SSM

Scientific Colloquia

Scuola Superiore Meridionale

Academic Year 2020-2021

Cycle: First cycle of highly interdisciplinary Scientific Colloquia

Seminar program

1

Beyond Einstein gravity: Dark energy and dark matter as curvature effects

Date and time: 19 November 2020 - 2 pm CET
Speaker(s): Salvatore Capozziello
Affiliation / role: Professor at “Ettore Pancini” Department of Physics, University of Naples Federico II - Italy; Scuola Superiore Meridionale - Italy

2

The Ohta-Kawasaki model for diblock copolymers: Stability and minimality of critical points

Date and time: 26 November 2020 - 2 pm CET
Speaker(s): Nicola Fusco
Affiliation / role: Professor at “Renato Caccioppoli” Dept. of Mathematics and Applications, University of Naples Federico II - Italy; Scuola Superiore Meridionale - Italy

3

Network systems, Kuramoto oscillators, and synchronous power flow

Date and time: 3 December 2020 - 2 pm CET
Speaker(s): Francesco Bullo
Affiliation / role: Professor at Department of Mechanical Engineering, University of California Santa Barbara - U.S.A.; Scuola Superiore Meridionale - Italy

4

Measuring the expansion of the universe with quasars

Date and time: 10 December 2020 - 2 pm CET
Speaker(s): Guido Risaliti
Affiliation / role: Professor at Department of Physics and Astronomy, University of Florence - Italy

5

Synchronization: A universal concept in nonlinear sciences

Date and time: 14 January 2021 - 2 pm CET
Speaker(s): Juergen Kurths
Affiliation / role: Professor at Department of Complexity Science, Potsdam Institute for Climate Impact Research, Germany; Scuola Superiore Meridionale - Italy

6

Probing gravitational field: A fundamental viewpoint

Date and time: 21 January 2021 - 2 pm CET
Speaker(s): Lorenzo Fatibene
Affiliation / role: Professor at “Giuseppe Peano” Department of Mathematics, University of Turin - Italy

7

Quantum simulators

Date and time: 28 January 2021 - 2 pm CET
Speaker(s): Rosario Fazio
Affiliation / role: Professor at “Ettore Pancini” Department of Physics, University of Naples Federico II - Italy; International Center for Theoretical Physics ICTP, Trieste - Italy

8

Engineering the firearm ecosystem: Research on media coverage and firearm acquisition in the aftermath of a mass shooting

Date and time: 4 February 2021 - 2 pm CET
Speaker(s): Maurizio Porfiri
Affiliation / role: Professor at Department of Mechanical and Aerospace Engineering, New York University - U.S.A.; Scuola Superiore Meridionale - Italy

9

Measuring the cosmological parameters with SNe-Ia and gamma-ray bursts

Date and time: 11 February 2021 - 2 pm CET
Speaker(s): Massimo Della Valle
Affiliation / role: Astronomical Observatory of Capodimonte - Italy; Scuola Superiore Meridionale - Italy

10

Variational approximations of the Griffith functional

Date and time: 18 February 2021 - 2 pm CET
Speaker(s): Francesco Solombrino
Affiliation / role: Associate Professor at “Renato Caccioppoli” Department of Mathematics and Applications, University of Naples Federico II - Italy

11

The SHiP project at CERN

Date and time: 25 February 2021 - 2 pm CET
Speaker(s): Andrey Golutvin
Affiliation / role: Chair in Physics and Professor at Department of Physics, Imperial College London - U.K.

12

Astroparticle physics in the era of multi-messenger astronomy

Date and time: 4 March 2021 - 2 pm CET
Speaker(s): Gennaro Miele
Affiliation / role: Professor at “Ettore Pancini” Department of Physics, University of Naples Federico II - Italy; Scuola Superiore Meridionale - Italy

13

Hierarchical seismic imaging

Date and time: 11 March 2021 - 2 pm CET
Speaker(s): Jean Virieux
Affiliation / role: Professor at Laboratory in Earth Sciences: ISTerre, Université Grenoble Alpes - France

14

Additive Manufacturing: A world full of opportunities and challenges!!

Date and time: 18 March 2021 - 2 pm CET
Speaker(s): Ferdinando Auricchio
Affiliation / role: Professor at Department of Civil Engineering and Architecture, University of Pavia - Italy

15

The coming revolution of data driven discovery (a fourth methodological paradigm of science)

Date and time: 25 March 2021 - 2 pm CET
Speaker(s): Giuseppe Longo
Affiliation / role: Professor at “Ettore Pancini” Department of Physics, University of Naples Federico II - Italy

16

Why do we cooperate? Understanding and modelling societies using reinforcement learning

Date and time: 1 April 2021 - 2 pm CET
Speaker(s): Mirco Musolesi
Affiliation / role: Professor at Department of Computer Science, University College London - U.K.; Turing Fellow, Alan Turing Institute, UK National Institute for Data Science and Artificial Intelligence - U.K.; Professor at Department of Computer Science and Engineering at the University of Bologna - Italy; Scuola Superiore Meridionale - Italy

17

Rheo-engineering microfluidics: How to exploit rheological properties of fluids to design microfluidic applications

Date and time: 8 April 2021 - 2 pm CET
Speaker(s): Pier Luca Maffettone
Affiliation / role: Professor at Dept. of Chemical, Material and Production Engineering, University of Naples Federico II - Italy; Scuola Superiore Meridionale - Italy

18

Classical Cepheids as distance indicators: From the Milky Way to the Hubble constant

Date and time: 15 April 2021 - 2 pm CET
Speaker(s): Marcella Marconi
Affiliation / role: Director at Astronomical Observatory of Capodimonte in Naples - Italy

19

Microgravity, science and technology: An overview

Date and time: 22 April 2021 - 2 pm CET
Speaker(s): Fabio Peluso
Affiliation / role: Senior Technical Project Manager at Leonardo S.p.A - Italy

20

Putting More PHYS into PSHA: Advancing seismic hazard analysis with physics-based modelling

Date and time: 29 April 2021 - 2 pm CET
Speaker(s): Thomas H. Jordan
Affiliation / role: Professor at University of South California Dornsife - U.S.A.; Southern California Earthquake Center - U.S.A.

21

Modelling the complexity of multiagent activity for human-AI interaction using dynamical primitives

Date and time: 6 May 2021 - 2 pm CET
Speaker(s): Michael Richardson
Affiliation / role: Professor at Department of Psychology; Centre for Elite performance, Expertise and Training; Faculty of Medical, Health and Human Sciences; Macquarie University - Australia; Scuola Superiore Meridionale - Italy

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Dark energy and cosmic acceleration

Date and time: 13 May 2021 - 2 pm CET
Speaker(s): Jailson S. Alcaniz
Affiliation / role: Professor at Observatorio Nacional Astronomy & Astrophysics, Rio de Janeiro - Brazil

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The beat of math

Date and time: 20 May 2021 - 2 pm CET
Speaker(s): Alfio Quarteroni
Affiliation / role: Professor at Politecnico di Milano - Italy; Professor emeritus at Ecole Polytechnique Fédérale de Lausanne (EPFL) - Switzerland

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Synchronization in complex networks, hypergraphs and simplicial complexes

Date and time: 27 May 2021 - 2 pm CET
Speaker(s): Stefano Boccaletti
Affiliation / role: Senior researcher at the CNR's Institute for Complex Systems in Florence - Italy; Universidad Rey Juan Carlos, Madrid - Spain; Unmanned Systems Research Institute, Northwestern Polytechnical University, Xi'an - China; Moscow Institute of Physics and Technology, Moscow - Russia; Scuola Superiore Meridionale - Italy

25

Dynamics of PDEs and recurrent motions

Date and time: 3 June 2021 - 2 pm CET
Speaker(s): Pietro Baldi
Affiliation / role: Department of Mathematics and Applications "Renato Caccioppoli", University of Naples Federico II - Italy

26

Seismic risk assessment and management – The Groningen gas field case

Date and time: 10 June 2021 - 2 pm CET
Speaker(s): Annemarie Muntendam-Bos
Affiliation / role: Senior Specialist at the State Supervision of Mines, the Dutch safety authority for mining activities - Netherlands; Associate Professor on Induced Seismicity (part time) at the Delft University of Technology - Netherlands

27

The pandemic playbook, a physicist take

Date and time: 17 June 2021 - 2 pm CET
Speaker(s): Francesco Sannino
Affiliation / role: Professor at “Ettore Pancini” Department of Physics, University of Naples Federico II - Italy; Director of the Centre for Cosmology and Particle Physics Phenomenology (CP³-Origins) - Denmark; Chair at the Danish Institute for Advanced Study - Denmark; Scuola Superiore Meridionale - Italy

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Symmetries and quantum mechanics: From phase transitions to the evolution of our universe

Date and time: 24 June 2021 - 2 pm CET
Speaker(s): Massimo Taronna
Affiliation / role: Associate Professor at “Ettore Pancini” Physics Department, University of Naples Federico II - Italy

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On the synthesis and crowdsourcing of control policies for autonomous agents from data

Date and time: 1 July 2021 - 2 pm CET
Speaker(s): Giovanni Russo
Affiliation / role: Professor at Department of Electrical and Information Engineering and Applied Mathematics, University of Salerno - Italy

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Probing the early universe with LISA and ET gravitational wave detectors

Date and time: 8 July 2021 - 2 pm CET
Speaker(s): Angelo Ricciardone
Affiliation / role: National Institute for Nuclear Physics (INFN), Padova - Italy

31

What is matter according to particle physics, and why try to observe its creation in a lab?

Date and time: 15 July 2021 - 2 pm CET
Speaker(s): Francesco Vissani
Affiliation / role: National Institute for Nuclear Physics (INFN), Padova - Italy