

**Service des Accélérateurs, de Cryogénie et de Magnétisme**  
**SÉMINAIRE**

\*\*\*\*\*

**Jeudi 03/09/2015, 10h00-11h00**

**CEA-Saclay Bat 141, salle André Berthelot**

**Physics at the Soreq Applied Research Accelerator Facility  
(SARAF)**

**Dan Berkovits**

Soreq NRC, Yavne Israel

The Soreq Applied Research Accelerator Facility (SARAF) is built to provide an intense fast neutrons source, a thermal neutrons source and apparatuses for production of isotopes for basic and applied research. SARAF is based on a high intensity CW proton / deuteron RF superconducting linear accelerator. SARAF Phase-I was constructed in order to test and characterize the novel technologies and is in routine operation since 2010, accelerating low energy proton and deuterons for basic physics and targets development. Phase-II of the linac, now under construction, will allow acceleration of 5 mA CW proton and deuteron beams up to 40 MeV. The goals of SARAF are: 1) to enlarge the experimental nuclear science infrastructure and promote research in Israel, 2) to develop and produce radioisotopes for biomedical applications and 3) to modernize the source of neutrons at Soreq and extend neutron based research and applications. The talk will present the existing and built facility and will cover examples of nuclear physics studies in Phase-I and II. Studies in neutron induced cross section for stellar nucleosynthesis, search for physics beyond the Standard Model using short lived light radioactive beams and deuterons cross section precise measurements at low energy, will be covered.

---

Le cafe sera servi 10 minutes avant

Contact : [barbara.dalena@cea.fr](mailto:barbara.dalena@cea.fr) - Tel : +33 1 69 08 61 97

[http://irfu.cea.fr/Sacm/Phoce/Vie\\_des\\_labos/Seminares/index.php](http://irfu.cea.fr/Sacm/Phoce/Vie_des_labos/Seminares/index.php)