The Workshop on Signatures of Man-Made Isotope Production (WOSMIP)

June 20 – 23, 2022

Workshop Program

Workshop Program - Sunday

03.00 pm	Early Registration – Münchenbryggeriet Mälarsalen
05.00 pm	Early Registration Closes

Workshop Program – Monday, June 20
Münchenbryggeriet Mälarsalen, Söder Mälarstrand 29

08.00 am	**Registration – Münchenbryggeriet Mälarsalen**
	Session 1: Welcome and Workshop Overviews *Chair: Anders Ringbom, Swedish Defence Research Agency*
09.00 am	**Welcome to WOSMIP VIII** *Jens Mattsson, Swedish Defence Research Agency*
09.30 am	**WOSMIP VIII Overview** *Ted Bowyer, Pacific Northwest National Laboratory*
09.45 am	**The History of WOSMIP** *Paul Saey, University of Vienna*
10.00 am	**Updates on IMS Noble Gas Systems and IDC Analysis Software** *Abdelhakim Gheddou, Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization*
10.30 am	**Group Photo**
10.45 am	**Morning Refreshments**
11.00 am	**Lessons Learned from Conducting Radioxenon Background Measurement Campaigns and the Need for Further Data Sets** *Martin Kalinowski, Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization*
11.20 am	**Combining Aerosol and Noble Gas Samples in Source-Location Analyses** *Harry Miley, Pacific Northwest National Laboratory*
11.40 am	**Radioxenon Measurements in the New Safe Confinement at Chernobyl NPP** *Anders Ringbom, Swedish Defence Research Agency*
12.00 pm	**Working Lunch – Radioxenon Video & Update on DOE/NNSA's Domestic Molybdenum-99 Program from Max Postman**
	Session 2: Backgrounds *Chair: Ian Hoffman, Health Canada*
01.30 pm	**Mo-99 Production Overview** *John Dewes, International Atomic Energy Agency*
01.50 pm	**Curium Briefing** *Roy Brown, Curium Pharma*

02.10 pm	**Production and Abatement of Non-Traditional Xenon Isotopes at a Spallation Neutron Source** *Michael Foxe, Pacific Northwest National Laboratory*
02.30 pm	**^{37}Ar Variability in the Atmosphere: The Contribution from Soil Air Venting** *Roland Purtschert, University of Bern*
02.50 pm	**Non-Traditional Radioxenon Emissions from Molten Salt Reactors** *Steven Biegalski, Georgia Institute of Technology*
03.10 pm	**Afternoon Refreshments**
03.25 pm	**Informal Discussion**
03.40 pm	**History of Background Measurements Campaigns** *Martin Kalinowski on behalf of Jonathan Baré, Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization*
04.00 pm	**Roundtable: Need for Backgrounds** *Harry Miley, Pacific Northwest National Laboratory*
05.00 pm	**Session Concludes**
05.00 pm	**Reception, Poster Session 1, and Refreshments - Münchenbryggeriet Mälarsalen Location** *Poster Session Sponsor: Pacific Northwest National Laboratory* *Posters* 1. *Eduardo Quintana - Construction of RA-10 Research Reactor for Medical Isotope Production* 2. *Federico Fernandez Baldis - Performance of INVAP's STAX monitor at 99Mo production plant of Ezeiza Atomic Center in Argentina* 3. *Jim Zickefoose - Mirion Spectroscopic Stack Monitor – System Overview, Data, and Analysis* 4. *Daniel Chester - Using a Bayesian Framework to Reconstruct Radioxenon Source(s) using Measurements in the UK* 5. *Mihaela Rizescu - STAX Project – Data access, control and security* 6. *Judah Friese - XENAH STAX: Realtime stack monitoring at Hartlepool's gas cooled power reactor* 7. *Matthew Goodwin - Deploying a Radioxenon Sensor Array in the UK* 8. *Matthew Goodwin - Testing "OpenSpex" for beta-gamma coincidence data analysis at the UK National Data Centre* 9. *Michael Alex Brown - Argonne National Laboratory Support for Mo-99 Production* 10. *Ahmad Malkawi - Radioisotope Production in Jordan Research &Training Reactor (JRTR)* 11. *Ian Hoffman - SAUNA Qb at Health Canada: Commissioning and Upcoming Measurement Campaigns* 12. *Andreas Wiens - SoH monitoring of the beta-gamma detection system in Noble Gas systems*

Workshop Program – Tuesday, June 21
Münchenbryggeriet Mälarsalen, Söder Mälarstrand 29

08.30 am	**Morning Refreshments**
	Session 3: Stack Monitoring and Equipment *Chair: Jane Estrada, Pacific Northwest National Laboratory*
09.00 am	**STAX Overview** *Lori Metz, Pacific Northwest National Laboratory*
09.30 am	**Data Created by a Stack Monitoring System** *Matthias Auer, Instrumental Software Technologies, Inc. (ISTI)*
09.50 am	**Releases and Measurements of Radioactive Noble Gas Nuclides from a BWR** *Mattias Olsson, Forsmarks Kraftgrupp AB*
10.10 am	**An Overview of XENAH - Xenon Environmental Nuclide Analysis at Hartlepool** *Andrew Petts, EDF Energy*
10.30 am	**Morning Refreshments**
10.45 am	**Informal Discussion**
11.00 am	**Applications of Machine Learning to Big Data in Order to Identify Problematic Gamma-ray Spectra** *Kelly Truax, University of Hawaii at Manoa*
11.20 am	**Roundtable: Participation in Stack Monitoring** *Benoit Deconninck, Institut des Radioelements (IRE)*
12.30 pm	**Working Lunch - Presentation of STAX Video**
02.00 pm	**Source Localization Capability of a Qb – Array Vs a Single State-of-the Art System** *Anders Ringbom, Swedish Defence Research Agency*
02.20 pm	**Phase II Testing of Xenon International on Mount Schauinsland, Germany** *Andreas Bollhöfer, Federal Office for Radiation Protection*
02.40 pm	**Projects for Medical Isotope Production at ENEA (Italy) and Plans for Noble Gas Measurements Around its Research Reactors** *Elisabetta Nava, Agenzia Nazionale per le Nuove Tecnologie, L'energia e lo Sviluppo Economico Sostenibile (ENEA)*
03.00 pm	**Roundtable: Equipment** *Mattias Aldener, Swedish Defence Research Agency*
03.30 pm	**Session Concludes**

05:45 pm	**Workshop Dinner – M/S Riddarfjärden Ship (Maps Will Be Provided)** *Sponsored by FOI/CTBTO* ***Boat leaves at 6:00 pm promptly***

Workshop Program – Wednesday, June 22
Münchenbryggeriet Mälarsalen, Söder Mälarstrand 29

08.30 am	**Morning Refreshments and Agenda Review**
09.00 am	**Board Bus and Depart to Scienta Facility**
10.00 am	**Scienta Tour and Demonstrations**
11.20 am	**Board Bus and Depart Scienta to Sven Dufva Dag Hammarskjölds Väg Restaurant**
11.30 am	**Lunch - Sven Dufva Dag Hammarskjölds Väg Restaurant Hosted by Scienta Sensor Systems**
01.00 pm	**Board Bus and Depart Sven Dufva Dag Hammarskjölds Väg Restaurant to Münchenbryggeriet**
02.30 pm	**Return to Münchenbryggeriet Mälarsalen and Afternoon Refreshments**
02.45 pm	**Informal Discussion**
03.20 pm	***Poster Session 2 and Light Refreshments*** *Poster Session Sponsor: Instrumental Software Technologies, Inc. (ISTI)* *Posters* 13. *Grzegorz Krzysztoszek - Radioactive releases through the MARIA research reactor stackh* 14. *Eduardo Carranza - Production of Mo-99 in Argentina, projects to reduce the emission of Xe-133 and installation of an INVAP's STAX monitor* 15. *Patricia Da Silva Pagetti de Oliveira - The RMB Project – perspectives and development status* 16. *Emily Gordon* 17. *Lee Glascoe - Atmospheric transport modeling and validation for local network modelling* 18. *Jolanta Kusmierczyk-Michulec - Quality assessment of the Possible Source Region (PSR) algorithms implemented in WEB-GRAPE* 19. *Christophe Gueibe - Application of silver-exchanged zeolite for the mitigation of civilian radioxenon releases* 20. *Benoit Deconninck - IRE Mo-99 production evolution and impact on off gases* 21. *Taylor Gill - Improvements made at GBL15 - the UK CTBT Noble Gas Radionuclide Laboratory* 22. *Pieter De Meutter - Uncertainty quantification of atmospheric transport and dispersion modelling to improve the screening of radioxenon detections* 23. *Jonathan Bare – Summarizing the first results on the ongoing campaigns*

Workshop Program – Thursday, June 23
Münchenbryggeriet Mälarsalen, Söder Mälarstrand 29

08.30 am	**Morning Refreshments**
	Session 4: Atmospheric Transport Modelling *Chair: Jolanta Kusmierczyk-Michulec, Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization*
09.00 am	**First Results of the 1st Nuclear Explosion Signal Screening Open Inter-Comparison Exercise** *Christian Maurer, Zentralanstalt fuer Meteorologie und Geodynamik (ZAMG)*
09.20 am	**Radioxenon Background at the Global Scale: Tackling Uncertainties through the use of NCEP Ensemble Meteorological Data** *Sylvia Generoso, Commissariat à l'énergie atomique et aux énergies alternatives*
09.40 am	**Approaches for Estimating Radioxenon Background Variations, Anomalies, and Explosion Signals in Modelled and Measurement Data** *Donald Lucas, Lawrence Livermore National Laboratory*
10.00 am	**A Demonstration of CTBTO's High-Resolution ATM in Identifying the Possible Source Region: the DPRK Case** *Anne Tipka, Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization*
10.20 am	**Morning Refreshments and Announcement of the Woster Medal Winner**
10.35 am	**Informal Discussion**
10.50 am	**Roundtable: ATM and Modelling** *Chair: Sylvia Generoso, Commissariat à l'énergie atomique et aux énergies alternatives*
12.00 pm	**Working Lunch - Announcement of the Wozzie Award**
01.30 pm	**Roundtable: WOSMIP Wrap Up and Next Steps**
02.30 pm	**Workshop Concludes**

Workshop Program – Posters

Ahmad Malkawi	Radioisotope Production in Jordan Research &Training Reactor (JRTR)
Andreas Wiens	SoH monitoring of the beta-gamma detection system in Noble Gas systems
Benoit Deconninck	IRE Mo-99 production evolution and impact on off gases
Christophe Gueibe	Application of silver-exchanged zeolite for the mitigation of civilian radioxenon releases
Daniel Chester	Using a Bayesian Framework to Reconstruct Radioxenon Source(s) using Measurements in the UK
Eduardo Carranza	Production of Mo-99 in Argentina, projects to reduce the emission of Xe-133 and installation of an INVAP's STAX monitor
Eduardo Quintana	Construction of RA-10 Research Reactor for Medical Isotope Production
Emily Gordon	TBD
Federico Fernandez Baldis	Performance of INVAP's STAX monitor at 99Mo production plant of Ezeiza Atomic Center in Argentina
Grzegorz Krzysztoszek	Radioactive releases through the MARIA research reactor stackh
Ian Hoffman	SAUNA Qb at Health Canada: Commissioning and Upcoming Measurement Campaigns
Jonathan Baré	Status and preliminary analysis of ongoing temporary radioxenon noble gas background campaigns in Japan
Jim Zickefoose	Mirion Spectroscopic Stack Monitor – System Overview, Data, and Analysis
Jolanta Kusmierczyk-Michulec	Quality assessment of the Possible Source Region (PSR) algorithms implemented in WEB-GRAPE
Judah Friese	XENAH STAX: Realtime stack monitoring at Hartlepool's gas cooled power reactor
Lee Glascoe	Atmospheric transport modeling and validation for local network modeling
Matthew Goodwin	Deploying a Radioxenon Sensor Array in the UK
Matthew Goodwin	Testing "OpenSpex" for beta-gamma coincidence data analysis at the UK National Data Centre
Michael Alex Brown	Argonne National Laboratory Support for Mo-99 Production
Mihaela Rizescu	STAX Project – Data access, control and security

Patricia Da Silva Pagetti de Oliveira	The RMB Project – perspectives and development status
Pieter De Meutter	Uncertainty quantification of atmospheric transport and dispersion modelling to improve the screening of radioxenon detections
Taylor Gill	Improvements made at GBL15 - the UK CTBT Noble Gas Radionuclide Laboratory