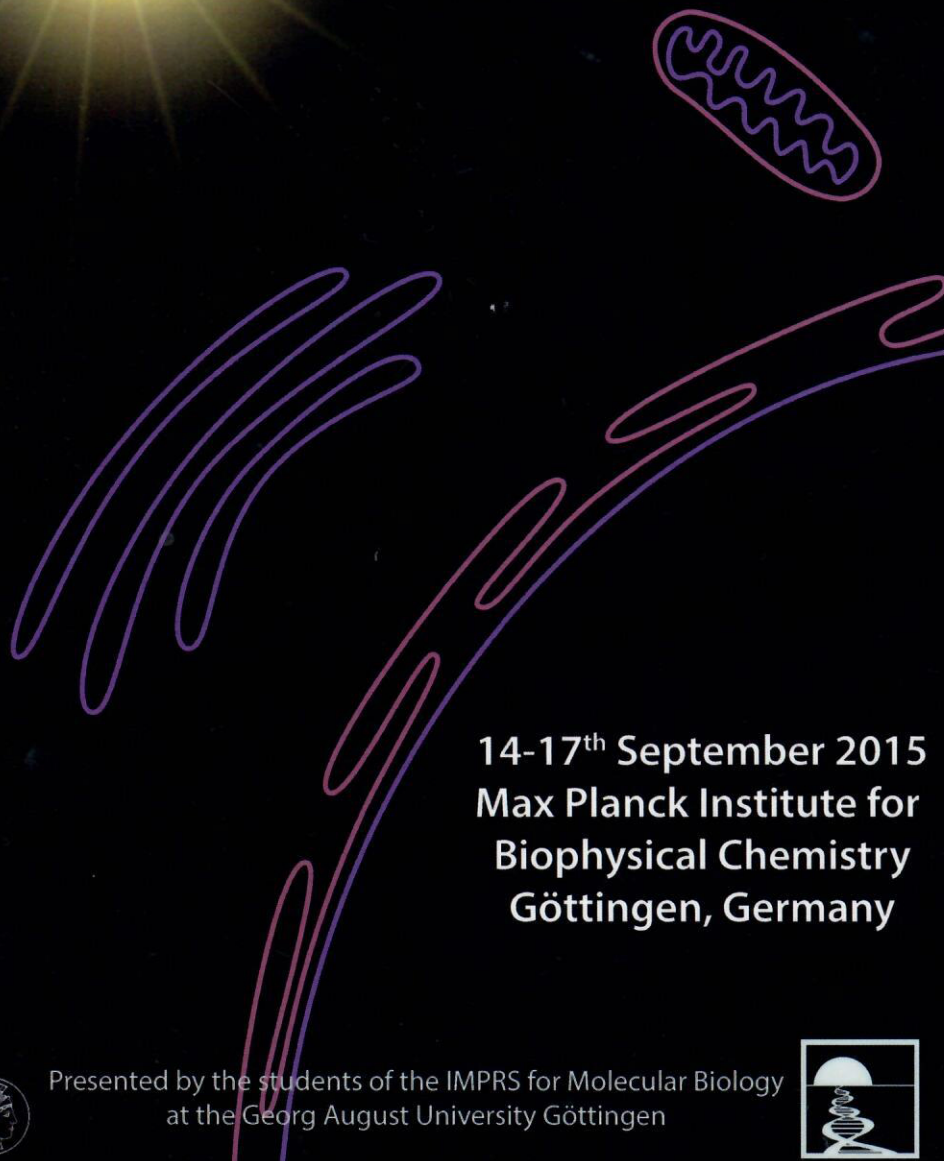


12<sup>th</sup> International PhD Student Symposium

# HORIZONS in MOLECULAR BIOLOGY



14-17<sup>th</sup> September 2015  
Max Planck Institute for  
Biophysical Chemistry  
Göttingen, Germany



Presented by the students of the IMPRS for Molecular Biology  
at the Georg August University Göttingen



# **12<sup>TH</sup> HORIZONS IN MOLECULAR BIOLOGY**

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## **International PhD Student Symposium and Career Fair for Life Sciences**

14-17<sup>th</sup> September 2015  
Göttingen, Germany

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## Organizing Committee

The 12<sup>th</sup> PhD Student Symposium Horizons in Molecular Biology is organized by a group of PhD students of the International Max Planck Research School for Molecular Biology in Göttingen.



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21

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**Anticancer properties of nanoceria**Ivana Milenkovic<sup>1)2)</sup>, Ksenija Radotic<sup>1)</sup> & Branko Matovic<sup>2)</sup>

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CeO<sub>2</sub> (nanoceria) is the most important rare-earth oxide, which application is rapidly emerging. These nanoparticles are potent free radical scavengers, due to the coexistence of Ce<sup>3+</sup> and Ce<sup>4+</sup> ions and formation of oxygen vacancies on their surface. These ions are promising candidates for improving the treatment of cancers, drug delivery and catalysis. First, they collect reactive oxygen species (ROS) and protect healthy cells from oxidative stress. Also, they show cytotoxicity, which can be manipulated for treatment of cancer cells by inducing targeted cell death with minimal toxicity to surrounding healthy cells. This dual behavior of nanoceria presents a great pharmacological potential. We established the method for synthesizing these nanoparticles. This was particularly challenging because of their low solubility. We further coated these nanoparticles with glucose to facilitate entry into the cells. Until now, anticancer properties of nanoceria have been poorly characterized. Hence, the aim of this work was to investigate the cytotoxic effect of nanoceria in several cancer cell lines. Nanoceria can be beneficial for the improvement of cancer treatments and a promising candidate for further medical application

# Schedule 12<sup>th</sup> Horizons in Molecular Biology • 14-17<sup>th</sup> September 2015

Time	Monday, Sept 15 <sup>th</sup>	Tuesday, Sept 16 <sup>th</sup>	Wednesday, Sept 17 <sup>th</sup>	Thursday, Sept 18 <sup>th</sup>
9:00 - 10:00				
10:00 - 11:00				
11:00 - 12:00				
12:00 - 13:00				
13:00 - 14:00				
14:00 - 15:00				
15:00 - 16:00				
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18:00 - 19:00				
19:00 - 20:00				
20:00 - 21:00				

Monday, Sept 15<sup>th</sup>

Tuesday, Sept 16<sup>th</sup>

Wednesday, Sept 17<sup>th</sup>

Thursday, Sept 18<sup>th</sup>

**Career Fair for Life Sciences**  
09:00 - 16:30

Horizons Opening Ceremony  
**Tom Rapoport** - protein trafficking  
**Manuel Mayr** - biomarker discovery  
17:35 - 19:05

**Join us for a Beer!**  
20:00

**Alice Ting** - live cell proteomics  
**Awarded Student Talks**  
09:30 - 11:00

**Coffee Break**

**Ivan Manzini** - olfactory system  
**Carola Vinuesa** - T-Helper Cells  
11:30 - 13:00

**Lunch Buffet and Poster Session**  
13:00 - 14:30

**Didier Stainier** - organogenesis  
**Awarded Student Talk**  
**Charalampos Kalodimos** - NMR spectroscopy  
14:30 - 16:20

**Coffee Break**

**Erika Holzbaur** - axonal transport  
16:50

**City Tour**  
17:45

**Conference Dinner and Party**  
20:00

**Maya Schuldiner** - functional genomics  
**Axel Brunger** - synaptic neurotransmission  
09:30 - 11:00

**Coffee Break**

**Martin Chalife** - mechanosensation  
**Scott Emr** - ESCRT pathway  
11:30 - 13:00

**Lunch**

**King-Wai Yau** - sensory transduction  
**Awarded Student Talk**  
**Karuna Sampath** - dual function RNAs  
14:30 - 16:20

**Coffee Break**

**Pamela Bjorkman** - structural immunology  
**Wine & Cheese Poster Session**  
17:35 - 19:05

**Pub Crawl**  
20:00

**Adam Frost** - ribosomal quality control  
**Kathleen Green** - cell adhesion  
09:30 - 11:00

**Coffee Break**

**Panel Discussion: „What makes a scientist?“**  
11:30 - 13:00

**Lunch**

**Awarded Student Talks**  
14:30 - 16:20

**Christian Mandl** - vaccine development  
**Coffee Break**

**Fumiyo Ikeda** - ubiquitin signalling  
**Kimberly Mowry** - cellular polarity  
16:50 - 18:20

Horizons Closing Ceremony