

Romphyschem-17 conference program

Day 1, Monday, September 25, 2023

Academy entrance hall: 8:00-12:00 Participants registration

9:00-9:20 Opening ceremony

Acad. Marius Andruh, *Vice president of the Romanian Academy*

Acad. Nicolae Zamfir *Vice president of the Romanian Academy*

Acad. Maria Zaharescu *Member of the Romanian Academy*

Dr. Ioan Balint, *Director of the "Ilie Murgulescu" Institute of Physical Chemistry*

Academy Aulae: 9:20-15:30 Plenary lectures

9:20-10:40, Session 1

Chairs: Acad. Maria Zaharescu, Acad. Marius Andruh

Secretary: MSc. Sorana E. Lazăr

9:20-10:00 Plenary lecture 1

Ammonia synthesis: science, technology and our society

Prof. Ken-ichi Aika, Prof. Emeritus Tokyo Institute of Technology, Japan

10:00-10:40 Plenary lecture 2

Active approach forward for comfortable world

Prof. Akira Fujishima, Prof. Emeritus Tokyo University

10:40-11:10 Coffee break

11:10-12:30, Session 2

Chair: Prof. Akira Fujishima

Secretary: Dr. Mihai M. Radu

11:10-11:50 Plenary lecture 3

New analytical tools and methods to investigate the behavior of nano-wastes in solid waste treatment processes

Prof. Christian Ludwig, Paul Scherrer Institute, Switzerland

11:50-12:30 Plenary lecture 4

Upcycling commodity polymers - an effective means for the preparation of added value materials,

Prof. Rabah Boukherroub, Institute of Electronics, Microelectronics and Nanotechnology, France

12:30-13:30 Lunch break

13:30-15:30, Session 3

Chair: Prof. Ken-ichi Aika

Secretary: Dr. Hermine Stroescu

13:30-14:10 Plenary lecture 5

Carbon neutral cycles utilizing photocatalytic CO₂ reduction into C₁₋₃ paraffins or ethene and propene,

Prof. Yasuo Izumi, Chiba University, Japan

14:10-14:50 Plenary lecture 6

Application of atomic layer deposition in nanotechnology

Prof. Imre Miklós Szilágyi, Budapest University of Technology and Economics, Hungary

14:50-15:30 Plenary lecture 7

From fundamental solvents effects in nitroxides to probes for (ultra)-low-filed overhauser-enhanced magnetic resonance imaging (OMRI),

Prof. Sylvain Marque, Aix-Marseille University, France.

Day 2, Tuesday, September 26, 2023

Academy Aulae: 9:00-10:20 Plenary lectures

9:00-10:20 Session 1

Chair: Prof. Christian Ludwig

Secretary: Dr. Daniela Gheorghe

9:00-9:40 Plenary lecture 1

Advancing hybrid molecular materials of zinc for cellular differentiation in diabetes mellitus II

Prof. Athanasios Salifoglou, Aristotle University of Thessaloniki, Greece

9:40-10:20 Plenary lecture 2

Molecular docking, druglikeness analysis, and ADMET prediction of dihydroxyfumaric acid and its derivatives as potential antiviral compounds

Acad. Gheorghe Duca, The Academy of Science of Moldova

10:20-10:50 Coffee break

Academy Aulae: 10:50-15:40 Keynote lectures

10:50-12:50 Session 2

Chair: Prof. Yasuo Izumi

Secretary: Dr. Monica Pavel

10:50-11:10 Keynote lecture 1

Amorphous SiO₂- intrinsic and added (chemo)reactivity

C. Anastasescu, C.Negrilă, D. Culică, M. Zaharescu and I. Balint

11:10-11:30 Keynote lecture 2

Role of electron polarons and carrier dynamics in the photoreduction of CO₂ on transition-metal oxide surfaces

K. Hara and Y. Izumi

11:30-11:50 Keynote lecture 3

Oscillations in heterogeneous catalytic oxidation of methanol

N. Ionescu and V. Bratan

11:50-12:10 Keynote lecture 4

Ammonia synthesis from nitrogen and water using phosphate-based electrolyte electrolyzer and Ru catalysts

J. Kubota

12:10-12:30 Keynote lecture 5

Design of Co catalysts for ammonia synthesis under mild conditions by surface dynamics during high-temperature reduction,

K. Nagaoka

12:30-12:50 Keynote lecture 6

Versatile layered perovskites for environmental applications

M. Pavel, F. Papa, D. Eftemie, I. Atkinson, D. Culita and I. Balint

12:50-14:00 Lunch break

14:00-15:40 Session 3

Chairs: Dr. Niculae Ionescu, Dr. Vlad T. Popa

Secretary: Dr. Răzvan State

14:00-14:20 Keynote lecture 7

Synergistic Interaction between Ti and Fe, Co, Ni oxides supported on micro-mesoporous zeolite Y with effect on mechanism and efficiency of photocatalytic pollutant degradation

G. Petcu, E. M. Anghel, A. Băran, I. Atkinson, N. G. Apostol, S. Șomăcescu, F. Papa, D. C. Culică, J-L. Blin and V. Pârvulescu

14:20-14:40 Keynote lecture 8

Insights into the catalytic and photocatalytic nitrate removal over nanostructured Pt based catalysts

A. Vasile, V. Bratan, G. Dobrescu, R. N. State, I. Atkinson, M. Pavel, M. Teodorescu, F. Papa and I. Balint

14:40-15:00 Keynote lecture 9

Radiationless relaxation pathways in molecular dimers

A. Bende and A-A. Farcaş

15:00-15:20 Keynote lecture 10

Simple resolution of the standard multispin Hamiltonian in binuclear complexes

D-C. Sergentu, B. Le Guennic and R. Maurice

15:20-15:40 Keynote lecture 11

Exploring the activity of the zigzag graphene nanoribbon edges and of the graphene quantum dots for the electrochemical oxygen reduction reaction using DFT

I. Traistaru (Man), R. Jalba, D. L. Isac, Y. Zhao and I. Trancă

Day 2, Tuesday, September 26, 2023

Academy Library Amphitheater "Heliade Rădulescu": 9:00-15:30 Keynote lectures

9:00-10:40, Session 1

Chair: Prof. Katsutoshi Nagaoka

Secretary: Dr. Daniela Culică

9:00-9:20 Keynote lecture 1

Challenges, lessons and successes in the search for new antitumor and antiviral agents

R. Alexandrova, A. Abudalleh, Z. Petrova, H. Hristov, T. Zhivkova, L. Dyakova, I. Grabchev, D. C. Culică, G. Marinescu, I. Buta and O. Costișor

9:20-9:40 Keynote lecture 2

Effect of SiO₂ and ZnO nanoparticles on viscosity and thermal conductivity of aqueous media

Z. I. Varady, P. Szücs, G. Karacs, Z. Németh, G. Gróf and I. M. Szilágyi

9:40-10:00 Keynote lecture 3

Comparative study between hydroxyl and carboxyl functionalized carbon nanotubes and their nanofluids

M. Bohus, B. Szőke, G. Karacs, Z. Németh and I. M. Szilágyi

10:00-10:20 Keynote lecture 4

Assessment of synthetic approaches for titanium dioxide-based nanoparticles in photocatalysis

S. Dervishi, A. Korpa and S. Gjyli

10:20-10:40 Keynote lecture 5

Barium strontium titanate functional materials: from nanopowders to multiscale-structured bulk ceramics

A.-C. Ianculescu, V.-A. Surdu, C. A. Stanciu, R.-E. Pătru, E. M. Soare, R. D. Trușcă, I. Pintilie and L. Pintilie

10:40-11:10 Coffee break

11:10- 12:50, Session 2

Chair: Prof. Jun Kubota

Secretary: Dr. Oana Cătălina Mocioiu

11:10-11:30 Keynote lecture 6

The monuments of Dobrogea: scientific diagnosis and conservation with nanomaterials

R. M. Ion

11:30-11:50 Keynote lecture 7

Synthesis and characterization of TiO₂ decorated with calcium and copper ions

M. Ioniță, R. Bucuresteanu, L.-M. Ditu, I. Călinescu, D. Bala, A. Neacșu, V. Chihaia, A. Nicolaev and B. Cojocaru

11:50-12:10 Keynote lecture 8

Inverse opal structures for photocatalytic purposes

D. A. Karajz, I. M. Szilágyi, D. Cseh, C. Fónay, Z. Kovács, B. Parditka, Z. Erdélyi, C. Cserháti, Á. Szegedi, I. Lukács, P. Márton, Z. Hórvölgyi and K. Hernádi

12:10-12:30 Keynote lecture 9

ZnO-Al₂O₃ composite inverse opals for enhanced photocatalysis

H. H. Lemago, L. Tolezani, A. Choi, T. Igricz, B. Parditka, Z. Erdélyi and I. Szilágyi

12:30-12:50 Keynote lecture 10

Synthesis of resveratrol co-crystals under mechanochemical conditions

R.-A. Mitran, D. Lincu, I. Atkinson, S. Ioniță, E. M. Soare, A. Rusu, J. Pandele-Cușu, C. Iordache and V. Fruth

12:50-13:45 Lunch break

13:45:14:00 Hypo Tech & Consulting - sponsor presentation

State-of-the-art innovations in organic synthesis and more

Dr. Diego Minelli

13:45-15:30, Session 3

Chairs: Acad. Zoran Popović, Prof. Adelina Ianculescu

Secretaries: Dr. Diana Vișinescu, Dr. Cristian D. Ene

14:00-14:10 – In memoriam Dr. Oana Carp

D. Vișinescu, G. Socoteanu (Pătrînoiu), C.D. Ene, A. Spinciu

14:10-14:30 Keynote lecture 11

Design and synthesis of piezoelectric materials for energy harvesting applications

R. M. Piticescu, M. L. Cursaru, C. F. Ciobota, R. R. Piticescu, S. Chiriac and A. M. Motoc

14:30-14:50 Keynote lecture 12

When a nitronyl nitroxide ligand meets amines to form Schiff bases. Ligands design and their complexes

M. Răducă and M. Andruh

14:50-15:10 Keynote lecture 13

Magneto-Structural Phase Transition Behavior and Magnetocaloric Properties in Bulk and Nanocrystals of MnAs Compound

N. Stănică and D. C. Culică

15:10-15:30 Keynote lecture 14

Exploring the potential of photoswitchable ligands: novel Cu(II) complexes incorporating azo derivatives of ortho-vanillin

C. Turcu, S. Nica and M. Andruh

Day 2, Tuesday, September 26, 2023

Academy Council Chamber: 9:00-16:00 Workshop - Keynote lectures

9:00-10:40, Session 1

Chair: Dr. Măriuca Gartner

Secretary: Dr. Hermine Stroescu

9:00-9:20 Keynote lecture 1

The use of UV Visible spectroscopy for the characterization of semiconductor oxides

V. Brătan, M. Covei, H. Stroescu, M. Carata and M. Gartner

9:20-9:40 Keynote lecture 2

Nanocarbon based hybrid materials for chemoresistive sensing

O. Buiu, B. Serban, C. Pachiu, N. Dumbrăvescu R. Marinescu

9:40-10:00 Keynote lecture 3

Composite photocatalytic beads based on TiO₂ and carbon derivates for wastewater treatment

M. Covei, C. Bogatu, S. Gheorghita, I. Tismanar, A. Duță, H. Stroescu, M. Niculescu, J. M. C. Moreno, I. Atkinson, V. Brătan and M. Gartner

10:00-10:20 Keynote lecture 4

Future improvements in breast cancer diagnostics: the case for deep Raman spectroscopy

A. Ghita, B. Gardner, P. Matousek and N. Stone

10:20-10:40 Keynote lecture 5

Ellipsometry for investigating combinatorial and low-dimensional structures: applications in interface monitoring and biosensing

P. Petrik, D. Mukherjee, B. Kalas, Z. Lábadi, H. Jankovics, A. Romanenko, D. Olasz, G. Sáfrán, C. Moldovan, M. Gartner, F. Vonderviszt and M. Fried

10:40-11:10 Coffee break

11:10-12:50, Session 2

Chair: Acad. Maria Zaharescu

Secretary: Drd. Daiana Mitrea

11:10-11:30 Keynote lecture 6

Raman microscopy: label-free bio-photonic tool, from stem-cells to plant biology to molecular sensing

F. C. Păscut, I. Notinger, C. Denning, G. Madejski, J. McGrath, M. Bennett and K. F. Webb

11:30-11:50 Keynote lecture 7

Engineering functional materials for diagnostic devices

S. Somvanshi, A. Ulloa and L. Stanciu

11:50-12:10 Keynote lecture 8

Influence of sol-gel technological conditions on thin TiO₂ films properties

A. Szekeres, S. Simeonov, M. Gartner and M. Covei

12:10-12:30 Keynote lecture 9

Growth of calcium carbonate coating on pure Mg

J. M. Calderon-Moreno, M. Anastasescu and M. Popa

12:30-12:50 Keynote lecture 10

Supercapacitor technology: Quo vadis?

C. Cobianu, M. Gheorghe and M. Modreanu

12:50-14.00 Lunch break

14:00-16:00, Session 3

Chair: Dr. Peter Petrik

Secretary: Dr. Mihai Anastasescu

14:00-14:20 Keynote lecture 11

Smart systems for environment monitoring and biomedical applications

C. Moldovan, A. Grigoroiu, C. Mihailescu, C. Brasoveanu, O. Ionescu, M. Ion, S. Dinulescu and M. Savin

14:20-14:40 Keynote lecture 12

Nanoscale features of the sol-gel film crystallization

V. Teodorescu, A.V. Maraloiu, N.D. Scarisoreanu, M. Dinescu, M. Gartner, H. Stroescu, S. Mihaiu, M. Zaharescu and M.G. Blanchin

14:40-15:00 Keynote lecture 13

Influence of microwaves on sol-gel chemistry

M. Zaharescu

15:00-15:20 Keynote lecture 14

Coatings for absorption fiber-optic sensors prepared by sol-gel method

V. Matějec, I. Barton and M. Pospisilova

15:20-15:40 Keynote lecture 15

Mesoporous silica-based composite materials for therapeutic applications

D. Berger, M. Deaconu, A.-M. Brezoiu, A.-M. Prelipcean, S. Ioniță, R.-A. Mitran and C. Matei

15:40-16:00 Keynote lecture 16

Bioactivity of sol-gel materials

C. Anastasescu, M. Enache, M. Anastasescu, D. Pelinescu and M. Zaharescu

Day 2, Tuesday, September 26, 2023

Faculty of Biology- Conference Hall - 13:00-14:40 Workshop - Keynote lectures

Chair: Dr. Gabriela Ionita

Secretary: MSc. Alin Balan

13:00-13:20 Keynote lecture 1

Mesoscale structure formation in solutions of ionic liquids

L. Almásy, B. Rossi, B. Fehér and M. Avdeev

13:20-13:40 Keynote lecture 2

Structure and reactivity of gels and colloidal solutions probed by EPR

P. Groves, J. Huang, A. Heise, J. Marsh and V. Chechik

13:40-14:00 Keynote lecture 3

Multiple nanoaggregation strategies for multi-stimuli responsive amphiphilic block copolymers

I. Antignano, F. D'Acunzo, P. Gentili, L. Gatti, I. Onori, G. M. Pastore, M. Pelosi, G. Renga, A. Ricci and G. Masc

14:00-14:20 Keynote lecture 4

Redox processes mediated by gold nanoparticles encapsulated in polymeric gels evidenced by spectroscopic methods

I. Matei, S. Mocanu, F. Savonea, R. Bărățoiu, E. Hristea and G. Ioniță

14:20-14:40 Keynote lecture 5

The poloxamers' aggregation behaviour in water and the influence of an anionic nonsulfated glycosaminoglycan on the micelle formation

A.-V.-F. Neculae, A. Precupaş, V.-T. Popa, I. Matei, S. Mocanu, L. Aricov and G. Ioniţă

Day 2, Tuesday, September 26, 2023

Academy Library Hall - 9:00-15:30 Continuos Poster Session 1 and Cofee Break

Section 1. Theoretical chemistry. Molecular spectroscopy.

S01-P1 Investigating the relationship between structure and biological activity in aminodiphenylamine derivatives

A. Bujor, A. Hanganu, V. Tecuceanu, A. M. Mădălan, M. Tudose, L. Marutescu, M. Popa, C. M. Chifiriuc, I. Zarafu and P. Ioniţă

S01-P2 Theoretical study of the reactivity of syringol with atmospheric radicals

A. Ciocchină, I.-G. Bejan and I. Humelnicu

S01-P3 The ORR activity of undoped and N-doped triangle shaped graphene quantum dots using DFT

R.-I. Jalbă, D. Isac, S. Soriga and I. Man

S01-P4 Physico-chemical methods for the investigation of wooden ancient art pieces

I. Stănculescu, A. Tirsoaga, L. Patrascu and F. Albota

Section 2. Chemical kinetics and thermodynamics.

S02-P5 Gas-phase kinetic and degradation mechanism of the OH radical initiated oxidation of 2-methylstyrene

I. Bejan, L. Movilă, N. Illmann, I. Pătroescu-Klotz and P. Wiesen

S02-P6 Propagation of premixed hydrogen-hydrocarbon–air flames in a closed spherical vessel with central ignition

P. Chesler, C. Hornoiu, V. Giurcan, M. Mitu, A. M. Muşuc and C. Movileanu

S02-P7 Effects of TiO₂ nanoparticles with various particle sizes on protein thermal stability

D. Gheorghe, A. Botea-Petcu, A. Precupaş, V. T. Popa and S. Tănăsescu

S02-P8 Thermophysical properties of L-Alanine / Glycine + D-Fructose ternary mixtures at (313.15 and 318.15) K temperatures and pressure of 0.1 MPa

I. L. Gheorghe, C. S. Munteanu, A. Stefanu, D. Drăgoescu and F. Sîrbu

S02-P9 Optical and viscometric properties for binary mixtures of cyclohexane + aromatic hydrocarbons in the range of normal temperatures and pressures

D. Drăgoescu, F. Sîrbu, A. Shchamialiou, I. L. Gheorghe, C. S. Munteanu and A. Stefaniu

S02-P10 Hydrogen influence on ignition and quenching of n-butane-air explosions in deflagration regime

C. Hornoiu, P. Chesler, A. M. Mușuc, V. Giurcan, M. Mitu and C. Movileanu

S02-P11 Thermodynamic characterization of hydroxiapatite-based biomaterials used for tissues regeneration

C. Marinescu, A. Serban, F. Teodorescu, A. Sofronia, I. Atkinson, F. Maxim and S. Tanasescu

S02-P12 Study of the heat transfer to supercritical water during pseudo-boiling phase transition

M.-C. Licu, G.-Ş. Stoian, E.-E. Toma and F. Maxim

S02-P13 Enthalpies of combustion and formation of some dipeptides with potential biological activity

A. Neacșu, D. Gheorghe, C. Marinescu, A. Sofronia and S. Tănăsescu

S02-P14 Pressure influence on laminar burning velocity of hydrogen-blended propane-air mixtures

M. Mitu, D. Răzus, V. Giurcan, A. M. Mușuc and C. Movileanu

S02-P15 Thermodynamic characteristics of the carbon-supported copper oxides obtained by supercritical water impregnation approach

G. Stoian, E. Toma, A. Sofronia, S. Tănăsescu and F. Maxim

S02-P16 Thermodynamic properties of the carbon-supported zinc oxide materials prepared by supercritical water impregnation method

E. Toma, G. Stoian, A. Sofronia, S. Tănăsescu and F. Maxim

S02-P17 Molecular interactions of fenofibrate with active pharmaceutical ingredients by DSC and FTIR spectroscopy

S. D. Marinică, M. Vîrgolici, I. Stănculescu and E. Pincu

S02-P18 Thermodynamic properties of some entropy-stabilized oxides

S. Tanasescu, F. Teodorescu, C. Marinescu, A. M. Sofronia, A. Matei and N. Dragoe

S02-P19 Thermodynamic properties of zinc oxide nanoparticles obtained by supercritical & classical hydrothermal synthesis

A. Sofronia, E.-E. Toma, G.-Ş. Stoian, F. Teodorescu, C. Marinescu, S. Tănăsescu, F. Maxim

Section 3. Catalysis and Chemical Engineering.

S03-P20 W/TiO₂-CeO₂ activated carbon composite photocatalysts obtained by sol-gel method with application in degradation of textile dyes from water

D.-M. Antonie, S.-M. Dumitru, G. Petcu, I. Atkinson, E. M. Anghel, J. Pandele Cusu, D. C. Culita, A. Neacsu, A. Baran, F. Papa and V. Parvulescu

S03-P21 Catalytic ozonation reaction of ammonia in water over composite catalysts

C. Bradu, R. State, A. E. Olaru, S. Avramescu, I. Atkinson, R. Mitran, G. Crini, N. Morin-Crini, I. Balint and F. Papa

S03-P22 Computing the energetic fractal dimension using the adsorption isotherms

G. Dobrescu, F. Papa, D. Culita, I. Balint and N. I. Ionescu

S03-P23 Hydrothermal-assisted surfactant synthesis of TiO₂-CeO₂ mixed oxide doped with tungsten as photocatalysts in textile dyes degradation

S.-M. Dumitru, D.-M. Antonie, G. Petcu, E. M. Anghel, A. Neacsu, A. Baran, D. C. Culita and V. Parvulescu

S03-P24 Silver nanoparticles deposited on various supports with applications in water treatment

M. A. Morosan, R. State, V. Bratan, I. Atkinson, I. Balint and F. Papa

S03-P25 Iron oxide/zeolite based thin films for advanced photocatalytic applications

A. Iftode, N. Tigău, I. Atkinson, E.-M. Anghel, D.-C. Culică, A. Cantaragiu Cioromila and V. Mușat

S03-P26 Activated carbon for dye based wastewater depollution

D. Negoeescu, I. Atkinson, D. Culita, V. Bratan and V. Parvulescu

S03-P27 Elemental composition of the surface and stability of MnOx-Na₂WO₄/SiO₂ catalyst under the conditions of oxidative conversion of methane

S. Osmanova, G. Azimova, A. Mammadov, E. Ismailov, D. Taghiyev and J. Thybaut

S03-P28 Thermal stability of mono-, bi-, and trinuclear carbinol derivatives of ferrocene and thermodynamics of their pyrolysis

A. Rustamova, Z. Gurbanov, S. Osmanova, A. Mammadov and E. Ismailov

S03-P29 The influence of the support over Rh nanoparticles catalysts for dry reforming of methane reaction

F. Papa, R. State, G. Dobrescu, D. Culita, I. Atkinson, C. Negrila and I. Balint

S03-P30 Au-TiO₂-CeO₂ supported on zeolite Y as active catalysts in CO oxidation

G. Petcu, E. M. Anghel, I. Atkinson, D. C. Culică, N. G. Apostol, B. Grahovski, S. Todorova and V. Parvulescu

S03-P31 Ti-Incorporated ZeoliteY Modified with Fe, Co, Ni as Efficient Photocatalysts for Degradation of Antibiotics

G. Petcu, E. M. Anghel, A. Băran, I. Atkinson, D. C. Culică, J.-L. Blin and V. Pârvulescu

S03-P32 Fractal patterns of TiO₂-supported Pd-Au nanoparticles with controlled morphology - efficient photocatalyst for water splitting

R. State, I. Balint, I. Atkinson, V. Bratan, F. Papa and G. Dobrescu

S03-P33 Effect of ultrasound on the activity of iron-containing mordenite particles in hydroxylation of phenol to dihydroxybenzenes with hydrogen peroxide in liquid phase catalytic system based on in situ DLS, FTIR and EMR data

S. Suleymanova and E. Ismailov

Section 4. Electrochemistry. Corrosion. Ionic liquids.

S04-P34 Electrodeposition of tin-reduced graphene oxide composite from choline chloride - ethylene glycol eutectic mixtures

S. Costovici, A. Pantazi, A. Cojocaru, T. Vișan, M. Enăchescu and L. Anicai

S04-P35 Potentiometric determination of pyridoxine by perturbation of a homogeneous oscillating chemical reaction

D. Bala and A. G.Toma

S04-P36 Investigation of corrosion protection performance of new composite coating for cobalt based alloy in hydrochloric acid solution obtained by electrochemical methods

F. Brânzoi and A. Băran

S04-P37 Investigation of tricyclic active compounds in commercial antidepressant drugs by electrochemical methods

N. Murat, R.-C. Racoviță, E.-M. Ungureanu, M.-R. Bujduveanu and D. Catană

S04-P38 Electrosynthesis of polypyrrole with drug incorporation using NADES

M.-S.Cârlan, A.-G.Popescu and F. Golgovici

S04-P39 Trends in materials development for nuclear energy

F. Golgovici, D. Diniasi and A. E.Tudose

S04-P40 Electrochemical investigation of an N,N-bis-tetrahydroacridine diacid with anti acetyl cholinesterase activity

N. Murat, M.-M. Hrubaru, M.-R. Bujduveanu, E. Diacu and E.-M. Ungureanu

S04-P41 Investigation of different synthesis parameters in developing of an innovative AgNPs-PEDOT based electrochemical sensor for quercetin determination

C. Lete, M. Marin, S.-A. Leau, M. Marcu and S. Lupu

S04-P42 Pt-PEDOT based electrochemical sensing platform for serotonin quantification
S.A. Leau, C. Lete, I. Diaconu, C. Matei and S. Lupu

S04-P43 Design of an electrochemical sensor for sensitive determination of antioxidants
M. Marin, C. Lete, S. A. Leau, M. Marcu and S. Lupu

S04-P44 Capacitive performance of electrodes based on intermetallic FeNi₃ nanoparticles anchored on graphene oxide
M. Marcu, C. Donath, E. I. Neacșu, L. Preda, M. Codescu, E. Chițanu, C. Baciu, V. Marinescu and D. Pătroi

S04-P45 Corrosion behavior of a novel Ti_xTa₉Nb₈Zr₂Ag in various biofluids for surgical applications
G. Dobri, A. Banu, M. Marcu, C. Donath and E. I. Neacșu

S04-P46 Development of aptasensing platforms by controlled grafting of aryl diazonium salts
A. M. Onaș, A. M. Pandele, C. V. Florea, M. Raicopol and L. Pilan

S04-P47 New composite materials based on iron-nickel powder encapsulated by phosphorous pentoxide: structure, magnetic properties, and corrosion resistance
O. Demidenko, A.-M. Popescu, M. Anastasescu, T. Shoukavaya and V. Constantin

S04-P48 Structure, magnetic properties, and corrosion of monel-400 in Mediterranean seawater
A.-M. Popescu, K. Yanushkevich, A. Zhivulka, A. Galyas and V. Constantin

S04-P49 Tungstate-borate ionic liquids: structure, electrochemical behavior and electrodeposition of tungsten coatings
Angelina Gab, V. Malyshev, A. M. Popescu and V. Constantin

S04-P50 Nitrite anodic oxidation at Ni/SnO₂-carbon composites: synergistic effects and analytical applications
S. Șomăcescu, T. Spătaru, M. M. Radu, O. Moga, M. A. Mihai, L. Preda and N. Spătaru

S04-P51 Ni/SnO₂ for bioethanol electrooxidation
T. Spătaru, I. Dascălu, D. Culică, Ș. Neațu, F. Neațu, M. Florea, N. Petrea, V. Șomoghi and S. Șomăcescu

Section 6. Biophysical and pharmaceutical physical chemistry.

S04-P52 Studies on polyphenols extraction and their embedding in porous supports
A. Abduraman, A.-M. Brezoianu, M. Deaconu, S. Ioniță, N. Sedky, C. Matei, L. Ziko and D. Berger

S06-P53 Biophysical properties of some nitrobenzofurazan derivatives
R.-D. Bărătoiu-Carpen and E.-N. Hristea

S06-P54 Research on the effectiveness of ascorbic acid incorporation into water-in-oil emulsions with parsley (*Petroselinum Crispum*) extract

R. Cretu, S. Condurache-Bota, R. M. Drasovean and G.I. Murariu

S06-P55 Interaction of anticancer drug actinomycin D with bile salts micelles

A. M. Toader, I. Dascălu and M. Enache

S06-P56 Exploring (BSA - micellar carrier – drug) systems with pyrene

A. Iovescu, A.R. Leonties, G. Sfîngă, A. Băran, M.E. Maxim and D.-F. Anghel

S06-P57 Characterisation of 2-hydroxypropyl- β -cyclodextrin inclusion complexes with natural antiinflamatory agents. Enthalpies of combustion and formation

A. Neacșu, D. A. Neacșu, C. Marinescu, A. Sofronia and D. Gheorghe

S06-P58 Binding interaction of epirubicin with bovine serum albumin

M. Barbulescu, A. Raducan and P. Oancea

S06-P59 Influence of dietary antioxidants on drug-albumin binding

P. Oancea, A. Raducan, C. Chivu and B. Nedelcu

S06-P60 Apparent kinetics of bovine serum albumin thermal denaturation. Analysis of microDSC data via Arrhenian windows.

A. Precupas and V.T. Popa

S06-P61 Interfacing metal ion enhancement of natural product antioxidant potency with neuroprotection

S. Matsia, G. Lazopoulos and A. Salifoglou

S06-P62 Fever temperatures enhance binding affinity of antibodies against HER2

R. Stan and P. Singh

S06-P63 Zinc(II) complexes containing pyridyl-type ligands for fluorescent detection of antiinflammatory drugs

A. Tăbăcaru

S06-P64 A coarse-grained model of chitosan for a physical cross-linking pattern

R.-M. Vișan and D-G. Angelescu

Day 2, Tuesday, September 26, 2023

19:00-22:30 Restaurant House of Scientists (Casa Oamenilor de Știință) - Welcome party

Day 3, Wednesday, September 27, 2023

Academy Library Amphitheater "Heliade Rădulescu": 9:00-15:30 Keynote lectures

9:00-10:40 Section 1

Chair: Prof. Imre Miklós Szilágyi
Secretary: Dr. Oana Cătălina Mocioiu

9:00-9:20 Keynote lecture 1

[Ln₂(hfac)₄(ac)₂(OH₂)₂(OMe)₂], a useful precursor for luminescent d-f metal-complexes
V.-L. Virgil, S. Nica, C. Maxim and M. Andruh

9:20-9:40 Keynote lecture 2

Emerging techniques for cocrystal preparation: investigation of ultrasound-assisted solution cocrystallization and microwave-assisted methods

C. M. Vlăduț, S. Ioniță, E. M. Soare, M. Pătrașcu, J. Pandele-Cușu, D. Lincu, D. Culică, A. Rusu, I. Atkinson and V. Fruth

9:40-10:00 In memoriam Prof. Teodor Vișan

L. Anicai, E. Ungureanu

10:00-10:20 Keynote lecture 3

Influence of additives on Ag electrodeposition from deep eutectic solvents

S. State, O. Brâncoveanu, A. Pantazi, A. Petica, L. Anicăi, M. Enăchescu and T. Vișan

10:20-10:40 Keynote lecture 4

Anodic processes on Ti involving various deep eutectic solvent formulations

L. Anicăi, A.-C. Manea, S. State (Rosoiu), C. Moise, A. Pantazi, G. Mihai, S. Costovici and T. Vișan

10:40-11:10 Coffee break

11:10-13:10 Section 2

Chair: Dr. Maria Marcu
Secretary: Dr. Cecilia Lete

11:10-11:30 Keynote lecture 5

Studies on tetrahydroacridines with potential use in Alzheimer's disease treatment

M.-M. Hrubaru, N. Murat, M.-R. Bujduveanu, G.-O. Buică, E.-M. Ungureanu and E. Diaconu

11:30-11:50 Keynote lecture 6

Maximizing adsorption efficiency for electrochemical determinations of catechins in wine

N. Isak, K. Xhaxhiu and X. Ndrekaj

11:50-12:10 Keynote lecture 7

PEDOT-Au NPs nanocomposite modified glassy carbon electrode for epinephrine sensing

S.-A. Leau, C. Lete, C. Matei and S. Lupu

12:10-12:30 **Keynote lecture 8**

A new approach for the synthesis of Co-Ni mixed oxide-based anodes for oxygen evolution

M. A. Mihai and N. Spătaru

12:30-12:50 **Keynote lecture 9**

The ex-situ method of electrochemical determination of catechins in wine in comparison with the in-situ method

X. Ndreka, K. Xhaxhiu and N. Isak

12:50-13:10 **Keynote lecture 10**

Reactivity of functionalized silica surfaces with ozone and hydroxyl radicals

N. Iqbal, A. Wolstenholme-Hogg and V. Chechik

13:10-14:10 Lunch break

14:10-15:30 Section 3

Chairs: Dr. Speranța Tănăsescu, Lect. Dr. Adina Raducan

Secretary: Dr. Elena Pincu

14:10-14:30 **Keynote lecture 11**

Atmospheric chemistry of aromatic compounds: from gas-phase kinetic to secondary organic aerosol formation

C. Roman, I. Humelnicu, I. Mangalagiu, C. Arsene, R.-I. Olariu and I. Bejan

14:30-14:50 **Keynote lecture 12**

Thermodynamic stability evaluation of carbon-supported metal oxides under supercritical water conditions

F. Maxim, F. Teodorescu, A. Sofronia, E.-E. Toma, G.-S. Stoian, C. Marinescu and S. Tănăsescu

14:50-15:10 **Keynote lecture 13**

The impact of hydrogen enrichment on flame structure and combustion characteristic properties of premixed hydrocarbon-air flames

D. Răzuș, M. Mitu, C. Movileanu and V. Giurcan

15:10-15:30 **Keynote lecture 14**

An insight into the thermodynamics of protein interactions with magnetic dextran iron oxide nanoparticles

S. Tanasescu, D. Gheorghe, A. Botea-Petcu, R. Sandu, P. Southern, Q. A. Pankhurst and A. Prina Mello

Day 3, Wednesday, September 27, 2023

Academy Library Hall - 9:00-15:30 Continuous Poster Session 2 and Coffee break

Section 5. Advanced materials science.

S05-P1 Novel multifunctional organo-modified silica coatings for metallic historic objects
M. Ioan, D. F. Anghel, G. A. Sanda, L. O. Cinteză and D. Bala

S05-P2 Sweets essence under analysis: UV-VIS-NIR spectra and other physical properties of cake flavor extracts

S. Condurache-Bota, R. M. Drasovean, G. Murariu and R. Cretu

S05-P3 Ru(II)/Ru(III) Complexes-loaded mesoporous silica with anticancer and antimicrobial properties

D. C. Culită, G. Marinescu, T. Mocanu, R. A. Mitran, S. Petrescu, M. S. Stan, M. C. Chifiriuc and M. Popa

S05-P4 Novel chromogenic and fluorogenic nitrobenzofurazan derivatives

R.-D. Bărățoiu-Carpen, E. N. Hristea, D. C. Culită, M. Tudose, A. Bujor, I. Zarafu and P. Ionită

S05-P5 Electrical properties for gas sensing of Sn, Ti, Zn and Pr mixed oxides

I. Dascălu, C. Hornoiu, J. M. Calderon-Moreno, M. Enache and S. řomăcescu

S05-P6 Functionalization of a tripodal Mannich base as nitronyl-nitroxide and Schiff-base ligands and their complexes

S. Dimitriu and M. Andruh

S05-P7 New Insights in the Design of Materials Based on Polysulfones with Potential Applications in Biomedical Field: Structure–Properties Relationship

O. Dumbravă, D. Serbezeanu, I. Stoica, A. Bargan and A. Filimon

S05-P8 Sustainable Packaging Applications Utilizing Organophosphorus Reinforced Poly(vinyl alcohol) Nanocomposites

D. Serbezeanu, T. Vlad-Bubulac, I. Anghel, C. M. Rîmbu and O. Dumbravă

S05-P9 Porous spherical ZnO-alginate family prepared by a dual-template method for biological applications

C. D. Ene, P. Cucos, A. Ianculescu, D. C. Culita, E. M. Anghel, A. Cucos, I. Atkinson, M. C. Chifiriuc, J. M. Calderón-Moreno and O. Carp

S05-P10 Polysaccharide-assisted synthesis of hybrid Prussian Blue/C particles

A.-M. Spinciu, C. D. Ene, M.-G. Alexandru, A. Ianculescu and D. Visinescu

S05-P11 Versatile Multilayered Hydrophobic and Antibacterial Coatings

I. C. Gîfu, R. Ianchiș, C. L. Nistor, M. Anastasescu, A. R. Leontieș, L. Aricov, M. E. Maxim and C. Petcu

S05-P12 Time Stability and Dye Adsorption Study for Magnetite-PGL-Chitosan Nanocomposites

M. E. Maxim, A. Iovescu, G. Stîngă, I. C. Gîfu, A. R. Leontieș, A. Băran, S. Petrescu, D. Angelescu, D. F. Anghel, T. Basinska, M. Gosecka and S. Slomkowski

S05-P13 Plant-Based Biosynthesis of Magnetic Cobalt Ferrite

D. Gingăsu, J. M. Calderon Moreno, G. Marinescu, S. Preda, D. C. Culică, C. Bartha, O. Oprea, M. C. Chifiriuc and M. Popa

S05-P14 Spinel Aluminates Obtained through Malate Route

D. Gingăsu, J. M. Calderon Moreno, O. Oprea, G. Marinescu, S. Preda and D. C. Culică

S05-P15 Strategies to prevent healthcare associated infections

M. -N. Ionita, R. Bucureșteanu, L.-M. Ditu, I. Călinescu, C. Marcu and D. Bala

S05-P16 Preparation of Nb-dopes Titanium Dioxide by combustion method

S. E. Lazăr, J. Pandele Cușu, R. Trușcă, A.-V. Surdu, I. Atkinson, M. Verziu and V. Fruth

S05-P17 Functional Model for Upscaling Cocrystal Preparation of Resveratrol/Piperazine Nutraceutical Product

D. Lincu, I. Simona, J. Pandele - Cușu, M. Soare and V. Fruth

S05-P18 Processing of Quaternized Polysulfone/Cellulose Acetate Phthalate/Polyvinylidene Fluoride Solutions by Electrospinning to Obtain Bioactive Fibrous Membranes

A. Filimon, D. Serbezeanu, M. Onofrei, O. Dumbravă, D. Rusu, E. Miloș and L. Lupa

S05-P19 Antimicrobial Systems Based on Hydroxypropyl Methylcellulose and Silver Nanoparticles: Structural-Morphological Characterization

M. Onofrei, I. Stoica, E. Miloș, L. Lupa and A. Filimon

S05-P20 Co(II) and Cu(II) homometallic complexes with Schiff base ligands bearing amino acids: structural characterization and cytotoxic activity on tumor cells

G. Marinescu, D. C. Culică, T. Mocanu, C. Maxim, N. Stănică, T. Zhivkova, L. Dyakova, A. Abudalleh and R. Alexandrova

S05-P21 Homo- and heteropolynuclear complexes using a Schiff base derived from 2,3-dihydroxybenzaldehyde: synthesis and characterization

D.-I. Efremie, T. Mocanu, D. Dragancea, M. Răducă and M. Andruh

S05-P22 Trans-[MIII(valen)(CN)₂] - versatile tectons in constructing heterometallic coordination assemblies

T. Mocanu, C. D. Ene, D. C. Culică, C. Maxim, C. Lete, N. Stănică, G. Marinescu and M. Andruh

S05-P23 Influence of Synthesis Route on Properties of Cu-doped ZnO Nanoparticles
O. C. Mocioiu, I. Atkinson, M. Voicescu, V. Brătan, A. Leontieș, N. Vitan and A. M. Mocioiu

S05-P24 Doped Zinc Oxide Nanopowders for Nanofluids
O. C. Mocioiu, I. Atkinson, I. M. Szilágyi, L. Predoană, C. M. Vlăduț, J. Cușu Pandele, M. E. Soare, S. E. Lazăr, A. Leontieș, M. Bohus, Z. I. Várady and M. Zaharescu

S05-P25 An improved pathway to produce biogenic silica from wheat straws
V.-C. Niculescu, S. L. Badea and I. Petreanu

S05-P26 Exploring Niobium Doping for Enhanced Photocatalytic Activity of Titanium Dioxide under Visible Light Irradiation
J. Pandele-Cușu, S. E. Lazăr, I. Atkinson, D. Culică, A. Rusu, V. Bratan, C. Hornoiu, G. Petcu, M. Verziu and V. Fruth

S05-P27 Oxidic systems for energy applications
S. Petrescu, I. Atkinson, E. Tenea, M. Malki and E. M. Anghel

S05-P28 Electrospun zeolite-modified polyvinylidene fluoride (PVDF) membranes
I. Procop, N. Țigău, E. Anghel, I. Atkinson, D. Culică, A. Cantaragiu Ceoromila, C. Paizs, M. Toşa, L. Marincaș and V Mușat

S05-P29 Syntheses and molecular structure of mononuclear lanthanide complexes with salicylaldehyde
D. Dragancea, T. Mocanu, M. Răducă and M. Andruh

S05-P30 Non-ionic surfactants based lyotropic liquid crystals as transdermal drug delivery systems for Curcumin and essential oils
G. A. Sanda, V. Cîrcu, M. Iliș, M. Micuț, C. L. Nistor, C. Petcu and L. O. Cînteză

S05-P31 Influence of the dopant content and sintering method on the properties of hafnium-modified barium titanate ceramics prepared by the sol-gel method
M. E. Soare, M. Crișan, C.-A. Stanciu, R. Pătru, V.-A. Surdu, R.-D. Trușcă, B. Ș. Vasile, I. Pintilie and A.-C. Ianculescu

S05-P32 Carbonaceous Materials Containing TEMPO Stable Free Radical: Blackberry-like Hydrochars with Enhanced Electrocatalytic Activity
G. Socoteanu (Pătrînoiu), J. M. Calderon Moreno, S. Șomăcescu, A. M. Mușuc, T. Spătaru and P. Ioniță

S05-P33 Dioxidovanadium(V) heterometallic complexes with symmetrical bis-hydrazone ligands
N. Talmaci, T. Mocanu, D. Dragancea and S. Shova

S05-P34 Bentonite clay - low cost adsorbent for pyridine: Equilibrium and kinetic study
L. Todan, D. Crisan, N. Dragan, D. C. Culita, C. Ciuculescu and S. M. Donecea

S05-P35 Novel functional bidimensional coordination polymers
A. Dogaru, T. Mocanu, A. E. Ion, Valentin L. Virgil, S. Nica and M. Andruh

S05-P36 Copper-based/C composites on new eco-friendly carbonaceous polysaccharides-derived platforms: synthesis and characterization
D. Visinescu, A. Spinciu, M.-G. Alexandru, J. Calderon Moreno, M. Anghel, S. Petrescu, C. D. Ene, D. C. Culică, S. Preda and C. Comănescu

S05-P37 Novel (poly)saccharide-derived porous carbonaceous materials as efficient support for next-generation copper-based/C composites
A.-M. Spinciu, D. C. Culică, C. D. Ene, S. Preda, J. Calderon Moreno, E. M. Anghel and D. Visinescu

S05-P38 An overview on the utilization of crown ethers in lithium isotopes separation
V.-C. Niculescu, S. L. Badea and A.-M. Iordache

Section 7. Green chemistry and environmental engineering

S07-P39 High capacity recovery of Ag(I) from aqueous solution by mesoporous silica sorbent
P. Herman, D. Pércsi, T. Fodor, L. Juhász, Z. Dudás, Z. E. Horváth, V. Ryukhtin, A.-M. Putz, J. Kalmár and L. Almásy

S07-P40 Efficient Recovery of Antidepressants from Aqueous Media by Microemulsion Extraction System
D. Catana, R.-C. Racoviță, M.-D. Ciucă and M. Mihaly

S07-P41 Dynamics of PM, TCVO and CH₂O concentrations in the city of Galati
R. Drașovean, G. Murariu, S. Condurache-Bota and R. Crețu

S07-P42 Research on the dynamics of nitrogen oxide concentrations in the South East area of Europe in the period 2015-2023
G. Murariu, R. Drașovean, G. Mocanu, I. Racoviță and B. Roșu

S07-P43 Multifunctional biocompatible hydrogels for biomedical applications
M. Chelu, L. Aricov, J. M. Calderon-Moreno, C. Movileanu, C. Hornoiu and A. M. Mușuc

S07-P44 Evaluation of adsorption capacity of NH₂- and SH- functionalized silica towards Hg(II) from synthetic residual waters
D. Humelnicu and I. Humelnicu

S07-P45 Phytosomes use as vectors to improve active compounds efficacy
S. C. Lițescu, G. I. Badea, M. Diaconu, A. Chira, A. Alecu and G.-L. Radu

S07-P46 Study on the variability of the ozone ground concentration between 2015-2023 in the South East area of Europe. A comparison of numerical methods of investigation
G. Murariu, R. Drasovean, S. Condurache Bota and R. Cretu

S07-P47 Multifunctional fluorescent polymer sensing phenothiazinium dye and metal ions
G. Stîngă, A. Băran, A. Iovescu, M. E. Maxim, A. Precupas and A. R. Leonties

S07-P48 Enzymatic degradation of epirubicin
M.-A. Bălan, A. Răducan and P. Oancea

S07-P49 Laccase - ABTS as an efficient system for recalcitrant dye degradation
E. Văcălie, A. Răducan and P. Oancea

S07-P50 Influence of size and chemical composition of titanium dioxide surface modified with silver nanoparticles based on aminated hyaluronic acid in vivo toxicity
M. Stoian, M. Popa, M. C. Chifiriuc, S. Voicu, E. M. Anghel and M. Tudose

Section 8. Advanced ellipsometric and spectroscopic techniques: applications in environment, energy and sensing.

S08-P51 Sensor processes based on gold nanoparticle bonded modified proteins
Z. Labadi, M. Szucs, C. Bakos, D. Mukherjee, A. Bonyar, H. Jankovics, F. Vonderviszt and P. Petrik

S08-P52 Bio-derived smart thin film for biosensors
M. Chelu, D. Mitrea, H. Stroescu and M. Gartner

S08-P53 The effect of the doping on optical parameters of ZnO thin films synthesized by sol-gel method
M. Nicolescu, M. Anastasescu, I. Atkinson, S. Mihaiu, M. Zaharescu and M. Gartner

Section 9. Sol-gel science and applications.

S09-P54 Functionalized three-dimensional (3D) scaffolds based on natural marine sponges and sol-gel derived mesoporous bioactive glasses for enhanced bone tissue regeneration
I. Atkinson, A. M. Seciu Grama, S. Petrescu, O. C. Mocioiu, L. Predoană, J. Pandele Cușu, S. Preda and O. Crăciunescu

S09-P55 Boronic acid-functionalized mesoporous silica for targeted drug delivery
S. Ionita, M. Deaconu, R.-C. Popescu, D. Lincu, R.-A. Mitran, C. Matei, D.-I. Savu and D. Berger

S09-P56 The SiO₂ based gels obtained by microwaves assisted sol-gel method
L. Predoană, J. Pandele Cușu, A. Rusu, S. Petrescu, I. Atkinson, M. Patrașcu and M. Zaharescu

S09-P57 Cu doped TiO₂ nanostructures obtained by microwave assisted sol-gel and sol-gel methods
L. Predoană, J. Pandele-Cusu, I. Atkinson, O. Mocioiu, S. Petrescu, D. A. Karajz, H. Lemago, I. Szilágyi, G. Pokol, N. Apostol and M. Zaharescu

S09-P58 Cu doped Zinc Oxide Nanoparticles for Nanofluids: Synthesis and Characterization
M. C. Vlăduț, O. C. Mocioiu, I. Atkinson, I. Szilágyi, J. Pandele Cușu, M. E. Soare and M. Zaharescu

Section 10. Physical chemistry of soft materials.

S10-P59 Supramolecular polymeric assemblies formed by host-guest interaction
L. Aricov, A. R. Leontieș, A. Băran, R. Baratoiu, E. Hristea, I. Matei and G. Ioniță

S10-P60 Formation and hosting properties of smart systems consisting of surfactant, polymer and their mixtures
A. Băran, L. Aricov, G. Stîngă, A. Iovescu and M. E. Maxim

S10-P61 Spin labelled polysaccharides as probes for the formation of Alginate/Chitosan Interpenetrated Networks
J.-P. Joly, L. Aricov, G.-A. Bălan, E. I. Popescu, S. Mocanu, A. Ruxandra Leonties, I. Matei, S. R. A. Marque and G. Ioniță

S10-P62 Laccase immobilized onto CS-PAA microspheres applied for synthetic dyes decomposition
A. R. Leonties, L. Aricov, R. M. Vișan, A. Precupas, A. V. F. Neculae, I. C. Gîfău and A. Răducan

S10-P63 The behaviour in surfactants and oligo(ethylene glycols) of a newly synthesized spin labelled-curcumin
A.-V.-F. Neculae, V. Tecuceanu, I. Matei, S. Mocanu, F.-D. Savonea, G.-A. Bălan and G. Ioniță

S10-P64 Insights into the Interaction of Gold Nanoparticles with Trametes versicolor Laccase
A. Precupas, L. Aricov, R. Sandu, M. Tudose and A. R. Leonties

S10-P65 Physico-chemical changes induced by Gamma irradiation on some structural protein extracts
M. Stanca, E.-G. Ioniță, C. Gaidau, I. Matei, A. Precupas, A. Leonties and T. Zaharescu

Day 3, Wednesday, September 27, 2023

15:30-15:40 Closing ceremony