SBRC International Cryo-EM Seminar Series, No.7

Prof. Christos Gatsogiannis, PhD
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University of Münster.

The research of Prof. Gatsogiannis concentrates on the molecular understanding of peroxisomal biogenesis. Peroxisomes are dynamic small organelles, ubiquitous in nearly all eukaryotes. They are able to carry a plethora of crucial metabolic functions including the β-oxidation of fatty acids and degradation of toxic hydrogen peroxide. The respective enzymes are synthesized on free cytoplasmatic ribosomes and later imported into the peroxisomal lumen by the peroxisomal import machinery. The main characteristics of this process remain however poorly understood. Peroxisomal dysfunction and impaired peroxisomal import result in devastating inborn metabolic disorders, which further emphasizes the importance of understanding these fundamental biological questions.

To this end, cryoEM is one of the key methods of the Gatsogiannis Group. This technique allows the structural studies of complex macromolecular machines at near native conditions and in combination with biochemical and biophysical assays, can provide crucial mechanistic insight and thus, a solid framework to understand their mode of action at near atomic resolution. Prof. Gatsogiannis has been heavily involved in the SPHIRE project (http://sphire.mpg.de/) for the development of a comprehensive software suite for cryo-EM. In this lecture, Prof. Dr. Gatsogiannis will talk about the current work of his group on the peroxisomal import machinery.

B.S. (Biology), University of Mainz, Germany, 2005
Ph.D. (Biology), University of Mainz, Germany, 2009
2010 Postdoctoral Researcher with Prof. J. Markl, University of Mainz, Germany
2010-2015 Postdoctoral Researcher with Dr. S. Raunser,
Max Planck Institute for Molecular Physiology, Germany
2016-2020 Tenured Project Group Leader,
Max Planck Institute of Molecular Physiology, Germany
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Date: Monday, December 14, 2020 17:00 pm - 18:30 pm

Location: Online Zoom Meeting

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