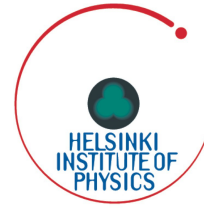


Summer Student Internship



Imaging spent fuel from nuclear reactors: Research & development using computer simulations

Spent fuel from nuclear reactors will be buried in deep underground storage repositories in many locations around the world. Finland will be the first country to operate such a facility, within the next 10 years. Instruments must exist that can ensure that all expected nuclear material is present in fuel assemblies before they are put in final storage.

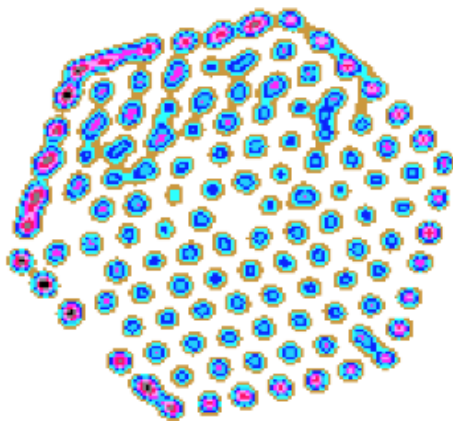
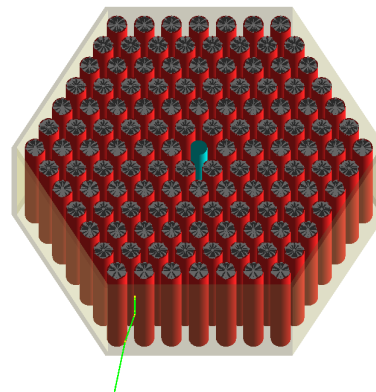


Image of real spent fuel assembly. Three locations are missing their fuel rod.



A gamma ray is emitted in the GEANT4 model of a spent fuel assembly

In this R&D project, you will simulate the fuel assembly in the GEANT4 software, as well as a passive gamma emission tomography instrument. You will create simulated gamma ray information as collected from the fuel. This information is used to create images of the content of the fuel assembly. You will analyse the data to create images of the fuel and you will participate in the design and testing of better imaging algorithms for spent fuel from nuclear reactors.

Profile and skills: Advanced student in physics, physical engineering, computer science or similar. C++ programming experience is a must. Experience with Unix/Linux and computing clusters is an asset.

Internship period: 3 months, 1.6.2017 - 31.8.2017 (exact dates are flexible).

Salary: Paid internship. Basic University pay level based on academic level of intern.

Confidentiality: To participate in this project, you have to agree to sign a non-disclosure agreement to protect the industrial secrets of our project partners.

Contact person: Camille Bélanger-Champagne
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Project home page: www.hip.fi/nins3/

To apply, send a cover letter, a CV and a recent transcript to the contact person via email. Letters of recommendation are welcome.

Deadline for applications: February 19th, 2017.