

## ICFRM-19 Oral Session Day-by-Day Program

	Sunday, October 27, 2019	Monday, October 28, 2019	Tuesday, October 29, 2019	Wednesday, October 30, 2019	Thursday, October 31, 2019	Friday, November 1, 2019
8:00		Registration (8:00 - 11:00)	Registration	Registration	Registration	Registration
9:00	<b>Tutorial Lectures 9:00-1:00 PM (Palatine, Portofino, Aventure C)</b>	<small>(9:00 - 10:00) Welcome Address 9:00-9:10 K1: deTemmerman ITER UPDATE 9:10-9:50 P1: Schwarz-Selinger O-TRAPPING 9:50-10:10</small> PLENARY SESSION PL1 8:30-10:30 P2: C Zhang Structural Materials 8:30-9:10 P3: S Dufarev REMEY Modelling 9:10-9:50 P4: J Chen CFTR 9:30-10:30	KEYNOTE PLENARY SESSION PL2 8:30-10:30 K2: M Manuel NAS Report 8:30-9:10 P5: GR Odette ODS Status 9:10-9:50 P6: M Nakamichi Breeding Materials 9:50-10:30	PLENARY SESSION PL3 8:30-10:30 P7: C Garcia-Rosales W Oxidation Protection 8:30-9:10 P8: S Nagami W Mechanical Properties 9:10-9:50 P9: J-H You EU DEMO Divertor 9:50-10:30	PLENARY SESSION PL4 8:30-10:30 P10: T Nishida SiC/SiC Composites 8:30-9:10 P11: Y Katoh PHENIX Summary 9:10-9:50 P12: D Sprouster Synchrotron Methods 9:50-10:30	
10:00		Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)	Coffee Break (10:30-11:00)
11:00		RAFM-1 2X30 min 3X20 min PFM-1 2X30 min 3X20 min CERAMICS 2X30 min 3X20 min	ODS-1 2X30 min 3X20 min PFM-3 2X30 min 3X20 min FACILITIES 2X30 min 3X20 min	PFM-5 2X30 min 3X20 min MODEL METHODS 2X30 min 3X20 min MECH PROP 2X30 min 3X20 min	TUNGSTEN-1 2X30 min 3X20 min RAD DMG-1 2X30 min 3X20 min MODEL PSI 2X30 min 3X20 min	
12:00		Lunch (13:00-14:30)	Lunch (13:00-14:30)	Lunch (13:00-14:30)	Lunch (13:00-14:30)	Lunch (13:00-14:30)
13:00		RAFM-2 2X30 min 3X20 min PFM-2 2X30 min 3X20 min FUTURE 2X30 min 3X20 min	ODS-2 2X30 min 3X20 min PFM-4 2X30 min 3X20 min ADV CHARACT 2X30 min 3X20 min	ODETTE SYMP 2X30 min 3X20 min MODEL BULK 2X30 min 3X20 min T-BREEDING 2X30 min 3X20 min	TUNGSTEN-2 2X30 min 3X20 min RAD DMG-2 2X30 min 3X20 min FUSION STARTUPS 2X30 min 3X20 min	IEA Exec Co (Palatine) 2:30-5:30 PM Technical Tours
14:00		Coffee Break (16:30-17:00)	Coffee Break (16:30-17:00)	Coffee Break (16:30-17:00)	Coffee Break (16:30-17:00)	
15:00	Poster (P1) 5-7 PM Viccino Ballroom	IEA Tungsten (Palatine)	Poster (P2) 5-7 PM Viccino Ballroom	US-Japan Frontier (Palatine)	Poster (P3) 5-7 PM Viccino Ballroom	ARC Meeting (Palatine)
16:00	Reception Asteria Terrace	Welcome Reception Poolside	Reception Asteria Terrace	Reception Asteria Terrace	<b>Conference Banquet 7-9PM Aventure Ballroom</b>	
17:00						
18:00						
19:00						
20:00						
21:00						
22:00						

**Opening Session: MONDAY, October 28, 2019 9:00-10:30**

**Chair: N. Ghoniem**

Session		Presenter	Title	Time
OPENING SESSION	K1	<b>Dr. Greg deTemmerman ITER Organization</b>	ON THE LIFETIME AND OPERATIONAL LIMITS OF TUNGSTEN AS PLASMA-FACING MATERIAL IN ITER	9:10 -9:50
	P1	<b>T. Schwarz-Selinger IPP Garching</b>	TRANSPORT AND RETENTION OF HYDROGEN AND HELIUM IN TUNGSTEN	9:50-10:30

**Monday Morning: 3 Parallel Oral Sessions**

**RAFM-1: Monday Morning, October 28, 2019 11:00-13:00**

**Chair: L. Tan**

Session		Presenter	Title	Time
RAFM-1	I1	<b>K. Field (ORNL) (1a7)</b>	STRUCTURE-PROPERTY RELATIONSHIPS FOR 12-18%Cr ODS AND 9% Cr RAFM STEELS IRRADIATED TO HIGH DOSE (> 40 DPA) AT FUSION RELEVANT TEMPERATURES	11:00-11:30
	I2	<b>H. Tanigawa (QST) (1a24)</b>	NEW INSIGHTS ON THE HARDENING MECHANISMS IN IRRADIATED RAFM STEELS	11:30-12:00
	C1	<b>W. Krauss (KIT) (7b1)</b>	COMPATIBILITY OF RAFM STEELS WITH FLOWING PB-LI EXAMINED IN THE CORROSION TESTING LOOP PICCOLO DURING THE LAST DECADES	12:00-12:20
	C2	<b>T. Graening (KIT) (1a28)</b>	IMPACT OF THE CHEMICAL COMPOSITION OF THREE EUROFER97 STEEL VARIANTS ON THE MICROSTRUCTURE BEFORE AND AFTER NEUTRON IRRADIATION	12:20-12:40
	C3	<b>M. Ando (QST) (1a33)</b>	THE $\mu$ -TENSILE DEFORMATION BEHAVIOR OF SINGLE BLOCK STRUCTURE OF F82H IRRADIATED AT 573K	12:40-1:00

**PFM-1: Monday Morning, October 28, 2019 11:00-13:00****Chair: A. Hasegawa**

Session		Presenter	Title	Time
PFM-1	I1	<b>J.W. Coenen (FZJ) (2a56)</b>	MATERIALS R&D FOR A 2ND ITER DIVERTOR AND BEYOND: AN OVERVIEW OF AVAILABLE CONCEPTS AND NEW MATERIAL CLASSES	11:00-11:30
	I2	<b>X. Liu (SWIP) (2a28)</b>	PROGRESS OF ADVANCED TUNGSTEN BASE MATERIALS DEVELOPED FOR FUSION APPLICATIONS IN CHINA	11:30-12:00
	C1	<b>L. Snead (Stonybrook) (2b26)</b>	KINETICS OF PROCESSING ADVANCED COPPER ALLOYS FOR GRADED HHF STRUCTURES	12:00-12:20
	C2	<b>Q. Li (IPP) (2b24)</b>	DESIGN AND MANUFACTURING OF FLAT-TYPE W/CU MOCKUP WITH NOVEL HYPERVAPOTRON COOLING STRUCTURE FOR CFETR DIVERTOR	12:20-12:40
	C3	<b>M. Tokitani (NIFS) (1f7)</b>	NOVEL FABRICATION METHOD FOR HIGH HEAT FLUX COMPONENT BY THE MULTI-STEP BRAZING TECHNIQUE	12:40-1:00

**CERAMICS: Monday Morning, October 28, 2019 11:00-13:00****Chair: R. Kasada**

Session		Presenter	Title	Time
CERAMICS	I1	<b>A. Bhattacharya (ORNL) (1c1)</b>	IRRADIATION EFFECTS AND ADVANCED CHARACTERIZATION OF NEUTRON AND ION IRRADIATED TITANIUM DIBORIDE	11:00-11:30
	I2	<b>T. Koyanagi (ORNL) (1c11)</b>	DESIGN AND STRATEGY FOR NEXT GENERATION SILICON CARBIDE COMPOSITES FOR FUSION ENERGY	11:30-12:00
	C1	<b>M. Ferraris (Torino) (1c2)</b>	IRRADIATION STABILITY OF SiC-BASED JOINTS FOR NUCLEAR FUSION APPLICATIONS	12:00-12:20
	C2	<b>T. Nozawa (QST) (1c5)</b>	FAILURE EVALUATION OF NEUTRON-IRRADIATED SiC/SiC COMPOSITES BY UNDERWATER ACOUSTIC EMISSION	12:20-12:40
	C3	<b>T. Nishitani (NIFS) (1c4)</b>	RECENT ACTIVITIES OF IRRADIATION EFFECTS ON DIAGNOSTICS COMPONENTS UNDER THE IEA FUSION MATERIAL COLLABORATION AGREEMENT	12:40-1:00

**Monday Afternoon: 3 Parallel Oral Sessions**

**RAFM-2: Monday Afternoon, October 28, 2019 14:30AM-16:30PM Chair: H. Tanigawa**

Session		Presenter	Title	Time
RAFM-2	I1	<b>Q. Huang (INEST) (1a6)</b>	DEVELOPMENT AND STRATEGY ON CLAM STEEL FOR ITS ENGINEERING APPLICATION	14:30-15:00
	I2	<b>L. Tan (ORNL) (1a27)</b>	DEVELOPMENT OF CASTABLE NANOSTRUCTURED ALLOYS AS U.S. REDUCED-ACTIVATION FERRITIC-MARTENSITIC STEEL	15:00-15:30
	C1	<b>B. Huang (INEST) (3a1)</b>	JOINING QUALIFICATION AND ADVANCED FABRICATION TECHNIQUE DEVELOPMENT ON FUSION REACTOR BLANKET IN CHINA	15:30-15:50
	C2	<b>Y.B. Chun (KAERI) (1a3)</b>	ENHANCED MECHANICAL PROPERTIES OF ARAA BY TYPE IIIa THERMO-MECHANICAL TREATMENTS	15:50-16:10
	C3	<b>S. Bonk (KIT) (1a34)</b>	ADDITIVE MANUFACTURING TECHNOLOGIES FOR EUROFER COMPONENTS	16:10-16:30

**PFM-2: Monday Afternoon, October 28, 2019 14:30AM-16:30PM Chair: S. Dudarev**

Session		Presenter	Title	Time
PFM-2	I1	<b>S. Brezinsek (FZJ) (2a23)</b>	PLASMA-SURFACE INTERACTION IN THE STELLARATOR W7-X OPERATING WITH INERTIALLY COOLED GRAPHITE PLASMA-FACING COMPONENTS	14:30-15:00
	I2	<b>A. Hasegawa (Tohoku Univ.) (5d9)</b>	HELIUM EFFECTS ON RECOVERY AND RECRYSTALLIZATION BEHAVIOR AND TENSILE PROPERTIES OF POWDER-METALLURGICAL PROCESSED TUNGSTEN	15:00-15:30
	C1	<b>M. Shimada (INL) (2a29)</b>	SURFACE ANALYSIS OF SHIELDED AND UNSHIELDED NEUTRON-IRRADIATED POLYCRYSTALLINE TUNGSTEN BY SCANNING AUGER MICROSCOPE	15:30-15:50
	C2	<b>N. Zimmer (KIT) (5d31)</b>	INVESTIGATION OF HIGH-DOSE IRRADIATED BERYLLIUM MICROSTRUCTURE INCLUDING STEM-EELS ANALYSIS OF HELIUM/TRITIUM-BUBBLES	15:50-16:10
	C3	<b>T. Wada (Shizuoka Univ.) (2a18)</b>	INFLUENCE OF DAMAGE DEPTH DISTRIBUTION FORMED BY HYDROGEN ION ON THE DEUTERIUM RETENTION BEHAVIOR IN TUNGSTEN	16:10-16:30

**FUTURE ALLOYS: Monday Afternoon, October 28, 2019 14:30AM-16:30PM Chair: A. Bhattacharya**

Session		Presenter	Title	Time
FUTURE - 1	I1	<b>M. Satou (HIT) (1e2)</b>	INFLUENCE OF ALLOYING ELEMENTS ON STABILITY OF MICROSTRUCTURE AFTER NEUTRON IRRADIATION OF VANADIUM ALLOYS	14:30-15:00
	I2	<b>R. Kasada (Tohoku Univ.) (2b18)</b>	JAPANESE R&D ON ODS-CU FOR DIVERTOR APPLICATION	15:00-15:30
	C1	<b>S. Jiang (SAS) (1e4)</b>	DISSIMILAR-METALS BONDING BETWEEN A LOW-ACTIVATION VANADIUM ALLOY AND HASTELLOY X ALLOY BY EXPLOSIVE WELDING	15:30-15:50
	C2	<b>S. Sakurai (Taiyokoko Co.) (1e6)</b>	EFFECT OF CR AND TI CONCENTRATION ON MECHANICAL PROPERTIES OF LOW-ACTIVATION VANADIUM ALLOYS FOR NUCLEAR FUSION REACTOR	15:50-16:10
	C3	<b>Y. Yang (ORNL) (1f3)</b>	TENSILE AND THERMAL CREEP BEHAVIOR OF A NOVEL COPPER ALLOY FOR FUSION ENERGY APPLICATIONS	16:10-16:30

**TUESDAY, October 29, 2019**

**Plenary Session1**

**8:30-10:30 Chair: R. Kurtz**

Session		Presenter	Title	Time
PLEN-1	P2	<b>C. Zhang Tsinghua University</b>	DESIGN AND DEVELOPMENT OF NEW STRUCTURAL MATERIALS FOR FUSION REACTORS	8:30-9:10
	P3	<b>S. Dudarev UKAEA Culham</b>	RECENT PROGRESS IN RESEARCH IN MODELLING FUSION REACTOR MATERIALS IN EUROPE: THE IREMEV COLLABORATION	9:10-9:50
	P4	<b>J. Chen SWIP</b>	MATERIAL CHALLENGES FOR CFETR AND R&D STRATEGIES	9:50-10:30

**Tuesday Morning**

**3 Parallel Oral Sessions**

**ODS-1: Tuesday Morning, October 29, 2019: 11:00-13:00 Chair: Y. de Carlan**

Session		Presenter	Title	Time
ODS-1	I1	<b>N. Oono-Hori (Hokkaido Univ.) (1b30)</b>	STABILITY OF OXIDE PARTICLES IN ODS STEELS UNDER IRRADIATION	11:00-11:30
	I2	<b>S. Dryepondt (ORNL) (1b1)</b>	LONG-TERM CREEP RESISTANT ODS FeCrAlZr ALLOYS WITH IMPROVED Pb-Li COMPATIBILITY	11:30-12:00
	C1	<b>N. Ordás (CEIT) (1b18)</b>	EFFECT OF HOT ROLLING PARAMETERS ON THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF ODS FERRITIC STEELS PRODUCED WITH THE STARS ROUTE	12:00-12:20
	C2	<b>L. Song (INEST) (1b5)</b>	A Y-SI-O STRENGTHENED 9CR ODS STEEL DESIGNED FOR HIGH TEMPERATURE APPLICATION IN ADVANCED NUCLEAR REACTOR	12:20-12:40
	C3	<b>Y. Shi (Northeastern Univ.) (1b38)</b>	MICROSTRUCTURE AND MECHANICAL PROPERTIES OF 9CR-ODS ALLOYS PRODUCED BY LASER ADDITIVE MANUFACTURING	12:40-1:00

**PFM-3: Tuesday Morning, October 29, 2019: 11:00-13:00 Chair: F. Gao**

Session		Presenter	Title	Time
PFM - 3	I1	<b>A. Hollingsworth (UKAEA Culham) (5d14)</b>	EXPERIMENTAL AND THEORETICAL STUDY OF HYDROGEN ISOTOPES RETENTION AND RELEASE FROM IRRADIATED FUSION REACTOR MATERIALS	11:00-11:30
	I2	<b>Y. Hatano (Univ. Toyama) (7a11)</b>	ISOTOPE EFFECTS ON HYDROGEN RETENTION, TRAPPING AND PERMEATION IN COPPER-BASED MATERIALS	11:30-12:00
	C1	<b>A. Kreter (FZJ) (2a47)</b>	ENHANCED FUEL RETENTION IN TUNGSTEN PROVOKED BY NITROGEN AS SEEDED SPECIES	12:00-12:20
	C2	<b>E. Bernard (CEA) (5d23)</b>	IMPACT OF W FUZZ ON TRITIUM TRAPPING AND DESORPTION	12:20-12:40
	C3	<b>S. Nakazawa (Shizuoka Univ.) (7c7)</b>	GAMMA-RAY IRRADIATION EFFECT ON DEUTERIUM RETENTION IN REDUCED ACTIVATION FERRITIC/MARTENSITIC STEEL AND CERAMIC COATINGS	12:40-1:00

**IRRADIATION FACILITIES: Tuesday Morning, October 29, 2019: 11:00-13:00 Chair: C. Parish**

Session		Presenter	Title	Time
FACILITIES	I1	<b>T. Muroga (NIFS) (3c3)</b>	USERS' PERSPECTIVE ON D-LI NEUTRON SOURCES (A-FNS and IFMIF-DONES) FOR DEMO AND BEYOND	11:00-11:30
	I2	<b>A. Ibarra (CIEMAT) (3c1)</b>	IFMIF-DONES PROJECT: STATUS AND NEAR FUTURE	11:30-12:00
	C1	<b>W. Leysen (SCK-CEN) (3c10)</b>	FUSION MATERIAL IRRADIATION STATION ON MYRRHA FACILITY: BASELINE CONCEPT	12:00-12:20
	C2	<b>Y. Wu (INEST) (3c5)</b>	NEUTRONICS EXPERIMENTS FOR ADVANCED NUCLEAR SYSTEMS AT HINEG FACILITY	12:20-12:40
	C3	<b>A. Kasugai (QST) (3c2)</b>	PROGRESS OF CONCEPTUAL DESIGN OF ADVANCED FUSION NEUTRON SOURCE A-FNS	12:40-1:00

**Tuesday Afternoon: 3 Parallel Oral Sessions**

**ODS-2: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM Chair: TBD**

Session		Presenter	Title	Time
ODS - 2	I1	<b>J. Henry (CEA) (1b24)</b>	EUROPEAN DEVELOPMENT OF ADVANCED RAFM STEELS AND ODS ALLOYS FOR DEMO	14:30-15:00
	I2	<b>H. Abe (Univ. Tokyo) (1b6)</b>	ON THE STABILITY OF OXIDE/CARBIDE NM-SCALE PARTICLES IN ODS AND F82H STEELS UNDER IRRADIATION; A REVIEW OF IN-SITU OBSERVATION STUDIES IN HVEM	15:00-15:30
	C1	<b>K. Kruska (PNNL) (1b31)</b>	STABILITY OF OXIDE PARTICLES IN 14YWT EXPOSED TO NEUTRON IRRADIATION AT 500°C	15:30-15:50
	C2	<b>H. Kim (TAMU) (1b9)</b>	MICROSTRUCTURAL EVOLUTION IN HELIUM PRE-IMPLANTED DUAL-PHASE 12CR OXIDE DISPERSION STRENGTHENED ALLOY DURING SELF-ION IRRADIATION TO 100 DPA	15:50-16:10
	C3	<b>Y. Yano (JAEA) (1b32)</b>	MICROSTRUCTURAL STABILITY OF ODS STEEL AFTER LONG-TIME CREEP TEST	16:10-16:30

**PFM-4: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM Chair: A. Hollingsworth**

Session		Presenter	Title	Time
PFM - 4	I1	<b>H. Greuner (MP-IPP) (2b9)</b>	INVESTIGATION OF THE THERMAL PERFORMANCE OF NEWLY DEVELOPED EUROPEAN DEMO DIVERTOR TARGET CONCEPTS	14:30-15:00
	I2	<b>A. Shoshin (Novosibirsk Univ.) (2a58)</b>	IN SITU STUDY OF THE PROCESSES OF DAMAGE TO THE TUNGSTEN SURFACE UNDER TRANSIENT HEAT LOADS POSSIBLE IN ITER	15:00-15:30
	C1	<b>E. Gaganidze (KIT) (2b13)</b>	EUROPEAN TUNGSTEN MATERIAL PROPERTY HANDBOOK	15:30-15:50
	C2	<b>M. Wirtz (FZJ) (2a59)</b>	LASER AND ELECTRON BEAM EXPERIMENTS TO QUANTIFY THE THERMAL SHOCK BEHAVIOR OF TUNGSTEN	15:50-16:10
	C3	<b>M. Fukuda (QST) (2b8)</b>	INFLUENCE OF CYCLIC HEAT LOAD ON PURE TUNGSTEN FOR ITER DIVERTOR	16:10-16:30

**Advanced Characterization: Tuesday Afternoon, October 29, 2019: 14:30AM-16:30PM Chair: A. Ibarra**

Session		Presenter	Title	Time
Advanced Charact.	I1	<b>M. J. Lloyd (Oxford) (5b32)</b>	NANOSCALE CHARACTERISATION OF RE/OS PRECIPITATION IN NEUTRON IRRADIATED TUNGSTEN	14:30-15:00
	I2	<b>C. Parish (ORNL) (5e12)</b>	HIGH-THROUGHPUT PHASE-CHEMISTRY MAPPING OF NANO-PRECIPTATES IN RAFM STEELS BY TRANSMISSION KIKUCHI DIFFRACTION AND ANALYTICAL ELECTRON MICROSCOPY	15:00-15:30
	C1	<b>Y. Zhu (Univ. Conn.) (5e14)</b>	ACCELERATING THE UNDERSTANDING OF RADIATION EFFECTS VIA A NEW END-TO-END DEFECT QUANTIFICATION WORKFLOW	15:30-15:50
	C2	<b>P. Warnicke (PSI) (5e18)</b>	EXTENDED X-RAY ABSORPTION FINE STRUCTURE ANALYSIS OF TRANSMUTATION INDUCED RE LATTICE DEFECTS IN IRRADIATED W	15:50-16:10
	C3	<b>W. A. Garcia (UTK) (5e7)</b>	DEPTH DEPENDENT HELIUM AND HYDROGEN CONCENTRATIONS IN MATERIALS MEASURED BY LASER INDUCED BREAKDOWN SPECTROSCOPY AND LASER ABLATION MASS SPECTROMETRY	16:10-16:30

**WEDNESDAY, October 30, 2019**

**Plenary Session2**

**8:30-10:30 Chair: C. Henager**

Session		Presenter	Title	Time
PLEN-2	K2	<b>Prof. Michael E. Mauel Dept of Applied Physics, Columbia University</b>	NATIONAL ACADEMY OF SCIENCE FUSION STUDY REPORT	9:10 – 9:50
	P5	<b>G.R. Odette UCSB</b>	CURRENT STATUS OF ODS ALLOYS	9:10-9:50
	P6	<b>M. Nakamichi QST</b>	CURRENT STATE AND STABLY SECURING OF BERYLLIUM RESOURCE FOR FUSION BLANKETS	9:50-10:30

**Wednesday Morning**

**3 Parallel Oral Sessions**

**PFM-5: Wednesday Morning, October 30, 2019: 11:00-13:00 Chair: M. Sokolov**

Session		Presenter	Title	Time
PFM-5	I1	<b>Y. Oya (Shizuoka Univ.) (7a8)</b>	OVERVIEW OF PHENIX TASK 3 ACTIVITIES FOR TRITIUM BEHAVIOR IN HIGH-TEMPERATURE NEUTRON-IRRADIATED TUNGSTEN	11:00-11:30
	I2	<b>L. Garrison (ORNL) (2b1)</b>	MICROSTRUCTURAL CHANGES IN PLASMA-ARC LAMP HIGH HEAT FLUX EXPOSED NEUTRON IRRADIATED TUNGSTEN	11:30-12:00
	C1	<b>Y. Sugimoto (Shimane Univ.) (2a65)</b>	DEUTERIUM AND HELIUM DESORPTION BEHAVIOR AND MICROSTRUCTURE EVOLUTION IN BERYLLIUM DURING ANNEALING	12:00-12:20
	C2	<b>E. Lang (UIUC) (2a48)</b>	UNRAVELLING THE EFFECTS OF SECOND PHASE PARTICLES ON THE MORPHOLOGY, RETENTION, AND MECHANICAL PROPERTIES OF W ALLOYS UNDER HIGH FLUX D/HE IRRADIATION	12:20-12:40
	C3	<b>Z. Chen (Univ. S&amp;T China) (5d20)</b>	HYDROGEN ISOTOPE RETENTION AND TRANSPORT PROPERTY IN FUSION STRUCTURAL MATERIALS	12:40-1:00

**NEW MODELING METHODS: Wednesday Morning, October 30, 2019: 11:00-13:00**

**Chair: Y. Osetsky**

Session		Presenter	Title	Time
MOD METHODS	I1	<b>B. N. Nguyen (PNNL) (6c6)</b>	TAILORING MECHANICAL PROPERTIES OF DUCTILE-PHASE TOUGHENED TUNGSTEN COMPOSITES BY A MULTISCALE MICROSTRUCTURAL APPROACH	11:00-11:30
	I2	<b>L. Messina (KTH-RIT) (6c9)</b>	TRANSPORT PROPERTIES OF TRANSMUTATION PRODUCTS IN CONCENTRATED W-RE-OS ALLOYS BY SMART FITTING OF AB INITIO DATASETS	11:30-12:00
	C1	<b>E. Martinez (LANL) (6b20)</b>	ATOMISTIC MODELING OF HELIUM SEGREGATION TO GRAIN BOUNDARIES IN TUNGSTEN AND ITS EFFECT ON DE-COHESION	12:00-12:20
	C2	<b>T. Ooppelstrup (LLNL) (6b42)</b>	LARGE SCALE KINETIC MONTE-CARLO MODELING OF RECRYSTALLIZATION IN TUNGSTEN	12:20-12:40
	C3	<b>F. Gao (Univ. Michigan) (6a3)</b>	MACHINE LEARNING FOR PREDICTING SEGREGATION AND HELIUM BUBBLES AT GRAIN BOUNDARIES IN METALS	12:40-1:00

**MECHANICAL PROPERTIES: Wednesday Morning, October 30, 2019: 11:00-13:00****Chair: L. Garrison**

Session		Presenter	Title	Time
MECH. PROP.	I1	<b>E. Wakai (J-PARC) (5c10)</b>	REVIEWS AND ANALYSIS OF IRRADIATION DAMAGE OF STRUCTURAL MATERIALS AND DESIGN WINDOWS UNDER DIFFERENT IRRADIATION ENVIRONMENTS	11:00-11:30
	I2	<b>M. Sokolov (ORNL) (3d10)</b>	IAEA COORDINATED RESEARCH PROJECT ON SMALL SPECIMEN TEST TECHNIQUES FOR FUSION APPLICATIONS	11:30-12:00
	C1	<b>T. Tanno (JAEA) (5c17)</b>	TENSILE PROPERTY CHANGES OF 11CR FERRITIC/MARTENSITIC STEEL IRRADIATED IN FAST REACTOR JOYO	12:00-12:20
	C2	<b>X. Chen (ORNL) (5c3)</b>	EFFECTS OF NEUTRON IRRADIATION ON FRACTURE TOUGHNESS PROPERTIES OF STANDARD AND NI-DOPED F82H STEELS	12:20-12:40
	C3	<b>C. Yao (PSI) (5c9)</b>	DBTT SHIFT OF FERRITIC/MARTENSITIC AND ODS STEELS AFTER SPALLATION IRRADIATION EVALUATED WITH SMALL PUNCH TESTING	12:40-1:00



**Wednesday Afternoon  
3 Parallel Oral Sessions**

**HONORING PROF. BOB ODETTE (SPECIAL SESSION): Wednesday Afternoon, October 30, 2019: 14:30-16:30 Chair: B. Wirth**

Session		Presenter	Title	Time
ODETTE	I1	<b>G. Lucas (UCSB)</b>	ODETTE HISTORICAL OVERVIEW	14:30-15:10
	I2	<b>N. Ghoniem (UCLA)</b>	PLASTICITY OF IRRADIATED MATERIALS AT THE NANO- & MICRO-SCALES REVEALED BY DISLOCATION DYNAMICS SIMULATIONS	15:10-15:40
	I3	<b>T. Yamamoto (UCSB)</b>	MODELING OF HELIUM EFFECTS ON MICROSTRUCTURAL EVOLUTION IN TMS AND NFA: THE EFFECTS OF HE/DPA, TEMPERATURE, DOSE AND DOSE RATE	15:40-16:05
	I4	<b>Y. Dai (PSI)</b>	APT/TEM CHARACTERIZATION OF THE MICROSTRUCTURAL AND CHEMICAL EVOLUTIONS IN RAFM AND ODS STEELS AFTER IRRADIATION AT SWISS SPALLATION NEUTRON SOURCE	16:05-16:30

**BULK MATERIALS MODELING: Wednesday Afternoon, October 30, 2019: 14:30-16:30 Chair: L. Messina**

Session		Presenter	Title	Time
MOD BULK	I1	<b>Y. Osetsky (ORNL) (5a19)</b>	WHAT IS THE MAXIMUM POSSIBLE STRENGTHENING DUE TO LOCALIZED OBSTACLES IN FERRITIC ALLOYS?	14:30-15:00
	I2	<b>S. Hayakawa (Univ. Tokyo) (6b1)</b>	STUDY OF THE STABLE CONFIGURATION OF CASCADE-INDUCED DEFECTS IN FCC METALS USING THE TEMPERATURE PARALLEL SIMULATED ANNEALING WITH SELF-GENERATED BASINS	15:00-15:30
	C1	<b>A. El-Azab (Purdue University) (6b38)</b>	CONTINUUM THEORY OF DEFECTS AS A FRAMEWORK FOR PREDICTIVE MODELING OF RADIATION EFFECTS IN CRYSTALLINE SOLIDS	15:30-15:50
	C2	<b>P-W. Ma (UKAEA Culham) (6b26)</b>	ANISOTROPIC ELASTIC FIELDS OF RADIATION DEFECTS	15:50-16:10
	C3	<b>X-C. Li (IPP CAS) (6b27)</b>	FIRST-PRINCIPLES STUDY ON DISSOLUTION AND DIFFUSION PROPERTIES OF HYDROGEN IN A-AL2O3	16:10-16:30

**TRITIUM BREEDING: Wednesday Afternoon, October 30, 2019: 14:30-16:30 Chair: K. Field**

Session		Presenter	Title	Time
BREEDING	I1	<b>A. Ying (UCLA) (2c1)</b>	CELLULAR BREEDER MATERIALS: A TRANSFORMATIVE CERAMIC SOLID BREEDER FOR FUSION REACTOR BLANKETS	14:30-15:00
	I2	<b>V. Chakin (KIT) (2c13)</b>	TRITIUM AND HELIUM RELEASE FROM BERYLLIUM PEBBLES IRRADIATED UP TO 640 APPM TRITIUM AND 6000 APPM HELIUM	15:00-15:30
	C1	<b>P. Vladimirov (KIT) (2c16)</b>	DEVELOPMENT AND CHARACTERIZATION OF ADVANCED NEUTRON MULTIPLIER MATERIALS	15:30-15:50
	C2	<b>S. Waters (Univ. Sheffield) (2c12)</b>	RADIATION DAMAGE AND HELIUM ACCOMMODATION IN LITHIUM METATITANATE CERAMIC BREEDER MATERIALS	15:50-16:10
	C3	<b>I. L. Tazhibayeva (IEA NNC-RK) (2c7)</b>	REACTOR STUDIES OF TRITIUM RELEASE FROM LEAD-LITHIUM EUTECTIC LI15.7PB WITH DEUTERIUM OVER THE SAMPLE	16:10-16:30

**THURSDAY, October 31, 2019**  
**Plenary Session3**  
**8:30-10:30 Chair: J. Marian**

Session		Presenter	Title	Time
PLEN-3	P7	<b>C. García-Rosales CEIT</b>	CURRENT STATUS OF THE DEVELOPMENT OF OXIDATION-RESISTANT TUNGSTEN-BASED ALLOYS FOR FIRST WALL APPLICATION IN FUSION DEVICES	8:30-9:10
	P8	<b>S. Nogami Tohoku University</b>	MECHANICAL PROPERTIES OF TUNGSTEN	9:10-9:50
	P9	<b>J-H. You IPP Garching</b>	STATUS OF TECHNOLOGY R&D AND THE RESULTS OF PRE- CONCEPTUAL EVALUATION OF THE EU DEMO DIVERTOR TARGET CONCEPTS	9:50-10:30

**Thursday Morning**  
**3 Parallel Oral Sessions**

**TUNGSTEN-1: Thursday Morning, October 31, 2019: 11:00-13:00 Chair: J. Coenen**

Session		Presenter	Title	Time
TUN-1	I1	<b>T. Miyazawa (Tohoku Univ.) (1d23)</b>	NEUTRON IRRADIATION EFFECTS ON MECHANICAL PROPERTIES OF TUNGSTEN ALLOYS	11:00-11:30
	I2	<b>J. Trelewicz (Stonybrook Univ.) (1d31)</b>	CONTROLLING STABILITY AND RADIATION TOLERANCE OF TUNGSTEN THROUGH NANOSCALE GRAIN BOUNDARY ENGINEERING	11:30-12:00
	C1	<b>J. Matějčíček (IPP Prague) (1d26)</b>	IRRADIATION EFFECTS ON MECHANICAL PROPERTIES OF SPARK PLASMA SINTERED W-BASED MATERIALS	12:00-12:20
	C2	<b>M. Akiyoshi (Osaka Univ.) (1d2)</b>	THERMAL DIFFUSIVITY OF IRRADIATED TUNGSTEN AND TUNGSTEN-RHENIUM ALLOYS	12:20-12:40
	C3	<b>D. Schwalenberg (FZJ) (1d21)</b>	UPSCALING OF TUNGSTEN-FIBER REINFORCED TUNGSTEN PRODUCTION VIA CVD	12:40-1:00

**RADIATION DAMAGE-1: Thursday Morning, October 31, 2019: 11:00-13:00 Chair: X. Hu**

Session		Presenter	Title	Time
DMG-1	I1	<b>S. Zinkle (UTK) (5a14)</b>	DEFECT PRODUCTION, DIFFUSION AND INTERACTION WITH HE IN IRRADIATED MATERIALS	11:00-11:30
	I2	<b>S. Ohnuki (USTB) (5c8)</b>	ANOMALOUS PHASE SEPARATION IN FE-CR ALLOYS UNDER THREE TYPES OF IRRADIATION	11:30-12:00
	C1	<b>J. Byggmästar (Univ. Helsinki) (5a21)</b>	CASCADE OVERLAP EFFECTS IN IRON AND TUNGSTEN	12:00-12:20
	C2	<b>D. Edwards (PNNL) (5b24)</b>	RESISTANCE TO VOID FORMATION IN ODS ALLOYS IN THE PRESENCE OF IN-SITU HELIUM INJECTION	12:20-12:40
	C3	<b>A. Gentils (CSNSM Paris) (5d34)</b>	THE EFFECTS OF HIGH-DOSE HE AND H ION IMPLANTATION ON THE MICROSTRUCTURAL DEVELOPMENT IN EUROFER-ODS STEEL	12:40-1:00

**PSI MODELING: Thursday Morning, October 31, 2019: 11:00-13:00    Chair: W. Setyawan**

Session		Presenter	Title	Time
MOD PSI	I1	<b>Q. Yu (UCLA) (6b31)</b>	KINETIC MODELING OF HYDROGEN RETENTION IN TUNGSTEN UNDER FUSION CONDITIONS USING SPATIALLY RESOLVED STOCHASTIC CLUSTER DYNAMICS	11:00-11:30
	I2	<b>D. Martin (UTK) (2a50)</b>	LARGE SCALE MD STUDY OF THE EFFECT OF A HELIUM BUBBLE LAYER ON HYDROGEN DIFFUSION IN TUNGSTEN	11:30-12:00
	C1	<b>C. Stihl (KIT) (5d33)</b>	MULTISCALE TRITIUM DESORPTION MODELS FROM (0001) BE SURFACES	12:00-12:20
	C2	<b>M. A. Cusentino (SNL) (6b46)</b>	MOLECULAR DYNAMICS MODELING OF MIXED MATERIALS IN TUNGSTEN USING MACHINE LEARNED INTERATOMIC POTENTIALS	12:20-12:40
	C3	<b>Y. Huang (UCLA) (6a2)</b>	MULTISCALE-MULTIPHYSICS BASED DESIGN OF A SOLID-LIQUID HYBRID DIVERTOR MODULE	12:40-1:00

**Thursday Afternoon  
3 Parallel Oral Sessions**

**TUNGSTEN-2: Thursday Afternoon, October 31, 2019: 14:30-16:30      Chair: J. Trelewicz**

Session		Presenter	Title	Time
TUN-2	I1	<b>T. Höschen (IPP Garching) (1d7)</b>	PRE-CHARACTERIZATION OF WF/W MATERIAL FOR THE EUROFUSION IRRADIATION CAMPAIGN	14:30-15:00
	I2	<b>K. Li (Tsinghua Univ.) (1d33)</b>	CHALLENGES AND ACHIEVEMENTS ON ADDITIVE MANUFACTURING OF TUNGSTEN	15:00-15:30
	C1	<b>E. Tejado (Univ. Polit. Madrid) (1d5)</b>	SELECTIVE LASER BEAM MELTING OF PURE TUNGSTEN: MICROSTRUCTURE AND MECHANICAL BEHAVIOR	15:30-15:50
	C2	<b>M. J. Pfeifenberger (ESI Austria) (1d12)</b>	FRACTURE TOUGHNESS ANISOTROPY OF ULTRAFINE GRAINED TUNGSTEN MATERIALS	15:50-16:10
	C3	<b>F. Fan (SWIP) (1d27)</b>	MECHANICAL PROPERTY AND MICROSTRUCTURE OF W-TA ALLOY PROCESSED BY HIGH ENERGY RATE FORGING	16:10-16:30

**RADIATION DAMAGE-2: Thursday Afternoon, October 31, 2019: 14:30-16:30      Chair: E. Wakai**

Session		Presenter	Title	Time
DMG- 2	I1	<b>M. Klimenkov (KIT) (5b31)</b>	CORRELATION OF MICROSTRUCTURAL AND MECHANICAL PROPERTIES OF NEUTRON IRRADIATED EUROFER97	14:30-15:00
	I2	<b>X. Hu (ORNL) (5b30)</b>	OVERVIEW OF TRANSMUTATION-INDUCED PRECIPITATION IN TUNGSTEN DURING NEUTRON IRRADIATION	15:00-15:30
	C1	<b>W. Jiang (PNNL) (5a6)</b>	DAMAGE ACCUMULATION AND VOID FORMATION IN SELF-ION IRRADIATED TUNGSTEN	15:30-15:50
	C2	<b>Y-R. Lin (UTK) (5b17)</b>	VOID SWELLING IN ION IRRADIATED HIGH-PURITY FE AND FE-CR ALLOYS: PEAK SWELLING TEMPERATURES AND CARBON EFFECT	15:50-16:10
	C4	<b>M. Miyamoto (Shimane Univ.) (5b26)</b>	FORMATION AND MIGRATION OF HELIUM BUBBLES IN REDUCED ACTIVATION FERRITIC/MARTENSITIC STEEL F82H	16:10-16:30

**FUSION STARTUP COMPANIES (SPECIAL SESSION): Thursday Afternoon, October 31, 2019: 14:30-16:30      Chair: L. Snead**

Session		Presenter	Title	Time
FUSION STARTUPS	FS1	<b>A. Smirnov TAE Technologies, Inc</b>	PROGRESS AND CHALLENGES IN TAE'S QUEST TOWARDS A PRACTICAL FRC-BASED FUSION REACTOR	14:30-15:00
	FS2	<b>Zach Hartwig Commonwealth Fusion</b>	MATERIALS CHALLENGES AND OPPORTUNITIES FOR HIGH-FIELD TOKAMAK POWER PLANTS	15:00-15:30
	FS3	<b>W. M. Solomon GA DIII-D Team</b>	DIII-D RESEARCH TOWARD FUSION ENERGY, CURRENT STATUS AND FUTURE PLANS	15:30-16:00
	FS4	<b>T. P. Davis Davis &amp; Musgrove Ltd., Oxford</b>	MATERIALS STRATEGY FOR FIRST-OF-A-KIND FUSION POWER STATIONS	16:00-16:30

**FRIDAY, November 1, 2019**  
**Plenary Session4**  
**8:30-10:30 Chair: S. Zinkle**

Session		Presenter	Title	Time
PLEN-4	P10	<b>T. Hinoki</b> <b>Kyoto University</b>	DEVELOPMENT AND CHARACTERIZATION OF ADVANCED SIC COMPOSITES FOR FUSION	8:30-9:10
	P11	<b>Y. Katoh</b> <b>ORNL</b>	PROJECT PHENIX FOR TECHNOLOGICAL ASSESSMENT OF PLASMA FACING COMPONENTS FOR DEMO REACTORS: SUMMARY OF MATERIALS RESEARCH ACCOMPLISHMENTS	9:10-9:50
	P12	<b>D. J. Sprouster</b> <b>Stonybrook University</b>	ADVANCED SYNCHROTRON CHARACTERIZATION TECHNIQUES FOR FUSION MATERIALS SCIENCE	9:50-10:30

**FRIDAY, November 1, 2019**  
**Technical Tours**  
**14:30-17:00**