



Every great advance
in Science has issued
from a new audacity
of imagination
-John Dewey-



PhD Day⁵

The day dedicated to the PhD students

Academic cooperation is of great importance in creating a research network between colleagues from different fields of study. An interuniversity research network is indeed fundamental for both the quantity and quality of the research production. During the PhD Day⁵, participants will present their research work and discuss their findings as well. Moreover, researchers and PhD students will have the opportunity to meet each other, communicate about interesting topics, share ideas and informations, hopefully leading to new collaborations. On the other hand, undergraduate students can learn more about topics usually not covered during the course of studies. Finally PhD Day⁵ is a good opportunity for students, who need to choose their thesis, to gain understanding of different research groups and their research project!

29th May
Save the date!

63 talks divided in:

- *Urban areas* • *Polymers and gels*
- *Health* • *Physics, astronomy, informatics and statistics*
- *Environment* • *Analytical chemistry*
- *Drugs* • *Cellular biology* • *Magnetism*
- *Imaging and spectroscopy*

... and many more in the **poster session!**


08:30 - 18:30 At Blocco Aule, Polo Scientifico, Sesto Fiorentino (FI)

More informations at www.phdday.unifi.it

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PhD Day⁵

29th May, Blocco Aule, Polo Scientifico di Sesto Fiorentino (FI)

08:30 Welcome & Opening

Aula Magna

Plenary session

09:30 Yawning in action: a comparative study on yawning in two wild *Strepsirrhine* species (Lemur catta and *Propithecus verreauxi*) **Zannella**

09:45 Engineering of light confinement in strongly scattering disordered media **Caselli**

10:00 Metals³, a database-mining tool for the identification of structurally similar metal sites **Valasatava**

10:15 Coffee Break

Cellular Biology

Aula 35

10:45 Molecular aspects in the maturation of cytosolic and mitochondrial iron-sulfur proteins **Muzzioli**

11:00 Relaxin protects cardiac muscle cells from hypoxia/reoxygenation injury. Involvement of Notch-1 pathway **Boccalini**

11:15 γ Epithelial Na^+ Channel and the Acid-Sensing Ion Channel 1 expression in the urothelium of patients with neurogenic detrusor overactivity **Mazzafferro**

11:30 Pleiotropic role of KLOTHO in Systemic Sclerosis (SSc): protective effects on endothelial cells (ECs) and involvement of the FGF23/Klotho axis in the calcinosis process **Mazzotta**

Polymers and Gels

11:45 Sviluppo di idrogeli a base di ciclodestrine per il rilascio controllato di deidroepiandrosterone a livello vaginale **Casella**

12:00 Responsive biomimetic nanocomposites for bone tissue engineering **Tempesti**

12:15 Development of nanostructured materials for cleaning and protection of metallic artifacts **Parisi**

12:30 Chelating agents confined in PVAc-borax Highly Viscous Polymeric Dispersions (HVPDs) for the conservation of artistic surfaces: a mechanical and structural study **Matarrese**

12:45 MAP of waste polystyrene **Bartoli**

Health

Aula Magna

10:45 Steps and control mechanisms of the differentiation of human dendritic cells **Silvano**

11:00 Cellule staminali mesenchimali in pazienti con sclerosi multipla: tra terapia cellulare e marker di malattia **Bonechi**

11:15 Biological effects of heavy metals on human central nervous system and their role in neurodegenerative disease **Branca**

11:30 Inflammatory mediator and metalloproteinase profile is associated with poor outcome in ischemic stroke patients treated with thrombolysis: results from the MAGIC study **Piccardi**

11:45 Epigenetic modifications and Alzheimer's disease: cause or effect? **Piaceri**

12:00 The diagnostic boundary between Autism Spectrum Disorder, Intellectual Developmental Disorders and Schizophrenia Spectrum Disorders **Piva Merli**

12:15 The rehabilitation of attention in patients with mild cognitive impairment and brain subcortical vascular changes using the Attention Process Training-Il. The RehAtt Study: rationale, design and methodology **Valenti**

12:30 The polyphenol oleuropein aglycone counteracts AD-like pathology in TgCRND8 mice **Pantano**

12:45 I design tibiali nella protesica di ginocchio: valutazione tramite tomografia computerizzata **Indelli**

Physics, Astronomy, Informatics and Statistics

Aula 36

10:45 Bright-white beetle scales optimise multiple scattering of light **Cortese**

11:00 Soliton-like excitations in spin chains: how to generate and use them **Nuzzi**

11:15 Unraveling weak interactions in molecular clusters **Mazzoni**

11:30 Transport properties of spintronics devices containing single molecule magnets **Cucinotta**

11:45 Orientation effects on AGN emission features **Bisogni**

12:00 Sublimating grains in the coma of new comets originating from the Oort Cloud **Faggi**

12:15 StreamingTrim 1.0: a Java software for dynamic trimming of 16S rRNA sequence data from metagenetic studies **Bacci**

12:30 Women's satisfaction of birth path in Tuscany **Tocchioni**

13:00 Time for Lunch

Environment

14:15 Embracing as an empathy-driven behaviour in Geladas **Pallante**

14:30 Approccio multidisciplinare dall'influenza dei fattori biotici ed abiotici sulla stabilità dei sistemi dunari costieri in aree naturali (Italia, Brasile) **Alquini**

14:45 Remote monitoring of the growth and development of durum wheat and operational applications for site-specific nitrogen fertilization **Guasconi**

15:00 Cultivation of *Chlorella* in a thin layer photobioreactor at high cell density **Niccolai**

15:15 Molecular analysis of soil microbial communities in natural environments **Vitali**

15:30 Physiological Response of inoculated Velvet bean (*Mucuna pruriens* L.) plants with rhizobacteria under water stress **Saleem**

Analytical Chemistry

15:45 Detecting sperm DNA fragmentation to discriminate between fertile and infertile men **Cambi**

16:00 Atmospheric aerosol and surface snow at Dome C (Antarctic plateau): a comparison of chemical composition from long-term continuous records **Frosini**

16:15 Sviluppo e ottimizzazione di un metodo analitico per il controllo di qualità di scorze di Citrus **Guccione**

16:30 Synthetic organic pigments: detection in paint samples and ageing study **Ghelardi**

16:45 Non-invasive characterization of two Japanese swords from the Wallace Collection **Barzagli**

Drugs

14:15 Progettazione, sintesi e caratterizzazione farmacologica preliminare di nuovi derivati del DM235 **Martino**

14:30 Derivati piperazini e amminopiperidinici come modulatori della Multidrug Resistance (MDR) **Floriddia**

14:45 Nanostructured systems for delivery of photosensitizing drugs to gram-negative bacteria **Conti**

15:00 Magnetic Nanoparticle for biomedical application **Manuelli**

15:15 Studies on the mechanism of action of cytotoxic gold compounds **Massai**

15:30 Solution behaviour and reactions with proteins of cis-Pt(NH₃)₂, the iodo-analogue of cisplatin **Marzo**

15:45 Cycloprapane pipercolic acids as templates for peptidomimetics **Sernissi**

Urban Areas

16:00 Flood risk in the urban areas: a focus on the incipient motion conditions of partially submerged vehicles **Arrighi**

16:15 Thermal Exergy analysis of a building **Baldi**

16:30 Il protocollo LEED per gli Ospedali di Comunità in Italia **Bruscoli**

16:45 La casa a custodia attenuata. Tipologie alternative al carcere tradizionale **Vessella**

Imaging and Spectroscopy

14:15 Fluorescence in Situ Hybridization with single molecule sensitivity in bacteria **Prayer Galletti**

14:30 Structural and dynamic properties of Intrinsically Disordered Proteins (IDPs) **Piai**

14:45 Paramagnetic NMR tools for determination of biomolecular structures and dynamics **Carlone**

15:00 Super-resolution imaging of the synaptic architecture in living neurons **Parenti**

15:15 Brain imaging with correlative two-photon and light sheet microscopy **Costantini**

15:30 Unstable dendritic spines in a mouse model of the CDKL5 disorder **Chelini**

Magnetism

15:45 Theoretical studies of a Single-Molecule Magnet on surfaces of Au and LSMO **Ninova**

16:00 Ab Initio Molecular Dynamics of a Single Molecule Magnet grafted on a gold surface **Lunghi**

16:15 Nitronyl nitroxide radical on Au (111): A Combined STM, ToF-SIMS, XPS and EPR Study of Anchorage **Poggini**

16:30 Cobalt ferrite nanoparticles for Rare-Earth free permanent magnets **Lottini**

16:45 Cantilever magnetometry: from single crystals to thin films **Perfetti**

17:00 Poster Session and Coffee Break

18:00 Conclusions and Poster Awards

Aula Magna