₃*
- 12:00** Shiping Feng: *T-linear resistivity in the strange-metal phase of cuprate superconductors due to umklapp scattering from a spin excitation*
- 12:30** Leo Radzihovsky: *Quantum Hall liquid crystals*

45
session

sala **PRIMAVERA** Chair: J. Hirsch, F. Tafuri

- 11:30** Cinzia Giannini: *Multi-length scale X-rays investigation of hierarchically organized supercrystals*
- 12:00** Adam Klosinski: *Topology of chalcogen chains*
- 12:30** Xiao Hu: *Higgs-Leggett mode in Kagome Superconductor CsV₃Sb₅*

48
session

sala **NITRODI** Chair: T. Shibauchi, A. Zaikin

- 11:30** Shinichi Shamoto: *Development of dynamic magnetic pair-density function analysis*
- 12:00** Meenakshi Sharma: *Investigation of BKT transition under low magnetic fields in NbN thin films*
- 12:30** Luca Dell'Anna: *Topological order and dynamics in long-range Kitaev chains*

FRIDAY, JUNE 30, 2023

43
session

sala **PITHECUSA** Chair: L. Radzihovsky, Y. Mizukami

- 14:30** Andrei Zaikin: *Flux cotunneling and Coulomb drag for quantum phase slips*
- 15:00** Davide Massarotti: *Unconventional Josephson junctions for quantum hardware*
- 15:30** Sadashige Matsuo: *Nonlocal Josephson effect in coherently coupled Josephson junctions*

46
session

sala **PRIMAVERA** Chair: A. Klosinski, L. Dell'Anna

- 14:30** Reizo Kato: *Dirac cone formation in single-component molecular conductors based on metal dithiolene complexes*
- 15:00** Rosa Córdoba Castillo: *Focused Ion Beam nanostructuring of superconductors*
- 15:30** Ming Shi: *Tunable topological Dirac surface states and van Hove singularities in kagome metal GdV_6Sn_6*

49
session

sala **NITRODI** Chair: N. Pugach, Xiao Hu

- 14:30** Giulia Venditti: *Superfluid response of two-dimensional filamentary superconductors*
- 15:00** Younsik Kim: *Observation of Kondo lattice behavior in antiferromagnetic metal FeTe*
- 15:30** Jeffery Tallon: *The curious case of overdoped cuprates: conventional or exotic?*

FRIDAY, JUNE 30, 2023

44
session

sala **PITHECUSA** Chair: **D. Massarotti, R. Córdoba Castillo**

- 16:30** Maria Iavarone: *Coexistence of Charge Density Waves and Superconductivity in Layered Cu_xTiSe_2*
- 17:00** Masatoshi Sato: *Extended Nielsen-Ninomiya theorem in non-Hermitian systems and its application*
- 17:30** Bilal Tanatar: *Density and pseudo-spin rotons in a bilayer of soft-core bosons*

47
session

sala **PRIMAVERA** Chair: **S. Matsuo, R. Kato**

- 16:30** Shinichiro Seki: *Novel materials with magnetic skyrmions and their three-dimensional dynamics*
- 17:00** Kota Ishihara: *Superconducting gap structure and anomalous lower critical field in UTe_2*
- 17:30** Gregor Jotzu: *Ultrafast magnetometry of (light-induced) superconductors*

50
session

sala **NITRODI** Chair: **K. Arutyunov, G. Venditti**

- 16:30** Weiqiang Yu: *Proximate Deconfined Quantum Critical Point in a Shastry-Sutherland Compound $\text{SrCu}_2(\text{BO}_3)_2$*
- 17:00** Dmitri Efremov: *Impact of high order of van Hove singularities on the competition of charge and spin degrees of freedom*
- 17:30** Lingjia Shen: *Atomic Relaxation in Cuprate Superconductors: The Role of Dynamic Disorder on Charge Density Waves*

SATURDAY, JULY 1, 2023

51
session

sala **PHITECUSA Plenary** Chair: **M. Cuoco, A. Di Bernardo**

- 9:00** Jason Robinson: *Flux vortex diode effect in proximity-magnetized superconducting Nb*
- 9:30** Serguei Brazovski: *Phase Transitions of Confinement and Aggregation, and Formation of Stripes in Ensembles of Solitons in Quasi 1D Electronic Systems with long range Coulomb interactions.*
- 10:00** Juergen Haase: *T_c, Pseudogap and other Cuprate Properties from Charge Sharing between Planar Cu and O, Measured with NMR*
- 10:30** Götz Seibold: *Third harmonics generation from collective modes in disordered superconductors*

52
session

sala **PITHECUSA** Chair: **J. Robinson, S. Brazovski**

- 11:30** Mario Cuoco: *Superconducting orbitronics: novel effects and quantum phases*
- 12:00** Angelo Di Bernardo: *Gate-control of superconducting current*
- 12:30** Saheli Sarkar: *Anomalous softening of phonon-dispersion in the under-doped cuprate superconductors*
- 13:00** Closing

Coffee break 11:00

Poster sessions

Xiang Li: *Influence of impurities on the electronic structure in cuprate superconductors*

Xingyu Ma: *Dispersion kink in cuprate superconductors*

Sathish Kumar Paramasivam: *Enhancement of Bereninskii-Kosterlitz-Thouless transition temperature in coupled deep and quasi-flat band 2 D system*

Minghuan Zeng: *Impurity effects on the microwave conductivity of cuprate superconductors*

