

# International Conference on Research Reactors: Safe Management and Effective Utilization

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## **A Comparative Analysis of the Use of Internet Reactor Laboratory and a Subcritical Assembly for Nuclear Engineering Education**

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Laboratory education is an essential component in any nuclear engineering education program, where research reactors play an important role. However, having a research reactor solely for educational purposes is faced with many challenges such as the high cost, long construction time, running cost, safety, and security associated issues.

In 2007, Jordan University of Science and Technology (JUST) established the first and only Nuclear Engineering program in Jordan with the objective to provide Jordan's nuclear energy program with qualified nuclear engineers and support its human capacity building program.

JUST offers a Bachelor of Science (BSc) of 160 credit hours in Nuclear Engineering over a period of five years. One of the compulsory courses is a Nuclear Reactor Laboratory Course.

For the years 2010-2013 the course was taught using the Internet Reactor Laboratory utilizing the PULSTAR reactor at North Carolina State University. From 2014 until today the course is being taught using Jordan Subcritical Assembly (JSA), which was constructed at the Department of Nuclear Engineering at JUST for the purpose of education, training, and experimental research.

The work presented in this paper discusses the utilization of JSA for educational purposes as compared to the Internet Reactor Laboratory approach. Emphasis will be laid on meeting the learning objectives and outcomes of the nuclear reactor laboratory course.

### **Organization**

Jordan University of Science and Technology

### **Country**

Jordan

**Primary author:** Dr MALKAWI, Salaheddin (Jordan University of Science and Technology)

**Presenter:** Dr MALKAWI, Salaheddin (Jordan University of Science and Technology)

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