



# 10th International Conference on the Biology, Chemistry and Therapeutic Applications of Nitric Oxide

Sunday 16 - Thursday 20 September 2018  
Oxford, UK

We look forward to seeing you there

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# PROGRAMME

## Sunday 16 September

16:00 – 18:00	REGISTRATION	Keble College
19:00 – 21:00	<b>WELCOME DRINKS RECEPTION</b>	Museum of Natural History
	19:15 – 19:20 <b>Welcome</b> Mark CRABTREE (UK) and Philip JAMES (UK)	
	19:20 – 19:25 <b>Introduction</b> Jack LANCASTER (USA)	
	19:25 – 20:05 <b>Welcome address and PLENARY 1</b> Louis IGNARRO (USA) NITRIC OXIDE: A Truly Remarkable Molecule	

## Monday 17 September


07:00 – 08:30	Residents Breakfast	Keble College Dining Hall
07:30 – 08:30	REGISTRATION	Maths Institute
08:30 – 09:20	LT1	
	Chair: Keith CHANNON (UK)	
	<b>PLENARY 2: Ferid MURAD (USA)</b> Discovery of nitric oxide and cyclic GMP in cell signalling and their role in drug development	
09:20 – 09:30	Transfer to parallel sessions	
09:30 – 10:45	LT1	LT2
	<b>Session 1: Translational sGC</b>	<b>Session 2: eNOS Physiology : regulation and signaling</b>
	Co-Chairs: Adrian HOBBS (UK) + John GARTHWAITE (UK)	Co-Chairs: Miriam CORTESE-KROTT (GERMANY) + Jay ZWEIER (USA)
	09:30 – 09:50 <b>Speaker 1</b> Peter SANDNER (GERMANY) The use of sGC stimulators beyond pulmonary hypertension: potential future applications for a unique pharmacological principle	09:30 – 09:50 <b>Speaker 4</b> Bill SESSA (USA)
	09:50 – 10:10 <b>Speaker 2</b> Todd MILNE (USA) Making a little NO go a long way: next-generation sGC stimulators	09:50 – 10:10 <b>Speaker 5</b> Brant ISAKSON (USA)
		10:10 – 10:30 <b>Speaker 6</b> Swapnil SONKUSARE (USA) Peroxynitrite inhibition of endothelial Caveolin-1-TRPV4 signaling in pulmonary hypertension

	<p>10:10 – 10:30 <b>Speaker 3</b> <i>Thorsten KESSLER</i> (GERMANY) Soluble guanylyl cyclase in coronary artery disease</p> <p>10:30 – 10:45 <b>Abstract 1</b> sGC STIMULATION AND PDE5 INHIBITION DECREASE SINUSOIDAL RESISTANCE AND REDUCE FIBROSIS IN RATS WITH BILIARY CIRRHOSIS <i>K.Brusilovskaya</i>, Medical University of Vienna, Vienna, (AUSTRIA)</p>	<p>10:30 – 10:45 <b>Abstract 2</b> PREVENTING ENOS PHOSPHORYLATION ON TYR657 ATTENUATES ENDOTHELIAL DYSFUNCTION AND CARDIOVASCULAR DISEASE THROUGH INHIBITION OF PYRUVATE KINASE M2 <i>M. Siragusa</i> Goethe University, Frankfurt am Main (GERMANY)</p>
10:45 – 11:15	Refreshments, exhibition, posters + networking	
11:15 – 12:45	<i>LT1</i>	<i>LT2</i>
	<b>Session 3: Clinical/Translational NO</b>	<b>Session 4: NOS Biochemistry - Structural and Functional Biochemistry</b>
	Co-Chairs: <i>Jon LUNDBERG</i> (SWEDEN) + <i>Bruce FREEMAN</i> (USA)	Co-Chairs: <i>Dennis STUEHR</i> (USA) + <i>Ingrid FLEMING</i> (GERMANY)
	<p>11:15 – 11:45 <b>Speaker 7</b> <i>Vikas Kapil</i> (UK)</p> <p>11:45 – 12:15 <b>Speaker 8</b> <i>Sruti SHIVA</i> (USA) Nitrite dependent regulation of mitochondrial function</p> <p>12:15 – 12:30 <b>Abstract 3</b> NITRIC OXIDE PROVIDES MYOCARDIAL PROTECTION WHEN ADDED TO THE CARDIOPULMONARY BYPASS CIRCUIT DURING CARDIAC SURGERY: RANDOMIZED CONTROLLED TRIAL <i>N. Kamenshchikov</i>, Research and Clinical Center for Specialized Medical Care and Medical Technologies, Federal Medico-Biological Agency, Moscow, RUSSIA</p> <p>12:30 – 12:45 <b>Abstract 4</b> PREECLAMPSIA IS ASSOCIATED WITH REDUCED NITRIC OXIDE HOMEOSTASIS AND SIGNALING COMPARED WITH HEALTHY PREGNANT WOMEN <i>S. McCann Haworth</i>, Karolinska Institute, Stockholm (SWEDEN)</p>	<p>11:15 – 11:45 <b>Speaker 9</b> <i>Nigel SCRUTTON</i> (UK) Dynamic aspects of the catalytic cycle of nitric oxide synthases</p> <p>11:45 – 12:15 <b>Speaker 10</b> <i>Yoichi OSAWA</i> (USA) Heme Insertion and Neuronal NOS Protein Quality Control by Hsp90/Hsp70-based Chaperones</p> <p>12:15 – 12:30 <b>Abstract 5</b> THE SITE AND MECHANISM OF NITRIC OXIDE SYNTHASE UNCOUPLING <i>Antonius C.F. Gorren</i>, University Graz (AUSTRIA)</p> <p>12:30 – 12:45 <b>Abstract 6</b> CALMODULIN-INDUCED CONFORMATIONAL CHANGES UNDERLYING ACTIVATION OF NEURONAL NITRIC OXIDE SYNTHASE ILLUMINATED BY H/D EXCHANGE MASS SPECTROMETRY <i>Underbakke, E.S.</i>, Iowa State University, Ames (USA)</p>
12:45 – 14:00	Lunch, exhibition, MODERATED poster session + networking Co-Chairs: <i>Miriam CORTESE-KROTT</i> (GERMANY) + <i>Annarita DI LORENZO</i> (USA)	
14:00 – 15:45	<i>LT1</i>	<i>LT2</i>
	<b>Session 5: Infection and Inflammation</b>	<b>Session 6: Species Interaction and Persulfides</b>
	Co-Chairs: <i>Christian BOGDAN</i> (GERMANY) + <i>Ferric FANG</i> (USA)	Co-Chairs: <i>Martin FEELISCH</i> (UK) + <i>Peter NAGY</i> (HUNGARY)
	<p>14:00 – 14:30 <b>Speaker 11</b> <i>Christian BOGDAN</i> (GERMANY) Nitric oxide and arginase in acute and chronic cutaneous leishmaniasis</p> <p>14:30 – 15:00 <b>Speaker 12</b> <i>Ferric FANG</i> (USA) Nitric Oxide in Staphylococcal-Host Interactions</p> <p>15:00 – 15:30 <b>Speaker 13</b></p>	<p>14:00 – 14:30 <b>Speaker 14</b> <i>Takaaki AKAIKE</i> (JAPAN) Translation-coupled persulfide synthases (PERs) involved critically in sulfur respiration and energy metabolism</p> <p>14:30 – 15:00 <b>Speaker 15</b> <i>Jon FUKUTO</i> (USA) The chemical biology of hydropersulfides (RSSH) and biological implications</p>

	<p><i>Laila RAMAKRISHNAN</i> (UK)</p> <p>15:30 – 15:45 <b>Abstract 7</b> REGULATION OF MYCOBACTERIAL INFECTION BY MACROPHAGE <i>GCH1</i> AND TETRAHYDROBIOPTERIN <i>Eileen M<sup>c</sup>Neill</i>, University of Oxford (UK)</p>	<p>15:00 – 15:30 <b>Speaker 16</b> <i>Fumito ICHINOSE</i> (USA) Role of sulfide metabolism in hypoxia tolerance</p> <p>15:30 – 15:45 <b>Abstract 8</b> BIOSYNTHESIS MECHANISMS AND PHYSIOLOGICAL FUNCTIONS OF REACTIVE PERSULFIDES <i>A. Nishimura</i>, Tohoku University Graduate School of Medicine, Sendai (JAPAN)</p>
15:45 – 16:15	Refreshments, exhibition, posters + networking	
16:15 – 18:00	<i>LT1</i>	<i>LT2</i>
	<b>Session 7: Immunology / Metabolism / Immunometabolism</b>	<b>Session 8: R-SNO R-NNO and other PTMS</b>
	Co-Chairs: <i>David WINK</i> (USA) + <i>Dan McVICAR</i> (USA)	Co-Chairs: <i>Greg THATCHER</i> (USA) + <i>Steven GROSS</i> (USA)
	<p>16:15 – 16:45 <b>Speaker 17</b> <i>Doug THOMAS</i> (USA) Nitric oxide regulates gene expression via multiple epigenetic mechanisms</p> <p>16:45 – 17:15 <b>Speaker 18</b> <i>David WINK</i> (USA)</p> <p>17:15 – 17:45 <b>Speaker 19</b> <i>Dan McVICAR</i> (USA) Nitric Oxide Orchestrates the Rewiring of Carbon Fluxes During M1 Macrophage Polarization</p> <p>17:45 – 18:00 <b>Speaker 20</b> <i>Jade BAILEY</i> (UK) Nitric oxide modulates immuno-metabolism in murine macrophages</p>	<p>16:15 – 16:45 <b>Speaker 21</b> <i>Chris KEVIL</i> (USA) Sulfide thiol modification and its impact on NO bioavailability</p> <p>16:45 – 17:15 <b>Speaker 22</b> <i>Moran BENHAR</i> (ISRAEL) Nitroso-redox stress-induced cancer cell death: new insights from functional and proteomic studies</p> <p>17:15 – 17:45 <b>Speaker 23</b> <i>Jonathan STAMLER</i> (USA)</p> <p>17:45 – 18:00 <b>Speaker 24</b> <i>Joy SMITH</i> (UK) Sulforaphane-mediated inhibition of SHP2 as a potential pharmacotherapy for Noonan syndrome</p>
18:00	Meeting close Day One	
18:00 – 19:00	<b>Elsevier Executive Board meeting</b>	<i>Seminar Room 1 – Sloane Robinson Building, Keble College</i>
19:00	<b>Residents Dinner</b>	<i>Keble College Dining Hall</i>
23:00	<b>Keble College bar closes</b>	

## Tuesday 18 September



07:00 – 08:30	<b>Residents Breakfast</b>	<i>Keble College Dining Hall</i>
07:30 – 08:30	REGISTRATION	<i>Maths Institute</i>
08:30 – 09:20	<i>LT1</i>	
	Chair: <i>Amrita AHLUWALIA</i> (UK) <b>PLENARY 3: <i>Salvador MONCADA</i></b> (UK)	
09:20 – 09:30	Transfer to parallel sessions	

09:30 – 10:45	<i>LT1</i>	<i>LT2</i>
	<b>Session 9: Ischemia / Hypoxia</b>	<b>Session 10: Diabetes and Obesity</b>
	Co-Chairs: <i>Harald SCHMIDT</i> (THE NETHERLANDS) + <i>Tienush RASSAF</i> (GERMANY)	Co-Chairs: <i>Justin PERCIVAL</i> (USA) + <i>Charalambos ANTONIADES</i> (UK)
	<p>09:30 – 09:50 <i>Speaker 25</i> <i>Matthias TOTZECK</i> (GERMANY) Novel aspects of myocardial I/R injury And cardioprotection</p> <p>09:50 – 10:10 <i>Speaker 26</i> <i>Andreas DAIBER</i> (GERMANY)</p> <p>10:10 – 10:30 <i>Speaker 27</i> <i>Ingo HILGENDORF</i> (GERMANY) Platelet mediated neutrophil degranulation aggravates myocardial ischemia and reperfusion injury</p> <p>10:30 – 10:45 <b>Abstract 9</b> S-NITROSOGLUTATHIONE REDUCTASE IS ESSENTIAL FOR PROTECTING THE FEMALE HEART FROM FORMALDEHYDE-MEDIATED ISCHEMIA- REPERFUSION INJURY <i>Casin KM</i>, Johns Hopkins Bloomberg School of Public Health, Baltimore (USA)</p>	<p>09:30 – 09:50 <i>Speaker 28</i> <i>Charley LAI</i> (USA)</p> <p>09:50 – 10:10 <i>Speaker 29</i> <i>Justin PERCIVAL</i> Skeletal muscle nNOS regulates insulin action and the development of obesity-induced insulin resistance</p> <p>10:10 – 10:30 <i>Speaker 30</i> <i>Mark KEARNEY</i> (UK) Targeting Nox2 derived superoxide in insulin resistance related atherosclerosis</p> <p>10:30 – 10:45 <b>Abstract 10</b> PRESERVATION OF CARDIAC FUNCTION AND ENERGETICS IN DIABETES VIA INCREASED NITRIC OXIDE BIOAVAILABILITY <i>Carnicer R</i>, University of Oxford, (UK)</p>
10:45 – 11:15	Refreshments, exhibition, posters + networking	
11:15 – 12:45	<i>LT1</i>	<i>LT2</i>
	<b>Session 11: Mitochondria and metabolism</b>	<b>Session 12: Redox-pathway control</b>
	Co-Chairs: <i>Sruti SHIVA</i> (USA) + <i>Edward CHOUCHANI</i> (USA)	Co-Chairs: <i>Phil EATON</i> (UK) + <i>Neil HOGG</i> (USA)
	<p>11:15 – 11:45 <i>Speaker 31</i> <i>Harry ISCHIROPOULOS</i> (USA) Efficient fat to energy conversion requires nitric oxide signaling</p> <p>11:45 – 12:15 <i>Speaker 32</i> <i>Stuart LIPTON</i> (USA)</p> <p>12:15 – 12:30 <i>Speaker 33</i> <i>Mark KOHR</i> (USA) S-nitrosoglutathione reductase is essential for protecting the female heart from ischemia- reperfusion injury</p> <p>12:30 – 12:45 <i>Speaker 34</i> <i>Edward CHOUCHANI</i> (USA)</p>	<p>11:15 – 11:45 <i>Speaker 35</i> <i>Roland STOCKER</i> (AUSTRALIA) Regulation of vascular tone and blood pressure in inflammation by indoleamine 2,3-dioxygenase- mediated formation of singlet molecular oxygen</p> <p>11:45 – 12:15 <i>Speaker 36</i> <i>Yvonne JANSSEN-HEININGER</i> (USA)</p> <p>12:15 – 12:30 <i>Speaker 37</i> <i>Francisco Jose SCHOPFER</i> (USA)</p> <p>12:30 – 12:45 <i>Speaker 38</i> <i>Neil HOGG</i> (USA) The reaction between GSNO and H<sub>2</sub>S revisited</p>
12:45 – 14:45	Lunch, exhibition, MODERATED poster session + networking Co-Chairs: <i>Miriam CORTESE-KROTT</i> (GERMANY) + <i>Annarita DI LORENZO</i> (USA)	
14:45 – 16:15	<i>LT1</i>	<i>LT2</i>
	<b>Session 13: BHF Cardiovascular Session</b> 	<b>Session 14: Environmental Chemistry and Toxicology</b>

	Co-Chairs: <i>Phil JAMES</i> (UK) + <i>Mark CRABTREE</i> (UK)	Chair: <i>Kyle M LANCASTER</i> (USA)
	<p>14:45 – 15:15 <b>Speaker 39</b> <i>Ajay SHAH</i> (UK) Cell-specific effects of Nox2 on blood pressure and cardiovascular remodelling</p> <p>15:15 – 15:45 <b>Speaker 40</b> <i>Philip BATH</i> (UK) High Explosive Treatment for Ultra-Acute Stroke: Hype of Hope</p> <p>15:45 – 16:00 <b>Award winner</b> EFFECTS OF DIETARY INORGANIC NITRATE ON BLOOD PRESSURE-DEPENDENT AND INDEPENDENT CARDIAC DYSFUNCTION <i>Gee L.C.</i>, Barts and the London School of Medicine and Dentistry Queen Mary University of London (UK)</p> <p>16:00 – 16:15 <b>Award winner</b> BEETROOT JUICE (DIETARY NITRATE)-GRAPEFRUIT JUICE (FURANCOUMARIN) COCKTAIL CROSSOVER STUDY: ENHANCED BLOOD PRESSURE-LOWERING AND TASTE: NITRATE-NITRITE-NO PATHWAY INTERACTIONS: CYP3A4 INHIBITION OF NITRITE OXIDATION OR ENTEROSALIVARY CIRCULATION? <i>K. O’Gallagher</i>, King’s College London British Heart Foundation Centre, London (UK)</p>	<p>14:45 – 15:15 <b>Speaker 41</b> <i>Jerome SANTOLINI</i> (FRANCE) NO-synthases as a new protein family: structure, function and evolution</p> <p>15:15 – 15:45 <b>Speaker 42</b> <i>Elizabeth BOON</i> (USA) Discovery of NO-responsive hemoproteins and their roles in biofilm regulation</p> <p>15:45 – 16:00 <b>Speaker 43</b> <i>Kyle M LANCASTER</i> (USA) Nitric Oxide is an Obligate Intermediate Produced During Bacterial and, Possibly, Archaeal Nitrification</p> <p>16:00 – 16:15 <b>Abstract 11</b> IS NITROGEN DIOXIDE GOOD OR BAD FOR YOUR HEALTH? TWO RANDOMISED CONTROLLED TRIALS <i>Mills CE</i>, King’s College London (UK)</p>
16:15 – 16:35	Refreshments, exhibition + networking	
16:35 – 18:05	<i>LT1</i>	<i>LT2</i>
	<b>Session 15: Vascular Disease</b>	<b>Session 16: New Methodologies</b>
	Co-Chairs: <i>Jason ALLEN</i> (USA) + <i>Keith CHANNON</i> (UK)	Co-Chairs: <i>Andrew GOW</i> (USA) + <i>Joe BURGOYNE</i> (UK)
	<p>16:35 – 17:05 <b>Speaker 44</b> <i>Phil CHOWIENCZYK</i> (UK) Role of neuronal nitric oxide in cardiovascular regulation</p> <p>17:05 – 17:35 <b>Speaker 45</b> <i>Jose TANUS-SANTOS</i> (BRAZIL) Antioxidant and cardiovascular protective effects of a non-antihypertensive dose of oral nitrite</p> <p>17:35 – 17:50 <b>Speaker 46</b> <i>Thomas KELLER</i> (USA) Towards therapy: modeling of the alpha globin/eNOS complex</p> <p>17:50 – 18:05 <b>Abstract 12</b> NITRITE REGULATES MITOCHONDRIAL DYNAMICS TO INHIBIT VASCULAR SMOOTH MUSCLE CELL PROLIFERATION <i>C. Reyes</i>, University of Pittsburgh (USA)</p>	<p>16:35 – 17:05 <b>Speaker 47</b> <i>Stacy WENDELL</i> (USA) Utilizing stable isotopes and high resolution mass spectrometry to investigate the metabolic effects of nitrogen oxides</p> <p>17:05 – 17:35 <b>Speaker 48</b> <i>Greg THATCHER</i> (USA) A New Model for Mild Traumatic Brain Injury: NO Protection</p> <p>17:35 – 17:50 <b>Abstract 13</b> FUNCTIONAL VASCULAR ASSAY FOR HEME IN BIOLOGICAL SAMPLES <i>Rogers, S.C.</i>, Washington University in Saint Louis (USA)</p> <p>17:50 – 18:05 <b>Abstract 14</b> NITRIC OXIDE PRODUCED BY PULSED ELECTRICAL DISCHARGE IN A MINIATURIZED GENERATOR INDUCES PULMONARY VASODILATION <i>Yu B</i>, Massachusetts General Hospital, Harvard Medical School, Boston (USA)</p>
18:05	Meeting close Day Two	
19:00	<b>Residents Dinner</b>	<i>Keble College Dining Hall</i>

19:00	<b>NO Board meeting.</b> (NO board members only)	Cherwell Boathouse
23:00	Keble College bar closes	

## Wednesday 19 September

07:00 – 08:30	<b>Residents Breakfast</b>		Keble College Dining Hall
07:30 – 08:30	REGISTRATION		Maths Institute
08:30 – 09:20	LT1		
	Chair: <i>David WINK</i> (USA)		
	<b>PLENARY 4: Carol COLTON</b> (USA) Arginase and NOS2- Immune regulated "gateway" enzymes in the brain		
09:20 – 09:30	Transfer to parallel sessions		
09:30 – 10:45	LT1	LT2	
	<b>Session 17: Cancer</b>	<b>Session 18: Microbiome</b>	
	Co-Chairs: <i>Doug THOMAS</i> (USA) + <i>Tim BILLIAR</i> (USA)	Co-Chairs: <i>Nathan BRYAN</i> (USA) + <i>Alex Goddard</i> (USA)	
	09:30 – 09:50 <b>Speaker 49</b> <i>Scot WALDMAN</i> (USA) Paracrine hormone hypothesis of colorectal cancer	09:30 – 09:50 <b>Speaker 52</b> <i>Gena TRIBBLE</i> (USA)	
	09:50 – 10:10 <b>Speaker 50</b> <i>Jenny CHANG</i> (USA)	09:50 – 10:10 <b>Speaker 53</b> <i>Diogo SILVA</i> (UK) On the metabolic phenotype of the ammonia-oxidiser <i>Nitrosomonas eutropha</i> D23 and demonstration of its anti-biofilm activity	
	10:10 – 10:30 <b>Speaker 51</b> <i>Dominique BONNET</i> (UK) Increased vascular permeability in the bone marrow contributes to disease progression and drug response in acute myeloid leukemia	10:10 – 10:30 <b>Abstract 16</b> THE OBLIGATORY ROLE OF HOST-MICROBIOME IN THE BIOCONVERSION AND CARDIOMETABOLIC EFFECTS OF DIETARY NITRATE <i>Moretti CH</i> , Karolinska Institutet, Stockholm (SWEDEN)	
	10:30 – 10:45 <b>Abstract 15</b> EXPLORING THE ROLE OF NITRIC OXIDE IN EARLY PROSTATE EPITHELIAL CELL CARCINOGENESIS & THE TRANSITION FROM NON-INVASIVE TO INVASIVE PROSTATE CARCINOMA <i>S.A. Glynn</i> , National University of Ireland Galway (IRELAND)	10:30 – 10:45 <b>Abstract 17</b> NOVEL MECHANISM OF ANTIBIOTIC RESISTANCE VIA FORMATION OF CYSTEINE-ANTIBIOTIC ADDUCT IN BACTERIA <i>Ono K</i> , Kumamoto University (JAPAN)	
10:45 – 11:15	Refreshments, exhibition, posters + networking		
11:15 – 12:45	LT1	LT2	
	<b>Session 19: Nitric oxide and vascular redox signaling in health and disease</b>	<b>Session 20: Exercise</b>	
	 		
	Co-Chairs: <i>Giovanni MANN</i> (UK) + <i>Joao LARANJINHA</i> (PORTUGAL)	Co-Chairs: <i>Eddie WEITZBERG</i> (SWEDEN) + <i>Anni VANHATALO</i> (UK)	
	11:15 – 11:45 <b>Speaker 54</b> <i>Emrah EROGLU</i> (USA) Genetic biosensors for imaging nitric oxide and implications for redox biology	11:15 – 11:45 <b>Speaker 58</b> <i>Andy JONES</i> (UK) Dietary nitrate supplementation and exercise performance	
	11:45 – 12:15 <b>Speaker 55</b>	11:45 – 12:15 <b>Speaker 59</b>	

	<p><i>Joern STEINERT</i> (UK) Dysregulation of nitric oxide and redox signaling underlies synaptic dysfunction in neurodegeneration</p> <p>12:15 – 12:30 <i>Speaker 56</i> <i>Joao LARANJINHA</i> (PORTUGAL) Role of nitric oxide in neurovascular coupling: consequences for neurodegeneration and aging</p> <p>12:30 – 12:45 <i>Speaker 57</i> <i>Thomas P. KEELEY</i> (UK) Shear stress and inflammation regulated endothelial nitric oxide signaling under physiological normoxia</p>	<p><i>Scott FERGUSON</i> (USA) Skeletal muscle vascular control during exercise: Novel nitric oxide-based treatments for sickle cell anemia</p> <p>12:15 – 12:30 <i>Abstract 18</i> <i>Jason Allen</i> (USA) Beet HF? Inorganic nitrate supplementation and exercise capacity in heart failure</p> <p>12:30 – 12:45 <i>Abstract 19</i> "BEET ON ALPS": ERGOGENIC EFFECTS OF DIETARY NITRATE SUPPLEMENTATION ON CYCLING AND ARM-CRANKING DURING A PROLONGED EXPOSURE TO HIGH ALTITUDE <i>Rasica L</i>, Institute of Bioimaging and Molecular Physiology, National Research Council, Segrate, Italy</p>
12:45 – 13:15	Packed lunch, exhibition, posters + networking	
13:15	Meeting close Day Three	
13:30 – 15:30	<p><b>Elsevier Author Workshop</b> <span style="float: right;">LT2</span> <b>How to Write a Great Research Paper, and Get it Accepted by a Good Journal</b></p> <p>Knowing the best way of structuring your paper when writing it, and the most appropriate journal to send it to, is really helpful in getting your paper accepted. In addition, understanding how editors and publishers think and what they expect, and knowing how the peer review process works, is invaluable insight into the publishing process.</p> <p>After attending this free two hour workshop, as participants you will have a clear idea of the steps needed to be taken before starting to write a paper. You will also be able to plan writing manuscripts using the logical step sequence – not the sequence in which the paper will be read. You are also made aware of what aspects of your papers Editors, Reviewers, and Publishers look at critically, and to ensure that in taking care of these areas, your papers are much more likely to be accepted.</p> <p><i>Anthony NEWMAN</i> Senior Publisher, Life Sciences Department, Elsevier, Amsterdam, The Netherlands</p>	
14:00 – 18:30	<p><b>Excursions</b> (<i>optional</i>) Blenheim Palace Oxford walking tour</p>	
19:00	Gala dinner pre dinner drinks	Keble College
19:45	Gala dinner	Keble College Dining Hall
24:00	Keble College bar closes	

## Thursday 20 September

07:00 – 08:30	<b>Residents Breakfast</b>	Keble College Dining Hall
07:30 – 08:30	REGISTRATION	Maths Institute
08:30 – 09:50	LT1	
	<b>Session 21: Hot Topics (I-VIII)</b>	
	Co-Chairs: <i>Jack LANCASTER</i> (USA) + <i>Andrew GOW</i> (USA)	
	I	
	08:30 – 08:40	

	<p><b>CONFORMATIONAL STUDY OF THE ELECTRONIC INTERACTIONS AND NITRIC OXIDE RELEASE POTENTIAL OF NEW S-NITROSTHIOL DERIVATIVES OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (SNO-NSAID)</b>  <i>A.K. C. A. Reis</i>, Universidade Federal de São Paulo (BRAZIL)</p> <p><b>II</b>  08:40 – 08:50  <b>EFFECTS OF DIETARY NITRATE IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS</b>  <i>Karin E.L. Eriksson</i>, Karolinska Institute, Stockholm (SWEDEN)</p> <p><b>III</b>  08:50 – 09:00  <b>PIVOTAL ROLE OF ENDOTHELIAL CELL GTP CYCLOHYDROLASE AND TETRAHYDROBIOPTERIN IN CARDIAC HYPERTROPHY IN MICE</b>  <i>Chuaiphichai S</i>, University of Oxford (UK)</p> <p><b>IV</b>  09:00 – 09:10  <b>DETERMINING THE METABOLIC FATE OF NITROGEN OXIDE SPECIES USING ISOTOPIC TRACING AND HIGH RESOLUTION MASS SPECTROMETRY</b>  <i>Steven J. Mullett</i>, University of Pittsburgh (USA)</p> <p><b>V</b>  09:10 – 09:20 (Conor Kerley- unofficially)</p> <p><b>VI</b>  09:20 – 09:30</p> <p><b>VII</b>  09:30 – 09:40</p> <p><b>VIII</b>  09:40 – 09:50</p>	
09:50 – 10:00	<b>NO 2020</b> meeting launch	
10:00 – 10:30	Refreshments, exhibition, posters + networking	
10:30 – 12:00	<i>LT1</i>	<i>LT2</i>
	Session 22: H2S and Species Interaction	Session 23: Arginine, Arginase and the Future of Arginase Inhibition
	Co-Chairs: <i>Rakesh PATEL</i> (USA) + <i>Chris KEVIL</i> (USA)	Co-Chairs: <i>Claudia MORRIS</i> (USA) + <i>Carol COLTON</i> (USA)
	10:30 – 10:45 <i>Speaker 60</i> <i>David LEFER</i> (USA) Hydrogen sulfide protects against cardiorenal syndrome	10:30 – 10:45 <i>Speaker 64</i> <i>Sidney MORRIS</i> (USA) Arginases and “arginomics”
	10:45 – 11:15 <i>Speaker 61</i> <i>Wayne ORR</i> (USA) Cystathionine $\gamma$ -lyase modulates flow-dependent vascular remodelling	10:45 – 11:15 <i>Speaker 65</i> <i>John PERNOW</i> (SWEDEN) The role of arginase in endothelial and red blood cell dysfunction in cardiovascular disease and diabetes
	11:15 – 11:45 <i>Speaker 62</i> <i>Jinsong BIAN</i> (SINGAPORE) Biological functions of nitroxyl, a novel mediator generated by the interaction between nitric oxide and hydrogen sulfide	11:15 – 11:45 <i>Speaker 66</i> <i>Loretta REYES</i> (USA) Dysregulated Arginine Metabolism and Myocardial Dysfunction in Chronic Kidney Disease
		11:45 – 12:00 <b>Abstract 20</b>



	11:45 – 12:00 <b>Speaker 63</b> <i>Mike PLUTH</i> (USA) Chemical Tools for H <sub>2</sub> S Delivery	ADMA CAN ACT AS A POSITIVE REGULATOR OF ENDOTHELIAL NITRIC OXIDE PRODUCTION BY MODULATION OF SIGNALLING VIA THE CALCIUM SENSING RECEPTOR <i>L. Dowsett</i> , University of Glasgow, Scotland (UK)
12:00 – 12:15	Comfort break	
12:15 – 13:45	<i>LT1</i>	<i>LT2</i>
	<b>Session 24: Mechanisms of Nitrate-Nitrite Reduction and Bioactivity</b>	<b>Session 25: Biochemistry and Structural Biology of the NO-receptor Guanylyl Cyclase</b>
	Co-Chairs: <i>Marcelo MONTENEGRO</i> (SWEDEN) + <i>Alan SCHECHTER</i> (USA)	Co-Chairs: <i>Annie BEUVE</i> (USA) + <i>Peter SANDNER</i> (GERMANY)
	12:15 – 12:40 <b>Speaker 67</b> <i>Rakesh PATEL</i> (USA) Role of nitrated nucleotides in nitrite-dependent signaling from RBCs	12:15 – 12:45 <b>Speaker 70</b> <i>Michael MARLETTA</i> (USA) Molecular aspects of soluble guanylate cyclase activation
	12:40 – 13:05 <b>Speaker 68</b> <i>Mattias CARLSTRÖM</i> (SWEDEN) Role of host-microbiome and xanthine oxidoreductase in the bioconversion and cardiometabolic effects of the nitrate-nitrite-NO pathway	12:45 – 13:15 <b>Speaker 71</b> <i>Dennis STUEHR</i> (USA)
	13:05 – 13:30 <b>Speaker 69</b> <i>Barbora PIKNOVA</i> (USA) The underappreciated role of skeletal muscle in nitrate-based nitric oxide metabolic pathways	13:15 – 13:30 <b>Speaker 72</b> <i>Adam STRAUB</i> (USA)
	13:30 – 13:45 <b>Abstract 21</b> LOCALISED DELIVERY OF NITRIC OXIDE TO THE BLOOD VESSEL PREVENTS ENDOTHELIAL DYSFUNCTION IN PERIODONTITIS <i>Khambata, R.S.</i> , William Harvey Research Institute, Barts & The London School of Medicine & Dentistry, London, UK	13:30 – 13:45 <b>Abstract 22</b> CHANGES IN HEME AND IRON METABOLISM AFFECT THE ACTIVITY OF NO-RECEPTOR SOLUBLE GUANYLYL CYCLASE IN AGING MOUSE BRAIN <i>Iraida Sharina</i> , University of Texas Health Science Center at Houston, McGovern Medical School, Houston (USA)
13:45 – 14:00	Closing remarks	
14:00 – 14:45	Lunch	
14:45	Meeting Close	

## HOT TOPIC POSTERS

I

CONFORMATIONAL STUDY OF THE ELECTRONIC INTERACTIONS AND NITRIC OXIDE RELEASE POTENTIAL OF NEW S-NITROSOTHIOL DERIVATIVES OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (SNO-NSAID)

*A.K. C. A. Reis* (BRAZIL)

II

EFFECTS OF DIETARY NITRATE IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS

*Karin E.L. Eriksson* (SWEDEN)

III

PIVOTAL ROLE OF ENDOTHELIAL CELL GTP CYCLOHYDROLASE AND TETRAHYDROBIOPTERIN IN CARDIAC HYPERTROPHY IN MICE

*Chuaiphichai S* (UK)

IV

DETERMINING THE METABOLIC FATE OF NITROGEN OXIDE SPECIES USING ISOTOPIC TRACING AND HIGH RESOLUTION MASS SPECTROMETRY

Steven J. Mullett (USA)

## POSTERS

### P-1

#### NITRITE AND GSNO EXERT ANTIOXIDANT EFFECT BUT ONLY GSNO ACTIVATES NRF2 PATHWAY *IN VITRO*

*Amaral JH\*1, Rizzi ES 1, Alves-Lopes R 1, Pinheiro LC 1, Tostes RC 1, Tanus-Santos JE 1*

1 Department of Pharmacology, Ribeirao Preto Medical School, University of Sao Paulo, BRAZIL

### P-2

#### REACTIVE SULFUR SPECIES INHIBIT $Ca^{2+}$ / CALMODULIN DEPENDENT PROTEIN KINASE II ACTIVITY VIA SITE SPECIFIC S-POLYSULFIDATION

*\*Shoma. Araki1, Tsuyoshi. Takata1, Yukihiko. Tsuchiya1, Yasuo. Watanabe1*

1 Department of Pharmacology, Showa Pharmaceutical University, Machida, JAPAN

### P-3

#### HUMAN ADIPOSE-DERIVED MULTIPOTENT MESENCHYMAL STROMAL CELLS LOADED WITH MICROCAPSULES AS A NEW STRATEGY FOR DRUG DELIVERY

*E.N. Atochina-Vasserman1,2\*, L.S. Litvinova3, V.V. Shupletsova3, O.G. Khaziakhmatova3, K.A. Yurova3, V.V. Malashchenko3, A.S. Timin1, L. Pokrovskaya4, E. Korotkova1, V. Popova1, D.N. Atochin1,5, G. B. Sukhorukov1,6, A. J. Gow1,7, I.A. Khlusov3,4*

### P-4

#### EFFECT OF COLD EXPOSURE ON DIETARY NITRATE METABOLISM AND BLOOD PRESSURE FOLLOWING THE ACUTE INGESTION OF NITRATE-RICH BEETROOT JUICE

*Bailey SJ\*, Rowland S, James LJ, O'Donnell E*

School of Sport, Exercise and Health Sciences, Loughborough University, Loughborough, UK

### P-5

#### THE $\alpha$ SUBUNIT OF THE NO-RECEPTOR GUANYLYL CYCLASE IS A TRANSNITROSYLASE ACTING VIA OXIDIZED THIOREDOXIN 1 TO MODULATE CELLULAR S-NITROSATION

*Wu C.<sup>2</sup>, Cui C.<sup>1,2</sup>, Alapa M.<sup>1</sup>, Shu P.<sup>1</sup>, Liu T.<sup>2</sup>, Crassous P.<sup>1</sup>, Li H.<sup>2</sup>, Beuve A.\*.<sup>1</sup>*

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2. Center for Advanced Proteomics Research and Department of Microbiology, Biochemistry and Molecular Genetics, Rutgers, New Jersey Medical School, Newark, NJ, USA

### P-6

#### EFFECTS OF NITRATE TREATMENT ON RENAL AND CARDIOVASCULAR DYSFUNCTION FOLLOWING ISCHEMIA-REPERFUSION OF THE KIDNEY

*Zhuge Z. 1#, Zhang G. 1#, Montenegro M. 1, Lundberg J.O. 1, Weitzberg E. 1, Carlstrom M. 1\**

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### P-7

#### AMP-ACTIVATED PROTEIN KINASE ACTIVATION AND NADPH OXIDASE INHIBITION BY DIETARY NITRATE PREVENTS DIET-INDUCED LIVER STEATOSIS

*Cordero-Herrera I, Kozyra M, Zhuge Z, Huirong H, de Campos Cruz J, McCann Haworth S, Jahandideh A, Ingelman-Sundberg M, Weitzberg E, Lundberg JO # and Carlstrom M \*\**

\*Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, SWEDEN

### P-8

#### LOSS OF MYOCYTE SPECIFIC TETRAHYDROBIOPTERIN LEADS TO DILATED CARDIOMYOPATHY

*Douglas G, Chu SM\*, Bendall JK, Chuaiphichai S, Ricardo Carnicer, Hale A, Crabtree MJ, Channon KM*

BHF Centre of Research Excellence, Division of Cardiovascular Medicine, Radcliffe Department of Medicine, University of Oxford, Roosevelt Drive, Oxford, UK.

### P-9

#### IDENTIFYING SMALL MOLECULE ENHANCERS OF HEAT SHOCK PROTEIN 70 THAT LEAD TO UBIQUITINATION AND DEGRADATION OF NEURONAL NITRIC OXIDE SYNTHASE

*Davis A.K.\*<sup>1</sup>, Zhang H.<sup>1</sup>, Lau M.<sup>1</sup>, Chakraborty S.<sup>1</sup>, Morishima Y.<sup>1</sup>, Lieberman A.P.<sup>2</sup>, Pratt W.B.<sup>1</sup> & Osawa Y.<sup>1</sup>*

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<sup>2</sup>Department of Pathology, University of Michigan, Ann Arbor, MI, USA

### P-10

#### pH EFFECT ON THE PATHWAYS OF NITRIC OXIDE RELEASE FROM S-NITROSOGLUTATHIONE

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**P-11**

**TOPICAL NITRIC OXIDE-RELEASING MESHES PROMOTE DOSE-RESPONSE DERMAL VASODILATION**

*Giglio LP, Alves, SDF, de Oliveira MG\**

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**P-12**

**RESTORATION OF AGE-DEPENDENT PHENOTYPES BY NITRITE REVEALS A REGULATORY ROLE FOR ENDOTHELIAL NITRIC OXIDE SYNTHASE/NITRIC OXIDE SIGNALING IN METABOLIC HOMEOSTASIS**

*Margarita Tenopoulou\*, Paschalis-Thomas Doulias\*, Kent Nakamoto, Kiara Berrios, Gabriella Zura, Chenxi Li, Michael Faust, Veronika Yakovishina, Perry Evans, Lu Tan, Michael J Bennett, Nathaniel W Snyder, William J Quinn III, Joseph A Baur, Dmitry N Atochin, Paul L Huang and Harry Ischiropoulos*

Children's Hospital of Philadelphia Research Institute, Philadelphia, Pennsylvania, USA

**P-13**

**HIGH SALT INDUCES HDAC1-DEPENDENT DISRUPTION OF NITRIC OXIDE SIGNALING IN THE RENAL MICROVASCULATURE**

*Dunaway LS\*, Cook AK, Pollock DM, Hyndman KA, Insko EW, Pollock JS*

Cardio-Renal Physiology and Medicine, Division of Nephrology, University of Alabama at Birmingham, Birmingham, AL 35233 USA

**P-14**

**FRIENDS OR FOES? PRODUCT ANALYSIS OF REACTIONS BETWEEN GSNO AND H2S: CHARACTERIZATION OF THE N- AND S- SPECIATION**

*Murugesan R Kumar, Tara Clover, Abayomi D Olaitan, Christopher Becker, Touradj Solouki and Patrick J Farmer\**

Department of Chemistry and Biochemistry, Baylor University, Waco TX 76798, USA

**P-15**

**REGULATORY ROLE OF AN ISOFORM-SPECIFIC RESIDUE AT THE CALMODULIN-HEME(NO SYNTHASE) INTERFACE IN THE FMN – HEME INTERDOMAIN ELECTRON TRANSFER**

*Jinghui Li<sup>1,†</sup>, Huayu Zheng<sup>1,2</sup>, Changjian Feng<sup>1,2,\*</sup>*

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<sup>2</sup> Department of Chemistry and Chemical Biology, University of New Mexico, Albuquerque, NM 87131, USA

**P-16**

**DIETARY NITRATE SUPPRESSES PLATELET REACTIVITY IN ENDOTHELIAL NITRIC OXIDE SYNTHASE KNOCK OUT (eNOS KO) MICE**

*\*Filomena F.<sup>1</sup>, \*Parakaw T.<sup>1</sup>, Khambata R.<sup>1</sup> & Ahluwalia A.<sup>1</sup>*

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**P-17**

**PHARMACOLOGICAL INHIBITION OF FORKHEAD-BOX CLASS O TRANSCRIPTION FACTORS REDUCES NITRIC OXIDE SIGNALLING THROUGH DOWNREGULATION OF SOLUBLE GUANYLYL CYCLASE**

*J.C. Galley\*<sup>1,2</sup>, A.C. Straub<sup>1,2</sup>*

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<sup>2</sup>Heart, Lung, Blood, and Vascular Medicine Institute, University of Pittsburgh, Pittsburgh, U.S.A.

**P-18**

**ROLE OF NO IN MEDIATING MACROPHAGE ACTIVATION POST OZONE EXPOSURE IN HUMAN AND ANIMAL MODELS**

*Laskin D<sup>1</sup>, Taylor S<sup>1</sup>, Abramova E<sup>1</sup>, Black K<sup>2</sup>, Murray A<sup>1</sup>, Francis M<sup>1</sup>, Gow A<sup>1</sup>, Kipen H<sup>2</sup>, Laskin J<sup>2</sup>*

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<sup>2</sup>Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway NJ

**P-19**

**THE ROLE OF cGMP/ cGKI SIGNALLING IN DIABETIC NEPHROPATHY**

*Harloff M.<sup>1,\*</sup>, Hofmann F.<sup>2</sup>, Schlossmann J.<sup>1</sup>*

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**P-20**

**HYPEROXIA DECREASES TETRAHYDROBIOPTERIN IN PLASMA AND NITRIC OXIDE IN EXHALED BREATH**

*Hesthammer R\*<sup>1,2</sup>, Dahle S<sup>2</sup>, Storesund JP<sup>2</sup>, Eide T<sup>2</sup>, Djurhuus R<sup>1</sup>, Svardal A<sup>2</sup>, Thorsen E<sup>1,2</sup>*

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<sup>2</sup>Department of Clinical Science, University of Bergen, Norway

**P-21**

**NO-MEDIATED HOMEOSTATIC PLASTICITY IN THE GUINEA PIG VENTRAL COCHLEAR NUCLEUS: A POTENTIAL TINNITUS GENERATION MECHANISM?**

*Hockley, A.,<sup>1,2</sup> Berger, J.I.,<sup>1</sup> Hill, S.M.D.,<sup>1</sup> Smith, P.A.,<sup>2</sup> Palmer, A.R.,<sup>1</sup> Wallace, M.N.,<sup>1</sup>*

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**P-22**

**IDENTIFICATION OF SOLUBLE GUANYLATE CYCLASE MODULATORS FOR DISORDERS OF THE CNS**

*Hollas M.A., \* Ben Aissa M., Bloem L., Kim L., Lee S.H., Thatcher G.R.J.*

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**P-23**

**DIETARY NITRATE AND NITRITE DIFFERENTIALLY ALTER OXYGEN CONSUMPTION AND ENERGY HOMEOSTASIS IN ZEBRAFISH (*DANIO RERIO*) DURING EXERCISE**

*R.M. Keller<sup>1</sup>, E.R. Axton<sup>1,2,3</sup>, L.M. Beaver<sup>1,2</sup>, M.G. Jaramillo<sup>1,2</sup>, L. Truong<sup>4</sup>, R. Tanguay<sup>4</sup>, J.F. Stevens<sup>2</sup>, N.G. Hord<sup>1\*</sup>*

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**P-24**

**TRANSLATION-COUPLED PROTEIN POLYSULFIDATION, A UNIQUE BIOSYNTHESIS PATHWAY OF CYSTEINE PERSULFIDE**

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**P-25**

**A NOVEL MECHANISM FOR ELECTROPHILIC CYTOTOXICITY VIA IMPAIRMENT OF REACTIVE PERSULFIDE SPECIES-REGULATED REDOX SIGNALING**

*H Ihara<sup>\*1</sup>, S Kasamatsu<sup>1,2</sup>, M Nishida<sup>3</sup>, T Sawa<sup>4</sup>, Y Kumagai<sup>5</sup>, T Akaike<sup>2</sup>*

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**P-26**

**SEX DIFFERENCES IN RELAXANT RESPONSES OF RAT AORTAS TO CGMP GENERATORS**

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**P-27**

**THE CENTRAL NERVOUS SYSTEM PENETRANT SOLUBLE GUANYLATE CYCLASE STIMULATOR IWP-550 SUPPRESSED MARKERS OF NEUROINFLAMMATION IN MICE AND RATS**

*Juli E. Jones, Guang Liu, Susana S. Correia, Chad D. Schwartzkopf, Sarah Jacobson, Andrew Carvalho, Peter Germano, Emily Atwater, Rajesh R. Iyengar, Mark G. Currie, Christopher J. Winrow and John R. Hadcock*

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**P-28**

**SODIUM NITRITE-MEDIATED CARDIOPROTECTION IN PRIMARY PERCUTANEOUS CORONARY INTERVENTION FOR ST-ELEVATION MYOCARDIAL INFARCTION: A COST-EFFECTIVENESS ANALYSIS**

*<sup>1,2,3</sup>Jones DA, MRCP, MSc, PhD, <sup>3,4</sup>Whittaker P, MSc, PhD, <sup>1,2</sup>Rathod KS, MRCP, <sup>2</sup>Richards AJ, BSc, <sup>2</sup>Andiapen M, <sup>2</sup>Antoniou S, <sup>1,2</sup>Mathur A, FRCP, PhD, <sup>1,2</sup>Ahluwalia A, PhD.*

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<sup>4</sup>Cardiovascular Research Institute & Department of Emergency Medicine, Wayne State University, Detroit, USA

**P-29**

**MOLYBDENUM-DEPENDENT SULFITE OXIDASE REDUCES NITRITE TO NITRIC OXIDE *IN VITRO* AND *IN VIVO***

*Kaczmarek A.T.\*<sup>1,2</sup>, Bender D.<sup>1,2</sup>, Hagedoorn P.L.<sup>3</sup>, Schwarz G.<sup>1,2,4</sup>*

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<sup>4</sup>CECAD Cologne Excellence in Aging Research, Cologne, GERMANY

**P-30**

**NITRIC OXIDE SUPPLY TO EXTRACORPOREAL CIRCULATION CIRCUIT PROTECTS KIDNEYS IN CARDIAC SURGERY: PROSPECTIVE RANDOMIZED STUDY**

*N. Kamenshchikov<sup>\*1</sup>, Y. Podoksenov<sup>1,2</sup>, B. Kozlov<sup>1,2</sup>, I. Mandel<sup>3,4</sup>, Y. Svirko<sup>1,2</sup>, Y. Anfinogenova<sup>1</sup>, V. Evtushenko<sup>1,2</sup>, V. Lugovsky<sup>1</sup>, A. Nenakhova<sup>1</sup>, V. Shipulin<sup>1,2</sup>*

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### P-31

#### MODELING TOTAL DIETARY NITRATE INTAKE FROM FOODS, BEVERAGES, AND SUPPLEMENTS

M.C. Prater<sup>1</sup>, R.M. Keller<sup>1\*</sup>, L.M. Beaver<sup>1,2</sup>, N.G. Hord<sup>1,3</sup>

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<sup>3</sup>Celia Strickland Austin and G. Kenneth Austin III Professor in Public Health and Human Sciences

### P-32

#### NITRATE AND NITRITE EXPOSURE ALTERS BEHAVIOR AND THE BRAIN METABOLOME IN ZEBRAFISH

L.M. Beaver<sup>1,2</sup>, M.G. Jaramillo<sup>1,2</sup>, E.R. Axton<sup>1,2,3</sup>, R.M. Keller<sup>1\*</sup>, L. Truong<sup>4</sup>, R. Tanguay<sup>4</sup>, J.F. Stevens<sup>2</sup>, N.G. Hord<sup>1</sup>

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### P-33

#### EFFECT OF NITRIC OXIDE-RELEASING DERIVATIVE OF INDOMETHACIN ON *PREVOTELLA INTERMEDIA* LIPOPOLYSACCHARIDE-INDUCED PRODUCTION OF PROINFLAMMATORY MEDIATORS IN MURINE MACROPHAGES

So-Hui Choe<sup>1</sup>, Eun-Young Choi<sup>1</sup>, Jin-Yi Hyeon<sup>1</sup>, In Soon Choi<sup>1</sup> and Sung-Jo Kim<sup>2,3,4,\*</sup>

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### P-34

#### HOMOGENEOUS SINGLE-LABEL CGMP DETECTION PLATFORM FOR THE FUNCTIONAL STUDY OF SOLUBLE GUANYLATE CYCLASE AND PHOSPHODIESTERASE ACTIVITY

Kari Kopra,<sup>1\*</sup> Iraida Sharina,<sup>2</sup> Emil Martin,<sup>2</sup> and Harri Härmä<sup>1</sup>

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### P-35

#### CIRCULATING NITRITE LEVELS ARE ASSOCIATED WITH BLOOD PRESSURE AND ARTERIAL STIFFNESS IN HYPERTENSION BUT NOT CARDIAC HYPERTROPHY

Lau CWZ<sup>\*1</sup>, Nuredini GN<sup>1</sup>, Hamers AJP<sup>1</sup>, Duggan S<sup>1</sup>, Rathod KS<sup>1</sup>, Kapil V<sup>1</sup>, Ahluwalia A<sup>1</sup>

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### P-36

#### DISRUPTION OF METHYLARGININE METABOLISM IMPAIRS VASCULAR HOMEOSTASIS DURING PREGNANCY

Georgopoulou, A.<sup>1&2</sup>, Noor, MN.<sup>1&2</sup>, Johnson, M.<sup>2</sup> and Leiper, J.<sup>1&3\*</sup>

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### P-37

#### COMPARATIVE ANALYSIS OF NITRATE-REDUCING MICROBIAL COMMUNITIES IN THE ORAL CAVITY

L'Heureux, JE<sup>\*1</sup>, Ames, RM<sup>2</sup>, van der Giezen, M<sup>3</sup>, Vanhatalo, A<sup>1</sup>, Winyard, PG<sup>5</sup>, Jones, AM<sup>1</sup>.

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### P-38

#### RED LIGHT STIMULATES NO DEPENDENT VASODILATION IN HUMAN SUBJECTS

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### P-39

#### NITRITE-DEPENDENT NITRIC OXIDE FORMATION IN HUMANS: ROLE OF MOLYBDOENZYMES

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#### HIGHER SUSCEPTIBILITY TO OXIDATION AND LOWER PROTEIN STABILITY FOR THE A1C517T/B1 SGC VARIANT ASSOCIATED WITH MOYAMOYA DISEASE

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#### P-41

##### PHARMACOLOGICAL ANALYSIS OF THE NO-SGC-CGMP PATHWAY IN LIVER FIBROSIS

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##### IMPLICATION OF SPECIFIC MUTATIONS OF THE HUMAN *Xdh* GENE ON SUPEROXIDE AND NITRIC OXIDE-GENERATING CAPACITY OF XANTHINE OXIDOREDUCTASE

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##### BIOCHEMICAL CHARACTERIZATION OF ARABIDOPSIS THALIANA NITRATE REDUCTASE ISOFORMS 1 AND 2 IN NITRIC OXIDE SYNTHESIS

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##### INCREASING CONCENTRATIONS OF NITRIC OXIDE AND ACTIVATION OF SRC KINASE PROMOTE RESISTANCE TO ANOIKIS IN TUMOR CELL LINES

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#### P-45

##### PARENTERAL L-ARGININE IMPROVES MITOCHONDRIAL FUNCTION IN CHILDREN WITH SICKLE CELL DISEASE ADMITTED FOR VASO-OCCLUSIVE PAIN EPISODES

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##### NITRITE IMPROVES CARDIAC FUNCTION IN RENOVASCULAR HYPERTENSION

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#### P-47

##### GUANYLYL CYCLASE STIMULATION MITIGATES SKELETAL AND CARDIAC MUSCLE DYSFUNCTION IN THE MDX MOUSE MODEL OF DUCHENNE MUSCULAR DYSTROPHY

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#### P-48

##### SKELETAL MUSCLE AS THE LARGEST BODY NITRATE RESERVOIR

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#### P-49

##### HIGH SALT INDUCED ACTIVATION OF RENAL COLLECTING DUCT NOS1 $\beta$ PROMOTES NATRIURESIS AND BLOOD PRESSURE CONTROL

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#### P-49

##### VIABILITY OF HUMAN POLYMORPHONUCLEAR LEUKOCYTES LOADED WITH SYNTHETIC MICROCAPSULES *IN VITRO*

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##### ELEVATED NITRITE (NO<sub>2</sub>) LEVELS EXERT BENEFICIAL RENO-PROTECTIVE EFFECTS IN INDIVIDUALS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION (PCI)

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##### **FOLIC ACID, RIBOFLAVIN, AND LPS-INDUCED NO PRODUCTION IN RAW 264.7 MURINE MACROPHAGE CELLS**

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#### **P-52**

##### **THE ROLE OF EXTRACELLULAR CYCLIC GMP IN HEPATOPROTECTION**

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#### **P-53**

##### **RAPID GLUTATHIONE EFFLUX UPON ATP STIMULATION AS A NOVEL REGULATORY MECHANISM FOR NLRP3 INFLAMMASOME ACTIVATION IN MACROPHAGES**

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#### **P-54**

##### **REGULATION OF RENIN VIA cGMP/PKG**

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#### **P-55**

##### **THE EFFECTS OF PRO-INFLAMMATORY STIMULI ON NITRIC OXIDE PRODUCTION IN AN *IN VITRO* MODEL OF GLIOMA**

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#### **P-56**

##### **NITRATE METABOLISM IN HUMAN SKELETAL MUSCLE CELL CULTURES**

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#### **P-57**

##### **THE $\beta$ -ADRENOCEPTOR / NO SYNTHASE AXIS IS PIVOTAL TO BOTH EARLY MORTALITY RISK AND LV DYSFUNCTION IN TS**

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#### **P-58**

##### **UNDERSTANDING THE HEME REGULATORY NETWORK CONTROLLING NOX5 HEME INSERTION AND ACTIVITY**

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#### **P-59**

##### **S-NITROSOTHIOL SIGNALLING INDUCES GLOBAL DNA HYPOMETHYLATION**

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#### **P-60**

##### **REGULATION OF CALCIUM ION/CALMODULIN-DEPENDENT PROTEIN KINASE I BY S-POLYSULFIDATION**

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##### **ALTERED NO METABOLISM CAN OPPOSE LEWIS LUNG CARCINOMA CELL CONTROL OF MACROPHAGE PHENOTYPE**

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#### **P-62**



**SOLUBLE GUANYLATE CYCLASE STIMULATOR IW-1701 ATTENUATES ACTIVATION OF ENDOTHELIAL CELLS AND LEUKOCYTES IN MOUSE MODEL OF TNF $\alpha$ -INDUCED INFLAMMATION.**

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**THE LABILE IRON POOL (LIP) CAN NO LONGER BE CONSIDERED SOLELY A PRO-OXIDATIVE CELLULAR IRON SOURCE**

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**NEURONAL NOS EXPRESSION PROMOTES ACETYLCHOLINE RECEPTOR SIGNALING ENHANCEMENT**

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**PROTECTION OF MICE AGAINST LETHAL ENDOTOXIN SHOCK BY NOVEL PERSULFIDE DONORS BASED ON N-ACETYL-L-CYSTEINE**

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**NITRITE BIOACTIVATION BY RED BLOOD CELLS POTENTIATED BY FAR RED LIGHT; APPLICATIONS IN THROMBOSIS**

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**REGULATION OF CYSTATHIONINE  $\gamma$ -LYASE BY CYSTEINE HYDROPER-SULFIDE**

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**ROLE OF SPAK IN NO PRODUCTION AND VASCULAR HYPOREACTIVITY IN ENDOTOXAEMIC MICE**

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**iNOS/NO/TACE REGULATED NOTCH SIGNALING PREVENTS CD4+ T CELL APOPTOSIS DURING ENDOTOXEMIA.**

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