

“Mechanochemistry in Europe: Challenges, Outcomes, Syntheses, Targets”

Gaetano Cima Main Lecture Hall - Università degli Studi di Cagliari,
Via Corte D'Appello 87, Cagliari (Italy)

In person, Online and Live Workshop

Program

22nd June, 2023

9:00 - 9:20

Welcome and opening remarks

Francesco DELOGU (Università di Cagliari, Italy) and Evelina COLACINO (Université de Montpellier, France).

9:20 - 9:50

Update from the COST Association

Ralph STÜBNER (Science Officer COST Association, Brussels, Belgium).

Chaired by Bilge BAYTEKIN (Bilkent University, Turkey)

9:50 - 10:10

Enhancing asymmetric organocatalysis and metal-catalyzed reactions by mechanochemistry

Radovan SEBESTA (Comenius University in Bratislava, Slovakia)

10:10 - 10:30

Mechanochemical synthesis of C-N bond, from dynamic self-assembly of hemicucurbiturils to application in the synthesis of Imatinib.

Riina AAV (Tallinn Technical University, TalTech, Estonia)

10:30 - 10:50

Mechanochemistry and Biopolymeric Materials Science

Niclas SOLIN (Linköping University, Sweden)

10:50 - 11:10

Unlocking new avenues: Solid-state synthesis of molecularly imprinted polymers

Ede BODOKI (Iuliu Hațieganu University of Medicine and Pharmacy, Romania)

11:10 - 11:30

Coffee Break

Chaired by Mafalda SARRAGUÇA (Porto University, Portugal)

11:30 - 11:50

Electrostatics of Polymers and Powders

Bilge BAYTEKIN (Bilkent University, Turkey)

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- 11:50 - 12:10 *Mechanochemistry of hybrid inorganic-organic nanomaterials: basic concepts, precursor design and surface engineering*
Piotr KRUPINSKI (Institute of Physical Chemistry, Polish Academy of Sciences)
- 12:10 - 12:30 *Influence of mechanochemical processing to phase transition of carbamazepine polymorphs and formation of Inclusion Complex with cyclodextrin*
Aleksandar CVETKOVSKI (University "Goce Delcev" at Stip, Republic of North Macedonia)
- 12:30 - 12:50 *Electrochemistry in Mechanochemistry: The Synergy of Two Fields for Sustainable Industry*
Tihana MUDRINIC (University of Belgrade, Serbia)
- 12:50 - 14:00 *Lunch*
- Chaired by Ivan HALASZ (Ruđer Bošković Institute, Croatia)*
- 14:00 - 14:20 *Case-studies on directing selectivity in the solid-state mechano- and slow-chemistry, and solution-phase synthesis*
Janusz LEWINSKI (Warsaw University of Technology, Poland)
- 14:20 - 14:40 *Synthesis and recycling of catalysts and other advanced materials by mechanochemical methods*
Zara CHERKEZOVA-ZHELEVA (Institute of Catalysis- Bulgarian Academy of Sciences, Bulgaria)
- 14:40 - 15:00 *Spray Drying Technology in Production of Organic and Inorganic Compounds*
Ladislav ČELKO (Brno University of Technology, Czech Republic)
- 15:00 - 15:20 *Sulfadiazine metal complexes: an innovative mechanochemical approach*
Clara GOMES (NOVA School of Science and Technology, Portugal)
- 15:20 - 15:40 *Mechanochemical synthesis of luminescent gold(I) complexes*
Andrea DEAK (Institute of Materials and Environmental Chemistry, Research Centre for Natural Sciences, Budapest, Hungary)
- 15:40 - 16:00 *Coffee Break*
- Chaired by Evelina COLACINO (Université de Montpellier, France)*
- 16:00 - 16:20 *Building mechanochemical bridges between Slovakia and other European countries thanks to CA18112*
Matej BALAZ (Institute of Geotechnics, Slovak Academy of Sciences, Slovakia)

16:20 - 16:40 *MOF-like gels, mixing or mechanochemistry*
Allan NIIDU (Tallinn Technical University, TalTech, Estonia)

16:40 - 17:00 *Mechanochemistry: a Passing Fashion or a Green Revolution?*
Andrea PORCHEDDU (University of Cagliari, Italy)

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Chaired by Lidia TAJBER (Trinity College Dublin, Ireland)

9:00 - 9:20 (on line) *Single molecule force spectroscopy of mechanophores*
Martin BEYER (University of Innsbruck, Austria)

9:20 - 9:40 *Round Robin: demonstrating inter-laboratory reproducibility of ball mill grinding reactions*
Ana BELENGUER (Cambridge University, UK).

9:40 - 10:00 (on line) *Fibre Optical Coupler Simulation by Comsol Multiphysics Software*
Edgars ELSTS (Institute of Solid State Physics - University of Latvia)

10:00 - 10:20 (on line) *Mechanochemistry of p-elements*
Felipe GARCIA (University of Oviedo, Spain).

10:20 - 10:40 *Mechanistic framework for mechanochemical reactions*
Ivan HALASZ (Ruđer Bošković Institute, Croatia)

10:40 - 11:00 *Coffee Break*

Chaired by Sandra KURKO (University of Belgrade, Serbia)

11:00 - 11:20 (on line) *Crystal Engineering and Mechanochemistry: a fruitful combination*
Alessia BACCHI (University of Parma, Italy)

11:20 - 11:40 *Mechanochemistry of pharmaceutical multicomponent systems*
Lidia TAJBER (Trinity College of Dublin, Ireland)

11:40 - 12:00 (on line) *Unleashing the Power of Mechanochemistry towards Praziquantel Cocrystals*
Vânia ANDRE' (Centro de Química Estrutural, Instituto Superior Técnico, Lisbon, Portugal)

12:00 - 12:20 *Pharmaceutical co-crystals – mechanochemical upscaling and characterization*
Michael FELDERHOFF (Max Planck Institute, Mülheim, Germany)

12:20 - 12:40 *Life cycle assessment of mechanochemical processes and products: predictions at commercial scale*

Sabrina SPATARI (Technion, Israel)

12:40 - 13:00

Concluding remarks looking at the future

- Francesco DELOGU (Università di Cagliari, Italy)
- Evelina COLACINO (Université de Montpellier, France)
- Ralph STÜBNER (COST Association, Belgium)
- Floris RUTJES (Radboud University, The Netherlands and EuChemS President).

13:00 - 14:00

Lunch, discussion on future networking activities and...looking forward to meeting you again.
