



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

Sunday 16 - Thursday 20 September 2018
Oxford, UK

Abstract deadline: Wednesday 2 May
Early bird registration deadline: Monday 2 July

no2018.org.uk

PROGRAMME

Sunday 16 September

16:00 – 18:00	REGISTRATION	Keble College
19:00 – 21:00	WELCOME DRINKS RECEPTION	Museum of Natural History
	19:15 – 19:20 Welcome and introduction Mark CRABTREE (UK) and Philip JAMES (UK)	
	19:20 – 20:00 Welcome address and PLENARY 1 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)	
	PLENARY 2: Ferid MURAD (USA) 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	
	Session 1: Translational sGC	Session 2: NOS Biochemistry - Regulation and Signaling Physiology
	Co-Chairs: Adrian HOBBS (UK) + John GARTHWAITE (UK)	Co-Chairs: Miriam CORTESE-KROTT (GERMANY) + Jay ZWEIER (USA)
	09:30 – 09:50 Speaker 1 Peter SANDNER (GERMANY)	09:30 – 09:50 Speaker 4 Bill SESSA (USA)
	09:50 – 10:10 Speaker 2 Todd MILNE (USA) Making a little NO go a long way: next-generation sGC stimulators	09:50 – 10:10 Speaker 5 Brant ISAKSON (USA)
10:10 – 10:30 Speaker 3 Thorsten KESSLER (GERMANY)	10:10 – 10:30 Speaker 6 Swapli SOKUSARE (USA)	
10:30 – 10:45 Abstract 1	10:30 – 10:45 Abstract 2 PREVENTING ENOS PHOSPHORYLATION ON TYR657 ATTENUATES ENDOTHELIAL DYSFUNCTION AND CARDIOVASCULAR DISEASE THROUGH INHIBITION OF PYRUVATE KINASE M2	

	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)	<i>M. Siragusa</i> Goethe University, Frankfurt am Main (GERMANY)
10:45 – 11:15	Refreshments, exhibition, posters + networking	
11:15 – 12:45	<i>LT1</i>	<i>LT2</i>
	Session 3: Clinical/Translational NO	Session 4: NOS Biochemistry - Structural and Functional Biochemistry
	Co-Chairs: <i>Jon LUNDBERG</i> (SWEDEN) + <i>Bruce FREEMAN</i> (USA)	Co-Chairs: <i>Dennis STUEHR</i> (USA) + <i>Ingrid FLEMING</i> (GERMANY)
	11:15 – 11:45 Speaker 7 <i>Amrita AHLUWALIA</i> (UK)	11:15 – 11:45 Speaker 9 <i>Nigel SCRUTTON</i> (UK)
	11:45 – 12:15 Speaker 8 <i>Sruti SHIVA</i> (USA) Nitrite dependent regulation of mitochondrial function	11:45 – 12:15 Speaker 10 <i>Yoichi OSAWA</i> (USA)
	12:15 – 12:30 Abstract 3 DIETARY NITRATE INCREASES NITRIC OXIDE METABOLITS AND DECREASES BLOOD PRESSURE IN OBSTRUCTIVE SLEEP APNOEA SYNDROME: A 2 WEEK, DOUBLE-BLIND, RANDOMISED, PLACEBO-CONTROLLED TRIAL <i>Kerley C</i> Connolly Hospital, Dublin (IRELAND)	12:15 – 12:30 Abstract 5 THE SITE AND MECHANISM OF NITRIC OXIDE SYNTHASE UNCOUPLING <i>Antonius C.F. Gorren</i> , University Graz (AUSTRIA)
	12:30 – 12:45 Abstract 4 PREECLAMPSIA IS ASSOCIATED WITH REDUCED NITRIC OXIDE HOMEOSTASIS AND SIGNALING COMPARED WITH HEALTHY PREGNANT WOMEN <i>S. McCann Haworth</i> , Karolinska Institute, Stockholm (SWEDEN)	12:30 – 12:45 Abstract 6 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)
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>
	Session 5: Infection and Inflammation	Session 6: Species Interaction and Persulfides
	Co-Chairs: <i>Christian BOGDAN</i> (GERMANY) + <i>Ferric FANG</i> (USA)	Co-Chairs: <i>Martin FEELISCH</i> (UK) + <i>Peter NAGY</i> (HUNGARY)
	14:00 – 14:30 Speaker 11 <i>Christian BOGDAN</i> (GERMANY) Nitric oxide and arginase in acute and chronic cutaneous leishmaniasis	14:00 – 14:30 Speaker 14 <i>Takaaki AKAIKE</i> (JAPAN)
	14:30 – 15:00 Speaker 12 <i>Ferric FANG</i> (USA) Nitric Oxide in Staphylococcal-Host Interactions	14:30 – 15:00 Speaker 15 <i>Jon FUKUTO</i> (USA)
	15:00 – 15:30 Speaker 13 <i>Lalli RAMAKRISHNAN</i> (UK)	15:00 – 15:30 Speaker 16 <i>Fumito ICHINOSE</i> (USA) Role of sulfide metabolism in hypoxia tolerance
	15:30 – 15:45 Abstract 7 REGULATION OF MYCOBACTERIAL INFECTION BY MACROPHAGE <i>GCH1</i> AND TETRAHYDROBIOPTERIN <i>Eileen M^cNeill</i> , University of Oxford (UK)	15:30 – 15:45 Abstract 8 BIOSYNTHESIS MECHANISMS AND PHYSIOLOGICAL FUNCTIONS OF REACTIVE PERSULFIDES <i>A. Nishimura</i> , Tohoku University Graduate School of Medicine, Sendai (JAPAN)
15:45 – 16:15	Refreshments, exhibition, posters + networking	

16:15 – 18:00	<i>LT1</i>	<i>LT2</i>
	Session 7: Immunology / Metabolism / Immunometabolism	Session 8: R-SNO R-NNO and other PTMS
	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 <i>Speaker 17</i> <i>Doug THOMAS</i> (USA) Nitric oxide regulates gene expression via multiple epigenetic mechanisms</p> <p>16:45 – 17:15 <i>Speaker 18</i> <i>David WINK</i> (USA)</p> <p>17:15 – 17:45 <i>Speaker 19</i> <i>Dan McVICAR</i> (USA) Nitric Oxide Orchestrates the Rewiring of Carbon Fluxes During M1 Macrophage Polarization</p> <p>17:45 – 18:00 <i>Speaker 20</i> <i>Jade BAILEY</i> (UK) Nitric oxide modulates immuno-metabolism in murine macrophages</p>	<p>16:15 – 16:45 <i>Speaker 21</i> <i>Chris KEVIL</i> (USA) Sulfide thiol modification and its impact on NO bioavailability</p> <p>16:45 – 17:15 <i>Speaker 22</i> <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 <i>Speaker 23</i> <i>Jonathan STAMLER</i> (USA)</p> <p>17:45 – 18:00 <i>Speaker 24</i> <i>Joy SMITH</i> (London, UK) Sulforaphane-mediated inhibition of SHP2 as a potential pharmacotherapy for Noonan syndrome</p>
18:00	Meeting close Day One	
18:00 – 19:00	Elsevier Executive Board meeting	
19:00	Residents Dinner	<i>Keble College Dining Hall</i>
23:00	Keble College bar closes	

Tuesday 18 September

07:00 – 08:30	Residents Breakfast	<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)	
	PLENARY 3: <i>Salvador MONCADA</i> (UK)	
09:20 – 09:30	Transfer to parallel sessions	
09:30 – 10:45	<i>LT1</i>	<i>LT2</i>
	Session 9: Ischemia / Hypoxia	Session 10: Diabetes and Obesity
	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)</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)</p>	<p>09:30 – 09:50 <i>Speaker 28</i> <i>Charley LAI</i> (USA)</p> <p>09:50 – 10:10 <i>Speaker 28</i> <i>Justin PERCIVAL</i> Skeletal muscle nNOS as a regulator of insulin action</p>

	<p>Platelet mediated neutrophil degranulation aggravates myocardial ischemia and reperfusion injury</p> <p>10:30 – 10:45 Abstract 9 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>10:10 – 10:30 Speaker 29 <i>Mark KEARNEY</i> (UK)</p> <p>10:30 – 10:45 Abstract 10 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>
	<p>Session 11: Mitochondria and metabolism</p> <p>Co-Chairs: <i>Sruti SHIVA</i> (USA) + <i>Edward CHOUCANI</i> (USA)</p>	<p>Session 12: Redox-pathway control</p> <p> TACONIC</p> <p>Co-Chairs: <i>Phil EATON</i> (UK) + <i>Neill HOGG</i> (USA)</p>
	<p>11:15 – 11:45 Speaker 30 <i>Harry ISCHIROPOULOS</i> (USA)</p> <p>11:45 – 12:15 Speaker 31 <i>Stuart LIPTON</i> (USA)</p> <p>12:15 – 12:30 Speaker 32 <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 Speaker 33 <i>Edward CHOUCANI</i> (USA)</p>	<p>11:15 – 11:45 Speaker 34 <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 Speaker 35 <i>Yvonne JANSSEN-HEININGER</i> (USA)</p> <p>12:15 – 12:30 Speaker 36 <i>Francisco Jose SCHOPFER</i> (USA)</p> <p>12:30 – 12:45 Speaker 37 <i>Neill HOGG</i> (USA)</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>
	<p>Session 13: BHF Cardiovascular Session</p> <p></p> <p>Co-Chairs: <i>Phil JAMES</i> (UK) + <i>Mark CRABTREE</i> (UK)</p>	<p>Session 14: Environmental Chemistry and Toxicology</p> <p>Co-Chairs: <i>Brian CRANE</i> (USA) + <i>Kyle M LANCASTER</i> (USA)</p>
	<p>14:45 – 15:15 Speaker 38 <i>Ajay SHAH</i> (UK) Cell-specific effects of Nox2 on blood pressure and cardiovascular remodelling</p> <p>15:15 – 15:45 Speaker 39 <i>Philip BATH</i> (UK) High Explosive Treatment for Ultra-Acute Stroke: Hype of Hope</p> <p>15:45 – 16:00 Award winner EFFECTS OF DIETARY INORGANIC NITRATE ON BLOOD PRESSURE-DEPENDENT AND INDEPENDENT CARDIAC DYSFUNCTION</p>	<p>14:45 – 15:15 Speaker 40 <i>Jerome SANTOLINI</i> (FRANCE) NO-synthases as a new protein family: structure, function and evolution</p> <p>15:15 – 15:45 Speaker 41 <i>Elizabeth BOON</i> (USA) Discovery of NO-responsive hemoproteins and their roles in biofilm regulation</p> <p>15:45 – 16:00 Speaker 42 <i>Kyle M LANCASTER</i> (USA)</p>

	<p><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 Award winner 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>Nitric Oxide is an Obligate Intermediate Produced During Bacterial and, Possibly, Archaeal Nitrification</p> <p>16:00 – 16:15 Abstract 11 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>
	Session 15: Vascular Disease	Session 16: New Methodologies
	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 Speaker 43 <i>Phil CHOWIENCZYK</i> (UK)</p> <p>17:05 – 17:35 Speaker 44 <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 Speaker 45 <i>Thomas KELLER</i> (USA) Towards therapy: modeling of the alpha globin/eNOS complex</p> <p>17:50 – 18:05 Abstract 12 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 Speaker 46 <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 Speaker 47 <i>Greg THATCHER</i> (USA)</p> <p>17:35 – 17:50 Abstract 13 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 Abstract 14 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	Residents Dinner	<i>Keble College Dining Hall</i>
19:00	NO Board meeting. (NO board members only)	
23:00	Keble College bar closes	

Wednesday 19 September

07:00 – 08:30	Residents Breakfast	<i>Keble College Dining Hall</i>
07:30 – 08:30	REGISTRATION	<i>Maths Institute</i>
08:30 – 09:20	<i>LT1</i>	
	Chair: <i>David WINK</i> (USA)	
	PLENARY 4: Carol COLTON (USA)	
09:20 – 09:30	Transfer to parallel sessions	
09:30 – 10:45	<i>LT1</i>	<i>LT2</i>
	Session 17: Cancer	Session 18: Microbiome

	Co-Chairs: <i>Doug THOMAS</i> (USA) + <i>Tim BILLIAR</i> (USA)	Co-Chairs: <i>Nathan BRYAN</i> (USA) + <i>Larry WEISS</i> (USA)
	09:30 – 09:50 <i>Speaker 48</i> <i>Scot WALDMAN</i> (USA)	09:30 – 09:50 <i>Speaker 51</i> <i>Gena TRIBBLE</i> (USA)
	09:50 – 10:10 <i>Speaker 49</i> <i>Jenny CHANG</i> (USA)	09:50 – 10:10 <i>Speaker 52</i> <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 <i>Speaker 50</i> <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 Abstract 16 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 Abstract 15 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 Abstract 17 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	<i>LT1</i>	<i>LT2</i>
	Session 19: Nitric oxide and vascular redox signaling in health and disease	Session 20: Exercise
	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 <i>Speaker 53</i> <i>Emrah EROGLU</i> (USA) Genetic biosensors for imaging nitric oxide and implications for redox biology	11:15 – 11:45 <i>Speaker 57</i> <i>Andy JONES</i> (UK)
	11:45 – 12:15 <i>Speaker 54</i> <i>Joern STEINERT</i> (UK) Dysregulation of nitric oxide and redox signaling underlies synaptic dysfunction in neurodegeneration	11:45 – 12:15 Abstract 18
	12:15 – 12:30 <i>Speaker 55</i> <i>Joao LARANJINHA</i> (PORTUGAL) Role of nitric oxide in neurovascular coupling: consequences for neurodegeneration and aging	12:15 – 12:30 Abstract 19
	12:30 – 12:45 <i>Speaker 56</i> <i>Thomas P. KEELEY</i> (UK) Shear stress and inflammation regulated endothelial nitric oxide signaling under physiological normoxia	12:30 – 12:45 Abstract 20
12:45 – 13:15	Packed lunch, exhibition, posters + networking	
13:15	Meeting close Day Three	
13:30 – 15:30	Elsevier workshop LT2	
14:00 – 18:30	Excursions (optional) Blenheim Palace	

	Oxford walking tour	
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	Residents Breakfast	Keble College Dining Hall
07:30 – 08:30	REGISTRATION	Maths Institute
08:30 – 09:50	LT1	
	Session 21: Hot Topics (I-VIII)	
	Co-Chairs: <i>Jack LANCASTER</i> (USA) + <i>Andrew GOW</i> (USA)	
	<p>I 08:30 – 08:40 CONFORMATIONAL STUDY OF THE ELECTRONIC INTERACTIONS AND NITRIC OXIDE RELEASE POTENTIAL OF NEW S-NITROSOTHIOL DERIVATIVES OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (SNO-NSAID) <i>A.K. C. A. Reis</i>, Universidade Federal de São Paulo (BRAZIL)</p> <p>II 08:40 – 08:50 EFFECTS OF DIETARY NITRATE IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS <i>Karin E.L. Eriksson</i>, Karolinska Institute, Stockholm (SWEDEN)</p> <p>III 08:50 – 09:00 PIVOTAL ROLE OF ENDOTHELIAL CELL GTP CYCLOHYDROLASE AND TETRAHYDROBIOPTERIN IN CARDIAC HYPERTROPHY IN MICE <i>Chuaiphichai S</i>, University of Oxford (UK)</p> <p>IV 09:00 – 09:10 DETERMINING THE METABOLIC FATE OF NITROGEN OXIDE SPECIES USING ISOTOPIC TRACING AND HIGH RESOLUTION MASS SPECTROMETRY <i>Steven J. Mullett</i>, University of Pittsburgh (USA)</p> <p>V 09:10 – 09:20</p> <p>VI 09:20 – 09:30</p> <p>VII 09:30 – 09:40</p> <p>VIII 09:40 – 09:50</p>	
09:50 – 10:00	NO 2020 meeting launch	
10:00 – 10:30	Refreshments, exhibition, posters + networking	
10:30 – 12:00	LT1	LT2
	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)
	<p>10:30 – 10:45 Speaker 58 <i>David LEFER</i> (USA)</p> <p>10:45 – 11:15 Speaker 59 <i>Wayne ORR</i> (USA)</p> <p>11:15 – 11:45 Speaker 60 <i>Jinsong BIAN</i> (SINGAPORE) Biological functions of nitroxyl, a novel mediator generated by the interaction between nitric oxide and hydrogen sulfide</p> <p>11:45 – 12:00 Speaker 61 <i>Mike PLUTH</i> (USA) Chemical Tools for H₂S Delivery</p>	<p>10:30 – 10:45 Speaker 62 <i>Sidney MORRIS</i> (USA)</p> <p>10:45 – 11:15 Speaker 63 <i>John PERNOW</i> (SWEDEN) The role of arginase in endothelial and red blood cell dysfunction in cardiovascular disease and diabetes</p> <p>11:15 – 11:45 Speaker 64 <i>Loretta REYES</i> (USA) Dysregulated Arginine Metabolism and Myocardial Dysfunction in Chronic Kidney Disease</p> <p>11:45 – 12:00 Abstract 21 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)</p>
12:00 – 12:15	Comfort break	
12:15 – 13:45	<i>LT1</i>	<i>LT2</i>
	Session 24: Mechanisms of Nitrate-Nitrite Reduction and Bioactivity	Session 25: Biochemistry / Structural Biology of sGC
	Co-Chairs: <i>Marcelo MONTENEGRO</i> (SWEDEN) + <i>Alan SCHECHTER</i> (USA)	Co-Chairs: <i>Annie BEUVE</i> (USA) + <i>Peter SANDNER</i> (GERMANY)
	<p>12:15 – 12:40 Speaker 65 <i>Rakesh PATEL</i> (USA) Role of nitrated nucleotides in nitrite-dependent signaling from RBCs</p> <p>12:40 – 13:05 Speaker 66 <i>Mattias CARLSTRÖM</i> (SWEDEN) Role of host-microbiome and xanthine oxidoreductase in the bioconversion and cardiometabolic effects of the nitrate-nitrite-NO pathway</p> <p>13:05 – 13:30 Speaker 67 <i>Barbora PIKNOVA</i> (USA) The underappreciated role of skeletal muscle in nitrate-based nitric oxide metabolic pathways</p> <p>13:30 – 13:45 Abstract 22 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</p>	<p>12:15 – 12:45 Speaker 68 <i>Michael MARLETTA</i> (USA)</p> <p>12:45 – 13:15 Speaker 69 <i>Dennis STUEHR</i> (USA)</p> <p>13:15 – 13:30 Speaker 70 <i>Adam STRAUB</i> (USA)</p> <p>13:30 – 13:45 Abstract 23 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)</p>
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 CA²⁺/ CALMODULIN DEPENDENT PROTEIN KINASE II ACTIVITY VIA SITE SPECIFIC S-POLYSULFIDATION
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EFFECT OF COLD EXPOSURE ON DIETARY NITRATE METABOLISM AND BLOOD PRESSURE FOLLOWING THE ACUTE INGESTION OF NITRATE-RICH BEETROOT JUICE

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

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

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

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LOSS OF MYOCYTE SPECIFIC TETRAHYDROBIOPTERIN LEADS TO DILATED CARDIOMYOPATHY

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

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

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

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

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FRIENDS OR FOES? PRODUCT ANALYSIS OF REACTIONS BETWEEN GSNO AND H2S: CHARACTERIZATION OF THE N- AND S- SPECIATION
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REGULATORY ROLE OF AN ISOFORM-SPECIFIC RESIDUE AT THE CALMODULIN-HEME(NO SYNTHASE) INTERFACE IN THE FMN – HEME INTERDOMAIN ELECTRON TRANSFER

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

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

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

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THE ROLE OF cGMP/ cGKI SIGNALLING IN DIABETIC NEPHROPATHY

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NEURONAL NITRIC OXIDE SYNTHASE ACTIVATOR PROTEIN (NOS1-AP/CAPON) MODULATES CARDIAC SYMPATHETIC NEUROTRANSMISSION

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HYPEROXIA DECREASES TETRAHYDROBIOPTERIN IN PLASMA AND NITRIC OXIDE IN EXHALED BREATH

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

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IDENTIFICATION OF SOLUBLE GUANYLATE CYCLASE MODULATORS FOR DISORDERS OF THE CNS

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

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

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

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SEX DIFFERENCES IN RELAXANT RESPONSES OF RAT AORTAS TO CGMP GENERATORS

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

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

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

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NITRIC OXIDE PROVIDES MYOCARDIAL PROTECTION WHEN ADDED TO THE CARDIOPULMONARY BYPASS CIRCUIT DURING CARDIAC SURGERY: RANDOMIZED CONTROLLED TRIAL

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

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

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

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

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

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

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DISRUPTION OF METHYLARGININE METABOLISM IMPAIRS VASCULAR HOMEOSTASIS DURING PREGNANCY

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

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RED LIGHT STIMULATES NO DEPENDENT VASODILATION IN HUMAN SUBJECTS

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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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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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HOW DRUGS AND NITRIC OXIDE BIND AND STIMULATE SOLUBLE GUANYLYL CYCLASE

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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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SKELETAL MUSCLE NNOS REGULATES INSULIN ACTION AND THE DEVELOPMENT OF OBESITY-INDUCED INSULIN RESISTANCE

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

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SKELETAL MUSCLE AS THE LARGEST BODY NITRATE RESERVOIR

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HIGH SALT INDUCED ACTIVATION OF RENAL COLLECTING DUCT NOS1 β PROMOTES NATRIURESIS AND BLOOD PRESSURE CONTROL

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

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ELEVATED NITRITE (NO₂) 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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INHIBITION OF P2X7 RECEPTOR DELAYS THE PROGRESSION OF DIABETIC NEPHROPATHY AND REPRESSES KLOTHO EXPRESSION

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THE ROLE OF EXTRACELLULAR CYCLIC GMP IN HEPATOPROTECTION

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

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REGULATION OF RENIN VIA cGMP/PKG

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

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NITRATE METABOLISM IN HUMAN SKELETAL MUSCLE CELL CULTURES

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THE β -ADRENOCEPTOR / NO SYNTHASE AXIS IS PIVOTAL TO BOTH EARLY MORTALITY RISK AND LV DYSFUNCTION IN TS

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UNDERSTANDING THE HEME REGULATORY NETWORK CONTROLLING NOX5 HEME INSERTION AND ACTIVITY

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S-NITROSOTHIOL SIGNALLING INDUCES GLOBAL DNA HYPOMETHYLATION

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

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INTRACAROTID SODIUM NITROPRUSSIDE ON 5TH POST ISCHEMIC STROKE DAY IN MIDDLE CEREBRAL ARTERY OCCLUSION (MCAO) RAT MODEL

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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 γ -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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