

Programme

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|  | 10th International Symposium on  Technetium and Rhenium – Science and Utilization (Moscow)  Dedicated to  100th Anniversary of  Anna Kuzina |

October 3-6, 2018 - Moscow - Russia

SESSIONS:

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| 1 | Fundamental Physics and Chemistry of Tc and Re |
| 2 | Analytical Chemistry of Tc and Re |
| 3 | Tc in Nuclear Fuel Cycle and in the Biosphere |
| 4 | Re Hydrometallurgy |
| 5 | Tc and Re in Nuclear Medicine |

PROGRAM

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| OCTOBER, 3 | |
| 9.30 – 10.00 | Registration |
| 10.00 - 10.45 | Opening ceremony |
| Fundamental Physics and Chemistry of Tc and Re  Chairs: Konstantin German and Masaki Ozawa | |
| 10-45 – 11-30 | Bernd Grambow (CNRS-IN2P2, University of Nantes, IMT Atlantique, Nantes, France) Chemical Thermodynamics of Technetium in the OECD/NEA Update volume |
| 11-30 – 11-50 | Takashi Yoshimura (Radioisotope Research Center, Institute for Radiation Sciences, Osaka University, Suita, Japan) Photoluminescence Switching of Nitridorhenium(V) Complexes |
| 11-50 – 12-10 | Teiichiro Matsuzaki (RIKEN Nishina Center for Accelerator-Based Science, Japan) A new production method of 99Mo by muon nuclear transmutation |
| 12-10 – 12-30 | John S. McCloy (Washington State University, Pullman, Washington, USA) Spectroscopic studies of alkali pertechnetates and pertechnic acid |
| 12-30 – 13-10 | Thomas Gerber. (Nelson Mandela University, Port Elizabeth, South Africa) Dimeric rhenium(IV) compounds of hydroxy-picolinic acid |
| 13-30 – 14-30 | Lunch |

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| Analytical Chemistry of Tc and Re  Chairs: Xavier Gaona and Alesya Maruk | |
| 14-30 – 15-00 | Maciej Chotkowski (Faculty of Chemistry, University of Warsaw, Warsaw, Poland) **Electrochemical and Spectroelectrochemical Investigations of TcO4- Reduction in Alkali Media** |
| 15-00 – 15-30 | Andrey Shiryaev (IPCE RAS, Moscow)  Tc Matrix |
| 15-30 – 16-00 | Konstantin German (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) Technetium Metal, Technetium Chlorides and Chlorine Species in Pyrometallurgically Formed Sediments and Melts - Speciation by Tc-99 and Cl-35,36,37-NMR and EXAFS/XANES |
| 16-30 | Welcome Party |

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| OCTOBER, 4 | |
| Tc in Nuclear Fuel Cycle and in the Biosphere  Chairs: John McCloy and Mikhail Grigoriev | |
| 10-00 – 10-30 | Xavier Gaona (Institute for Nuclear Waste Disposal, Karlsruhe Institute of Technology, Karlsruhe, Germany) Solution Chemistry of Tc under Conditions Relevant for Nuclear Waste Disposal |
| 10-30 – 11-00 | Anatoly Melentyev (FSUE « Mayak» PA, Ozyorsk, Russia) The Technetium Behavior in the New SNF Reprocessing Flowsheets of the RT-1 Plant |
| 11-10 – 11-30 | Coffee Break |
| 11-30 – 12-20 | Wooyong Um (Pohang University of Science and Technology, South Korea) 99Tc Immobilization in Various Waste Forms |
| 12-20 – 12-40 | Annabelle Laplace (CEA, Marcoule, France) Rhenium behavior in a molten borosilicate glass |
| 12-40 – 13-00 | Kazuyoshi Uruga (Central Research Institute of Electric Power Industry, Tokyo, Japan) Immiscibility and Volatility of Rhenium in Vitrification Process of Simulated PUREX Raffinate |
| 13-00 – 13-20 | Katja Schmeide (Helmholtz-Zentrum, Institute of Resource Ecology, Dresden, Germany) Spectroscopic and Batch Studies of Technetium Uptake by Siderite |
| 13-20 – 13-40 | Diana Rodríguez (Helmholtz-Zentrum, Institute of Resource Ecology, Dresden, Germany) 99Tc Retention on Pyrite and Alumina: the Effect of Fe2+ |
| 13-40 – 14-30 | Lunch |
| Tc in Nuclear Fuel Cycle and in the Biosphere  Chairs: Masaki Ozawa and Alexey Safonov | |
| 14-30 – 15-00 | Jian Lin (Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai, China) Immobilization of ReO4– by a Family of Rare-Earth Plumbite Perchlorates Based on Single Crystal-to-Single Crystal Transformation |
| 15-00 – 15-30 | Sergey Stefanovsky (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) Rhenium Speciation in Sodium Alumino (Iron) Phosphate Glasses |
| 15-30 – 15-50 | Alexey Safonov (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) Biogeochemical Impact of Technetium Migration in Subsurface Water Near to RW Repository |
| 16-00 – 16-30 | Coffee Break |
| 16-30 – 17-00 | Elizaveta Kulikova (MIREA – Russian Technological University, Moscow, Russia) The First Example of Bi and Three-Metallic Alkoxides Containing Rhenium and Ruthenium |
| 17-00 – 17-30 | Bogdan Garashchenko (Vernadsky Institute of Geochemistry and Analytical Chemistry of RAS, Moscow, Russia) Surface-Modified Nanodiamonds as Carriers for 99mTc |

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| OCTOBER, 5 | |
| Re Hydrometallurgy  Chair: I.D. Troshkina and Ya. Obruchnikova | |
| 10-00 – 10-20 | Sitorabonu Rasulova (Institute of general & inorganic chemistry of Uzbekistan Academy of Sciences, Tashkent, Uzbekistan) Method for Rhenium Recovery from the Tailing Dump of Research-and-Production Association of Almalyk GMK JSC (former UzKTZhM) |
| 10-20 – 10-40 | Nesipkhan Bektenov (A.Bekturov Institute of Chemical Sciences, Almaty, Kazakhstan) Study of the Sorption Capacity of Rhenium Ions by New Modified Ion Exchangers |
| 10-40 – 11-00 | Semyon Zakharyan («KazGidroMed», LLC, Karaganda, Republic of Kazakhstan) New Possibilities of Sorption Processes with the Use of Finely Dispersed Forms of Ion Exchange Resins (on the Example of Rhenium Recovery |
| 11-00 – 11-30 | Coffee Break |
| 11-30 – 12-00 | Irina Troshkina (D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia) Sorption of Rhenium From Sulfuric Acid Solutions of Polymetallic Ores Leaching) |
| 12-00 – 13-00 | Film on Re |
| 13-00 – 14-00 | LUNCH |
| Tc and Re in Nuclear Medicine  Chair: Galina Kodina and Thomas Gerber | |
| 14-00 – 14-20 | Tsutomu Ohtsuki (Institute for Integrated Radiation and Nuclear Science, Kyoto University) Mo-99/Tc-99m Production Using an Electron Linear Accelerator |
| 14-20 – 14-40 | Albert Avetisyan (Yerevan Physics Institute, Yerevan, Armenia) Cyclotron Based Technetium-99m and Rhenium-186 Production Technology Development at Yerevan Physics Institute |
| 14-40 – 15-00 | Antonina Semenova (State Scientific Center of the Russian Federation – Institute for Physics and Power Engineering, Obninsk, Russia) “GREN-1” 188W/188Re Generator. Current Status |
| 15-00 – 15-30 | Galina Kodina (Burnasyan Federal Medical Biophysical Center FMBA Russia, Moscow, Russia) History and Perspectives of Rhenium-188 Application in Nuclear Medicine |
| 15-30 – 15-50 | Coffee Break |
| 15-50 – 16-10 | Alexander Miroslavov (Khlopin Radium Institute JSC, St.-Petersburg, Russia) Oxidative Decrabonylation of Technetium Pentacarbonyl Iodide in the Presence of Iron(III) |
| 16-10 – 16-30 | Toktosinov Mansur Yangivaevich (V / O Izotop) Prospects for the use of Re-188 |
| 16-30 – 17-00 | Kojiro Nagata (Radioisotope Research Center, Institute for Radiation Sciences, Osaka University, Suita, Japan) Synthesis and Photophysical Properties of Tricyanidonitridorhenium(V) Complexes with Bipyridine Derivatives |
| 17-00-1730 | Bogdan Garashchenko (Vernadsky Institute of Geochemistry and Analytical Chemistry of RAS, Moscow, Russia) Surface-Modified Nanodiamonds as Carriers for 99mTc |

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| OCTOBER, 6 |
| 10.00 Advisory Committee meeting |

POSTER SESSIION (October, 3 – October, 5)

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| Ravi Kumar (Research Scholar Centre for Nuclear Medicine, Chandigarh, India) 99mTc-Labeled N-Acetyl **Neuraminic Acid as a New Radiotracer for Renal Imaging – Preparation and Preclinical Study** |
| Mikhail Grigoriev, Alexander Fedosseev (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) **Synthesis and crystal structure of new complex [Pu(DMSO)8](TcO4)3∙0.5H2O** |
| Xavier Gaona (Institute for Nuclear Waste Disposal, Karlsruhe Institute of Technology, Karlsruhe, Germany) **Use of Advanced Spectroscopic Techniques for the Characterization of Tc Aqueous Species and Solid Compounds: ACT Beamline at KIT Synchrotron Source** |
| Eric V. Johnstone (University of Nevada – Las Vegas, Chemistry and Biochemistry Department, Las Vegas, NV, USA) Calcium Molybdate, CaMoO4: A Promising Target Material for 99mTc and its Potential Applications in Nuclear Medicine and Nuclear Waste Disposition |
| A. Ledoux (CEA, Marcoule, France) Volatility Mechanism Study in the Waste Vitrification Process |
| Seokju Hong (Pohang University of Science and Technology, South Korea) Incorporation of Rhenium in Tin dioxide for 99Tc Immobilization |
| Wei Moe Aung (D. Mendeleyev University of Chemical Technology of Russia, Moscow, Russia) Rhenium Adsorption from Sulfuric Acid Solutions by Active Coals |
| A.T. Filyanin (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) On the Industrial Production of Pharmaceutical Grade 99mTc and 188Re Radionuclides on the Centrifugal Semicountercurrent Spinning Generator |
| Dimitry Ostapenko (Russian Academy of Sciences, Far East Branch, Far East Geological Institute) **Determination of Rhenium by Method of ICP-MS in Carbon-Terigenous, Organo-Mineral and Organogenic Geological Samples** |
| Nina Budantseva (Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) **The U(VI), Np(VI) and Pu(VI) Complexes with TcO4-, ReO4-. The difficulties in assigning of AnO22+ groups vibrational frequencies** |
| Lydia Bondareva (F.F. Erisman Federal Scientific Center of Hygiene, Moscow, Russia) Rhenium (as Analog Technetium) **Accumulation and Distribution in Macroalgae, Fontinalis Antipiretica** |
| Svetlana Kulikova (Vernadsky Institute of Geochemistry and Analytical Chemistry of Russian Academy of Sciences, Moscow, Russia) **Immobilization of Technetium-99 in sodium-aluminum-iron-phosphate Glass** |
| Inga Zinicovscaia (Joint Institute for Nuclear Research, Dubna, Russia) **Biosorption of Re(VII) by *Spirulina Platensis*** |
| Elizaveta Kulikova (MIREA – Russian Technological University, Moscow, Russia) Highly Selective Catalysts Based on Bimetallic Rhenium-Ruthenium Complexes Obtained by Alkoxytechnology |
| V.N. Rychkov (Ural Federal University, Ekaterinburg, Russia) **The Study of Sorption Concentration of Rhenium from Acidic Solutions** |
| Ivan Lebedev (Institute of Technical Chemistry of the Ural Branch, Perm, Russia) **Sorption Rhenium on Mesoporous Silicas Modified Dimethylhydrazide Groups** |
| Yulia Sokolova (National University of Science and Technology MISIS, Moscow, Russia) **Extraction of Rhenium from Recycle Sulfuric Acid Solution of Underground Uranium Leaching** |
| Sergei Temerov (JSC “Krastcvetmet”, Krasnoyarsk, Russian Federation) **On The Production of Rhenium Acid** |
| Vadim Korovin (M.S. Polyakov Institute of Geotechnical Mechanics, Dnipro, Ukraine) **Equilibrium and Kinetics of Rhenium Sorption from Sulphuric Solutions with AMR Anionite** |
| Anna Malysheva (Burnasyan Federal Medical Biophysical Center FMBA Russia, Moscow, Russia) **Behavior of the Therapeutic Radiopharmaceuticals With Rhenium-188 Eluates of High Volume Activity** |
| Stanislav Dorovatovskiy (Medradiopreparat Plant – branch of FSUE Federal center of nuclear medicine projects design and development of FMBA of Russia, Moscow, Russia) **Research and Development of Innovative Radiopharmaceuticals Based on Therapeutic Radionuclide 188Re** |
| Marat Rakhimov (Burnasyan Federal Medical Biophysical Center FMBA Russia, Moscow, Russia) **New Radiopharmaceutical Based on α-MSH Fragment for Diagnosis of Melanoma** |
| Yurii Mitrofanov (Mendeleev University of Chemical Technology of Russia, Moscow, Russia) **Labeling of Exendin Derivate with 99mTc** |
| Alexey Makarov (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) **Sorption 99Tc on the Shungite, Carbone Materials (Lidite and Shale, Activated Charcoal Nanodiamonds, Taunite)** |
| Dmitry Kamorny (ROSRAO) **Stabilization of technetium by organic modifiers for long-term storage in a cement compound** |
| Alexey Safonov (Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia) **Tc(VII) reducing by Shewanella xiamenensis DCB2-1, isolated from nitrate- and radionuclide-contaminated groundwater** |
| Toktosinov Mansour Yangiyevich (IZOTOP) **Prospects for the use of Re-188** |
| L.M. Gapoyan (Saint-Petersburg State Technological Institute, Saint-Petersburg, Russia) **Evaluation of the Possibility of Using Zwitter-Ionic Ion Exchange Resins for Recovery of Rhenium** |