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

Wtorek: **08.02.2022**  
**11:30**

**prof. Waclaw Gudowski**

**Heavy metal coolant for nuclear power applications  
– my own contribution to HISTORY of nuclear technology**

**Abstract:**

Investigation of liquid metals as a coolant for nuclear reactors started intensively at the end of the 40th – beginning of the 50th in last century. After some years of difficult and extensive experiments it turned out that the following choices were done: liquid sodium as a coolant for commercial fast breeder reactors, lead-bismuth eutectic has been mastered by the Soviet Union as an optimal coolant for reactors propelling nuclear submarines, and sodium-potassium eutectic has been selected for spacecraft reactors. In the early '90s, Swedish and American researchers developed a cooperative project with Russian partners to commercialize lead-bismuth, and further on lead coolant technology for Accelerator Driven Systems and for commercial nuclear reactors. This seminar is about exciting but very difficult activities leading to the declassification of high military secrets and getting heavy metal coolant technologies to be one of the Gen IV priorities. It's a mix of James Bond like adventures and a very solid scientific work.

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