NUSTAR Seminars, Thursday, October 7th, Sal A, Fysikum

15:30 – 16:20

International FAIR - Challenges and Chances

Prof. Boris Sharkov

FAIR Scientific Director

FAIR GmbH, Planckstr.1, 64291 Darmstadt, Germany

The Facility for Antiproton and Ion Research in Europe, FAIR, will provide worldwide unique accelerator and experimental facilities offering to scientists from the whole world an abundance of outstanding research opportunities, broader in scope than any other contemporary large-scale facility worldwide. More than 2500 scientists will push the frontiers of our knowledge in hadron, nuclear, atomic, and applied physics far ahead, with important implications also for other fields in science such as cosmology, astro- and particle physics, and technology. This presentation outlines the current status of the FAIR project and the strategy of its realization based on the acquired funding.

16:30 – 17:15

Physics with Cooled Beams at the FAIR Facility

Prof. Reinhold Schuch

(http://www.gsi.de/sparc)

Atomic Physics, Fysikum, AlbaNova, Physics Centre, S-106 91 Stockholm, Sweden

The talk addresses the novel physics with a key feature of the future Facility for Antiproton and Ion Research (FAIR) of producing, storing, and cooling beams of antiprotons and radioactive (as well as stable) nuclei up to bare uranium. In the existing ESR and planned NESR storage rings the FAIR users exploit the unprecedented intensity of these cold ions stored up to the relativistic energies. Examples are given where these opportunities together with novel instrumentation open the door to challenging new experiments in atomic and nuclear physics.