

HOTLAB 2018 "From new build to final repository- covering the whole life-cycle"

Final Draft program

Sunday, September 16, 2018			
Start			
19:00		Informal get-together event in Helsinki: "Beer & Bites" food pairing at 19:00 - 21:30	
Monday, September 17, 2018			
Start	Nro	Opening Session	
9:00	1	Welcome	Wade Karlsen VTT Technical Research Centre of Finland
Technical Session: Designing and building of new facilities-I, Vendi Andersson, IFE			
9:20	2	Conceptual Design of the Sample Preparation Laboratory (SPL) at Idaho National Laboratory	Brandon Miller, Mitch Meyer, Bill Landman Idaho National Laboratory
9:45	3	New laboratory for the study of irradiated materials associated to RA10 Research Reactor in Argentina	Rubén O. González, Marcela I. Mirandou, Constanza Lugo, Aníbal Rodríguez, Pablo Areas, Evangelina De Las Heras, Lucio Ponzoni, Yasmin Martínez. Comisión Nacional de Energía Atómica
10:10	4	Engineering aspects of hot cells and in-cell equipments	K M Pandit, Anil Bhandekar, Prerna Mishra, B N Rath, Ashwini Kumar, Nitin Kumawat, J S Dubey, G K Mallik and J L Singh Post Irradiation Examination Division, Bhabha Atomic Research Centre
10:40		Coffee Break in foyer	
Technical Session: Designing and building of new facilities-II, Ondřej Srba, CVR			
11:10	5	Commissioning of the Irradiated Materials Characterization Laboratory	Mitchell K. Meyer, Cynthia Adkins, Jeff Bailey, Aaron Balsmeier, Jayson Bush, Miles Cook, Scott Moore, Emil Franklin, Jian Gan, Jeff Giglio, Lingfeng He, Brandon Hernandez, Michael Iervese, Daniel Jadernas, Jesse Kappmeyer, Kevin Keefe, Collin Knight, Brandon Miller, Daniel Murray, Steven Swanson & Kevin Tolman Idaho National Laboratory
11:35	6	Overhead Gantry System and Basket Handling - for the Pyroprocessing Automation Verifying Mock-up	Dongseok Ryu, Jonghui Han & Seungnam Yoo Korea Atomic Energy Research Institute
12:00	7	ESS Cask Assembly and Systems Engineering Methodology	Dr Carwyn Jones ¹ , Magnus Göhran ¹ , Lennart Åström ² , Prof Jon Holt ³ ¹ European Spallation Source, ² Fagerström Industri Konsult AB, ³ Scarecrow Consultants Ltd
12:25	8	Remote handling design study developments for a new experimental facility at CERN – The Beam Dump Facility	Keith Kershaw, Jean-Louis Grenard, Marco Calviani CERN, Geneva Switzerland
13:00		Lunch in Restaurant "Kellari"	
Commercial Session: Designing and building of new facilities-III, commercial resources Brandon Miller, INL			
14:00	9	Innovative Hot Lab Concept for Nuclear Industry	Maria Isabel Machado, Fanny Fouin Assystem Engineering & Infrastructures
14:20	10	Challenges in designing hot cells - How to avoid future difficulties in the use of telemanipulators	Hubert Hafen, JM. Wagner Wälischmiller Engineering GmbH
14:40	11	Getting a Handle on Improved Telemanipulator Operation HOTLAB 2018	Amos Avery, Steve Williams & Steve Chunglo Central Research Laboratories (CRL)
Technical Session: PIE of Fuels-I, Brandon Miller, INL			
15:00	12	Some Aspects Concerning Post-Irradiation Examination Of CANDU Type Nuclear Fuel	Marin MINCU, Ion MAN, Octavian UTA, Ovidiu ICHIM Institute for Nuclear Research Pitesti
15:25	13	Failure Analysis on AFA 3G Gd Rod from Nuclear Power Plant	Wang Xin, Chu Fengmin, Bian Wei, Guo Yifan, Qain Jin, Liu Jinping, Liang Zhengqiang China Institute of Atomic Energy
15:50		Coffee Break in foyer	
Technical Session: PIE of Fuels-II, Joe Somers, European Commission JRC Directorate G - Nuclear Safety and Security			
16:20	14	Blistering test under the pressure condition in hot cell	Wang Zhen, Zhu Wei, Wen Bang, Zhang Hai-sheng, Fang Zhong-qiang Reactor Operation and Application Research Sub-institute, Nuclear Power Institute of China,
16:45	15	Blister defect analysis of U3 Si2/Al Nuclear fuel cladding by Ultrasonic test	Helmi FR, M Fauzi, R Himawan, S Permana Indonesia Center for Nuclear Technology
17:10	16	Advanced Gas Reactor/TRISO Particle Fuel Re-Irradiation and Safety testing Experiment Performed in the NRAD Reactor and HFEF Hot Cell	Cad Christensen Battelle Energy Alliance
17:35	17	Radial Deconsolidation of Irradiated AGR-3/4 Compacts at Idaho National Laboratory	Philip Winston ¹ , John Stempien ¹ & Grant Helmreich ² ¹ Idaho National Laboratory, ² Oak Ridge National Laboratory
18:00		End of Day 1 Sessions	

20:00 Meeting Dinner- Restaurant Meri Paviljonki

Tuesday, September 18, 2018			
Start		Technical Session: PIE of structural materials, Seppo Tähtinen, VTT	
9:00	18	Correlation of Pressurized Water Reactor Vessel Material Properties Variation with Neutron Fluence by Surveillance Program	Shang-Feng Huang ¹ , Li-Fang Cheng ¹ , Yaw-Hwa Shiu ¹ , Che-Chung Tseng ¹ & Xin-Ru Chen ² ¹ Institute of Nuclear Energy Research, ² Taiwan Power Company
9:20	19	Miniature C(T) Specimen Fabrication for Reutilization of Surveillance Tested Materials	Takuji Sugihara ¹ , Ryoichi Shimizu ¹ , Kimihiko Takahashi ¹ , Koji Fujimoto ¹ , Kentaro Yoshimoto ² & Yasuto Nagoshi ³ ¹ Nuclear Development Corporation, ² Mitsubishi Heavy Industries, Ltd.
9:40	20	The microstructure of post-irradiated A508-3 steel and its effects on charpy impact energy	Lu Wu ^{1,2} , Wei Zhang ¹ , Shaoyu Qiu ² , Xiaoyong Wu ^{1,2} , Zhen Wang ¹ , Wen He ¹ , Bang Wen ^{1,2} , Haisheng Zhang ¹ , Huajun Mo ¹ ¹ The First Institute, Nuclear Power Institute of China, ² National Key Laboratory for Nuclear Fuel and Materials, Nuclear Power Institute of China
10:00	21	Mechanical property evaluation of irradiated stainless steels using sub size and miniature specimens	V. Karthik, Ran Vijay Kumar, Ashish V Kolhatkar, V. Anandraj, A. Vijayraghavan, T. Ulaganathan C.N. Venkiteswaran, Divakar. R, P.K. Chaurasia, S. Murugan, P. Parameswaran, Saroja Saibaba Indira Gandhi Centre for Atomic Research
10:20	22	Hotcell Examinations of In-core Inconel X-750 spacers removed from CANDU Reactors for Surveillance	Kris Dunn, Grant A. Bickel Canadian Nuclear Laboratories (CNL)
10:40		Coffee Break in foyer	
Technical Session: Hot Lab Equipment-I, Justin Dexter, M. Braun Inc.			
11:10	23	Criticality evaluation of a transport cask of irradiated nuclear fuel samples according to the IAEA Regulations for the Safe Transport of Radioactive Material	Mahdi Rezaian, Abedin Pasandi & Hamidreza Mohajerani Atomic Energy Organization of IRAN (AEOI)
11:35	24	The R83 type B(U) transport package for used LEU fuel: a versatile package	Natalia ZOLNIKOVA, Julien PATRU, Fabien LABERGRI ROBATEL Industries

12:00	25	COMPACT TENSION SAMPLE PREPARATION OUT OF CANDU PRESSURE TUBE USING THE NUMERICAL CONTROLLED MILLING MACHINE	ION MAN, MARIN MINCU, GABRIELA GHEORGHE	Institute for Nuclear Research Pitesti
12:25	26	Radioactive Materialography Preparation Systems	John Stanek, Tom Pfeiffer	Idaho National Laboratory
13:00		Lunch in Restaurant "Kellari"		
		Technical Session: Hot Lab Equipment-II, Heather Chichester, INL		
14:00	27	Fit for Purpose Design for Remote Operations -Handling the Hot Potatoes	Gary BUTLER	Aquila Nuclear Engineering Ltd
14:25	28	Implementation of an innovative nuclearized SEM in CEA-Atalante facility.	JOUAN Gauthier, LEORIER Caroline, DUGNE Olivier, VALOT Christophe	CEA Marcoule, DEN, DMRC, SFMA, LCC, ATALANTE
14:50	29	'Shielded Electron Microprobe and some of its main applications in Hotlabs'	Mona P. Moret ^{1,*} , Claire Le Gall ² , Karine Hanifi ² , Isabelle Felines ² , Thierry Blay ² , Anne-Sophie Robbes ¹ , Carl Henderson ¹ , Fabienne Audubert ² , Yves Pontillon ² , Jérôme Lamontagne ²	¹ CAMECA, France, ² CEA Cadarache
15:10	30	Three-Dimensional Subnanometer Compositional Analysis of Radiation Damaged Materials with Atom Probe Tomography – Technology and Practical Considerations	Robert M. Ulfig*, Ty J. Prosa, Yimeng Chen, Katherine P. Rice, Isabelle. Martin, David A. Reinhard, P. H. Clifton, Brian P. Gieser, Edward Oltman, Dan R. Lenz, Joseph Bunton, Thomas F. Kelly, David J. Larson	CAMECA Instruments
15:30		Coffee Break in foyer		
		Poster Session, Wade Karlsen, VTT		
16:00		Presentations of Posters, 1 slide in 2 min each		
17:00		Visiting of posters		
18:00		End of Day 2 Sessions		

Wednesday, September 19, 2018				
Start		Technical Session: Management of Hot Labs-I, Des Wright, NNL		
9:00	31	Overview and Status of the US Nuclear Science User Facilities (NSUF)	J. Rory Kennedy	Nuclear Science User Facilities, Idaho National Laboratory
9:25	32	IAEA Activities on Fuel Irradiation Tests, Post Irradiation Examination (PIE) and PIE Facilities Database	Ki Seob Sim and Mikhail Veshchnov	Nuclear Fuel Cycle and Materials Section, Division of Nuclear Fuel Cycle and Waste Technology International Atomic Energy Agency
9:50	33	New integrated sample management software, at PSI HOTLAB	Marco Streit	Paul Scherrer Institute
10:15	34	Shielded cells design and periodic safety review	Frédéric Schmitz, Geert Cortenbosch, Nicolas Noterman,	Bel V
10:40		Coffee Break in foyer		
Start		Technical Session: Management of Hot Labs-II, Barbara Oberländer, IFE		
11:10	35	Accumulation of nuclear material in nuclear facilities: an iterative approach in order to develop measuring stations	Laurent Loubet, Pierre Guy Allinei, Maeva Maulin	CEA, DEN, Université Clermont Auvergne, Département de Physique
11:35	36	TARRA Project: transfer of MOX R & D between 2 CEA sites	ADNET Jean-Marc, BROTHIER Meryl, DUGNE Olivier, LEORIER Caroline, PERNETTE Didier, VALOT Christophe,	CEA Marcoule, DEN, DMRC, SFMA, LCC, ATALANTE
		Technical Session: Aging Management of Hot Labs-I, Barbara Oberländer, IFE		
12:00	37	Rejuvenation of the Canadian Nuclear Laboratories Chalk River Campus	Javin DeVreede	Canadian Nuclear Laboratories
12:25	38	Recent upgrades of the Studsvik Concrete hot cell facility	Niklas Snis	Studsvik
13:00		Lunch in Restaurant "Kellari"		
		Technical Session: Aging Management of Hot Labs-II, Niklas Snis, Studsvik		
14:00	39	REFURBISHMENT OF HANDLING EQUIPMENTS IN A MAINTENANCE CELL OF PHENIX	F. DOMINJON, H. DUPORT, D. VERNHET, J.P. GRANDJEAN	Commissariat à l'Énergie Atomique et aux Énergies Alternatives, Centrale PHENIX – CEA – Centre de Marcoule BP
14:20	40	Refurbishment of drum lifting device for radioactive waste handling inside Hot Cell Facility	Basiran, Helmi FR, RB Santosa, M.Fauzi, Arif N, Sungkono	Indonesia Center for Nuclear Technology
		Technical Session: Decommissioning and Waste Handling-I, Niklas Snis, Studsvik		
14:40	41	Treatments of radioactive waste solutions generated in a hot laboratory of Japan Atomic Energy Agency	Sou Watanabe, Hiromichi Ogi, Yoichi Arai, Haruka Aihara, Atsuhiko Shibata & Kazunori Nomura	Japan Atomic Energy Agency
15:00	42	Management and surveillance of aging underground storage site and aging Al-clad metallic uranium legacy fuel	Barbara Charlotte Oberländer, Fred Kaaby, Geir Stensland, and Peter Bennett	Institute for Energy Technology (IFE)
15:20	43	Remote Handling and Waste Containment Approach for Whiteshell Laboratories Standpipe and Bunker Legacy Waste Retrieval	Matt Cole ¹ & Torje Osen ²	¹ Veolia Nuclear Solution, ² Merrick & Company
15:40		Coffee Break in foyer		
		Technical Session: Decommissioning and Waste Handling-II, Marieno Kater, NRG		
16:10	44	Fuel Inspection Hot Cell at Ignalina B1 ISFSF – Lessons Learned	F. Scheuermann ¹ , B. Könning ² , V. Naumov ³	¹ NUKEM Technologies Engineering Services, Alzenau, Germany ² NUKEM Technologies, Alzenau, Germany ³ State Enterprise Ignalina Nuclear Power Plant, Ignalina, Lithuania
16:30	45	Preliminary Study on the Repair and Transportation Methods of Spent Nuclear Fuel Assembly in KAERI	Jae-Han Kim, Sangbok Ahn, Dosik Kim, Hyoungmun Kwon, Jungnam Jang	Korea Atomic Energy Research Institute
16:50	46	High level waste (spent fuel) from hotcell to final repository – a standard procedure in Sweden	Jonas Martinsson ¹ , Peter Askeljung ¹ & Henric Lindgren ¹	Studsvik Nuclear AB
17:10	47	Posiva's disposal of spent nuclear fuel - the concept and the encapsulation facility	Jani Huttunen ¹ , Mari Lahti ² , Barbara Pastina ² & et al.	¹ Teollisuuden Voima Oyj, ² Posiva Oy
17:30		Closing session: Awards, Next HOTLAB location		
18:00		End of Day 3 Sessions		

Thursday, September 20, 2018				
8:00	depart	a.m. Technical Tour to VTT's brand-new hot cell facilities (departure 8:00, return 13:00)		
12:30	depart	p.m. Technical Tour to VTT's brand-new hot cell facilities (departure 12:30, return 17:30)		
Friday, September 21, 2018				
7:00	depart	Technical Tour to Posiva's final repository site in Olkiluoto (departure 7:00 am, return via HEL airport 18:00)		

POSTER SESSION Tuesday, September 18, 2018, 16:00- 18:00 (1 slide, 2 minute introductions by one author of each poster)				
P01		The European Spallation Source Active Cells Facility - Challenges in Construction - HOTLAB 2018	Magnus Göhran, Lennart Åström, Paul Erterius, Eldin Mukovic, Srdjan Vareskic	European Spallation Source ERIC, Fagerström Industriekonsult AB

P02	Size Reduction Equipment in the ESS Active Cells Facility Abstract for Poster Presentation at HOTLAB 2018	<u>Alex Wagner</u>	United Kingdom Atomic Energy Authority
P03	PLATOM's Expertise and Capabilities to Support Construction and Operation of Hot Cell Facilities	Teemu Törönen & <u>Mika Helin</u>	Platom Oy
P04	The preliminary study for safety design of JAEA's Radioactive Material Analysis and Research Facility "Laboratory-2" dedicated to fuel debris analysis at TEPCO's Fukushima Daiichi Nuclear Power Station site	<u>Akinori Sato</u> , Ichiro Kosaka & Naoya Kaji	Japan Atomic Energy Agency
P05	Preparation of experiments at CVR Hot-cell	<u>Ondrej Srba</u> ¹ , Petr Svrcula ¹	Research Centre Rez Ltd.,
P06	An overview of the Remote Handling solutions and equipment at JRC Karlsruhe's Hot Cells facilities	<u>Laurent Velnom</u> , Antonio Busto, Joseph Marconato	European Commission, Joint Research Centre, Directorate for Nuclear Safety and Security
P07	Self-threading electrical discharge machine - hot cell modifications and the first year of active machining	<u>Patrik Sandström</u> ¹ , Niklas Lagerqvist ² & Staffan Karlsson ³	Studsvik Nuclear AB
P08	A remote technique for a preparation of tension test specimens from the irradiated round bars	<u>V. Revka</u> , L. Chyrko, Yu. Chaikovskiy and O. Shkapyak	Institute for Nuclear Research
P09	Using Novel Small Scale Mechanical Testing to Link the Mechanical Properties and Deformation Mechanisms of High-Dose Activated Inconel X-750	<u>Cameron Howard</u> , Colin Judge, Vineet Bhakhri, Chris Dixon, Heygaan Rajakumar, Clinton Mayhew	Canadian Nuclear Laboratories (CNL),
P10	High Energy X-ray Study on Nondestructive Detection of Fuel Assemblies	<u>ZHANG Xiang-yang</u> , WANG Guo-bao HE Gao-kui, XIE Qiao, ZENG Zi-qiang, LIANG Zheng-qiang, WANG Xin	China Institute of Atomic Energy
P11	Research on Closed-end Burst Testing of Irradiated Fuel Cladding Tube	<u>Lei yang</u> , Zhang Haisheng, Wen Bang, Sun Kai	Nuclear Power Institute of China
P12	The research on oxide dispersion strengthened (ODS) ferritic steel by chemical method	<u>Guo li-na</u> ¹ , Hu Ben-fu ² & Peng shun-mi ¹	¹ China Institute of Atomic Energy, ² University of Science and Technology Beijing
P13	Remote Metal Fuel Slug Fabrication System Based on Injection Casting	<u>Kiho Kim</u> , Jeongyong Park	Korea Atomic Energy Research Institute
P14	Sample preparation techniques for post irradiation examinations in the Reactor Fuel Examination Facility	<u>Miho Suzuki</u> , Yasuhiko Kimura, Masahide Takano, Naoaki Mita	Japan Atomic Energy Agency
P15	Development of Laser Ablation Inductively Coupled Plasma – Mass and Optical Emission Spectrometry Methodologies for Elemental Analysis in a Medium Active Cell Environment	<u>Ryan Devlin</u> ¹ , Clive Lythgoe ² & Simon Chenery ³	¹ National Nuclear Laboratory, ² Sellafield Ltd, ³ British Geological Survey
P16	Nuclearization projects of a tomographic atom probe and of an electropolishing machine for researches on neutron irradiated materials at the atomic scale	<u>Anabelle Lopez</u> , Kimberly Colas	CEA-DEN, Service d'Études des Matériaux Irradiés, CEA, Université Paris-Saclay
P17	Nuclearized Raman microscope coupled with a hot-stage: new tool to study (U,Pu)O _{2-x} fuel microstructure	Ph. Martin ¹ , L. Medyk ¹ , E. Pascal ¹ , Ch. Valot ¹ , <u>O. Dugne</u> ¹ , X. Rochet ² , T. Schmid ² , G. Montagnac ³	CEA, Nuclear Energy Division, Research Department on Mining and Fuel Recycling Processes CEA Marcoule, 30207 Bagnols sur Cèze, France 2Optique H. Peter Allée Romaine – ZA du Charpenay, 69210 Lentilly, France 3Laboratoire de Géologie de Lyon, CNRS ENS de Lyon, 69364 Lyon, France
P18	Application of ICP-MS to analysis of nuclear fuel debris and radioactive wastes	<u>Maho Iwasaki</u> ^{1,2} , Soichi sato ^{1,2}	¹ Japan Atomic Energy Agency, ² International Research Institute for Nuclear Decommissioning
P19	Design, development, and installation of hot cell instrumentation for Spent Fuel Autoclave Leaching Experiments (SF-ALE)	<u>G. Cornelis</u> , T. Mennecart, B. Gielen, P. Schroeders, J. Pakarinen	Nuclear Materials Science Institute, SCK•CEN
P20	The Decommissioning and Waste Management programme of the European Commission Joint Research Centre	<u>Stéphane Brémier</u> ¹ , Vincenzo Rondinella ¹ , Paolo Peerani ² ; Francesco Basile ² and Riccardo Casale ²	European Commission, Joint Research Centre, JRC-Directorate G – Nuclear Safety and Security, ¹ Karlsruhe, ² Italy
P21	Transportation capabilities of hot cell facility	<u>Petr Švrčula</u> , Ondřej Srba	Research Centre Rez Ltd.,
P22	First transport campaign of new type B(U) packaging for hotlabs	<u>Robby Vandendries</u> , <u>Amir Hushyar</u> , Wim Boeckx	Transnubel, Dessel, Belgium
P23	Mechanical test of spent fuel at KAERI-PIEF	<u>Sunggeun Kim</u> , Jungnam Jang, Hyoungmun Kwon, Hangsuk Seo, Dosik Kim	Korea Atomic Energy Research Institute