**Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3)**

**Departament Badań Układów Złożonych (DUZ)**

**Wtorek: 02.07.2019, 11:30**

CYFRONET (bud. 39), sala 172 (III piętro)

**High Performance Computing for Nuclear Reactor**

**Design and Safety Applications**

Presenters: Afaque Shams1 and Tomasz Kwiatkowski2

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**Patron of the project: prof. dr. hab. Mariusz Dąbrowski**

1Nuclear Research and Consultancy Group (NRG)

2National Centre for Nuclear Research (NCBJ)

The lecture will highlight the importance of high performance computing towards the nuclear reactor safety and design applications. The presented work is a part of a bi-lateral collaboration, in the form of a research program, between NCBJ and NRG. Within this collaboration, an enormous effort has been put forward to generate a high quality (one of a kind) Direct Numerical Simulations (DNS) database of two important thermal-hydraulic problems within the nuclear industry, i.e. pressurized thermal shock (PTS) and inter-channel mixing in a bare rod bundle configuration. These large scale DNS computations have been performed using high performance computing (HPC) cluster located in Świerk Computing Centre (CIŚ).

Serdecznie zapraszamy,

M. Dąbrowski, T. Kwiatkowski