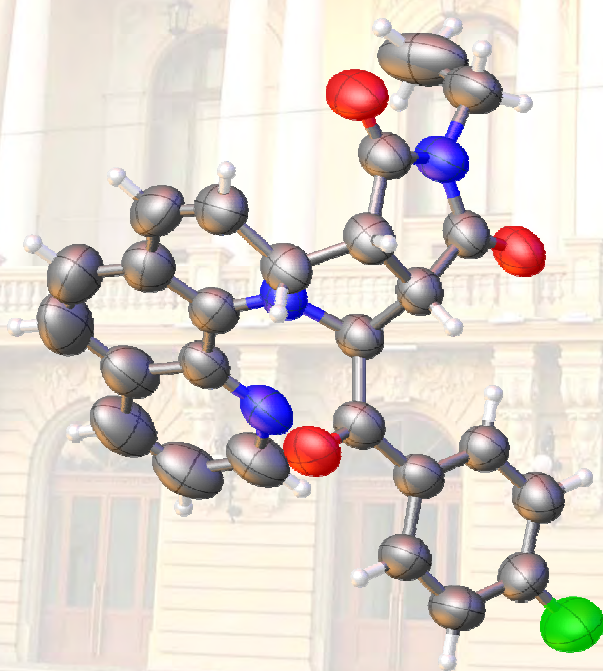


“Alexandru Ioan Cuza” University Days

Faculty of Chemistry Conference

Program



**Iași,
29 – 31 October 2015**



CERNESIM

Centrul de studii în știința mediului
pentru regiunea de dezvoltare NE

“Alexandru Ioan Cuza” University Days

Faculty of Chemistry Conference

Program

**Iasi,
29 – 31 October 2015**

Faculty of Chemistry Conference

Scientific Committee

President: Prof. PhD. Ionel Mangalagiu

Acad. Marius Andruh

Acad. eng. Bogdan Simionescu

Acad. Cristian Silvestru

Prof. Ph.D. eng. Dan Cascaval

Prof. Ph.D. Gabi Drochioiu

Prof. Ph.D. Romeo-Iulian Olariu

Assoc. Prof. Ph.D. Ionel Humelnicu

Organizing committee

Prof. Ph.D. Aurel Pui

Prof. Ph.D. Habil. Cecilia Arsene

Assoc. Prof. Ph.D. Mircea-Odin Apostu

Assoc. Prof. Ph.D. Ramona Danac

Assoc. Prof. Ph.D. Doina Humelnicu

Secretaryship

Assoc. Prof. Ph.D. Nicoleta Cornei

Assist. Prof. Ph.D. Maria Ignat

CSIII Ph.D. Catalina-Ionica Ciobanu

Admin. Eng. Vasile Vatra

Ph.D. Stud. Constantin Virlan

Scientific Program

Day 1

Thursday 29 October

Location: Faculty of Chemistry, Lecture Hall P3

13⁰⁰-14⁰⁰ **Registration of the participants**

14⁰⁰-14¹⁰ **Opening ceremony**

14²⁰-14⁴⁰ **Celebration moment**

Session 1

Chairpersons: Assoc. Prof. Ph.D. Ionel Humelnicu

Assoc. Prof. Ph.D. Nicoleta Cornei

Nobel Prize for Chemistry 2015:

14⁴⁰-14⁵⁰ ***Tomas Lindahl, Paul Modrich and Aziz Sancar***
tribute by G. Drochioiu¹

CO1 ***Clinical diagnostics of lysosomal storage diseases***
14⁵⁰-15¹⁰ ***on dry blood spots: MRM-MS and fluorimetric***
determinations

L. Ion^{1,2}, C. Andries^{1,2}, S. Maeser², G. Drochioiu¹,
M. Przybylski, B. A. Petre^{1,2}

CO2 ***Evaluation of adsorption characteristics of new***
15¹⁰-15³⁰ ***cephalosporin onto porous microparticles***
S. Racovita³, S. Vasiliu³, T. A. Cigu^{1,4}, C. Cheptea⁵,
V. Sunel¹, M. Popa¹

SC1 ***Fluorescence spectroscopy: a simple tool for***
15³⁰-15⁴⁰ ***studying enzymes interactions***

V. R. Gradinaru¹, H.-J. Apell⁶, M. Zaharia¹

SC2 ***Synthesis and characterization of new poly(sulfone-***
15⁴⁰-15⁵⁰ ***urethane) networks***

O. Ursache³, C. Gaina³, V. Gaina³



15⁵⁰-16²⁰

COFFEE BREAK

Session 2

Plenary lectures

Chairpersons: Prof. Ph.D. Romeo-Iulian Olariu

Assoc. Prof. Ph.D. Ramona Danac

CO3
16²⁰-16⁴⁰ *Investigations on the isoprene ozonolysis: Product yields formation over temperature range 273-343K*
I. Bejan^{7,8}, P. W. Seakins⁷

CO4
16⁴⁰-17⁰⁰ *Ionic hybrid materials based on poly(dimethylaminoethyl methacrylate) and chloroalkyl-functionalized silicone derivatives: Preparation and characterization*
M. M. Lazar³, M. Cazacu³, E. S. Dragan³

CO5
17⁰⁰-17²⁰ *Particle size and doping influence on the magnetic properties of CoFe₂O₄*
C. Virlan¹, O. F. Caltun⁹, G. Bulai⁹, R. Hempelmann¹⁰, A. Pui¹

CO6
17²⁰-17⁴⁰ *Macroporous semi-IPN composite hydrogels based on native or anionically modified starch*
D. F. Apopei- Loghin³, E. S. Dragan³

SC3
17⁴⁰-17⁵⁰ *Adsorptive removal of p-chlorophenol from aqueous solutions by activated carbon. Equilibrium studies*
E. David⁴, M. S. Secula⁴, G. Ozdemir¹¹, I. Mamaliga⁴

SC4
17⁵⁰-18⁰⁰ *Effect of ZnO and Ag nanoparticles on some hybrid composites used in photocatalytic degradation of methylene blue*
V. E. Podasca³, T. Buruiana³, E. C. Buruiana³

18⁰⁰-20⁰⁰ *Roundtable: Past, Present And Future Of Chemistry at “Alexandru Ioan Cuza” University*

Scientific Program

Day 2

Friday, 30 October

Location: Faculty of Chemistry, Lecture Hall P3

Registration of the participants

08³⁰-09⁰⁰

Display of posters (P1 - P44)

The Hall of the Echoing Footsteps

Session 1

Plenary lectures

Chairpersons: Acad. Cristian Silvestru

Prof. Ph.D. Ionel Mangalagiu

CP1

09⁰⁰-09⁴⁵

The beauty of coordination polymers

M. Andruh¹²

University of Bucharest, Bucharest, Romania

CP2

09⁴⁵-10³⁰

Medical diagnosis by NMR spectroscopy. How, when, why?

C. Deleanu^{3, 13}

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

"Costin D. Nenitescu" Institute of Organic Chemistry, Bucharest, Romania

CO7

10³⁰-10⁵⁰

Ethics in science, chemistry and academia

A. Silvestru¹⁴

Babes-Bolyai University, Cluj-Napoca, Romania



10⁵⁰-11²⁰

**POSTER SESSION
COFFEE BREAK**

Session 2

Plenary lectures

Chairpersons: Prof. Ph.D. Habil. Cecilia Arsene

Assoc. Prof. Ph.D. Doina Humelnicu

CP3 *Biosensors for dopamine determination in foods of plant origin*
11²⁰-12⁰⁵

C. Apetrei¹⁵, C. V. Ungureanu¹⁶, I. M. Apetrei¹⁷

“Dunarea de Jos” University of Galati, Romania

CO8 *Template assemblies of single molecule magnets based on manganese coordination compounds*
12⁰⁵-12²⁵

O. Palamarcu¹⁸, M. Secu¹⁸, R. Clérac¹⁹

CO9 *Theoretical study of 8-hydroxyquinoline tautomerization in solution*
12²⁵-12⁴⁵

I. Humelnicu¹, D. Maftai¹

SC5 *Rational design and structural characterization of three novel extended structures of copper(II)*
12⁴⁵-12⁵⁵

M. Mocanu¹², C. Maxim¹², A. M. Madalan¹², D.-L. Popescu¹², M. Andruh¹²

SC6 *Molecular determinants of polypyridine chelator activity at the chemokine receptor CCR5 in the presence of Zn(II) salts*
12⁵⁵-13⁰⁵

R.-M. Amarandi^{1,20}, S. Karlshøj²⁰, M. M. Rosenkilde²⁰, A. Pui¹



13⁰⁵-14³⁰

LUNCH

Session 3

Plenary lectures

Chairpersons: Acad. Marius Andruh

Prof. Ph.D. Gabi Drochioiu

CP4 ***New materials with application in Oenology***

14³⁰-15¹⁵ V. Cotea²¹

"Ion Ionescu de la Brad" University of Agricultural Science and Veterinary Medicine of Iasi, Romania

CO10 ***Oxytetracycline delivery systems based on mesoporous titania***

15¹⁵-15³⁵

D. Berger²², A. I. Iorgu²², R. A. Mitran²², C. Matei²²

CO11 ***The behavior of some photoactive glycomonomers in UV or femtosecond laser-induced two-photon polymerization***

15³⁵-15⁵⁵

A. L. Chibac^{1,3}, T. Buruiana³, V. Melinte³, I. Mangalagiu¹, E. C. Buruiana³

SC7 ***Mesostructured silica and aluminosilicates as carriers for irinotecan delivery systems***

15⁵⁵-16⁰⁵

S. Nastase²³, L. Bajenaru²³, L. Miclea²⁴, R. A. Mitran²³, E. Radu²⁵, D. Berger²³, T. Savopol²⁴, M. G. Moisescu²⁴, C. Matei²³



16⁰⁵-16³⁰

POSTER SESSION

COFFEE BREAK

Session 4

Plenary lectures

Chairpersons : Prof. Ph.D. Aurel Pui

Assoc. Prof. Ph.D. Mircea Apostu

CP5
16³⁰-17¹⁵ ***Organometallic compounds as building blocks for supramolecular architectures***

C. Silvestru¹⁴

Babes-Bolyai University, Cluj-Napoca, Romania

CO12
17¹⁵-17³⁵ ***Intermolecular interactions and spin crossover materials***

T. Palamarciuc¹⁸, P. Rosa²⁶, J. F. Letard²⁶, A. Pui¹

Poly(ethyleneimine) based multilayer films constructed onto silica microparticles as drug delivery systems

CO13
17³⁵-17⁵⁵ ***Poly(ethyleneimine) based multilayer films constructed onto silica microparticles as drug delivery systems***
C. A. Ghiorghita³, F. Bucatariu³, A. I. Cocarta³, E. S. Dragan³

17⁵⁵-18¹⁵

POSTER SESSION

COFFEE BREAK

18¹⁵-18³⁰

Awards For The Best Participants

Closing the Conference

19⁰⁰

Cocktail (Vanatorul Restaurant)

POSTERS

- P1** *Differential pulse anodic stripping voltammetry in mercury determination*
P. C. Verestiuc²⁷, O. M. Tucaliuc²⁷, I. Breaban²⁷, Ig. Cretescu⁴, Gh. Nemtoi¹
- P2** *Sm(III) polyoxometalate: synthesis, structure and properties*
D. Humelnicu¹, O. M. Apostu¹, M. L. Craus²⁸, M. Dumitras¹, I. Humelnicu¹
- P3** *Kinetic studies on p-chlorophenol adsorption from aqueous solutions by activated carbon*
E. David⁴, M. S. Secula⁴, G. Ozdemir¹¹, I. Mamaliga⁴
- P4** *Comparative photodegradation study of Erythrosin B using two reactors type*
L. C. Apostol^{29,4}, M. Gavrilescu^{4,30}
- P5** *Magnetic mesoporous inorganic composites with biomedical applications*
D. Georgescu²², A. Zafir²², N. Stănică³¹, R. A. Mitran²², C. Munteanu³¹, C. Matei²², D. Berger²²
- P6** *Mesoporous silica-ceria composites as carriers for drug delivery systems*
M. Petrescu²², R. A. Mitran²², C. Matei²², D. Berger²²
- P7** *Chemistry expertise to polymeric supports from the counterfeit documents*
D. Potolinca²⁷, C. I. Negru³², V. Vasilache³³, M. Paduraru²⁷, I. Sandu³³, O. P. Tanasa²⁷
- P8** *Synthesis of polymetallic oxides with high organized structure*
V. Jucan²⁷, A. M. Dumitrescu¹, A. R. Iordan¹, M. N. Palamaru¹
- P9** *Rhodamine 6G dye photodegradation study on TiO₂ –based photocatalysts*
D. Petrovski¹, D. Lutić¹
- P10** *Morphological and microchemical surface analyses of modern coins minted in the 20th century*
S. L. Marin¹, R. I. Olariu¹, C. Arsene¹
- P11** *Dinitrophenolic pollutants in the environment: toxicity and decontamination*
A. Cosma¹, M. Zaharia¹, D. Cozma¹, R. Gradinaru¹, G. Drochioiu¹
- P12** *Adsorption of some organic compounds of biological interest from wine on mesoporous solids*
A. M. Nistor¹, M. Niculaea³⁴, D. Lutić¹

- P13 *Beyond Coenzyme A labelling with FITC***
R. Tarus¹, A. B. Petre¹, M. Mihasan³⁵, O. M. Glocker³⁶, R. V. Gradinaru¹
- P14 *Structural evaluation of biocomposite materials based on PVA and CNC***
B.-I. Dogaru^{3,1}, M. Goanta¹, M.-C. Popescu³
- P15 *Nanostructuration capacity of some azopolymers using pulse laser irradiation***
E. Sava⁴, R. Constantinel⁴, C. Ibanescu⁴, N. Hurdac⁴, I. Sava³
- P16 *Phytochemical variability of *Thymus pulegioides* L. wild populations from Eastern Carpathians***
R. Necula^{1,37}, V. Grigoras³⁷, G. Gavril³⁷, E. Gille³⁷, G. Drochioiu¹
- P17 *(Bio)remediation of heavy metal contaminated effluents in mechanical and pneumatic mixed systems***
M. Rosca⁴, R. M. Hlihor⁴, E. D. Comanita^{4,1}, P. Cozma⁴, I. M. Simion⁴, M. Diaconu⁴, M. Gavrilesu^{4,30}
- P18 *Analysis of the degradation and potential human health risks of twelve pesticides applied in double dose in tomatoes***
R.-M. Hlihor⁴, M. O. Pogacean³⁸, M. Rosca⁴, M. Gavrilesu³⁰
- P19 *Dynamic behaviour of organic pollutants in the soil matrix - the influence of main parameters***
C. Smaranda⁴, M. Rosca⁴, P. Cozma⁴, M. Gavrilesu^{4,30}
- P20 *Theoretical study of the isomerization mechanisms in the ground state of some push-pull substituted azobenzenes***
D. L. Isac³, D. Maftai¹, A. Airinei³, I. Humelnicu¹, M. Pinteala³
- P21 *Gas chromatography-mass spectrometry analysis of intermediates involved in lysergic acid biosynthesis in plants***
G. Mardare (Balusescu)¹, R. I. Olariu¹, C. Arsene¹
- P22 *Synthesis, structure and anticancer evaluation of new γ -cyano-substituted phenanthrolines***
M. C. Al-Matarneh¹, R. Danac¹, M. O. Apostu¹, I. I. Mangalagiu¹
- P23 *Synthesis and anticancer evaluation of new (aza)indolizines***
L. Popovici¹, I. I. Mangalagiu¹, R. Danac¹
- P24 *Complexation of anthracene-imidazolium salt with different acetate ions: UV-vis and fluorescence studies***
V. Antoci¹, D. Mantu¹, Ghe. Zbancioc¹, C. Moldoveanu¹, I. I. Mangalagiu¹
- P25 *Ultrasonic extraction of α -zein***
S. Bancila¹, C.-I. Ciobanu¹, B. A. Petre¹, M. Murariu³, R. Gradinaru¹, G. Drochioiu¹

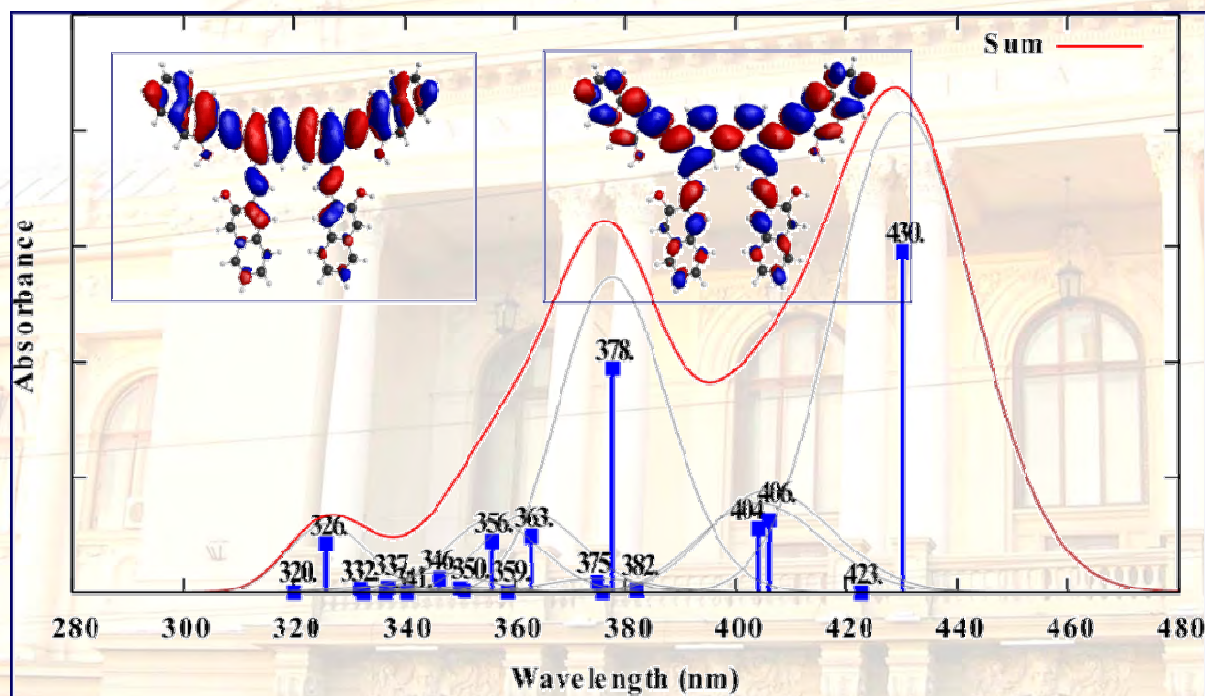
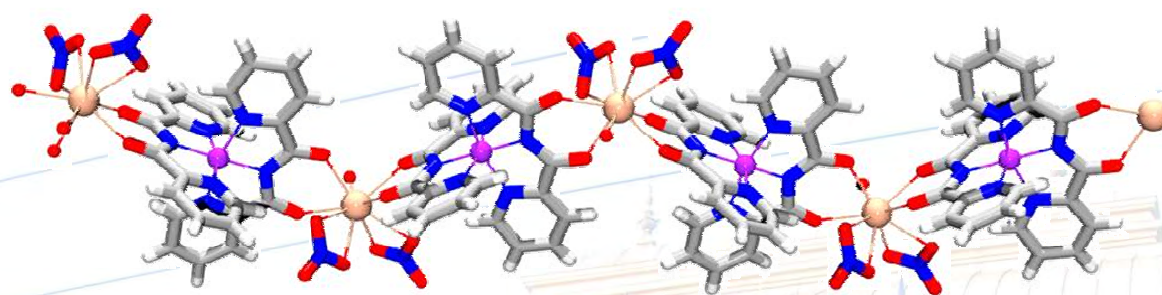
- P26 *Synthesis of new peptides with potential neuroprotective activity: metal ions affinity study***
C.-I. Ciobanu¹, L. Ion¹, V. Antoci¹, T. Teslaru⁹, G. Drochioiu¹
- P27 *Yeast-based microbiological decontamination of heavy metal contaminated soils: Tarnita area case***
A. E. Butnariu³⁵, R. Stefanescu¹, O. Pintilie²⁷, M. M. Zamfirache³⁵, A. Surleva³⁹, C.-I. Ciobanu¹, G. Drochioiu¹
- P28 *Synthesis of $\text{NiAl}_{2-x}\text{Cr}_x\text{O}_4$ by sol-gel method using fructose as fuel agent***
E. D. Chitoiu-Arsene¹, A. R. Iordan¹, M. Dumitras¹, N. Melniciuc-Puica⁴⁰, V. Nica¹¹, L. Leontie⁹, M. N. Palamaru¹
- P29 *Essential elements in forages from permanent grasslands of North-Eastern Romania. Implications for animal nutrition***
S. M. Cucu-Man¹, D. Tarcau⁴¹, O. A. Culicov⁴², R. Buhaceanu¹, V. Vintu⁴¹, M. V. Frontasyeva⁴²
- P30 *Decolorization of Basic Blue 41 by hydrogen peroxide using a heterogeneous catalytic system consisting of Cu(II)–macroporous chelating polymer functionalized with diethylenetriamine***
S. M. Cucu-Man¹, R. Buhaceanu¹, A. Dogariu¹, I. Bunia³, V. Dulman¹
- P31 *Influence of the cobalt substitution on the structural and catalytic properties of $\text{La}(\text{Sm})\text{Fe}_{1-x}\text{Co}_x\text{O}_3$ perovskites***
N. Cornei¹, C. Mita¹, I. A. Gorodea¹, M.-L. Craus^{43,42}, M. Ignat¹, V. Dobrea⁴³, A.-A. Domocos⁹
- P32 *Synthesis of BaMnO_3 from heterometallic coordination compounds***
 I. Bulimestru¹⁸, N. Cornei¹, O. Mentre⁴⁴, N. Tancret⁴⁴, N. Popa¹⁸, S. Shova³, A. Gulea¹⁸
- P33 *Functionalized polymers for new applications***
 L. I. Buruiana³, R. M. Albu³, S. Ioan³
- P34 *Comparative Theoretical Study of the cyclisation of several symmetric and asymmetric diarylethenes***
 I. Humelnicu¹, D. Maftai¹, T. Chelariu¹
- P35 *Synthesis of a functional polymer as porous crosslinked beads containing alicyclic groups, potentially useful as high temperature microcontainers***
 C. D. Vlad³, I. Stoica³, S. Nica³, A. I. Barzic³, C. Hulubei³
- P36 *Synthesis, characterization and toxicity analysis of some Mn(II), Co(II), Ni(II) and Cu(II) complexes with N-(p-nitrobenzoyl)-L-glicina***
 C. Y. Rosca⁴, V. Sunel¹, M. Cretu¹, C. Mita¹, D. Sibiescu⁴, D. Sutiman⁴

- P37 *Magnetic properties of quaternary ferrites***
R.-G. Ciocarlan¹, C. Virlan¹, O. F. Caltun⁹, V. Nica⁹, M.-L. Craus²⁸, R. Hempelmann¹⁰, A. Pui¹
- P38 *Cytotoxic activity of some dihydroxyacetophenone derivatives***
A. M. Zbancioc^{1,45}, G. Tataringa⁴⁵, A. Jitareanu⁴⁵, C. Moldoveanu¹, G. Zbancioc¹, I. Mangalagiu¹
- P39 *Pyridazinones with acetylhydrazine skeleton: synthesis and stereochemical investigations***
D. Mantu¹, V. Antoci¹, A. Nicolescu³, C. Deleanu³, I. I. Mangalagiu¹
- P40 *An Anova study about photocatalytic reactivity of titania thin layers***
V. Vasilache²⁹
- P41 *Environmental impacts evaluation of polyhydroxyalkanoates (PHAs) with ReCiPe method***
E.-D. Comanita^{4,1}, C. Ghinea²⁹, M. Gavrilescu³⁰
- P42 *Evaluation of municipal solid waste scenarios with AHP and electre techniques***
C. Ghinea^{4,29}, E. D. Comanita^{4,1}, M. Petraru⁴, H. Th. A Bressers⁴⁶, M. Gavrilescu^{4,30}
- P43 *5D cyanido complex as building block for magnetic materials***
M. Secu¹⁸
- P44 *Synthesis, characterization and biological investigation of copper(II) complexes with 4-methylthiosemicarbazone 8-formylquinoline***
E. Stratulat¹⁸, S. Sova³, A. Pui¹, I. Corja¹⁸, A. Ciloci⁴⁷, O. Palamarciuc¹⁸
- P45 *Synthesis and structure of copper(II) complex with 5-sulfosalicylaldehyde thiosemicarbazone***
A. Sirbu¹⁸, S. Shova³, O. Palamarciuc¹⁸
- P46 *Prediction of best-fitting isotherm model by comparing error criteria in linear and non-linear regression analysis of hazardous heavy metal adsorption onto functionalized polymers***
G. Moroi³, E. Avram³
- P47 *Equilibrium isotherm studies on removal of toxic metal ions from aqueous solutions by non-porous polymeric adsorbents***
G. Moroi³, E. Avram³
- P48 *Pure and doped TiO₂ thin films for environmental and energy applications***
M. Sucheai^{1,9,48}, I. V. Tudose^{1,48}, F. Iacomì⁹, E. Koudoumas⁴⁸

Legend

1. "Alexandru Ioan Cuza" University of Iasi, Faculty of Chemistry, Romania
2. Steinbeis Centre for Biopolymer Analysis & Biomedical Mass Spectrometry, Rüsselsheim, Germany
3. "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania
4. "Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Romania
5. "Grigore T. Popa" Medicine and Pharmacy University, Faculty of Biomedical Bioengineering, Iasi, Romania
6. University of Konstanz, Department of Biology, Germany
7. University of Leeds, School of Chemistry, United Kingdom
8. "Alexandru Ioan Cuza" University of Iasi, Integrated Centre for Environmental Science Studies in the North-East Development Region – CERNESIM, Romania
9. "Alexandru Ioan Cuza" University of Iasi, Faculty of Physics, Romania
10. University of Saarland, Institute of Physical Chemistry, Saarbrücken, Germany
11. Ege University, Chemical Engineering Department, Turkey
12. University of Bucharest, Faculty of Chemistry, Romania
13. "Costin D. Nenişescu" Institute of Organic Chemistry, Bucharest, Romania
14. "Babeş-Bolyai" University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania
15. "Dunarea de Jos" University of Galati, Faculty of Sciences and Environment, Romania
16. "Dunarea de Jos" University of Galati, Faculty of Food Science and Engineering, Romania
17. "Dunarea de Jos" University of Galati, Faculty of Medicine and Pharmacy, Romania
18. Moldova State University, Department of Chemistry, Chisinau, Republic of Moldova
19. Centre de Recherche Paul Pascal, Bordeaux, France
20. University of Copenhagen, Faculty of Health and Medical Sciences, The Panum Institute, Copenhagen, Denmark
21. "Ion Ionescu de la Brad" University of Agricultural Science and Veterinary Medicine of Iasi, Facultatea de Horticultură, Romania
22. "Politehnica" University of Bucharest, Department of Inorganic Chemistry, Physical-Chemistry & Electrochemistry, Romania
23. "Politehnica" University of Bucharest, Romania
24. "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
25. University Emergency Hospital, Bucharest, Romania
26. Institut de Chimie de la Matière Condensée de Bordeaux, France

27. “Alexandru Ioan Cuza” University of Iasi, Faculty of Geography and Geology Romania
28. Frank Laboratory for Neutron Physics (FLNP), Dubna, Russia
29. ”Stefan cel Mare” University of Suceava, Faculty of Food Engineering, Romania
30. Academy of Romanian Scientists, Bucharest, Romania
31. “Ilie Murgulescu” Romanian Academy, Institute of Physical-Chemistry, Bucharest, Romania
32. Teritorial Inspectorate of Border Police, Iasi, Romania
33. “Alexandru Ioan Cuza” University of Iasi, Arheoinvest Interdisciplinary Platform, Romania
34. Oenology Research Centre, Romanian Academy, Iasi, Romania
35. “Alexandru Ioan Cuza” University of Iasi, Faculty of Biology, Romania
36. Rostock University, Proteome Center Rostock, Germany
37. NIRDBS/“Stejarul” Biological Research Centre, Piatra-Neamt
38. Plant Protection Agency Mures, Tirgu Mures, Romania
39. University of Chemical Technology and Metallurgy, Department of Analytical Chemistry, Sofia, Bulgaria
40. “Alexandru Ioan Cuza” University of Iași, Faculty of Theology, Romania
41. ”Ion Ionescu de la Brad” University of Agricultural Science and Veterinary Medicine of Iasi, Department of Plant Science, Romania
42. Joint Institute for Nuclear Research, Dubna, Russia
43. National Institute of Research and Development for Technical Physics, Iasi, Romania
44. Université Lille Nord de France, UCCS, CNRS UMR 8181, France
45. “Grigore T. Popa” University of Medicine and Pharmacy, Faculty of Pharmacy, Iasi, Romania
46. University of Twente, Institute for Innovation and Governance Studies, The Netherlands
47. Institute of Microbiology and Biotechnology, ASM, Chisinau, Republic of Moldova
48. Center of Materials Technology and Laser, School of Applied Technology, Electrical Engineering Department, Technological Educational Institute of Crete, Heraklion, Greece



„Alexandru Ioan Cuza” University of Iasi
Faculty of Chemistry

Bd. Carol I, No. 11

Tel.: +40.232.201063

Fax: +40.232.201313

e-mail: cercetare@chem.uaic.ro

www.chem.uaic.ro



CERNESIM

Centrul de studii în știința mediului
 pentru regiunea de dezvoltare NE