

Friday, January 22, 2021, 11:00 h

zoom <https://psich.zoom.us/j/99342064014>

## Special PSI Colloquium PSI PhD Thesis Medallists 2020/2021

### Dr. Ivana Belosevic

#### 2020 PSI Thesis Medal

Simulation and experimental verification of transverse and longitudinal compression of positive muon beams

Dr. Belosevic's PhD was concerned with the development of a novel ultra-cold muon beam of high intensity (muCool beam). Such a beam is produced by stopping a muon beam available at PSI in cryogenic helium gas and steering the stopped muons into a small spot using a combination of strong electric and magnetic fields and gas density gradients. The resulting muCool beam will enable next-generation precision experiments with muons and muonium atoms in particle physics and material science

### Dr. Petr Skopintsev

#### 2021 PSI Thesis Medal

Time-resolved crystallography: developing the methods and solving the mechanisms of an optogenetic pump at SwissFEL

Dr. Skopintsev's work characterized the structural changes within an optogenetic sodium pump from the earliest photochemical reactions in the femtosecond range up to the biological pumping cycle, happening in milliseconds. These pioneering set of experiments have provided new insight on how protein dynamics are related to function at the atomic level and over many orders of magnitude in time, and have been made possible thanks to the unique capabilities offered by the SwissFEL facility.

---

#### CONTACT

**Knud Thomsen**  
Tel. +41 56 310 4210

**Paul Scherrer Institut**  
Forschungsstrasse 111  
5232 Villigen PSI  
Switzerland