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 of presentation + 5 minutes of question).

Invited speaker

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

Regular talk

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

Poster

- Your poster should **be printed in A0 format** (84.1 cm x 118.9 cm)
- With a **portrait orientation** (in English).
- 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*	*Welcoming participants (7:00 am - 8:00 am)*					
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*	*Conference room changing - 5"*					
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*	*Coffee break (10:25 am - 10:55 am)*					
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*	*Lunch (12:20 pm - 01:40 pm)*					
1:40 PM	0:40	**Plenary lecture: Elena Zagaynova, Auditorium 1 (1:50 pm - 2:30 pm)**					
2:20 PM	*0:35*	*Industrial talks - 35"*					
2:55 PM	*0:05*	*Conference room changing - 5"*					
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*	*Coffee break (4:40 pm - 5:10 pm)*					
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*	*Welcoming participants (7:15 am - 8:00 am)*					
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*	*Coffee break (9:00 am - 9:55 am)*					
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*	*Lunch (12:35 pm - 1:35 pm)*					
1:35 PM	0:40	**Plenary lecture: Jürgen Popp, Auditorium 1 (02:00 pm - 02:40 pm)**					
	0:05	*Conference room changing - 5"*					
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*	*Coffee break (3:35 pm - 4:25 pm)*					
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	*Welcoming participants (8:00 am - 8:30 am)*					
8:30 AM	0:40	**Plenary lecture: Sergio Fantini, Auditorium 1 (08:30 am - 09:10 am)**					
9:10 AM	0:10	*Conference room changing -10"*					
9:20 AM	1:00	**Session 8: Microwave and terahertz applications in biology and medicine part 2/3 9:20 am - 10:45 am**	2:15	**Session 12: Biophotonics devices for personalized diagnostics and wearables 9:20 am - 11:15 am**	0:45	**Session 9: Microcirculation imaging, Laser Speckle Contrast Imaging part 1/2 9:20 am - 10:30am**	Free access*
					0:30	*Coffee break (10:30 am - 11:00 am)*	
	0:30	*Coffee break (10:45 am - 11:15 am)*			1:15	**Session 13: Lasers in dermatology - Photodermatology 11:00 am - 12:35 am**	
	1:00	**Session 8 part 3/3 11:15am - 12:30 am**	*0:30*	*Coffee break (11:15 am - 11:45 am)*			
			0:45	**Session 9 part 2/2 11:45 am - 12:30 am**			
12:10 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)

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*	*Welcoming participants (7:00 am - 8:00 am)*					
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*	*Conference room changing - 5"*					
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**	
	0:25	Keynote 1 - Cremer	0:25	Keynote 1 - Pogue	0:25	Keynote 1 - Jacques	Free access*
	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 - Darvin	0:15	Regular talk 2 - Rowley	0:15	Regular talk 1 - Grant	
10:25 AM	*0:30*	*Coffee break (10:25 am - 10:55 am)*					
10:55 AM	1:45	**Session 4 - part 2/4**	1:30	**Session 1 - part 2/2**	1:25	**Session 2 - part 2/2**	
	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	Free access*
	0:15	Invited 5 - Schneckenburger	0:15	Invited 5 - Conde	0:15	Invited 5 - Ohulchanskyy	
	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*	*Lunch (12:20 pm - 01:40 pm)*					
1:40 PM	0:40	**Plenary lecture: Elena Zagaynova, Auditorium 1 - 01:50 pm - 02:30 pm**					
2:20 PM	*0:35*	*Industrial talks - 35"*					
2:55 PM	*0:05*	*Conference room changing - 5"*					
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**	
	0:25	Keynote 1 - Elson	0:25	Keynote 1 - Rück	0:25	Keynote 1 - Pavone	Free access*
	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 - Zezell	
4:40 PM	*0:30*	*Coffee break (4:40 pm - 5:10 pm)*					
5:10 PM	1:15	**Session 7 - part 2/3**	1:30	**Session 3 - part 2/3**	1:30	**Session 5 - part 2/2**	
	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	Free access*
	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)					

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*	*Welcoming participants (7:15 am - 8:00 am)*							
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 - Priezzhev	
	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*	*Coffee break (9:00 am - 9:55 am)*							
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 - Khlebtsov		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 - Makligina		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*	*Lunch (12:35 pm - 1:35 pm)*							
1:35 PM	0:40	**Plenary lecture: Jürgen Popp, Auditorium 1 (01:35 pm - 02:15 pm)**							
	0:05	*Conference room changing - 5"*							
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 - Torres-Madronero	
	0:15	Regular talk 3 - Ziskind							
3:35 PM	*0:50*	*Coffee break (3:35 pm - 4:25 pm)*							
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**							

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	*Welcoming participants (8:00 am - 8:30 am)*					
8:30 AM	0:40	**Plenary lecture: Sergio Fantini, Auditorium 1 (08:30 am - 09:10 am)**					
9:10 AM	0:10	*Conference room changing - 10"*					
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*
	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	
10:30 AM	0:15	Regular talk 1 - Hakala	0:15	Regular talk 1 - Sivakumar	*0:30*	*Coffee break (10:30 am - 11:00 am)*	
10:45 AM	*0:30*	*Coffee break (10:45 am - 11:15 am)*	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*	*Coffee break (11:15 am - 11:45 am)*			
	0:15	Invited 6 - Gallot			0:25	Keynote 1 - Breunig	
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	

PL PLENARY LECTURES

Schedule of these four days of conference

Schedule	About the speakers	
Friday April 3rd **Auditorium 1** **8:15 AM – 8:55 AM**	40”	**Plenary talk topic: «Static and dynamic full field oct: from tissues to cells»** Claude Boccara, *Emeritus Professor Institut Langevin, ESPCI Paris, CNRS, PSL University*
Friday April 3rd **Auditorium 1** **1:50 PM - 2:30 PM**	40”	**Plenary talk topic: «FLIM metabolic imaging from cells to patients»** Elena Zagaynova, *Professor, Director of the Institute of Biomedical Technologies, Privolzhsky Research Medical University*
Saturday April 4th **Auditorium 1** **1:35 PM - 2:15 PM**	40”	**Plenary talk topic: «Photonics for medical diagnosis and therapy».** Jürgen Popp, *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*
Sunday April 5th **Auditorium 1** **8:30 AM - 9:10 AM**	40”	**Plenary talk topic: «Quantitative studies of cerebral hemodynamics with near-infrared spectroscopy»** Sergio Fantini, *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 Engineeeing (AIMBE)*

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**, Politechnico di Milano, Italy*

AUDUTORIUM 2

S.1 - part 1	**Friday April 3rd (9:00 AM – 10:25 AM)** **Chairmans: Sylvain Gioux, Brian Pogue**	
Keynote 1	25”	**Imaging Medicine with Diffuse Optical Systems** Brian W. Pogue *Thayer School of Engineering, Dartmouth College, USA* *Center for Imaging Medicine, Dartmouth-Hitchcock Medical Center, USA*
Invited 1	15”	**Applications of diffuse optics for detection and characterisation of disease** Hamid Dehghani *School of Computer Science, University of Birmingham, UK*
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] *1. Department of Physics, Politecnico di Milano, Italy* *2. Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany*
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], Hélène Sportouche[7], Simon Arridge[8], Andrea Farina[9], Pietro Panizza[10], Elena Venturini[10], Peter Gordebeke[11], Pamela Zolda[11] and Paola Taroni[1] *1. Dipartimento di Fisica, Politecnico di Milano, Italy;* *2. Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Italy;* *3. Micro Photon Devices Srl, Italy; 4. iC-Haus, Germany; 5. Vermon SA, France;* *6. CEA-LETI, France; 7. Supersonic Imagine SA, France;* *8. Department of Computer Science, University College London, UK;* *9. Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche, Italy;* *10. Breast Imaging Unit, Scientific Institute (IRCCS) Ospedale S. Raffaele, Italy;* *11. European Institute for Biomedical Imaging Research, Austria*
Regular talk 2	15”	**Development of a cost effective optical imaging system for monitoring of Rheumatoid Arthritis** George Rowley, Daniel Lighter and Hamid Dehghani *School of Computer Science, University of Birmingham, United Kingdom*

AUDUTORIUM 2

S.1 - part 2	Friday April 3rd (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 *Institute of Biological and Medical Imaging, Helmholtz Zentrum München, Germany* *Chair of Biological Imaging and TranslaTUM, Technical University of Munich, Germany*
Invited 4	15”	**Spatial frequency domain imaging: theory, phantom experiments and applications** Alwin Kienle, Christian Zoller, Andre Liemert, Florian Foschum, Stefan Lohner, Steffen Nothelfer *Quantitative Imaging and Sensors, Institute of Laser Technologies in Medicine and Metrology at the University of Ulm, Germany*
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 *University of Strasbourg, ICube Laboratory, France*

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*

AUDUTORIUM 3

S.2 - part 1	**Friday April 3rd (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 *University of Washington, Seattle, USA*
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] *1. Institute of Applied Physics RAS, Russia* *2. N.I. Lobachevsky State University of Nizhny Novgorod University, Russia* *3. Privolzhsky Research Medical University, Russia*
Invited 2	15”	**Utilising approximative models in optical imaging and modelling of errors** Tanja Tarvainen *Department of Applied Physics, University of Eastern Finland, Finland* *Department of Computer Science, University College London, United Kingdom*
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] *1. Opto-Electronics and Measurement Techniques Unit, University of Oulu, Finland* *2. Department of Veterinary Resources, Weizmann Institute of Science, Israel* *3. School of Engineering and Applied Science, Aston Institute of Materials Research, Aston University, UK* *4. School of Life & Health Sciences, Aston University, UK*
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] *1. Photodynamic Therapy Center, Roswell Park Comprehensive Cancer Center, NY, USA* *2. Simphotek Inc., NJ, USA*

AUDUTORIUM 3

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 *Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology*
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 Ohulchanskyy[1] *College of Physics and Optoelectronic Engineering, Shenzhen University, P.R.China*
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*

AUDUTORIUM 2

S.3 - part 1	**Friday April 3rd (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*

AUDUTORIUM 2

S.3 - part 2	Friday April 3rd (5:10 PM – 6:40 PM) Chairman: Valery Tuchin	
Invited 3	15”	**Dosimetry-Guided Interstitial Photodynamic Therapy for Locally Advanced Cancerous Tumors** Emily Oakley[1], David A Bellnier[1], Alan Hutson[3], Hannah Cooper[1], Michael Habitzruther[1], Sandra Sexton[4], Leslie Curtin[4], Lawrence Tworek[1], Matthew Mallory[1], Barbara Henderson[1] and Gal Shafirstein[1] *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*
Invited 4	15”	**Rewiring signaling pathway in engineered cells through optogenetic strategy for cancer and thrombolysis therapy** Cuilin Zhanglin[1,2]and Xiaolong Liu[1,2] *1. Mengchao Hepatobiliary Hospital of Fujian Medical University, Fuzhou, P.R.China* *2. Mengchao Med-X center, Fuzhou University, Fuzhou, P.R. China*
Invited 5	15”	**Applications of endogenous Protoporphyrin in photo-diagnosis and photo-therapy of cancer** Zvi Malik *The Mina and Everard Goodman Faculty of Life Sciences, Bar-Ilan University, ISRAEL*
Invited 6	15”	**Photochemical internalization (PCI) as an intracellular drug delivery technology for treatment of solid tumors** Kristian Berg *Department of Radiation Biology, Institute for Cancer Research, Comprehensive Cancer Center, Oslo University Hospital - Radium Hospital, Oslo, Norway*
Regular talk 4	15”	**A Modification Biogenic System for Phototherapy and Immunotherapy Against Tumor** Siwen Li[1], Yi Ma[1], Zhiyu Qian[2] and Yueqing Gu[1] *1. Department of Biomedical Engineering, China Pharmaceutical University, China* *2. Department of Biomedical Engineering, Nanjing university of aeronautics and astronautics, China*
Regular talk 5	15”	**Multifunctional AGuIX® theranostic nanoparticles for vascular-targeted interstitial photodynamic therapy of glioblastoma** Mickaël Gries[1], Joël Daouk[1], Paul Rocchi[4], Céline Frochot[2], Samir Acherar[3], François Lux[4], Olivier Tillement[4], Noémie Thomas[1] and Muriel Barberi-Heyob[1] *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*

AUDUTORIUM 2

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] *1. Center for Imaging Medicine, Engineering, Dartmouth College, USA* *2. Geisel School of Medicine at Dartmouth USA*
Invited 8	15”	**Molecular diffusivity of normal and pathological tissues at immersion optical clearing** Valery V. Tuchin *Department of Optics and Biophotonics, Saratov State University, Saratov, Russia* *Interdisciplinary Laboratory of Biophotonics, Tomsk State University, Tomsk, Russia* *Lab. of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control of the RAS, Saratov, Russia* *Laboratory of FemtoMedicine, University of ITMO, St.-Petersburg, Russia Laboratory of Molecular Imaging, Research Center of Biotechnology of the RAS, Moscow, Russia*
Invited 9	15”	**Shedding light on radiotherapy: functional optical coherence tomography for radiobiological microvascular imaging** Valentin Demidov[1], Costel Flueraru[2] and Alex Vitkin[1] *1. Department of Medical Biophysics, University of Toronto, Canada* *2. Information Communication Technology, National Research Council, Canada*
Regular talk 6	15”	**Optical Tissue Phantoms for 2-Photon Fluorescence Lifetime Imaging Systems** Adrian Rühm[1], Christian Freymüller[1], Nico Imberger1, Sviatlana Kalinina[2], Angelika Rück[2] And Ronald Sroka[1] *1. LIFE-Zentrum, Urologische Klinik und Poliklinik, Klinikum der Universität München, Germany* *2. Core Facility für konfokale und Multiphotonen Mikroskopie, Universität Ulm, Germany*

S4 KEYNOTES, INVITED SPEAKER REGULAR TALK

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

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*

AUDUTORIUM 1

S.4 - part 1	**Friday April 3rd (9:00 AM – 10:25 AM)** **Chairmans: Herbert Schneckenburger, Hideaki Kano**	
Keynote 1	25”	**Lens Free Super-Resolution Microscopy at Large Working Distances - Implications for Genome Nanostructure Analysis** Christoph Cremer *1. Institute of Molecular Biology (IMB), Germany* *2. Institute for Pharmacy and Molecular Biotechnology (IPMB), & Kirchhoff-Institute for Physics (KIP), University Heidelberg, Germany* *3. Department of Physics, University Mainz (JGU), Germany*
Invited 1	15”	**Recent advances in cell imaging by multiplex CARS microspectroscopy** Philippe Leproux[1], Vincent Couderc[1], Tigran Mansuryan[1], Tiffany Guerenne-Del Ben[2], Vincent Sol[2], Jean-Michel Petit[2] and Hideaki Kano[3] *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*
Invited 2	15”	**Label-free molecular imaging: investigation of photophysical processes and applications for biomedical diagnostics** Evgeny Shirshin *Department of Physics, Moscow State University, Russia*
Regular talk 1	15”	**Stain-free subcellular-resolution astrocyte visualization by means of third-harmonic generation microscopy** Matvei Pochecuev[1,5], Aleksander Lanin[1,3], Ilya Kelmanson[4], Dmitriy Bilan[4], Artem Chebotarev[1], Darya Kotova[4], Victor Tarabykin[6], Andrei Fedotov[1], Vsevolod Belousov[4] and Aleksey Zheltikov[1,2,3,5] *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*
Regular talk 2	15”	**Two-photon excited fluorescence lifetime imaging for non-invasive in vivo visualization of mast cells in the human skin** Maxim Darvin[1], Marius Kröger[1], Jörg Scheffel[1], Viktor Nikolaev[1,2], Evgeny Shirshin[3], Frank Siebenhaar[1], Johannes Schleusener[1], Marcus Maurer and Jürgen Lademann[1] *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*

AUDUTORIUM 1

S.4 - part 2	Friday April 3rd (10:55 AM – 12:40 AM) Chairmans: Alexander Priezzhev, Evegeny Shirshin	
Invited 3	15”	**Optical characterization of tumor microenvironment** Liwei Liu *Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education & Guangdong Province, College of Physics and Optoelectronic Engineering, Shenzhen University, China.*
Invited 4	15”	**Break the unbreakable limits toward high/super-resolution microscopy** Qiuqiang Zhan *Centre for Optical and Electromagnetic Research, South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou, P. R. China*
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] *1. Institute of Applied Research, Aalen University, Germany* *2. Institute of Molecular Biology, Mainz, Germany* *3. Kirchhoff Institute for Physics (KIP,) and Institute of Pharmacy & Molecular Biotechnology, University of Heidelberg, Germany*
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] *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*
Regular talk 4	15”	**The phenomenon of natural (proper) fluorescence of calcified dermal layers in amphibia (150 years history)** Elissaveta Zvetkova *Bulgarian Society of Biorheology, Sofia, Bulgaria*
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 *College of Optical Science and Engineering, Zhejiang University, China*
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] *1. Department of Bioengineering, Rice University, USA* *2. Department of Electrical and Computer Engineering, Rice University, USA*

AUDUTORIUM 3

S.4 - part 3	Saturday April 4th (8:00 AM – 9:25 AM) Chairmans: Andrei Lugovtsov, Herbert Scneckenburger	
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 *Center for Biomedical Photonics & College of Physics and Optoelectronic Engineering, Shenzhen University, China*
Invited 6	15”	**Laser Applications in Hemorheologic Research** Alexander Priezzhev, Andrei Lugovtsov, Alexey Semenov, and Sergey Nikitin *Physics Department and International Laser Center of M.V. Lomonosov Moscow State University, Moscow, Russia*
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] *1. Experimentalphysik, University of Saarland, Germany* *2. Laboratoire Interdisciplinaire de Physique, University of Grenoble Alpes, France* *3. ICS-3, Forschungszentrum Jülich, Germany* *4. Laboratory for Soft Matter and Biophysics, KU Leuven, Belgium*
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] *1. Cytometry and Biokinetics laboratiry, Institute of Chemical Kinetics and Combustion SB RAS, Russia* *2. Physics, Novosibirsk State University, Russia* *3. Vascular and Hybrid Surgery, Meshalkin National Medical Research Center, Russia*
Regular talk 8	15”	**Combined microfluidic and optoporation setup for laser-assisted cell transfection** Hans Georg Breunig, Ana Batista and Karsten König *Department of Biophotonics and Laser Technology, Saarland University, Germany*

AUDUTORIUM 3

S.4 - part 4	Saturday April 4th (9:55 AM – 10:55 AM) Chairmans: Evgeny Shirshin, Hideaki Kano, Philippe Leproux	
Invited 8	15”	**Multiscale Photoacoustic Microscopy** Lei Xi *Southern University of Science and Technology*
Invited 9	15”	**3D spectral measurement systems for the investigation of biomedical objects** Daniel Claus[1], Michael Zint[1], Karl Stock[1], Moaaz Rauf Nizami[1] and Raimund Hibst *1. Institut für Lasertechnologien in der Medizin und Messtechnik, Germany*
Invited 10	15”	**Femtosecond kinetic of the kindling fluorescent protein KFP. Proton transfer as the result of cis-trans isomerization of chromophore** Alexander Savitsky, *A.N.Bach Institute of Biochemistry of the Federal Research Centre Fundamentals of Biotechnology of the Russian Academy of Science, Russia*
Regular talk 9	15”	**Patient-specific cellular response to photodynamic treatment *in vitro*** 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] *1. Loffe Institute, Russia* *2. N.N. Petrov National Medical Research Center of Oncology, Russia* *3. ITMO University, Russia*

S5 KEYNOTES, INVITED SPEAKER REGULAR TALK | SESSION 5: Multimodal and Multispectral approaches

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 Sterenborg**, Netherlands Cancer Institute and Amsterdam University Medical Center, Amsterdam, The Netherlands, **Irving Bigio**, Boston University, USA*

AUDUTORIUM 3

S.5 - part 1	**Friday April 3rd (3:00 PM – 4:40 PM)** **Chairmans: Dick Sterenborg, Irving Bigio**	
Keynote 1	25”	**Large area functional and structural linear and non linear brain imaging** Francesco S. Pavone *LENS-University of Florence, IT*
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] *1. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia* *2. National Research Nuclear University MEPhI, Moscow, Russia* *3. Institute of Gene Biology of the Russian Academy of Sciences, Moscow, Russia* *4. N.N. Burdenko National Medical Research Center of Neurosurgery, Moscow, Russia*
Invited 2	15”	**Multimodal Imaging for Skin Ulcers** Benjamin Castaneda[1] and Sylvie Treuillet[2] *1. Laboratorio de Imágenes Médicas, Departamento de Ingeniería, Pontificia Universidad Católica del Perú, Perú* *2. Laboratoire PRISME, Université d’Orleans, France*
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 *ICube Laboratory, University of Strasbourg, France*
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] *1. University of Lorraine, IMOPA 7365 CNRS, France* *2. UMS 2008 IBSLOr, France*
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] *1. Center for Lasers and Applications – Nuclear and Energy Research Institute, Brazil* *2. Engineering Modelling and Applied Social Sciences Center - Federal University of ABC, Brazil* *3. MackGraphe – Graphene and Nanomaterials Research Center, Mackenzie Presbyterian University, Brazil*

AUDUTORIUM 3

S.5 - part 2	Friday April 3rd (5:10 PM – 6:40 PM) Chairmans: Ekatrina 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] *1. Department of Biomedical Engineering, Boston University, USA* *2. Department of Nephrology, Boston University School of Medicine, USA*
Invited 4	15”	**Diffuse reflection spectroscopy and imaging for assessment of resection margins during cancer surgery** Dick Sterenborg, *Department of Surgical Oncology, Netherlands Cancer Institute and* *Department of Biomedical Engineering and Physics, Amsterdam University Medical Centre, Amsterdam, the Netherlands*
Invited 5	15”	**Raman spectroscopy for surgical guidance of skin cancer resections** Xu Feng and James Tunnell *Biomedical Engineering, University of Texas at Austin, USA*
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 *Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Riga, Latvia*
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] *1. Department of Complex Matter, Jožef Stefan Institute, Ljubljana, Slovenia* *2. Fotona d.o.o., Ljubljana, Slovenia* *3. Faculty of Mathematics and Physics, University of Ljubljana, Slovenia*
Regular talk 6	15”	**Design and validation of a diffuse optical characterization platform for tissue mimicking phantoms** Luca Baratelli and Sylvain Gioux *University of Strasbourg, ICube Laboratory, France*

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*

AUDUTORIUM 2

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

AUDUTORIUM 2

S.6 - part 2	Saturday April 4th (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] *1. Department of Physical Sciences, IISER Kolkata, India* *2. Faculty of Information Technology and Electrical Engineering, University of Oulu, Finland*
Invited 4	15”	**Silicon Nanoprobes for Bioimaging and Biosensing** Yao He *Laboratory of Nanoscale Biochemical Analysis, Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University, Suzhou, China*
Invited 5	15”	**Advanced Approaches to Skin *In Vivo* Optical Clearing** Elina A. Genina[1,2], Alexey N. Bashkatov[1,2], Valery V. Tuchin[1,2,3] and Vladimir P. Zharov[1,4] *1. Saratov State University, Russia* *2. Tomsk State University, Russia* *3. Institute of Precision Mechanics and Control RAS, Russia* *4. Arkansas Nanomedicine Center, University of Arkansas for Medical Sciences, USA*
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] *1. Department of Life Sciences, International Iberian Nanotechnology Laboratory, Portugal* *2. Department of Applied Physics, University of Santiago de Compostela, Spain* *3. Biomembranes Laboratory, Carlos Chagas Filho Biophysics Institute, Federal University of Rio de Janeiro, Brasil*
Regular talk 3	15”	**Tumor microenvironment-responsive drug delivery systems** Yi Ma, Yueqing Gu *China pharmaceutical university*

AUDUTORIUM 2

S.6 - part 3	Saturday April 4th (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 *1. HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czech Republic* *2. Department of Solid State Physics, P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia*
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 *Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*
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] *1. Physics Department, M.V. Lomonosov Moscow State University, Russia* *2. International Laser Center, M.V. Lomonosov Moscow State University, Russia* *3. Department of Information Technology and Electrical Engineering, University of Oulu, Finland*

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*

AUDUTORIUM 1

S.7 - part 1	**Friday April 3rd (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 *Multi-Modality Medical Imaging group, University of Twente, the Netherlands*
Invited 2	15”	**Super-resolved, direct and localized photoacoustic sensing configuration** Matan Benyamin and Zeev Zalevsky *Faculty of Engineering and the Nanotechnology center, Bar Ilan University, Israel*
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 "Crystallograpy and Photonics, Rissuan Academy of Sciences, Russia*
Regular talk 1	15”	**Optical Elastography – an Emerging Techniques to Assess Ocular Health** Kirill V. Larin *Department of Biomedical Engineering, University of Houston, USA*
Regular talk 2	15”	**Live optical imaging and manipulation of cardiodynamics in mouse embryos for biomechanical analysis** Irina V. Larina *Department of Molecular Physiology and Biophysics, Baylor College of Medicine, USA*

AUDUTORIUM 1

S.7 - part 2	Friday April 3rd (5:10 PM – 6:25 PM) Chairman: Kirill Larin	
Invited 4	15”	**Optical Angular Momentum in Tissue Diagnosis** Igor Meglinski[1-3], Nicolas Vera[4], Juan Pablo Staforelli[4] and Alex Doronin[5] *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*
Invited 5	15”	**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 *Department of Physics, Tsinghua University, China*
Regular talk 3	15”	**Line-field confocal optical coherence tomography: a new tool for three-dimensional imaging of human skin in vivo at cellular resolution** Jonas Ogien[1], Olivier Levecq[1], Hicham Azimani[1], Maxime Cazalas[1], David Siret[1], Anaïs Barut[1] and Arnaud Dubois[2] *1. DAMAE Medical, France* *2. Charles Fabry Laboratory, Institut d’Optique Graduate school, Paris-Saclay University, France*
Regular talk 4	15”	**Application of Photoacoustic Tomography Technique for Dental Caries Diagnosis: Influence of Laser Wavelength** Evair Silva[1], Érica Miranda[2], Cláudia Mota[3], Avishek Das[2] and Anderson Gomes[2] *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*
Regular talk 5	15”	**Optical properties reconstruction method for Quantitative Photoacoustic Tomography** Fatmir Asllanaj[1], Ahmad Addoum[2], Walter Blondel[3] and Marine Amouroux[3] *1. Université de Lorraine, CNRS-LEMTA, France* *2. Université de Lyon, IP2I, France* *3. Université de Lorraine, CNRS-CRAN, France*

AUDUTORIUM 1

S.7 - part 3	Saturday April 4th (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. Deptartment 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*

S8 KEYNOTES, INVITED SPEAKER REGULAR TALK

SESSION 8: Microwave and terahertz applications in biology and medicine

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*

AUDUTORIUM 1

S.8 - part 1	**Saturday April 4th (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] *1. Department of Physics, University of Seoul, Republic of Korea* *2. iNexus Inc., Republic of Korea*
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] *1. University of Bordeaux, IMS UMR CNRS 5218, Talence, France* *2. Department of Pathology, Bergonié Institute, Bordeaux, France* *3. University of Wuppertal, Institute for High-Frequency, and Communication Technology, Wuppertal, Germany*
Invited 2	15”	**Exploring the contrast mechanism in terahertz biomedical imaging using tissue phantoms** Shuting Fan[1], Yingyu Ma[1] and Vincent Wallace[3] *1. College of Electronic Science and Technology, Shenzhen University, China* *2. Dept of Physics, The University of Western Australia, Australia*

AUDUTORIUM 1

S.8 - part 2	**Sunday April 5th (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 Hernardez-Serrano[1] *1. Physics Department, Warwick University, UK* *2. Department of Electronic Engineering, The Chinese University of Hong Kong, Hong Kong, China*
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] *1. Faculty of Physics and International Laser Center, Lomonosov Moscow State University, Moscow Russia - 2. Budker Institute of Nuclear Physics, Novosibirsk, Russia* *3. Novosibirsk State University, Novosibirsk, Russia* *4. ILIT RAS, Branch of the FSRC ”Crystallography and Photonics”, RAS, Shatura, Moscow Region, Russia* *5. Institute for Spectroscopy, RAS, Troitsk, Moscow, Russia* *6. Keldysh Institute of Applied Mathematics, Moscow Russia*

AUDUTORIUM 1

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] *1. Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia* *2. Bauman Moscow State Technical University, Moscow, Russia* *3. Institute of Solid State Physics of the Russian Academy of Sciences, Chernogolovka, Russia*
Invited 5	15”	**Application of Terahertz Precision Spectrum in Biophotonics** Yan Peng, Xu Wu, Chenjun Shi and Yiming Zhu *Terahertz Technology Innovation Research Institute, University of Shanghai for Science and Technology, China*
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] *1. Optoelectronics and Measurement Techniques Research Unit, Department of Electrical Engineering, University of Oulu, Finland* *2. Microelectronics Research Unit, Department of Electrical Engineering, University of Oulu, Finland* *3. Research Unit of Medical Imaging, Physics and Technology, Faculty of Medicine, University of Oulu, Finland*

AUDUTORIUM 1

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 *Laboratoire d'Optique et Biosciences, Ecole Polytechnique IP Paris, CNRS, INSERM, Palaiseau, France*
Invited 7	15”	**Cellular Effects of Terahertz Radiation** Olga Cherkasova[1], Danil Serdyukov[1,2] and Sergey Peltek[2] *1. Institute of Laser Physics, Siberian Branch, Russian Academy of Sciences, Russia* *2. The Federal Research Center Institute of Cytology and Genetics, Siberian Branch, Russian Academy of Sciences, Russia*
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] *1. Faculty of physics, Lomonosov Moscow State University, Russia* *2. International Laser Center, Lomonosov Moscow State University, Russia*
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] *1. Laser Department, National Institute for Laser, Plasma and Radiation Physics, Romania* *2. Microbiology Department, Bucharest Biology Institute, Romania* *3. DFR Systems SRL, Romania*
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], Ilia 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] *1. ITMO University, Saint-Petersburg, Russia* *2. IMS Laboratory UMR CNRS 5218, Bordeaux University, Talence, France,* *3. Ioffe Institute, Saint-Petersburg, Russia,* *4. Almazov National Medical Research Center, Saint Petersburg, Russia*

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*

AUDUTORIUM 3

S.9 - part 1	**Sunday April 5th (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] *1. Biomedical Photonic Imaging, Techmed Centre, University of Twente, The Netherlands* *2. Robotics and Mechatronics, Techmed Centre, University of Twente, The Netherlands*
Invited 1	15"	**Microcirculation imaging with light and sound** Martin Leahy *National University of Ireland, Galway, Ireland*
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 *LARIS, Laboratoire Angevin de Recherche en Ingénierie des Systèmes, Univ Angers, France*
Regular talk 1	15"	**Multimodal imaging of neurovascular coupling in the cerebral cortex** Ferenc Bari, Ákos Menyhárt and Eszter Farkas *Department of Medical Physics and Informatics, University of Szeged, Hungary*

AUDUTORIUM 2

S.9 - part 2	**Sunday April 5th (11:45 AM – 12:30 PM) Chairmans: Valery Tuchin, Dan Zhu**	
Invited 3	15"	**Polarisation Spectroscopy Imaging for mapping skin microcirculation** Gert Nilsson *Wheelsbridge AB, Linkoping, Sweden*
Invited 4	15"	**Microcirculation perfusion assessment using multi-exposure laser speckle contrast imaging** Tomas Strömberg *Department of Biomedical Engineering, Linköping University, Sweden*
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] *1. Department of Vascular and Endovascular Surgery, Nancy University Hospital, Inserm, University of Lorraine, France* *2. Department of Vascular Surgery, Helsinki University Hospital, University of Helsinki, Finland*

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*

AUDUTORIUM 3

S.10 - part 1	Saturday April 4th (2:20 PM – 3:45 PM) Chairmans: Christian Daul, Franck Marzani	
Keynote 1	25”	**Deep Learning-enabled Computational Microscopy and Sensing** Aydogan Ozcan *UCLA, USA*
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] *1. Laboratory of biophotonics, Tomsk State University, Russia,* *2. Department of physics and mathematics, Siberian State Medical University, Russia* *3. Laboratory of molecular imaging and photoacoustics, Institute of Strength Physics and Materials Science SB RAS, Russia*
Invited 2	15”	**Genome Enhancer: AI-based Identification of Personalized Targets and Drugs for Colorectal Cancer Patients using Transcriptome Data** Alexander K*el* *R&D, geneXplain GmbH, Germany*
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 *BioSpecT Unit, EA 7506, University of Reims Champagne-Ardenne, France*
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 Montaño[3], Samuel Calderon[3], Sara Robledo[3] and Franck Marzani[5] *1. Research group on Automatic, Electronic and Computational Science, Instituto Tecnologico Metropolitano, Colombia* *2. Advanced Materials and Energy MatyEr Research Group, Instituto Tecnologico Metropolitano, Colombia* *3. Program for the Study and Control of Tropical Diseases – PECET – School of Medicine, University of Antioquia, Colombia* *4. Grupo de óptica y espectroscopia, Universidad Pontificia Bolivariana, Colombia* *5. Laboratoire ImVIA, Université Bourgogne Franche-Comté, France*

AUDUTORIUM 3

S.10 - part 2	Saturday April 4th (4:25 PM – 5:40 PM) Chairmans: Christian Daul, Yuri Kistinev	
Invited 3	15”	**Automated detection of stomach lesions by endoscopic imaging: comparison of NBI and multispectral imaging** Alexandre Krebs[1], Yannick Benezeth[1], Dominique Lamarque[2] and Franck Marzani[1] *1. IMVIA, Univ. Bourgogne Franche Comté, France* *2. Univ. Versailles St-Quentin-en-Yvelines - hôpital Ambroise Paré, France*
Invited 4	15”	**Random Illumination Microscopy (RIM): nanoscopy in living tissues** Thomas Mangeat[1], Simon Labouesse[2], Emmanuel Martin[1], Renaud Poincloux[3], Magali Suzanne[1], Xiabo Wang[1], Roland Leborgne[4], Mathieu Pinot[4], Marc Allain[2], Jérome Idier[5] and Anne Sentenac[2] *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*
Regular talk 3	15”	**Visualization of extended epithelial tissue surfaces using dense optical flow and structure from motion** Tan-Binh Phan[1], Dinh-Hoan Trinh[1], Dominique Lamarque[2], Walter Blondel[1], Marine Amouroux[1], Didier Wolf[1] and Christian Daul[1] *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*
Regular talk 4	15”	**An exploration of movement artefacts in a handheld laser speckle contrast imaging** Ata Chizari[1], Tom Knop[1], Beril Sirmacek[2], Ferdi van der Heijden[2] and Wiendelt Steenbergen[1] *1. Biomedical Photonic Imaging, Technical Medical Centre, University of Twente, The Netherlands* *2. Robotics and Mechatronics, University of Twente, The Netherlands*
Regular talk 5	15”	**Automation of outlier removal for the improvement of IR spectral histology applied to human colon cancer samples** Warda Boutegrabet[1, 2], Dominique Guenot[1], Olivier Bouche[2, 3], Camille Boulagnon-Rombi[4, 5], Aude Marchal Bressenot[2, 5], Olivier Piot[2] and Cyril Gobinet[2] *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.*

S11 KEYNOTES, INVITED SPEAKER REGULAR TALK

SESSION 11: Clinical transfer applied to Cancer Treatment and Diagnosis

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*

AUDUTORIUM 1

S.11 - part 1	**Saturday April 4th (9:55 AM – 11:05 AM)** **Chairman: Ekaterina Borisova**	
Keynote 1	25”	**Polarized light: a breakthrough tool for cancer diagnosis *in vivo*** Angelo Pierangelo *LPICM, CNRS, Ecole Polytechnique, Institut Polytechnique de Paris, Route de Saclay, 91128 Palaiseau, France*
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] *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*
Invited 2	15”	**New methods and tools for fluorescence navigation and photodynamic therapy in the surgical clinic** Victor Loschenov *Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*
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 Vuiblet[1,3], Valerie Untereiner[2], Vincent Gaydou[1], Myriam Polette[4], Philippe Birembaut[3,4], Cyril Gobinet[1] *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*

AUDUTORIUM 1

S.11 - part 2	Saturday April 4th (2:20 PM – 3:50 PM) Chairmans: Elena Zagaynova, Victor Loschenov	
Invited 3	15"	**New spectral-fluorescent methods for the deep brain tumors theranostics** Yulia Maklygina[1], Igor Romanishkin[1], Tatiana Savelieva [1,2], Alexei Skobeltzin[1] and Victor Loschenov[1,2] *1. Prokhorov General Physics Institute of the Russsian Academy of Science, Russia* *2. National Research Nuclear University "MEPhI", Russia*
Invited 4	15"	**Techniques for Photodiagnosis and Photodynamic in Neurosurgery** Ronald Sroka, Max Aumiller, Christian Heckl, Niklas Markwardt, Herbert Stepp and Adrian Ruehm *Laser-Forschungslabor in LIFE-Center at Department of Urology, Hospital of University Munich, Germany*
Invited 5	*15"*	**Time-Resolved Reflectance Spectroscopy for burried flaps monitoring** Anne Planat-Chretien[1], Audrey Dot[2], Michel Berger[1], Rodolphe Lartizien[2,3], Maxime Henry[2], Georges Bettega[2,3] and Jean-Luc Coll[2] *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.*
Invited 6	*15"*	**Advanced Fiber Solutions in 0.3-16m range for Biomedical Applications** Viacheslav Artyushenko *Art photonics GmbH, Berlin, Germany*
Regular talk 2	15"	**Photodiagnostics of Stress-Induced Gastrointestinal Tract Tumours** Ekaterina Borisova[1,2], Alexander Gisbrecht[1], Alexander Khorovodov[2], Ilana Agranovich[2], Inna Blochina[2], Ivan Angelov[3], Vanya Mantareva[3], Nikita Navolokin[4] and Oxana Semyachkina-Glushkovskaya[2] *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*
Regular talk 3	15"	**In-Vivo Real-Time Molecular Diagnosis of Tumors Using Remote IR Resonant Laser Ablation** Philippe Saudemont[1], Jusal Quanico [1,2], Anna Baud[1], Benoit Fatou [1,2], Dominique Tierny[3], Michel Salzet[1], Isabelle Fournier[1], Cristian Focsa[2] and Michael Ziskind[2] *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*

S12 KEYNOTES, INVITED SPEAKER REGULAR TALK

SESSION 12: Biophotonics devices for personalized diagnostics and wearables

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

AUDUTORIUM 2

S.12	Sunday April 5th (9:20 AM – 11:15 PM) Chairmans: Evgeny Shirshin, Viacheslav Artyushenko	
Keynote 1	25”	**Skin penetration of topically applied materials: quantitative in vivo analysis by Raman spectroscopy** Gerwin Puppels[1,2], Claudio Nico[1], Johanna de Sterke[1], Tom Bakker Schut[1,2] and Peter Caspers[1,2] *1. RiverD International B.V., Rotterdam, The Netherlands* *2. Erasmus University Medical Center Rotterdam, Dept of Dermatology, The Netherlands*
Invited 1	15”	**Non-invasive in vivo assessment of antioxidant status of human skin using spectroscopic methods** Maxim Darvin, Martina Meinke and Jürgen Lademann *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*
Invited 2	15”	**Early detection of diabetic chronic kidney disease using microfluidic-based biophotonics** Sang Bae Lee[1], Chul Woo Ahn[1], Jun Sung Moon[2], Kyu Chang Won[2]and Sehyun Shin[3] *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*
Invited 3	15”	**Macroscopic FLIM&PLIM: towards clinical translation.** Vladislav Shcheslavskiy[1,2], Maria Lukina[2], Igor Medyanik[2], Elena Zagaynova[2], Wolfgang Becker[1] and Marina Shirmanova[2] *1. Becker&Hickl GmbH, Germany* *2. Privolzhsky Research Medical University, Russia*
Regular talk 1	15”	**Laser Induced Breakdown spectroscopy (LIBS) based opto-microfluidic biosensor for the detection of pathogenic bacteria.** Vivek Sivakumar[1], Sujatha N. Unni[1], Nilesh J. Vasa[2], Padma Srikanth[3] and Ilakkiya Arumugam[3] *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.*
Regular talk 2	15”	**Snapshot Multi-Spectral-Line Imaging Device for Skin Diagnostics** Janis Spigulis, Ilze Oshina, Zigmars Rupenheits, Margarita Matulenko and Uldis Rubins *Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia*
Regular talk 3	15”	**Ophthalmic Fluorescence Lifetime and Spectral Imaging for Age-Related Macular Degeneration – from Clinics to Histology and Back** Martin Hammer[1,2] and Rowena Schultz[1] *1. Department of Ophthalmology, University Hospital Jena, Germany* *2. Center for medical Optics and Photonics, Friedrich-Schiller-University Jena, Germany*

S13

KEYNOTES, INVITED SPEAKER REGULAR TALK

SESSION 13: Lasers in dermatology - Photodermatology

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*

AUDUTORIUM 3

S.13	**Sunday April 5th (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] *1. Department of Biophotonics and Laser Technology, Saarland University, Germany* *2. JenLab GmbH, Johann-Hittorf-Straße 8, Germany, www.jenlab.de*
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 Bornschlögl[1], Géraldine Rolland[1], Xueqin Chen[1], Thérèse Baldeweck[1] and Emmanuelle Tancrède-Bohin[1,2] *1. L’Oréal Research and Innovation, France* *2. Service de Dermatologie, Hôpital Saint-Louis, France*
Invited 1	15”	**Basal cell carcinoma: Which laser for which BCC?** François Will *Centre laser Strasbourg Rhin, France - Centre laser Nord Alsace, France*
Invited 2	15”	**Real anti-aging using laser medicine** Hans Laubach *Laser MD Center, Strasbourg, France, University Hospital, Geneva, Switzerland*
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] *1. Center for Lasers and Applications, Nuclear and Energy Research Institute, Brazil* *2. Technology College, Amazonas State University, Brazil*

LALS 2020: LIST OF COMMUNICATIONS SELECTED FOR THE POSTER EXHIBITION

S1 POSTER EXHIBITION — SESSION 1: Diffuse Optical Imaging

Session 1 - posters	
S1.P1	**System based on large area detector and high throughput electronics: the next generation time-domain diffuse optical instruments** Edoardo Ferocino[1], Laura Di Sieno[1], Anurag Behera[1], Davide Contini[1], Alessandro Torricelli[1,2], Sumeet Rohilla[3,4], Benedikt Krämer[3], Felix Koberling[3], Fabio Acerbi[5], Alberto Gola[5], Antonio Pifferi[1,2 a]nd Alberto Dalla Mora[1] *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 Berling, corporate member of Freie Universität Belin, Humboldt-Univertistät zu 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*
S1.P2	**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 Nazarov[3], Alla Bucharskaya[4], Valery Tuchin[1,2,5] and Alexander Shkurinov[6] *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*
S1.P3	**Utilizing truncated Fourier-series approximation for time-domain diffuse optical tomography** Meghdoot Mozumder[1] and Tanja Tarvainen[1,2] *1. Department of Applied Physics, University of Eastern Finland, Finland* *2. Department of Computer Science, University College London, UK*

S2 POSTER EXHIBITION — SESSION 2: Light Propagation in Tissues, Modelling & optical phantoms

Session 2 - posters	
S2.P1	**Optical Clearing of Dark Skin** Elina A. Genina[1,2], Yury I. Surkov[1], Isabella A. Serebryakova[1], Adam A. Yussuf[1], Ekaterina N. Lazareva[1,2], Alexey N. Bashkatov[1,2] and Valery V. Tuchin[1,2,3] *1. Saratov State University, Russia* *2. Tomsk State University, Russia* *3. Institute of Precision Mechanics and Control RAS, Russia*
S2.P2	**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 Blondel[2] and Marine Amouroux[2] *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*

S2.P3	**Pilot study of application of PEGs with a high molecular weight for optical clearing of skin via dehydration** Daria Tuchina[1-3], Alexey Bashkatov[1,2], Nikita Navolokin[4] and Valery Tuchin[1,2,5] *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	**Monte Carlo Simulation as the Reference Approximation on the Way to Exact Analytical Solution of the Light Scattering Problem** Dmitry Rogatkin[1] and Andrey Tarasov[1,2] *1. Moscow Regional Research and Clinical Institute "MONIKI" named after M.F. Vladimirsky, Russia* *2. LLC "Medical optical diagnostic systems", Russia*

S3 POSTER EXHIBITION — SESSION 3: Image-guided therapy, Lasers & PDT for treatment and diagnosis

Session 3 - posters	
S3.P1	**Fluorescent diagnosis and Photodynamic therapy cholangiocarcinoma complicated by obstructive jaundice.** Artem Shiryaev[1], Kanamat Efendiev[2], Gleb Zhemerikin[1], Dmitry Yakovlev[3], Dina Farrakhova[4], Maxim Loschenov[4], Alexandr Borodkin[4], Polina Alekseeva[2,4], Vladimir Makarov[4], Liana Amirkhanova[1], Dmitry Kornev[1], Igor Reshetov[1] and Victor Loschenov[2,4] *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	**Model Cholangiocarcinoma Optical Properties after Laser Plasmon Phototermal Treatment with Gold Nanorods** Vadim Genin[1,2], Alla Bucharskaya[3], Elina Genina[1,2], Georgy Terentyuk[4], Nikolay Khlebtsov[1,5], Valery Tuchin[1,2,6] and Alexey Bashkatov[1,2] *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	**Laser-induced fluorescence diagnostics of grain pathogenic microflora** Ekaterina Akhlyustina[1], Anastasia Ryabova[1,2], Daria Pominova[1,2], Pavel Grachev[2], Vladimir Makarov[2] and Bakhyt Kartabaeva[3] *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	**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 Minkin[5], Peter Karazaprianov[5], Ivan Angelov[6], Vanya Mantareva[6], Tsanislava Genova[1], Alexander Gisbrecht[1] and Oxana Semyachkina-Glushkovskaya[2] *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	**Technology for express hair diagnostics based on femtosecond laser spectral analysis** Yulia Tolstonogova[1], Sergey Golik[2] and Alexander Major[1] *1. Institute of Automation and Control Processes, Russia* *2. School of Natural Sciences, Far Eastern Federal University, Russia*
S3.P6	**Video and Spectral Fluorescence Diagnosis of Stomach Diseases with 5-ALA** Maxim Loshchenov[1], Vladimir Levkin[2], Nina Kalyagina[2,3], Sergey Kharnas[2] and Kirill Linkov[1] *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*

S4 POSTER EXHIBITION — SESSION 4: Optical Microscopy & Laser-cell-tissue interactions

Session 4 - posters	
S4.P1	**Novel illumination concepts: Additive Manufacturing for live cell optical microscopy** Verena Richter, Sangeetha Suresh Nair, Herbert Schneckenburger and Andreas Heinrich *Aalen University, Germany*
S4.P2	**Dependence of RBC Aggregation Properties on the Cells Age: *in vitro* Measurements with Laser Tweezers** Petr Ermolinskiy[1], François Yaya[2,3], Andrei Lugovtsov[1,4], Kisung Lee[5], Alexander Priezzhev[1,4] and Christian Wagner[2,6] *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*
S4.P3	**Interdependence of Erythrocyte Deformability and Aggregability: Study Using Optical Techniques** Anastasia Maslyanitsina[1], Peter Ermolinsky[1], Andrei Lugovtsov[1,2] and Alexander Priezzhev[1,2] *1. Faculty of Physics, Lomonosov Moscow State University, Russia* *2. International Laser Centre, Lomonosov Moscow State University, Russia*
S4.P4	**Cell as a biosensor: real-time analysis of the interphase chromatin using densitometric segmentation technology** Irina Vasilenko[1,2], Nina Shikhina[1], Vladislav Metelin[1,2], Kardashova Ziver[2] and Elena Rusanova[2] *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*
S4.P5	**Possibilities of coherent super-resolving interference microscopy in the assessment of platelet hemostasis disorders** Irina Vasilenko[1,2], Vladislav Meteliin[1,2], Pavel Ignatiev[3], Nina Shikhina[1] and Elena Shestero[2] *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. Yalamov", Russian Federation*

S4.P6	**Luminescence lifetime imaging to get new insights in cell metabolism and oxygen sensing** Sviatlana Kalinina[1], Bjoern Von Einem[2], Lothar Lilge[3] and Angelika Rück[1] *1. Core Facility Confocal and Multiphoton Microscopy, University of Ulm, Germany* *2. Institute of Neurology, University of Ulm, Germany* *3. University of Toronto, Canada*
S4.P7	**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] *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*
S4.P8	**CARS as a method for the detection of toxic pollutants: the case of phthalates on Danio renio's larva** Dominique Dumas[1,2], Eric Battaglia[3], Segbegnon R. Yedji[3], Carole Cossu-Leguille[3], Alexandre Specht[4] and Lucrèce Ebersold[1,2] *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.*
S4.P9	**Optical control of calcium dynamics in single floating platelets using photolabile compounds.** Darya V. Spiryova[1], Alexei Yu. Vorob'ev[1,2] and Alexander E. Moskalensky[1,3] *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;*
S4.P10	**Nanoscale Optical Analysis by using Scattering Near Field Optical Microscopy** George A. Stanciu, Denis E. Tranca, Stefan G. Stanciu, Radu Hristu *Center for Microscopy-Microanalysis and Information Processing, University Politehnica of Bucharest, Bucharest, Romania*

S5 POSTER EXHIBITION — SESSION 5: Multimodal and Multispectral approaches

Session 5 - posters	
S5.P1	**Compact device for time resolved spectroscopy measurements** Vanesa Lukinsone1, Anna Maslobojeva1, Maris Kuzminskis1, Mindaugas Tamošiūnas1, Uldis Rubins1, Ilona Kuzmina1and Janis Spigulis1. *1. Biophotonics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Raina Blvd19, Riga, LV-1050, Latvia*
S5.P2	**Field integral hyperspectral snapshot imaging for in-vivo diagnostics** Tomasz Tkaczyk[1,2] *1. Department of Bioengineering, Rice University, USA* *2. Department of Electrical and Computer Engineering, Rice University, USA*

S6 POSTER EXHIBITION — SESSION 6: Nano-biophotonics for cancer

Session 6 - posters	
S6.P1	**Effect of titanium dioxide nanoparticles on human red blood cells microrheologic properties: in vitro studies by laser techniques** Anton Neznanov[1], Irina Kadanova[1], Andrei Lugovtsov[1,2] and Alexander Priezzhev[1,2] *1. Faculty of Physics, Lomonosov Moscow State University, Russia* *2. International Laser Centre, Lomonosov Moscow State University, Russia*
S6.P2	**Effects Of Upconversion Particles On Human Kidney Carcinoma Cells A498** Yanina[1,2], Navolokin[3], Polukonova[3], Mylnikov[3], Kochubey[1,2] and Tuchin[1,2,4] *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*

S7 POSTER EXHIBITION — SESSION 7: OCT, Elastography, Photoacoustic, Polarization Imaging

Session 7 - posters	
S7.P1	**Evaluation of mechanical properties of blood vessel walls using histograms of pixel intensity distribution** Sergej Frolov, Anton Potlov, Vitaly Chereshnev, Irina Rodionova and Sergey Proskurin *Biomedical Engineering, Tambov State Technical University, Russia*
S7.P2	**Evaluation of Calcified Mitral Valves After Er,Cr:YSGG Irradiation Using Optical Coherence Tomography** Matheus Del-Valle[1], Marcelo Carvalho[2], Moises Santos[1,3], Nathali Pinto[2], Fabio Jatene[2], Pablo Pomerantzeff[2], Carlos Brandão[2] and Denise Zezell[1] *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*
S7.P3	**Microstructure and blood supply in intestinal ischemia according to OCT: can an advanced technology increase the accuracy of intraoperative diagnosis?** Elena Kiseleva[1], Maxim Ryabkov[2,3], Mikhail Baleev[3], Evgenia Bederina[2], Marina Sirotkina[1], Elena Zagaynova[1] and Natalia Gladkova[1] *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*
S7.P4	**Design of an optical coherence tomography system for ultra-wide field retinal imaging** Jun Zhang *School of Electronics and Information Technology, Sun Yat-Sen University, China*
S7.P5	**Imaging murine fetal brain vasculature changes due to teratogens using in utero optical coherence tomography** Raksha Raghunathan[1], Chih-Hao Liu[1], Amur Kouka[1], Yogeshwari Ambekar[1], Connie Yan[1], Noemi Bustamante[1], Manmohan Singh[1], Rajesh C. Miranda[2] and Kirill V. Larin[1,3] *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*

S7.P6	**Line-field confocal optical coherence tomography using an immersion Mirau interferometer** Weikai Xue[1], Olivier Levecq[2], Jonas Ogien[2] and Arnaud Dubois[1] *1. Paris-Saclay University, Institut d'Optique Graduate school, CNRS, Charles Fabry Laboratory, France* *2. DAMAE Medical, France*

S8 POSTER EXHIBITION — SESSION 8: Microwave and terahertz applications in biology and medicine

Session 8 - posters	
S8.P1	**Refractive Properties of Blood Serum of Rats with Experimental Liver Cancer** Ekaterina N. Lazareva[1,2], Polina A. Dyachenko[1,2], Maxim M. Nazarov[3], Alla B. Bucharskaya[4], Valery V.Tuchin[1,2,5,6]and Alexander P. Shkurinov[7,8] *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*
S8.P2	**Laser Raman spectroscopy of enzymatic reactions** Nikolay Brandt[1], Andrey Chikishev[2], Anna Mankova[1] and Irina Shpachenko[1] *1. Physics Department, Lomonosov Moscow State University, Russia* *2. International Laser Center, Lomonosov Moscow State University, Russia*
S8.P3	**Impact of the bound water on the THz response of Blood Serum of Rats with Experimental Liver Cancer** Maria Konnikova[1], Maxim Nazarov[2], Olga Cherkasova[3,4], Ekaterina Lazareva[4,5], Polina Dyachenko[4,5], Alla Bucharskaya[6], Valery Tuchin[4,5,7] and Alexander Shkurinov[1,8] *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*

S9 POSTER EXHIBITION — SESSION 9: Microcirculation imaging, Laser Speckle Contrast Imaging

Session 9 - posters	
S9.P1	**On Measurements with Laser Speckle Imaging** D. Narcis Trinca[1] and Eduard Libin[2] *1. Institute of Measurement Science, Slovak Academy of Sciences, Slovakia* *2. Tomsk State University, Tomsk, Russian Federation*

S10 POSTER EXHIBITION — SESSION 10: Machine Learning, Bioinformatics, Image and signal

Session 10 - posters	
S10.P1	**Cellular health detection using Machine Learning and hyperspectral NIR** Ben Mellors[1], Abigail Spear[2], Christopher Howle And Hamid Dehghani[3] *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*

S11 POSTER EXHIBITION — SESSION 11: Clinical transfer applied to Cancer Treatment and Diagnosis

Session 11 - posters	
S11.P1	**Monitoring direct VIS-NIR spectral changes in human tissue induced by radiation during cancer therapy** Teemu Myllylä[1, 2], Priya Karthikeyan[1], Ville Hassinen[1], Ulriika Honka[1], Lukasz Surazynski[1], Sakari Karhula[1], Vesa Korhonen[1] and Juha Nikkinen[1] *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*
S11.P2	**Outcome of Unilateral Retinoblastoma: A 10-Years Experience of Children's Cancer Hospital Egypt (CCHE 57357)** Ahmed Elhussein[1], Hossam El-Zomor[1], Adel Alieldin[2], Abdullah Elhusseiny[2], Hala Taha[3] and Amal Refaat[4]. *1. Pediatric Oncology Department, Children's Cancer Hospital Egypt (CCHE 57357), Egypt.* *2. Ophthalmology Department, Children's Cancer Hospital Egypt (CCHE 57357), Egypt.* *3. Pathology Department, Children's Cancer Hospital Egypt (CCHE 57357), Egypt.* *4. Diagnostric Radiology Department, Children's Cancer Hospital Egypt (CCHE 57357), Egypt.*

S12 POSTER EXHIBITION — SESSION 12: Biophotonics devices for personalized diagnostics and wearables

Session 12 - posters	
S12.P1	**Coherent fluctuation nephelometry in clinical microbiology** Alexander Gur'ev[1,2], Victoria Schelkova[2], Elena Rusanova[2], Irina Vasilenko[2, 3] and Alexey Volkov[1] *1. Medtechnopark Ltd, Russian Federation* *2. Scientific-reserch 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*
S12.P2	**Observation of calcium metabolism in Jurkat cells using photolabile analogs of arachidonic acid** Daria Chernova[1], Sergei Sokolovski[2], Alexey Vorob'ev[1] And Alexander Moskalensky[1] *1. Laboratory of Optics and Dynamics of Biological Systems, Novosibirsk State University, Russian Federation* *2. Optoelectronics and Biomedical Photonics Group, Aston University, United Kingdom*