



Agenda CBBI-20

Wednesday, 18 September 2019

8.15	Pick-up service from hotels B&B and Kübler
9.00	Welcome – Regina Knitter, KIT
Session 1 – Chair: R. Knitter, KIT	
9.10	Paritosh Chaudhuri, IPR Status and progress on the activities of lithium ceramic breeder materials at IPR
9.30	Xiaojun Chen, CAEP Progress of ceramic breeder materials in CAEP
9.50	Oliver Leys, KIT Advanced ceramic breeder pebble production: Controlling the pebble size
10.10	Qiang Qi, ASIPP Comparison of tritium release behavior in promising tritium breeding materials
10.30	Coffee Break
Session 2 – Chair: M.-Y. Ahn, NFRI	
10.50	Linjie Zhao, CAEP Design, synthesis and characterization of Li_4SiO_4 -based solid solutions as advanced tritium breeders
11.10	Juemin Yan, Sichuan U, CAEP Design, synthesis, calculation and characterization of the tritium breeder: Li_4TiO_4 ceramics
11.30	Yu-Ping Xu, ASIPP 3D imaging of the microstructure of the ceramic breeding pebbles by X-ray computed tomography
11.50	Keisuke Mukai, Kyoto U Analysis of valence electron structure of Li metal/oxides by soft X-ray emission spectroscopy
12.10	Lunch Break (KIT Casino)
Session 3 – Chair: X. Chen, CAEP	
14.10	Takumi Chikada, Shizuoka U Compatibility of tritium permeation barrier coatings under solid breeder blanket conditions
14.30	Mario Walter, KIT Impact of a ceramic breeder environment on the fatigue lifetime of EUROFER
14.50	Keiji Oishi, U Tokyo Compatibility between fusion reactor blanket structural material F82H and solid breeders lithium titanate and lithium oxide
15.10	Long Wang, SWIP Hydrogen isotope permeability of reduced activation ferritic-martensitic steel CLF-1 by Li_4SiO_4
15.30	Coffee Break
Session 4 – Chair: R. K. Annabattula, IITM	
15.50	Jae-Hwan Kim, QST Compatibility of advanced functional materials for fusion applications
16.10	Xiaoman Cheng, ASIPP Simulation of oxidation reaction between Be pebble beds and steam in WCCB blanket during in-box LOCA
16.30	Simon Steel, UKAEA Test facility for tritium permeation measurements of containment materials and coatings under breeder blanket relevant conditions
16.50	Adjourn / Transfer to hotels



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8.15	Pick-up service from hotels B&B and Kübler
9.00	Organizational issues – Regina Knitter, KIT Session 5 – Chair: T. Hoshino, QST
9.10	María González, CIEMAT Behavior of ceramic breeder candidates to high-energy ion beams
9.30	Samuel J. Waters, U Sheffield Radiation damage and helium accommodation in lithium metatitanate ceramic breeder materials
9.50	Artūrs Zariņš, U Latvia Analysis of electromagnetic and corpuscular radiation-induced processes in advanced two-phased ceramic breeder pebbles
10.10	Satoshi Konishi, Kyoto U Integrated neutronics experiment of breeding blanket assembly and TBR evaluation with discharge fusion source
10.30	Coffee Break Session 6 – Chair: K. Mukai, Kyoto U
10.50	Samuel T. Murphy, Lancaster U Tritium and helium solubility in Li_2TiO_3 from density functional theory
11.10	Kamal Nayan Goswami, Lancaster U A first-principles kinetic Monte Carlo investigation of tritium diffusion in Li_2TiO_3
11.30	Megha Sanjeev, Lancaster U Thermal conductivity of Li_2TiO_3 by atomistic simulation
11.50	Narasimhan Swaminathan, IITM Radiation damage properties of Li_4SiO_4 and Li_2TiO_3 using molecular dynamics simulations – A comparative study
12.10	Lunch Break (KIT Casino) Session 7 – Chair: S. Liu, ASIPP
14:10	Yi-Hyun Park, NFRI Maximum operating temperature for Li_2TiO_3 pebble bed from sintering phenomenon
14.30	Marigrazia Moscardini, U Pisa, KIT Discrete Element analysis of plastic deformation in pebble beds
14.50	Joerg Reimann, KIT Influences of pebble geometry on the thermomechanical behaviour of ceramic breeder pebble beds
15.10	Coffee Break Session 8 – Chair: A. Ying, UCLA
15.30	Ratna Kumar Annabattula, IITM Application of machine learning tools to study heat transfer in ceramic pebble beds
15.50	Baoping Gong, SWIP Investigation of the packing behaviors and the effective thermal conductivity of pebble beds
16.10	Lei Chen, ASIPP Experimental and numerical study of flow and heat transfer characteristics for pebble beds in fusion blankets
16.30	Adjourn / Transfer to hotels
19.00	Joint Dinner in Karlsruhe



Agenda CBBI-20

Friday, 20 September 2019

8.45	Pick-up service from hotels B&B and Kübler
Session 9 – Chair: P. Chaudhuri, IPR	
9.30	Songlin Liu, ASIPP Design of the water cooled ceramic breeder blanket for CFETR with the latest core parameters and mission
9.50	Francisco A. Hernández, KIT Consolidated design of the HCPB breeding blanket for the pre-conceptual design activities of the EU DEMO and harmonization with the ITER HCPB TBM program
10.10	Mu-Young Ahn, NFRI Design and R&D status of tritium extraction system for HCCR-TBM
10.30	Coffee Break
Session 10 – Chair: R. Knitter, KIT	
10.50	Tsuyoshi Hoshino, QST Lithium-6 enrichment using innovative electro dialysis with lithium ionic conductor for fusion reactor
11.10	Kenji Morita, QST Computational analyses of fast ion conductors for efficient separation of lithium-6
11.30	Julia M. Heuser, KIT Lithium-6 availability and an assessment of enrichment strategies
11.50	Closing / Farewell
12.00	Lunch Break (finger food + snacks @ venue)
13.15	Transfer to hotels and main station (optional)

25th IEA Subtask-1 Review Meeting on Solid Breeder Blanket

Alice Ying, UCLA

DRAFT AGENDA

13.30	Introduction and discussion of agenda – Alice Ying
13.40	Review of 2018-2019 WG Activities – WG Coordinators
15.10	Coffee Break
15.30	Plan for 2019-2020 Activities – IEA Members
16.40	Next review meeting, WG, CBBI-21, STG Member, WG Contact person/coordinator, preparation of ExCo presentation and AOB
17.00	Closing / Transfer to hotels and main station



Welcome to **CBBI-20**

20th International Workshop on Ceramic Breeder Blanket Interactions

18 – 20 September 2019

Karlsruhe Institute of Technology, Campus North

**CBBI-20 is held under the auspices of the International Energy Agency (IEA)
Implementing Agreement on the Nuclear Technology of Fusion Reactors**

Program Advisory Committee

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