



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

Wtorek: **28.01.2020**

**11:30**

**CYFRONET (bud. 39) – sala 172 (III piętro)**

**Jacek Kałowski**

**Reducing simulation time with Design of Experiments**

**Abstract:**

Most of us understand the fundamental role of experiment for scientific work. Physical experiments are rightfully associated with high costs of hardware, preparation, execution and analysis time. To optimize those constraints, Design of Experiments (DoE) methods are employed that allow to reduce the number of test samples (trials) and form conclusions based on statistical analysis of results.

At the beginning of computer era, computational experiments or simulations were also expensive. But in 1980s and 1990s the cost of computers dropped significantly and allowed simulations to be used extensively by scientific community. Nowadays we can observe that the cost of running most complex simulations is again becoming prohibitive due to hardware vs time considerations.

It is not a new proposition to employ DoE techniques in scientific computing models. In this presentation I will introduce the tools available to Division of Nuclear Energy and Environmental Studies (UZ3) scientists in Reliasoft's Weibull++ software and how they may be reused for high performance computing.

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