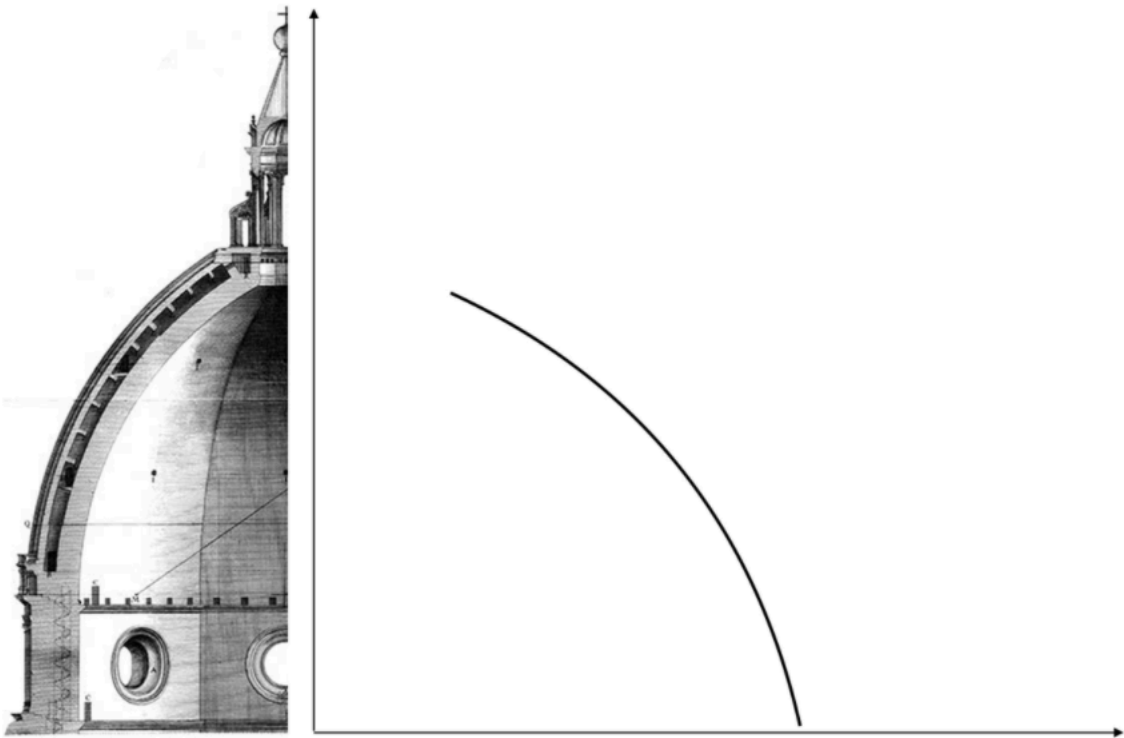


Mar 28, 2022 - Apr 01, 2022

Phase transitions in particle physics

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Program

Workshop

Phase transitions in particle physics

Mar 28 - Apr 01, 2022 (GGI)

Timetable

Monday, March 28

13:00-14:00	Registration	
14:00-14:30	S. De Curtis (INFN), GGI Director	Welcome
	M. Peardon (TCD), Network Coordinator	NT6 and Strong-2020
14:30-15:20	T. Galatyuk (GSI Frankfurt)	Decoding the phase structure of QCD at high μ_B
15:20-16:10	C. Ratti (U Houston)	Overview of the BEST collaboration and status of Lattice QCD
16:10-16:40	J. Günther (U Wuppertal)	Resummed lattice QCD equation of state at finite baryon density: strangeness neutrality and beyond
16:40-17:10	Coffee break	
17:10-18:00	J. Pawłowski (U Heidelberg)	Overview on the QCD phase structure from functional approaches
18:00-18:50	G. Villadoro (ICTP Trieste)	Overview of chiral perturbation theory at finite temperature

Tuesday, March 29

09:00-09:50	F. Sannino (U Naples)	The future of composite dynamics
09:50-10:40	J. Ghiglieri (U Nantes)	Thermal field theory and cosmology
10:40-11:10	Coffee break	
11:10-12:00	R. Contino (U Roma1)	Accidental dark matter
12:00-12:30	F. Cuteri (U Frankfurt)	Isospin-asymmetric QCD matter
12:30-13:00	R. Houtz (IPPP Durham)	Dynamical axions and gravitational waves
13:00-14:30	Lunch break	
14:30-15:00	O. Philipsen (U Frankfurt)	The order of the QCD chiral phase transition as a function of quark masses and N_f
15:00-15:30	S. Sharma (U Bielefeld)	The chiral phase transition in 3-flavor QCD
15:30-16:00	A. Lahiri (U Bielefeld)	QCD towards the chiral limit - where are we?
16:00-16:30	Coffee break	
16:30-17:00	A. Kotov (Juelich, NIC)	QCD thermal phase transition, its scaling window and novel order parameter
17:00-17:30	L. Maio (U Pisa)	Phase diagram of QCD in strong magnetic field
17:30-18:00	C. Bonanno (INFN Florence)	The topological susceptibility in high-T full QCD from staggered spectral projectors
18:00-18:30	I. Kudrov (ITEP, Moscow)	Decomposition of the gauge field in the maximal abelian gauge

Wednesday, March 30

09:00-09:30	F. Karsch (U Bielefeld)	Taylor expansions and Padé approximations in finite density QCD
09:30-10:00	C. Schmidt (U Bielefeld)	The phase structure of strong interaction matter from Lee-Yang edge singularities in Lattice QCD
10:00-10:30	R. Rogalyov (IHEP Protvino)	QC ₂ D as a probe of the analytic continuation methods
10:30-11:00	Coffee break	
11:00-11:50	U.-J. Wiese (U Bern)	Quantum link models: a resource-efficient approach to the quantum simulation and quantum computation of gauge theories
11:50-12:20	S. Ryan (TCD)	From PRACE to EuroHPC
12:20-13:00	White Paper Discussion I	
13:00-14:30	Lunch break	
14:30-15:20	C. Allton (U Swansea)	Methods and results for spectral functions - why do we care about inverse Laplace transform?
15:20-15:50	S. Cuomo (U Naples)	Models for the real Laplace transform inversion
15:50-16:20	C. Conti (U Firenze)	Spline models for data representation
16:20-16:50	Coffee break	
16:50-17:40	N. Brambilla (TU Munich)	Heavy quarkonium: exploring the QGP with an alliance of effective field theories and lattice
17:40-18:10	T. Harris (U Edinburgh)	Computation of QCD meson screening masses at high temperature
18:10-18:40	O. Soloveva (U Frankfurt)	Influence of a phase transition on the transport properties of QCD matter
18:40-19:10	P. Schicho (U Helsinki)	(Non-)perturbative jet dispersion in hot QCD
20:30	Workshop Dinner – “ <i>Bottega in Piazza Santa Maria Novella 32R</i> ”	

Thursday, March 31

12:00-13:00	Strong-2020 & Org. Committee	Open Meeting
13:00-14:30	Lunch break	
14:30-15:20	A. Pelissetto (U Roma1)	Charged fixed points in 3D U(1) scalar gauge theories
15:20-15:50	M. Sorba (SISSA)	Interfaces near criticality: results from field theory
15:50-16:20	B. Kitching-Morley (U Soton)	Nonperturbative infrared finiteness in super-renormalizable scalar quantum field theory
16:20-16:50	Coffee break	
16:50-17:40	C. Sasaki (U Wroclaw)	Parity doubling in cold and dense QCD
17:40-18:10	A. Rago (U Plymouth & CERN)	A template for Composite Higgs models - SU(2) gauge theory with $N_f = 2$ fundamental fermions
18:10-18:40	V. Bornyakov (IHEP Protvino)	Deconfinement transition in $N_c = 2$ lattice QCD at low temperature and high quark density

Friday, April 1

09:00-09:50	D. Bachtis (U Swansea)	Machine learning and the inverse renormalization group
09:50-10:20	G. Aarts (U Swansea)	Quantum fields and machine learning
10:20-10:50	A. Athenodorou (Cyprus Institute & U Pisa)	Critical temperature from unsupervised deep learning autoencoders
10:50-11:20	Coffee break	
11:20-11:50	B. Lucini (U Swansea)	Ergodic sampling with the density of states
11:50-12:50	White paper Discussion II	
12:50-13:00	Closing, farewell	