12th INTERNATIONAL CONFERENCE

BIOMATERIALS AND NANOBIOMATERIALS:

Recent Advances Safety-Toxicology and Ecology Issues

Including Russian-Hellenic Workshop and School of Young Scientists

BIONANOTOX CONGRESSES
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27 SEPTEMBER
04 OCTOBER 2021

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2021 BIONANOTOX

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2021 BIONANOTOX

INVITATION LETTER

On behalf of the organizing committee of 12th International Congress "Biomaterials and Nano-biomaterials: Recent Advances Safety - Toxicology and Ecology Issues" Including Russian Hellenic Workshop and School of Young Scientists and Symposium of Nanotoxicology, we are privileged to invite you to grace with your presence and participation the works of the Congress, which is going to be held in Heraklion, in the beautiful island of Crete, Greece.

The theme of the Symposium, Biomaterials and Nanomaterials toxicology, lie at the interface of many disciplines, from biology to chemistry, toxicology, computational science chemistry, nanotechnology and biotechnology. Albeit the Symposium is a continuation of a long term co-operation between Russian and Hellenic scientists in this field that has been ongoing for the last 20 years, in the frame of the bilateral scientific state programs, scientists from all over the world are participating.

It is anticipated that scientists from Europe, USA, the rest of the world and especially from Institutes of the Russian Academy of Science, the most prominent Universities as well as Technological Institutes and Companies and distinguished field specialists will attend the online symposium.

At this symposium the attendee will have the chance to meet important representatives of research in the field, discuss with them and exchange ideas. This will accomplish the aim of the symposium, which is the generation of new and vigorous interactions between the different aforementioned disciplines, which will have enormous positive effects in our societies.

Co-Chairmen of the Organizing Committee

Aristidis Tsatsakis, PhD, DSc, ERT

Mikhail Shtilman, PhD, DSc

COMMITTEES

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Varfolomeev Sergey	Corresponding member of RAS, Director of N. Emanuel Institute of Biochemical Physics of RAS, Moscow, Russian Federation
Vladimirov Yurii A.	Academician RAMS, Moscow State University
Volova Tatiana G.	Professor, Director of Department of Biotechnology, Siberian Federal University, Krasnoyarsk, Russian Federation

COMMITTEES

Organizing Committee

Co-President of the Congress

Tsatsakis Aristidis	Professor, Director of Forensic Sciences & Toxicology Dep., University of Crete, Iraklion, Greece
Shtilman Mikhail	Professor, Head of Center "Biomaterials", D.Mendeleyev University of Chemical Technology of Russia, Moscow, Russian Federation
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Tsakalof Andreas	Professor, Medical Chem. Dep., University of Thessaly, Larissa, Greece
Tzatzarakis Manolis	PhD, Assistant Professor, University of Crete, Iraklion, Greece
Velonia Kelly	Associate Professor, Department of Materials Science and Technology, University of Crete, Greece

Zeolite clinoptilolite (sodium aluminosilicate), a mineral formed after volcanic lava meets sea water, has the capability to attract and retain heavy metals and several other toxins. Over the past years, several zeolite clinoptilolite powder and water suspension formulations have been made available to the market.

Because the zeolite clinoptilolite crystal in all of these formulations is not water-soluble, these formulations have very low to zero bioavailability.

Recently, the bioavailability problem of the zeolite clinoptilolite was solved with the development of **the only water solution of water-soluble zeolite clinoptilolite** by Metron Nutraceuticals.

The water-soluble zeolite clinoptilolite technology is awarded three US Patents, a Patent in Japan and a Patent in Russia. Currently this innovative technology and the associated formulations are Patent Pending in Canada, EU, Korea and Hong Kong.

Two dietary supplement detox formulations based on this innovative, patented technology are available in the US market:

ClearDetox Pro® is a professional strength detox dietary supplement formulation available exclusively to Clinics and Licensed Health Care Professionals (Medical Doctors, Dentists and Licensed Practitioners).

US Patents: 9,829,674; 10, 206,948; 10,828,324
Japan Patent: 6490807
Russia Patent: 2744886

ClearDrops® is a consumer strength detox dietary supplement formulation available to the public.

ClearDetox Pro® and **ClearDrops**® are produced in the USA by Metron Nutraceuticals, an FDA Registered and FDA Inspected Dietary Supplements company located in Cleveland, Ohio.

Metron Nutraceuticals' production and testing standards exceed the FDA/cGMP standards for dietary supplements and, in some aspects of testing, the FDA/cGMP standards for pharmaceutical products.

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For inquiries: sales@metronnutraceuticals.com

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BIONANOTOX 2021

SCIENTIFIC PROGRAM

SCIENTIFIC PROGRAM

Monday, September 27, 2021

Arrival - Registration

20.00 *Welcome Cocktail*

Tuesday, September 28, 2021

08.00-09.30 BREAKFAST

10.00- 11.00 ***OPENING CEREMONY***

10.00-10.10 ***WELCOME ADDRESS***

Aristidis M.Tsatsakis, Co-head of Organizing Committee

University of Crete, Iraklion, Crete, Greece

10.10-10.20 ***ABOUT SYMPOSIUM PROGRAM***

Mikhail I. Shtilman, Co-head of Organizing Committee

D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia

10.20-11.00 **O01** **BIOTRANSFORMATION OF PHTHALATES BY BASIDIOMYCETE FUNGI FROM DIFFERENT ECOPHYSIOLOGICAL GROUPS**

S.A. Eremin[1, 2], T.V. Fedorova[1], K.V. Moiseenko[1], O.S. Savinova[1], O.A. Glazunova[1]

[1] A. N. Bach Institute of Biochemistry, Research Center of Biotechnology, Russian Academy of Sciences, Moscow, Russia

[2] Faculty of Chemistry, M.V. Lomonosov Moscow State University, Moscow, Russia

11.00-12.00 COFFEE BREAK- POSTER SESSION

Chairman: Prof M.I. Shtilman

12.00-12.30 **O02** **FIELD STUDY TO ASSESSTHE EFFICACY OF SLOW-RELEASE FORMULATIONS OF THE TRIBENURON-METHYL HERBICIDE IN SPRING WHEAT**

T.G. Volova[1], A.V. Demidenko[1], E.G. Kiselev[1], S.V. Baranovsky[1], A.G. Sukovatyi[1], N.O. Zhila[1], E.I. Shishatskaya[1], N.L. Kurachenko[2], V.L. Bopp[2], Sabu Thomas[3]

[1]Siberian Federal University, 79 Svobodnyi av., Krasnoyarsk 660041, Russia

[2]Krasnoyarsk State Agrarian University, 90 Mir av., Krasnoyarsk 660049, Russia

[3]International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala 686560, India

Tuesday, September 28, 2021

12.30-13.00 **O03** **PROMISING VEHICULES FOR INTRAOCULAR DRUG DELIVERY**

O.A. Kost[1], E.V. Popova[1], V.E. Tikhomirova[1], A.N. Vaneev[1], N.L. Eremeev[1], O.V. Beznos[3], P.V. Gorelkin[4], A.S. Erofeev[4], N.B. Chesnokova[3], N.L. Klyachko[1,2]

[1]Department of Chemical Enzymology, School of Chemistry, Lomonosov Moscow State University, Moscow, 119991 Russia

[2]Research Institute "Nanotechnology and Nanomaterials", G.R. Derzhavin Tambov State University, 392000 Tambov, Russia

[3]Helmholtz National Medical Research Center of Eye Diseases, Moscow, 105062 Russia

[4]National University of Science and Technology (MISIS), Moscow, Russia

13.00-14.00 LUNCH

14.00-16.30 BREAK

16.30-17.30 ***EVENING SESSION***

Chairman: Prof N.L. Klyachko

16.30-17.00 **O04** **IMMUNOCHROMATOGRAPHIC DETERMINATION OF MACROLIDES IN BREAST MILK FROM MEDICATED MOTHERS TO CONTROL SAFE BREASTFEEDING**

M.A. Burkin[1], I.A. Galvidis[1], A. Raysyan[2], R. Schneider[2], S.A. Eremin[3]

[1]I. I. Mechnikov Research Institute for Vaccines and Sera, 105064 Moscow, Russia

[2]Bundesanstalt für Materialforschung und -prüfung (BAM), 12489 Berlin, Germany

[3]M.V. Lomonosov Moscow State University, Moscow 119991, Russia

17.00-17.30 **O05** **DEVELOPMENT OF A NEW OSTEOPLASTIC MATERIAL BASED ON BIOACTIVE CERAMICS AND RECOMBINANT BIOLOGICALLY ACTIVE FACTORS**

A.V. Gromov[1], F.S. Senatov[2], R. Choudhary[5], I.N. Bulygina[2], P.A. Orlova[1], T.M. Grunina[1], M.S. Poponova[1], N.V. Strukova[1], K.E. Nikitin, V.G. Lunin[1,3], A.S. Karyagina[1,3,4]

[1]Gamaleya Research Institute for Epidemiology and Microbiology, Moscow, Russian Federation

[2]National University of Science and Technology "MISIS", Moscow, Russian Federation

[3]Institute of Agricultural Biotechnology, Moscow, Russian Federation

[4]A.N. Belozersky Institute of Physical and Chemical Biology, M.V. Lomonosov Moscow State University, Moscow, Russia

17.30-18.00 **O06** **SYNERGY OF ANTIBACTERIAL EFFECT OF COPPER AND SILVER NANOPARTICLES WITH DIFFERENT FUNCTIONALIZATIONS**

G. Vasiliev[1,2], A-L. Kubo[1], O. Bondarenko[1*]

[1]National Institute Of Chemical Physics and Biophysics, Tallinn, Estonia

[2]Taltech, Tallinn, Estonia

19.00-20.00 DINNER

Wednesday, September 29, 2021

09.30-13.00 **SATELLITE MEETING NEUROSOME**

Chairmen: A.M. Tsatsakis, D. Sarigiannis, S. karakitsios

10.00- 10.15 **N01**

IN VIVO CO-EXPOSURE MONITORING TO Pb AND Mn FROM CONCEPTION UNTIL ADULTHOOD

B. Fuentes[1], A. Pino[1], S. Valentini[1], G. Calamandrei[2], L. Ricceri[2], Ö. Dinçkol[2]

[1] Department of Environment and Health, Istituto Superiore di Sanità, Viale Regina Elena 299, 00161 Rome, Italy;

[2]Center for Behavioral Sciences and Mental Health, Istituto Superiore di Sanità, Viale Regina Elena 299, 00161 Rome, Italy.

10.15-10.30 **N02**

TARGETED ANALYSIS OF ORGANIC CONTAMINANTS, EXPOSURE ASSESSMENT AND VULNERABILITY OF POPULATIONS TO HAZARDOUS COMPOUNDS

A.A. Runkel[1,2], A. Stajnko[1], J.S. Tratnik[1], D. Mazej[1], T. Kosjek[1,2], M. Horvat[1,2]

[1]Jožef Stefan Institute, Department of Environmental Sciences (O2), Jamova cesta 39, 1000 Ljubljana, Slovenia

[2]Jožef Stefan International Postgraduate School, Jamova cesta 39, 1000 Ljubljana, Slovenia

10.30-10.45 **N03**

CLARITY OF HEALTH RISK ASSESSMENT ELEMENTS IN HUMAN BIOMONITORING AND RISK ASSESSMENT STUDIES PUBLISHED BETWEEN 2016 AND 2021

T. Bizjak[1,2], B. Kontić[1]

[1]Jožef Stefan Institute, Department of Environmental Sciences, Jamova cesta 39. 1000 Ljubljana, Slovenia

[2]Jožef Stefan International Postgraduate School Jamova cesta 39, 1000 Ljubljana, Slovenia

10.45-11.00 **N04**

ADVANCING EXPOSURE ASSESSMENT THROUGH ENVIRONMENTAL MONITORING, HUMAN BIOMONITORING AND USE OF PERSONAL SENSORS

S. Karakitsios, V. Dzhedzheia, D.A. Sarigiannis

Aristotle University of Thessaloniki, Department of Chemical Engineering, Environmental Engineering Laboratory, Thessaloniki, Greece

11.00-11.15 **N05**

DEVELOPMENTAL EXPOSURE TO PB AND MN IN MICE: LONGITUDINAL STUDIES

O. Dinckol[1,2], L. Ricceri[1], B. Fuentes-Juarez[3,4], S. Valentini[3], A. Pino[3], G. Calamandrei[1]

[1]Centre for Behavioural Sciences and Mental Health, Istituto Superiore di Sanità

[2]Department of Physiology and Pharmacology "Vittorio Erspamer", Sapienza Università di Roma

[3]Department of Environment and Health, Istituto Superiore di Sanità

[4]Department of Chemistry, Sapienza Università di Roma

11.15-11.30 **N06**

ESR 12: TRANSCRIPTOMICS, METABOLOMICS, AND TOXICITY PATHWAY ANALYSIS OF COMBINED EXPOSURE TO NEUROTOXICANTS: TRANSCRIPTOMIC STATISTICAL METHOD DEVELOPMENT

D. Schultz[1,2], I. S. Frydas[1,2], S. Karakitsios[1,2], D. Sarigiannis[1,2,3]

[1]Environmental Engineering Laboratory, Department of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece

[2]HERACLES Research Center on the Exposome and Health, Center for Interdisciplinary Research and Innovation, Thessaloniki-Thermi, Greece

[3]Environmental Health Engineering, Institute of Advanced Study, Pavia, Italy

Wednesday, September 29, 2021

11.30-11.45 **N07** **GENOME-WIDE PROFILING AND IDENTIFICATION OF SINGLE NUCLEOTIDE POLYMORPHISMS (SNPS) RELEVANT TO SUSCEPTIBILITY TO NEURODEVELOPMENTAL DISORDERS**

I. Fragkiadoulaki, V. Rosolen, P. d'Adamo, E. Athanasakis, S. Cappellani, A. Knowles, L. Ronfani

Institute for Maternal and Child Health - IRCCS Burlo Garofolo - Trieste

11.45-12.00 **N08** **NEURODEVELOPMENTAL EFFECTS OF PRENATAL CO-EXPOSURE TO HEAVY METALS AND PHTHALATES**

O. Anesti[1,2,3], D.A. Sarigiannis[1,4,5], N. Papaioannou[1,4], K. Polanska[6], W. Hanke[6], A. Gabriel[1,4], S. Karakitsios[1,3,4]

[1]HERACLES Research Center on the Exposome and Health, Center for Interdisciplinary Research and Innovation, Greece

[2]Laboratory of Toxicology, Medical School, University of Crete, Greece

[3]ENVE.X, Greece

[4]Aristotle University of Thessaloniki, Department of Chemical Engineering, Environmental Engineering Laboratory, Greece

[5]School for Advanced Study (IUSS), Science, Technology and Society Department, Environmental Health Engineering, Italy

[6]Nofer Institute of Occupational Medicine, Poland

12.00-12.15 **N09** **UNVEILING THE EFFECT OF TELOMERES LENGTH IN CANCERS DEVOLEPMENT**

T. Oikonomopoulou[1,2], E. Vakonaki[1], T.K. Nikolouzakis[1,2], M. Flamourakis[3], E. Renieri[1], A.M. Tsatsakis[1]

[1]Department of Forensic Sciences and Toxicology, Faculty of Medicine, University of Crete, 71003, Heraklion, Greece

[2]Department of Anatomy, School of Medicine, University of Crete, Greece

[3]Department of General Surgery, Venizelion General Hospital, 71409, Crete, Greece

13.00-14.00	LUNCH
14.00-19.00	BREAK
19.00-20.00	DINNER

Thursday, September 30, 2021

08.00-10.00 BREAKFAST

Chairman: Prof. S.A. Eremin

10.00-10.30 **O07** **BIOMATERIALS BASED ON NANOSIZED FORMS OF POLYCONJUGATED SYSTEMS**

Ya.O. Mezhuev, O.Yu. Sizova, M.V. Stenkina, R.A. Alekperov, A.V. Varankin, I.Yu. Vorobev, Yu.V. Korshak, M.I. Shtilman

D. Mendeleev University of Chemical Technology of Russia, Moscow, Russian Federation

10.30-11.00 **O08** **PROPERTIES OF DEGRADABLE POLYHYDROXYALKANOATES (PHAs) SYNTHESIZED BY A NEW STRAIN OF CUPRIAVIDUS NECATOR IBP-21 ON VARIOUS C-SUBSTRATES**

E. Shishatskaya, N. Zhila, K. Sapozhnikova, T. Volova

Siberian Federal University, 79 Svobodnyi av., Krasnoyarsk 660041, Russia

Institute of Biophysics SB RAS, Federal Research Center "Krasnoyarsk Science Center SB RAS", 50/50 Akademgorodok, Krasnoyarsk 660036, Russia

11.00-11.30 **O09** **BIOMIMETICS OF PROTEINS - ARTIFICIAL POLYMERS MADE OF α-AMINO ACIDS**

R. Katsarava, D. Tugushi

Institute of Chemistry and Molecular Engineering, Agricultural University of Georgia, Kakha Bendukidze University Campus, # 240 David Aghmashenebeli Alley, Tbilisi 0131 (Georgia)

11.30-12.00 **O10** **THE STUDY ON THE EXPERIMENTAL MODELS IN VITRO TOXIC PROPERTIES OF NANOMATERIALS IN BELARUS**

S.I. Sychyk, I.I. Iliykova, T.N. Pronina

Republican Unitary Enterprise «Scientific and Practical Center of Hygiene», Minsk, Republic of Belarus

12.00-12.30 COFFEE BREAK - POSTER SESSION

Thursday, September 30, 2021

Chairman: Prof. Volova T.G.

12.30-13.00 **O11** **MECHANOCHEMICAL APPROACH TO CREATE BIOMATERIALS BASED ON MODIFIED POLYSACCHARIDES**

T.A. Akopova

Enikolopov Institute of Synthetic Polymeric Materials, Russian Academy of Sciences, Moscow, Russia

13.00-13.30 **O12** -

13.30-13.45 **O13** **NANOFORMUATION OF 2,4-DINITROPHENYL LIPOPHYLIC DERIVATIVES AS A PROMISING TOOL FOR DELIVERY TO LIVER**

A.B. Trusova[1], P.V. Ostroverhov[2], M.A. Abakumov[3,4], V.P. Chekhonin[4], K.Yu. Vlasova[1,4]

[1] Lomonosov Moscow State Un iversity, Moscow, Russia

[2] MIREA-Russian Technological University, Moscow, Russia

[3] National University of Science and Technology (MISIS), Moscow, Russia

[4] Pirogov Russian National Research Medical University, Department of Medical Nanobiotechnology, Moscow, Russia

13.45-14.30 LUNCH

14.30-16.30 BREAK

Thursday, September 30, 2021

Chairman: Prof. S.A. Eremin

16.30-16.45 **O14** **ENCAPSULATION OF ANTITUMOR COPPER COORDINATION COMPOUNDS INTO LIPOSOMES**

T.M. Yakimova[1], K.Yu. Vlasova[1], A.A. Bubley[1], O.O. Krasnovskaya[1], N.L. Klyachko[1]

[1]Lomonosov Moscow State University, Moscow, Russia

16.45-17.00 **O15** **ANALYSIS OF THE MOLECULAR INTERACTION OF ASIALOGLYCOPROTEIN RECEPTOR WITH ITS LIGANDS USING SURFACE PLASMON RESONANCE SPECTROSCOPY**

M.V. Maslennikova[1], A.V. Lopukhov[1], E.Yu. Yamansarov[1], P.V. Binevski[1], A.G. Majouga[1,2,3], N.L. Klyachko[1,4]

[1] Department of Chemistry, M. V. Lomonosov Moscow State University, Moscow, Russian Federation

[2] D. Mendeleev University of Chemical Technology of Russia, Moscow, Russian Federation

[3] National University of Science and Technology MISIS, Moscow, Russian Federation

[4] Research Institute "Nanotechnology and Nanomaterials", G.R. Derzhavin Tambov State University, Tambov, Russia

17.00-17.30 **O16** **STUDY OF THE INFLUENCE OF THE SURFACE OF BIOPOLYMER CHITOSAN FIBROUS AND FILM MATERIALS ON THE MORPHOFUNCTIONAL STATE OF CELLS**

N.R. Kildeeva[1] , I.A. Vasilenko[1,2], V.A. Zakhsarova[1], N.A. Sazhnev[1]

[1]A.N. Kosygin Russian State University, Moscow, Russia

[2]M.F.Vladimirsky Moscow Regional Clinical and Research Institute (MONIKI), Moscow, Russia

17.30-18.00 **O17** **THE POSSIBLITY OF USING GELS BASED ON POLYVINYLPYRROLIDONE IN ORTHOPEDICS AND TRAUMATOLOGY**

O.A Legonkova[1], A.S. Ogannisian[1], V.V. Stafford[1,2], R.P. Terekhova[1], B.G. Akhmedov[1]

[1]Federal State Budgetary Establishment "National Medical Research Centre of Surgery named after A.V. Vishnevsky", 27, B. Serpukhovskaya str., 117997, Moscow, Russia

[2]Federal State Budget Scientific Institution "Federal Scientific Centre VIEV", 24 corp. 1, Riazansky avenue, 109428, Moscow, Russia

19.00-20.00 DINNER

Friday, October 1, 2021

08.00-10.00 BREAKFAST

Chairman: Prof. Shishatsksya E.I.

10.00-10.30 **O18**

DESIGN AND ANTIMICROBIAL PROFILING OF SILVER-CHITOSAN NANOCOMPOSITES FOR BIOMEDICAL APPLICATIONS

K. Kasemets, I. Kurvet, H. Vija, M. Sihtmäe, A. Kahru
National Institute of Chemical Physics and Biophysics, Laboratory of Environmental Toxicology, Tallinn, Estonia

10.30-11.00 **O19**

EVALUATION OF BIOLOGICAL EFFECTS OF NANOMATERIALS: COST-EFFICIENT TOOL BOX AND CORONA CHALLENGES

A. Kahru[1,2], K. Kasemets[1], I. Blinova[1], M. Heinlaan[1], O. Bondarenko[1], A. Khosrovyan[1]
[1]National Institute of Chemical Physics and Biophysics, Laboratory of Environmental Toxicology, Tallinn, Estonia
[2]Estonian Academy of Sciences, Tallinn, Estonia

11.00-11.30 **O20**

THREE MAINSTREAM BRANCHES OF MAGNETIC FIELD IMPACT ON BIOMATERIALS AND BIOOBJECTS. ITS EFFICIENCY AND SAFETY FOR BIOMEDICINE

Yu.I. Golovin[1,2], D.Yu. Golovin[1], N.L. Klyachko[1,2]
[1]Research Institute "Nanotechnology and Nanomaterials", G.R. Derzhavin Tambov State University, 392000 Tambov, Russia
[2]Department of Chemical Enzymology, School of Chemistry, Lomonosov Moscow State University, 119991 Moscow, Russia

11.30-12.00 **O21**

SURPRISES FROM DIAGNOSTIC KIT ANTIBODIES: REINVESTIGATION THEIR CARBOHYDRATE SPECIFICITY USING SYNTHETIC OLIGOSACCHARIDES

N.E. Nifantiev, V.B. Krylov
Laboratory of Glycoconjugate Chemistry, N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky Prospect 47, 119991 Moscow, Russia,

12.00-12.30 COFFEE BREAK- POSTER SESSION

12.30-13.00 **O22**

TRAIL DR5-B-CONJUGATED POLYMERIC NANOPARTICLES FOR TARGETED DELIVERY IN TUMORS

A.N. Kuskov[1], A.V. Yagolovich[2], A.A. Artykov[2], P.P. Kulikov[3], M.E. Gasparian[2], L.A. Kurbanova[2], E.A. Markvicheva[2]
[1]Mendeleev University of Chemical Technology of Russia, 125047 Moscow, Russia
[2]Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry of the Russian Academy of Sciences, 117997 Moscow, Russia
[3]Center of Strategic Planning and Management of Medical and Biological Health Risks, 119121 Moscow, Russia

13.00-13.30 **O23**

SILVER-CONTAINING HYDROGEL BASED ON POLYVINYL ALCOHOL MODIFIED WITH NANOSCALE CYCLOTRIPHOSPHAZENE

P.A. Yudaev, V.V. Maslennikova, A.A. Konkova, I.A. Butorova, E.M. Chistyakov
D. Mendeleev University of Chemical Technology of Russia, Moscow, Russian Federation

13.30-14.30 LUNCH

14.30-16.30 BREAK

Friday, October 1, 2021

16.30- 19.00 **ANGIE PROJECT SATELLITE MEETING**

CHAIRS: Andreas D. Flouris, Georgia Ntina

16.30- 17.00 **A01** **MAGNETIC SMALL-SCALE ROBOTS: PRINCIPLES, APPLICATIONS AND CHALLENGES**

S. Pané[1], J. Puigmartí[2,3], M. Pinto[4], R. Moreira[4], E. Mavromanolaki[5], A.D. Flouris[5,6], T.S. Mayor[7], T.C. Lühmann[8], D. Sargent[9], B.J. Nelson[1]

[1] Multi-Scale Robotics Lab, ETH Zurich, Tannenstrasse 3, Zurich, CH-8092 Switzerland

[2] Departament de Ciència dels Materials i Química Física, Institut de Química Teòrica i Computacional, Barcelona, 08028 Spain

[3] ICREA, Pg. Lluís Companys 23, Barcelona, 08010 Spain

[4] EXPERIAN, Portugal

[5] Discovery Foundation, 70300, Greece

[6] FAME Laboratory, University of Thessaly, 42100, Greece

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17.00-17.15 **A02** **SOFT-HARD MAGNETICALLY DRIVEN MICROROBOTIC DEVICES**

F. Landers[1], C.J. Alcantara[1], J. Puigmartí-Luis[2,3], B. J. Nelson[1], S. Pané[1]

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[3]ICREA, Pg. Lluís Companys 23, Barcelona, 08010 Spain

17.15-17.30 **A03** **MARRYING INORGANICS AND BIOLOGICS – OPPORTUNITIES AND CHALLENGES**

K. Meiners[1], M. Richter[1], F. Landers[2], S. Pané[2], T. Lühmann[1]

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17.30-18.00 **A04** **MICROFLUIDIC TECHNOLOGIES FOR CHEMISTRY, MATERIALS SCIENCE AND BIOTECHNOLOGY**

J. Puigmartí-Luis

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Friday, October 1, 2021

18.00-18.15 **A05** **IN FLOW CONTROLLED SYNTHESIS OF BLOOD CLOTS**

R.S. Herrera Restrepo[1], P. Martinez-Bulit[1], A.D. Flouris[2,3], M. Pinto[4], R. Moreira[4], E. Mavromanolaki[3], T. S. Mayor[5], S. Pané[6], J. Ignés[1], J. Puigmartí-Luis[1,7]

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18.15- 18.30 **A06** **EVOLUTION, GAPS, AND TRENDS IN THE ORIGINS OF INNOVATION ECOSYSTEMS**

E. Mavromanolaki[1], G. Ntina[1], S. Karatsali[1], P. Smarianaki[1], M. Pinto[2], R. Moreira[2], S. Pané[3], T. S. Mayor[4], J.Puigmartí[5,6], A. D. Flouris[1,7]

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[7] FAME Laboratory, University of Thessaly, Greece

19.00-20.00 DINNER

08.00-09.30 BREAKFAST

10.00-13.00 *MORNING SESSION*

Chairman: Yu. I. Golovin

10.00-10.30 **O24** **BIODEGRADABLE 2D and 3D SCAFFOLDS BASED ON CHITOSAN FOR REGENERATIVE MEDICINE**

T.V. Tolstova[1], A.R. Mamedova[2], M.G. Drozdova[1], T.S. Demina[3], T.A. Akopova[3], E. Markvicheva[1]

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[2]D. Mendeleev University of Chemical Technology of Russia, Moscow, Russia

[3]Enikolopov Institute of Synthetic Polymer Materials, Rus. Acad. Sci., Moscow, Russia

10.30-11.00 **O25** **DEVELOPMENT AND EVALUATION OF 3-HYDROXYQUINOLINE-4-CARBOXYLIC ACID DERIVATIVES FOR ASGPR-TARGETED DRUG DELIVERY**

A.V. Lopukhov[1], S.Yu. Maklakova[1], P.V. Binevski[1], A.G. Majouga[1,2,3], N.L. Klyachko[1,4]

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[3]National University of Science and Technology MISIS, Moscow, Russian Federation

[4]Research Institute "Nanotechnology and Nanomaterials", G.R. Derzhavin Tambov State University, Tambov, Russia

11.30-12.00 **O26** **NOVEL SYNTHETIC BONE SUBSTITUTE MATERIALS BASED ON DYALDEHYDE DEXTRAN**

A.L. Luss[1], K.S. Kushnerev[1], E.R. Vlaskina[1], A.S. Chumakova[1], M.I. Shtilman[1], V.A. Dyatlov[1,2]

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[2]MIREA - Russian Technological University, Russia

12.00- 12.30 **O27** **STUDY OF DIAGRAMS OF THE PHASE STATE OF THE PVA-WATER SYSTEM IN A WIDE RANGE OF TEMPERATURES AND COMPOSITIONS**

A.A. Shcherbina[1], A.E Chalykh[2], A.A. Artyukhov[1], L.A. Bryukhanov[1], M.I. Shtilman[1]

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[2]Laboratory of structural and morphological investigations, Frumkin Institute of Physical chemistry and Electrochemistry RAS, Leninsky prospect 31, bld.4, 119071 Moscow, Russia

12.30- 13.00 **O28** **NANOSCALE PHARMACY CARRIERS BASED ON SURFACE-ACTIVE DERIVATIVES OF ETHYL-2-CYANOACRYLATE**

I. A. Derevnin[1], M. A. Tarasova[1], A. L. Luss[1], V. A. Dyatlov[1,2]

[1]Mendeleev University of Chemical Technology of Russia, Moscow, Russia

[2]MIREA - Russian Technological University, Russia

Saturday, October 2, 2021

13.00- 13.30 **O29** **RESORPTION OF HIGHLY POROUS PLEURAL IMPLANTS BASED ON POLYLACTIDE AND POLYCAPROLACTONE DURING INTRAPLEURAL IMPLANTATION IN AN EXPERIMENT**

K. Tokaev[1], I. Vasilieva[1], V. Sevastianov[2], J. Zyuzya[1], T. Grigoriev[3], T. Tokaev[1], Y. Zagoskin[3], V. Tokaev[4], A. Bikbaev[1], K. Lukanina[3], A. Gogaev[1]

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13.30- 14.00 **O30** **BIODEGRADABLE MACROPOROUS POLYVINYL ALCOHOL HYDROGEL IN THE TREATMENT OF PATIENTS WITH PERINEAL WOUND SUPPURATION AFTER PELVIC EVISCERATION SURGERY**

S.M. Chudnykh[1], A.A. Artyukhov[2], K.A. Pavlenko[3], V.S. Egorov[1], V.D. Yarygin[1], D.E. Lisovyy[2], M.I. Shtilman[2]

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[3]A. Loginov Moscow Clinical Scientific Center, Entuziastov Highway 86, 111123 Moscow, Russia

14.00-14.30 **O31** **BLOOD METABOLOME LEAD-ASSOCIATED CHANGES IN COMPARISON TO FULL BLOOD PANEL AND CARDIAC INDICES**

A.I. Chemezov, M.P. Sutunkova, Yu. V. Ryabova, S.V. Klinova, I.A. Minigalieva.

Yekaterinburg Medical Research Center for Prophylaxis and Health Protection in Industrial Workers, 620014, Yekaterinburg, Russia

14.30-15.00 **O32** **ISOLATED AND COMBINED CARDIOVASOTOXICITY OF LEAD AND CADMIUM OXIDE NANOPARTICLES FOR RATS**

S.V. Klinova[1], I.A. Minigalieva[1], M.P. Sutunkova[1], V.G. Panov[1,2], Yu.L. Protsenko[3], L.V. Nikitina[3], B.A. Katsnelson[1]

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Saturday, October 2, 2021

13.00-14.00	LUNCH
15.00-19.00	BREAK
19.00-20.00	DINNER

CLOSING CEREMONY
Farewell Address – Closing Remarks

Sunday, October 3, 2021

08.00-09.00	BREAKFAST
10.00-13.00	***Excursion to Festos Palace***
13.00-14.00	LUNCH
19.00-22.00	DINNER

Monday, October 04, 2021

08.00-09.00	BREAKFAST

Departure of Participants

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P.A. Yudaev, I.A. Butorova, A.A. Konkova, V.V. Maslennikova, B.V. Klyukin, E.M. Chistyakov
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GLYCOSYLATION OF GOSSYPOL AS A METHOD TO REDUCE ITS TOXICITY

E.R. Vlaskina[1], A.L. Luss[1], V. A. Dyatlov[1,2]
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T. Volova, G. Ryltseva, A.Dudaev, E. Shishatskaya
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A.I. Piskareva, L.A. Bryukhanov, A.A. Artyukhov, G.I. Kandelaki, A.A. Shcherbina, M.I. Shtilman
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A. Gileva[1], A. Yagolovich[1], M. Gasparian[1], L. Kurbanova[1], D. Trushina[2,3], E. Markvicheva[1]
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MICELLAR NANOSYSTEMS BASED ON FUNCTIONALIZED AMPHIPHILIC COPOLYMERS OF N-VINYLPYRROLIDONE FOR CREATING THERANOSTIC PLATFORMS

A.L. Luss[1], A.M. Nechaeva[1], P.P. Kulikov[2], L. Gurevich[3], C.P. Pennisi[3], M.A. Maslak[1], A.A. Zhukova[1], A.N. Kuskov[1], M.I. Shtilman[1]
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K.S. Kushnerev[1], A.S. Chumakova[1], M.I. Shtilman[1], E.R. Vlaskina[1], V.A. Dyatlov[1,2], Y.O. Mezhyev[1], A.A Vaniushenkova[1], A.L. Luss[1]
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Golovin Yu.I.[1,2], Gusev A.A.[1], Golovin D.Yu.[1], Matveev S.M.[1], Tyurin A.I.[1]

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G.I. Boiko[1], T.R. Ziyayeva[1], R.G. Sarmurzina[2], N.P. Lyubchenko[1], U.S. Karabalin[2], D.S. Tiyesov[3]

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G.I. Boiko[1], P.V. Kenyaikin[1], N.S. Demeubayeva[1], R.G. Sarmurzina[2], N.P. Lyubchenko[1], U.S. Karabalin[2], D.S. Tiyesov[3]

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E.A. Trufanova, T.V. Tikhonova, A.N. Kuskov

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T.M. Shashkova[1], A.M. Nechaeva[1], A.L. Luss[1], Ya.O. Mezhuev[1]

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A. Dudaev, E. Shishatskaya

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A.A. Chudin, M.V. Zavertkina, L.I. Mukhametova, S.A. Eremin*

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A.A. Vaniushenkova, N.V. Khabibulina, O.V. Matiev, M.I. Shokodko, A.A. Belov

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M.M. Vasilyeva[1], I.I. Iliykova M.V. Anisovich[1], T.N. Hamolka[1], S.G. Azizbekyan[2], H.S. Yurkevich[1], V.I. Ioda[1]
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J.V. Kozyreva[1], T.N. Borodina[2], D.B. Trushina[1,2]
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Yu.S. Makeeva, T.V. Tikhonova, A.N. Kuskov
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M.V. Anisovich[1], I.I. Iliykova[1], S.G. Azizbekyan[2], M.M. Vasilyeva[1], S.N. Kamlyuk[1], V.A. Boris[1], S.Y. Petrova[1]
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I.I. Iliukova[1], H.S. Yurkevich[1], V.P. Klachkova[1], M.V. Anisovich[1], S.G. Azizbekyan[2]
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S.I. Sychyk, I.I. Iliykova, T.N. Pronina
Republican Unitary Enterprise «Scientific and Practical Center of Hygiene», Minsk, Republic of Belarus

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V.G. Lunin[1,2], A.S. Karyagina[1,2,3], A.V. Gromov[1], T.M. Grunina[1,2], A.M. Lyaschuk[1], A.V. Grishin[1], N.V. Strukova[1], M.S. Generalova[1], Z.M. Galushkina[1], L.A. Soboleva[1], M.E. Subbotina[1,2,b*], E.A. Romanovskaya-Romanko[4], I.V. Krasilnikov[5], N.B. Polyakov[1,6]
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MACROPOROUS COMPOSITE HYDROGELS BASED ON CHITOSAN, HYALURONIC ACID AND FIBROIN FOR TISSUE ENGINEERING

M.G. Drozdova[1], T.V. Tolstova[1], M.V. Chernogortseva[2], T.S. Demina[3], S.A. Uspensky[3], N.R. Kildeeva[2], E.A. Markvicheva[1]
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