

CCP-NTH

Collaborative Computational Project for Nuclear Thermal Hydraulics

UKFN Special Interest Group in Nuclear Thermal Hydraulics (SIG NTH) and
Collaborative Computational Project for Nuclear Thermal Hydraulics (CCP NTH)

Annual Technical Meeting

27th and 28th June 2022

Lecture Theatres 5 & 6, Department of Engineering, University of Cambridge, UK

Draft Programme

Monday 27th June

12:00 - 12:30 **Registration, LT5**

12:30 - 13:30 **Lunch, LT5**

13:30 - 15:40 **Technical session 1, LT6** (chaired by Hector Iacovides)

13:30 – 13:40 Welcome - **Eugene Shwageraus, Shuisheng He**

13:40 – 14:00 Opening talk - **Matthew Juniper**, University of Cambridge

14:00 – 14:20 CCP-NTH update - **Shuisheng He**, University of Sheffield; **Wei Wang**, STFC Daresbury Laboratory

14:20 – 14:40 LFR experiments - **Emre Tatli**, Westinghouse Electric Company

14:40 – 15:00 Computational modelling of LFR fuel passages - **Dean Wilson**, University of Manchester

15:00 – 15:20 CFD Study of Helium-air Mixing in Reactor Cavities Following a Pipe Break in HTGRs - **Jundi He**,
University of Sheffield; **Bo Liu**, STFC Daresbury Laboratory

15:20 – 15:40 Thermal Hydraulic Challenges within Fusion - **Chris Harrington**, UKAEA

15:40 – 16:00 **Coffee Break, LT5**

16:00 - 18:00 **Technical session 2, LT6** (chaired by Elia Merzari)

16:00 – 16:30 CHAPSim 2.0 beta version release - **Wei Wang**, STFC Daresbury Laboratory

16:30 – 16:45 CHAPSim Application 1: Application of CHAPSim in the study of accelerating flows - **Matthew
Falcone**, University of Sheffield

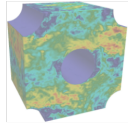
16:45 – 17:00 CHAPSim Application 2: Development of CHAPSim for Modelling Pulsating Flows - **Phillip Taylor**,
Liverpool John Moores University

17:00 – 17:20 Status of the THOR and BULLET facilities development - **Marat Margulis**, Bangor University

17:20 – 17:40 Temperature difference monitoring of spent fuel canisters - **Chris Sigournay**, EDF Energy

17:40 – 18:00 Natural convection during de-fuelling of DNB - **Mike Rabbitt**, EDF Energy

19:00 **Dinner, Sidney Sussex College with dinner talk from Lindsay Greer**



Tuesday 28th June

08:30-08:40 **Arrival tea & coffee, LT5**

08:40-10:20 **Technical session 3, LT6** (chaired by Eugene Shwageraus)

08:40-09:00 TBC – **Elia Merzari**, Penn State University

09:00-09:20 Flow-Induced Vibrations of Fuel Rods subjected to Axial Flow – **Hector Iacovides**, University of Manchester

09:20-09:40 CFD simulations of the rotating cage flow-accelerated corrosion testing rig - **Abdelmagid Emad Abdelmagid Ali**, University of Manchester

09:40-10:00 T-junction thermal mixing, surrogate modelling and uncertainty quantification - **Lisa Lampunio**, Imperial College London

10:00-10:20 Prediction of discretisation errors on coarse CFD grids using Galilean invariant neural networks - **Hamza Sardar**, University of Manchester

10:20-10:40 **Coffee Break, LT5**

10:40-11:20 **Technical session 3 (continued), LT6**

10:40-11:00 Capability Based Thermal Hydraulics - **Katie Jarman**, Rolls-Royce

11:00-11:20 Strategy for Higher-Fidelity Hot Channel Methods - **Ryan Tunstall**, Rolls-Royce

11.20-12.30 **Session 4: Panel discussion, LT6**

Facilitators: Mike Bluck (ICL) and Steve Graham (NNL)

Panel members: Emre Tatli, Elia Merzari, Ryan Tunstall, Mike Rabbitt

Mini talks: US DOE Nuclear Reactor R&D strategies. (i) university programs (Elia, 10 min), (ii) Westinghouse's participation (Emre, 10 min)

Panel discussion topics: The government has an ambition to position the UK as a serious player in the global nuclear industry:

- (1) What research infrastructure/programmes should there be in the UK and
- (2) How can alignment between academic research and industrial challenges be improved to achieve this goal?

12:30 **Lunch**

13:30 **Departure**

Notes:

- Speakers: Most slots are 20 min. Please speak for 15 min and leave 5 min for questions and changeover.
- Meeting venue: Lecture Theatre 6 (LT6), with lunches/coffee & refreshes in Lecture Theatre 5 (LT5). Department of Engineering, Trumpington Street, Cambridge, CB2 1PZ
<https://map.cam.ac.uk/Department+of+Engineering#52.198331,0.120971,18>
- Reception followed by Dinner: Sidney Sussex College. Start at 7:00pm.
- Accommodation: Sidney Sussex College, Sidney Street, Cambridge, CB2 3HU
<https://map.cam.ac.uk/Sidney+Sussex+College#52.207308,0.120785,18>