

UREKI CONFERENCE PROGRAMM

WEDNESDAY, 21 SEPTEMBER

13:00 – 15:00 **Registration**, *Lobby of the Hotel Kolkhida*

15:00 – 16:00 **Welcome address**, *Hall A*

Dr. G. Tatishvili, Director, R. Agladze Institute of Inorganic Chemistry and Electrochemistry

16:00 – 16:30 **Coffee break**, *Hall of the Hotel Kolkhida*

PLENARY, *Hall A*

Chair: **Dr. N. Vaszilcsin**, University Politehnica Timisoara, Romania

16:30 – 17:00 **V. Beschkov**, Institute of Chemical Engineering, Bulgarian Academy of Sciences, Bulgaria
BIOWASTE AND HYDROGEN SULFIDE – PERSPECTIVE RENEWABLE FUELS

17:00 – 17:30 **V. Tsitsishvili**, Ivane Javakhishvili Tbilisi State University, Georgia
NEW GENERATION ZEOLITIC ADSORBERS

19:00 – 21:00 **Welcome Reception**, *Café of the Hotel Kolhida*

THURSDAY, 22 SEPTEMBER

Morning session *Hall A*

PLENARY

Chair: **Dr. V. Beshkov**, Institute of Chemical Engineering, Sofia, Bulgaria

8:30 – 9:00 **K. Dossumov**, Center of Physical and Chemical Methods of Research and Analysis al-FarabyKazNU, Kazakhstan

CONVERSION OF METHANE OVER THE OXIDE CATALYSTS

9:00 – 9:30 **T. Agladze**, Georgian Technical University, Georgia

NOVEL TECHNOLOGY PLATFORM FOR SYNTHESIS OF MULTIFUNCTIONAL HYBRID NANOCOMPOSITES

9:30 – 10:00 **N. Vaszilcsin**, University Politehnica Timisoara, Romania

ENHANCEMENT OF CATHODIC HYDROGEN EVOLUTION REACTION USING PROTON CARRIERS

10:00 – 10:30 **Coffee break**

THURSDAY, 22 SEPTEMBER

Morning session *Hall A*

Section 3

NEW METHODS FOR ECOLOGICAL AND RADIATION SAFETY, MEDICAL AND AGRARIAN RESEARCHES

Chair: **Dr. S. Kirillov**, Joint Department of Electrochemical Energy System, Kyiv, Ukraine

Co – chair: **Dr. M. Tsitsagi**, TSU Petre Melikishvili Institute of Physical and Organic Chemistry, Georgia

- 10:30 – 10:45 **A. Mansourizadeh**, Department of Chemical Engineering, Islamic Azad University, Iran
OILY WASTEWATER TREATMENT USING BLEND PSF-SPEEK HOLLOW FIBER MEMBRANE
- 10:45 – 11:00 **M. Tsitsagi**, TSU Petre Melikishvili Institute of Physical and Organic Chemistry, Georgia
UTILIZATION OF AGRO-INDUSTRIAL WASTE MATERIALS BY USING SEQUENTIAL SUPERCRITICAL FLUID AND ULTRASOUND EXTRACTION METHODS
- 11:00 – 11:15 **S.A. Kirillov**, Joint Department of Electrochemical Energy Systems, Ukraine
PHOSPHATE SCAVENGERS FOR REMEDIATION OF GROUNDWATERS AND TREATMENT OF HYPERPHOSPHATAEMIA IN ANIMALS AND HUMANS: REVIEW AND COMPARISON
- 11:15 – 11:30 **N.G. Lezhava**, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
DETERMINATION OF CONDITION OF COMPLETE SOLID SOLUBILITY IN THE SYSTEM OF $\text{Li}_{0.5}\text{Fe}_{2.5-x}\text{Al}_x\text{O}_4$ BY MEANS OF CALORIMETRIC INVESTIGATION OF EXCESS MIXING PARAMETERS $H_{\text{mix}}^{\text{ex}}$ AND $\Delta S_{\text{mix}}^{\text{ex}}$
- 11:30 – 11:45 **M. Mirtskhulava**, National Center for disease control and Public health, Georgia
ULTRASOUND IN MEDICINE, BIOLOGY, BIOTECHNOLOGY
- 11:45 – 12:00 **V. Elisashvili**, Agricultural University of Georgia, Georgia
INTEGRATED LIGNOCELLULOSE BIOREFINERY EXPLOITING WOOD-ROTTING FUNGI POTENTIAL
- 12:00 – 12:15 **D. Gventsadze**, LEPL R. Dvali Institute of Machine Mechanics, Georgia
TECHNOLOGY OF ECO-FRIENDLY HIGH TEMPERATURE HEAT-INSULATOR MATERIALS ON THE BASIS OF LIQUID GLASS AND FOAMED PERLITE

12:15 – 13:15 **Free time**

Afternoon session, *Hall A*

Section 3

NEW METHODS FOR ECOLOGICAL AND RADIATION SAFETY, MEDICAL AND AGRARIAN RESEARCHES

Chair: **Dr. E.H. Ismailov**, Institute of Petrochemical Processes, Baku, Azerbaijan

Co-chair: **T. Chachibaia**, TSU, Tbilisi, Georgia

- 13:15 – 13:30 **T. Chachibaia**, TSU Faculty of Medicine, Georgia, University of Santiago de Compostela, Spain
NMR TECHNOLOGY FOR ASSESSMENT OF SOCIETAL, ENVIRONMENTAL AND CHEMICAL RISKS OF AMMONIUM NITRATE
- 13:30 – 13:45 **I. Chikvaidze**, TSU, Georgia

- 13:45 – 14:00 **REGARDING SOME STEPS OF E. FISCHER REACTION MECHANISM**
E.H. Ismailov, Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Azerbaijan
HYDROGENATION OF CARBON DIOXIDE OVER Fe-Zr/Al AND Fe-Ni/Al OXIDE CATALYSTS
- 14:00 – 14:15 **T. Varazi**, Durmisidze Institute of Biochemistry and Biotechnology of Agricultural University of Georgia, Georgia
ABOUT ALGAE SPIRULINA'S ECOLOGICAL POTENTIAL FOR THEIR APPLICATION REMEDIATION TECHNOLOGIES
- 14:15 – 14:30 **A. Surmava**, M. Nodia Institute of Geophysics, Georgia
NUMERICAL SIMULATION OF DISTRIBUTION OF ARSENIC DISCHARGED TO TSKHENISTSKALI AND LUKHUNI RIVERS FROM INDUSTRIAL WASTE
- 14:30 – 14:45 **V. Bakhtadze**, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
OXIDE-MANGANESE CATALYSTS FOR SOLVING OF ECOLOGICAL PROBLEMS
- 14:45 – 15:00 **M. V. Panchvidze**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
ABOUT RADIOPROTECTIVE PROPERTIES OF SULFUR-ORGANIC COMPOUNDS
- 15:00 – 15:15 **N. Kvirkvelia**, TSU R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
OZONE USE IN AGRICULTURE
- 15:15 – 15:30 **I. Chitrekashvili**, TSU, Petre Melikishvili Institute of Physical and Organic Chemistry, Georgia
STRUCTURAL CHANGES OF POLYPHENYLENEOXIDES IN THE PROCESS OF FRICTION

15:30 – 16:00 **Coffee break**

16:00 – 17:00 **STUDENT SESSION**

Hall A

Chair: **MSc. M. Soselia**, IICE, Georgia

- 16:00 – 16:15 **K. Kharashvili**, TSU, Georgia
SEPARATION OF ENANTIOMERS WITH SUPERFICIALLY POROUS SILICA MODIFIED WITH POLYSACCHARIDE DERIVATIVES AS EFFECTIVE CHIRAL STATIONARY PHASES IN HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY
- 16:15 – 16:30 **M. Shavgulidze**, Iv. Beritashvili Experimental Biomedicine Centre, Georgia
CHANGES OF LEARNING MOTIVATIONAL AND EMOTIONAL BEHAVIOR AND PASSIVE AVOIDANCE IN DEPRESSIVE RATS
- 16:30 – 16:45 **L. Khvichia**, Akaki Tsereteli State University
QUANTITATIVE DETERMINATION OF TOTAL MANGANESE IN ZESTAFONI SOIL AND DRINKING WATER AND ABNORMALITIES CAUSED BY ITS ABUNDANCE
- 16:45 – 17:00 **Z. Samkharadze**, TSU R. Agladze Institute of Inorganic Chemistry and Electrochemistry
OXIDATION OF MANGANESE NITRATE SOLUTIONS BY OZONE - AIR MIXTURE

THURSDAY, 22 SEPTEMBER

Morning session *Hall B*

Section 1

NANO PROCESSES AND NANOTECHNOLOGIES

Chair: **Dr. G.Ya. Kolbasov**, V.I. Vernadskii Institute of General and Inorganic Chemistry of National Academy of Sciences of Ukraine, Ukraine

Co-chair: **Dr. N. Nioradze**, TSU, IICE, Georgia

- 10:30 – 10:45 **O. Ruzimuradov**, Turin Polytechnic University in Tashkent, Uzbekistan
SECOND-GENERATION POROUS TiO₂ BASED PHOTOCATALYTIC NANOMATERIALS: SYNTHESIS AND PROPERTIES
- 10:45 – 11:00 **L. Tsereteli**, Max Planck Institute of Colloids and Interfaces, Germany
AN ACCURATE COARSE-GRAINED MODEL FOR POLYSACCHARIDES IN SOLUTION
- 11:00 – 11:15 **M. Ersoz**, Selcuk University, Advanced Technology Research&Application Center, Turkey
NANOSTRUCTURE FABRICATION BY USING OF BLOCK COPOLYMERS
- 11:15 – 11:30 **V. Bregadze**, TSU, Andronikashvili Institute of Physics, Georgia
SORPTION CHARACTERISTICS OF ORGANIC MATERIALS IN METAL ION REDUCTION REACTION AND NANOTECHNOLOGY
- 11:30 – 11:45 **M. Rukhadze**, TSU, Faculty of Exact and Natural Sciences, Georgia
STUDY OF STRUCTURE OF CONFINED WATER NANODROPLETS
- 11:45 – 12:00 **G.Ya. Kolbasov**, V.I. Vernadskii Institute of General and Inorganic Chemistry of National Academy of Sciences of Ukraine, Ukraine
NANOMATERIALS AND PHOTOELECTROCHEMICAL SYSTEM FOR PRODUCTION OF SOLAR HYDROGEN
- 12:00 – 12:15 **N. Nioradze**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
SCANNING ELECTROCHEMICAL MICROSCOPY OF NANOSTRUCTURED CARBON MATERIALS
- 12:15 – 13:15 **Free time**

Afternoon session, *Hall B*

Section 4

ENERGY SOURCES, CONVERSION AND STORAGE

Chair: **Dr. M. N. Abdikarimov**, KazNTU, Kazakhstan

Co-chair: **Dr. G. Tsagareli**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia

- 13:15 – 13:30 **E. Kachibaia**, TSU R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
SPINELS LiM_xNi_{0.5-x}Mn_{1.5}O_{4-x} – TYPE (M=CO+CR, AL AND CU; 0<X≤0.4) AS PROMISING CATHODE MATERIALS FOR Li- ION BATTERIES
- 13:30 – 13:45 **M. N. Abdikarimov**, KazNTU, Kazakhstan
PHOTOVOLTAIC MODULE

- 13:45 – 14:00 **S.I. Abasov**, Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Azerbaijan
THE FORMATION OF INTERMOLECULAR C-C BONDS AS A FUNCTION OF TEMPERATURE WITH PARTICIPATION OF C3-C4 ALKANE
- 14:00 – 14:15 **P. Nikoleishvili**, TSU R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
SYNTHESIS OF TiO₂ NANOTUBES BY Ti FOIL ELECTROCHEMICAL DISSOLUTION FOR DYE-SENSITIZED PHOTOELECTROCHEMICAL SOLAR CELL
- 14:15 – 14:30 **N. Khetsuriani**, TSU, Institute of Physical and Organic Chemistry, Georgia
PRODUCTION OF BIODIESEL USING SUPERCRITICAL FLUIDS TECHNOLOGY
- 14:30 – 14:45 **G. Tsagareli**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
THE PREPARATION OF THE ACTIVE MANGANESE DIOXIDE POWDER BY ELECTROCHEMICAL METHOD FOR CURRENT SOURCES
- 15:30 – 16:00 **Coffee break**
- 16:00 – 17:00 **STUDENT SESSION, Hall A**
- 17:00 – 18:00 **POSTER SESSION**
Hotel Kolkhida Lobby

FRIDAY, 23 SEPTEMBER
Morning session, *Hall A*
PLENARY

Chair: **Dr. V. Tsitsishvili**, TSU, Tbilisi, Georgia

- 8:30 – 9:00 **G. A. Tsirlina**, Moscow State University, Russia
PLATINUM FREE ELECTROCATALYSTS BASED ON MANGANESE OXIDES FOR ELECTROCHEMICAL DEVICES
- 9:00 – 9:30 **S. A. Kirillov**, Joint Department of Electrochemical Energy Systems, Ukraine
HIGH-RATE LITHIUM-ION BATTERIES: RECENT ADVANCES
- 9:30 – 10:00 **T. Marsagishvili**, R. Agladze Institute of Inorganic chemistry and Electrochemistry, Georgia
SOME ASPECTS OF MODELING OF PHOTOCATALYSIS PROCESS
- 10:00 – 10:30 **Coffee break**

FRIDAY, 23 SEPTEMBER

Morning session *Hall A*

Section 3

**NEW METHODS FOR ECOLOGICAL AND RADIATION SAFETY, MEDICAL AND
AGRARIAN RESEARCHES**

Chair: **Dr. L. Gorniak**, Industrial Chemistry Research Institute, Warsaw, Poland

Co-chair: **Dr. I. Rubashvili**, Aversi-Rational Ltd, Quality Control Laboratory, Georgia

- 10:30 – 10:45 **M. N. Abdikarimov**, KazNTU, Kazakhstan
INVESTIGATION OF POSSIBLE CHEMICAL WASTE DISPOSAL
- 10:45 – 11:00 **L. M. Gorniak**, Industrial Chemistry Research Institute, Warsaw, Poland
CHEMICAL SECURITY AS A SYNTHESIS OF SCIENCES
- 11:00 – 11:15 **M. Labartkava**, University “Geometri”, Georgia
THE USE OF MODERN PHYSICAL-CHEMICAL METHODS OF
SUBSTANCE ANALYSIS IN THE ANALYSIS OF GEORGIAN RED WINE
- 11:15 – 11:30 **M. Nalbandyan**, NAS RA Institute of Geological Sciences, Yerevan, Armenia
TECHNOLOGY OF PURIFICATION OF IRRIGATION WATER WITH A
HIGH SALT CONTENT IN ORDER TO PREVENT SECONDARY
SALINIZATION OF ARARAT VALLEY
- 11:30 – 11:45 **Ch. Stahl**, NaralexMaschinen UG, Germany
BIO BRIQUETTES POTENTIAL IN GERMANY
- 11:45 – 12:00 **V.V. Tkach**, Chernivtsi National University, Ukraine
A MATHEMATICAL REPRESENTATION OF ELECTROANALYTICAL
FUNCTION OF THE SAFRANIN-MODIFIED RADICALLY-PRETREATED
MATERIAL TO HYDROQUINONIC COMPOUNDS
- 12:00 – 12:15 **I. Rubashvili**, Aversi-Rational Ltd, Quality Control Laboratory, Georgia
DEVELOPMENT AND VALIDATION OF SAMPLING AND
QUANTITATIVE DETERMINATION METHODS OF CARVEDILOL
RESIDUES USING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY
FOR CLEANING VALIDATION
- 12:15 – 13:15 **Free time**

Afternoon session *Hall A*

Section 3

**NEW METHODS FOR ECOLOGICAL AND RADIATION SAFETY, MEDICAL AND
AGRARIAN RESEARCHES**

Chair: **Dr. N. Durgaryan**, Institute of Geological Sciences of NAS of Armenia, Yerevan, Armenia

Co-chair: **Dr. M. Mantskava**, Society of Rheology, I. Beritashvili Center of Experimental Biomedicine,
Georgia

- 13:15 – 13:30 **M. Karchkhadze**, TSU, Georgia
ENANTIOSEPARATION OF CHIRAL ANTIMYCOTIC DRUGS IN HIGH-
PERFORMANCE LIQUID CHROMATOGRAPHY WITH POLYSAC-
CHARIDE-BASED CHIRAL COLUMNS
- 13:30 – 13:45 **N. Durgaryan**, Yerevan State University, Yerevan, Armenia
SYNTHESES OF NH₂/NH₂ CAPPED ANILINE OLIGOMERS AND THEIR
DERIVATIVES
- 13:45 – 14:00 **M. Mantskava**, Society of Rheology, I. Beritashvili Center of Experimental
Biomedicine, Georgia

- 14:00 – 14:15 THE SIGNIFICANCE OF THE NEW PROPERTIES OF BEMIPARIN FOR APPLIED MEDICINE
A. Mskhiladze, Faculty of Natural Sciences and Healthcare, Sokhumi State University, Georgia
SOME CHARACTERISTICS OF THE SEPARATION OF ENANTIOMERS OF BETA-BLOKER DRUGS USING POLYSACCHARIDE BASED CHIRAL COLUMNS IN HPLC

FRIDAY, 23 SEPTEMBER

Morning session *Hall B*

Section 2

FUNDAMENTAL AND TECHNOLOGICAL ASPECTS OF PROCESSING OF MINERAL PRODUCT AND SECONDARY RAW MATERIALS

Chair: **Dr. G. Magalashvili**, GTU, Tbilisi, Georgia

Co-chair: **Dr. Ali A. Jazie**, Alqadissiya University, Iraq

- 10:30 – 10:45 **L. Gurchumelia**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry
ELABORATION OF NEW TYPES, ECO-SAFE, INEXPENSIVE, HIGHLY EFFICIENT FIRE- PROTECTIVE MATERIALS
- 10:45 – 11:00 **G. Zakharov**, Ferdinand Tavadze Institute of Metallurgy and Materials Science
OBTAINING LIGATURES FROM FINE GRAINED PARTICLES OF MANGANESE WASTE BY TECHNOLOGY -SHS METALLURGY
- 11:00 – 11:15 **D. Gogoli**, TSU R. Agladze Institute of Inorganic Chemistry and Electrochemistry
ELECTRODEPOSITION AND CHARACTERIZATION OF Mn-Cu-Zn ALLOYS FOR CORROSION PROTECTION COATINGS
- 11:15 – 11:30 **L.G. Shamanauri**, R. Dvali Institute of Machine Mechanics
COMPOSITES BASED ON POLYESTER LACQUER AND MINERAL FILLERS
- 11:30 – 11:45 **Ali A. Jazie**, Alqadissiya University, Iraq
OPTIMIZATION OF BIODIESEL PRODUCTION FROM MUSTARD OIL
- 11:45 – 12:00 **G. Magalashvili**, Georgian Technical University
ASCERTAINMENT OF THE MECHANISM OF FORMING OF ZONAL CONCENTRIC “AGATE STRUCTURES”
- 12:00 – 12:15 **B. Godibadze**, LEPL, G. Tsulukidze Mining Institute, Georgia
EXPLOSIVE CONSOLIDATION OF Cu-W COMPOSITES IN HOT CONDITION
- 12:15 – 13:15 **Free time**

Afternoon session *Hall B*

Section 2

FUNDAMENTAL AND TECHNOLOGICAL ASPECTS OF PROCESSING OF MINERAL PRODUCT AND SECONDARY RAW MATERIALS

Chair: **Dr. A. Peikrishvili**, F. Tavadze Institute of Metallurgy and Materials Science, IICE, Georgia

Co-chair: **Dr. T. E. Machaladze**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry

- 13:15 – 13:30 **A. Peikrishvili**, F. Tavadze Institute of Metallurgy and Materials Science, IICE, Georgia
SHOCK WAVE ASSISTED CHEMICAL REACTIONS AND CONSOLIDATION OF Ta-Al INTERMETALIC COMPOUNDS
- 13:30 – 13:45 **L. Gabunia**, Caucasian Alexander Tvalchrelidze Institute of Mineral Resources, Georgia
RESEARCH OF THE POSSIBILITY OF RECEIVING ACID AND HEAT-RESISTANT CONTINUOUS FIBER GLASS WITH USE OF MANGANIFEROUS WASTE PRODUCTS
- 13:45 – 14:00 **T. Machaladze**, TSU, R. Agladze Institute of Inorganic Chemistry and Electrochemistry
THERMAL CHARACTERISTICS OF SPINEL-TYPE COMPLEX OXIDES $Me_{1-x}Zn_xFe_2O_4$ (WITH Me= Cu OR Mg)
- 14:00 – 14:15 **E. Shapakidze**, TSU, Caucasian A. Tvalchrelidze Institute of Mineral Resources, Georgia
RESEARCH OF INFLUENCE OF THE MODIFYING BaO AND SO₃ OXIDES ON PROPERTIES OF CEMENT CLINKER

14:15 – 15:15 **POSTER SESSION**

Hotel Kolkhida Lobby

15:15 – 16:15 **ROUND TABLE; Hall A**

- 15:15 – 15:30 **L. Chobanyan**, Georgian Technical University, Institute
TECHINFORMI ANALYSIS OF SCIENTIFIC PRODUCTIVITY AT THE MESO- AND MACRO-LEVELS
- 15:30 – 16:00 **M. Kutsia**, National Intellectual Property Center of Georgia – Sakpatenti
PATENTING IN CHEMISTRY
- 16:00 – 16:15 **Discussion**

16:15 – 17:15 **CLOSING THE CONFERENCE, Hall A**