

PROGRAMME

11th International Conference on the
Exact Renormalization Group
Harnack-Haus, Berlin, Germany

2022
July
25 – 29

Sunday 24 July 2022

18:00-21:00 Welcome reception and poster session

Monday 25 July 2022

08:55-09:00 Welcome

Session 1 (Goethe-Saal)

09:00-09:45 MELVILLE, Scott Positivity bounds in Effective Field Theories

09:45-10:30 GURAU, Razvan From Random Tensors to Tensor Field Theory

10:30-11:00 Break

11:00-11:45 RINGEL, Zohar Information theory and real space RG

11:45-12:30 MEDEN, Volker Functional RG for zero- and one-dimensional Fermi systems

12:30-14:30 Lunch break

Session 2a (Hahn-Saal)

14:30-14:55 BONETTI, Pietro Maria SU(2) gauge theory of the pseudogap phase in the two-dimensional Hubbard model

14:55-15:20 BALOG, Ivan Renormalization group and probability theory: distribution of the order parameter at criticality

15:20-15:45 DEFENU, Nicolo The long-range XY model and other examples of exotic BKT scaling

15:45-16:15 Break

16:15-16:35 DUPUIS, Nicolas Precision calculation with FRG: the planar Bose gas as an example

16:35-16:55 HAUCK, Jonas TU²FRG - a scalable approach for TUF RG in generic fermionic models

16:55-17:15 VILARDI, Demetrio Functional RG for strongly interacting Hubbard model'

17:15-18:15 Poster session

Session 2b (Goethe-Saal)

FLOERCHINGER, Stefan Extended symmetries

KNORR, Benjamin Quantum Gravity Amplitudes From First Principles

HELD, Aaron Invariant Renormalization-Group improvement in General Relativity

Break

RIPKEN, Chris Gravity-mediated matter scattering amplitudes from the effective action

PITHIS, Andreas Towards the phase structure of the complete Lorentzian Barrett-Crane model

THÜRIGEN, Johannes Dimensional reduction along the RG flow in combinatorially non-local field theories

Tuesday 26 July 2022

Session 3 (Goethe-Saal)

09:00-09:45 GULL, Emanuel Nevanlinna Analytical Continuation

09:45-10:30 BRAUN, Jens Towards a microscopic understanding of macroscopic properties of strong-interaction matter

10:30-11:00 Break

11:00-11:30 FERRERO, Renata The Spectral Geometry of de Sitter Space in Asymptotic Safety

11:30-12:00 REICHERT, Manuel Lorentzian quantum gravity and the graviton spectral function

12:00-12:30 REINOSA, Urko Functional Renormalization Group and 2PI Effective Action Formalism

12:30-14:30 Lunch break

Session 4a (Hahn-Saal)

14:30-14:55 KOPIETZ, Peter Quantum discontinuity fixed point and renormalization group flow of the SYK model

14:55-15:20 YOKOTA, Takeru Analysis of classical liquids using functional renormalization group

15:20-15:45 BUCCIO, Diego RG flows between Gaussian fixed points

15:45-16:15 Break

16:15-16:35 GIEVERS, Marcel Multiloop flow equations for single-boson exchange FRG

16:35-16:55 HOMENDA, Mateusz Critical behaviour at thermal m-axial Lifshitz point and stability of the FFLO superfluid phases

16:55-17:15 VON MILCZEWSKI, Jonas Lifetimes of the Fermi polaron and molecule at finite momentum from FRG

17:15-17:35 LEE, Chiu Fan Active matter: A treasure trove of novel universality classes

17:35-17:55 JENTSCH, Patrick Novel critical phenomena in compressible polar active fluids

17:55-18:15

Session 4b (Goethe-Saal)

IHSSEN, Frederike Functional Flows for Complex Actions

ESER, Juergen Pion-pion scattering from nucleon-meson fluctuations

YAMADA, Masatoshi Asymptotic safety of Yang-Mills gauge theory in 5 dimensional spacetime

Break

HORAK, Jan Timelike properties of QCD from functional methods

FEJOS, Gergely Second order chiral phase transition in three flavor quantum chromodynamics?

KLUTH, Yannick Spectral Functions in Banks-Zaks QCD

ERSCHFELD, Alaric Functional renormalisation group for cosmic large-scale structure formation

LAPORTE, Cristóbal Cosmological constant problem and Hubble tension in scale-dependent cosmology

SAVIDY, George Stability of the Yang-Mills theory vacuum and Cosmological Inflation.



Wednesday 27 July 2022

Session 5 (Goethe-Saal)

09:00-09:45	PALMER, Stephanie	Coarse graining to capture "relevant" information in biological systems
09:45-10:30	LUCARINI, Valerio	Large Deviations in the Climate System: Extreme Events and Metastability
10:30-11:00		Break
11:00-11:30	FALLS, Kevin	Essential Renormalisation Group
11:30-12:00	ZAMBELLI, Luca	Vanishing regulators
12:00-12:30	WSCHEBOR, Nicolás	Glory and misery of the Derivative Expansion: Ten years later
12:30-14:30		Lunch break
14:30-15:45		Poster session
15:45-16:15		Break

Session 6a (Hahn-Saal)

Session 6b (Goethe-Saal)

16:15-16:35	HARRIBEY, Sabine	Sextic tensor field theories	ALKOFER, Reinhard	Coupling fermions to unimodular gravity
16:35-16:55	HARUNA, Junichi	Fixed Point Structure of Gradient Flow Exact Renormalization Group for Scalar Field Theories	SCHIFFER, Marc	The weak-gravity bound in asymptotically safe gauge-gravity systems
16:55-17:15	ROSE, Félix	Operator product expansion coefficients from the nonperturbative functional renormalization group	DE BRITO, Gustavo	Nonvanishing gravitational contribution to matter beta functions for vanishing regulators
17:15-17:35	CRESSWELL-HOGG, Charlie	Interacting fixed points of fermionic field theories	OHTA, Nobuyoshi	Running Newton Coupling, Scale Identification and Black Hole Thermodynamics
17:35-17:55	RAY, Shouryya	Gross-Neveu SO(3) criticality in spin-orbital liquids: FRG vs higher-order perturbation theory	BORISSOVA, Johanna	Formation and evaporation of quantum black holes from the decoupling mechanism
17:55-18:15			MELICHEV, Oleg	Gauge dependence of Essential Quantum Einstein Gravity
18:30-21:30		BBQ and discussions (terrace and poster area)		

Thursday 28 July 2022

Session 7 (Goethe-Saal)

09:00-09:45	HOLLANDS, Stefan	Operator Product Expansion
09:45-10:30	ANDERGASSEN, Sabine	A functional RG perspective on the 2D Hubbard model
10:30-11:00		Break
11:00-11:30	JAKUBCZYK, Pawel	The O(N) models in the vicinity of d=2
11:30-12:00	KENNES, Dante	Non-equilibrium Properties of Berezinskii-Kosterlitz-Thouless Phase Transitions
12:00-12:30	CANET, Léonie	Structure functions in shell models of turbulence
12:30-14:30		Lunch break

Session 8a (Hahn-Saal)

Session 8b (Goethe-Saal)

14:30-14:55	CAMPBELL, David	A Generalized fRG Solver for Material Systems	PLATANIA, Alessia	Non perturbative strings, asymptotic safety, and the swampland
14:55-15:20	SÁNCHEZ, Carlos	Clock models from second order of the derivative expansion of the functional renormalization group	DE POLSI, Gonzalo	Universal quantities at high orders of the derivative expansion
15:20-15:45	FARKAS, Lucija Nora	The lower critical dimension of phi ⁴ theory from Functional RG	KOENIGSTEIN, Adrian	Fluid dynamic aspects of the exact renormalization group
15:45-16:15		Break		Break
16:15-16:35	SBIERSKI, Björn	Spins, pseudo-Majoranas and the functional RG	FRÖB, Markus	Constructing CFTs from AdS flows
16:35-16:55	RÜCKRIEGEL, Andreas	Spin functional renormalization group for dimerized quantum spin systems	ZIEBELL, Jobst	A Rigorous Treatment of the Wetterich Equation
16:55-17:15	CHLEBICKI, Andrzej	The low-temperature phase of the O(N) models below two dimensions	ZAPPALA, Dario	Ultraviolet properties of Lifshitz-type field theories
17:15-17:35	YABUNAKA, Shunsuke	Tetracriticality in O(N) models	PEREIRA, Antonio	Asymptotically safe scalar-tensor theories
17:35-17:55	MILLINGTON, Peter	Benchmarking effective actions and their flow equations in zero dimensions	BECKER, Maximilian	Background Independent Field Quantization with Sequences of Gravity-Coupled Approximants

Friday 29 July 2022

Session 9 (Goethe-Saal)

09:00-09:45	ERDMENGER, Johanna	From holographic RG to information flows
09:45-10:30	WETTERICH, Christof	Functional renormalization for the beginning and the present Universe
10:30-11:00		Break
11:00-11:30	WINK, Nicolas	Computational fluid dynamics and the fRG
11:30-12:00	PORTA, Marcello	Luttinger Liquids at the Edge of Quantum Hall Systems
12:00-12:30	CLASSEN, Laura	Unconventional superconductivity in moiré transition metal dichalcogenides
12:30-14:00		Lunch break
14:00-15:00		Summary and planning of next conference