

# **4th Technical Exchange Meeting on the China - EU Collaboration on CFETR and EU-DEMO Reactor Design**

**Tuesday, 19 March 2024 - Friday, 22 March 2024**

**Karlsruhe Institute of Technology  
Programme**

# Tuesday, 19 March 2024

## Bus Transfer from Hotel Kübler to KIT (07:45 - 08:15)

## Registration (08:15 - 09:00)

## Welcome & Introduction (09:00 - 09:10)

- Presenters: KAMENDJE, Richard; BIEL, Wolfgang

## Overview Chinese Fusion Programme (19 Mar 2024, 09:10 - 11:10)

-Conveners: Wolfgang Biel

time	title	presenter
09:10	Overview of BEST Engineering Design	LU, Kun
09:40	Overview of CRAFT Progress	LI, Jiangang
10:10	Overview of HL-3	CAI, Lijun
10:40	Overview of CFETR Physics Design	CHAN, Vincent

## Coffee Break (11:10 - 11:30)

## European Fusion Programme: Overview (19 Mar 2024, 11:30 - 12:30)

-Conveners: Jiangang LI

time	title	presenter
11:30	EU Roadmap Update	FASOLI, Ambrogio
12:00	DEMO Design Exploration	COLEMAN, Matti

## Lunch Break (12:30 - 13:45)

## European Fusion Programme: VNS General Concept & Physics Assessment 1 (19 Mar 2024, 13:45 - 14:30)

-Conveners: Vincent CHAN

time	title	presenter
13:45	Introduction / Rationale for a VNS	FEDERICI, Gianfranco
14:00	Blanket Testing & Qualification Needs and Options	AIELLO, Giacomo

## European Fusion Programme: VNS General Concept & Physics Assessment 2 (19 Mar 2024, 14:30 - 15:45)

-Conveners: Vincent CHAN

time	title	presenter
14:30	VNS Physics	MAVIGLIA, Francesco SICCINIO, Mattia WIESEN, Sven
15:00	VNS Engineering	BACHMANN, Christian

## Coffee Break (15:45 - 16:05)

## Transversal Issues: Safety & Licensing (19 Mar 2024, 16:05 - 17:05)

**-Conveners: Yong CHENG**

time	title	presenter
16:05	EU-DEMO Safety and Licensing Approach	ELBEZ-UZAN, Joelle
16:35	Fusion Safety & Radiation Protection for BEST	ZHENG, Shanliang

**General Discussion (17:05 - 18:05)**

- Presenter: KAMENDJE, Richard

**Adjournment (18:05 - 18:07)**

**Bus Transfer to Hotel Kübler (18:15 - 18:45)**

# Wednesday, 20 March 2024

## Bus Transfer from Hotel Kübler to KIT (07:45 - 08:15)

### Physics and Technology Integration Issues: Plasma Control & Associated Diagnostics (20 Mar 2024, 08:30 - 09:50)

-Conveners: Hartmut Zohm

time	title	presenter
08:30	DEMO plasma control & related diagnostics	MAVIGLIA, Francesco BIEL, Wolfgang
09:00	Artificial Intelligence Application for DEMO Plasma Control	XIAO, Bingjia
09:25	A New Plasma Control System for Fusion Reactor	YUAN, Qiping

### Fusion Reactor Components and Technologies: Materials (20 Mar 2024, 09:50 - 14:50)

-Conveners: Klaus Hesch

time	title	presenter
09:50	A Phased Roadmap for the Development of Fusion Reactor Materials in China	WANG, Yugang
10:15	Materials Development & Strategy in EU	AIELLO, Giacomo
10:40	Coffee Break (20 minutes)	
11:00	R&D of Materials for Fusion Reactors at SWIP	CHEN, Jiming
11:25	Materials Simulation Programme in EU	DUDAREV, Sergei
11:50	Strategy for Material Simulation and Recent Progress in China	LU, Guanghong
12:15	Lunch Break (1h 45m)	
14:00	Development of Tungsten-based Improved Amour Materials in EU	PINTSUK, Gerald
14:25	Development of CFETR/DEMO Divertor Materials and Components at SWIP	LIAN, Youyun

### Fusion Reactor Components and Technologies: Divertor (20 Mar 2024, 14:50 - 16:05)

-Conveners: Xuebing PENG

time	title	presenter
14:50	EU-DEMO Divertor: Design Revision and R&D	YOU, Jeong-Ha
15:15	Progress of Design and R&D of CFETR Divertor	XU, Tiejun
15:40	Divertor Design in BEST	DING, Rui

## Coffee Break (16:05 - 16:20)

## General Discussion (16:20 - 17:20)

- Presenter: LU, Kun

## Adjournment (17:20 - 17:22)

## Bus Transfer to Hotel Kübler (17:30 - 18:00)

## Workshop Dinner at Restaurant Badisch Brauhaus (19:00 - 22:00)

# Thursday, 21 March 2024

## Bus Transfer from Hotel Kübler to KIT (07:45 - 08:15)

### Fusion Reactor Components and Technologies: Breeding Blankets (21 Mar 2024, 08:30 - 09:50)

-Conveners: Richard Kamendje

time	title	presenter
08:30	Design, Development and Safety Study of DEMO HCCB Breeding Blanket System	ZHANG, Long
08:55	Developments of Cool Blanket Technology in ASIPP	CHEN, Lei
09:20	European Breeding Blanket Concepts	HERNANDEZ GONZALEZ, Francisco

### Fusion Reactor Components and Technologies: Tritium & Fuel Cycle Systems (21 Mar 2024, 09:50 - 11:40)

-Conveners: Shanliang ZHENG

time	title	presenter
09:50	Evaluation of DT Fuel Cycling System for CFETR	WANG, Heyi
10:20	Coffee Break (20 minutes)	
10:40	EU-DEMO Fuel Cycle System	DAY, Christian
11:10	Recent Progress in CFETR Tritium Plant Technologies	CHEN, Changan

### In-Vessel Integration (21 Mar 2024, 11:40 - 16:20)

-Conveners: David Maisonnier

time	title	presenter
11:40	System Integration and Configuration Management: Lessons Learned from ITER	CHIOCCIO, Stefano
12:00	First Wall Heat Loads in BEST	DING, Rui
12:20	Thermal Conditions of IVCs	MOSCATO, Ivo
12:45	Lunch Break (1h 15m)	
14:00	EM Loads of IVCs	MAIONE, Ivan
14:20	IVC Integration Design of BEST	PENG, Xuebing
14:50	IVC Integration Concepts of EU DEMO	BACHMANN, Christian
15:00	IVC Integration Concepts of VNS	BACHMANN, Christian
15:20	RH of EU DEMO Blanket Piping	MOZZILLO, Rocco
15:35	RH Concepts of EU DEMO Blankets	BACHMANN, Christian
15:50	Research Status and Cooperation Planning of Remote Maintenance Technology	CHENG, Yong

## Coffee Break (16:20 - 16:35)

## General Discussion (16:35 - 17:35)

- Presenter: FEDERICI, Gianfranco

**Conclusion & Closing (17:35 - 17:45)**

- Presenters: KAMENDJE, Richard; BIEL, Wolfgang

**Bus Transfer to Hotel Kübler (18:00 - 18:30)**

## **Friday, 22 March 2024**

**Bus Transfer from Hotel Kübler to KIT (08:00 - 08:30)**

**Visit of Selected Laboratories at KIT (09:00 - 13:00)**