



---

Please join my meeting on your computer, tablet or smartphone:  
<https://www.gotomeet.me/NCBJmeetings/uz3-and-phd4gen-seminars>

---

## **Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3) Departament Badań Układów Złożonych (DUZ)**

Wtorek: **22.03.2022**  
**11:30**

**Hisham Elgendy**

### **Preliminary CFD analysis of the Dual fluid reactor mini-demonstrator**

#### **Abstract:**

The construction of a mini demonstrator is one of the main and early stages on the way towards the future realization of the Dual Fluid Reactor (DFR) concept. The mini demonstrator is a small version of the DFR itself, where the heat transfer and flow distribution have to be tested and compared with corresponding simulation calculations. Therefore, the application of the CFD codes is necessary in order to determine the temperature and velocity profiles of the flow in different parts of the high temperature fuel and coolant loops as precisely as possible.

The work that will be presented in this seminar has been carried out to estimate the CFD preliminary analysis of the mini demonstrator within specific temperatures and velocities of fuel and coolant tested in different values and conditions. Additionally, a grid dependency verification has been tested using several mesh sizes. The results will show the effect of change in velocities on the heat transfer and will show the temperature and velocity profiles for different sections of the mini demonstrator during its operation.

Serdecznie zapraszamy  
M. Dąbrowski, T. Kwiatkowski  
<http://www.phd4gen.pl>