



## CONFERENCE AGENDA

| 22.10.2025    |                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                          |
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| 10:00 – 11:15 | Registration and coffee                                                                                                                                  | Mussala Hall, 2 <sup>nd</sup> Floor,<br>Inter Expo Center,<br>Boulevard “Tsarigradsko chaussee” 147                                                                                                                                                                                                                      |
| 11:15 – 11:30 | Prof. Daniela Karashanova,<br>Scientific and Innovation Council<br>“Resource Efficiency and Circular<br>Economy”, Bulgarian Academy of<br>Sciences (BAS) | Opening address of the Forum<br>by prof. Neli Kosseva - general scientific<br>secretary of BAS and project manager<br>Investment C2.I2: "Increasing the innovation<br>capacity of the Bulgarian Academy of Sciences in<br>the field of green and digital technologies" from<br>the National Recovery and Resilience Plan |
| 11:30 – 12:30 | <b>Session1: Critical and strategic raw materials</b>                                                                                                    |                                                                                                                                                                                                                                                                                                                          |
| 11:30 – 12:00 | Prof. Zara Cherkezova-<br>Zheleva – Institute of<br>Catalysis, BAS                                                                                       | CRITICAL AND STRATEGIC RAW<br>MATERIALS: SUSTAINABLE RECYCLING<br>AND REUSE OF REE-CONTAINING<br>PERMANENT MAGNETS                                                                                                                                                                                                       |
| 12:00 – 12:30 | Prof. Marlena Yaneva -<br>Geological Institute, BAS                                                                                                      | PRELIMINARY DATA FROM COMBINING<br>SPECTROSCOPY AND ELECTRICAL<br>METHODS IN CRITICAL RAW MATERIAL<br>EXPLORATION IN THE BUREL<br>METALLOGENIC FIELD IN BULGARIA                                                                                                                                                         |
| 12:30 – 14:00 | <b>Lunch</b>                                                                                                                                             |                                                                                                                                                                                                                                                                                                                          |
| 14:00 – 17:00 | <b>Session 2: Carbon dioxide capture and fixation<br/>Green methods for new materials</b>                                                                |                                                                                                                                                                                                                                                                                                                          |
| 14:00 – 14:30 | Prof. Margarita Popova –<br>Institute of Organic<br>Chemistry with Centre of<br>Phytochemistry, BAS                                                      | FROM WASTE MATERIALS TO EFFICIENT<br>CO <sub>2</sub> CAPTURE ADSORBENTS                                                                                                                                                                                                                                                  |
| 14:30 – 15:00 | Assoc. Prof. Alexander<br>Radulov - Geological<br>Institute, BAS                                                                                         | RESEARCH INTO THE TECTONIC SETTING<br>FOR OPTIMAL DESIGN OF CARBON<br>CAPTURE AND STORAGE IN NORTHWEST<br>BULGARIA                                                                                                                                                                                                       |
| 15:00 – 15:30 | Dr. Milen Kadiyski,<br>Aurubis Bulgaria AD                                                                                                               | AURUBIS BULGARIA – DRIVING<br>SUSTAINABLE GROWTH                                                                                                                                                                                                                                                                         |
| 15:30 – 16:00 | <b>Coffee break</b>                                                                                                                                      |                                                                                                                                                                                                                                                                                                                          |





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| 16:00 – 16:30 | Prof. Rumiana Kotsilkova -<br>Institute of Mechanics, BAS                                                                                                | TERMALLY STIMULATED SHAPE<br>MEMORY FILAMENT MADE OF<br>BIODEGRADABLE POLYMERS AND<br>GRAPHENE FOR 4D PRINTING                                                                                                 |
| 16:30 – 17:00 | Prof. Vilma Petkova -<br>Institute of Mineralogy and<br>Crystallography, BAS                                                                             | MECHANOCHEMICAL ACTIVATION AS A<br>GREEN ECOLOGICALLY CLEAN METHOD<br>FOR THE TREATMENT OF PHOSPHATE<br>ROCKS FROM SYRIA                                                                                       |
| 17:00 – 18:30 | Welcome cocktail                                                                                                                                         |                                                                                                                                                                                                                |
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| 23.10.2025    |                                                                                                                                                          |                                                                                                                                                                                                                |
| 10:00 – 10:30 | Registration and coffee                                                                                                                                  |                                                                                                                                                                                                                |
| 10:30 – 12:30 | Session 3: <i>Processing and utilization of natural biomass and<br/>agricultural waste<br/>Green approaches for biocontrol in ecological agriculture</i> |                                                                                                                                                                                                                |
| 10:30 – 11:00 | Assoc. Prof. ing. Dimitar N.<br>Kolev - Institute of Chemical<br>Engineering, BAS                                                                        | NEW METHOD FOR GASIFICATION OF<br>AGRICULTURAL AND FORESTRY WASTE                                                                                                                                              |
| 11:00 – 11:30 | Prof. Boyko Tsyntsarski -<br>Institute of Organic chemistry<br>with Centre of<br>Phytochemistry, BAS                                                     | IMPLEMENTATION OF THE PROJECT BG-<br>RRP-2.017-0006 “ECOLOGICAL<br>TECHNOLOGY FOR CONVERSION OF<br>WASTE BIOMASS TO AN INNOVATIVE<br>PRODUCT (ACTIVATED CARBON) WITH<br>WIDE APPLICATION” Dec. 2024 – May 2026 |
| 11:30 – 12:00 | Alexandra Makrygeorgou -<br>Liofyllo Social Cooperative<br>Enterprise, Greece                                                                            | CREATIVE RECYCLING IN<br>AGRICULTURAL SECTOR                                                                                                                                                                   |
| 12:00 – 12:30 | Prof. Olya Stoilova and<br>Assoc. Prof. Mariya Spasova<br>- Institute of Polymers, BAS                                                                   | DESIGN OF INNOVATIVE POLYMERIC<br>MATERIALS AS BIOCONTROL AGENTS<br>WITH APPLICATION IN ECOLOGICAL<br>AGRICULTURE                                                                                              |
| 12:30 – 14:00 | Lunch                                                                                                                                                    |                                                                                                                                                                                                                |
| 14:00 – 15:30 | Session 4: <i>Processing and utilization of industrial waste</i>                                                                                         |                                                                                                                                                                                                                |
| 14:00 – 14:30 | Dr. Valery Serbezov -<br>Bulsnano Ltd., Plovdiv,<br>Bulgaria                                                                                             | LARGE - SCALE GRAPHITELESS<br>PRODUCTION OF GRAPHENE<br>NANOMATERIALS                                                                                                                                          |





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| 14:30 – 15:00 | Assoc. Prof. Anton Slavov -<br>University of Food<br>Technologies, Plovdiv,<br>Bulgaria                                                                        | REMOVAL OF HEAVY METALS FROM<br>AQUEOUS SOLUTIONS USING<br>ROSA DAMASCENA WASTE                                                                             |
| 15:00 – 15:30 | Prof. Alexander Karamanov -<br>Institute of Physical<br>Chemistry “Rostislav<br>Kaischew”, BAS                                                                 | INORGANIC TECHNOGENIC WASTES AS<br>RAW MATERIALS FOR PRODUCTION OF<br>NEW CONSTRUCTION MATERIALS                                                            |
| 15:30 – 17:00 | <b>Poster presentations, coffee and discussions</b>                                                                                                            |                                                                                                                                                             |
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| 24.10.2025    |                                                                                                                                                                |                                                                                                                                                             |
| 10:00 – 10:30 | <b>Registration and coffee</b>                                                                                                                                 |                                                                                                                                                             |
| 10:30 – 12:30 | <b>Session 5: <i>Renewable energy production and storage</i></b>                                                                                               |                                                                                                                                                             |
| 10:30 – 11:00 | Prof. Krasimira Stoilova -<br>Institute of Information and<br>Communication<br>Technologies, BAS                                                               | MANAGEMENT OF ELECTRICAL<br>CAPACITY OF DUAL UNIT CHARGING<br>STATIONS                                                                                      |
| 11:00 – 11:30 | Prof. Todor Stoilov - Institute<br>of Information and<br>Communication<br>Technologies, BAS                                                                    | ANALYTICAL ESTIMATION OF CHARGING<br>TIME FOR ELECTRICAL VEHICLES                                                                                           |
| 11:30 – 12:00 | Assoc. Prof. Plamen Nikolov<br>- Institute of Electrochemistry<br>and Energy Systems, BAS                                                                      | PROTON -ACCEPTOR AND -DONOR<br>POLYMERS AS ADDITIVES FOR<br>IMPROVING ELECTRICAL PERFORMANCE<br>OF VANADIUM ELECTROLYTE FOR RED-<br>OX FLOW BATTERIES       |
| 12:00 – 12:30 | Assoc. Prof. M. Ganchev -<br>Central Laboratory of Solar<br>Energy and New Energy<br>Sources, BAS                                                              | SEASONAL AND SHORT-TERM THERMAL<br>ENERGY STORAGE SYSTEM WITH<br>GEOTHERMAL HEAT EXCHANGERS AND<br>PHASE CHANGE MATERIALS USING<br>RENEWABLE ENERGY SOURCES |
| 12:30 – 14:00 | <b>Lunch</b>                                                                                                                                                   |                                                                                                                                                             |
| 14:00 – 15:30 | <b>Session 6: <i>Renewable energy production and storage</i></b><br><i>Green methods for detection of biogenic particles, water<br/>purification and reuse</i> |                                                                                                                                                             |





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| 14:00 – 14:30 | Assoc. Prof. Galin Borisov - Institute of Electrochemistry and Energy Systems, BAS                                                   | WATER ELECTROLYSIS WITH ZERO-GAP GAS DIFFUSION ELECTRODES: DIAPHRAGM SEPARATOR ELECTRODE ASSEMBLY, SINGLE-CELL PERFORMANCE, AND STACK CONFIGURATION |
| 14:30 – 15:00 | Venelin Marinov – Head of Project Office "Sustainable Development - LUKOIL REACH CENTRE – LIFE WATEROIL" LUKOIL Neftochim Burgas Jsc | ACHIEVMENTS OF PROJECT: LIFE WATEROIL (LIFE20 ENV/BG/001042) FOR RESOURCE EFFICIENCY AND CIRCULAR ECONOMY                                           |
| 15:00 – 15:30 | Assoc. Prof. Boyko Katranchev – Institute of Solid State Physics, BAS                                                                | PHOTONIC SENSING EFFECTS AT THE SOLID SURFACE/BIONANOCOMPOSITE INTERFACE FOR DETECTION AND MONITORING OF BIOGENIC PARTICLES                         |
| 15:30 – 16:45 | <b>Poster presentations, coffee and discussions</b>                                                                                  |                                                                                                                                                     |
| 16:45 – 17:00 | Prof. Daniela Karashanova                                                                                                            | Closing remarks                                                                                                                                     |

#### POSTER PRESENTATIONS

**Session I: 23 October 2025, 15:30 – 17:00**

**Session II: 24 October 2025, 15:30 – 16:45**

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| <b>P1</b> | Ralitsa Velinova - Institute of General and Inorganic Chemistry, BAS                                        | SUSTAINABLE UTILISATION OF WASTE GYPSUM WITH CO <sub>2</sub> SEQUESTRATION POTENTIAL                                                                                                  |
| <b>P2</b> | Antonina Kovacheva - Institute of General and Inorganic Chemistry, BAS                                      | ECO-FRIENDLY USE OF BLACK SEA RESOURCES                                                                                                                                               |
| <b>P3</b> | Lama Mzek - Department of General and Inorganic Chemistry, University of Chemical Technology and Metallurgy | INSIGHTS INTO THE SOLVENT EXTRACTION AND SELECTIVITY OF VARIOUS METALS BY CHELATING LIGANDS                                                                                           |
| <b>P4</b> | Katerina Mihaylova - Institute of Mineralogy and Crystallography, BAS                                       | ECOLOGICAL ENHANCEMENT OF P <sub>2</sub> O <sub>5</sub> IN TUNISIAN PHOSPHORITE VIA MECHANOCHEMICAL ACTIVATION: RESULTS OF PHOSPHORITE ACTIVATION IN DIFFERENT TYPES OF GRINDING JARS |
| <b>P5</b> | Sofia Panova - Institute of Mineralogy and Crystallography, BAS                                             | CHANGES IN THE STRUCTURE OF SYNTHETIC HYDROXYL APATITE VIA BALL MILLING ACTIVATION                                                                                                    |





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| <b>P6</b>  | Peya Karova - Department of Microbiology and Biotechnology, University of Food Technologies                                 | SUSTAINABLE VIEW ON TOBACCO: AGRICULTURAL, PHARMACEUTICAL AND EVERYDAY APPLICATIONS                                                                                                       |
| <b>P7</b>  | Ivanka Hambarliyska - Department of Organic and Inorganic Chemistry, Technological Faculty, University of Food Technologies | DECONTAMINATION OF WASTE WATERS, CONTAINING AZO DYE B-NAPHTHOL ORANGE WITH RESIDUES FROM ESSENTIAL OIL INDUSTRY – COMMON SAGE (SALVIA OFFICINALIS) AND YELLOW HORNOPPPY (GLAUCIUM FLAVUM) |
| <b>P8</b>  | Biliana Georgieva - Institute of Optical Materials and Technologies “Acad. J. Malinowski”, BAS                              | “GREEN” SYNTHESIZED Au AND Pd NANOPARTICLES AS DOPING ELEMENTS IN POLYMER NANOCOMPOSITES DESIGNED FOR OPTICAL APPLICATIONS                                                                |
| <b>P9</b>  | Nikola R. Ralchev - Department of Immunology, The Stephan Angeloff Institute of Microbiology, BAS                           | “GREEN CELL FACTORIES” AS A SUSTAINABLE BIOTECHNOLOGICAL PLATFORM FOR PRODUCTION OF WEALTH PROMISING BIOACTIVE PRODUCTS                                                                   |
| <b>P10</b> | Nikoleta Stoyanova - Laboratory of Bioactive Polymers, Institute of Polymers, BAS                                           | CHITOSAN GEL BEADS AS CARRIERS FOR BACILLUS SUBTILIS: A STRATEGY FOR SUSTAINED CROP PROTECTION                                                                                            |
| <b>P11</b> | Petya Tsekova - Laboratory of Bioactive Polymers, Institute of Polymers, BAS                                                | SUSTAINABLE ENCAPSULATION OF BIOCONTROL YEASTS IN COATED ELECTROSPUN FIBROUS MATERIALS                                                                                                    |
| <b>P12</b> | Nasko Nachev - Laboratory of Bioactive Polymers, Institute of Polymers, BAS                                                 | FUNCTIONALIZATION OF FIBROUS BIOMATERIALS WITH BACILLUS SUBTILIS USING ELECTROSPINNING AND ELECTROSPRAYING                                                                                |
| <b>P13</b> | Rumen Stoykov - Institute of Chemical Engineering, BAS; Central Laboratory of Solar Energy and New Energy Sources, BAS      | ADVANCED HYBRID SOLAR SYSTEM FOR SPACE HEATING AND COOLING WITH TRANSPARENT THERMAL INSULATION AND THERMAL ENERGY STORAGE                                                                 |
| <b>P14</b> | Elitsa Petkucheva - Institute of Electrochemistry and Energy Systems “Acad. Evgeni Budevski”, BAS                           | DIP AND DRYING TECHNIQUE: ENABLING COST-EFFECTIVE ACTIVATION OF STAINLESS STEEL ELECTRODES FOR NEXT-GENERATION OF ZERO-GAP ALKALINE WATER ELECTROLYSERS                                   |
| <b>P15</b> | Mariya Kalapsazova - Institute of General and Inorganic Chemistry, BAS                                                      | RECYCLING AND CONVERSION OF HOUSHOLD WASTE INTO VALUABLE ELECTRODE MATERIAL FOR ENERGY STORAGE                                                                                            |
| <b>P16</b> | Trajche Tushev - Institute of General and Inorganic Chemistry, BAS                                                          | CARBON ADDITIVES IN NASICON-TYPE ELECTRODES FOR STABILIZING THE SODIUM STORAGE PERFORMANCE                                                                                                |
| <b>P17</b> | Nikolay Panchev – Institute of Physical Chemistry, BAS                                                                      | A NEW INTEGRATED APPROACH FOR THE EVALUATION OF GREEN SURFACTANTS IN RELATION TO INDUSTRIAL APPLICATIONS                                                                                  |





*INNOVATIVE SOLUTIONS FOR RESOURCE EFFICIENCY AND CIRCULAR  
ECONOMY*

*22 – 24 October 2025, Inter Expo Center, Sofia, Bulgaria*

