



Joint Doctoral Program in Chemistry

2020 Final Year Research Meeting



July, $1^{st} - 3^{rd}$ 2020 Online at

https://unive.zoom.us/j/97743374445

UniTs Aula Magna DSFC UniVe Auditorium Danilo Mainardi

Tips for connection:

If you already have Zoom, directly connect to the link <u>https://unive.zoom.us/j/97743374445</u>. If not, connect to the link and you will be asked to download the program. Follow the simple instructions and everything should work fine. For assistance you can call or send a whatsup message to Dr. Guidi +39 344 0104186 (only if you did your best to solve the problem by yourself, but you did not succeed). The virtual room will open half an hour before

the official starting time

Organizing Committee

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Funded by DSCF UniTs & DSMN UniVe

Wednesday, July 1st 2020

14:00 Welcome opening

14.10 - 15.00 **Conference Dr. Dritan Hasa** University of Trieste Mechanochemical synthesis of functional (pharmaceutical) solids

15.00 - 15.30 Scientific Reports UniTs Elisa Bernes

PPT ambipolar material and its building block moieties studied by gas phase X-ray photoelectron and photoabsorption spectroscopies

Chiara Alberoni

Pd(II)-catalyzed synthesis of functionalized polyolefins: the benchmark catalysts revisited

15.30 - 16.00 Coffee break

16.00 - 17.50 Scientific Reports UniTs Diana Dashi

Development of new products for hair color and hair bleaching

Ottavia Bellotto

Self-assembly of an amino acid derivative into an antimicrobial hydrogel biomaterial

Tarekegn Heliso Dollah

Development of novel heterogenous catalysts for photocatalytic N_2 fixation

Luca Bedon

Implementation of clinical trials by machine learning approaches Maria Claudia Cafiero Supramolecular nanostructures for biomolecule sensing **Alessio Vidal** Cis-locked Ru(II)-dmso precursors for the synthesis of heteroleptic polypyridyl compounds **Martina Zanchetta**

Development of LC-MS/MS quantification methods for the therapeutic drug monitoring of anticancer drugs

Thursday, July 2nd 2020

9.30 - 10.20 **Conference Prof. Claudia Crestini** *Università Ca' Foscari Venezia* Lignin Valorisation: Advances and Challenges

10.20 - 10.50 Scientific Reports UniVe Roberto Calmanti

Tungsten-based catalysts for carbon dioxide insertion and oxidation reactions

Carlotta Campalani

Carbon Dots from Biomass: synthesis and characterization

10.50 - 11.30 Coffee break

11.30 - 12.30 Scientific Reports UniVe Matteo Mauceri

New targeted molecules for the therapy of ovarian cancer

Vincenzo Lombardi

Comparison of different immobilization techniques with bovine serum albumin and endo-1,4- ß-glucanase on the different silica supports

Giulia Moro

Insights in sieroproteins-based electrochemical sensing of per- and polyfluorinated alkyl substances (PFAS)

12.30 - 13.00 Conference Alumni Stories Dr. Marta Da Pian

Costumer Consultant, Life Scientist, Elsevier

13.00 - 14.00 Lunch

14.00 - 14.50 Conference
Prof. Albano Cossaro
University of Trieste
Molecules on surfaces: probing the ultra-fast charge dynamics
14.50 - 15.30 Scientific Reports UniTs
Marco Medves
Hybrid diagonal Approximation (HDA): a new

efficient and general calculation method

Eleonora Cescon

Covalent reversible CK16 inhibitors as potential neuroprotective agents in neurodegenerative diseases **Ilenia Grieco**

Multi-target kinase inhibitors for effective control of neuroinflammation

15.30 - 16.00 Coffee break

16.00 - 17.30 Scientific Reports UniTs Francesco Longobardo

Synthesis and characterization of modified g-CN for application in photo-organocatalysis Mattia Vidali Synthesis of peptide conjugates of an irreversible deubiquitinase inhibitor with promising antineoplastic activity **Christian Rosso**

Developing novel photochemical methodologies in batch and flow

Thomas Gobbato

Bio-inspired Nano-Architectures for Artificial Photosynthesis

Mariachiara Spennato

Integration of chemistry and biotechnology for the sustainable valorization of biomass **Veronica Vida**

Design and synthesis of biosensing elements targeting natural compounds for the validation of a multisensor platform

Friday, July 3rd 2020

9.30 - 10.30 Scientific Reports UniVe Danny Zanardo

Light-driven processes for solar fuel production and cultural heritage remediation

Nicolò Pajer

Valorization of lignins for high-value applications

Giulia Mazzon

Antioxidant and hydrophobic treatment for the aging prevention of woven textiles

Valentina Ferraro

Luminescent Cu(I) and Mn(II) complexes for solid-state lighting applications

10.30 - 11.00 Coffee break

11.00 - 12.00 Scientific Reports UniVe Margherita Zucchelli Development of a novel zein-based coating for stone protection

Luca Pietrobon

Palladium-Catalyzed carbonylation reaction for the synthesis of esters and amides

Davide Rigo

Isopropenyl acetate: a pivotal reagent for glycerol functionalization

12.00 - 12.30 **Conference: Alumini Stories Dr. Elena Baracchini** *Friulab, Udine*

12.30 - 14.00 Lunch

14.00 - 14.50 Conference Dr. Federico Polo

Università Ca' Foscari Venezia Coupling electrochemistry and plasmonic to develop biosensing platform for cancer diagnostics

14.50 - 15.40 Scientific Reports UniVe Roberta Zanini

Multi - Analytical study of corrosion processes on archaeological glass and development of protective coating

Andrea Morandini

Triazinyl QACs as antimicrobial agents: from synthesis to use in the preparation of active surfaces

Somayeh Taghavi

Valorization of biomass to chemicals using promising catalysts

15.40 Concluding remarks

15.45 Consiglio didattico PhD in Chemistry



Dritan Hasa graduated in Pharmaceutical Chemistry and Technology, and obtained his PhD in Chemical and Pharmaceutical Science and

Technology at the University of Trieste. In 2014, he moved to the University of Cambridge, UK, for more than two years in the materials chemistry group of Prof. Jones investigating pharmaceutical polymeric materials for promoting crystallization and controlling polymorphism in the solid state. In 2017 he joined the Leicester School of Pharmacy, UK, as Vice-Chancellor Lecturer of Pharmaceutics where he progressed at the Senior Lecturer level in August 2018. Since November 2019 he is Assistant Professor (RTD-b) at the University of Trieste. His current research focuses on the use of green technologies for the preparation of functional pharmaceutical materials, in particular in finding new applications for pharmaceutical polymeric materials. In 2019 he was listed among 21 emerging Investigators from the Crystal Growth & Design, an ACS leading journal.

Claudia Crestini earned the PhD in engineering at Alma Mater University, Bologna, Italy. After a period as researcher at the Francesco Angelini Research Institute, Pomezia, Italy, she spent few years as visiting scientist and fellow at McGill



University, Montreal, Canada and at the Wroclaw University, Poland. In the period 1998-2015 she was assistant professor in Chemistry, University of Rome Tor Vergata and raised to

the position of associate professor until 2018 in the same university. Since 2018 she is full professor in chemistry at Università Ca' Foscari. She is author of 18 patents and more than 160 publications. Present research activities are focused on the development of new materials from lignins, with applications spanning from the active controlled release, biomedical and cosmetic applications, catalyst support, development of biocatalytic processes for lignin degradation and structural characterization of polyphenolic biomolecules.

Marta Da Pian earned her M.Sc. in chemistry in 2013 in a joint project between the University of Padua and the University of Twente, working on bioactive materials based on polymeric nanoblends. In 2018



she completed her PhD at University Ca' Foscari of Venice awarded with "Doctor Europaeus" mention in a joint doctoral program with Università degli Studi di Trieste, working on a new class of macrocycles applied as supramolecular catalysts, partially carried out in 2016 at Freie Universität Berlin. In 2016 she has been awarded with the Reaxys - Italian Chemical Society Young Researcher Award. She then moved to the University of Padua for a postdoc developing antibody drug systems aimed at cancer diagnosis and therapy. In 2019 she joined Elsevier as European Customer Consultant for Life Sciences solutions. Since 2019 she is part of the board of the Young Group of Societá Chimica Italiana (SCI) as representative for the Organic Chemist Division and she is also an active member of the Social Media Team of the International Younger Chemists Network (IYCN). She is active in public outreach activities such as "Non è Magia ma è Scienza" (NEMES), the "European Researcher's Night", "Pint of Science" and the "Global Women's Breakfast".

Albano Cossaro obtained the PhD in Physics in 2005 at the University of Trieste. He worked as beamline scientist at the ALOISA beamline of CNR, at the Elettra Synchrotron in Trieste. In 2012 he was awarded a FIRB Grant as Principal



Investigator. Since 2020 he is associate professor at the Department of Chemical and Pharmaceutical Sciences of the Trieste University. He is in charge of the ANCHOR Laboratory, an endstation of the ALOISA beamline dedicated to the study of complex hetero-organic interfaces. His main research interest is to investigate the in-situ functionalization of surfaces and to exploit it in the design of complex hetero-organic interfaces. To this aim, he explores the static and dynamic electronic properties of both self-assembled small molecules and on-surface synthesized covalent frameworks.

Federico Polo obtained the Laurea in Industrial Chemistry in 2003 and the PhD in Chemical Sciences in 2007 at the University of Padova under the supervision of Prof. Flavio Maran. His research area focused on molecular electrochemistry and electron transfer mechanism. During his



PhD, he spent nine months at the Georgia Institute of Technology, USA, to characterize self-assembled monolayers and biomimetic systems by scanning electrochemical microscopy. Afterwards, he spent several research stays abroad as postdoctoral fellow and visiting scholar. In the period 2015-2018 he was senior researcher and group leader at the national cancer institute CRO Aviano. Since December 2018 he is assistant professor (RTD-b) at Università Ca' Foscari. His scientific interests span from molecular electrochemistry and electron transfer mechanisms; to electrogenerated chemiluminescence (ECL) in (bio-)sensing and imaging; chemical sensing for health, food and environment, OLED for energetics and sustainability and Surface chemistry and synthesis.



Elena Baracchini obtained the PhD in Chemistry at University of Trieste in 2018 working on nanodispersed particulate in urban and working environments. Her

interests span from metal analyses in different matrices and analytical chemistry for cultural heritage. She is now a member of the Friulab s.r.l. working on analytical control of drinking water and wastewater for the Udine e Pordenone area.