Severe accident phenomenology
2019 SARNET short course

CEA Cadarache, France,
September 9th-14th, 2019

Tchernobyl Reactor Building
TMI-2 Reactor Vessel-Core
Fukushima Daiichi 1F
This course will focus on disseminating the knowledge gained on SA in the last two decades to Masters-PhD students, young engineers and researchers recently involved in Severe Accident. It will be hosted by CEA-Cadarache, near Aix-en-Provence. This short course is a sequel to the previous Ljubljana 2017 and Stockholm 2015 SARNET Courses. The program will cover SA phenomenology, progression and mitigation in current water-cooled (Light Water Reactor and Heavy Water Reactor) Gen.II and III Nuclear Power Plants (NPP), but also the different design solutions in Gen.III NPPs. A special focus will be done on the Fukushima-Daiichi Severe Accident.

Lectures will be given by international experts from major Nuclear Institutes, Industries and Universities working on the topic. Lecturers will be able to describe how the different plants would react during a SA, keeping in mind that time constraints of the course would not allow students to actually perform simulations. The Course will also include background lectures on NPP safety, SA scenarios and the events leading, respectively, to the early and late failure of containment.

The course will be open to University students with a discount fee. The course can contribute for 3 ECTS (with a written work) as an advanced course for Master students (through the European Nuclear Education Network ENEN).

**Registration fees:**

Professionals:  € 1,700  
Students:  € 600  

The fee covers attendance of course lectures, a copy of the course material, coffee breaks and lunches. Travel and accommodation expenses are not included.

**Contacts:**

Registration, logistics:  instn.sap2019@cea.fr  
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Venue:

The lectures will take place in the “Council room” of the Cadarache Castle and at the National Institute for Nuclear Science & Technology (INSTN) of the CEA Nuclear Research Centre Cadarache (France). Lunches will be served in the nearby dining room.

Located in the heart of the touristic Provence region, the Cadarache Castle is an authentic historical building dating back to the 15th century, now operated by CEA Cadarache in order to host scientific events.

Access:

The Cadarache site is located about 40 km north of the Aix en Provence city (i.e. 70 km north of Marseille). Aix en Provence can be reached via its high speed (TGV) train station, by plane via the Marseille international airport or by road.

Accommodation:

Participants are expected to make directly their own hotel reservations. A list of hotels in Aix en Provence will be available on the course website. A free bus pick-up service will be organized from the Aix en Provence city center to the Cadarache site for participants.