

S C I E N T I F I C P R O G R A M

Sun, Sept 24	Mon, Sept 25	Tue, Sept 26	Wed, Sept 27	Thu, Sept 28	Fri, Sept 29
16:00 Registration	8:30 Welcome address (<i>Tadeusz Sarna</i>) and announcements	8:30 Announcements	8:30 Announcements	8:30 Announcements	Excursion (optional)
18:00 Opening ceremony and Welcome reception	Session 1 ADVANCES IN MAGNETIC RESONANCE TECHNIQUES (Chair: <i>Larry Berliner</i>)	Session 3 BIOPHYSICAL PHOTO-TECHNIQUES (Chair: <i>Karol Subczynski</i>)	Session 5 LATERAL ORGANIZATION AND DYNAMICS OF BIOLOGICAL MEMBRANES (Chair: <i>Bojan Zagrovic</i>)	Session 7 MOLECULAR SIMULATIONS AND MATHEMATICAL MODELING (Chair: <i>Marija Raguz</i>)	
	8:40 High frequency structure simulator (HFSS) modeling of resonators for aqueous biological samples (<i>James Hyde</i>)	8:35 Single-molecule tracking detection of very transient signaling molecular complexes (<i>Akihiro Kusumi</i>)	8:35 Site-directed spin labeling studies of protein-membrane interactions: Activation of the bacterial phospholipase, ExoU (<i>Jimmy Feix</i>)	8:35 Genome-wide association analysis approach in identifying loci for complex diseases, an example for Hashimoto's thyroiditis (<i>Vesna Boraska Perica</i>)	
	9:10 Multi-frequency resonator development for studying volume-limited metallo-proteins (<i>Jason Sidabras</i>)	9:05 Phototriggered chemistry for nanostructuring and artificial enzyme design (<i>Liljana Fruk</i>)	9:05 Saturation recovery EPR of nitroxide spin labels for exploring organization and dynamics of biological membranes (<i>W. Karol Subczynski</i>)	9:05 An inverted hexagonal phase of monogalactolipid (MGDG) assembly: A molecular dynamics study (<i>Marta Pasenkiewicz-Gierula</i>)	
	9:40 Transporter conformational dynamics from spin labeling EPR spectroscopy (<i>Hassane Mchaourab</i>)	10:05 EPR applications to study photosynthesis (<i>Alexander Tikhonov</i>)	9:35 Nanodiscs as a model of biological membranes (<i>Anna Wisniewska-Becker</i>)	9:35 Genetic code as a key for understanding RNA-protein interactions (<i>Bojan Zagrovic</i>)	
	10:10 Break	10:35 Break	10:05 Break		
	Special presentation	Special presentations	Special presentation	Special presentation	
	10:40 Applications of Mössbauer spectroscopy in biomedical research (<i>Michael Oshtrakh</i>)	11:05 The effect of aging on photoreactivity and phototoxicity of human RPE melanosomes (<i>Magdalena Olchawa</i>)	10:35 MicroScale thermophoresis and NANODSF as advanced methods in bioanalytical research (<i>Jakub Nowak</i>)	10:05 New lipid force fields to include anisotropic membrane characters (<i>Hideaki Fujitani</i>)	
	11:00 Discussion (Chair: <i>Tadeusz Sarna</i>)	11:25 The role of singlet oxygen in photodegradation of melanin (<i>Andrzej Zadla</i>)	Selected short oral presentation (Chair: <i>Vesna Boraska Perica</i>)	10:25 Break	
	11:10 Group photo	Selected short oral presentations (Chair: <i>Jason Sidabras</i>)	10:55 The structure of lipid bilayer within nanodiscs (<i>Piotr Stepień</i>)	Selected short oral presentations (Chair: <i>Anna Wisniewska-Becker</i>)	
	11:40 Lunch	11:45 Photogeneration of ¹ O ₂ by synthetic pheomelanins increases with its controlled photobleaching (<i>Grzegorz Szewczyk</i>)	11:10 Discussion	10:55 Molecular dynamic simulations of antimicrobial peptide Maculatin 1.1 with various phospholipid bilayers (<i>Yogesh Sonavane</i>)	
	Session 2 IMAGING BIOMARKERS IN LIVING SYSTEMS (Chair: <i>Ivor Benjamin</i>)	12:00 Discussion	11:20 Lunch	11:10 Genome-wide association analysis of thyroid volume and thyroid antibodies in Hashimoto's thyroiditis (<i>Luka Brcic</i>)	
	12:40 Exosomes as biomarkers in stem cell biology (<i>Zeljko Bosnjak</i>)	12:10 Lunch	Session 6 LIPID AND PROTEIN MODIFICATIONS: IMPLICATIONS IN DISEASES (Chair: <i>Periannan Kuppusamy</i>)	11:35 Genome-wide meta-analysis of thyroid hormone T4 serum levels (<i>Ivana Gunjaca</i>)	
	13:10 Metabolic MRI with ¹³ C-labeled endogenous substrates hyperpolarized with dynamic nuclear polarization: Preclinical and clinical applications in cancer imaging (<i>Murali Krishna Cherukuri</i>)	Session 4 REDOX BIOENERGETICS AND METABOLISM IN DISEASES (Chair: <i>Murali Krishna Cherukuri</i>)	12:20 Oxidation of disulfide bonds and its consequences (<i>Michael Davies</i>)	11:55 Discussion	
	13:40 Noninvasive EPR oximetry in human subjects (<i>Periannan Kuppusamy</i>)	13:10 The flip side of oxidative stress: The reductive stress world (<i>Ivor Benjamin</i>)	12:50 Lipid and protein modifications as biomarkers of oxidative stress: Implication in diseases (<i>Maria Kadiiska</i>)	12:05 Lunch	
	14:10 Break	13:40 Metabolic regulation of phagocyte NADPH oxidase activity (<i>Jeanette Vasquez-Vivar</i>)	13:20 HNE signaling, physiological or pathological? (<i>Henry Forman</i>)	Session 8 FREE RADICAL DETECTION IN VIVO AND IN VITRO (Chair: <i>Maria Kadiiska</i>)	
	Special presentations	14:10 Targeting OXPHOS, redox, and energy metabolism for cancer treatment: Mitochondria-targeted drugs (<i>Balaraman Kalyanaraman</i>)	Special presentation	13:05 Basic principles and recent advances in probes and assays for cellular oxidants (<i>Jacek Zielonka</i>)	
	14:40 Cell elasticity is an important biomarker of melanoma behavior (<i>Michal Sarna</i>)	Special presentations	13:50 Mechanisms of action of dietary antioxidants: A case of wine (<i>Mladen Boban</i>)	13:35 Spin traps and fluorescence probes for superoxide detection (<i>Micael Hardy</i>)	
	15:00 Normative model for central augmentation index—A way to identify people at risk for cardiovascular disease? (<i>Ana Jeroncic</i>)	14:40 Chemistry and biology of oxidative protein damage in aging and age-related diseases (<i>Miroslav Radman</i>)	14:10 Biophysics approaches to study molecular mechanisms of Alzheimer's disease: Toward prevention and cure (<i>Zoya Leonenko</i>)	14:05 Nitroxyl (HNO)—Chemistry, biology, and detection of the most elusive reactive nitrogen species (<i>Adam Sikora</i>)	
	15:20 Expression pattern of SATB1 and PTEN in the kidneys of diabetic rats during aging (<i>Katarina Vukojevic</i>)	15:00 Break	14:30 Break	14:35 Discussion	
	Selected short oral presentations (Chair: <i>Jeanette Vasquez-Vivar</i>)	15:30 Semiquinone free radicals of ubiquinone and plastoquinone—Electron carriers, prooxidants, and antioxidants (<i>Enno Ruuge</i>)	Selected short oral presentations (Chair: <i>Micael Hardy</i>)	14:45 Closing remarks (<i>Lawrence Berliner</i>)	
	15:40 Transgenic overexpression of GCH 1 improves sarcoplasmic reticulum Ca ²⁺ release in post-infarction remodeled myocardium (<i>Zhi-Dong Ge</i>)	15:50 Targeting triple-negative breast cancer metabolism and bioenergetics by mitochondria-targeted SG-1 nitroxide (Mito-SG1): Effects beyond mitochondria (<i>Marcos Lopez</i>)	15:00 VEGF and diabetes—Do we really know everything? (<i>Natalija Filipovic</i>)	14:55 Announcements	
	15:55 Discussion	Selected short oral presentations (Chair: <i>Jacek Zielonka</i>)	15:15 Monocyte CD44 receptor that interacts with extracellular matrix is upregulated following myocardial infarction in rats drinking white wine (<i>Nikolina Rezić-Muzinic</i>)	15:00 Closing reception	
	16:05 Round table meeting	16:10 Impact of metastatic potential enhancement on tumor redox state and vasculature (<i>Agnieszka Drzal</i>)	15:30 GM3 and CD15s highly expressing breast cancer stem cells are sensitive to novel thieno[2,3-b]pyridine anticancer compound treatment (<i>Angela Mastelic</i>)	Adjourn	
	16:50 Round table summary	16:25 Effects of disease-related mitochondrial mutations in cytochrome bc1 studied using advanced EPR and optical spectroscopy (<i>Patryk Kuleta</i>)	15:45 Discussion		
	17:05 Announcements	16:40 Reactive oxygen and nitrogen species: effect of antioxidants (<i>Arina Dudyliina</i>)	15:55 Announcements		
	17:10 Adjourn	16:55 Discussion	16:00 Poster presentations for Sessions 1-8		
		17:05 Announcements	17:00 Adjourn		
		17:10 Adjourn	19:00 Sightseeing (optional)		
		19:00 Cocktails and gala dinner (<i>Location: Vila Dalmacija</i>)			