



FRANCE22
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OF THE COUNCIL OF THE
EUROPEAN UNION

FISA 2022 EURADWASTE'22

PROGRAMME OVERVIEW

10th European Commission Conferences
on EURATOM Research and Training in Safety of
Reactor Systems & Radioactive Waste Management

In cooperation with



With the support of



FISA 2022 – EURADWASTE '22 - Programme Overview

European Commission
Directorate-General for Research and Innovation
Directorate C — Clean Planet
Unit C.4 — Euratom Research

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FISA 2022 EURADWASTE '22

Programme Overview

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FISA 2022 EURADWASTE'22

FOREWORD

It is our pleasure to welcome you to the 10th European Commission Conferences on EURATOM Research and Training in Safety of Reactor Systems and Radioactive Waste Management. FISA and EURADWASTE conferences have always been a major milestone on the EU/Euratom agenda, gathering on a regular basis research and training organisations, academia, industry, small and medium enterprises, spin-offs and start-ups, technology platforms, waste management organisations, technical support organisations, national government officials, EU Institutions' Officials, European fora e.g. FORATOM and European civil society, and International Organisations e.g. OECD/NEA, IAEA, WNA, participating in Euratom Framework Programmes. The key of their success lies in coherently summarising most activities and highlighting major achievements of the main pillars of the EU/Euratom Fission Programmes, on safety of reactor systems and radioactive waste management, and an opportunity to celebrate the 65 Years' anniversaries of the EC/Euratom treaties. Following the successful edition in 2019, in Pitesti, these two major events are organised jointly with the French Atomic and Alternative Energies Commission (CEA), under the scope of the French Presidency of the Council of the EU in 2022, and the Région Auvergne-Rhône-Alpes kindly hosting all events taking place during this week. Thank you!

All balanced energy mix scenarios elaborated in Europe on strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy by 2050 include nuclear energy. While it is for each EU country to choose whether to make use of nuclear power, it remains the role of the European Union, together with its Member States and in the interest of all its citizens, to establish a framework to further develop and support EU/Euratom research and training. The European Union has since long recognised its importance and benefits also through international cooperation, in a context of Ukrainian war following the Russian invasion, and in a post COVID-19 pandemic EU resilient recovery for the immediate future.

FISA 2022 EURADWASTE '22 plenary introduction and closure provide an opportunity for both communities to gather, to exchange their views on shared challenges and opportunities in EU/Euratom research and training. Stakeholders' and policy makers' participation contributes to setting the scene at EU / national / international levels and illustrating high benefits from cooperation by supporting, among others, today's EU Energy/Climate/Industrial policies and to tackle today's UN SGDs' societal challenges. It also proves EU/Euratom constant success in pursuing excellence in R&D, whilst facilitating pan-European collaborative efforts across a broad range of nuclear science and technologies, nuclear fission, fusion and radiation protection. Gathering some 200-300 each and 500 stakeholders' altogether, FISA 2022 and EURADWASTE '22 conferences will enable all participants to learn more about the latest European Framework Programme for Research and Innovation for the period 2021-27, 'Horizon

Europe', 'Euratom Research and Training' programmes, and forward-looking key policy recommendations from all stakeholders and policy makers.

FISA 2022 EURADWASTE '22 parallel sessions facilitate detailed presentations and panel discussions on the latest achievements, main results and success stories, as well as key recommendations in the respective areas. They are aimed at demonstrating that the knowledge base has advanced significantly, and continuity between actions co-funded over time through the Euratom Framework Programmes guarantees a high impact and is of great added value to the scientific community. It also shows a capacity is maintained to suitably respond to any unexpected event or new EU/Euratom legislative Directives requirements through continuous, coherent and impactful implementation of dedicated research and innovation (or coordinated and support) actions, and European Joint Programmes e.g. EUROfusion (fusion in Europe), EURAD (in the field of Radioactive Waste Management) or CONCERT (radiation protection).

With the incentive of Horizon 2020, Framework Programmes enhanced further integration towards a European Research Area together with better prioritisation at European level, with the capitalisation of European Technology platforms and in close collaboration with EU Fora and International Organisations e.g. OECD/NEA or IAEA. Evolutions towards European Joint Programmes, together with Member States research and innovation programmes, are successfully illustrating the added value of a concerted European approach in nuclear safety research and training advocated by the European Commission and Member States.

FISA and EURADWASTE are also a unique opportunity for students, to celebrate the European year of Youth in 2022, PhD, MSc or young professionals to take part in the ENEN PhD Event & Prize, FISA 2022 and EURADWASTE '22 Poster and MSc/PhD awards (estimated 100 invited and supported financially), and ENS High Scientific Council PhD Awards, Euratom 'Nuclear Innovation Prize' meant to give visibility to the most dynamic, forward-looking and innovative researchers, research teams or industrial contestants. All awarded contestants peer-reviewed papers will be published in the European Physical Journal (EPJ N, EPJ Nuclear Sciences & Technologies) 'Awards collection' topical edition, alongside the renewed special edition of EPJ-N in 2022 dedicated to FISA 2022 and EURADWASTE '22. Conferences' proceedings will be published by the end of the year.

ENS-YGN is a vibrant network connecting all Nuclear Young Generation Networks over Europe. ENS-YGN matchmaking events, including Young Generation workshops, are a huge opportunity for Students, MSc/PhDs or young professionals to meet national / European / International leading managers, innovators and researchers from public and private research organisations. Around 200 candidates will participate in depth 30 min face-to-face B2B matchmaking interviews and networking opportunities will be organised for them with leading national / international managers, participating

companies at the exhibition or even recruiters. Institutions such as Nuclear Valley or GIFEN will take part in the event.

The traditional FISA thematic workshops addressing cross-cutting research and innovation areas of common interest and providing recommendations for the future, benefit from the great opportunity of organising instead, and alongside the conferences, the 2022 edition of SNETP Forum. The SNETP Forum 2022 will aim at discussing and analysing recent technological innovations in different fields selected by the SNETP Scientific Committee as to cover major topics of interest to the stakeholders of SNETP: a) SMRs; b) Nuclear codes and standards and supply chain; c) Digital and robotics; d) R&D&I facilities; e) Waste minimization and fuel cycle; and f) The role of nuclear energy in mitigating climate change including non-electrical applications e.g. hydrogen, heat for energy-intensive industries and the potential of cogeneration.

Participants will also be able to participate in a technical tour of emblematic nuclear facilities at the Nuclear Research Centre of Marcoule (CEA), Cigeo French project for a deep geological disposal for radioactive waste (ANDRA), JACOMEX leader in the design and manufacturing of gloveboxes and customised containment enclosures, SILEANE at the crossroads of digital, optics and automation, and VELAN specialized in the design and manufacture of High performance valves for nuclear, cryogenics and specific applications.

The European Commission would like to thank the French Presidency, the Ministry of Research and Innovation and the Ministry of Ecological Transition, the French Atomic and Alternative Energies Commission (CEA), and the Région Auvergne-Rhône-Alpes kindly hosting and supporting all events taking place during this week. We would also like to extend our gratitude to the speakers, chairs and co-chairs, expert reviewers of all papers and presentations, rapporteurs, projects coordinators, panel members, but also all staff involved at any time whose contribution ensures that the FISA 2022 EURADWASTE '22 Conferences will engage the audience in an enjoyable, dynamic and interactive way, ensuring success of these conferences!

On behalf of the Organising and Programme Committee

Roger Garbil and Seif Ben Hadj Hassine

EC DG RTD, FISA 2022 - EURADWASTE '22 Co-chairs

Valérie Vandenberghe, Danielle Gallo and Philippe Montarnal

CEA and French Presidency, Co-chairs

Karolina Janatkova, Marie Fonteneau, Claudine Dubiau and Isabelle Auffret Babak



HOTEL DE REGION - AUVERGNE-RHONE-ALPES	Monday 30/05/2022				Tuesday 31/05/2022				Wednesday 1/06/2022				Thursday 2/06/2022				Friday 3/06/2022		
	Morning	Lunch	Afternoon	Evening	Morning	Lunch	Afternoon	Evening	Morning	Lunch	Afternoon	Evening	Morning	Lunch	Afternoon	Evening	Morning	Lunch	Afternoon
Level 0 - Hemicycle (500 p.)	Workshop EURAD-2 - EC / MS Fission Programme Committee Representatives - 10:00 - 12:30 [RESTRICTED]		Workshop EURAD-2 - EC / MS Fission Programme Committee Representatives - 14:00 - 16:30 [RESTRICTED]		Joint High-Level - Opening - FISA 2022 - EURADWASTE '22 - 08:30 - 12:30		FISA 2022 Session 1 - Safety of nuclear installations - 14:00 - 18:30		FISA 2022 Session 2 - Advanced nuclear systems and fuel cycles - 08:30 - 12:30		FISA 2022 Session 3 - Education and training, research infrastructures, low dose radiation protection, decommissioning and international cooperation - 14:00 - 18:00		Joint High-Level - Conclusion FISA 2022 - EURADWASTE '22 - Opening SNETP Forum - 08:30 - 10:30		SNETP Session 1 (PM) - 14:00 - 17:00		Visits All Day		
Level 0 - Room 1 to 5 (200 p.)							EURADWASTE '22 Session 1 - Collaborative Research, Development and Demonstration in Radioactive Waste Management - 14:00 - 18:30		EURADWASTE '22 Session 2 - Strategic Research Studies in Radioactive Waste Management - 08:30 - 12:30		EURADWASTE '22 Session 3 - Knowledge Management in Radioactive Waste Management - 14:00 - 18:00		SNETP Session 1 (AM) 11:00 - 12:30		SNETP Session 2 - 11:00 - 12:30				
Level 1 - Room 6 & 7 (70 pers.)							ORIENT-NM EERA-JPMM - 14:00 - 18:30 [RESTRICTED]		ENEN PhD Event & Prize - 09:00 - 12:30		ENEN PhD Event & Prize - 14:00 - 17:00		SNETP Session 3 - 11:00 - 12:30		SNETP Session 3 - 14:00 - 17:30				
Level 1 - Room 8 & 9 (70 pers.)			ENS YGN Young Generation Ice Breaker - 15:00 - 17:00				Young Generation Workshop 1 - 14:00 - 16:00 - AWARD & PRIZE Pitcher - 16:30 - 18:30		Young Generation Workshop 2 - 09:30 - 11:30		Young Generation Workshop 3 - 15:30 - 17:30		SNETP Session 4 - 11:00 - 12:30		SNETP Session 4 - 14:00 - 17:30				
Level 1 - La Plateau		Lunch WS --- 12:30 - 14:00	(Install) EXHIBITION POSTERS				EXHIBITION POSTERS All Day		EXHIBITION POSTERS All Day		EXHIBITION POSTERS All Day		EXHIBITION POSTERS All Day		EXHIBITION POSTERS All Day				
Level 0 - La Verrière			R2B Matchmaking				R2B Matchmaking All day		R2B Matchmaking All day		R2B Matchmaking All day		R2B Matchmaking All day		R2B Matchmaking All day				

**Tuesday
31 May
22**

Day 1 AM

Joint introduction FISA 2022 / EURADWASTE '22

Co-chair: Bernard SALHA (FR, SNETP)

Co-chair: Rosalinde VAN DER VLIES (EC, DG RTD)

Rapporteur: Henri PAILLIERE (FR, Expert)

08:30 (15')

Welcome

08:45 (15')

Mariya GABRIEL (EC) European Commissioner for Innovation, Research, Culture, Education and Youth

Keynote: Euratom Research and Training and Horizon Europe framework programmes: Opportunities and challenges in the EU Innovation landscape

09:00 (15')

Claire GIRY (Ministry, FR), Directrice Générale de la recherche et de l'innovation, Ministère de l'Enseignement Supérieur

Keynote: From Higher Education to Research and Innovation, a 'Team Europe and Global' approach / De l'enseignement supérieur à la recherche et à l'innovation : une approche globale et « équipe d'Europe »

09:15 (15')

Laurent MICHEL (Ministry, FR), Directeur Energie et Climat, Ministère de la Transition Ecologique

Keynote: Challenges and levers for the energy and climate transition - Evolutions of the energy mix and nuclear - Challenges of R&D and innovation for the ecological transition / Enjeux et leviers pour la transition énergétique et climatique. Évolutions du mix énergétique et place du nucléaire. Enjeux de R&D et d'innovation au service de la transition écologique

09:30 (15')

Rafael Mariano GROSSI (IAEA), Director-General of the International Atomic Energy Agency

Keynote: IAEA Research and Innovation for safe, secure and safeguarded nuclear for every citizen, in support of the UN Sustainable Development Goals

09:45 (15')

Sama BILBAO Y LEON (WNA), Director-General of the World Nuclear Association

Keynote: WNA Promoting a wider understanding and streamlining international licensing and regulatory frameworks

10:00 (15')	<p>William D. MAGWOOD IV (OECD/NEA), Director-General of OECD Nuclear Energy Agency</p> <p>Keynote: OECD/NEA Nuclear Research and Innovation Successes and Accomplishments, Looking to the future</p>
10:15 (15')	<p>Pierre-Marie ABADIE (ANDRA, FR), Director-General of Agence Nationale de Gestion des déchets radioactifs ANDRA</p> <p>Keynote: European and international status of the management and disposal of radioactive waste, developments and challenges ahead ahead / La gestion et le stockage des déchets radioactifs en Europe et à l'international, situation et perspectives</p>
10:30 (15')	<p>Mariya GABRIEL (EC) European Commissioner for Innovation, Research, Culture, Education and Youth</p> <p>Awards ceremony for the Euratom Nuclear Innovation Prize</p>
Coffee Break (30')	
11:15 (15')	<p>François JACQ (CEA, FR), Administrateur Général, Commissariat à l'Energie Atomique et aux Energies alternatives</p> <p>Keynote: Research and Innovation interdisciplinary opportunities and challenges to enable sustainable and decarbonised societies / Recherche et innovation : une approche interdisciplinaire pour relever les défis d'une société durable et décarbonée</p>
11:30 (15')	<p>Cristian-Silviu BUȘOI (ITRE, EP), Chair of the Committee for Industry, Research and Energy, European Parliament</p> <p>Keynote: Let's join Euratom Research and Training and Horizon Europe forces, investments and ideas for making research and innovation the driving force of our future</p>
11:45 (15')	<p>Baiba MILTOVIČA (EESC, EU), President of the section for Transport Energy, Infrastructure and Information Society, European Economic and Social Committee</p> <p>Keynote: Research and Innovation missions and benefits from continuous and meaningful Civil Society's involvement to tackle today's Societal Challenges</p>
12:00 (15')	<p>Marta ZIAKOVA (ENSREG), Chair of the European Nuclear Safety Regulators Group</p> <p>Keynote: ENSREG commitment to continuous improvement of nuclear safety when new knowledge and experience are available: Progress, Lessons learned and Challenges</p>

12:15 (15')

Yves DESBAZEILLE (FORATOM), Director-General of the European Nuclear Industry Association FORATOM

Keynote: Research and Innovation benefits for a low-carbon and climate neutral economy, Industrial Competitiveness and sustainable development

12:30 (15')

Jadwiga NAJDER (ENS YGN), Chair of the Young Nuclear Generation of the European Nuclear Society

Keynote: The future of Nuclear: Collaboration, Vision and Innovation – perspectives from YGN

Lunch (75')

Day 1 PM

FISA 2022 – Session 1: Safety of nuclear installations

Co-chair: Myriam CALACICCO (FR, NUCLEAR VALLEY)

Co-chair: Rosalinde VAN DER VLIES (EC, DG RTD)

Rapporteur: Ferry ROELOFS (NL, Expert)

14:00 (20')

Bernard SALHA (EDF, FR) *SNETP*

Keynote: *SNETP-NUGENIA-ESNII-NC2I Research and Innovation in Nuclear, a non-profit international organization to promote Research & Innovation*

Reactor Performance, system reliability: Long-Term Operation

14:20 (20')

Marta SERRANO (CIEMAT, ES)

ENTENTE – ATLASplus – NOMAD – STRUMAT-LTO

14:40 (20')

Tomasz BRYNK (SCK-CEN, BE)

FRACTESUS – MEACTOS – INCEFA-SCALE

15:00 (20')

Albannie CAGNAC (EDF, FR)

sCO₂-4-NPP – APAL – CAMIVVER

Reactor Performance, system reliability: Instrumentation and control

15:20 (20')

Morgane BROUDIN (EDF, FR)

TEAM-CABLES – EL-PEACETOLERO

Advanced numerical simulation and modelling for reactor safety

15:40 (20')

Christophe DEMAZIERE (CHALMERS, SE)

CORTEX – McSAFER – METIS

*Coffee Break
(30')*

Innovative Gen-II -III and Research Reactors' Fuels and Materials

16:30 (20')

Ville TULKKI (VTT, FI)

ELSMOR – PASTELS – NUCOBAM

16:50 (20')	Jared WIGHT (SCK-CEN, BE) <i>EU-QUALIFY – LEU-FOREVER</i>
	Safety assessments and severe accidents, impact of external events on nuclear power plants and on mitigation strategies
17:10 (20')	Luis Enrique HERRANZ PUEBLA (CIEMAT, ES) <i>MUSA – PIACE – AMHYCO</i>
	Probabilistic Safety Assessment for internal and external events on nuclear power plants and on mitigation strategies
17:30 (20')	Atte HELMINEN (VTT, FI) <i>BESEP – NARSIS – R2CA</i>
17:50 (40')	General discussion and research perspectives for the safety of nuclear installations, long term operation, reactor performance and systems reliability, and advanced modelling, safety assessments and severe accidents mitigation strategies
18:30 (90')	<i>YGN Cocktail Dating, Meet and Match Lounge</i>

Day 1 PM	EURADWASTE'22 – Session 1: Collaborative Research, Development and Demonstration in Radioactive Waste Management Co-chair: Daniela DIACONU (RO, RATEN ICN) Co-chair: Seif BEN HADJ HASSINE (EC, DG RTD) Rapporteur: Marie-Anne BRUNEAUX (FR, Expert)
14:00 (30')	Tiina JALONEN (POSIVA, FI) <i>IGD-TP</i> Keynote: IGD-TP – Towards operating and optimization.
14:30 (25')	Massimo MORICHI (CAEN, IT) <i>MICADO – CHANCE – PREDIS</i> Radioactive Waste Characterization
14:55 (25')	Erika HOLT (VTT, FI) <i>PREDIS – THERAMIN</i> Predisposal conditioning, treatment, and performance assessment of radioactive waste streams
15:20 (25')	Marcus ALTMAIER (KIT, DE) <i>CORI – CONCORD – FUTURE – MODATS</i> Long-term radionuclide retention in the near field: collaborative R&D studies within EURAD focusing on container optimisation, mobility, mechanisms and monitoring
15:45 (25')	Francis CLARET (BRGM, FR) <i>ACED – DONUT – MAGIC – BEACON</i> Modelling of the long term evolution and performance of engineered barrier systems
Coffee Break (20')	
16:30 (25')	Séverine LEVASSEUR (ONDRAF/NIRAS, BE) <i>GAS – HITEC</i> Mechanistic understanding of gas and heat transport in clay-based materials for radioactive waste geological disposal
16:55 (25')	Anders SJÖLAND (SKB, SE) <i>SFC – DISCO</i> Spent fuel management characterisation and dissolution behaviour: progress and achievement from SFC and DISCO

17:20 (45')

Roundtable and general discussion. The roundtable should focus on how collaborative research on crosscutting topics related to radioactive waste management made significant breakthroughs in the recent years. The speakers would be invited to describe and give concrete examples of collaborative research in their respective projects/programs, discuss the outcomes and the achievements and dwell on the lessons learned and the possible improvements in future collaborations.

18:00 (30')

YGN Cocktail Dating, Meet and Match Lounge

Wednesday 1 June 2022

Day 2 AM

FISA 2022 – Session 2: Advanced nuclear systems and fuel cycles

Co-chair: Hamid AIT ABDERRAHIM (BE, SCK-CEN)

Co-chair: Massimo GARRIBBA (EC, DG ENER)

Rapporteur: Teodora RETEGAN-VOLLMER (RO, Expert)

08:45 (15')

Welcome

09:00 (20')

Stefano MONTI (IAEA), Head of section Nuclear Power Technology Development

Keynote: Global trends in nuclear power: advanced reactors including SMR integrated in hybrid energy systems. Challenges and opportunities for increased sustainability

09:20 (25')

Konstantin MIKITYUK (PSI, CH)

ESFR-SMART – SafeG – ECC-SMART – ACES – SAMOSAFAER

R&D in support to safety assessment, design and licensing of ESNII/Gen-IV

09:45 (25')

Nathalie CHAUVIN (CEA, FR)

PUMMA – GENIORS - INSPYRE

Closing the fuel cycle with Gen IV reactors : research on in-pile behaviour and recycling of mixed oxide fuels

10:10 (25')

Paul SCHUURMANS (SCK-CEN, BE)

PATRICIA - PASCAL

Partitioning and Transmutation, contribution to an EU strategy for HLW management

Coffee Break (25')

11:00 (25')

Lorenzo MALERBA (CIEMAT, ES)

ORIENT-NM – GEMMA – M4F

Innovative Gen-IV Fuels and Materials, EERA-JPNM, Fission and Fusion

11:25 (20')

Josef SOBOLEWSKI (NCBJ, PL)

GEMINI-PLUS

Nuclear Cogeneration with High Temperature Reactors

11:45 (15')

Carola FRANZEN (HZDR, DE)

ARIEL – SANDA

Nuclear data activities

12:00 (30')

General discussion and research perspectives for the safety of advanced nuclear systems and fuels cycles, innovative designs, fuels and materials, partitioning and transmutation, and nuclear data

Lunch (90')

Day 2 AM	EURADWASTE'22 – Session 2: Strategic Research Studies in Radioactive Waste Management Co-chair: Irina GAUS (NAGRA, CH) Co-chair: Zuzana Monika PETROVICOVA (EC, DG ENER) Rapporteur: Piet ZUIDEMA (CH, Expert)
08:45 (15')	Welcome
09:00 (30')	Valéry DETILLEUX (Bel-V, BE) <i>SITEX Network</i> Keynote: SITEX Network key activities, lessons learned and upcoming challenges
09:30 (25')	Daniela DIACONU (RATEN ICN, RO) <i>UMAN</i> UMAN – A pluralistic view of uncertainties management
09:55 (20')	Pietro Francesco DE LOTTO (EESC, EU) <i>EESC</i> A consensus-based approach is the essence of EESC opinions in developing a civil society perspective on a range of energy policy issues including RWM towards improving European citizens' lives and environment, along with economic activity and jobs
10:15 (20')	Gianfranco BRUNETTI (DG ENER, EC) <i>DG ENER</i>
<i>Coffee Break (25')</i>	
11:00 (25')	François MARSAL (IRSN, FR) <i>ROUTES</i> ROUTES - Identified key issues and open questions about waste management routes in Europe, from cradle to grave
11:25 (20')	Rebecca ROBBINS (IAEA) <i>IAEA</i> Different Missions – Common Goals: the IAEA, PREDIS and EURAD Working Together to Strengthen Radioactive Waste Management World-wide

11:45 (45')

Roundtable and general discussion. The roundtable should focus on the strategic studies in support of the implementation of the national programmes that address scientific, technical and societal aspects of RWM. The different speakers will be invited to give their views on how to tackle these issues, how the methodologies changed over time, the most important challenges in the process and the involvement of the CSS.

Lunch (90')

Day 2 PM

FISA 2022 – Session 3: Education and training, research infrastructures, low dose radiation protection, decommissioning and international cooperation

Co-chair: Tatiana IVANOVA (FR, OECD/NEA)

Co-chair: Roger Garbil (EC, DG RTD)

Rapporteur: Said ABOUSAHL (FR, Expert)

14:00 (20')

Marco UTILI (ENEA, IT)

Keynote: Growing Synergies between Fission and Fusion Research towards demonstration plants. Towards more integrated Fusion and Fission programmes.

14:20 (30')

Joerg STARFLINGER (ENEN, DE)

ENENplus – GREaT-PIONEer – ENEEP – PIKNUS – A-CINCH

Education, Training and mobility, knowledge management: towards a common effort to assure a future workforce in Europe and abroad

Radiation protection and medical applications, European challenges and opportunities

14:50 (20')

Isabelle THIERRY-CHEF (ISGLOBAL, ES), **Christoph HOESCHEN** (OVGU, DE)

MEDIRAD – HARMONIC – SINFONIA – EURAMED rocc-n-roll

15:10 (20')

Ulrike KULKA (BFS, DE)

RADONORM

15:30 (20')

Hildegarde VANDENHOVE (SCK-CEN, BE)

MEENAS

Coffee Break (30')

Improved expertise and innovations in decommissioning

16:20 (20')

Robert WINKLER (CEA, FR)

SHARE

16:40 (20')

Nicolas MALLERON (EDF, FR)

INNO4GRAPH – PLEIADES – LD-SAFE – CLEANDEM - INSIDER

	Supporting Access to key pan-European research infrastructures and international cooperation
17:00 (20')	Petri KINNUNEN (VTT, FI) <i>JHOP2040 – TOURR – JHR ACCESS RIGHTS – OASIS JRC Open Access</i>
17:20 (20')	Tatiana IVANOVA (OECD/NEA) <i>OECD/NEA</i> <i>Keynote: NEA Seeking Excellence in Nuclear Education, Training, Knowledge Management and Supporting Research Infrastructure</i> <i>Insights of the NEA Education initiatives and the Framework for Irradiation Experiments (FIDES)</i>
17:40 (20')	General discussion and research perspectives for Education and training, research infrastructures, radiation protection, decommissioning and international cooperation
19:00 (4h)	<i>Dinner reception, MSc/PhD/R&D Awards, ENEN PhD Prize Ceremony, and ENS High Scientific Council PhD Awards</i>

Day 2 PM	EURADWASTE'22 – Session 3: Knowledge Management in Radioactive Waste Management Co-chair: Rebecca ROBBINS (IAEA) Co-chair: Manuel MARTIN RAMOS (EC, DG JRC) Rapporteur: Christophe BRUGGEMAN (BE, Expert)
14:00 (30')	Paul CARBOL (JRC, EC) Keynote: Knowledge Management aspects in the EJP EURAD and the PREDIS project
14:30 (25')	Alexandru TATOMIR (BGE, DE) <i>SoK (EURAD)</i> Capturing the state of knowledge in EURAD knowledge management
14:55 (25')	Jiri FALTEJSEK (SURAO, CZ) <i>Guidance (EURAD) - PREDIS</i> Development of guidance documents in EC projects EURAD and PREDIS
Coffee Break (30')	
15:50 (25')	Niels BELMANS (SCK-CEN, BE) <i>Training & Mobility (EURAD) - PREDIS</i> Training and mobility in EU projects EURAD and PREDIS
16:15 (20')	Marja VUORIO (COVRA, NL) <i>ERDO</i> ERDO – a road to sharing radioactive waste management solutions
16:35 (20')	Rebecca TADESSE (NEA/OECD) <i>NEA/OECD</i>
16:55 (20')	Stefan MAYER (IAEA) <i>IAEA</i> The IAEA approach to information and knowledge transfer on radioactive waste management – a brief review of synergies with the international cooperation conducted under EURAD and PREDIS projects

17:15 (45')

Roundtable and general discussion. The focus of the third roundtable would be on the specificities and the challenges of an efficient and consistent KM methodologies and systems applied to the radioactive waste management programs. Similarly, to the second roundtable, the panel of speakers will have to include different and balanced panellist profiles.

19:00 (4h)

Dinner reception, Nuclear Innovation Prize, PhD Awards, ENEN PhD Prize, and ENS High Scientific Council PhD Awards

Thursday 2 June 22

Day 3 AM

Joint conclusion FISA 2022 / EURADWASTE '22

Co-chair: Philippe STOHR (FR, CEA)

Co-chair: Bernard MAGENHANN (EC, DG JRC)

Rapporteur: Henri PAILLERE (FR, Expert)

08:15 (15')

Welcome

08:30 (20')

Bernard MAGENHANN (EC, DG JRC), Deputy Director-General of the Joint Research Centre

Keynote: JRC's role in Euratom Research and Training and Horizon Europe

08:50 (20')

Hans FORSSTROM (SE, Expert), General Rapporteur

EURADWASTE '22 - Key messages and future perspectives

09:10 (20')

Henri PAILLERE (FR, Expert), General Rapporteur

FISA 2022 - Key messages and future perspectives

09:30 (20')

Laurent WAUQUIEZ (FR, or AURA representative), President of the Region Auvergne-Rhône-Alpes

Keynote: Région Auvergne-Rhône-Alpes, promoting Innovation Ecosystems and Strategic Clusters

09:50 (20')

Philippe FRANTZ (FR, NUCLEAR VALLEY), President of Nuclear Valley

Keynote: Nuclear Valley's Pôle de compétitivité, the Nuclear Industry Cluster in the Région Auvergne-Rhône-Alpes and GIFEN (Groupement des Industriels Français de l'Energie Nucléaire)

10:10 (20')

Philippe STOHR (FR, CEA) and **Bernard MAGENHANN** (EC, DG JRC)

Closing remarks from the French Presidency and the European Commission

Coffee Break
(30')



FISA 2022 EURADWASTE'22

Day 3 AM-PM**SNETP Forum 2022**

11:00 (1h30)

SNETP annual FORUM in 2022 workshops to launch new project ideas:

14:00 (4h)

- SMRs
- Nuclear codes and standards and supply chain
- Digital and robotics
- R&D&I facilities
- Waste minimization and fuel cycle
- The role of nuclear in mitigating climate change

The SNETP Forum 2022 edition (<https://snetp.eu/2022/02/28/save-the-date-for-the-snetp-forum-2022/>) will be held on 2 June 2022 in Lyon, France, in conjunction with FISA 2022 (10th Euratom Conference on Reactor Safety) and EURADWASTE '22 (10th Euratom Conference on Radioactive Waste Management).

The SNETP Forum 2022 will aim at discussing and analysing recent technological innovations in different fields selected by the SNETP Scientific Committee as to cover major topics of interest to the stakeholders of SNETP.

Technical sessions**SMRs**

New innovative solutions are needed to ensure cost competitiveness with other power generation technologies, as well as speed of construction and implementation in local systems. In addition to the nuclear reactors in operation and those under construction, Europe needs to expand the range of reactors technologies available to meet national/local specificities. The development of different SMRs, based on most matured technologies or on other advanced technologies, offers the possibility to deploy flexible options for both power and non-power applications and contribute to decarbonisation of the economy. Research & Development & Innovation (R&D&I) should support the development of SMRs to make them safe and competitive with other means of production as part of a global deployment strategy over the coming decades.

Nuclear codes and standards and supply chain

Safety-related structures, systems and components (SSCs) of nuclear power plants are normally designed and produced according to stringent nuclear codes & standards (NC&S). Supplying such SSCs normally requires companies to establish and maintain

costly nuclear quality-assurance (QA) programme. In response to growing supply chain challenges, European NPP operators started looking into greater deployment of high-quality non-nuclear industry standard components and equipment for safety-related SSCs of NPPs (i.e. commercial-grade dedication) and launched corresponding pilot projects with approval of their regulators. This is supported by European and international nuclear organisations like Foratom and the IAEA by providing guidance in this area. The further development of NC&S remains high on the agenda. Novel materials, manufacturing methods and technologies need to be included in NC&S before being allowed to be used for safety-related SCCs. This and also NC&S development for advanced reactors (SMRs, Gen IV) require significant R&D&I efforts. In this session, ongoing NC&S development activities and needs and supply chain related activities and challenges for the current reactor fleet and advanced reactors will be presented and discussed.

Digital and robotics

Digital: The digital transformation has become a cross-cutting trend to all industrial sectors and nuclear is no exception to this. The European Commission digital strategy aims to make this transformation work for people and businesses, while helping to achieve its target of a climate-neutral Europe by 2050. As such, it is essential for nuclear to be fit for the digital age, to achieve digital twins and a Digital Nuclear Reactor. Concerted R&D&I work is essential to make progress in terms of multi-physics modelling and simulation, high performance computing, data analysis and analytics, visualisation, virtual reality, advanced instrumentation (e.g. Internet Of things) and I&C.

Robotics: NPP operation combines a number of interlinked human, organisational and technical factors. A strong drive to opt for advanced robotics in nuclear industry appeared after the Three Mile Island incident and the development of engineering technologies. Improving nuclear power plant operation, health and safety of operators, managing safely their decommissioning are considered to be key, but also for further public acceptance of nuclear. If robots take over the human personnel in conducting risky operations, the latter will have a reduced exposure to radioactivity. Significant investments in artificial intelligence sustain this eventuality. Moreover, the ability to maintain the nuclear power infrastructure may depend on robots being able to carry out maintenance tasks that would otherwise be impossible, thus significantly extending the lifetime of reactors.

R&D&I facilities

Several R&D facilities have been shut down in the EU over the last decade. The loss of critical research infrastructures (i.e. facilities, capabilities and expertise) remains a concern to all EU policy makers, Member States and SNETP stakeholders as a whole.

SNETP and some of its members took initiative to set up the “OFFERR” project in response to the Euratom Research and Training 2021-22 call for proposals. It aims to capitalise the Euratom R&D community’s operational and financial schemes facilitating open and inclusive trans-national access to infrastructures for R&D experts. The latest will be able to perform high-priority experiments within the best infrastructures available, with the benefit of co-funded grants (in-kind/in-cash) by Euratom, the consortia and/or Member States’ research infrastructure owners. The goal is to build a sustainable “User facility network (UFN)”. This session shall discuss the way this network of existing smaller networks shall be further managed, while providing the current status of research facilities available, which will also support the implementation of the SNETP Strategic Research and Innovation Agenda (2021), MS and Euratom Research and Training objectives, and beyond.

Waste minimization and fuel cycle

The current and projected fleet of plants consists largely of water-cooled, water-moderated reactors. These reactors have over time achieved a high degree of maturity in terms of economic performance and safety. To achieve major steps in terms of sustainability (by reducing high-level waste production, better use of resources and higher thermal efficiencies), new types of reactors based on other coolant technologies and high-temperature non-electrical applications, should be envisaged and combined with more advanced fuel cycles. The use of fast reactors in a closed fuel cycle approach will allow a large decrease in consumption of natural resource (uranium) and a significant reduction of high-level radioactive waste in terms of radiotoxicity and volume, which is one of the major concerns of society, towards a more sustainable implementation of nuclear energy. Advanced reprocessing and fuel manufacturing techniques, from a laboratory to an industrial scale of deployment, are needed to recycle for instance minor actinides. This session shall discuss how sustainability in terms of resource utilization and high level waste minimization can be gradually increased.

The role of nuclear energy in mitigating climate change including non-electrical applications (hydrogen, heat, etc)

With increased awareness of climate change in recent years, nuclear energy has received renewed attention. Nuclear energy can make a significant contribution to reducing greenhouse gas emissions (GHGs) worldwide, while at the same time meeting the increasing demand for energy of a growing world population and supporting global sustainable development. Nuclear energy has considerable potential to meet the challenge of climate change mitigation by providing a secured supply of electricity, district heating and high temperature heat for industrial

processes while producing almost no GHGs. This session will focus on the different possible uses of nuclear to contribute to the EU 2050 decarbonisation strategy.

SNETP FORUM TECHNICAL SESSIONS – 2 June 2022				
#	Room 1	Room 2	Room 3	Room 4
	TS1: SMRs Moderators: Ferry Roelofs (NRG), Jozef Sobolewski (NCBJ)	TS4: R&D&I facilities Moderators: Pavel Kral (UJV), Petri Kinnunen (VTT)	TS2: Nuclear codes & standards & supply chain Moderators: Oliver Martin (JRC)	TS6: Nuclear to mitigate climate change including non-electricity applications Moderators: Ronald Schram (NRG), Michael Fütterer (JRC),
11:00	P1: SMR-partnership, DG-ENER P2: Market analysis, Bernard Dereeper P3: Licensing harmonization, ENSREG	P1: OFFERR project, Charles Toulemonde (EDF) P2: Setting up the “European User Facility Network”, Jiri Zdarek (UJV) P3: RJH, Petri Kinnunen (VTT)	P1: Comparison of pipe integrity concepts for LWRs, Bruno Autrusson (nuclear consultant, formerly IRSN) P2: Ongoing development activities on RCC-MRx and its enlargement to Gen IV reactor systems with coolants other than sodium, Karl-Fredrik Nilsson (JRC) P3: The NUCOBAM project – Incorporation of additive manufacturing into NC&S, Oliver Martin (JRC)	P1: N.N., NC2I: Introductory Scene Setter (new Euratom projects, NEA, GIF, IAEA) P2: Andrei Goicea, Foratom , EU: EU’s energy sector integration and hydrogen strategies P3: Agnieska Boettcher, NCBJ , PL: Polish GOSPROSTRATEG project P4: Jacek Jagielski, NCBJ , PL: NOMATEN Centre of Excellence in Multifunctional Materials for Industrial and Medical Applications
12:00	P4: Supply Chain, Roberto Adinolfi (Ansaldo) P5: R&D&I - Sylvain Takenouti P6: Core and Fuel - Eric Hanus (CEA) P11: Non-electricity (power) applications, Ville Tulkki (VTT)	P4: NEA task Force on Nuclear Safety Research support facilities for existing and advanced reactors, François Barré (IRSN) P5: BR2, Joris Van den Bosch (SCK.CEN) P6: PKL/SACO, Simon Schollenberger (Fra-G)	P4: R&D challenges in improving civil structures design rules for sustainable nuclear energy technology, Etienne Gallitre (nuclear consultant, formerly EDF) P5: Qualification of electrical equipment according to RCC-E Benedict-John Willey (EDF) P6: European Commercial-grade Dedication Guidelines: Andrei Goicea (Foratom))	P5: Integrated Energy Systems and the pathway to Net Zero by 2050 (a UK context), Paul Newitt (NNL) P6: Michael Fütterer, JRC , NL: GEMINI+ nuclear process heat applications, hydrogen, steel P7: Andre Faaij, TNO , NL: “Deployment of nuclear energy in deep decarbonization of the energy system.” P8: Geert-Jan de Haas, NRG , NL: “Exploring the deployment of advanced reactor systems for decarbonization of future energy generation: research highlights of molten salt reactors and liquid metal cooled reactors.” Wrap-up by Ronald Schram, NRG , NL: Wrap-up
13:00	Lunch Break			
	TS1: SMRs Moderators: Ferry Roelofs (NRG), Jozef Sobolewski (NCBJ)	TS4: R&D&I facilities Moderators: Pavel Kral (UJV), Petri Kinnunen (VTT)	TS3: Digital & Robotics Moderators: Eero Vesaoja (FORTUM), Christophe Schneidesch (Tractebel), Elisabeth Guillaut (ORANO)	TS5: Waste minimization and fuel cycle Moderators: Erika Holt (VTT), Anthony Banford (NNL)
14:00	P7: NSSS Oliver Martin (JRC) P8: Passive systems F. Mascari P9: Severe Accidents, P. Dejardin P10: Modularity, M. Marconi (Ansaldo)	P7: PASI-CWC, Riikonen etc (LUT) (TBC) P8: COSMOS-H, Stefan Gabriel (KIT) P9: HFR / Pallas, Ronald Schram (NRG)	P1: French Digital Reactor Initiative, XXX – EDF P2: Combination between Digital Twin and AI for anomaly detection for industrial processes, Aurélien Schwartz - Métroscope, EDF group P3: Data-sharing technologies, connectivity in the nuclear sector, Vincent Champain – Framatome	P1: Euratom introductory address, Seif Ben Hadj Hassine (EC) P2: Fuel Handling and Waste issues for Molten Salt Reactors, Jiri Krepel (PSI) P3: Plutonium management in GENIV reactors, Francisco Alvarez Velarde (CIEMAT)
15:00	P12: Energy Well – Czech molten salt SMR	P10: Czech research	P4: AI in requirements engineering, Santeri Myllynen –	P4: Waste minimization /recycle through whole fuel cycle, Paul

	concept, Marek Ružčák – CVR P13: Conceptual design of EUHTER (Polish experimental HTGR), prof. Mariusz Dąbrowski	infrastructure for supporting the implementation of the SNETP strategic research agenda, Marek Mikloš (CVR) P11: Open access of research infrastructures, Rachel Eloirdi (JRC)	FORTUM P5: Digital Solution Projects, A. Duchêne – Tractebel	Nevitt (NNL) P5: Recycling and circular economy of metallics– advanced reprocessing
15:40	Coffee Break			
		TS4: R&D&I facilities Moderators: Pavel Kral (UJV), Petri Kinnunen (VTT)	TS3: Digital & Robotics Moderators: Eero Vesaoja (FORTUM), Christophe Schneidesch (Tractebel), Elisabeth Guillaud (ORANO)	TS5: Waste minimization and fuel cycle Moderators: Erika Holt (VTT), Anthony Banford (NNL)
16:00		P12: Education and training and facilities, Leon Cizelj (IJS)	P6: Modelling and simulation-assisted engineering of cyber-physical systems throughout their life cycle, T. Ngugen – IAEA consultant P7: Robotics and drone program, Anders Wik – Vattenfall P8: SHARK ROBOTICS, Joseph PESME	P6: Advanced Separation for the Optimum management of spent Fuel – portioning, fuel fabrication, secondary waste streams, Christophe Bruggeman (SCK CEN) P7: Unique for SMR spent fuel and waste management, Timothy Schatz (VTT) P8: SRA documentation development from projects SHARE and PREDIS, Anthony Banford (NNL) and Erika Holt (VTT)
17:00			P9: AERACCESS, Jean-Luc AYRAL P10: Robotics in VVER SG inspection/cleaning, Ville Lestinen – Fortum	Guided Discussion: going forward topics and plan (future collaboration ideas) – chairpersons
18:00				



FISA 2022 EURADWASTE'22

**Tuesday 30
May to
Thursday 2
June 22**

SIDE EVENTS

**Day 1 to 3
AM-PM**

Face-to-face networking opportunities and B2B matchmaking

Poster (60 per day, Euratom projects, MSc/PhD/R&D, 180 in total)

-

Exhibition (20 per day, 20 in total)

-

B2B Matchmaking (estimated 200 in total)

Poster (60 per day, Euratom projects, MSc/PhD/R&D, 180 in total)

An opportunity to present your research results, within or related to the topics covered, at the conferences, to the Euratom and International Research Community. Euratom projects, PhD/MSc Students (under 35 years' old) are encouraged to submit abstracts related to the dedicated topics of the conferences, as well as R&D researchers from organisations not directly involved in projects co-funded by Euratom.

Exhibition (20 per day, 20 in total)

Exhibition booths will be set up for almost 20 organisations to showcase advancements in various cross-cutting innovative, engineering, industrial and high-tech technologies relevant to nuclear and non-nuclear applications, radiation protection, radioactive waste management and geological repository development. Exhibition booths will remain open during all sessions and breaks and will give the opportunity for intensive B2B meetings.

ENS-YGN events & B2B Matchmaking (estimated 200 in total)

ENS-YGN is a vibrant network connecting all Nuclear Young Generation Networks over Europe. These events, including Young Generation workshops, are a huge opportunity for Students, MSc/PhDs or young professionals to meet national / European / International leading managers, innovators and researchers from public and private research organisations.

Around 200 candidates will be selected after having submitted their CV. In depth 30 min face-to-face matchmaking interviews and networking opportunities will be organised for them with leading national / international managers, participating companies or even recruiters. This event will allow companies active in the nuclear industry, public and private research organisations or academia, to meet and interview students, graduates, engineers and experienced professionals to start or pursue their career within Europe and beyond. Institutions such as Nuclear Valley or GIFEN will take part in the event.

At the conference, an iOS and Android App

An iOS and Android App will be available to all confirmed registered participants at the conferences. The app will show the programme in an interactive manner and facilitates communication among the participants, sharing all information, also enabling scheduling B2B meetings, notifications and announcements.



**Tuesday 30
May 22**

SIDE EVENT

**Day 1 PM
16:30 (2h)**

AWARD and PRIZE pitches

OPEN CALL – POSTER COMPETITION

- ➔ MSc/PhD awards, Student competition (10 in total)
- ➔ R&D Topics Awards (4 in total)
- ➔ Euratom Projects (2 in total)

NUCLEAR INNOVATION PRIZES (7 in total)

ENS High Scientific Council PhD Awards

The Programme Committee will invite MSc/PhD/R&D Award, ENS High Scientific Council PhD and Nuclear Innovation Prize winners the opportunity to present a compelling 180 seconds spoken presentation of their research topic to the international Research Community during a dedicated Session of FISA 2022 – EURADWASTE '22



**Tuesday 30
May to
Wednesday
1 June 22**

**Day 1 to 2
AM-PM**

Nuclear innovation prizes in Safety of reactor systems and in radioactive waste management

The **first Nuclear Innovation Prize** contest will be organised will be organized in the framework of the FISA 2022 and EURADWASTE '22 Conferences in Lyon, France, on Monday 30 May to Friday 3 June, by the European Commission and the organizers of the international conferences.

https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/prizes/nuclear-innovation-prize_en

The 'Nuclear Innovation Prize' (**call closed**) is meant to give visibility to the most dynamic, forward-looking and innovative researchers, research teams or industrial contestants, with a prize planned to be delivered by European Commissioner Mariya Gabriel for Innovation, Research, Culture, Education and Youth (tbc).

Nuclear Innovation Prize in safety of reactor systems

1st place: EUR 50,000 / 2nd place: EUR 30,000 and 3rd place: EUR 20,000

Nuclear Innovation Prize in radioactive waste management

1st place: EUR 50,000 / 2nd place: EUR 30,000 and 3rd place: EUR 20,000

Six (seven in 2022) awarded Nuclear Innovation Prizes related peer-reviewed papers should be published within the international Open Access Journal (EPJ-N) topical issue on FISA 2022 – EURADWASTE '22 Awards and later within the conferences proceedings.

Euratom funded research in fission safety, waste management and radiation protection benefits from consistent success in pursuing excellence across a broad range of nuclear science and technologies.

Together with EU countries the programme has continuously helped maintain a high-level of competences, underpinned by sound and advanced research.

Nuclear researchers and engineers are constantly challenging state-of-the-art in the field and improving evolving technologies thereby creating conditions for innovations beyond technologies and scientific breakthroughs, towards a more dynamic and competitive European industry for the benefit of every citizen and the whole of society.

Wednesday 1 June 22

Day 2
AM-PM

16th ENEN PhD Event & Prize 2022

The **16th ENEN PhD Prize 2022** will be organized in the framework of the FISA 2022 and EURADWASTE '22 Conferences in Lyon, France, on Monday 30 May to Friday 3 June, by the European Nuclear Education Network (ENEN) Association, in cooperation with the Joint Research Centre of the European Commission and the organizers of the international conferences.

Every year the ENEN PhD Event & Prize is organized to promote and support the work of young researchers in Europe (<https://enen.eu/index.php/phd-events/>).

ENEN PhD Event & Prize is an action of the European Nuclear Education Network to support the Research and Science in the Nuclear fields promoting the works of the young scientists and researchers who start their careers finishing their PhD. It takes place on a yearly basis in the framework of the international congress in the field of nuclear science.

ENEN PhD Event will consist of up to 12 PhD presentations nominated by ENEN Members and selected by the ENEN PhD Prize Jury. The event will be divided into several sessions according to the subjects. Participants will make a presentation of their research work for 25 minutes followed by 5 minutes of questions and discussion in a competitive but friendly environment.

All presentations will be judged by the Jury members taking into account the quality of the submitted paper as well as the quality of the presentation itself. Moreover, the participation in the discussion and the clarity in answering the questions received will also be taken into account in selecting the winners.

The **best three presentations** will be awarded the ENEN PhD Prize. And three awarded ENEN PhD Prizes related peer-reviewed papers should be published within the international Open Access Journal (EPJ-N) topical issue on FISA 2022 – EURADWASTE '22 Awards and later within the conferences proceedings.

**Tuesday 30
May and
Wednesday
1 June 22**

**European Nuclear Society Young Generation Network
workshops (ENS YGN)**

ENS YGN will be organising three workshops, in the framework of the European Year of Youth 2022 and of FISA 2022 and EURADWASTE '22 Conferences

**Day 1 PM
14:00 (2h)**

Kick-off of B2B sessions - Are you ready for the international job market?

This workshop provides attendees with information and practical advice that they can use to understand and access the international job market

**Day 2 AM-PM
09:30 (2h)**

2. Communicating science - Don't waste it!

This workshop will teach how to provide facts in an understandable way, using simple comparisons and handy references. Come and learn how to lead an engaging conversation!

15:30 (2h)

3. Nuclear for Climate - positive campaigning of nuclear topics

Imagine the enormous impact you, as a single individual, has in the climate change conversation. Your voice is powerful, and when directed in the right places, highly impactful. And now imagine what would happen if we compounded all our efforts, sharing the same message across the globe, to communicate to leaders and decision makers that 'enough is enough: we need action now'. It would be immense.

Join the Nuclear for Climate team as they guide you through this engaging, action-focused workshop. Open to all backgrounds, viewpoints, experiences. #Togetherisbetter

ENS YGN 1st Workshop – As a kick-off to the B2B sessions YGN proposes a workshop *“Are you ready for the international job market?”*

31 May, Tuesday 14:00 – 16:00

Co-organised by Thomas Thor and ENEN

Attendees – young professionals with 1-10 years experience in the industry/research

Workshop overview

The session will be a joint insight of Thomas Thor Associates – recruitment consulting and young professionals who took a chance to start international careers in different sectors of nuclear science and industry.

The workshop will be enriched by the recent results of the global project measuring the attitude of young people towards nuclear jobs – the World Young Generation Nuclear Thermometer.

The aim of the workshop is to provide attendees with information and practical advice that they can use to understand and access the international job market.

Join us and ask everything you always wanted to know about a career in nuclear!

Moderators: Callum Thomas, Thomas Thor and Andrea Kozlowski, ENS-YGN

Programme

Introduction with career testimonials of young professionals

Session 1 – Understanding your own motivations & priorities (30 minutes)

Introduction, and then working in pairs to ask each other questions and create a picture of what each of you are looking for (example questions will be provided in the introduction)

Session 2 – Mapping your motivations & priorities to opportunities in the international job market (30 minutes)

Introduction, and then working in the same pairs again to create an outline of which countries, organisations and projects match each person’s capabilities, motivations and priorities

Session 3 – Tools and techniques for successful international careers (30 minutes)

- Information sources that can help you gather relevant information

- How to find and work with mentors and sponsors
- Network building
- Getting involved in areas of interest and building your personal brand

Summary and Close – (10 minutes)

A recap on what has been covered and suggestions of follow up and next steps

ENS YGN 2nd Workshop - “Communicating science - Don’t waste it! ”

Wednesday, 1 June at 09:30 – 11:30

As scientists and nuclear professionals, we often have the opportunity to speak about nuclear and to share our passion for it. How do we best get this across? How can we communicate science?

Let’s take the example of nuclear waste. We are often confronted with questions about it. Don’t waste the opportunity and provide facts in an understandable way, using simple comparisons and handy references. Come and learn how to lead an engaging conversation!

Moderators: John C.H. Lindberg – author of a communications guide to conversations about nuclear.

Elsa Lemaitre, Chief Internal Auditor, CEA and Deputy Head of French YGN on Innovation

On the agenda: hands-on training on communications. We will all together develop a simple guide on communicating about nuclear waste.

What is important before you start

The magic of the first sentence

Facts about waste

Comparisons and visuals

Conclusion

ENS YGN 3rd Workshop - "Nuclear for Climate - Positive campaigning of nuclear topics"

Wednesday, 1 June 15:30 – 17:30

Imagine the enormous impact you, as a single individual, has in the climate change conversation. Your voice is powerful, and when directed in the right places, highly impactful. And now imagine what would happen if we compounded all our efforts, sharing the same message across the globe, to communicate to leaders and decision makers that 'enough is enough: we need action now'. It would be immense.

Global climate activism describes a growing movement of young people across the world taking action to halt the devastating effects of climate change. We are determined to reach net zero before 2050, and firmly believe that following the science and being technology inclusive is the best way to achieve this. Nuclear energy working alongside other clean energy technologies is essential to reaching this goal.

Using the 'I, us, we' principles of climate activism, this interactive, thought-provoking workshop will equip you with the necessary tools to communicate nuclear energy to friends, family, strangers, and everyone in between. This two-hour session will explore how trust, people and action lie at the heart of a successful climate campaign and how we can use the principles of compound interest to prepare for COP27. It will also give attendees the opportunity to explore their personal voice and contributions to the climate conversation, especially around discovering how to become bold, vocal climate champions.

We will draw on the experience and learnings of the hugely successful #NetZeroNeedsNuclear COP26 campaign, and workshop how we can build upon these achievements for November's COP27 conference.

Join the Nuclear for Climate team as they guide you through this engaging, action-focused workshop. Open to all backgrounds, viewpoints, experiences.
#Togetherisbetter

Moderator: Sophie Zienkiewicz

Friday 3 June 22

**Day 4
AM-PM**

Technical visits

- JACOMEX
- SILEANE
- VELAN
- CEA Marcoule
- ANDRA Cigeo

JACOMEX

<https://www.jacomex.com/>

Jacomex is leader in the design and manufacturing of:

- inert gas purification units,
- glove boxes for the nuclear, R&D and industrial sectors,
- pharmaceutical isolators,
- customized containment enclosures of all sizes.

The company has a multi-skilled and established 75-years experience and has its main services, as design and production, located at Dagneux, close to Lyon.

Jacomex is worldwide renowned from having permanently focused on technique, strong tightness control and safety. Therefore, the company has developed a varied range of gloveboxes and systems designed for specific applications:

- gloveboxes and filtered containment enclosures operating in negative pressure under air or inert gas for the protection of operators and the environment,
- gloveboxes in positive pressure working under highly pure inert gas for the protection of air-sensitive products,
- standard and custom gloveboxes,
- climatic glove boxes,
- nuclear purified glove boxes.

The company has also developed specific nuclear ventilation safety equipment, like regulating and safety valves, filter housings and ventilation accessories which have been now in use for decades.

Terms of registration

Departure: 9:00 a.m at Lyon Perrache train station

Expected return: 12:15 p.m at Lyon Perrache train station

30 minutes journey by bus

Required: have your identity papers on the day of the visit.

SILEANE

<https://www.sileane.com/en/>

Siléane's men and women have been serving their customers since 2002. They give eyes and hands to "blank" robot arms and endow them with analysis capabilities for many industrial applications (agri-food industry, pharmacy, HPC, environment, plastics industry, micro-technology, automobile, etc.).

Handling, packing, assembling, ... sorting waste, deconstructing for recycling, bin picking all kinds of objects, ... these are all activities that our technologies serve efficiently for the automation of gestures in random or unknown contexts, where blind robots can no longer operate.

Our teams use all their enthusiasm to innovate in many disciplines (mechanics, mechatronics, robotics, cobotics, vision, artificial intelligence, etc.). So Siléane robots analyse their environment and adapt their gestures and movements in real time to act meticulously, accurately, delicately and speedily. This is what makes them so different!

At the crossroads of digital, optics and automation, Siléane's activity and R&D stimulates the industrial sectors, proof of which is seen in its market-leader products.

Located in Saint-Etienne, Siléane now has nearly 90 members of staff and has a turnover in the order of 11 million Euros.

Terms of registration

Departure at 8:30 a.m at Lyon Perrache train station

Expected return at 6:00 p.m at Lyon Perrache train station

50 minutes journey by bus

Required: have your identity papers on the day of the visit.

VELAN

<https://www.velan.com/>

Velan France was established in 1974 for supplying the newborn French Nuclear Industry. Located in Lyon (France) in a 20 000 m² plant, Velan France is specialized in the design and manufacture of High performance valves for Nuclear, Cryogenic and specific applications (300 people, 70 M€ turnover). With an installed base in 350 nuclear power reactors worldwide and with over 50 years of uninterrupted nuclear experience, Velan is the leading valve supplier for all nuclear reactor technologies: PWR, EPR, VVER, HUALONG, AP1000, BWR, PHWR, CANDU, FBR, AGR and HTR...

As an actor of upstream research and continuous innovation, Velan constantly develops new technologies in order to anticipate the technical and regulatory requirements of future generation of Nuclear Reactors such as GENIII PWR reactors, GENIV sodium cooled Fast Breeder and HTR reactors or GENV "TOKAMAK" fusion reactors.

Terms of registration

Compagnie at Lyon, meeting on site at 10:00 a.m (precise address communicated later)

Access by public transport (tram or metro)

Required: have your identity papers on the day of the visit.

Both CEA and CIGEO visit are submitted to security clearance

CEA Marcoule

<https://www.cea.fr/Pages/le-cea/les-centres-cea/marcoule.aspx>

The CEA is a key player in research, development and innovation in four main areas: energy transition, digital transition, technology for the medicine of the future and defense and security. Its research activities at Marcoule site are involved in circular economy for low carbon energies. This centre also carries out highly technical clean-up and dismantling projects. During these visits, you will discover 3 facilities: Atalante (fuel cycle), G2/G3 (dismantling projects), and a waste conditioning facility.

Terms of registration

Departure at 7:15 a.m at Lyon Perrache train station

Expected return at 6:30 p.m at Lyon Perrache train station

2 hours journey by bus

Required: if you register for this visit, you agree to send us a copy of your ID (both sides) by email before Thursday, May 19 at 3pm.

ANDRA - Cigéo

<https://international.andra.fr/>

Cigéo (Industrial Centre for Geological Disposal) is the deep geological disposal facility for radioactive waste to be built in France. Cigéo will serve for disposal of highly radioactive long-lived waste produced by France's current fleet of nuclear power plants, until they are dismantled. This waste results from the reprocessing of spent fuel from these plants. Until the disposal facility is built, the centre includes the Bure Underground Research Laboratory (URL). The scientific and technological research carried out within the Callovo-Oxfordian host clay layer at the Bure URL has supported the Cigéo project for more than 15 year today. Located at - 490 m depth, it now represents a 1,800-metre network of drifts, monitored by more than 11 000 sensors, where over 50 experiments and studies are conducted in real conditions. More than 1000 samples have been drilled for characterisation purposes.

Terms of registration

Departure on Thursday June 2nd afternoon (by bus, to be confirmed), from Lyon

4 hours journey by bus

Required: Please note that for the visit to take place you will be asked to confirm by Friday 13/05 and to provide the necessary information as soon as possible.

The participants will have to book a room in one specific hotel (further information will follow after confirmation of the visit). The participants will be back to Lyon on Friday afternoon (around 6:00 pm).



FISA 2022 EURADWASTE'22

EXHIBITORS / PARTNERS

EXHIBITORS



1 - European Commission / Commission Européenne, DG RTD / ENER / JRC

Welcome https://ec.europa.eu/info/index_en EU strategy, its role in setting priorities, and its implementation through EU policy.

DG RTD https://ec.europa.eu/info/departments/research-and-innovation_en

DG ENER https://ec.europa.eu/info/departments/energy_en

DG JRC https://ec.europa.eu/info/departments/joint-research-centre_en



2 - Young Generation: ENS - ENS YGN / ENEN / EPJ-N / JG Sfen

<https://www.ensygn.org/> connecting all Nuclear Young Generation Networks over Europe, <https://enen.eu/> European Nuclear Education Network, <https://www.epj-n.org/> Open Access Journal for the communication of original research, ideas and developments in all areas of the peaceful use of nuclear energy, as well as on applications of nuclear particles and radiation, and <https://www.sfen.org/qui-sommes-nous/jeune-generation/> réunissant les jeunes professionnels de la filière nucléaire qui préparent l'avenir du nucléaire



3 - SNETP / IGD-TP / FORATOM

<https://snetp.eu/> the European Sustainable Nuclear Energy Technology Platform, <https://igdtp.eu/> the European Implementing Geological Disposal of radioactive

waste Technology Platform and <https://www.foratom.org/> the Brussels-based trade association for the nuclear energy industry in Europe



4 - Nuclear Valley <https://www.nuclearvalley.com/>

Le pôle de compétitivité de l'Industrie Nucléaire. Nuclear Valley is also strongly involved



5 - Robatel Industries <https://www.robatel.fr/home/>

A multidisciplinary engineering company coupled with an expertise of builder



6 - CAEN (MICADO) <https://www.caen-group.com/>

Providing a complete range of High/Low Voltage Power Supply systems and Front-End/Data Acquisition modules which meet IEEE Standards for Nuclear and Particle Physics.



7 - CEA <https://www.cea.fr/english>

The French Alternative Energies and Atomic Energy Commission (CEA) is a key player in research, development and innovation. The CEA co-organises with the EC the 10th Edition of Euratom research and training conferences FISA 2022 – EURADWASTE '22.



8 - JACOMEX <https://www.jacomex.com/>

Expert in glove boxes for Research, Industry and in pharmaceutical isolators



9 - Chimimeca <https://www.chimimeca.com/>

The preferred Industrial partner for the Chemical cleaning of metals



10 - Nuvia <https://www.nuvia.com/>

NUVIA is a subsidiary of Vinci Construction Group. Nuvia offers a unique array of expertise, services and technology for supporting safety performance in nuclear facilities.



11 - Curium <https://www.curiumpharma.com/>

Curium is the world leader in radiopharmaceuticals



12 - Siléane <https://www.sileane.com/en/>

Agile Robotics, vision and artificial intelligence for industry



13 - Asteralis VNS (Veolia) <https://www.nuclearsolutions.veolia.com/en>

Veolia's broad range of capabilities in the nuclear field is united within a unique entity: NUCLEAR SOLUTIONS.



14 - ASSYSTEM <https://www.assystem.com/en/>

As an independent engineering group, Assystem has over 50 years of experience providing industrial infrastructures with engineering services and managing projects that are complex in size, technological content, and safety requirements.



15 - KEP Technologies <https://kep-technologies.com/>

Industrial & technological solutions, focused on four activities / brands: the design and manufacture of metal assemblies (KEP METAL SOLUTIONS), materials characterization (SETARAM), industrial control (SETSMART) and radioactivity measurement (SETSAFE).

EXHIBITORS / PARTNERS

PARTNERS



FR - <https://presidence-francaise.consilium.europa.eu/fr/actualites/>

EN - <https://presidence-francaise.consilium.europa.eu/en/news/>

These events are organised under the scope of the French Presidency of the Council of the European Union.



La Région

Auvergne-Rhône-Alpes

<https://www.auvergnerhonealpes.fr/>

The Région Auvergne-Rhône-Alpes is kindly hosting and supporting all events taking place during that week



IAEA

<https://www.iaea.org/>

IAEA is cooperating in organizing with the CEA and EC the 10th Edition of Euratom research and training conferences FISA 2022 – EURADWASTE '22.

The IAEA is the world's centre for cooperation in the nuclear field and seeks to promote the safe, secure and peaceful use of nuclear technologies.



NEA

NUCLEAR ENERGY AGENCY

<https://www.oecd-neo.org/>

NEA is cooperating in organizing with the CEA and EC the 10th Edition of Euratom research and training conferences FISA 2022 – EURADWASTE '22.

The NEA is the only intergovernmental agency which brings together a selection of countries from the Americas, Europe and the Asia-Pacific region in a non-political forum dedicated to sharing and disseminating state of the art knowledge in the field of nuclear energy.



<https://international.andra.fr/solutions-long-lived-waste/cigeo>

ANDRA is supporting in organizing with the CEA and EC the 10th Edition of Euratom research and training conferences FISA 2022 – EURADWASTE '22.

Andra is responsible for identifying, implementing and guaranteeing safe management solutions for all French radioactive waste, in order to protect present and future generations from the risks inherent in such substances.



EUROPEAN NUCLEAR SOCIETY

<https://www.euronuclear.org/>

The European Nuclear Society is supporting in organizing with the CEA and EC the 10th Edition of Euratom research and training conferences FISA 2022 – EURADWASTE '22.

ENS comprises more than 12,000 professionals from the academic world, research centres, industry and authorities



<https://www.sitex.network/>

Sustainable network for Independent Technical EXpertise on radioactive waste management. The purpose of SITEX_Network is to enhance and foster cooperation at the international level in order to achieve a high quality Expertise Function in the field of safety of radioactive waste management, independent from organizations responsible for the implementation of waste management programs and waste producers, aiming at supporting the Nuclear Regulatory Authorities, as well as the Civil Society.



List of PROJECTS [Grant Agreement number] covered

Acknowledgments

The research PROJECTS leading to these results have received funding from the H2020 Euratom Research and Training Framework Programmes under grant agreements n° [number].

FISA 2022

ENTENTE [900018], ATLASplus [754589], NOMAD [755330], STRUMAT-LTO [945272], FRACTESUS [900014], MEACTOS [755151], INCEFA-SCALE [945300], sCO₂-4-NPP [847606], APAL [945253], CAMIVVER [945081], TEAM-CABLES [755183], El-Peacetolero [945320], CORTEX [754316], McSAFER [945063], METIS [945121], ELSMOR [847553], PASTELS [945275], EU-QUALIFY [945009], LEU-FOREVER [754378], MUSA [847441], PIACE [847715], AMHYCO [945047], BESEP [945138], NARSIS [755439], R2CA [847656], ESFR-SMART [754501], SafeG [945031], ECC-SMART [945234], ACES [900012], SAMOSAFAER [847527], PUMMA [945022], GENIORS [755171], INSPYRE [754329], PATRICIA [945077], PASCAL [945341], ORIENT-NM [899997], GEMMA [755269], M4F [755039], NUCOBAM [945316], GEMINI-PLUS [755478], SANDA [847552], ARIEL [847594], ENENplus [755576], GREaT-PIONEER [847602], ENEEP [847555], PIKNUS [AA35567], A-CINCH [945301], SINFONIA [945196], EURAMED rocc-n-roll [899995], MEDIRAD [755523], HARMONIC [847707], RadoNorm [900009], SHARE [847626], INNO4GRAPH [945273], PLEIADES [899990], LD-SAFE [945255], CLEAN-DEM [945335], INSIDER [755554], JHOP2040 [899360], TOURR [945269], JHR ACCESS RIGHTS, OASIS JRC Open Access [AA35658]

EURADWASTE '22

EURAD [847593], CHANCE [755371], MICADO [847641], PREDIS [945098], CORI, FUTURE, MODATS, CONCORD, ACED, DONUT, BEACON [745942], MAGIC, GAS, HITEC, SFC, UMAN, ROUTES, SOK, GUIDANCE, T&M, IGD-TP, SITEX

Read more on projects...

CORDIS (EC R&D Information Service), all H2020 Euratom projects summaries.
[https://cordis.europa.eu/search?q=contenttype=%27project%27%20AND%20\(programme/code=%27H2020%27%20OR%20programme/code=%27H2020-Euratom%27\)%20AND%20\(%27euratom%27\)&p=1&num=100&srt=Relevance:decreasing](https://cordis.europa.eu/search?q=contenttype=%27project%27%20AND%20(programme/code=%27H2020%27%20OR%20programme/code=%27H2020-Euratom%27)%20AND%20(%27euratom%27)&p=1&num=100&srt=Relevance:decreasing)

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The CEA and the European Commission invite all relevant stakeholders to participate to the 10th Edition of Euratom research and training conferences on fission safety of reactor systems (FISA 2022) and radioactive waste management (EURADWASTE '22). These events are organised under the scope of the French Presidency of the Council of the European Union. Nuclear Valley, the Sfen and the SNETP are also strongly involved. Région Auvergne-Rhône-Alpes is kindly hosting and supporting all events taking place during that week.

Studies and reports

