

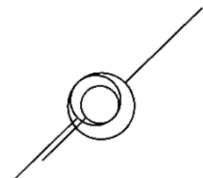


2018



Solve your
biophysical puzzle!

8th Regional Biophysics Conference



DRUŠTVO BIOFIZIKOV SLOVENIJE
SLOVENIAN BIOPHYSICAL SOCIETY




Laboratory of Biophysics
Condensed Matter Physics Department
Jožef Stefan Institute

Zreče, Slovenia
May 16th - 20th 2018

<http://www.rbc2018.si>

#ReBiCon2018

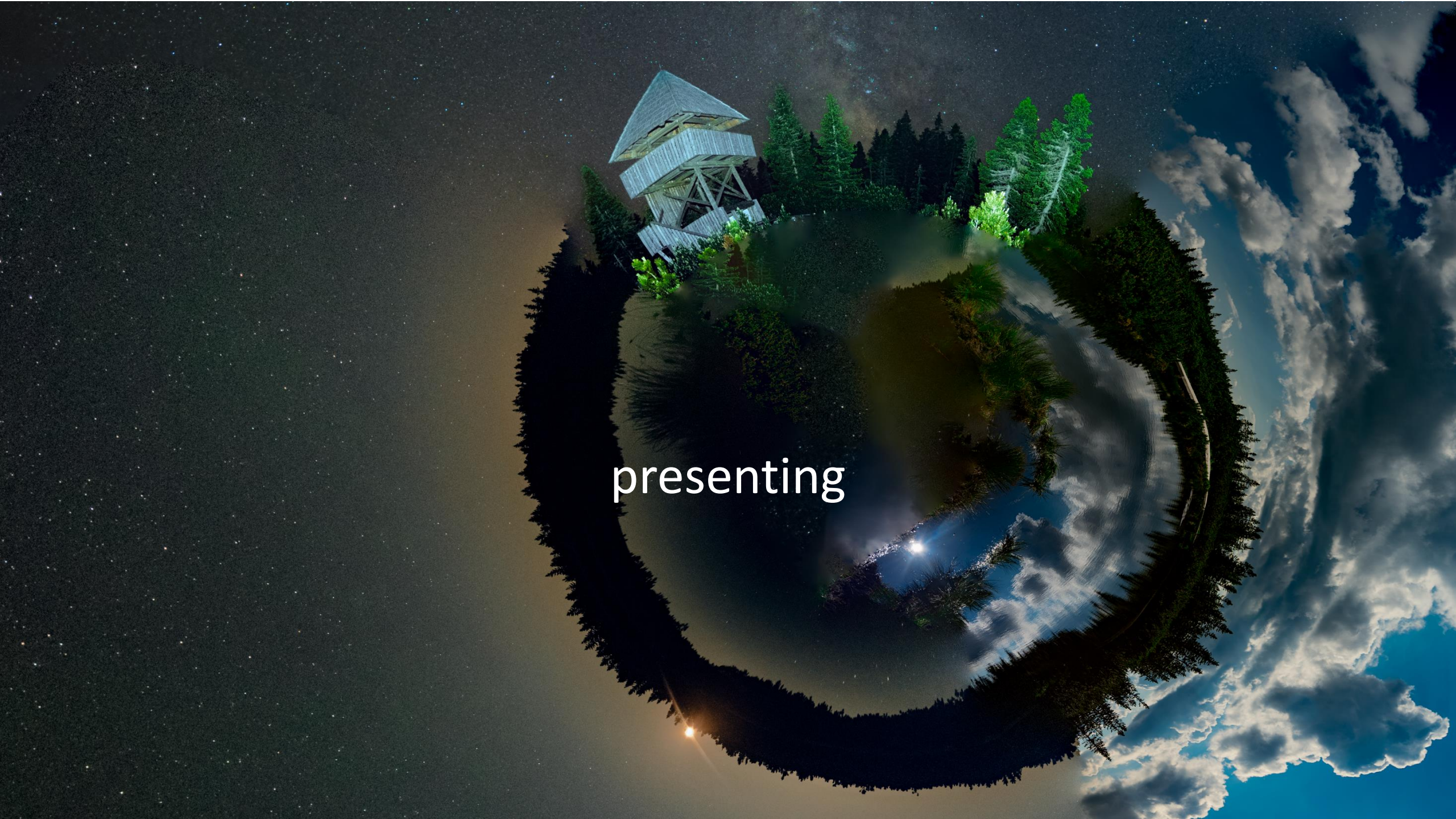
A circular, fisheye-style image of a forest at night. In the center, a wooden tower with a pointed roof stands on a small island of land. The tower is illuminated from within, casting a warm glow. The surrounding forest is dark, with some trees highlighted by a soft, ethereal light. The sky is a deep, dark blue, filled with stars and the Milky Way galaxy. The bottom half of the image shows a bright, cloudy sky, suggesting a transition from night to day or a reflection of the night sky. The overall scene is serene and mysterious.

to foster regional cooperation,
expose young researches
and
review recent advances in
experimental, theoretical, and applied biophysics
by



187 participants

presenting



A circular, inverted landscape image. At the top (which would be the bottom in a normal orientation) is a wooden tower with a peaked roof, illuminated from within, situated on a forested hill. Below the hill is a body of water reflecting the scene. The sky is filled with stars and a bright light source, possibly the sun or moon, creating a lens flare. The overall scene is a composite of natural and architectural elements.

29 invited & contributing
lectures

A 360-degree panoramic image of a forest at night. The scene is centered on a wooden tower with a steep, gabled roof, illuminated from within. The tower is surrounded by a dense forest of evergreen trees. In the foreground, a calm lake reflects the tower and the surrounding forest. The sky is dark, filled with stars and the Milky Way galaxy. The overall atmosphere is serene and majestic.

7 plenary lectures

A 360-degree panoramic image of a forest at night. In the center, a wooden tower with a pointed roof stands on a small island of land. The tower is illuminated from within, casting a warm glow. The surrounding forest is dark, with some trees highlighted by a green light. The sky is filled with stars and the Milky Way galaxy. The image is presented in a spherical, fisheye perspective.

25 oral talks

A 360-degree panoramic image of a forest at night. In the center, a wooden tower with a pointed roof stands on a small island or clearing. The tower is illuminated from within, casting a warm glow. The surrounding forest is dark, with some trees highlighted by a greenish light. The sky is a deep black, filled with stars and the Milky Way galaxy. The bottom half of the image shows a bright, cloudy sky, likely a reflection or a different part of the panorama. The text "and 90 posters" is overlaid in the center in a white, sans-serif font.

and 90 posters

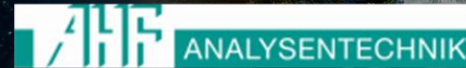


organized in

A circular, inverted landscape image. At the top (which would be the bottom in a normal orientation) is a wooden tower with a peaked roof, situated on a forested hill. Below the hill is a body of water reflecting the sky. The sky is split: the top half (normal orientation) shows a bright blue sky with white clouds, while the bottom half (night sky) shows a dark sky with stars and the Milky Way. The text is overlaid on the central part of the image.

11 lecture sessions
2 poster sessions &
sponsor presentations

Our sponsors supported 45 students !



A circular, fisheye-style image of a forest landscape. In the center, a wooden tower with a pointed roof stands on a hill. The tower is illuminated from below, casting a glow. The surrounding forest is dense with evergreen trees. The sky is dark, filled with stars and the Milky Way galaxy. A bright sun or moon is visible on the horizon, creating a lens flare effect. The overall scene is serene and atmospheric.

Important
announcements !



Solve your biophysical puzzle! RBC 2018 #ReBiCon2018

- Home
- Programme
- Proceedings
- Deadlines
- Registration
- Guidelines
- Venue
- Accommodation
- Costs
- Tradition
- Contact

8th Regional Biophysics Conference

RBC 2018, #ReBiCon2018

Zreče, May 16th - 20th 2018

Welcome to the website of the 8th Regional Biophysics Conference. This conference has a long tradition of fostering regional cooperation, exposing young researchers and reviewing recent advances in experimental, theoretical, and applied biophysics.

This year, the conference will be held in Zreče, Slovenia. It will open on Wednesday afternoon, 16th of May 2018, and close after lunch on Sunday, 20th of May 2018. It will consist of lectures, exhibitions, poster sessions, and exciting social events, promoting creative interaction of participants throughout the conference.

For the first time, the RBC will be closely connected with social networks - the lectures will be streamed live on [Twitter](#) and participants are encouraged to interact before and during the conference using the hashtag [#ReBiCon2018!](#)

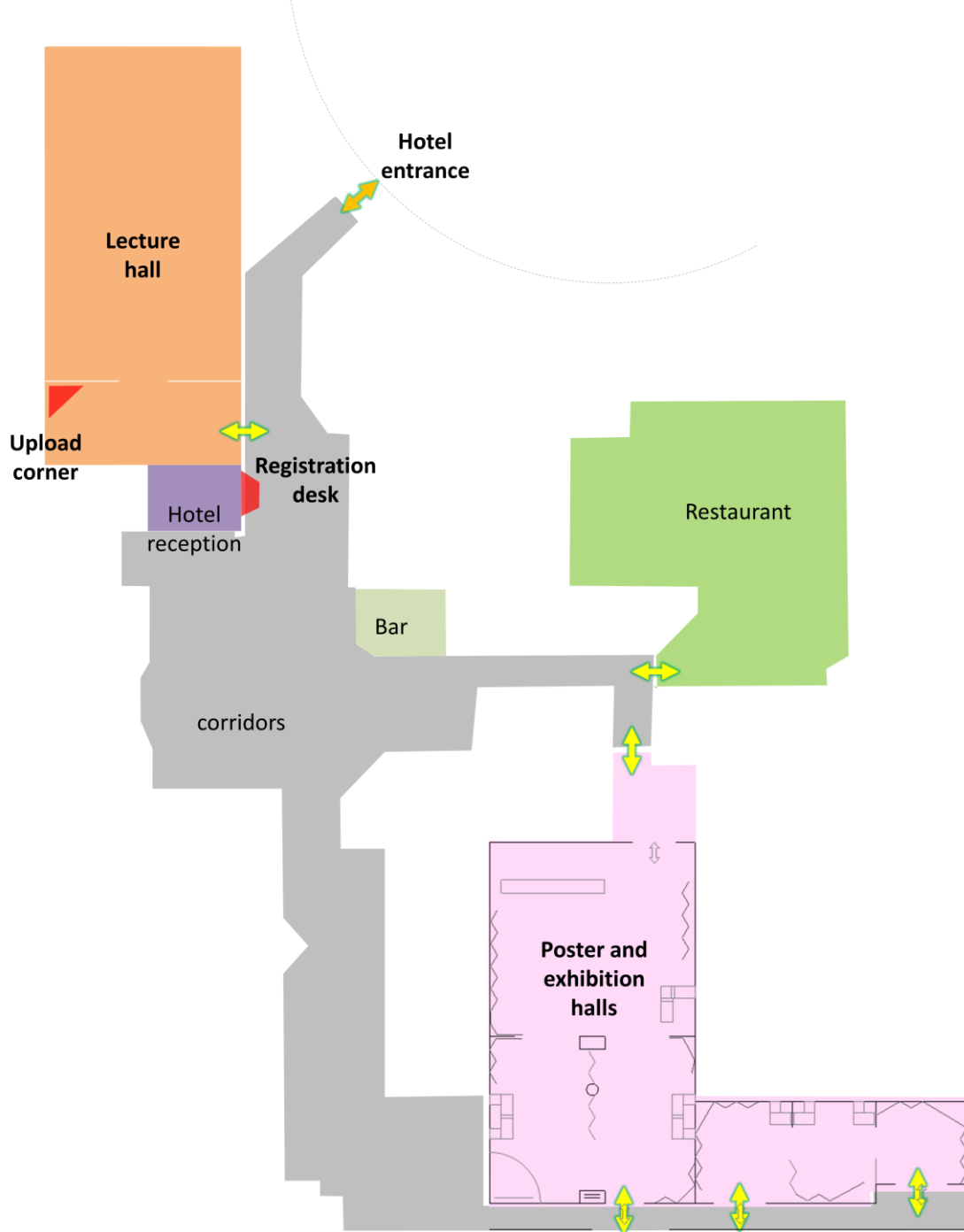
With 200 expected participants and five days of stimulating interactions, it is expected to be the most important European event in the field between the two subsequent EBSA ..

Search

<http://www.rbc2018.si>

for any information
about the conference !





Find maps to orient yourself and locate your poster in the PDF or via <http://www.rbc2018.si/venue.html> !



2 Program

Wednesday, 16. 5. 2018

11:15 Registration (11:45 - 12:45)

14:00 Registration (14:00 - 19:00)

15:45 Opening



System biology, bioinformatics, omics

16:00 Plenary lecture: Marjo Cindrić (HR) - Identification of microorganisms by mass spectrometry

16:45 Invited lecture: Marko Djordjević (RS) - Biophysical modeling of bacterial immune system regulation

17:15 Oral: Gergely J. Szöllősi (HU) - Tissue size regulation amplifies the effect of asymmetrical cell divisions on cancer incidence



Ultrafast phenomena

17:30 Plenary lecture: Janos Hajdu (HU)

18:15 Contributing lecture: Petar H. Lambrev (HU) - Ultrafast energy transfer dynamics in photosynthetic light-harvesting complexes probed by two-dimensional electronic spectroscopy

18:45 Oral: Sofia M. Kapetanaki (UK) - Understanding the interplay of heme and carbon monoxide in ion channel regulation

19:15 Get-together dinner

Use the interactive
program in
PDF form or via
[http://www.rbc2018.si/
programme.html](http://www.rbc2018.si/programme.html) !



Cell biophysics

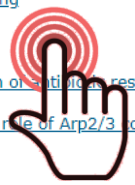
11:30 [Invited lecture: Gabriella Viero \(IT\) - Towards understanding of translation biology by coupling positional sequencing and nano-imaging](#)

12:00 [Contributing lecture: Matjaž Humar \(SI\)](#)

12:30 [Oral: Peter Galajda \(HU\) - Fast evolution of antibiotic resistance in microfluidic devices](#)

12:45 [Oral: Špela Zemljič Jokhadar \(SI\) - The role of Arp2/3 complex in cytomechanics measured by AFM and optical tweezers](#)

13:00 Lunch



Access the abstracts directly from the interactive program <http://www.rbc2018.si/abstractBook.html> !

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S08-CL-07 Session: Cell biophysics

Bio-integrated micro-laser particles for sensing, imaging and cell barcoding

Matjaž Humar (1)

(1) Jozef Stefan Institute Faculty of Mathematics and Physics, University of Ljubljana

Micro-sized lasers completely embedded within single live cells (1) and biological tissues (2) have been demonstrated. The lasers were made out of solid beads including biocompatible and biodegradable materials. The lasers inside cells can act as very sensitive sensors, enabling us to better understand cellular processes. Further, lasers were used for cell tagging. Each laser within a cell emits light with a slightly different fingerprint that can be easily detected and used as a barcode to tag the cell (3), providing the ability to study cell migration including cancer metastasis. We have also demonstrated that small lasers embedded in the sample can be used for novel nonlinear microscopy, including super resolution imaging (4). The narrow spectra and nonlinear power dependence of stimulated emission from the laser particles yield optical sectioning, sub-diffraction resolution, and low out-of-focus background. Small lasers embedded into cells and tissues may enable new diagnostic, treatment and imaging tools in medicine and biology (5). (1) M. Humar and S. H. Yun, Intracellular microlasers, Nature Photonics 9, 572 (2015), (2) M. Humar, A. Dobravec, X. Zhao, S. H. Yun, Biomaterial microlasers implantable in the cornea, skin, and blood, Optica 4, 1080-1085 (2017), (3) M. Humar, A. Upadhyay, S. H. Yun, Spectral reading of optical resonance-encoded cells in microfluidics, Lab on a Chip 17, 2777-2784 (2017), (4) S. Cho, M. Humar, N. Martino, S. H. Yun, Physical Review Letters 117, 193902 (2016), (5) M. Humar, S.J.J. Kwok, S.Y. Cho, M. Choi, A.K. Vetsien, S.H. Yun, Toward biomaterial-based implantable photonic devices, Nanophotonics 5, 60-80 (2016).

Keywords: lasers, cells, sensing

[Back to programme](#)

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System biology, bioinformatics

- 16:00 Plenary lecture: Mario Cindrić (HR) - Identification of microo mass spectrometry
- 16:45 Invited lecture: Marko Djordjević (RS) - Biophysical modeling



Access the sponsor sites directly from the interactive program <http://www.rbc2018.si/programme.html> !

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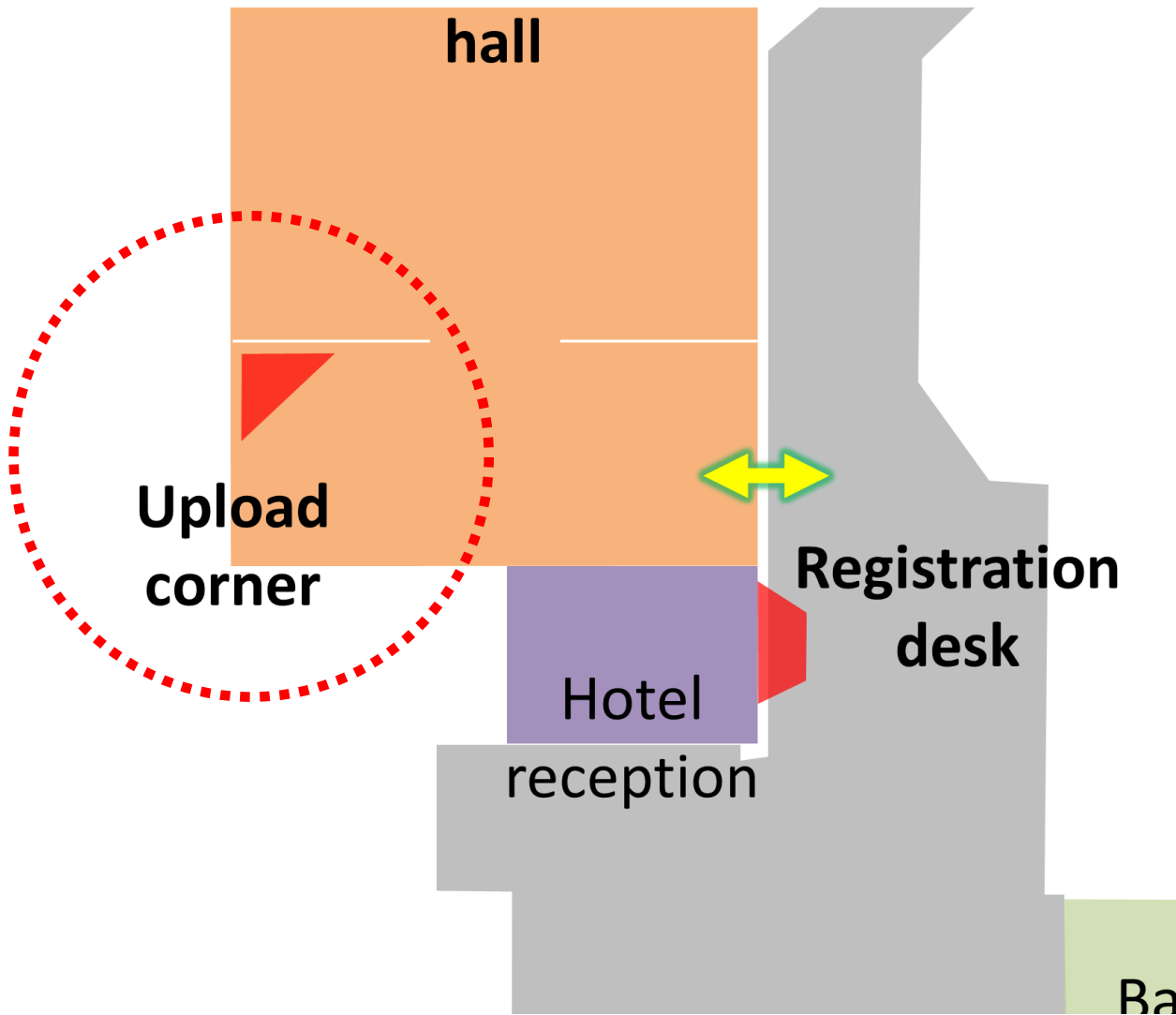
OptoSLT nano

The first 1 ns SLT device on the market

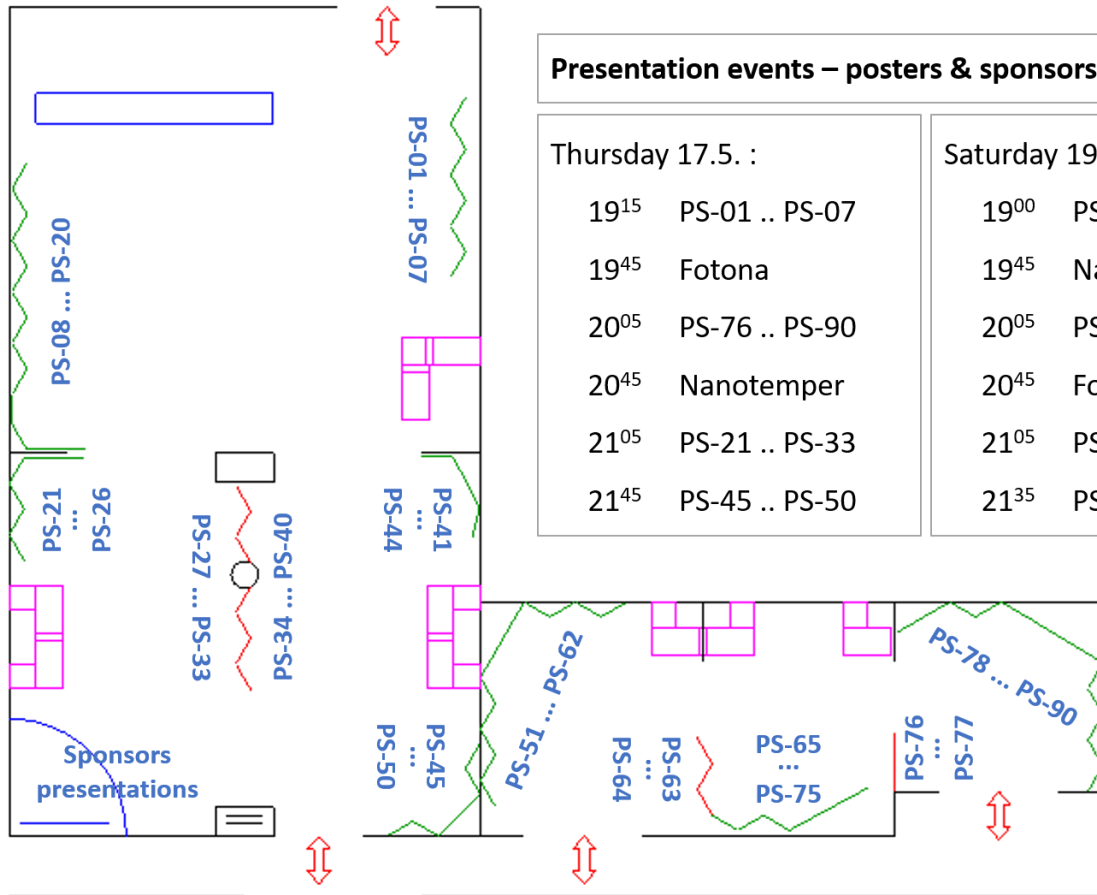
The first diode-pumped SLT device on the market

Extremely high pulse to pulse stability



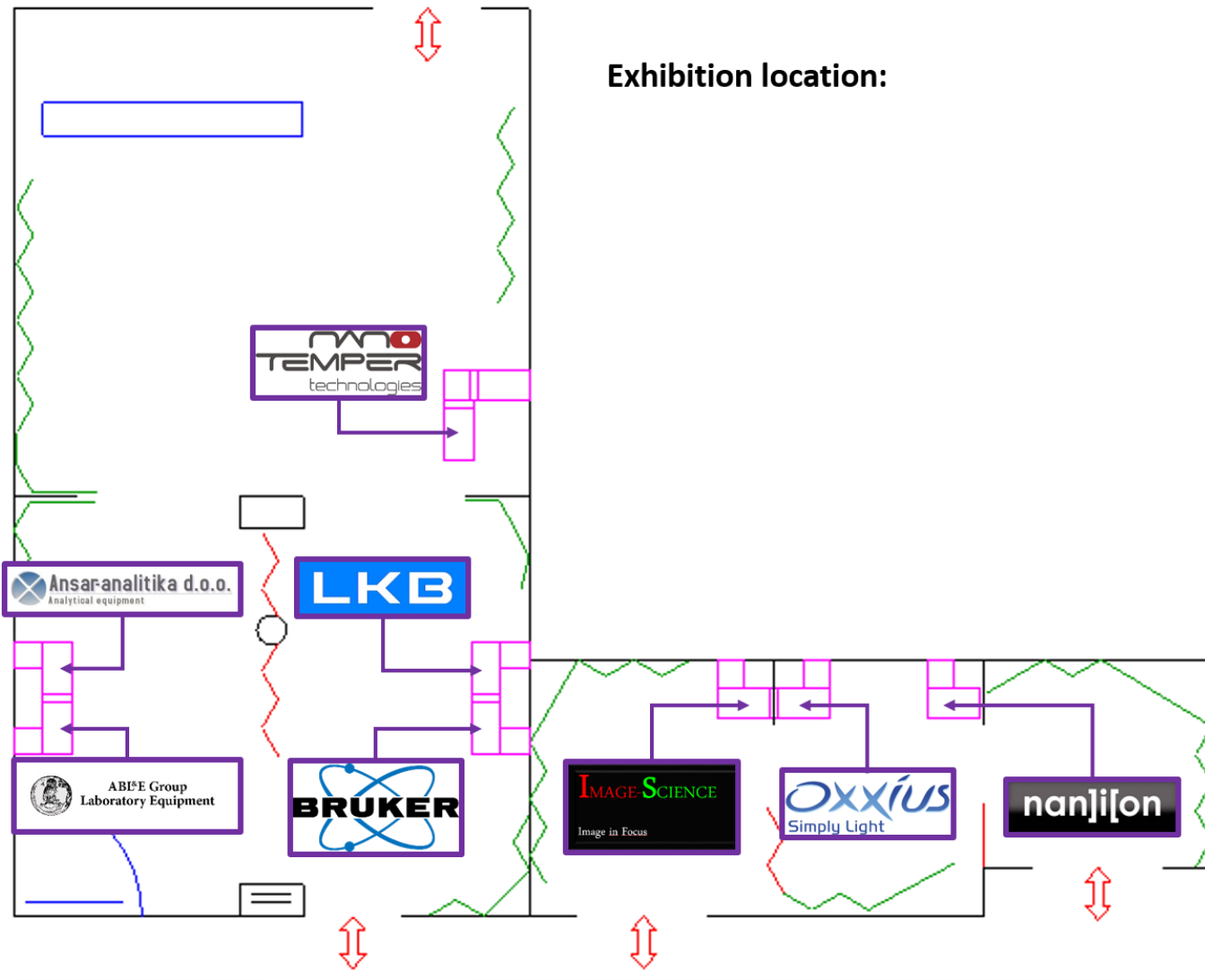


Upload your lecture in the *Upload corner* early enough!



Presentation events – posters & sponsors:	
Thursday 17.5. :	
19 ¹⁵	PS-01 .. PS-07
19 ⁴⁵	Fotona
20 ⁰⁵	PS-76 .. PS-90
20 ⁴⁵	Nanotemper
21 ⁰⁵	PS-21 .. PS-33
21 ⁴⁵	PS-45 .. PS-50
Saturday 19.5. :	
19 ⁰⁰	PS-08 .. PS-20
19 ⁴⁵	Nanion
20 ⁰⁵	PS-65 .. PS-75
20 ⁴⁵	Fotona
21 ⁰⁵	PS-34 .. PS-44
21 ³⁵	PS-51 .. PS-64

Check scheduling of your poster oral invitation and be ready in front of your poster!



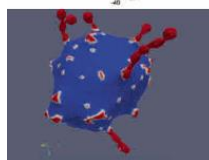
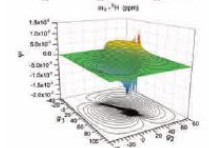
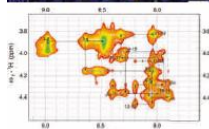
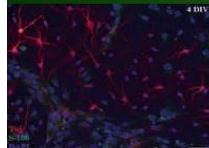
Exhibition location:

Visit exhibitions of
our sponsors !

Note their
announcements !

European Biophysics Journal

with Biophysics Letters



- Structure and Dynamics of Biological Macromolecules
- Membrane Biophysics and Ion Channels
- Cell Biophysics and Organisation
- Macromolecular Assemblies
- Biophysical Methods and Instrumentation
- Advanced Microscopies
- System Dynamics

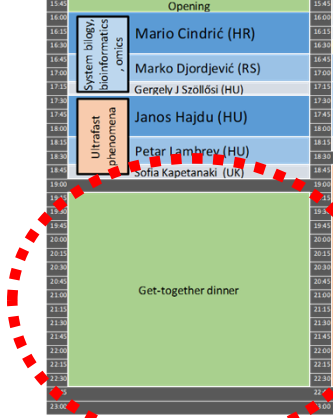
 Springer


Biophysics in Europe

You are invited to
contribute to
Special Issue of
European Biophysics
Journal !

deadline: October 15,
2018

	16.5.2018 Wednesday	17.5.2018 Thursday	18.5.2018 Friday	19.5.2018 Saturday	20.5.2018 Sunday
8:00		Breakfast & Registration	Breakfast & Registration	Breakfast & Registration	Breakfast
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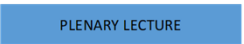

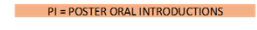
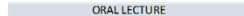
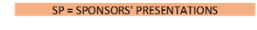
Legend activity type:

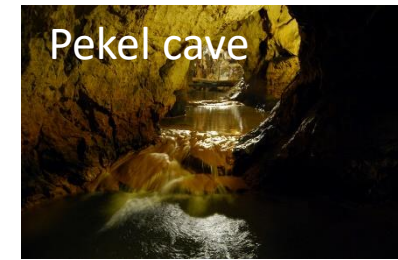
- PLENARY LECTURE
- INVITED & CONTRIBUTED LECTURE
- ORAL LECTURE
- PI = POSTER ORAL INTRODUCTIONS
- SP = SPONSORS' PRESENTATIONS

Join us for
get-together event
today with the
small market of local
touristic farms!

	16.5.2018 Wednesday	17.5.2018 Thursday	18.5.2018 Friday	19.5.2018 Saturday	20.5.2018 Sunday
8:00		Breakfast & Registration	Breakfast & Registration	Breakfast & Registration	Breakfast
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LEGEND for activity type:

 PLENARY LECTURE	 INVITED & CONTRIBUTED LECTURE	 PI = POSTER ORAL INTRODUCTIONS
	 ORAL LECTURE	 SP = SPONSORS' PRESENTATIONS



Pekel cave



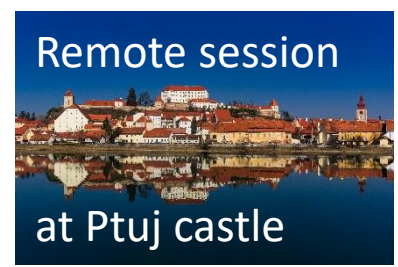
Medieval concert
at Žiče charterhouse



Join us for
excursions
on May 18th!




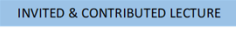
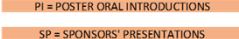


Lovrenc lakes



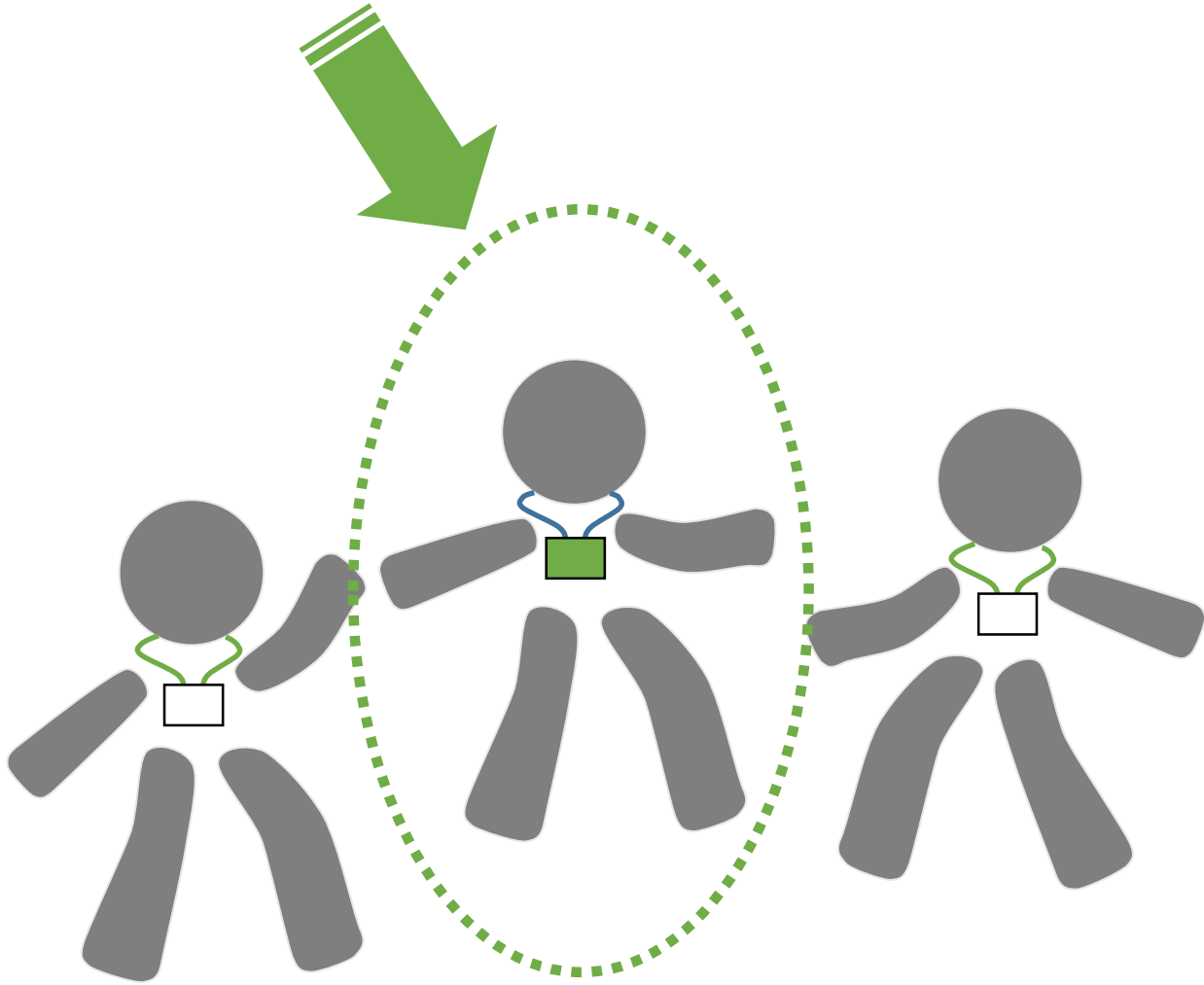
Remote session
at Ptuj castle

16.5.2018 Wednesday		17.5.2018 Thursday		18.5.2018 Friday		19.5.2018 Saturday		20.5.2018 Sunday					
8:00	8:00	Breakfast & Registration		Breakfast & Registration		Breakfast & Registration		Breakfast					
8:15	8:15	Advanced imaging and spectroscopies	Michal Cagalinec (SK)	Single molecule and interactions	Gerhard J. Schütz (AT)	Cell biophysics	Massimo Vassalli (IT)	Proteins & supramolecular structures	Gregor Anderluh (SI)				
8:30	8:30		Iztok Urbančič (SI)		Miklós Kellermayer (HU)		Silvia Caponi (IT)		Aleksandar Krmpot (RS)				
8:45	8:45		Mario Brameshuber (AT)		Saša Vrhovec Hartman (SI)		Nadica Ivošević-de Nardis (HR)		Beáta Bugyi (HU)				
9:00	9:00		Josef Lazar (CZ)		Jakub Nowak (PL)		Edina Szabó-Meleg (HU)		Parveen Akhtar (HU)				
9:15	9:15		Break		Andreas Maximilian Arnold (AT)		Miroslav Živic (RS)		Gergo Fülöp (AT)				
9:30	9:30	Biomedical applications and cancer	Maja Marušič (SI)	Materials & Nanobiophysics	Erik Reimhult (AT)	Neurobiophysics	Lunch	Break	Manuela Basso (IT)				
9:45	9:45		Imre Derényi (HU)		Zuzana Garaiova (SK)					Gabriella Viero (IT)	Isabella Derler (AT)		
10:00	10:00		Gregor Bano (SK)		Jaroslav Jacak (AT)					Matjaž Humar (SI)	Pavol Hrubovcak (SK)		
10:15	10:15		Loredana Casalis (IT)		Orestis Andriotis (AT)					Peter Galajda (HU)	Adéla Melcrová (CZ)		
10:30	10:30		Lunch		Hana Maiaron (SI)					Spela Zemlic Jokhadar (SI)	Tea Lenarcic (SI)		
10:45	10:45	Computational biophysics	Remote session & Excursions	Computational biophysics	Break	Break	Break	Closing	Closing				
11:00	11:00									Juraj Szavits-Nossan (HR)	Péter Horváth (HU)	Vladana Vukojević (RS)	Johann Georg Danzl (AT)
11:15	11:15									Marko Gosak (SI)	Daniel Grajzel (HU)	Jernej Jorgačevski (SI)	Jasna Šaponjić (RS)
11:30	11:30									Magdalena Majekova (SK)	Nebojša Milosevic (RS)	Break	Break
11:45	11:45									Andrej Dobovišek (SI)	Alexandra Zahradniková (SK)	Break	Break
12:00	12:00	Get-together dinner	Conference dinner	Poster session with buffet dinner	Poster session with buffet dinner	Poster session with buffet dinner	Poster session with buffet dinner	Poster session with buffet dinner	Poster session with buffet dinner				
12:15	12:15									PI	PI	PI	PI
12:30	12:30									SP	SP	SP	SP
12:45	12:45									PI	PI	PI	PI
13:00	13:00									PI	PI	PI	PI

LEGEND for activity type:

 PLENARY LECTURE	 INVITED & CONTRIBUTED LECTURE	 PI = POSTER ORAL INTRODUCTIONS
 ORAL LECTURE		 SP = SPONSORS' PRESENTATIONS

Join us for conference dinner in the hotel after excursions on May 18th!



For any issues
search for
local organizer team
with green badges !



Enjoy RBC 2018 !