SEMINAR NOTICE

Department of Physics and Engineering Physics
University of Saskatchewan

SPEAKER: Peter Kuske
Helmholtz-Zentrum, Berlin

TOPIC*:* ***Time Resolved Experiments at BESSY II-Today and in*** **the Future with BESSY VSR**

DATE: Tuesday September 17th, 2019

TIME: 3:30-4:30 p.m.

PLACE: Physics 103

ABSTRACT:

BESSY II, like the Canadian Light Source, is a third generation synchrotron radiation facility based on a storage ring operated at 1.7 GeV and thus more focused on the VUV- and soft to tender X-ray- range of the spectrum. In order to "beat the complexity of matter through the selectivity of soft X-rays" the temporal structure of the emitted synchrotron radiation can be an essential feature in addition to the spectral and spatial resolution already offered at these facilities.

In the presentation I will introduce the various techniques applied at BESSY in order to support users who want to perform time resolved experiments. Techniques include the traditional single bunch, the more dedicated low-alpha mode of operation, slicing, and other approaches to single out the radiation of some bunches from the rest of the bunch train. In the future BESSY VSR, which stands for variable bunch length storage ring, will produce long and short bunches circulating in the ring simultaneously. We will use two super conducting RF-cavity strings operating at different frequencies. The beating creates steep and flat longitudinal potentials which lead to short and long bunches. This would open the opportunity to perform time resolved experiments down to the ps-range during normal user operation where a high average brilliance is requested.

Coffee and Cookies will be served in Physics lounge at 3:00 p.m. for those attending the seminar.