

Monday, October 21st

“Fundamental Waste Form Science”

900 - 1100	Registration
	Nicholas Smith
1000 - 1020	Opening Remarks and Organization (IAEA)
	Melissa Denecke
1020 - 1100	Opening Keynote (IAEA)
	Lang, Maik
1100 - 1140	Fundamental Waste Form Science Theme Keynote (University of Tennessee, Knoxville)
	Shiryayev, A.A.
1140 - 1200	Structure of aged (La, ²³⁸ Pu)-monazite ceramics (IPCE)
	Lawson, Sebastian M.
1200 - 1220	In-situ ion beam amorphisation of zirconate perovskite ceramics (The University of Sheffield)
	Corkhill, Claire L.
1220 - 1240	Application of spatially-resolved X-ray and gamma spectroscopy to evaluate the interaction of technetium-99 with blended Portland cements (The University of Sheffield)
	Kvashnina, Kristina
1240 - 1300	An expanding view on actinide oxide nanoparticles (The European Synchrotron)
1300 - 1400	Lunch
	Rafiuddin, Mohamed Ruwaid
1400 - 1440	Effect of Dual Ion-Beam Irradiation on the Structure of Xenotime-type Waste Forms (University of Montpellier)
	Corkhill, Claire L.
1440 - 1500	In-situ quantification of the cement hydration kinetics of geological disposal cements: (The University of Sheffield)
	Lang, Maik
1500 - 1520	Investigating Local Defect Structures in Nuclear Waste Form Materials (University of Tennessee)
	Petrov, Vladimir.G.
1520 - 1540	Simulation of point defects in recoil core tracks in monazite matrix (Lomonosov Moscow State University)
	Kalmykov, Stepan
1540 - 1600	Actinide nanoparticles formation under simulated geological repository conditions (Lomonosov Moscow State University)

	Sakuragi, Tomofumi Investigation on the instant release fractions for ¹⁴ C, ⁶⁰ Co, and ¹²⁵ Sb from irradiated Zircaloy oxide film (Radioactive Waste Management Funding and Research Center)
1600 - 1620	
1620 - 1700	<i>Coffee Break</i>
	Xiong, Yongliang Solubility of Pu(III)- and Am(III)-Oxalates to High Ionic Strengths: Insight from Experimental Studies on Pr(III)- and Nd(III)-Oxalates (Sandia National Laboratories)
1700 - 1720	
	Bertolotto, Solène Effect of surface defects and crystal orientation on the dissolution kinetics of uranium dioxide single crystals (CEA Marcoule)
1720 - 1740	
	TBD Illuminating the inaccessible: the use of lasers and other photonics techniques in the characterisation of materials in radioactive environments (National Nuclear Laboratory)
1740 - 1800	
1800	<i>Close Meeting for Day</i>

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Tuesday October 22nd

“Waste Form Synthesis and Characterization”

900 - 940	Matyas, Josef Waste Form Synthesis and Characterization Theme Keynote (Pacific Northwest National Laboratory)
940 - 1000	Endo, Yoichi Investigation of Calcined HLW Storage to Apply Minor Actinide Partitioning & Transmutation Technology to SNF from LWR (Nippon Nuclear Fuel Development)
1000 - 1020	Zabulonov, Yuriy Immobilization of Radioactive Organic Liquid Waste (SI “Institute of Environmental Geochemistry” NAS of Ukraine)
1020 - 1040	Abashkin, A.Y. Development of the compact induction furnace with a hot metal crucible for vitrification of liquid radioactive waste (Khlopin Radium Institute)
1040 - 1120	Coffee Break
1120 - 1140	Theo Cordara Effect of nuclear fuel additives on the modern spent nuclear fuel SNF reprocessing dissolution step (The University of Sheffield)
1140 - 1200	Stefanovsky, Sergey V. The Effect of Compositional Variations on the Phase Composition and Hydrolytic Durability of the Murataite-Containing Ceramics (Frumkin Institute of Physical Chemistry and Electrochemistry)
1200 - 1220	Gausse, Clemence Synthesis, characterisation and leaching behavior assessment of simulant fukushima nuclear accident fuel debris (The University of Sheffield)
1220 - 1240	Dragolici, Cristian A. Neutron scattering investigations on cement-based materials for the conditioning of low and intermediate level radioactive waste (Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH))
1240 - 1300	Wilkins, Malin Dixon The Effect of A-Site Cation on the Formation of Brannerite (ATi ₂ O ₆ , A = U, Th, Ce) Ceramic Phases in a Glass-Ceramic Composite System (The University of Sheffield)
1300 - 1400	Lunch
1400 - 1440	Stephanie M. Thornber Developing plutonium immobilisation technology in the UK; installation of plutonium active capabilities at NNL. (National Nuclear Laboratory)

	Skrgan, I.N. Investigation of silver behavior in the glass melt and its effect on the IMCC conditions in an industrial-scale furnace during vitrification of HLLW simulants (Khlopin Radium Institute)
1440 - 1500	
	Vienna, John D. Application of Nonparametric Regression to Prediction of Waste Glass Vapor Hydration Test Responses (Pacific Northwest National Laboratory)
1500 - 1520	
	Mayordomo, Natalia 99Tc immobilization by aluminum solids containing Fe(II) moieties (Helmholtz-Zentrum Dresden-Rossendorf)
1520 - 1540	
	Gregg, Dan Hot Isostatically Pressed Wasteforms for Molten Salt Wastes (ANSTO)
1540 - 1600	
	Josef Matyáš Tailoring properties of silver-functionalized silica aerogel (Pacific Northwest National Laboratory)
1600 - 1620	
1620 - 1800	Poster Session (Runs Concurrent with final talks)
1620 - 1700	Coffee Break
	Blackburn, L.R. Influence of Charge Compensation Species (Fe/Al/Cr) on Phase Evolution in Zirconolite Ceramics for Pu Immobilisation (The University of Sheffield)
1700 - 1720	
	Hyatt, Neil C. Immobilisation options for the disposition of UK plutonium (The University of Sheffield)
1720 - 1740	
	Bailey, Daniel J. Hollandite wasteforms for immobilisation of radio-caesium (The University of Sheffield)
1740 - 1800	
1800	Close Meeting for Day
1900 - 2100	Dinner at Zwölf Apostelkeller

Posters

	Vysotskii, Vladimir
P1	Transmutation and accelerated deactivation of radioactive isotopes and reactor waste (Kiev National Shevchenko University)
	Kornilova, Alla
P2	Effective bioremediation and biopurification of radioactive water (Moscow Lomonosov State University)
	Mast, Bram
P3	Mechanical and microstructural changes of FE-rich inorganic polymers in a gamma radiation field (Hasselt University)
	Sun, Shi-Kuan
P4	Fabrication of zirconolite wastefoms for Pu Disposition (The University of Sheffield)
	Mohum, R.
P5	Characterising the Effect of Heavy-ion irradiation on the microstructure of Ce-Doped compounds (The University of Sheffield)
	Petrov, Vladimir G.
P6	Effects of irradiation up to doses typical for high level waste on characteristics of cement matrices (Lomonosov Moscow State University)
	Marco Simoni
P7	Interaction of strontium chloride solution with calcium aluminate phosphate (CAP) system (The University of Sheffield)
	Stefanovsky, Sergey
P8	The Effect of Zr Substitution for Sr on the Phase Composition and Structure of Sodium-Aluminum-Iron Phosphate Glass (Frumkin Institute of Physical Chemistry and Electrochemistry)
	Zuvich, Afra Fernandez
P9	One step low temperature thermochemical process for immobilizing a PHWR simulated HLLW in SG7 sintered glass (Centro Atómico Bariloche (CNEA))
	Austin, Daniel
P10	A Comparative Study of the Solid State Synthesis and Molten Salt Synthesis of 'Stuffed' Lanthanide Pyrochlores, Ln ₂ TiO ₅ (Ln = La, Gd, Dy, Yb) (University of Sheffield)
	de Tello, Clédola C. O.
P11	Study of the Sorption and Modelling of Cesium by a Brazilian Bentonite Using PHREEQC (Centro de Desenvolvimento da Tecnologia Nuclear)

P12	Kashcheev, Vladimir A. Optimization of Vitrified Radioactive Waste Volume from the processing of SNF (A.A. Bochvar High-technology Research Institute of Inorganic Materials)
P13	Farid, Osama M. Evolution of interfacial water speciation during the initial leaching stage of alkali-borosilicate-glasses (Atomic Energy Authority of Egypt)
P14	Kashcheev, Vladimir A. Advanced Vitreous Wasteforms for Radioactive Salt Cake Waste Immobilisation (A.A. Bochvar High-technology Research Institute of Inorganic Materials)
P15	Smelova, Tatyana V. Engineering of Full-Scale Experimental Induction Melter with Cold Crucible for HLW Vitrification (A.A. Bochvar High-technology Research Institute of Inorganic Materials)
P16	Kashcheev, Vladimir A. Optimization of Vitrified Radioactive Waste Volume from the processing of SNF (A.A. Bochvar High-technology Research Institute of Inorganic Materials)
P17	Hyatt, Neil C. Developing Laboratory Based X-ray Absorption Spectroscopy for Nuclear Waste Management (Department of Materials Science & Engineering, The University of Sheffield, Sheffield, S1 3JD, UK)
P18	Hyatt, Neil C. X-ray absorption spectroscopy studies of wasteforms for higher activity wastes in the United Kingdom (Department of Materials Science & Engineering, The University of Sheffield, Sheffield, S1 3JD, UK)

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Wednesday October 23rd

“Corrosion and Long-term Studies”

	Corkhill, Claire
900 - 940	Waste Form Corrosion and Long-Term Waste Studies (The University of Sheffield)
	Aloy, A. S.
940 - 1000	Formation of Surface Layers in Leaching of Borosilicate Glasses Incorporating Different Amounts of Simulated HLW (Khlopin Radium Institute)
	Fisher, Adam J.
1000 - 1020	Early stage dissolution of UK Ca-Zn high level waste glass in conditions relevant to geological disposal (The University of Sheffield)
	Hua, Zhang
1020 - 1040	Effect of Zirconium on the Simulated PWRs HLW Glass Structure and Chemical Durability (China Institute of Atomic Energy)
1040 - 1120	Coffee Break
	Mann, Colleen
1120 - 1140	The role of alkali / alkaline earth ions in on glass corrosion rates as a function of pH (The University of Sheffield)
	McCloy, John
1140 - 1200	Analogue Studies for Long-term Durability of Nuclear Waste Glasses: Case Study of Vitrified Swedish Hillfort (Washington State University)
	Ojovan, Michael I.
1200 - 1220	On alteration rate renewal stage of nuclear waste glass corrosion (The University of Sheffield)
	Kazuya Idemitsu
1220 - 1240	Migration Behaviour of Copper Ion in Compacted Bentonite by Using Electromigration Technics (Kyushu University)
	Takayuki Sasaki
1240 - 1300	Chemical stability and leaching behavior of fuel debris consisting of oxides and alloys (Kyoto University)
1300 - 1400	Lunch
	Zubekhina, Bella Yu.
1400 - 1440	Chemical durability of Chernobyl corium and “lava” (V.G. Khlopin Radium Institute)
	Ferreira, Eduardo
1440 - 1500	Durability tests on plasma treated surrogate cemented concentrates and resins (SCK•CEN)

1500 - 1520	Neji, Mejdi Chemo-Mechanical Evolution of Cementitious Materials in Clay Environment (Institute of Radiological Protection and Nuclear Safety)
1520 - 1540	Riba, Olfa Spent Fuel Alteration Model Integrating Processes of Different Time-Scales (Amphos 21 Consulting S.L.)
1540 - 1600	Barreiro Fidalgo, Alexandre Aqueous leaching of ADOPT and standard UO ₂ spent nuclear fuel under H ₂ atmosphere (Studsvik Nuclear AB)
1600 - 1620	Shiryaev, A.A. Influence of long-term aqueous leaching on surface properties and radionuclides in i-graphite (IPCE)
1620 - 1800	Poster Session (Runs concurrent with Agency Round Table)
1620 - 1700	Coffee Break
1700 - 1800	Agency Round Table
1800	Close Meeting for Day
1800 - 1840	Executive Meeting

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Thursday October 24th

“Deep Geological Repository Science and Policy”

900 - 940	Remarks by the Organizing Committee
	Gaus, Irina
940 - 1020	Deep Geological Repositories & Policy Theme Talk (NAGRA)
	Finch, Robert
1020 - 1040	Safeguards for Multinational Spent Fuel Management Facilities (Sandia National Laboratories)
1040 - 1120	Coffee Break
	Neumeier, Stefan
1120 - 1140	Microparticle Production as Reference Materials for Particle Analysis Methods in Safeguards (Forschungszentrum Jülich GmbH)
	Finch, Robert
1140 - 1200	Reducing Safeguards Accounting and Verification Efforts on Retained Wastes (Sandia National Laboratory)
	Zlobenko, Borys
1200 - 1220	Impact of the Fuel Cycle on The National Plan of Raw Deep Geological Disposal in Ukraine (SI “Institute of Environmental Geochemistry” NAS of Ukraine)
	Nakabayashi, Ryo
1220 - 1240	Optimization methodology by probabilistic approach to support reasonable decision-making in selecting options of disposal facility design (Central Research Institute of Electric Power Industry)
	Kowalski, Piotr. M.
1240 - 1300	Modeling of Nuclear Waste Forms: State-of-the-Art and Perspectives (Forschungszentrum Jülich)
1300 - 1400	Lunch
	François Diaz-Maurin
1400 - 1440	Integration of the Back-end of the Nuclear Fuel Cycle: An Overview (Stanford University)
	Ozutsumi, Takenori
1440 - 1500	Fundamental Study on Transport Modelling for Radionuclides under an Unsaturated Condition around Near-surface Underground (Tohoku University)
	Xiong, Yongliang
1500 - 1520	Validation and Recalibration of the Thermodynamic Database in Support of the Heater Test in Salt Formations (Sandia National Laboratory)

	Kalinina, Elena
1520 - 1540	Full-Scale Assembly 30 cm Drop Test (Sandia National Laboratory)
	TBD
1540 - 1600	Creating system of final isolation (disposal) of radioactive waste in the Russian Federation (NORAO)
1600 - 1620	TBD
1620 - 1700	Coffee Break
	Smetnik, Alexander
1700 - 1720	Long-Term Storage and Radioactive Waste Retrieval from Historical Radon-Type Storage Facility (Federal State Unitary Enterprise VO "Safety" (FSUE))
	NEFW Disposal
1720 - 1740	Disposal Team, Waste Technology Section (IAEA)
	Closure of Symposium
1740 - 1800	Director of Division of Nuclear Fuel Cycle and Waste Technology

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Additional Information:

The Vienna International Centre (VIC)

How to Reach the VIC from Vienna Airport

By Public Transportation

The VIC can be reached with the U-Bahn by taking the line U1 (marked in red on city maps) towards Leopoldau and getting off at the station Kaisermühlen-Vienna International Centre. Single tickets, multiple tickets for 2, 4 or 8 rides or for 1, 3 or 8 days, and weekly tickets can be purchased from vending machines in all U-Bahn stations or at tobacco shops marked Tabak Trafik, and also at the VIC newspaper stand located in building G. The weekly ticket is valid Monday through Sunday with unlimited use of all Viennese public transport facilities (U-Bahn, bus, tramway, S-Bahn (Schnellbahn)). Further information can be obtained at: www.wienerlinien.at

By Taxi

As all participants will have to go through the registration formalities, passengers should ask the driver to drop them off at Wagramer Strasse 5, Gate 1. For departures, a taxi may be requested at Security Services, Gate 1. An additional fee is charged for taxis ordered by telephone. The customary tip in Austria for taxi drivers is 10% of the fare. Please note that there may be an extra charge for luggage, which is not shown on the meter.

By Bus

The Vienna Airport Lines operate seven days a week, at hourly intervals, from 6:10–20:10. The VIC bus station is located on Wagramer Strasse in front of Gate 1. The trip takes about 30 minutes.

By Train

There are two options: First is the S-Bahn (Schnellbahn) from the airport to the City Air Terminal located next to the Hotel Hilton. The S-Bahn leaves approximately every 30 minutes. The trip takes about 25 minutes. After arriving at the City Air Terminal, change to

the underground line U4 and then U1 (see info listed under public transportation) to get to the VIC. The second option is the City Airport Train (CAT), linking the airport with the City Air Terminal. The trip takes about 16 minutes (passenger fare is €9 for a single ticket and €16 for a return ticket). For further information, please visit: www.cityairporttrain.com and www.tripadvisor.com.

Meeting Registration

Meeting participants should arrive at the VIC between 9:00 and 10:00, in order to allow sufficient time for registration and issue of grounds passes. Meeting registration for the Symposium will be in the M-Building Lobby. The meeting program starts promptly at 11:00; please allow ample time to complete all access requirements. Gate 1 opens at 7:00 and there is a cafeteria on site if participants wish to purchase breakfast prior to the meeting (see *Food and Hospitality*, below).

Upon arrival at Gate 1, meeting participants are requested to identify themselves with their national passport or a valid official identification document at the IAEA registration desk. Meeting participants should identify that they are part of the MRS Symposium on the Scientific Basis for Nuclear Waste Management. The organizing committee will be supplying information to the registration desk about each attendee to simplify the process.

The UN Pass Office will issue a grounds pass with photo. Please note that it is mandatory to wear the grounds pass visibly at all times while on the VIC premises. In the case of an unannounced arrival, the UN Security and Safety Service needs to obtain confirmation of participation in a meeting. This may delay the registration process.

Meeting participants who have special requirements should notify the Scientific Secretary of their meeting or the Conference Services Section in advance about the kind of assistance they require. Based on the information received, these will make the necessary arrangements with the UN Security and Safety Service.

For additional general information on the VIC, please visit the following website:

<https://www-pub.iaea.org/iaeameetings/GeneralInfo/Guide/VIC>

Food and Hospitality

There is a full cafeteria in the VIC located on the ground floor of building F and offers a variety of hot and cold dishes, snacks and drinks. Opening hours are 7:30–10:00 and 11:30–14:30. The Coffee Corner in the VIC Cafeteria is open 8:00–15:30. Please note that the cafeteria accepts Euro only. There are several ATMs in the VIC as well as full banking services provided by Bank Austria.

For those wishing to eat offsite, there are several restaurants near the VIC accessible by foot as well as a full food court at the Donauzentrum Shopping Centre located at the Kagran U-Bahn stop (2 stops from the VIC in the direction of Leopoldau).

Coffee breaks for this meeting will be setup near the meeting room and are covered by your registration.

Presentations

Please bring all presentations in PowerPoint or Adobe Acrobat formats. Speakers are encouraged to submit presentations via email ahead of time. There will be opportunities to upload changes with our conference clerks at the latest the day before the talk. All presentations can be sent to SBNWM2019@iaea.org.

Posters

Boards will be provided for the posters and can be setup as early as Monday morning during registration and need to be setup by the lunch break on Tuesday. A label with the poster name and authors will be on each board. Early setup is encouraged as the posters will be on display in the coffee break area so that attendees will be able to view the posters at their convenience prior to the more formalized sessions.