Galway, Ireland

**2 0 2 5** June 03 - 06

hosted by the Society for Free Radical Research - Europe



Day 1		
Tuesday, 3 <sup>rd</sup> June		
07:30	Registration	
09:00-09:30	Welcome (BAH)	
09:30-10:00	SFRR-I Trevor Slater Award Lecture 1 (BAH): Chairs: Hozumi Motohashi (Tohoku University, Japan), Nina Dickerhof (University of Otago, New Zeland) Giovanni E. Mann, King's College London, UK Redox and nitric oxide signaling under physiological oxygen levels	
10:00-10:30	SFRR-I Trevor Slater Award Lecture 2 (BAH): Chairs: Chang Chen (Chinese Academy of Sciences, China), Juan Sastre (University of Valencia, Spain) Michael J. Davies, University of Copenhagen, Denmark	
10:30-11:00	Coffee, poster viewing, exhibition (BAH, HBB)	
11:00-12:30	Symposium 1 (BAH): In vivo redox biochemistry across the span of life Chairs: Thomas M. Michel, Harvard University, USA Sharon Glynn, University of Galway, Ireland Speakers: Helmut Sies, Heinrich-Heine University, Düsseldorf, Germany Essential lifelong redox reactions: from fertilization to cell death Fotios Spyropoulos, Harvard University, USA In utero oxidative Stress: Uncovering links to cardiomyocyte reprogramming and heart failure of prematurity Marc Fransen, KU Leuven, Belgium Peroxisome dysfunction and hydrogen peroxide signaling in age-related pathologies	Symposium 2 (HBB): Role of redox regulation in neural differentiation Chairs: Christian Gonzalez-Billault, University of Chile, Chile Carsten Berndt, Heinrich-Heine University, Düsseldorf, Germany Speakers: Shahad Albadri, INSERM, France Redox signaling in retinal progenitor cell differentiation Carsten Berndt Heinrich-Heine University, Düsseldorf, Germany Glutaredoxin-mediated differentiation of neural stem/progenitor cells Christian Gonzalez-Billault, University of Chile, Chile NADPH functions in neural cells: lessons from neurons and microglia
12:30-13:00	SFRR-E Annual Award Lecture (BAH):         Chairs: Michael Davies (University of Copenhagen, Denmark), Aphrodite Vasilaki (University of Liverpool, UK)         Daniela Caporossi, University of Rome "Foro Italico", Italy         Reactive oxygen species in exercise biology: from adaptive response to cell signalling and beyond	
13:00-14:30	Lunch, poster viewing, exhibition (BAH, HBB)	
14:30-15:00	<b>SFRR-I Lester Packer Award Lecture</b> (BAH): Chairs: Cesar Fraga (University of California, Davis, USA), Enrique Cadenas (University of Southern California, USA) <u>Giuseppe Poli</u> , University of Torino, Italy	
15:00-16:30	Selected Oral Presentations 1 (BAH)	Selected Oral Presentations 2 (HBB)

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The New Era of Redox Biology: from Basic Biochemistry to Redox Omics

16:30-18:30Guided Poster Presentations with coffee18:30-19:30ECR Networking19:30-20:30Meet the Professors20:30-23:00Welcome Reception with music and drinks

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Day 2 <b>Wednesday, 4<sup>th</sup> June</b>		
08:00-09:00	• ·	
08.00-09.00	Sunrise Seminar (BAH): Careers beyond Gender	
	Chairs:	
	Lin L. Mantell, St. John's University College of Phar	macy New York LISA
	Kasia Goljanek-Whysall, University of Galway, Irela	•
	Panel members:	
	Panel members: Prof. Patricia Otezia (SFFR-I)	
	Prof. Daniella Caporossi (SFRR Europe)	
	Prof. Chang Chen (SFRR Asia)	
	Prof. Carola Neumann (SfRBM)	
	Dr. Angela Mastaloudis (Women in Nutraceuticals)	
09:00-10:30	Symposium 3 (BAH):	Symposium 4 (HBB):
	Redox regulation in inflammation and immune	Zinc outside the box: new insights into
	response	function and measurement
	Chairs:	Chairs:
	Young-Joon Surh, Seoul National University,	Sarah Chapple, King's College London, UK
	South Korea	Fan Yang, King's College London, UK
	Giuseppe Valacchi, University of Ferrara, Italy	<u>Speakers:</u>
	Speakers:	Zhelong Xu, Tianjin Medical University,
	Helen R. Griffiths, Swansea University, UK	China
	Solving the redox riddle in resolving inflammation	Roles of zinc transporters in cardiac
	Young-Joon Surh, Seoul National University,	pathophysiology
	South Korea	Patricia Oteiza, University of California,
	Role of NRF2 in resolution of inflammation	Davis, USA
	Hong Wang, Center for Metabolic Disease	Zinc, redox signalling and early
	Research, Lewis Katz School of Medicine, USA	development
	Metabolic reprogramming and redox regulation	George Firth, King's College London, UK
	in monocytes differentiation and metabolic	Whole-body imaging of zinc and other
	disorders	essential micronutrients with positron
		emission tomography
10:30-11:00	Coffee, poster viewing, exhibition (BAH, HBB)	
11:00-12:30	Symposium 5 (BAH):	Symposium 6 (HBB):
	The key role of metabolism in fibrosis,	Updates in plant redox biology
	inflammation and repair	Chairs:
	Chairs:	José Manuel Ugalde, University of Bonn,
	Isabel Fabregat, Bellvitge Biomedical Research	Germany
	Institute (IDIBELL), Spain <u>Santiago Lamas</u> , Centro de Biología Molecular	Sophie Hendrix, Hasselt University,
	Severo Ochoa, Spain	Belgium Speakers:
	Severo Ochoa, Spain	<u>spearers.</u>

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	Speakers:Natalie Torok, Stanford University, USAMatrix properties and redox regulation in liver cancerSantiago Lamas, Centro de Biología MolecularSevero Ochoa, SpainThe role of fatty acid oxidation in kidney and liver fibrosisHelena Cocheme, MRC Laboratory of Medical Sciences, UKRedox signalling in the regulation of metabolism and ageing	Oscar Lorenzo, University of Salamanca, Spain Sensing the gastrotransmitter nitric oxide (NO) at the initial step of the N-degron pathway in plants Thomaz Stumpf Trenz, Federal University of Rio Grande, Brazil Glutathione Peroxidases as Redox Sensors in Plants Avilien Dard, University of Ghent, Belgium Surfing the ROS wave: HDA6's journey through heat stress adaptation, from chromatin to cytosolic stress granules. Unveiling redox-regulation of protein phase
		separation
12:30-13:00	SFRR-E Basic Science Award Lecture (BAH): Chairs: Daniela Caporossi (University of Rome "Foro Italico", Italy), Giovanni Mann (King's College London, UK) Juan Sastre, University of Valencia, Spain Redox signaling in inflammation	
13:00-14:30	Redox signaling in inflammation         Lunch, poster viewing, exhibition (BAH, HBB)         Lunch-time seminar sponsored by the University of Galway Institute of Clinical Trials (BAH):         From bench to bedside: translational research and clinical trials in redox research.         Speakers:         Motohiro Nishida, Kyushu University, Japan: Supersulfide metabolism in cardiac stress resistance         Judy de Haan, Baker Heart and Diabetes Institute, Australia: Targeting the inflammatory         Gasdermin-D pore improves cardiac ischemia reperfusion injury in mice         Sharon Glynn, University of Galway, Ireland: Inducible nitric oxide synthase (iNOS) modulates tumour progression and immune responses leading to poor patient outcome in hormone receptor negative breast cancer         Andrew Smyth, University of Galway, Ireland: Stroke Prevention: Findings from the INTERSTROKE Study         OLLSCOIL NA GAILLIMHE UNIVERSITY OF GALWAY	
14:30-15:00	<b>SFRR-I Alberto Boveris Award Lecture</b> (BAH): Chair: Patricia Oteiza (University of California, Davis, USA), Giuseppe Valacchi (University of Ferrara, Italy) Enrique Cadenas, University of Southern California, USA	
15:00-17:00	Selected Oral Presentations 3 (BAH)	Selected Oral Presentations 4 (HBB)
17:00-17:30	Flash talks 1 (BAH)	Flash talks 2 (HBB)
17:30-19:00	Guided Poster Presentations with coffee	
19:00-20:00	General Assembly SFRR-E (BAH)	
13.00-20.00		

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The New Era of Redox Biology: from Basic Biochemistry to Redox Omics

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	Day 3 <b>Thursday, 5<sup>th</sup> Jun</b> e	e
08:00-09:00	Sunrise Seminar (BAH): Workshop for authors Chairs: TBA Speaker: Anthony Newman, Elsevier	-
09:00-10:30	Symposium 7 (BAH):         Oxidases and peroxidase enzymes in health         and disease         Chairs:         Michael J. Davies, University of Copenhagen,         Denmark         Clare Hawkins, University of Copenhagen,         Denmark         Speakers:         Clare Hawkins, University of Copenhagen,         Denmark         Speakers:         Clare Hawkins, University of Copenhagen,         Denmark         Speakers:         Clare Hawkins, University of Copenhagen,         Denmark         Role of myeloperoxidase, neutrophil         extracellular traps (NETs), and modified         histones in cellular dysfunction         Albert van der Vliet, University of Vermont,         USA         Oxidative mechanisms in fibrotic disease: from         NADPH oxidases to peroxidasin (PXDN)         Nina Dickerhof, University of Otago,         Christchurch, New Zealand         Targeting hypothiocyanous acid defence         mechanisms in bacteria	Symposium 8 (HBB): Hypoxia research: where to now? Chairs: Cormac Taylor, University College Dublin, Ireland Brian Ortmann, Newcastle University, UK Speakers: Sonia Rocha, University of Liverpool, UK Oxygen sensing and chromatin biology Sean Colgan, University of Colorado, USA Hypoxia and Inflammation Brian Ortmann, Newcastle University, UK Defining the role of methylation in the cellular response to hypoxia
<u>10:30-11:00</u> 11:00-12:30	Coffee, poster viewing, exhibition (BAH, HBB)Symposium 9 (BAH):Supersulfides in stress responses and adaptationChairs:Motohiro Nishida, Kyushu University, JapanPhilip Eaton, Queen Mary University of London, UKSpeakers:Hozumi Motohashi, Tohoku University Graduate School of Medicine, Japan Environmental stress response and sulfur metabolismUladzimir Barayeu, Max-Planck-Institut for Polymer Research, Germany	Symposium 10 (HBB):         Protein aggregation in aging and related         diseases         Chairs:         Tilman Grune, German Institute of Human         Nutrition Potsdam-Rehbruecke, Germany         Tim Baldensperger, University of Vienna,         Austria         Speakers:         Niki Chondrogianni, National Hellenic         Research Foundation, Greece         Proteasome activation against protein         aggregation in ageing and Alzheimer's disease         Alan Butterfield, University of Kentucky, USA         Small oligomeric aggregates of amyloid beta-peptide and brain oxidative damage:

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	Evolutionarily conserved octasulfur mediates supersulfide signalling and metabolism in mammalian cellsIntersection of the lipid peroxidation product HNE, glucose dysmetabolism and Alzheimer diseaseMelanie Madhani, University of Birmingham, UK Redox regulation of hydropersulfides from bench-to-bedsideIntersection of the lipid peroxidation product HNE, glucose dysmetabolism and Alzheimer diseaseMelanie Madhani, University of Birmingham, UK Redox regulation of hydropersulfides from bench-to-bedsideTim Baldensperger Posttranslational modifications on protein aggregation	
12:30-13:00	SFRR-E Leopold Flohé Award Lecture (BAH):         Chairs: Niki Chandrogianni, National Hellenic Research Foundation, Greece), Malcolm Jackson         (University of Liverpool, UK)         Aphrodite Vasilaki, University of Liverpool, UK         Physiological and structural changes in skeletal muscle and nerve-muscle interactions: the         effects of ageing and nutrition	
13:00-14:30	Lunch, poster viewing, exhibition (BAH, HBB) Lunchtime Research Workshop (HBB): <u>Michael Murphy</u> (University of Cambridge, UK) 'The role of oxygen concentration in ischemia-reperfusion injury in vivo and in vitro" and Roundtable Discussion 'Importance of physiological oxygen levels for redox signaling and high throughput screening in live cells'	
	Baker BMG LABTECH	
14:30-16:30	Selected Oral Presentations 5 (BAH) Selected Oral Presentations 6 (HBB)	
16:30-17:00	Coffee, poster viewing, exhibition (BAH, HBB)	
17:00-18:30	Young Investigator Award Presentations (BAH)	
18:30-19:30	General Assembly SFRR-I (BAH)	

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Day 4 <b>Friday, 6<sup>th</sup> June</b>		
08:00-09:00	ECR Sunrise Seminar (BAH): Al in Scientific Research and Publishing—Revolution Presented by ECR committee members with special Chairs: Paraskevi Kritsiligkou, University of Liverpool, UK, Vanesa Cepas López, University of Turin, Italy	
09:00-10:30	Symposium 11 (BAH): Exploring interfaces: Redox balance and neuroinflammation through the glial lens Chairs: João Bettencourt Relvas, University of Porto, Portugal João Laranjinha, University of Coimbra, Portugal Speakers: Juan Bolaños, University of Salamanca, Spain Astrocytic metabolism: energy or signaling? João Bettencourt Relvas, University of Porto, Portugal Cytoskeleton regulation of glial function: implications for neuroinflammation and neurological disease Amita Sehgal, University of Pennsylvania, USA A neuron–glia lipid metabolic cycle couples daily sleep to mitochondrial homeostasis	Symposium 12 (HBB): Redox modification of nucleic acids Chairs: Kasia Goljanek-Whysall, University of Galway, Ireland Brian McDonagh, University of Galway, Ireland Speakers: Ken O'Halloran, University College Cork, Ireland Intermittent hypoxia-induced respiratory muscle dysfunction is NADPH oxidase dependent Esther Dupont-Versteegden, University of Kentucky, USA RNA oxidation in muscle ageing and inactivity Maria Borja Gonzalez, University of Galway, Ireland The role of miRs and oxidised miRs in cancer cachexia
10:30-11:00	Coffee, poster viewing, exhibition (BAH, HBB)	
11:00-11:30 11:30-12:00	SFRR-E Catherine Pasquier Award Lecture (BAH):         Chairs: Clare Hawkins (University of Copenhagen, Denmark), Joao Laranjinha (University of Coimbra, Portugal)         Paraskevi Kritsiligkou, University of Liverpool, UK         Utilising tethered biosensors to uncover intracellular redox heterogeneity         SFRR-I Joanna and Kelvin J.A. Davies Rising Star Award Lecture (BAH):	
	Chairs: Joanna and Kelvin Davies (University of Southern California, USA) Carlos Henríquez-Olguín (University of Copenhagen, Denmark)	
12:00-13:00	SFRR-E ECR Fellowship Presentation (BAH)	
13:00-14:00	Discussion on current topics in redox biology and fu	uture directions/year in review (BAH)
14:00-14:30	Closing Ceremony (BAH)	
14:00-19:00	BenBedPhar Management Committee meeting: Session 1 and 2 (for COST members only, HBB)	
14:30-15:00	Poster Removal, Departure	
15:00-19:00	Organised trip: Excursion	

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The New Era of Redox Biology: from Basic Biochemistry to Redox Omics

Day 5 Saturday, 7<sup>th</sup> June 09:00-10:30 **BenBedPhar Session 3 (HBB LLT)** HNE Club Session 1 (HBB SLT): Speakers: Speakers: Brigitte Buttari, Istituto Superiore di Sanità, Italy Eikan Mishima, Helmholtz Center Munich, Sex Differences in NRF2-Mediated Stress Response Germany Ferroptosis regulation by micronutrients: and Autophagy in MASLD and MASH Models: Implications for Therapeutic Strategies vitamin K and selenium Ian Copple, University of Liverpool, UK Advances and challenges translating the NRF2 Corinne Spickett, Aston University, UK science to the clinic The effects of reactive lipid oxidation Anna-Lisa Levonen, University of Eastern Finland, adducts on protein structure, activity and signalling Finland Biomarkers of NRF2 activation in non-small cel lung carcinoma Yimon Aye, Oxford University, UK Decoding precision HNE signalling activities in living systems 10:30-11:00 Coffee, poster viewing, exhibition (HBB) 10:30-11:00 **BenBedPhar Session 4 (HBB LLT)** HNE Club Session 2 (HBB SLT): Ana S Falcão, Universidade NOVA de Lisboa, Speakers: Blake of Portugal Т. Monroe, University Preclinical testing of dimethyl fumarate as a Minnesota-Twin Cities, USA repurposing therapeutic approach for early age-*Lipid-derived electrophiles induce* related macular degeneration carbonyl stress, mitochondrial Isabel Lastres-Becker, Universidad Autonoma dysfunction, and de Madrid, Spain cellular senescence Targeting Pyroptosis: Exploring the Role of Daniela Costa, Cardiff University, UK Dimethyl Fumarate in TAU-Driven The role of oxPLs in coagulopathies Neuroinflammation and Neurodegeneration associated with systemic inflammation Gerasimos P. Sykiotis, University of Lausanne, Maria Fedorova, TU Dresden, Germany Switzerland Lipid (per)oxidation at the cross-road of Dissecting oxidation-dependent and oxidationindependent components of thyroid cell life and death autoregulation. **Open Discussion:** Antonio Cuadrado, Autonomous University of Redox biology at the interface between Madrid, Spain. lipids and proteins Targeting transcription factor NRF2 for brain protective therapy in Alzheimer's disease 13:00-14:30 Lunch, poster viewing, exhibition (HBB) 14:30-16:30 BenBedPhar Session 5 (HBB LLT) Erkan Tuncay, Ankara University, Turkey Mitochondrial Transplantation Activates Nrf2 to Restore Cardiac Function in Heart Failure Harry van Goor, University of Groningen, Netherlands

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	Thiosulfate as modulator of oxidative stress through NRF2 signaling <b>Anna Grochot-Przeczek</b> , Jagiellonian University, Poland Endothelial deletion of miRNA-34a blocks aortic aneurysm development in NRF2 KO mice – focus	
	on endothelial cell proliferation Noemi Mencarelli, University of Chieti-Pescara, Italy NRF2 modulation in macrophages as therapeutic	
10.00.47.00	strategy for tendon healing in tendinopathy	
16:30-17:00 17:00-19:00	Coffee, poster viewing, exhibition (HBB) BenBedPhar Session 6 (HBB LLT)	
	<ul> <li>Sharadha Dayalan Naidu, University of Dundee, United Kingdom</li> <li>Regulation of microRNAs by Nrf2 activation in fibrosis</li> <li>Ana I Rojo, Universidad Autónoma de Madrid, Spain</li> <li>NRF2 as a Therapeutic Target in ALS: Insights into RNA Metabolism and Redox Homeostasis</li> <li>Aleksandra Piechota-Polanczyk, Jagiellonian</li> <li>University, Poland</li> <li>Transcriptionally Inactive Nrf2 Causes Colon</li> <li>Dysfunction in Female Mice: The Role of Estrogens</li> <li>Angela M. Valverde, Sols-Morreale Biomedical</li> <li>Research Institute, Spain</li> <li>Uncovering interactions between the NRF2</li> <li>pathway and the plasticity of liver progenitor cells</li> </ul>	
19:00-19:10	in liver diseases Farewell	