Contribution ID: **570** Type: **Oral Presentation**

Non-Specialist Talk - Materials analysis of the fuels for the next generation of nuclear reactors

Friday, 13 July 2012 08:40 (40 minutes)

Abstract content
   (Max 300 words)

From an analysis of the world energy consumption and the Kyoto Protocol it is clear that the share of nuclear power together with other renewable energy technologies will have to be increased in the near future. Nuclear energy production has two main problems. Both are related to leakage of radioactivity into the environment, i.e. during accident conditions, such as the recent Fukushima accident, and during long term storage of high level nuclear waste. The nuclear power community has proposed a few solutions for these problems. This talk will focus on how solid state physics is needed to overcome some materials problems. Examples will be given for materials used in the next generation of nuclear fuel, i.e. the Triso particle also used in the South African Pebble Bed Modular Reactor (PBMR).

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No

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