













COLOR	SCIENTIFIC SESSION	CONFERENCE	POSTER EXHIBITION
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	5. Multimodal & Multispectral approaches	p. 19	p. 38
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	9. Microcirculation imaging, Laser Speckle Contrast Imaging	p. 28	p. 40
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For all oral conferences

- Your presentation must be **in English**.
- Your presentation support must be saved as PowerPoint or PDF format on a USB key.
- If you want to use **particular formats such as video**, sending your presentation in advance is highly recommended. Using a local file is preferred rather than reading an online file.
- We invite you to load your presentation before the beginning of your session, **half a day before your presentation on the computer of your conference room**.
- To avoid any technical bug and too long installation time, it is better to **use only the computer at your disposal**. We ask that you do not use your personal computer (unless otherwise indicated).
- A remote control with laser pointer will be at your disposal.



Keynote

You will have **25 minutes** to realize your presentation (20 minutes for presentation + 5 minutes for questions).



Invited speaker

You will have **15 minutes** to realize your presentation (12 minutes for presentation + 3 minutes for questions).



Regular talk

You will have **15 minutes** to realize your presentation (12 minutes for presentation + 3 minutes for questions).



Poster

- Your poster must be **in English**
- Your poster should **be printed in A0 format** (84.1 cm x 118.9 cm) with a **portrait orientation**.
- The posters will be displayed on grids and fixed with clips, they will be given to you upon your arrival.
- It is not possible to print your poster on site.
- Thank you for **hanging your poster** the first morning of the conference, Friday April 3rd.
- Please **pick up your poster** on the last day of the conference, Sunday April 5th, the remaining posters will not be retained.

CONGRESS PROGRAM, OVERVIEW DAY 1

Day 1: Friday April 3rd							
	Auditorium 1 - Donzelot amphitheater		Auditorium 2 - A amphitheater		Auditorium 3 - Conference room A6		Library
Starting time	Duration	Detail	Duration	Detail	Duration	Detail	Detail
7:00 AM	1:00	<i>Welcoming participants (7:00 am - 8:00 am)</i>					
8:00 AM	0:15	Opening welcome					
8:15 AM	0:40	Plenary lecture: Claude Boccara, Auditorium 1 (8:15 am - 8:55 am)					
8:55 AM	0:05	<i>Conference room changing - 5"</i>					
9:00 AM	1:25	Session 4: Optical Microscopy & Laser-cell-tissue interactions part 1/4	1:25	Session 1: Diffuse Optical Imaging part 1/2	1:25	Session 2: Light Propagation in Tissues, Modelling & optical phantoms part 1/2	Free access*
10:25 AM	0:30	<i>Coffee break (10:25 am - 10:55 am)</i>					
10:55 AM	1:45	Session 4 - part 2/4	1:30	Session 1 - part 2/2	1:25	Session 2 - part 2/2	Free access*
12:20 PM	1:20	<i>Lunch (12:20 pm - 01:40 pm)</i>					
1:40 PM	0:40	Plenary lecture: Elena Zagaynova, Auditorium 1 (1:50 pm - 2:30 pm)					
2:20 PM	0:35	<i>Industrial talks - 35"</i>					
2:55 PM	0:05	<i>Conference room changing - 5"</i>					
3:00 PM	1:40	Session 7: OCT, Elastography, Photoacoustic, Polarization Imaging part 1/3	1:40	Session 3: Image-guided therapy, Lasers & PDT for treatment and diagnosis part 1/3	1:40	Session 5: Multimodal and Multispectral approaches part 1/2	Free access*
4:40 PM	0:30	<i>Coffee break (4:40 pm - 5:10 pm)</i>					
5:10 PM	1:15	Session 7 - part 2/3	1:30	Session 3 - part 2/3	1:30	Session 5 - part 2/2	Free access*
6:25 PM	1:35	Welcome party: Wine & Cheese, Library (06:25 pm - 08:00 pm)					
8:30 PM	1:00	Organ Recital, Cathedral Notre Dame de l'Annonciation, Nancy (08:30 PM - 09:30 PM)					

CONGRESS PROGRAM, OVERVIEW DAY 2

Day 2: Saturday April 4th								
	Auditorium 1 - Donzelot amphitheater		Auditorium 2 - A amphitheater		Auditorium 3 - Conference room A6		Library	
Starting time	Duration	Detail	Duration	Detail	Duration	Detail	Detail	
7:15 AM	00:45	<i>Welcoming participants (7:15 am - 8:00 am)</i>						
8:00 AM	1:25	Session 7: OCT, Elastography, Photoacoustic, Polarization Imaging part 3/3	1:00	Session 3: Image-guided therapy, Lasers & PDT for treatment and diagnosis part 3/3	1:25	Session 4: Optical Microscopy & Laser-cell-tissue interactions part 3/3	Free access*	
9:00 AM	0:55	<i>Coffee break (9:00 am - 9:55 am)</i>						
9:55 AM	1:10	Session 11: Clinical transfer applied to Cancer Treatment and Diagnosis - part 1/2	1:10	Session 6: Nano-biophotonics for cancer part 1/3	1:00	Session 4 - part 4/4	Free access*	
10:55 AM	1:40	Industrial Session & Poster Session Library (10:55 pm -12:35 pm)						
12:35 PM	1:00	<i>Lunch (12:35 pm - 1:35 pm)</i>						
1:35 PM	0:40	Plenary lecture: Jürgen Popp, Auditorium 1 (02:00 pm - 02:40 pm)						
	0:05	<i>Conference room changing - 5"</i>						
2:20 PM	1:30	Session 11 - part 2/2	1:15	Session 6 - part 2/3	1:25	Session 10: Machine Learning, Bioinformatics, Image and signal Processing part 1	Free access*	
3:35 PM	0:50	<i>Coffee break (3:35 pm - 4:25 pm)</i>						
4:25 PM	0:55	Session 8: Microwave and terahertz applications in biology and medicine - part 1/3	0:45	Session 6 - part 3/3	1:15	Session 10 - part 2/2	Free access*	
7:00 PM	3:30	Gala diner at the Great Salons of the City Hall including official speeches and best poster award ceremony						

CONGRESS PROGRAM, OVERVIEW DAY 3

Day 3: Sunday April 5th								
	Auditorium 1 - Donzelot amphitheater		Auditorium 2 - A amphitheater		Auditorium 3 - Conference room A6		Library	
Starting time	Duration	Detail	Duration	Detail	Duration	Detail	Detail	
8:00 AM	0:30	<i>Welcoming participants (8:00 am - 8:30 am)</i>						
8:30 AM	0:40	Plenary lecture: Sergio Fantini, Auditorium 1 (08:30 am - 09:10 am)						
9:10 AM	0:10	<i>Conference room changing -10"</i>						
9:20 AM	1:25	Session 8: Microwave and terahertz applications in biology and medicine part 2/3 9:20 am - 10:45 am	1:55	Session 12: Biophotonics devices for personalized diagnostics and wearables 9:20 am - 11:15 am	1:10	Session 9: Microcirculation imaging, Laser Speckle Contrast Imaging part 1/2 9:20 am - 10:30am	Free access*	
	0:30	<i>Coffee break (10:45 am - 11:15 am)</i>		0:30	<i>Coffee break (10:30 am - 11:00 am)</i>			
	1:15	Session 8 part 3/3 11:15am - 12:30 am	0:30	<i>Coffee break (11:15 am - 11:45 am)</i>	1:35	Session 13: Lasers in dermatology - Photodermatology 11:00 am - 12:35 am		
12:35 PM	0:15	Concluding speech End of conference Awards ceremony for the best oral communications						
		Social program						
2:00 PM	1:00	A guided visit of the historic city center: «Nancy, capital of Art Nouveau». (Departure at 2:00PM)						
	1:00	A guided audio tour of the city in the small tourist train. (Departure at 2:00PM, 3:00 pm, 4:00 pm)						

CONGRESS PROGRAM, DETAILED SCIENTIFIC PROGRAM DAY 1

Day 1: Friday April 3rd									
	Auditorium 1 - Donzelot amphitheater			Auditorium 2 - A amphitheater			Auditorium 3 - Conference room A6	Library	
Starting time	Duration	Detail		Duration	Detail		Duration	Detail	
7:00 AM	1:00	<i>Welcoming participants (7:00 am - 8:00 am)</i>							
8:00 AM	0:15	Opening welcome							
8:15 AM	0:40	Plenary lecture: Claude Boccara, Auditorium 1 (08:15 am - 08:55 am)							
8:55 AM	0:05	<i>Conference room changing - 5"</i>							
9:00 AM	1:25	Session 4: Optical Microscopy & Laser-cell-tissue interactions - part 1/4		1:25	Session 1: Diffuse Optical Imaging - part 1/2		1:25	Session 2: Light Propagation in Tissues, Modelling & optical phantoms - part 1/2	Free access*
	0:25	Keynote 1 - Cremer		0:25	Keynote 1 - Pogue		0:25	Keynote 1 - Jacques	
	0:15	Invited 1 - Leproux		0:15	Invited 1 - Dehghani		0:15	Invited 1 - Kirillin	
	0:15	Invited 2 - Shirshin		0:15	Invited 2 - Pifferi		0:15	Invited 2 - Tarvainen	
	0:15	Regular talk 1 - Fedotov		0:15	Regular talk 1 - Ferocino		0:15	Invited 3 - Bykov	
	0:15	Regular talk 2 - Darwin		0:15	Regular talk 2 - Rowley		0:15	Regular talk 1 - Grant	
10:25 AM	0:30	<i>Coffee break (10:25 am - 10:55 am)</i>							
10:55 AM	1:45	Session 4 - part 2/4		1:30	Session 1 - part 2/2		1:25	Session 2 - part 2/2	Free access*
	0:15	Invited 3 - Liu		0:15	Invited 3 - Gorpas		0:25	Keynote 2 - Zhu	
	0:15	Invited 4 - Zhan		0:15	Invited 4 - Kinle		0:15	Invited 4 - Oliveira	
	0:15	Invited 5 - Schneckenburger		0:15	Invited 5 - Conde		0:15	Invited 5 - Ohulchansky	
	0:15	Regular talk 3 - Yakimov		0:15	Regular talk 3 - Lanka		0:15	Regular talk 2 - Meglinski	
	0:15	Regular talk 4 - Zvetkova		0:15	Regular talk 4 - Bentley		0:15	Regular talk 3 - Oakley	
	0:15	Regular talk 5 - Liu Zhiyi		0:15	Regular talk 5 - Aguenounon				
	0:15	Regular talk 6 - Tkaczyk							
12:20 PM	1:20	<i>Lunch (12:20 pm - 01:40 pm)</i>							
1:40 PM	0:40	Plenary lecture: Elena Zagaynova, Auditorium 1 - 01:50 pm - 02:30 pm							
2:20 PM	0:35	<i>Industrial talks - 35"</i>							
2:55 PM	0:05	<i>Conference room changing - 5"</i>							
3:00 PM	1:40	Session 7: OCT, Elastography, Photoacoustic, Polarization Imaging - part 1/3		1:40	Session 3: Image-guided therapy, Lasers & PDT for treatment and diagnosis - part 1/3		1:40	Session 5: Multimodal and Multispectral approaches - part 1/2	Free access*
	0:25	Keynote 1 - Elson		0:25	Keynote 1 - Rück		0:25	Keynote 1 - Pavone	
	0:15	Invited 1 - Gasteau		0:15	Invited 1 - Ryabova		0:15	Invited 1 - Savelieva	
	0:15	Invited 2 - Zalevsky		0:15	Invited 2 - Neubauer		0:15	Invited 2 - Castaneda Aphan	
	0:15	Invited 3 - Zaitsev		0:15	Regular talk 1 - Li		0:15	Regular talk 1 - Ségaud	
	0:15	Regular talk 1 - Larin		0:15	Regular talk 2 - Batista		0:15	Regular talk 2 - Contreras	
	0:15	Regular talk 2 - Larina		0:15	Regular talk 3 - Ana		0:15	Regular talk 3 - Zzell	
4:40 PM	0:30	<i>Coffee break (4:40 pm - 5:10 pm)</i>							
5:10 PM	1:15	Session 7 - part 2/3		1:30	Session 3 - part 2/3		1:30	Session 5 - part 2/2	Free access*
	0:15	Invited 4 - Meglinski		0:15	Invited 3 - Shafirtsein		0:15	Invited 3 - Bigio	
	0:15	Invited 5 - Xue		0:15	Invited 4 - Liu		0:15	Invited 4 - Sterenborg	
	0:15	Regular talk 3 - Ogien		0:15	Invited 5 - Malik		0:15	Invited 5 - Tunnell	
	0:15	Regular talk 4 - Gomes		0:15	Invited 6 - Berg		0:15	Regular talk 4 - Tamošiūnas	
	0:15	Regular talk 5 - Asslanaj		0:15	Regular talk 4 - Li Siwen		0:15	Regular talk 5 - Majaron	
				0:15	Regular talk 5 - Gries		0:15	Regular talk 6 - Baratelli	
6:25 PM	1:35	Welcome party: Wine & Cheese, Library (06:25 pm - 08:00 pm)							
8:30 PM	1:00	Organ Recital, Cathedral Notre Dame de l'Annonciation, Nancy (08:30 PM - 09:30 PM)							

CONGRESS PROGRAM, DETAILED SCIENTIFIC PROGRAM DAY 2

Day 2: Saturday April 4th										
		Auditorium 1 - Donzelot amphitheater		Auditorium 2 - A amphitheater		Auditorium 3 - Conference room A6		Library		
Starting time	Duration	Detail		Duration	Detail		Duration	Detail		
7:15 AM	00:45	<i>Welcoming participants (7:15 am - 8:00 am)</i>								
8:00 AM	1:25	Session 7: OCT, Elastography, Photoacoustic, Polarization Imaging - part 3/3		1:00	Session 3: Image-guided therapy, Lasers & PDT for treatment and diagnosis - part 3/3		1:25	Session 4: Optical Microscopy & Laser-cell-tissue interactions part 3/3		Free access*
	0:25	Keynote 2 - Ramella Roman		0:15	Invited 7 - Pogue		0:25	Keynote 2 - Qu		
	0:15	Invited 6 - Novikova		0:15	Invited 8 - Tuchin		0:15	Invited 6 - Priezhev		
	0:15	Invited 7 - Zhang		0:15	Invited 9 - Vitkin		0:15	Invited 7 - Wagner		
	0:15	Regular talk 6 - Brecht		0:15	Regular talk 6 - Ruehm		0:15	Regular talk 7 - Yastrebova		
	0:15	Invited 8 - Rafailov					0:15	Regular talk 8 - König		
9:00 AM	0:55	<i>Coffee break (9:00 am - 9:55 am)</i>								
9:55 AM	1:10	Session 11: Clinical transfer applied to Cancer Treatment and Diagnosis - part 1/2		1:10	Session 6: Nano-biophotonics for cancer - part 1/3		1:00	Session 4 - part 4/4		Free access*
	0:25	Keynote 1 - Pierangelo		0:25	Keynote 1 - Khebtsov		0:15	Invited 8 - Xi		
	0:15	Invited 1 - Walsh		0:15	Invited 1 - Cheng		0:15	Invited 9 - Claus		
	0:15	Invited 2 - Loschenov		0:15	Invited 2 - Pominova		0:15	Invited 10 - Savitsky		
	0:15	Regular talk 1 - Piot		0:15	Regular talk 1 - Makligna		0:15	Regular talk 9 - Smenova		
10:55 AM	1:40	Industrial Session & Poster Session Library (10:55 pm -12:35 pm)								
12:35 PM	1:00	<i>Lunch (12:35 pm - 1:35 pm)</i>								
1:35 PM	0:40	Plenary lecture: Jürgen Popp, Auditorium 1 (01:35 pm - 02:15 pm)								
	0:05	<i>Conference room changing - 5"</i>								
2:20 PM	1:30	Session 11 - part 2/2		1:15	Session 6 - part 2/3		1:25	Session 10: Machine Learning, Bioinformatics, Image and signal Processing - part 1		Free access*
	0:15	Invited 3 - Maklygina		0:15	Invited 3 - Ghosh		0:25	Keynote 1 - Ozcan		
	0:15	Invited 4 - Sroka		0:15	Invited 4 - He		0:15	Invited 1 - Kistenev		
	0:15	Invited 5 - Planat-Chrétien		0:15	Invited 5 - Genina		0:15	Invited 2 - Kel		
	0:15	Invited 6 - Artyushenko		0:15	Regular talk 2 - Gómez		0:15	Regular talk 1 - Brunel		
	0:15	Regular talk 2 - Borisova		0:15	Regular talk 3 - Ma		0:15	Regular talk 2 - Botina		
	0:15	Regular talk 3 - Ziskind								
3:35 PM	0:50	<i>Coffee break (3:35 pm - 4:25 pm)</i>								
4:25 PM	0:55	Session 8: Microwave and terahertz applications in biology and medicine - part 1/3		0:45	Session 6 - part 3/3		1:15	Session 10 - part 2/2		Free access*
	0:25	Keynote 1 - Son		0:15	Invited 6 - Ryabchikov		0:15	Invited 3 - Benezeth		
	0:15	Invited 1 - Mounaix		0:15	Invited 7 - Makarov		0:15	Invited 4 - Mangeat		
	0:15	Invited 2 - Wallace		0:15	Invited 8 - Lugovtsov		0:15	Regular talk 3 - Phan		
							0:15	Regular talk 4 - Chizari		
							0:15	Regular talk 5 - Boutegrabet		
7:00 PM	3:30	Gala diner at the Great Salons of the City Hall including official speeches and best poster award ceremony								

CONGRESS PROGRAM, DETAILED SCIENTIFIC PROGRAM DAY 3

Day 3: Sunday April 5th								
Auditorium 1 - Donzelot amphitheater			Auditorium 2 - A amphitheater			Auditorium 3 - Conference room A6		Library
Starting time	Duration	Detail	Duration	Detail	Duration	Detail	Detail	
8:00 AM	0:30	<i>Welcoming participants (8:00 am - 8:30 am)</i>						
8:30 AM	0:40	Plenary lecture: Sergio Fantini, Auditorium 1 (08:30 am - 09:10 am)						
9:10 AM	0:10	<i>Conference room changing - 10"</i>						
9:20 AM	1:25	Session 8: Microwave and terahertz applications in biology and medicine - part 2/3	1:55	Session 12: Biophotonics devices for personalized diagnostics and wearables	1:10	Session 9: Microcirculation imaging, Laser Speckle Contrast Imaging - part 1/2	Free access*	
10:30 AM	0:25	Keynote 2 - MacPherson	0:25	Keynote 1 - Puppels	0:25	Keynote 1 - Steenbergen		
	0:15	Invited 3 - Shkurinov	0:15	Invited 1 - Darvin	0:15	Invited 1 - Leahy		
	0:15	Invited 4 - Zaytsev	0:15	Invited 2 - Shin	0:15	Invited 2 - Humeau-Heurtier		
	0:15	Invited 5 - Peng	0:15	Invited 3 - Shcheslavskiy	0:15	Regular talk 1 - Bari		
	0:15	Regular talk 1 - Hakala	0:15	Regular talk 1 - Sivakumar	0:30	<i>Coffee break (10:30 am - 11:00 am)</i>		
10:45 AM	<i>Coffee break (10:45 am - 11:15 am)</i>	0:15	Regular talk 2 - Spigulis					
11:00 AM		0:15	Regular talk 3 - Hammer	1:35	Session 13: Lasers in dermatology - Photodermatology 11:00 am - 12:35 PM			
11:15 AM	1:15	Session 8 - part 3/3 11:15am - 12:30 PM	0:30			<i>Coffee break (11:15 am - 11:45 am)</i>		
	0:15	Invited 6 - Gallot						0:25
11:45 AM	0:15	Invited 7 - Cherkasova	0:45	Session 9 - part 2/2 11:45 am - 12:30 PM	0:25	Keynote 2 - Pena		
	0:15	Regular talk 2 - Mankova	0:15	Invited 3 - Nilsson	0:15	Invited 1 - Will		
	0:15	Regular talk 3 - Logofatu	0:15	Invited 4 - Strömberg	0:15	Invited 2 - Laubach		
	0:15	Regular talk 4 - Kononova	0:15	Regular talk 2 - Settembre	0:15	Regular talk 1 - Zezell		
12:35 PM	0:15	Concluding speech End of conference Awards ceremony for the best oral communications						
Social program								
2:00 PM	1:00	A guided visit of the historic city center: «Nancy, capital of Art Nouveau». Please bring the voucher present in your envelope. Departure at 2 p.m., meeting point in front of the ENSIC library for departure.						
2:00 PM	1:00	A guided audio tour of the city in the small tourist train. Explore the historic 18th Century city and the Old Town sitting comfortably in the little train. Departure at 2 PM., 3 PM. and 4 PM. Duration 1h. the meeting point for the start is place stanislas.						
3:00 PM	1:00							
4:00 PM	1:00							

Schedule	About the speakers	
<p>Friday April 3rd</p> <p>Auditorium 1 8:15 AM – 8:55 AM</p>	40''	<p>Plenary talk topic: «Static and dynamic full field oct: from tissues to cells»</p> <p>Claude Boccara, <i>Emeritus Professor Institut Langevin, ESPCI Paris, CNRS, PSL University</i></p>
<p>Friday April 3rd</p> <p>Auditorium 1 1:50 PM - 2:30 PM</p>	40''	<p>Plenary talk topic: «FLIM metabolic imaging from cells to patients»</p> <p>Elena Zagaynova, <i>Professor, Director of the Institute of Biomedical Technologies, Privozhsky Research Medical University</i></p>
<p>Saturday April 4th</p> <p>Auditorium 1 1:35 PM - 2:15 PM</p>	40''	<p>Plenary talk topic: «Photonics for medical diagnosis and therapy».</p> <p>Jürgen Popp, <i>Scientific Director of the Leibniz Institute of Photonic Technology Jena, Germany, Recipient of the 2016 Pittsburgh Spectroscopy Award, Fellow of the American Institute for Medical and Biological Engineering (AIMBE) and of the International Society for Optical Engineering (SPIE), Editor-in-Chief of the Journal of Biophotonics</i></p>
<p>Sunday April 5th</p> <p>Auditorium 1 8:30 AM - 9:10 AM</p>	40''	<p>Plenary talk topic: «Quantitative studies of cerebral hemodynamics with near-infrared spectroscopy»</p> <p>Sergio Fantini, <i>Professor, Department of Biomedical Engineering, Tufts University, Medford, MA, USA. Fellow of the International Society for Optical Engineering (SPIE), of the Optical Society of America (OSA) and of the the American Institute for Medical and Biological Engineeing (AIMBE)</i></p>

S1

KEYNOTES, INVITED SPEAKER
REGULAR TALK

SESSION 1: Diffuse Optical Imaging

CHAIRS: **Sylvain Gioux**, *Université de Strasbourg, France (coordinator)***Zeev Zalevsky**, *Bar-Ilan University, Israel*, **Turgut Durduran**, *Institute of Photonic Sciences ICFO Barcelona, Spain*, **Hamid Dehghani**, *University of Birmingham, UK*, **Adam Gibson**, *University College London, UK*, **Ori Katz**, *Hebrew University of Jerusalem, Israel*, **Brian Pogue**, *Dartmouth College, USA*, **Demetri Psaltis**, *EPFL, Switzerland*, **Paula Taroni**, *Politecnico di Milano, Italy*

S.1 - part 1		Friday April 3 rd (9:00 AM – 10:25 AM) Chairmans: Sylvain Gioux, Brian Pogue
Keynote 1	25"	Imaging Medicine with Diffuse Optical Systems Brian W. Pogue <i>Thayer School of Engineering, Dartmouth College, USA</i> <i>Center for Imaging Medicine, Dartmouth-Hitchcock Medical Center, USA</i>
Invited 1	15"	Applications of diffuse optics for detection and characterisation of disease Hamid Dehghani <i>School of Computer Science, University of Birmingham, UK</i>
Invited 2	15"	Advancing Clinical Translation in Biophotonics through multi-laboratory initiatives on Performance Assessment and Standardization Antonio Pifferi ¹ , Alessandro Torricelli ¹ , Pranav Lanka ¹ And Heidrun Wabnitz ² <i>1. Department of Physics, Politecnico di Milano, Italy</i> <i>2. Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany</i>
Regular talk 1	15"	The SOLUS system: a multimodal imaging device based on innovative photonic modules to improve the diagnosis of breast cancer Edoardo Ferocino ¹ , Laura Di Sieno ¹ , Alberto Dalla Mora ¹ , Antonio Pifferi ¹ , Alberto Tosi ² , Enrico Conca ² , Vincenzo Sesta ² , Andrea Giudice ³ , Alessandro Ruggeri ³ , Simone Tisa ³ , Alexander Flocke ⁴ , Bogdan Rosinski ⁵ , Jean-Marc Dinten ⁶ , Mathieu Perriollat ⁶ , David Savery ⁷ , H�el�ene Sportouche ⁷ , Simon Arridge ⁸ , Andrea Farina ⁹ , Pietro Panizza ¹⁰ , Elena Venturini ¹⁰ , Peter Gordebeke ¹¹ , Pamela Zolda ¹¹ and Paola Taroni ¹ <i>1. Dipartimento di Fisica, Politecnico di Milano, Italy;</i> <i>2. Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Italy;</i> <i>3. Micro Photon Devices Srl, Italy; 4. iC-Haus, Germany; 5. Vermon SA, France;</i> <i>6. CEA-LETI, France; 7. Supersonic Imagine SA, France;</i> <i>8. Department of Computer Science, University College London, UK;</i> <i>9. Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche, Italy;</i> <i>10. Breast Imaging Unit, Scientific Institute (IRCCS) Ospedale S. Raffaele, Italy;</i> <i>11. European Institute for Biomedical Imaging Research, Austria</i>
Regular talk 2	15"	Development of a cost effective optical imaging system for monitoring of Rheumatoid Arthritis George Rowley, Daniel Lighter and Hamid Dehghani <i>School of Computer Science, University of Birmingham, United Kingdom</i>

AUDITORIUM 2

S.1 - part 2		Friday April 3 rd (10:55 AM – 12:25 PM) Chairmans: Sylvain Gioux, Brian Pogue
Invited 3	15''	Standardization of Intraoperative Fluorescence Molecular Imaging Systems and Data Referencing Dimitris Gorpas <i>Institute of Biological and Medical Imaging, Helmholtz Zentrum München, Germany</i> <i>Chair of Biological Imaging and TranslaTUM, Technical University of Munich, Germany</i>
Invited 4	15''	Spatial frequency domain imaging: theory, phantom experiments and applications Alwin Kienle, Christian Zoller, Andre Liemert, Florian Foschum, Stefan Lohner, Steffen Nothelfer <i>Quantitative Imaging and Sensors, Institute of Laser Technologies in Medicine and Metrology at the University of Ulm, Germany</i>
Invited 5	15''	Machine learning fusion of hyperspectral and OCT imaging for tissue diagnosis and assessment Olga M. Conde ^{1,2,3} , Arturo Pardo ^{1,2} , Eusebio Real ^{1,2,3} , José A. Gutierrez ^{1,2} and José M. Lopez-Higuera ^{1,2,3} 1. Photonics Engineering Group, University of Cantabria, Spain 2. IDIVAL - Valdecilla Biomedical Research Institute, Spain 3. CIBER-BBN – Instituto de Salud Carlos III, Spain
Regular talk 3	15''	Broadband time domain diffuse optical spectroscopic monitoring of thermal treatment in biological tissue. Pranav Lanka ¹ , Francis Joseph ² , Hindrik Kruit ² , Sanathana Konugolu Venkata Sekar ³ , Andrea Farina ⁴ , Rinaldo Cubeddu ¹ , Srirang Manohar ² and Antonio Pifferi ^{1,4} 1. Politecnico di Milano, Dipartimento di Fisica, Milano, (Italy); 2. Biomedical Photonic Imaging Group, Technical Medical Centre, University of Twente, Enschede, Netherlands; 3. Biophotonics@Tyndall, IPIC, Tyndall National Institute Cork, Ireland 4. Consiglio Nazionale delle Ricerche, Istituto di Fotonica e Nanotecnologie, Milano (Italy)
Regular talk 4	15''	A Cost Effective and Low Footprint Hyperspectral Bioluminescent Tomography System Based on Compressive Sensing Alexander Bentley ¹ , Jonathan E. Rowe ¹ and Hamid Dehghani ^{1,2} 1. School of Computer Science, College of Engineering and Physical Sciences, University of Birmingham, UK 2. Physical Sciences for Health Doctoral Training Centre, College of Engineering and Physical Sciences, University of Birmingham, UK
Regular talk 5	15''	Real-time processing and visualization of functional and structural parameters of living tissue Enagnon Aguenounon, Foudil Dadouche, Wilfried Uhring and Sylvain Gioux <i>University of Strasbourg, ICube Laboratory, France</i>

CHAIRS: *Valery Tuchin*, Saratov State University, Saratov, Russia, *Luis Oliveira*, Polytechnic of Porto - School of Engineering, Porto, Portugal (**coordinators**)

Alexey Popov, University of Oulu, Finland, *Walter Blondel*, University of Lorraine, Nancy, France, *Tatiana Novikova*, Ecole polytechnique, Palaiseau, France, *Anne Planat-Chrétien*, CEA-Leti, Grenoble, France, *Gal Shafirstein*, Roswell Park Comprehensive Cancer Center, Buffalo, USA

S.2 - part 1		Friday April 3 rd (9:00 AM – 10:25 AM) Chairman: Luis Olivera
Keynote 1	25"	The use of subdiffusive light scattering as a contrast mechanism for imaging superficial tissue layers Steven Jacques <i>University of Washington, Seattle, USA</i>
Invited 1	15"	Dual-wavelength fluorescence monitoring for photodynamic therapy: theory, numerical simulations, phantom and in vivo studies Mikhail Kirillin ¹ , Aleksandr Khilov ¹ , Daria Kurakina ¹ , Ekaterina Sergeeva ² , Alexandra Getmanskaya ^{1,2} , Maria Shakhova ^{1,3} and Ilya Turchin ³ <i>1. Institute of Applied Physics RAS, Russia</i> <i>2. N.I. Lobachevsky State University of Nizhny Novgorod University, Russia</i> <i>3. Privolzhsky Research Medical University, Russia</i>
Invited 2	15"	Utilising approximative models in optical imaging and modelling of errors Tanja Tarvainen <i>Department of Applied Physics, University of Eastern Finland, Finland</i> <i>Department of Computer Science, University College London, United Kingdom</i>
Invited 3	15"	Advanced biotissue phantoms for microcirculation and NIRS studies Alexander Bykov ¹ , Alexey Popov ¹ , Oleksii Sieryi ¹ , Viktor Dremin ¹ , Evgenii Zherebtsov ¹ , Anton Sdobnov ¹ , Vyacheslav Kalchenko ² and Igor Meglinski ^{1,3,4} <i>1. Opto-Electronics and Measurement Techniques Unit, University of Oulu, Finland</i> <i>2. Department of Veterinary Resources, Weizmann Institute of Science, Israel</i> <i>3. School of Engineering and Applied Science, Aston Institute of Materials Research, Aston University, UK</i> <i>4. School of Life & Health Sciences, Aston University, UK</i>
Regular talk 1	15"	Dosie Finite Element and Monte Carlo Simulations are in Close Agreement with Measurements of Light Propagation in Tissue Mimicking Phantoms Sydney Grant ¹ , Emily Oakley ¹ , Karl Beeson ² , Evgueni Parilov ² , Mary Potasek ² , Lindsey Carlsen ¹ , David Bellnier ¹ and Gal Shafirstein ¹ <i>1. Photodynamic Therapy Center, Roswell Park Comprehensive Cancer Center, NY, USA</i> <i>2. Simphotek Inc., NJ, USA</i>

S.2 - part 2		Friday April 3rd (10:55 AM – 12:20 PM) Chairman: Valery Tuchin
Keynote 2	25"	Optical clearing skull window for cortical vascular imaging and Controlling Dan Zhu <i>Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology</i>
Invited 4	15"	Measurement of optical properties of human kidney from the deep-UV to NIR Isa Carneiro ¹ , Sónia Carvalho ¹ , Rui Henrique ^{1,2} , Luís Oliveira ^{3,4} and Valery Tuchin ^{5,6,7} 1. Department of Pathology and Cancer Biology and Epigenetics Group-Research Centre, Portuguese Oncology Institute of Porto, Portugal; 2. Department of Pathology and Molecular Immunology, Porto University – Institute of Biomedical Sciences Abel Salazar, Portugal; 3. Physics Department, Polytechnic of Porto – School of Engineering, Portugal; 4. Centre of Innovation in Engineering and Industrial Technology, Polytechnic of Porto, Portugal; 5. Research-Educational Institute of Optics and Biophotonics, Saratov State University, Russia; 6. Laboratory of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control of the Russian Academy of Sciences, Russia; 7. Interdisciplinary Laboratory of Biophotonics, Tomsk State University, Russia
Invited 5	15"	Optical Bioimaging in Near and Short-Wave Infrared Region: Endogenous Contrasts and Exogenous Probes Tymish Ohulchansky ¹ <i>College of Physics and Optoelectronic Engineering, Shenzhen University, P.R.China</i>
Regular talk 2	15"	Sensing Freshness of Meat with Visible and Near-Infrared Spectroscopy Alexey Popov ¹ , Motahareh Peyvasteh ¹ , Alexander Bykov ¹ and Igor Meglinski ^{1,2,3,4} 1. Opto-Electronics and Measurement Techniques Research Unit, University of Oulu, Oulu, Finland 2. Interdisciplinary Laboratory of Biophotonics, National Research Tomsk State University, Tomsk, Russia 3. Institute of Engineering Physics for Biomedicine, National Research Nuclear University (MEPhI), Moscow, Russia 4. School of Engineering and Applied Science & School of Life and Health Sciences, Aston University, Birmingham, UK
Regular talk 3	15"	Treatment Planning for Interstitial Phototherapies of Locally Advanced Cancers Emily Oakley ¹ , Sandra Sexton ² , Leslie Curtin ² , Jonathan Lovell ³ and Gal Shafirstein ¹ 1. Photodynamic Therapy Center at the Department of Cell Stress Biology 2. Laboratory Animals Shared Resources, Roswell Park Comprehensive Cancer Center, USA 3. Department of Biomedical Engineering, University at Buffalo, USA

CHAIRS: **Elena Zagaynova**, Privolzhsky research medical University, Nizhny Novgorod, Russia (coordinator)

Georges Wagnières, EPFL, Lausanne, Switzerland, **Céline Frochot**, University of Lorraine, Nancy, France, **Christine Vever-Bizet**, Université Pierre et Marie Curie, France, **Serge Mordon**, University of Lille, France

S.3 - part 1		Friday April 3 rd (3:00PM – 4:40 PM) Chairman: Alex Vitkin
Keynote 1	25''	Metabolic FLIM and oxygen PLIM in new theranostic PDT procedures Angelika Rueck ¹ , Björn von Einem ² , Lothar Lilge ³ and Sviatlana Kalinina ¹ 1. Confocal and multiphoton microscopy, medical faculty, University Ulm, Germany 2. Neurological Clinic, University Ulm, Germany 3. University Health Network, University of Toronto, Canada
Invited 1	15''	The Use of Fluorescence Lifetime Imaging Microscopy to Assess the Interaction of Photosensitizers with Tumor Tissues Anastasia Ryabova, Igor Romanishkin, Aleksey Skobeltsin, Daria Pominova and Victor Loschenov Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia
Invited 2	15''	In Vivo Study of Metabolic and Oxygen States in Tumors with Fiber-based Fluorescence/Phosphorescence Lifetime Spectroscopy Antje Neubauer ¹ , Maria Lukina ² , Anna Orlova ^{2,3} , Marina Shirmanova ² , Daniil Shirokov ² , Anton Pavlikov ² , Elena Zagaynova ² , Thoshitada Yoshihara ⁴ , Seiji Tobita ⁴ , Hauke Studier ¹ , Wolfgang Becker ¹ and Vladislav Shcheslavskiy ^{1,2} 1. Becker & Hickl GmbH, Germany 2. Institute of Biomedical Technologies, Nizhny Novgorod State Medical Academy, Russia 3. Institute of Applied Physics, Russian Academy of Sciences, Russia 4. Department of Chemistry and Chemical Biology, Gunma University, Japan
Regular talk 1	15''	NIR Optical Clearing Skull Window assisted in vivo through-skull cortical imaging Dong-Yu LI ¹ , Shao-Jun LIU ¹ , Ting-Ting YU ¹ , Jun QIAN ² and Dan ZHU ¹ 1. Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, China. 2. State Key Laboratory of Modern Optical Instrumentation, Centre for Optical and Electromagnetic Research, College of Optical Science and Engineering, Zhejiang University, China.
Regular talk 2	15''	Corneal collagen crosslinking assessment using two-photon imaging Ana Batista ¹ , Hans Georg Breunig ^{1,2} , Elias Flockerzi ³ , Berthold Seitz ³ and Karsten König ^{1,2} 1. Department of Biophotonics and Laser Technology, Saarland University, Germany 2. JenLab GmbH, Germany 3. Department of Ophthalmology, Saarland University, Germany
Regular talk 3	15''	Effects of Q-switched Nd:YAG and Biosilicate® on dentin demineralization Daniela Figueredo ¹ , Juliana Daguano ¹ , Matheus Del-Valle ² , Denise Zezell ² and Patricia Ana ¹ 1. Center for Engineering, Modelling and Applied Social Sciences, UFABC, Brazil 2. Center for Lasers and Applications, IPEN-CNEN/SP, Brazil

S.3 - part 2		Friday April 3 rd (5:10 PM – 6:40 PM) Chairman: Valery Tuchin
Invited 3	15"	<p>Dosimetry-Guided Interstitial Photodynamic Therapy for Locally Advanced Cancerous Tumors Emily Oakley¹, David A Bellnier¹, Alan Hutson³, Hannah Cooper¹, Michael Habitzruther¹, Sandra Sexton⁴, Leslie Curtin⁴, Lawrence Tworek¹, Matthew Mallory¹, Barbara Henderson¹ and Gal Shafirstein¹</p> <p>1. Photodynamic Therapy Center at the Department of Cell Stress Biology, 2. Department of Biostatistics and Bioinformatics, 3. Laboratory Animal Shared Resource, 4. Translational Imaging Shared Resource, Roswell Park Comprehensive Cancer Center, USA</p>
Invited 4	15"	<p>Rewiring signaling pathway in engineered cells through optogenetic strategy for cancer and thrombolysis therapy Cuilin Zhanglin^{1,2} and Xiaolong Liu^{1,2}</p> <p>1. Mengchao Hepatobiliary Hospital of Fujian Medical University, Fuzhou, P.R.China 2. Mengchao Med-X center, Fuzhou University, Fuzhou, P.R. China</p>
Invited 5	15"	<p>Applications of endogenous Protoporphyrin in photo-diagnosis and photo-therapy of cancer Zvi Malik</p> <p>The Mina and Everard Goodman Faculty of Life Sciences, Bar-Ilan University, ISRAEL</p>
Invited 6	15"	<p>Photochemical internalization (PCI) as an intracellular drug delivery technology for treatment of solid tumors Kristian Berg</p> <p>Department of Radiation Biology, Institute for Cancer Research, Comprehensive Cancer Center, Oslo University Hospital - Radium Hospital, Oslo, Norway</p>
Regular talk 4	15"	<p>A Modification Biogenic System for Phototherapy and Immunotherapy Against Tumor Siwen Li¹, Yi Ma¹, Zhiyu Qian² and Yueqing Gu¹</p> <p>1. Department of Biomedical Engineering, China Pharmaceutical University, China 2. Department of Biomedical Engineering, Nanjing university of aeronautics and astronautics, China</p>
Regular talk 5	15"	<p>Multifunctional AGuIX[®] theranostic nanoparticles for vascular-targeted interstitial photodynamic therapy of glioblastoma Mickaël Gries¹, Joël Daouk¹, Paul Rocchi⁴, Céline Frochet², Samir Acherar³, François Lux⁴, Olivier Tillement⁴, Noémie Thomas¹ and Muriel Barberi-Heyob¹</p> <p>1. Université de Lorraine, CNRS, CRAN, Vandoeuvre-lès-Nancy, France 2. Université de Lorraine, CNRS, LRGP, Nancy, France 3. Université de Lorraine, CNRS, LCPM, Nancy, France 4. Université Lyon, CNRS, ILM, Lyon, France</p>

S.3 - part 3		Saturday April 4th (8:00 AM – 9:00 AM) Chairman: Angelika Ruck
Invited 7	15''	Optical Systems for Photodynamic & Radiation Therapy Dosimetry Brian W. Pogue ^{1,2} , Alberto Ruiz ¹ , Ethan Larochelle ¹ , Michael S. Chapman ² , Daniel Alexander ¹ , Petr Bruza ¹ , David J. Gladstone ^{1,2} and Lesley A. Jarvis ² <i>1. Center for Imaging Medicine, Engineering, Dartmouth College, USA</i> <i>2. Geisel School of Medicine at Dartmouth USA</i>
Invited 8	15''	Molecular diffusivity of normal and pathological tissues at immersion optical clearing Valery V. Tuchin <i>Department of Optics and Biophotonics, Saratov State University, Saratov, Russia</i> <i>Interdisciplinary Laboratory of Biophotonics, Tomsk State University, Tomsk, Russia</i> <i>Lab. of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control of the RAS, Saratov, Russia</i> <i>Laboratory of FemtoMedicine, University of ITMO, St.-Petersburg, Russia</i> <i>Laboratory of Molecular Imaging, Research Center of Biotechnology of the RAS, Moscow, Russia</i>
Invited 9	15''	Shedding light on radiotherapy: functional optical coherence tomography for radiobiological microvascular imaging Valentin Demidov ¹ , Costel Fluera ² and Alex Vitkin ¹ <i>1. Department of Medical Biophysics, University of Toronto, Canada</i> <i>2. Information Communication Technology, National Research Council, Canada</i>
Regular talk 6	15''	Optical Tissue Phantoms for 2-Photon Fluorescence Lifetime Imaging Systems Adrian Rühm ¹ , Christian Freymüller ¹ , Nico Imberger ¹ , Sviatlana Kalinina ² , Angelika Rück ² And Ronald Sroka ¹ <i>1. LIFE-Zentrum, Urologische Klinik und Poliklinik, Klinikum der Universität München, Germany</i> <i>2. Core Facility für konfokale und Multiphotonen Mikroskopie, Universität Ulm, Germany</i>

CHAIRS: *Hideaki Kano, University of Tsukuba, Japan (coordinator)*

Evgeny Shirshin, M. V. Lomonosov State University, Moscow, Russia, Andrei Lugovtsov, M. V. Lomonosov State University, Moscow, Russia, Dominique Dumas, University of Lorraine, Nancy, France, Karsten Koenig, Saarland University, Germany, Herbert Schneckenburger, Aalen University, Germany, Alexander Priezzhev, M. V. Lomonosov State University, Moscow, Russia

S.4 - part 1		Friday April 3 rd (9:00 AM – 10:25 AM) Chairmans: Herbert Schneckenburger, Hideaki Kano
Keynote 1	25"	<p>Lens Free Super-Resolution Microscopy at Large Working Distances - Implications for Genome Nanostructure Analysis Christoph Cremer</p> <p>1. Institute of Molecular Biology (IMB), Germany 2. Institute for Pharmacy and Molecular Biotechnology (IPMB), & Kirchoff-Institute for Physics (KIP), University Heidelberg, Germany 3. Department of Physics, University Mainz (JGU), Germany</p>
Invited 1	15"	<p>Recent advances in cell imaging by multiplex CARS microspectroscopy Philippe Leproux¹, Vincent Couderc¹, Tigran Mansuryan¹, Tiffany Guerenne-Del Ben², Vincent Sol², Jean-Michel Petit² and Hideaki Kano³</p> <p>1. XLIM, UMR 7252, University of Limoges, France 2. PEIRENE, EA 7500, University of Limoges, France 3. Department of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan</p>
Invited 2	15"	<p>Label-free molecular imaging: investigation of photophysical processes and applications for biomedical diagnostics Evgeny Shirshin</p> <p>Department of Physics, Moscow State University, Russia</p>
Regular talk 1	15"	<p>Stain-free subcellular-resolution astrocyte visualization by means of third-harmonic generation microscopy Matvei Pochechuev^{1,5}, Aleksander Lanin^{1,3}, Ilya Kelmanson⁴, Dmitriy Bilan⁴, Artem Chebotarev¹, Darya Kotova⁴, Victor Tarabykin⁶, Andrei Fedotov¹, Vsevolod Belousov⁴ and Aleksey Zheltikov^{1,2,3,5}</p> <p>1. Physics Department, International Laser Center, M.V. Lomonosov Moscow State University, Russia 2. Department of Physics and Astronomy, Texas A&M University, USA 3. Russian Quantum Center, Russia 4. M. M. Shemyakin and Yu.A. Ovchinnikov Institute of Bioorganic Chemistry, Russia 5. Kurchatov Institute National Research Center, Russia 6. Institute of Cell Biology and Neurobiology, Charité—Universitätsmedizin Berlin, Germany</p>
Regular talk 2	15"	<p>Two-photon excited fluorescence lifetime imaging for non-invasive in vivo visualization of mast cells in the human skin Maxim Darvin¹, Marius Kröger¹, Jörg Scheffel¹, Viktor Nikolaev^{1,2}, Evgeny Shirshin³, Frank Siebenhaar¹, Johannes Schleusener¹, Marcus Maurer and Jürgen Lademann¹</p> <p>1. Department of Dermatology, Venerology and Allergology, Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Germany 2. Faculty of Physics, Tomsk State University, Russia 3. Faculty of Physics, Lomonosov Moscow State University, Russia</p>

S.4 - part 2		Friday April 3 rd (10:55 AM – 12:40 AM) Chairmans: Alexander Priezzhev, Evgey Shirshin
Invited 3	15"	Optical characterization of tumor microenvironment Liwei Liu <i>Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education & Guangdong Province, College of Physics and Optoelectronic Engineering, Shenzhen University, China.</i>
Invited 4	15"	Break the unbreakable limits toward high/super-resolution microscopy Qiuqiang Zhan <i>Centre for Optical and Electromagnetic Research, South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou, P. R. China</i>
Invited 5	15"	Deep View Microscopy of Cells and Tissues Herbert Schneckenburger ¹ , Verena Richter ¹ , Sandra Ritz ² , Marton Gelleri ² , Florian Schock ³ and Christoph Cremer ^{2,3} <i>1. Institute of Applied Research, Aalen University, Germany 2. Institute of Molecular Biology, Mainz, Germany 3. Kirchoff Institute for Physics (KIP,) and Institute of Pharmacy & Molecular Biotechnology, University of Heidelberg, Germany</i>
Regular talk 3	15"	Mechanisms of formation of endogenous near infrared fluorescence in biological tissues Boris Yakimov ¹ , Anna Rubekina ¹ , Gleb Budylin ² , Maxim Darvin ³ , Victor Kompanets ⁴ , Victor Fadeev ¹ , Evgeny Shirshin ^{1,4} <i>1. Department of Physics of M.V. Lomonosov Moscow State University, Moscow, Russia 2. Faculty of Physics of Higher School of Economics, Moscow, Russia 3. Center of Experimental and Applied Cutaneous Physiology, Department of Dermatology, Venerology and Allergology, Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt Universität zu Berlin, and Berlin Institute of Health, Berlin, Germany 4. Institute of spectroscopy of the Russian Academy of Sciences, Moscow, Russia</i>
Regular talk 4	15"	The phenomenon of natural (proper) fluorescence of calcified dermal layers in amphibia (150 years history) Elissaveta Zvetkova <i>Bulgarian Society of Biorheology, Sofia, Bulgaria</i>
Regular talk 5	15"	Assessing three-dimensional orientation and organization of microtubules during cell migration based on super-resolution images Zhiyi Liu, Jia Meng and Zhihua Ding <i>College of Optical Science and Engineering, Zhejiang University, China</i>
Regular talk 6	15"	High resolution / large FOV imaging strategies for in-vivo pathology Tomasz Tkaczyk ^{1,2} , John Gawedzinski ¹ and Hamin Jeon ¹ <i>1. Department of Bioengineering, Rice University, USA 2. Department of Electrical and Computer Engineering, Rice University, USA</i>

S.4 - part 3		Saturday April 4 th (8:00 AM – 9:25 AM) Chairmans: Andrei Lugovtsov, Herbert Schneckenburger
Keynote 2	25''	Advances in super-resolution optical microscopy Junle Qu, Luwei Wang, Wei Zhang, Shuai Ye, Wei Yan, Zhigang Yang, Danying Lin, Liwei Liu, Jun Song and Bin Yu <i>Center for Biomedical Photonics & College of Physics and Optoelectronic Engineering, Shenzhen University, China</i>
Invited 6	15''	Laser Applications in Hemorheologic Research Alexander Priezhev, Andrei Lugovtsov, Alexey Semenov, and Sergey Nikitin <i>Physics Department and International Laser Center of M.V. Lomonosov Moscow State University, Moscow, Russia</i>
Invited 7	15''	Red Blood Cells Aggregation: A holographical optical tweezers approach Christian Wagner ¹ , Francois Yaya ^{1,2} , Olivera Korculanin ^{3,4} and Pavlik Lettinga ^{3,4} <i>1. Experimentalphysik, University of Saarland, Germany</i> <i>2. Laboratoire Interdisciplinaire de Physique, University of Grenoble Alpes, France</i> <i>3. ICS-3, Forschungszentrum Jülich, Germany</i> <i>4. Laboratory for Soft Matter and Biophysics, KU Leuven, Belgium</i>
Regular talk 7	15''	Scanning flow cytometry for detection Red Blood Cells influence on atherosclerotic plaque Ekaterina Yastrebova ^{1,2,3} , Andrey Chernyshev ^{1,2} and Valeri Maltsev ^{1,2} <i>1. Cytometry and Biokinetics laboratory, Institute of Chemical Kinetics and Combustion SB RAS, Russia</i> <i>2. Physics, Novosibirsk State University, Russia</i> <i>3. Vascular and Hybrid Surgery, Meshalkin National Medical Research Center, Russia</i>
Regular talk 8	15''	Combined microfluidic and optoporation setup for laser-assisted cell transfection Hans Georg Breunig, Ana Batista and Karsten König <i>Department of Biophotonics and Laser Technology, Saarland University, Germany</i>

S.4 - part 4		Saturday April 4 th (9:55 AM – 10:55 AM) Chairmans: Evgeny Shirshin, Hideaki Kano, Philippe Leproux
Invited 8	15''	Multiscale Photoacoustic Microscopy Lei Xi <i>Southern University of Science and Technology</i>
Invited 9	15''	3D spectral measurement systems for the investigation of biomedical objects Daniel Claus ¹ , Michael Zint ¹ , Karl Stock ¹ , Moaz Rauf Nizami ¹ and Raimund Hibst <i>1. Institut für Lasertechnologien in der Medizin und Messtechnik, Germany</i>
Invited 10	15''	Femtosecond kinetic of the kindling fluorescent protein KFP. Proton transfer as the result of cis-trans isomerization of chromophore Alexander Savitsky, <i>A.N.Bach Institute of Biochemistry of the Federal Research Centre Fundamentals of Biotechnology of the Russian Academy of Science, Russia</i>
Regular talk 9	15''	Patient-specific cellular response to photodynamic treatment <i>in vitro</i> Irina Semenova ¹ , Andrey Belashov ¹ , Anna Zhikhoreva ¹ , Darya Gorbenko ^{1,3} , Natalya Avdonkina ² , Irina Baldueva ² , Mark Gelfond ² , Anna Danilova ² , Tatyana Nekhaeva ² and Oleg Vasyutinskii ¹ <i>1. Loffe Institute, Russia</i> <i>2. N.N. Petrov National Medical Research Center of Oncology, Russia</i> <i>3. ITMO University, Russia</i>

CHAIRS: **Dan Zhu**, Huazhong University of Science and Technology, Wuhan, China, **Walter Blondel**, University of Lorraine, Nancy, France (**coordinators**)

Ekaterina Borisova, Bulgarian Academy of Sciences, Sofia, Bulgaria, **Elena Zagaynova**, Privolzhsky research medical University, Nizhny Novgorod, Russia, **Dick Sterenberg**, Netherlands Cancer Institute and Amsterdam University Medical Center, Amsterdam, The Netherlands, **Irving Bigio**, Boston University, USA

S.5 - part 1		Friday April 3 rd (3:00 PM – 4:40 PM) Chairmans: Dick Sterenberg, Irving Bigio
Keynote 1	25"	Large area functional and structural linear and non linear brain imaging Francesco S. Pavone <i>LENS-University of Florence, IT</i>
Invited 1	15"	Multi-modal techniques of optical spectroscopy for in vivo demarcation of intracranial tumors Tatiana Savelieva ^{1,2} , Pavel Grachev ¹ , Anastasia Ryabova ^{1,2} , Igor Romanishkin ¹ , Lenara Bikmukhametova ² , Galina Pavlova ³ , Alexandra Kosyrkova ⁴ , Sergey Goryajnov ⁴ , Vladimir Okhlopkov ⁴ , Alexander Potapov ⁴ and Victor Loschenov ^{1,2} <i>1. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia</i> <i>2. National Research Nuclear University MEPhI, Moscow, Russia</i> <i>3. Institute of Gene Biology of the Russian Academy of Sciences, Moscow, Russia</i> <i>4. N.N. Burdenko National Medical Research Center of Neurosurgery, Moscow, Russia</i>
Invited 2	15"	Multimodal Imaging for Skin Ulcers Benjamin Castaneda ¹ and Sylvie Treuillet ² <i>1. Laboratorio de Imágenes Médicas, Departamento de Ingeniería, Pontificia Universidad Católica del Perú, Perú</i> <i>2. Laboratoire PRISME, Université d'Orleans, France</i>
Regular talk 1	15"	Novel multimodal imaging platform for image-guided surgery Silvère Ségaud, Enagnon Aguénounon, Henrique Waxin, Lucile Zorn, Julien Lamy, Murielle Torregrossa and Sylvain Gioux <i>ICube Laboratory, University of Strasbourg, France</i>
Regular talk 2	15"	Analytical design of a multimode optical imaging based on structured illumination and CARS technique Kevin Contreras ¹ and Dominique Dumas ^{1,2} <i>1. University of Lorraine, IMOPA 7365 CNRS, France</i> <i>2. UMS 2008 IBSLOR, France</i>
Regular talk 3	15"	Q-switched Nd:YAG laser on dental enamel with photoabsorber: a confocal Raman pilot study Pedro Castro ¹ , Daisa Pereira ¹ , Patricia Ana ² , Christiano Matos ³ and Denise Zezell ¹ <i>1. Center for Lasers and Applications – Nuclear and Energy Research Institute, Brazil</i> <i>2. Engineering Modelling and Applied Social Sciences Center - Federal University of ABC, Brazil</i> <i>3. MackGraphe – Graphene and Nanomaterials Research Center, Mackenzie Presbyterian University, Brazil</i>

S.5 - part 2		Friday April 3 rd (5:10 PM – 6:40 PM) Chairmans: Ekaterina Borisa, Elena Zagaynova
Invited 3	15"	Quantitative Assessment of Tissue Fibrosis with Elastic-Scattering Spectroscopy: Implications for Kidney-Transplant Protocols Irving J. Bigio ¹ , Ousama A'amar ¹ and Vipul Chitalia ² <i>1. Department of Biomedical Engineering, Boston University, USA</i> <i>2. Department of Nephrology, Boston University School of Medicine, USA</i>
Invited 4	15"	Diffuse reflection spectroscopy and imaging for assessment of resection margins during cancer surgery Dick Sterenborg, <i>Department of Surgical Oncology, Netherlands Cancer Institute and</i> <i>Department of Biomedical Engineering and Physics, Amsterdam University Medical Centre, Amsterdam, the Netherlands</i>
Invited 5	15"	Raman spectroscopy for surgical guidance of skin cancer resections Xu Feng and James Tunnell <i>Biomedical Engineering, University of Texas at Austin, USA</i>
Regular talk 4	15"	Tri-modal spectral characterization of melanoma and non-melanoma cells for improved diagnostic applications Mindaugas Tamošiūnas, Vanesa Lukinsone, Anna Maslobojeva, Māris Kuzminskis, Ilona Kuzmina and Janis Spigulis <i>Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Riga, Latvia</i>
Regular talk 5	15"	Noninvasive characterization of tattoos in human skin using diffuse reflectance spectroscopy and pulsed photothermal radiometry Nina Verdel ¹ , Matjaž Lukač ^{1,2} And Boris Majaron ^{1,3} <i>1. Department of Complex Matter, Jožef Stefan Institute, Ljubljana, Slovenia</i> <i>2. Fotona d.o.o., Ljubljana, Slovenia</i> <i>3. Faculty of Mathematics and Physics, University of Ljubljana, Slovenia</i>
Regular talk 6	15"	Design and validation of a diffuse optical characterization platform for tissue mimicking phantoms Luca Baratelli and Sylvain Gioux <i>University of Strasbourg, ICube Laboratory, France</i>

CHAIRS: *Alexander Priezzhev*, M. V. Lomonosov State University, Moscow, Russia, *Victor Loschenov*, Prokhorov General Physics Institute of Russian Academy of Sciences, Moscow, Russia, (**coordinators**)

Alexey Popov, University of Oulu, Finland, *Muriel Barberi-Heyob*, University of Lorraine, France, *Victor Zadkov*, M. V. Lomonosov State University, Moscow, Russia

S.6 - part 1		Saturday April 4 th (9:55 AM – 11:05 AM) Chairmans: Victor Loschenov, Muriel Barberi
Keynote 1	25"	<p>Rational Design of Plasmonic Nanoprobes and SERS Tags for Sensing and Bioimaging Applications Nikolai Khlebtsov^{1,2} and Boris Khlebtsov¹</p> <p>1. Lab of Nanobiotechnology, Institute of Biochemistry and Physiology of Plants and Microorganisms, Russian Academy of Sciences, Russia</p> <p>2. Faculty of Nano- and Biomedical Technologies, Saratov State University, Russia</p>
Invited 1	15"	<p>A 3D Co-cultured model for evaluation of nanoparticle facilitated drug delivery Chia-Chi Chang, Yu-Chung Lin and Chia-Liang Cheng</p> <p>Department of Physics, National Dong Hwa University, Taiwan</p>
Invited 2	15"	<p>Upconversion nanoparticles as multifunctional biomarkers and biosensors Daria Pominova, Vera Proydakova, Igor Romanishkin, Sergei Kuznetsov And Anastasia Ryabova</p> <p>Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia</p>
Regular talk 1	15"	<p>Comparative analysis of the indocyanine green intracellular distribution in the molecular form and nanoform on the various tumor models <i>in vitro</i> and <i>in vivo</i>. Dina Farrakhova¹, Yulia Maklygina¹, Igor Romanishkin¹, Dmitry Yakovlev², Anastasia Ryabova^{1,3}, Ilya Yakavets⁴, Anna Plyutinskaya⁵, Tatyana Karmakova⁵, Andrey Pankratov⁵, Lina Bezdetnaya⁴ And Victor Loschenov^{1, 3}</p> <p>1. Prokhorov General Physics Institute of the Russian Academy of Science, Organisation, Country</p> <p>2. Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry of the Russian Academy of Sciences, Moscow, Russia</p> <p>3. National Research Nuclear University "MEPhI", Russia</p> <p>4. Centre de Recherche en Automatique de Nancy (CRAN), Université de Lorraine, Institut de Cancérologie de Lorraine, France</p> <p>5. National Medical Research Radiological Centre of the Ministry of Health of the Russian Federation, Moscow, Russia</p>

S.6 - part 2		Saturday April 4 th (2:20 PM – 3:35 PM) Chairman: Alexander Priezzhev
Invited 3	15''	Probing nano scale tissue multifractal anisotropy for precancer detection Nandan K Das ¹ , Rajib Dey ¹ , Igor Meglinski ² and Nirmalya Ghosh ¹ <i>1. Department of Physical Sciences, IISER Kolkata, India</i> <i>2. Faculty of Information Technology and Electrical Engineering, University of Oulu, Finland</i>
Invited 4	15''	Silicon Nanoprobes for Bioimaging and Biosensing Yao He <i>Laboratory of Nanoscale Biochemical Analysis, Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University, Suzhou, China</i>
Invited 5	15''	Advanced Approaches to Skin <i>In Vivo</i> Optical Clearing Elina A. Genina ^{1,2} , Alexey N. Bashkatov ^{1,2} , Valery V. Tuchin ^{1,2,3} and Vladimir P. Zharov ^{1,4} <i>1. Saratov State University, Russia</i> <i>2. Tomsk State University, Russia</i> <i>3. Institute of Precision Mechanics and Control RAS, Russia</i> <i>4. Arkansas Nanomedicine Center, University of Arkansas for Medical Sciences, USA</i>
Regular talk 2	15''	Assessment of cationic liposome-DNA complex formation through dual color Fluorescence Cross Correlation Spectroscopy Ana Isabel Gómez-Varela ^{1,2} , Ricardo Gaspar ¹ , Adelaide Miranda ¹ , Juliane Lopes de Assis ³ , Rafael Valverde ³ , Marcelo Einicker-Lamas ³ , Bruno Silva ¹ and Pieter De Beule ¹ <i>1. Department of Life Sciences, International Iberian Nanotechnology Laboratory, Portugal</i> <i>2. Department of Applied Physics, University of Santiago de Compostela, Spain</i> <i>3. Biomembranes Laboratory, Carlos Chagas Filho Biophysics Institute, Federal University of Rio de Janeiro, Brasil</i>
Regular talk 3	15''	Tumor microenvironment-responsive drug delivery systems Yi Ma, Yueqing Gu <i>China pharmaceutical university</i>

S.6 - part 3		Saturday April 4 th (4:25 PM – 5:10 PM) Chairman: Alexey Popov
Invited 6	15''	Ultrapure Laser-Synthesized Single- and Multi-Component Nanoparticles for Biomedical Applications Yury V. Ryabchikov <i>1. HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czech Republic</i> <i>2. Department of Solid State Physics, P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia</i>
Invited 7	15''	Aluminum phthalocyanine crystalline nanoparticles spectral properties and the possibility of their use in biophotonics Vladimir Makarov, Anastasia Ryabova, Daria Pominova, Igor Romanishkin and Victor Loschenov <i>Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia</i>
Invited 8	15''	Evaluation by Laser-optic Techniques of Nanoparticles Safety for Theranostic Applications: Interaction with Blood Components and Effect on Blood Microrheology Andrei Lugovtsov ^{1,2} , Arseniy Kapkov ¹ , Alexey Popov ³ , Anastasiya Maslyanitsina ¹ , Petr Ermolinskiy ¹ , Anton Neznanov ¹ , Irina Kadanova ¹ and Alexander Priezzhev ^{1,2} <i>1. Physics Department, M.V. Lomonosov Moscow State University, Russia</i> <i>2. International Laser Center, M.V. Lomonosov Moscow State University, Russia</i> <i>3. Department of Information Technology and Electrical Engineering, University of Oulu, Finland</i>

CHAIRS: *Zeev Zalevsky, Bar-Ilan University, Israel (coordinator)*

Anabela Da Silva, Institut Fresnel, France, Igor Meglinski, University of Oulu, Finland, Ma Hui, Tsinghua University, China, Tatiana Novikova, Ecole polytechnique, Palaiseau, France, Jessica Ramella-Roman, Florida International University, Miami, USA, Arnaud Dubois, Institut d'Optique Graduate School, Palaiseau, France, Emmanuel Bossy, Physics Interdisciplinary Laboratory, France, Amos Danieli, Faculty of Engineering, Bar Ilan University, Israel

S.7 - part 1		Friday April 3 rd (3:00 PM – 4:40 PM) Chairman: Igor Meglinski
Keynote 1	25"	Polarization-resolved endoscopic surgical imaging Ji Qi ^{1,2} , Elizabeth Noble ² , Peter Kyle ² , Jamie Murphy ² and Daniel S. Elson ² 1. WEISS, University College London, UK 2. DHamlyn Centre for Robotic Surgery, Department of Surgery and Cancer, Imperial College London, UK
Invited 1	15"	Combining photoacoustics and laser-induced ultrasound for tomographic imaging Damien Gasteau, David Thompson, Jeffrey Nagel and Srirang Manohar <i>Multi-Modality Medical Imaging group, University of Twente, the Netherlands</i>
Invited 2	15"	Super-resolved, direct and localized photoacoustic sensing configuration Matan Benyamin and Zeev Zalevsky <i>Faculty of Engineering and the Nanotechnology center, Bar Ilan University, Israel</i>
Invited 3	15"	OCE-Study of Slow Processes in Cartilaginous Samples: Mechanical Relaxations after Later-Assisted Reshaping and Osmotic Phenomena Accompanying Optical Clearing Vladimir Zaitsev ¹ , Yulia Alexandrovskaya ^{1,2} , Alexander Sovetsky ¹ , Alexander Matveyev ¹ , Lev Matveev ¹ , Emil Sobol ³ And Olga Baum ^{1,2} 1. Institute of Applied Physics, Russian Academy of Sciences, Russia 2. Institute for Photonic Technologies, Federal Research Center "Crystallography and Photonics, Rissuan Academy of Sciences, Russia
Regular talk 1	15"	Optical Elastography – an Emerging Techniques to Assess Ocular Health Kirill V. Larin <i>Department of Biomedical Engineering, University of Houston, USA</i>
Regular talk 2	15"	Live optical imaging and manipulation of cardiodynamics in mouse embryos for biomechanical analysis Irina V. Larina <i>Department of Molecular Physiology and Biophysics, Baylor College of Medicine, USA</i>

S.7 - part 2		Friday April 3 rd (5:10 PM – 6:25 PM) Chairman: Kirill Larin
Invited 4	15''	<p>Optical Angular Momentum in Tissue Diagnosis Igor Meglinski¹⁻³, Nicolas Vera⁴, Juan Pablo Staforelli⁴ and Alex Doronin⁵</p> <p>1. School of Engineering and Applied Science, Aston University, Birmingham, B4 7ET, UK 2. Laboratory of Opto-Electronics and Measurement Techniques, University of Oulu, Finland 3. School of Life and Health Sciences, Aston University, Birmingham, B4 7ET, UK 4. Facultad de Ciencias Físicas y Matemáticas, Universidad de Concepción, Chile 5. Computer Graphics Group, School of Engineering and Computer Science, Victoria University, Wellington, New Zealand</p>
Invited 5	15''	<p>Dispersion-mediated conjugate suppression for ultrahigh speed optical computing OCT imaging Wenxin Zhang, Chengming Wang, Shennan Ai, Juicheng Hsieh, Zhenyu Chen, Bin He and Ping Xue</p> <p><i>Department of Physics, Tsinghua University, China</i></p>
Regular talk 3	15''	<p>Line-field confocal optical coherence tomography: a new tool for three-dimensional imaging of human skin in vivo at cellular resolution Jonas Ogien¹, Olivier Levecq¹, Hicham Azimani¹, Maxime Cazalas¹, David Siret¹, Anaïs Barut¹ and Arnaud Dubois²</p> <p>1. DAMAE Medical, France 2. Charles Fabry Laboratory, Institut d'Optique Graduate school, Paris-Saclay University, France</p>
Regular talk 4	15''	<p>Application of Photoacoustic Tomography Technique for Dental Caries Diagnosis: Influence of Laser Wavelength Evair Silva¹, Érica Miranda², Cláudia Mota³, Avishek Das² and Anderson Gomes²</p> <p>1. Graduate Program in Dentistry, Universidade Federal de Pernambuco, Brazil 2. Department of Physics, Universidade Federal de Pernambuco, Brazil 3. Faculty of Dentistry, Centro Universitário Tabosa de Almeida, Brazil</p>
Regular talk 5	15''	<p>Optical properties reconstruction method for Quantitative Photoacoustic Tomography Fatmir Asllanaj¹, Ahmad Addoum², Walter Blondel³ and Marine Amouroux³</p> <p>1. Université de Lorraine, CNRS-LEMETA, France 2. Université de Lyon, IP2I, France 3. Université de Lorraine, CNRS-CRAN, France</p>

S.7 - part 3		Saturday April 4 th (8:00 AM – 9:25 AM) Chairman: Vladimir Zaitsev
Keynote 2	25"	Image polarimetry, clinical and pre-clinical directions Jessica Ramella-Roman 1. Biomedical Engineering Department, Florida International University, USA 2. Herberth Wertheim School of Medicine, Florida International University, USA
Invited 6	15"	Multi-modal imaging of thin tissue cuts for biomedical diagnostic Hee Ryung Lee ¹ , Ilyas Saytashev ² , Christian Lotz ^{3,4} , Florian Kai Groeber-Becker ^{3,4} , Sofia Dembski ^{3,4} , Razvigor Ossikovski ¹ , Jessica Ramella-Roman ^{2,5} and Tatiana Novikova ¹ 1. LPICM, CNRS, Ecole polytechnique, Institut Polytechnique de Paris, France 2. Herbert Wertheim College of Medicine, Florida International University, USA 3. Department of Tissue Engineering & Regenerative Medicine, University Hospital Würzburg, Germany 4. Translational Center for Regenerative Therapies, Fraunhofer Institute for Silicate Research ISC, Germany 5. Department of Biomedical Engineering, Florida International University, USA
Invited 7	15"	Beam displacer based OCT for measurement of in vivo retinal blood flow Jun Zhang School of Electronics and Information Technology, Sun Yat-Sen University, China
Regular talk 6	15"	Biomedical Imaging Technology using Tunable Laser Systems and Compact, Modular Data Acquisition Units Connected in Parallel for Extremely High Channel Counts Peter Brecht ¹ , Vassili Ivanov ¹ , Mark Little ¹ , Weylan Thompson ¹ , Diego Dumani ² , Anthony Yu ² , Stanislav Emelianov ² and Sergey Ermilov ¹ 1. PhotoSound Technologies, Inc., USA 2. Biomedical Engineering, Georgia Institute of Technology, USA
Invited 8	15"	Novel compact laser sources for biomedical photonics applications Edik U. Rafailov Optoelectronics and Biomedical Photonics Group, Aston Institute of Photonic Technologies, Aston University, Birmingham, UK

CHAIRS: *Alexander Shkurinov, M. V. Lomonosov State University, Russia (coordinator)*

Kirill Zaytsev, Prokhorov General Physics Institute of Russian Academy of Sciences, Moscow, Russia, Olga Cherkasova, Institute of Laser Physics of SB RAS, Novosibirsk, Russia, Irina Dolganova, Bauman Moscow State Technical University, Moscow, Russia, Daria Tuchina, Saratov State University, Saratov, Russia

AUDITORIUM 1

S.8 - part 1		Saturday April 4 th (4:25 PM – 5:20 PM) Chairman: Alexander Shkurinov
Keynote 1	25''	Manipulation of Biological Molecules and Cells using Terahertz Radiation for Potential Cancer Treatment Joo-Hiuk Son ^{1,2} and Hwayeong Cheon ¹ <i>1. Department of Physics, University of Seoul, Republic of Korea</i> <i>2. iNexus Inc., Republic of Korea</i>
Invited 1	15''	Tissue malignancy assessment by terahertz refractive index thresholding for breast cancer demarcation Q. Cassar ¹ , P. Hillger ³ , J. Grzyb ³ , U. Pfeiffer ³ , G. MacGrogan ² , J.P. Guillet ¹ , T. Zimmer ¹ and P. Mounaix ¹ <i>1. University of Bordeaux, IMS UMR CNRS 5218, Talence, France</i> <i>2. Department of Pathology, Bergonié Institute, Bordeaux, France</i> <i>3. University of Wuppertal, Institute for High-Frequency, and Communication Technology, Wuppertal, Germany</i>
Invited 2	15''	Exploring the contrast mechanism in terahertz biomedical imaging using tissue phantoms Shuting Fan ¹ , Yingyu Ma ¹ and Vincent Wallace ³ <i>1. College of Electronic Science and Technology, Shenzhen University, China</i> <i>2. Dept of Physics, The University of Western Australia, Australia</i>

AUDITORIUM 1

S.8 - part 2		Sunday April 5 th (9:20 AM – 10:45 PM) Chairman: Guilhem Gallot
Keynote 2	25''	Improving instrumentation and data analysis for in vivo terahertz imaging of human skin Emma Pickwell-Macpherson ^{1,2} , Hannah Lindley-Hatcher ¹ , Xuequan Chen ² and Arturo Hernandez-Serrano ¹ <i>1. Physics Department, Warwick University, UK</i> <i>2. Department of Electronic Engineering, The Chinese University of Hong Kong, Hong Kong, China</i>
Invited 3	15''	Terahertz radiation emission of liquid metal droplets A.V.Balakin ¹ , O.G.Kosareva ¹ , I.A. Kotelnikov ^{2,3} , N.A. Kuzechkin ^{2,4} , B.V.Lakatosh ⁵ , V.V.Medvedev ⁵ , A.B.Savelev ¹ , P.M.Solyankin ⁴ , I.P.Tsygvintsev ⁶ , A.P.Shkurinov ¹ <i>1. Faculty of Physics and International Laser Center, Lomonosov Moscow State University, Moscow Russia - 2. Budker Institute of Nuclear Physics, Novosibirsk, Russia</i> <i>3. Novosibirsk State University, Novosibirsk, Russia</i> <i>4. ILIT RAS, Branch of the FSRC "Crystallography and Photonics", RAS, Shatura, Moscow Region, Russia</i> <i>5. Institute for Spectroscopy, RAS, Troitsk, Moscow, Russia</i> <i>6. Keldysh Institute of Applied Mathematics, Moscow Russia</i>

Invited 4	15''	THz imaging of soft biological tissues with the spatial resolution beyond the Abbe limit Kirill I. Zaytsev ^{1,2} , Nikita V. Chernomyrdin ^{1,2} , Gleb M. Katyba ^{2,3} , Irina N. Dolganova ^{2,3} and Vladimir N. Kurlov ³ <i>1. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia</i> <i>2. Bauman Moscow State Technical University, Moscow, Russia</i> <i>3. Institute of Solid State Physics of the Russian Academy of Sciences, Chernogolovka, Russia</i>
Invited 5	15''	Application of Terahertz Precision Spectrum in Biophotonics Yan Peng, Xu Wu, Chenjun Shi and Yiming Zhu <i>Terahertz Technology Innovation Research Institute, University of Shanghai for Science and Technology, China</i>
Regular talk 1	15''	Non-invasive sensing of human brain water - An experimental comparison between microwave and near-infrared spectroscopy based techniques Jaakko Hakala ¹ , Joni Kilpijärvi ² , Sami Myllymäki ² and Teemu Myllylä ^{1,3} <i>1. Optoelectronics and Measurement Techniques Research Unit, Department of Electrical Engineering, University of Oulu, Finland</i> <i>2. Microelectronics Research Unit, Department of Electrical Engineering, University of Oulu, Finland</i> <i>3. Research Unit of Medical Imaging, Physics and Technology, Faculty of Medicine, University of Oulu, Finland</i>

S.8 - part 3	Sunday April 5th (11:15 AM – 12:30 PM) Chairman: Olga Smolyanskaya	
Invited 6	15''	Probing living cells permeabilization dynamics by terahertz attenuated total reflectance. Guilhem Gallot <i>Laboratoire d'Optique et Biosciences, Ecole Polytechnique IP Paris, CNRS, INSERM, Palaiseau, France</i>
Invited 7	15''	Cellular Effects of Terahertz Radiation Olga Cherkasova ¹ , Danil Serdyukov ^{1,2} and Sergey Peltek ² <i>1. Institute of Laser Physics, Siberian Branch, Russian Academy of Sciences, Russia</i> <i>2. The Federal Research Center Institute of Cytology and Genetics, Siberian Branch, Russian Academy of Sciences, Russia</i>
Regular talk 2	15''	Laser Raman and FTIR spectroscopic study of the elements of structural hierarchy of protein molecules Nikolay Brandt ¹ , Anna Mankova ¹ , Andrey Chikishev ² and Irina Shpachenko ¹ <i>1. Faculty of physics, Lomonosov Moscow State University, Russia</i> <i>2. International Laser Center, Lomonosov Moscow State University, Russia</i>
Regular talk 3	15''	Investigation of microorganisms using THz hyperspectroscopy – correlation to colorimetric imaging Petre Logofătu ¹ , Cristian Udrea ¹ , Iuliana Urzică ¹ , Ioan Ardelean ² , Ioana Moga ³ and Mihail Pascu ¹ <i>1. Laser Department, National Institute for Laser, Plasma and Radiation Physics, Romania</i> <i>2. Microbiology Department, Bucharest Biology Institute, Romania</i> <i>3. DFR Systems SRL, Romania</i>
Regular talk 4	15''	Pulse terahertz holographic reconstruction of optical parameters for blood plasma pellets Yulia A. Kononova ^{1,4} , Maksim S. Kulya ¹ , Evgeniy L. Odlyanitskiy ¹ , Quentin Cassar ² , Iliia Mustafin ³ , Valery N. Trukhin ³ , Dmitry V. Korolev ⁴ , Patrick Mounaix ² , Jean-Paul Guillet ² , Nikolay V. Petrov ¹ and Olga A. Smolyanskaya ¹ <i>1. ITMO University, Saint-Petersburg, Russia</i> <i>2. IMS Laboratory UMR CNRS 5218, Bordeaux University, Talence, France,</i> <i>3. Ioffe Institute, Saint-Petersburg, Russia,</i> <i>4. Almazov National Medical Research Center, Saint Petersburg, Russia</i>

CHAIRS: *Irina Larina, Baylor College of medicine, Houston, USA (coordinator)*

Valery Tuchin, Saratov State University, Saratov, Russia, Dan Zhu, Huazhong University of Science and Technology, Wuhan, China, Anne Humeau-Heurtier, Université d'Angers, France

AUDITORIUM 3

S.9 - part 1		Sunday April 5 th (9:20 AM – 10:30 PM) Chairmans: Irina Larina, Anne Humeau
Keynote 1	25"	Movement artefacts in handheld laser speckle contrast imaging Ata Chizari ¹ , Tom Knop ¹ , Beril Sirmacek ² , Ferdi Van Der Heijden ² and Wiendelt Steenbergen ¹ <i>1. Biomedical Photonic Imaging, Techmed Centre, University of Twente, The Netherlands</i> <i>2. Robotics and Mechatronics, Techmed Centre, University of Twente, The Netherlands</i>
Invited 1	15"	Microcirculation imaging with light and sound Martin Leahy <i>National University of Ireland, Galway, Ireland</i>
Invited 2	15"	Texture Analysis of Biomedical Data: a Powerful Mean to Extract Physiological Information but, are Laser Speckle Contrast Data Eligible? Anne Humeau-Heurtier <i>LARIS, Laboratoire Angevin de Recherche en Ingénierie des Systèmes, Univ Angers, France</i>
Regular talk 1	15"	Multimodal imaging of neurovascular coupling in the cerebral cortex Ferenc Bari, Ákos Menyhárt and Eszter Farkas <i>Department of Medical Physics and Informatics, University of Szeged, Hungary</i>

AUDITORIUM 2

S.9 - part 2		Sunday April 5 th (11:45 AM – 12:30 PM) Chairmans: Valery Tuchin, Dan Zhu
Invited 3	15"	Polarisation Spectroscopy Imaging for mapping skin microcirculation Gert Nilsson <i>Wheelsbridge AB, Linköping, Sweden</i>
Invited 4	15"	Microcirculation perfusion assessment using multi-exposure laser speckle contrast imaging Tomas Strömberg <i>Department of Biomedical Engineering, Linköping University, Sweden</i>
Regular talk 2	15"	Quantitative assessment of indocyanine green angiography in the follow-up of patients with critical limb ischaemia. Nicla Settembre ¹ and Maarit Venermo ² <i>1. Department of Vascular and Endovascular Surgery, Nancy University Hospital, Inserm, University of Lorraine, France</i> <i>2. Department of Vascular Surgery, Helsinki University Hospital, University of Helsinki, Finland</i>

CHAIRS: *Christian Daul*, University of Lorraine, France (*coordinator*)

Yuri Kistenev, Tomsk University, Russia, *July Galeano*, Instituto Tecnológico Metropolitano, Medellín, Colombia, *Franck Marzani*, Université de Bourgogne, France, *Walter Blondel*, University of Lorraine, France

S.10 - part 1		Saturday April 4 th (2:20 PM – 3:45 PM) Chairmans: Christian Daul, Franck Marzani
Keynote 1	25''	Deep Learning-enabled Computational Microscopy and Sensing Aydogan Ozcan <i>UCLA, USA</i>
Invited 1	15''	Medical applications of laser molecular imaging and machine learning Yury Kistenev ^{1,2} , Alexey Borisov ¹ , Anastasia Knyazkova ^{1,3} , Viktor Nikolaev ^{1,3} , Vladimir Prischepa ¹ , Elena Sim ^{1,2} , Viktor Skiba ¹ and Denis Vrazhnov ^{1,3} <i>1. Laboratory of biophotonics, Tomsk State University, Russia,</i> <i>2. Department of physics and mathematics, Siberian State Medical University, Russia</i> <i>3. Laboratory of molecular imaging and photoacoustics, Institute of Strength Physics and Materials Science SB RAS, Russia</i>
Invited 2	15''	Genome Enhancer: AI-based Identification of Personalized Targets and Drugs for Colorectal Cancer Patients using Transcriptome Data Alexander Kel <i>R&D, geneXplain GmbH, Germany</i>
Regular talk 1	15''	Toward automated machine learning in spectral analysis: genetic algorithm for optimal pre-processing and regression of vibrational spectra Benjamin Brunel, Fatima Alsamad and Olivier Piot <i>BioSpecT Unit, EA 7506, University of Reims Champagne-Ardenne, France</i>
Regular talk 2	15''	Spectral characterization of cutaneous ulcers caused by Leishmaniasis in an animal model for diagnosis and treatment follow-up Maria Torres-Madronero ¹ , July Galeano ² , Artur Zarzycki ^{1,2} , Javier Murillo ³ , Johnson Garzon ⁴ , Deivid Botina ² , Ricardo Franco-Ceballos ¹ , Camilo Bermudez ² , Jaime Montaña ³ , Samuel Calderon ³ , Sara Robledo ³ and Franck Marzani ⁵ <i>1. Research group on Automatic, Electronic and Computational Science, Instituto Tecnológico Metropolitano, Colombia</i> <i>2. Advanced Materials and Energy MatyEr Research Group, Instituto Tecnológico Metropolitano, Colombia</i> <i>3. Program for the Study and Control of Tropical Diseases – PECET – School of Medicine, University of Antioquia, Colombia</i> <i>4. Grupo de óptica y espectroscopia, Universidad Pontificia Bolivariana, Colombia</i> <i>5. Laboratoire ImVIA, Université Bourgogne Franche-Comté, France</i>

S.10 - part 2		Saturday April 4 th (4:25 PM – 5:40 PM) Chairmans: Christian Daul, Yuri Kistinev
Invited 3	15''	<p>Automated detection of stomach lesions by endoscopic imaging: comparison of NBI and multispectral imaging</p> <p>Alexandre Krebs¹, Yannick Benezeth¹, Dominique Lamarque² and Franck Marzani¹</p> <p>1. IMVIA, Univ. Bourgogne Franche Comté, France 2. Univ. Versailles St-Quentin-en-Yvelines - hôpital Ambroise Paré, France</p>
Invited 4	15''	<p>Random Illumination Microscopy (RIM): nanoscopy in living tissues</p> <p>Thomas Mangeat¹, Simon Labouesse², Emmanuel Martin¹, Renaud Poincloux³, Magali Suzanne¹, Xiabo Wang¹, Roland Leborgne⁴, Mathieu Pinot⁴, Marc Allain², Jérôme Idier⁵ and Anne Sentenac²</p> <p>1. CBI, CNRS, Toulouse, France - 2. Institut Fresnel, CNRS, Marseille, France 3. IPBS, CNRS, Toulouse, France - 4. CNRS MR 6290, Rennes, France 5. École Centrale de Nantes, Nantes, France</p>
Regular talk 3	15''	<p>Visualization of extended epithelial tissue surfaces using dense optical flow and structure from motion</p> <p>Tan-Binh Phan¹, Dinh-Hoan Trinh¹, Dominique Lamarque², Walter Blondel¹, Marine Amouroux¹, Didier Wolf¹ and Christian Daul¹</p> <p>1. Centre de Recherche en Automatique de Nancy (UMR 7039 Université de Lorraine and CNRS), Vandoeuvre-Lès-Nancy, France 2. AP-HP Hôpital Ambroise Paré, Boulogne-Billancourt, France</p>
Regular talk 4	15''	<p>An exploration of movement artefacts in a handheld laser speckle contrast imaging</p> <p>Ata Chizari¹, Tom Knop¹, Beril Sirmacek², Ferdi van der Heijden² and Wiendelt Steenbergen¹</p> <p>1. Biomedical Photonic Imaging, Technical Medical Centre, University of Twente, The Netherlands 2. Robotics and Mechatronics, University of Twente, The Netherlands</p>
Regular talk 5	15''	<p>Automation of outlier removal for the improvement of IR spectral histology applied to human colon cancer samples</p> <p>Warda Boutegrabet^{1, 2}, Dominique Guenot¹, Olivier Bouche^{2, 3}, Camille Boulagnon-Rombi^{4, 5}, Aude Marchal Bressenot^{2, 5}, Olivier Piot² and Cyril Gobinet²</p> <p>1. INSERM U1113, Fundamental and Applied Research in Cancer Research Interface (IRFAC), 2. EA7506, Translational Bio Spectroscopy (BioSpecT), 3. Heterogastroenterology and digestive oncology service, Reims University Hospital, 4. CNRS UMR 7369, Extracellular Matrix and Cellular Dynamics (MEDyC) 5. Pathology laboratory, Reims University Hospital.</p>

CHAIRS: *Ekaterina Borisova*, Bulgarian Academy of Sciences, Sofia, Bulgaria (**coordinator**)

Marine Amouroux, University of Lorraine, Nancy France, *Geneviève Bourg-Heckly*, Université Pierre et Marie Curie, France, *Elena Zagaynova*, Privolzhsky research medical University, Nizhny Novgorod, Russia

S.11 - part 1		Saturday April 4 th (9:55 AM – 11:05 AM) Chairman: Ekaterina Borisova
Keynote 1	25''	Polarized light: a breakthrough tool for cancer diagnosis <i>in vivo</i> Angelo Pierangelo <i>LPICM, CNRS, Ecole Polytechnique, Institut Polytechnique de Paris, Route de Saclay, 91128 Palaiseau, France</i>
Invited 1	15''	Label-free imaging of metabolic heterogeneity for functional assessment of anti-cancer therapy Alex J. Walsh ¹ , Rebecca Schmitz ² , Anna Huttenlocher ³ and Melissa Skala ² <i>1. Department of Biomedical Engineering, Texas A&M University, USA 2. Department of Biomedical Engineering, University of Wisconsin-Madison, Morgridge Institute for Research, USA 3. Department of Medical Microbiology and Immunology, University of Wisconsin-Madison, USA</i>
Invited 2	15''	New methods and tools for fluorescence navigation and photodynamic therapy in the surgical clinic Victor Loschenov <i>Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia</i>
Regular talk 1	15''	Diagnostic potential of mid-infrared spectral imaging on tissue sections: application to the scoring of tumour aggressiveness of lung carcinomas Olivier Piot ^{1,2} , Vincent Vuible ^{1,3} , Valerie Untereiner ² , Vincent Gaydou ¹ , Myriam Polette ⁴ , Philippe Birembaut ^{3,4} , Cyril Gobinet ¹ <i>1. BioSpecT Unit, EA 7506, University of Reims Champagne-Ardenne, Reims, France. 2. Platform of Cellular and Tissular Imaging (PICT), University of Reims Champagne-Ardenne, Reims, France 3. Biopathology Laboratory, Centre Hospitalier et Universitaire de Reims, Reims, France 4. INSERM UMR-S 1250, University of Reims Champagne-Ardenne, France</i>

S.11 - part 2		Saturday April 4 th (2:20 PM – 3:50 PM) Chairmans: Elena Zagaynova, Victor Loschenov
Invited 3	15"	<p>New spectral-fluorescent methods for the deep brain tumors theranostics Yulia Maklygina¹, Igor Romanishkin¹, Tatiana Savelieva^{1,2}, Alexei Skobeltzin¹ and Victor Loschenov^{1,2}</p> <p>1. Prokhorov General Physics Institute of the Russian Academy of Science, Russia 2. National Research Nuclear University "MEPhI", Russia</p>
Invited 4	15"	<p>Techniques for Photodiagnosis and Photodynamic in Neurosurgery Ronald Sroka, Max Aumiller, Christian Heckl, Niklas Markwardt, Herbert Stepp and Adrian Ruehm</p> <p>Laser-Forschungslabor in LIFE-Center at Department of Urology, Hospital of University Munich, Germany</p>
Invited 5	15"	<p>Time-Resolved Reflectance Spectroscopy for burried flaps monitoring Anne Planat-Chretien¹, Audrey Dot², Michel Berger¹, Rodolphe Lartizien^{2,3}, Maxime Henry², Georges Bettega^{2,3} and Jean-Luc Coll²</p> <p>1. Université Grenoble Alpes, CEA, LETI, France 2. INSERM-UGA U1209, CNRS UMR5309, Institute for Advanced Biosciences, France 3. Service de Chirurgie Maxillo-faciale, Centre Hospitalier d'Annecy Genevois, France.</p>
Invited 6	15"	<p>Advanced Fiber Solutions in 0.3-16m range for Biomedical Applications Viacheslav Artyushenko</p> <p>Art photonics GmbH, Berlin, Germany</p>
Regular talk 2	15"	<p>Photodiagnosics of Stress-Induced Gastrointestinal Tract Tumours Ekaterina Borisova^{1,2}, Alexander Gisbrecht¹, Alexander Khorovodov², Ilana Agranovich², Inna Blochina², Ivan Angelov³, Vanya Mantareva³, Nikita Navolokin⁴ and Oxana Semyachkina-Glushkovskaya²</p> <p>1. Biophotonics laboratory, Institute of Electronics, Bulgarian Academy of Sciences, Bulgaria 2. Biology Department, Saratov State University, Russia 3. Institute of Organic Chemistry with Center on Phytochemistry, Bulgarian Academy of Sciences, Bulgaria 4. Department of Pathologic Anatomy, Saratov State</p>
Regular talk 3	15"	<p>In-Vivo Real-Time Molecular Diagnosis of Tumors Using Remote IR Resonant Laser Ablation Philippe Saudemont¹, Jusal Quanico^{1,2}, Anna Baud¹, Benoit Fatou^{1,2}, Dominique Tierny³, Michel Salzet¹, Isabelle Fournier¹, Cristian Focsa² and Michael Ziskind²</p> <p>1. Laboratoire Protéomique, Réponse Inflammatoire et Spectrométrie de Masse, Université de Lille, France 2. Laboratoire de Physique des Lasers, Atomes et Molécules, Université de Lille, France 3. Oncovet Clinical Research, France</p>

CHAIRS: *Evgeny Shirshin, M. V. Lomonosov State University, Moscow, Russia (coordinator)*

S.12	Sunday April 5 th (9:20 AM – 11:15 PM) Chairmans: Evgeny Shirshin, Viacheslav Artyushenko	
Keynote 1	25''	<p>Skin penetration of topically applied materials: quantitative in vivo analysis by Raman spectroscopy</p> <p>Gerwin Puppels^{1,2}, Claudio Nico¹, Johanna de Sterke¹, Tom Bakker Schut^{1,2} and Peter Caspers^{1,2}</p> <p>1. RiverD International B.V., Rotterdam, The Netherlands 2. Erasmus University Medical Center Rotterdam, Dept of Dermatology, The Netherlands</p>
Invited 1	15''	<p>Non-invasive in vivo assessment of antioxidant status of human skin using spectroscopic methods</p> <p>Maxim Darvin, Martina Meinke and Jürgen Lademann</p> <p>Department of Dermatology, Venerology and Allergology, Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Germany</p>
Invited 2	15''	<p>Early detection of diabetic chronic kidney disease using microfluidic-based biophotonics</p> <p>Sang Bae Lee¹, Chul Woo Ahn¹, Jun Sung Moon², Kyu Chang Won² and Sehyun Shin³</p> <p>1. Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea 2. Division of Endocrinology and Metabolism, Department of Internal Medicine, Yeungnam College of Medicine, Daegu, Republic of Korea 3. School of Mechanical Engineering and Anam/Guro Hospital, Korea University, Seoul, Republic of Korea</p>
Invited 3	15''	<p>Macroscopic FLIM&PLIM: towards clinical translation.</p> <p>Vladislav Shcheslavskiy^{1,2}, Maria Lukina², Igor Medyanik², Elena Zagaynova², Wolfgang Becker¹ and Marina Shirmanova²</p> <p>1. Becker&Hickl GmbH, Germany 2. Privolzhsky Research Medical University, Russia</p>
Regular talk 1	15''	<p>Laser Induced Breakdown spectroscopy (LIBS) based opto-microfluidic biosensor for the detection of pathogenic bacteria.</p> <p>Vivek Sivakumar¹, Sujatha N. Unni¹, Nilesh J. Vasa², Padma Srikanth³ and Ilakkiya Arumugam³</p> <p>1. Department of Applied Mechanics, Indian Institute of Technology - Madras, India. 2. Department of Engineering Design, Indian Institute of Technology - Madras, India 3. Department of Microbiology, Sri Ramachandra Institute of Higher Education and Research, Chennai, India.</p>
Regular talk 2	15''	<p>Snapshot Multi-Spectral-Line Imaging Device for Skin Diagnostics</p> <p>Janis Spigulis, Ilze Oshina, Zigmars Rupenheits, Margarita Matulenko and Uldis Rubins</p> <p>Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia</p>
Regular talk 3	15''	<p>Ophthalmic Fluorescence Lifetime and Spectral Imaging for Age-Related Macular Degeneration – from Clinics to Histology and Back</p> <p>Martin Hammer^{1,2} and Rowena Schultz¹</p> <p>1. Department of Ophthalmology, University Hospital Jena, Germany 2. Center for medical Optics and Photonics, Friedrich-Schiller-University Jena, Germany</p>

CHAIRS: **Karsten Koenig**, Saarland University, Germany, **François Will**, Dermatologist, Laser Center Nord Alsace-Haguenau and Laser Center Strasbourg Rhin-Strasbourg, Vice-President French Laser Group, France (**coordinators**)

Ekaterina Borisova, Bulgarian Academy of Sciences, Sofia, Bulgaria, **Marine Amouroux**, University of Lorraine, Nancy France

S.13		Sunday April 5 th (11:00 AM – 12:35 PM) Chairmans: Marine Amouroux, François Will
Keynote 1	25"	Multiphoton Tomography (MPT) Applications in Dermatology Karsten König ^{1,2} , Ana Batista ¹ , Hans Georg Breunig ^{1,2} and Aisada König ^{1,2} <i>1. Department of Biophotonics and Laser Technology, Saarland University, Germany</i> <i>2. JenLab GmbH, Johann-Hittorf-Straße 8, Germany, www.jenlab.de</i>
Keynote 2	25"	Multiphoton imaging in cosmetics research Ana-Maria Pena ¹ , Sébastien Brizion ¹ , Jean-Baptiste Galey ¹ , Edouard Raynaud ¹ , Blandine Ngo ¹ , Thomas Bornschlög ¹ , Géraldine Rolland ¹ , Xueqin Chen ¹ , Thérèse Baldeweck ¹ and Emmanuelle Tancrede-Bohin ^{1,2} <i>1. L'Oréal Research and Innovation, France</i> <i>2. Service de Dermatologie, Hôpital Saint-Louis, France</i>
Invited 1	15"	Basal cell carcinoma: Which laser for which BCC? François Will <i>Centre laser Strasbourg Rhin, France - Centre laser Nord Alsace, France</i>
Invited 2	15"	Real anti-aging using laser medicine Hans Laubach <i>Laser MD Center, Strasbourg, France, University Hospital, Geneva, Switzerland</i>
Regular talk 1	15"	FTIR imaging on glass substrates evaluation of histological skin burn injuries specimens treated by femtosecond laser pulses Denise Zezell ¹ , Pedro Castro ¹ , Matheus Del-Valle ¹ , Carlos Camillo-Silva ¹ , Ricardo Samad ¹ , Wagner De Rossi ¹ and Moisés Santos ^{1,2} <i>1. Center for Lasers and Applications, Nuclear and Energy Research Institute, Brazil</i> <i>2. Technology College, Amazonas State University, Brazil</i>

LALS 2020: LIST OF COMMUNICATIONS SELECTED FOR THE POSTER EXHIBITION

S1

POSTER
EXHIBITION

SESSION 1: Diffuse Optical Imaging

Session 1 - posters

<p>S1.P1</p>	<p>System based on large area detector and high throughput electronics: the next generation time-domain diffuse optical instruments Edoardo Ferocino¹, Laura Di Sieno¹, Anurag Behera¹, Davide Contini¹, Alessandro Torricelli^{1,2}, Sumeet Rohilla^{3,4}, Benedikt Krämer³, Felix Koberling³, Fabio Acerbi⁵, Alberto Gola⁵, Antonio Pifferi^{1,2} and Alberto Dalla Mora¹</p> <p>1. Dipartimento di Fisica, Politecnico di Milano, Italy 2. Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche, Italy 3. PicoQuant GmbH, Germany 4. Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin and Berlin Institute of Health, Department of Internal Medicine/Infectious Diseases and Respiratory Medicine, Germany 5. Fondazione Bruno Kessler (FBK), Center for material and microsystems (CMM), Italy</p>
<p>S1.P2</p>	<p>Study of skin dehydration in the course of grafted tumor development using spectral refractometry, NIR and THz spectroscopy Polina Dyachenko (Timoshina)^{1,2}, Ekaterina Lazareva^{1,2}, Maxim Nazarov³, Alla Bucharskaya⁴, Valery Tuchin^{1,2,5} and Alexander Shkurinov⁶</p> <p>1. Saratov State University, Russia 2. Tomsk State University, Russia 3. NRC «Kurchatov Institute», Russia 4. Saratov State Medical University, Russia 5. Institute of Precision Mechanics and Control, Russian Academy of Sciences, Saratov, Russia 6. Lomonosov Moscow State University, Russia</p>
<p>S1.P3</p>	<p>Utilizing truncated Fourier-series approximation for time-domain diffuse optical tomography Meghdoot Mozumder¹ and Tanja Tarvainen^{1,2}</p> <p>1. Department of Applied Physics, University of Eastern Finland, Finland 2. Department of Computer Science, University College London, UK</p>

S2

POSTER
EXHIBITION

SESSION 2: Light Propagation in Tissues,
Modelling & Optical phantoms

Session 2 - posters

<p>S2.P1</p>	<p>Optical Clearing of Dark Skin Elina A. Genina^{1,2}, Yury I. Surkov¹, Isabella A. Serebryakova¹, Adam A. Yussuf¹, Ekaterina N. Lazareva^{1,2}, Alexey N. Bashkatov^{1,2} and Valery V. Tuchin^{1,2,3}</p> <p>1. Saratov State University, Russia 2. Tomsk State University, Russia 3. Institute of Precision Mechanics and Control RAS, Russia</p>
<p>S2.P2</p>	<p>Development of multimodal approaches for improvement of in vivo optical clearing effect in human skin Sergey Zaytsev^{1,2}, Valery Tuchin^{1,3,4}, Elina Genina^{1,3}, Walter Blondel² and Marine Amouroux²</p> <p>1. Saratov State University, Russia 2. Université de Lorraine, France 3. Tomsk State University, Russia 4. Institute of Precision Mechanics and Control of the RAS, Russia</p>

S2.P3	<p>Pilot study of application of PEGs with a high molecular weight for optical clearing of skin via dehydration Daria Tuchina¹⁻³, Alexey Bashkatov^{1,2}, Nikita Navolokin⁴ and Valery Tuchin^{1,2,5}</p> <ol style="list-style-type: none"> 1. Department of Optics and Biophotonics, Saratov State University, Russia 2. Interdisciplinary Laboratory of Biophotonics, Tomsk State University, Russia 3. Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia 4. Department of Pathological Anatomy, Saratov State Medical University, Russia 5. Laboratory of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control of the RAS, Russia
S2.P4	<p>Monte Carlo Simulation as the Reference Approximation on the Way to Exact Analytical Solution of the Light Scattering Problem Dmitry Rogatkin¹ and Andrey Tarasov^{1,2}</p> <ol style="list-style-type: none"> 1. Moscow Regional Research and Clinical Institute "MONIKI" named after M.F. Vladimirov, Russia 2. LLC "Medical optical diagnostic systems", Russia

S3

POSTER
EXHIBITIONSESSION 3: Image-guided therapy, Lasers &
PDT for treatment and diagnosis

Session 3 - posters

S3.P1	<p>Fluorescent diagnosis and Photodynamic therapy cholangiocarcinoma complicated by obstructive jaundice. Artem Shiryayev¹, Kanamat Efendiev², Gleb Zhemerikin¹, Dmitry Yakovlev³, Dina Farrakhova⁴, Maxim Loschenov⁴, Alexandr Borodkin⁴, Polina Alekseeva^{2,4}, Vladimir Makarov⁴, Liana Amirkhanova¹, Dmitry Kornev¹, Igor Reshetov¹ and Victor Loschenov^{2,4}</p> <ol style="list-style-type: none"> 1. The first University clinical hospital I.M. Sechenov Moscow State Medical University, Moscow, Russia 2. National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russia 3. Shemyakin-Ovchinnikov Institute of bioorganic chemistry of the Russian Academy of Sciences, Moscow, Russia 4. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia
S3.P2	<p>Model Cholangiocarcinoma Optical Properties after Laser Plasmon Photothermal Treatment with Gold Nanorods Vadim Genin^{1,2}, Alla Bucharskaya³, Elina Genina^{1,2}, Georgy Terentyuk⁴, Nikolay Khlebtsov^{1,5}, Valery Tuchin^{1,2,6} and Alexey Bashkatov^{1,2}</p> <ol style="list-style-type: none"> 1. Saratov State University, Russia - 2. Tomsk State University, Russia 3. Saratov State Medical University, Russia - 4. Saratov First Veterinary Clinic, Russia 5. Institute of Biochemistry and Physiology of Plants and Microorganisms RAS, Russia 6. Institute of Precision Mechanics and Control RAS, Russia
S3.P3	<p>Laser-induced fluorescence diagnostics of grain pathogenic microflora Ekaterina Akhlyustina¹, Anastasia Ryabova^{1,2}, Daria Pominova^{1,2}, Pavel Grachev², Vladimir Makarov² and Bakhyt Kartabaeva³</p> <ol style="list-style-type: none"> 1. National Research Nuclear University MEPhI, Russia 2. General Physics Institute of the Russian Academy of Sciences, Russia 3. All-Russian Research Institute of Phytopathology, Russian Agricultural Academy, Russia
S3.P4	<p>Photodynamic Treatment of Glioma and Glioblastoma Multiforme Ekaterina Borisova^{1,2}, Dobroslav Kyurkchiev^{3,4}, Kalina Tumangelova-Yuzeir^{3,4}, Ekaterina Ivanova-Todorova^{3,4}, Krassimir Minkin⁵, Peter Karazaprianov⁵, Ivan Angelov⁶, Vanya Mantareva⁶, Tsanislava Genova¹, Alexander Gisbrecht¹ and Oxana Semyachkina-Glushkovskaya²</p> <ol style="list-style-type: none"> 1. Institute of Electronics, Bulgarian Academy of Sciences, Bulgaria 2. Biology Department, Saratov State University, Russia 3. Laboratory of Clinical immunology, University Hospital "St. Ivan Rilski", Bulgaria 4. Department of clinical laboratory and clinical immunology, Medical University of Sofia, Bulgaria 5. Neurosurgery Department, University Hospital "St. Ivan Rilski", Bulgaria 6. Institute of Organic Chemistry with Center on Phytochemistry, Bulgarian Academy of Sciences, Bulgaria

S3.P5	<p>Technology for express hair diagnostics based on femtosecond laser spectral analysis Yulia Tolstonogova¹, Sergey Golik² and Alexander Major¹</p> <p>1. Institute of Automation and Control Processes, Russia 2. School of Natural Sciences, Far Eastern Federal University, Russia</p>
S3.P6	<p>Video and Spectral Fluorescence Diagnosis of Stomach Diseases with 5-ALA Maxim Loshchenov¹, Vladimir Levkin², Nina Kalyagina^{2,3}, Sergey Kharnas² and Kirill Linkov¹</p> <p>1. Prokhorov General Physics Institute of the Russian Academy of Sciences, Russian Federation 2. I.M. Sechenov First Moscow State Medical University (Sechenov University), Russian Federation 3. National Research Nuclear University MEPhI, Russian Federation</p>

S4

**POSTER
EXHIBITION**

**SESSION 4: Optical Microscopy
& Laser-cell-tissue interactions**

Session 4 - posters	
S4.P1	<p>Novel illumination concepts: Additive Manufacturing for live cell optical microscopy Verena Richter, Sangeetha Suresh Nair, Herbert Schneckenburger and Andreas Heinrich Aalen University, Germany</p>
S4.P2	<p>Dependence of RBC Aggregation Properties on the Cells Age: <i>in vitro</i> Measurements with Laser Tweezers Petr Ermolinskiy¹, François Yaya^{2,3}, Andrei Lugovtsov^{1,4}, Kisung Lee⁵, Alexander Priezzhev^{1,4} and Christian Wagner^{2,6}</p> <p>1. Faculty of Physics, Lomonosov Moscow State University, Russia 2. Experimental Physics, Saarland University, Germany 3. Laboratoire Interdisciplinaire de Physique, UMR 5588 CNRS and University Grenoble-Alpes, France 4. International Laser Centre, Lomonosov Moscow State University, Russia 5. Ulsan National Institute of Science and Technology, Institute for Basic Science, Center for Soft and Living Matter, South Korea 6. Physics and Materials Science Research Unit, University of Luxembourg, Luxembourg</p>
S4.P3	<p>Interdependence of Erythrocyte Deformability and Aggregability: Study Using Optical Techniques Anastasia Maslyanitsina¹, Peter Ermolinsky¹, Andrei Lugovtsov^{1,2} and Alexander Priezzhev^{1,2}</p> <p>1. Faculty of Physics, Lomonosov Moscow State University, Russia 2. International Laser Centre, Lomonosov Moscow State University, Russia</p>
S4.P4	<p>Cell as a biosensor: real-time analysis of the interphase chromatin using densitometric segmentation technology Irina Vasilenko^{1,2}, Nina Shikhina¹, Vladislav Metelin^{1,2}, Kardashova Ziver² and Elena Rusanova²</p> <p>1. Department of Applied Mathematics and Programming, A.N. Kosygin Russian State University, Russian Federation 2. Research laboratory, M.F. Vladimirsky Moscow Regional Clinical and Research Institute (MONIKI), Russian Federation</p>
S4.P5	<p>Possibilities of coherent super-resolving interference microscopy in the assessment of platelet hemostasis disorders Irina Vasilenko^{1,2}, Vladislav Meteliin^{1,2}, Pavel Ignatiev³, Nina Shikhina¹ and Elena Shestero²</p> <p>1. Department of Applied Mathematics and Programming, A.N. Kosygin Russian State University, Russian Federation 2. Research laboratory, M.F. Vladimirsky Moscow Regional Clinical and Research Institute (MONIKI), Russian Federation 3. Department of Medical Products and Microscopy, JSC "Production Association "Ural optical-mechanical plant. After E.S. Yalakov", Russian Federation</p>

S4.P6	<p>Luminescence lifetime imaging to get new insights in cell metabolism and oxygen sensing Sviatlana Kalinina¹, Bjoern Von Einem², Lothar Lilge³ and Angelika Rück¹</p> <p>1. Core Facility Confocal and Multiphoton Microscopy, University of Ulm, Germany 2. Institute of Neurology, University of Ulm, Germany 3. University of Toronto, Canada</p>
S4.P7	<p>Light scattering measurements of human red blood cells at two wavelengths with scanning flow cytometry Ivan Dolgikh^{1,2}, Ekaterina Iastrebova^{1,2}, Dmitry Strokotov^{2,3} and Valeri Maltsev^{1,2,3}</p> <p>1. Department of Physics, Novosibirsk State University, Novosibirsk, Russia 2. Cytometry and Biokinetics laboratory, Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia 3. Novosibirsk State Medical University, Novosibirsk, Russia</p>
S4.P8	<p>CARS as a method for the detection of toxic pollutants: the case of phthalates on Danio renio's larva Dominique Dumas^{1,2}, Eric Battaglia³, Segbegnon R. Yedji³, Carole Cossu-Leguille³, Alexandre Specht⁴ and Lucrèce Ebersold^{1,2}</p> <p>1. University of Lorraine, IMOPA 7365 CNRS, France. 2. University of Lorraine, UMS 2008 IBSLOr, France. 3. University of Lorraine, LIEC UMR 7360 CNRS, France. 4. University of Strasbourg, CAMB 7199 CNRS, France.</p>
S4.P9	<p>Optical control of calcium dynamics in single floating platelets using photolabile compounds. Darya V. Spiriyova¹, Alexei Yu. Vorob'ev^{1,2} and Alexander E. Moskalensky^{1,3}</p> <p>1. Novosibirsk State University, Novosibirsk, Russia; 2. N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS, Novosibirsk, Russia; 3. Voevodsky Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia;</p>
S4.P10	<p>Nanoscale Optical Analysis by using Scattering Near Field Optical Microscopy George A. Stanciu, Denis E. Tranca, Stefan G. Stanciu, Radu Hristu</p> <p>Center for Microscopy-Microanalysis and Information Processing, University Politehnica of Bucharest, Bucharest, Romania</p>

S5

POSTER
EXHIBITION

SESSION 5: Multimodal &
Multispectral approaches

Session 5 - posters	
S5.P1	<p>Compact device for time resolved spectroscopy measurements Vanessa Lukinsone¹, Anna Maslobojeva¹, Maris Kuzminskis¹, Mindaugas Tamošiūnas¹, Uldis Rubins¹, Ilona Kuzmina¹ and Janis Spigulis¹.</p> <p>1. Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Raina Blvd19, Riga, LV-1050, Latvia</p>
S5.P2	<p>Field integral hyperspectral snapshot imaging for in-vivo diagnostics Tomasz Tkaczyk^{1,2}</p> <p>1. Department of Bioengineering, Rice University, USA 2. Department of Electrical and Computer Engineering, Rice University, USA</p>

S6**POSTER
EXHIBITION****SESSION 6: Nano-biophotonics for cancer****Session 6 - posters**

S6.P1	<p>Effect of titanium dioxide nanoparticles on human red blood cells microrheologic properties: in vitro studies by laser techniques</p> <p>Anton Neznanov¹, Irina Kadanova¹, Andrei Lugovtsov^{1,2} and Alexander Priezzhev^{1,2}</p> <p>1. Faculty of Physics, Lomonosov Moscow State University, Russia 2. International Laser Centre, Lomonosov Moscow State University, Russia</p>
S6.P2	<p>Effects Of Upconversion Particles On Human Kidney Carcinoma Cells A498</p> <p>Yanina^{1,2}, Navolokin³, Polukonova³, Mylnikov³, Kochubey^{1,2} and Tuchin^{1,2,4}</p> <p>1. Saratov State University, Russia; 2. Tomsk State University, Russia 3. Saratov State Medical University, 410012 Saratov, Russia 4. Institute of Precision Mechanics and Control of the RAS, Saratov, Russia</p>

S7**POSTER
EXHIBITION****SESSION 7: OCT, Elastography,
Photoacoustic, Polarization Imaging****Session 7 - posters**

S7.P1	<p>Evaluation of mechanical properties of blood vessel walls using histograms of pixel intensity distribution</p> <p>Sergej Frolov, Anton Potlov, Vitaly Chereshev, Irina Rodionova and Sergey Proskurin</p> <p>Biomedical Engineering, Tambov State Technical University, Russia</p>
S7.P2	<p>Evaluation of Calcified Mitral Valves After Er,Cr:YSGG Irradiation Using Optical Coherence Tomography</p> <p>Matheus Del-Valle¹, Marcelo Carvalho², Moises Santos^{1,3}, Nathali Pinto², Fabio Jatene², Pablo Pomerantzeff², Carlos Brandão² and Denise Zezell¹</p> <p>1. Center for Lasers and Applications, Nuclear and Energy Research Institute, Brazil 2. Heart Institute, University of São Paulo Medical School, Brazil 3. Technology College, Amazonas State University, Brazil</p>
S7.P3	<p>Microstructure and blood supply in intestinal ischemia according to OCT: can an advanced technology increase the accuracy of intraoperative diagnosis?</p> <p>Elena Kiseleva¹, Maxim Ryabkov^{2,3}, Mikhail Baleev³, Evgenia Bederina², Marina Sirotkina¹, Elena Zagaynova¹ and Natalia Gladkova¹</p> <p>1. Research Institute of Experimental Oncology and Biomedical Technologies, Privolzhsky Research Medical University, Russia 2. University Clinic, Privolzhsky Research Medical University, Russia3 3. City clinical hospital № 30, Russia</p>
S7.P4	<p>Design of an optical coherence tomography system for ultra-wide field retinal imaging</p> <p>Jun Zhang</p> <p>School of Electronics and Information Technology, Sun Yat-Sen University, China</p>
S7.P5	<p>Imaging murine fetal brain vasculature changes due to teratogens using in utero optical coherence tomography</p> <p>Raksha Raghunathan¹, Chih-Hao Liu¹, Amur Kouka¹, Yogeshwari Ambekar¹, Connie Yan¹, Noemi Bustamante¹, Manmohan Singh¹, Rajesh C. Miranda² and Kirill V. Larin^{1,3}</p> <p>1. Department of Biomedical Engineering, University of Houston, USA 2. Department of Neuroscience and Experimental Therapeutics, TAMHSC College of Medicine, USA 3. Molecular Physiology and Biophysics, Baylor College of Medicine, USA</p>

S7.P6	<p>Line-field confocal optical coherence tomography using an immersion Mirau interferometer</p> <p>Weikai Xue¹, Olivier Levecq², Jonas Ogien² and Arnaud Dubois¹</p> <p>1. Paris-Saclay University, Institut d'Optique Graduate school, CNRS, Charles Fabry Laboratory, France 2. DAMAE Medical, France</p>
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S8

**POSTER
EXHIBITION**

**SESSION 8: Microwave and Terahertz
applications in biology and medicine**

Session 8 - posters

S8.P1	<p>Refractive Properties of Blood Serum of Rats with Experimental Liver Cancer</p> <p>Ekaterina N. Lazareva^{1,2}, Polina A. Dyachenko^{1,2}, Maxim M. Nazarov³, Alla B. Bucharskaya⁴, Valery V. Tuchin^{1,2,5,6} and Alexander P. Shkurinov^{7,8}</p> <p>1. Saratov State University, Saratov, Russia - 2. Tomsk State University, Tomsk, Russia 3. National Research Center "Kurchatov Institute", Moscow, Russia 4. Saratov State Medical University, Saratov, Russia - 5. ITMO University, St. Petersburg, Russia 6. Institute of Precision Mechanics and Control, Russian Academy of Sciences, Saratov, Russia 7. Department of Physics and InternatiDear Ekonal Laser Center, M.V. Lomonosov Moscow State University, Russia 8. Crystallography and Photonics Federal Research Center, Russian Academy of Sciences, Moscow, Russia</p>
S8.P2	<p>Laser Raman spectroscopy of enzymatic reactions</p> <p>Nikolay Brandt¹, Andrey Chikishev², Anna Mankova¹ and Irina Shpachenko¹</p> <p>1. Physics Department, Lomonosov Moscow State University, Russia 2. International Laser Center, Lomonosov Moscow State University, Russia</p>
S8.P3	<p>Impact of the bound water on the THz response of Blood Serum of Rats with Experimental Liver Cancer</p> <p>Maria Konnikova¹, Maxim Nazarov², Olga Cherkasova^{3,4}, Ekaterina Lazareva^{4,5}, Polina Dyachenko^{4,5}, Alla Bucharskaya⁶, Valery Tuchin^{4,5,7} and Alexander Shkurinov^{1,8}</p> <p>1. Institute for Problems of Laser and Information Technologies of the Russian Academy of Sciences, Branch of Federal Scientific Research Center Crystallography and Photonics, Russia 2. National Research Centre Kurchatov Institute, Russia 3. Institute of Laser Physics, Siberian Branch, Russian Academy of Sciences, Russia 4. Tomsk State University, Russia - 5. Saratov State University, Russia 6. Saratov State Medical University, Russia 7. Institute of Precision Mechanics and Control, Russian Academy of Sciences, Russia 8. Moscow State University, Russia</p>

S9

**POSTER
EXHIBITION**

**SESSION 9: Microcirculation imaging, Laser
Speckle Contrast Imaging**

Session 9 - posters

S9.P1	<p>On Measurements with Laser Speckle Imaging</p> <p>D. Narcis Trinca¹ and Eduard Libin²</p> <p>1. Institute of Measurement Science, Slovak Academy of Sciences, Slovakia 2. Tomsk State University, Tomsk, Russian Federation</p>
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S10**POSTER
EXHIBITION****SESSION 10: Machine Learning, Bioinformatics,
Image and signal processing****Session 10 - posters**

S10.P1	<p>Cellular health detection using Machine Learning and hyperspectral NIR Ben Mellors¹, Abigail Spear², Christopher Howle And Hamid Dehghani³</p> <p>1. Physical Sciences for Health Doctoral Training Centre, University of Birmingham, UK 2. Defence Science and Technology Laboratory, UK 3. School of Computer Science, University of Birmingham, UK</p>
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S11**POSTER
EXHIBITION****SESSION 11: Clinical transfer applied to
Cancer treatment and diagnosis****Session 11 - posters**

S11.P1	<p>Monitoring direct VIS-NIR spectral changes in human tissue induced by radiation during cancer therapy Teemu Myllylä^{1,2}, Priya Karthikeyan¹, Ville Hassinen¹, Ulriika Honka¹, Lukasz Surazynski¹, Sakari Karhula¹, Vesa Korhonen¹ and Juha Nikkinen¹</p> <p>1. Research Unit of Medical Imaging, Physics and Technology, University of Oulu, Finland 2. Optoelectronics and Measurement Techniques Research Unit, Department of Electrical Engineering, University of Oulu, Finland</p>
S11.P2	<p>Outcome of Unilateral Retinoblastoma: A 10-Years Experience of Children's Cancer Hospital Egypt (CCH 57357) Ahmed Elhussein¹, Hossam El-Zomor¹, Adel Alieldin², Abdullah Elhusseiny², Hala Taha³ and Amal Refaat⁴.</p> <p>1. Pediatric Oncology Department, Children's Cancer Hospital Egypt (CCH 57357), Egypt. 2. Ophthalmology Department, Children's Cancer Hospital Egypt (CCH 57357), Egypt. 3. Pathology Department, Children's Cancer Hospital Egypt (CCH 57357), Egypt. 4. Diagnostic Radiology Department, Children's Cancer Hospital Egypt (CCH 57357), Egypt.</p>

S12**POSTER
EXHIBITION****SESSION 12: Biophotonics devices for
personalized diagnostics & Wearables****Session 12 - posters**

S12.P1	<p>Coherent fluctuation nephelometry in clinical microbiology Alexander Gur'ev^{1,2}, Victoria Schelkova², Elena Rusanova², Irina Vasilenko^{2,3} and Alexey Volkov¹</p> <p>1. Medtechnopark Ltd, Russian Federation 2. Scientific-research laboratory, Moscow Regional Research and Clinical Institute (MONIKI), Russian Federation 3. Department of Applied Mathematics and Programming, A.N. Kosygin Russian State University, Russian Federation</p>
S12.P2	<p>Observation of calcium metabolism in Jurkat cells using photolabile analogs of arachidonic acid Daria Chernova¹, Sergei Sokolovski², Alexey Vorob'ev¹ And Alexander Moskalensky¹</p> <p>1. Laboratory of Optics and Dynamics of Biological Systems, Novosibirsk State University, Russian Federation 2. Optoelectronics and Biomedical Photonics Group, Aston University, United Kingdom</p>