



# 9<sup>th</sup> International Conference on Heme Oxygenases Prague 2016

September 14 - 17

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## Scientific programme

Last update: September 14, 2016

Day	Time	Session	Session Title, Chair	Speakers, Talk Title
14.9. Wen	15:00- 16:00			<b>Registration Opens</b>
	16:00- 16:10			<b>Welcome and Opening Remarks</b> Tomáš Zima (rector of the Charles University in Prague) / Libor Vitek
	16:10- 16:50		<b>Opening Lecture</b> Pavel Martásek, Czech Republic	<b>Toru Shimizu</b> , Tohoku University, Japan. Role of heme in nature
	16:50- 17:50	1	<b>HMOX and mitochondria</b> Jiri Neuzil, Australia	16:50-17:10. <b>Anupam Agarwal</b> , University of Alabama at Birmingham, USA. Regulation of mitochondrial function by HO-1 17:10-17:30. Rychtarcikova Z, Lettlova S, Tomkova V, Neuzil J, <b>Jaroslav Truksa</b> , Czech Acad Sci, Prague, Czech Rep; Mitochondria, iron metabolism and cancer stem cells 17:30-17:50. <b>Roberta Foresti</b> , Roberto Motterlini. INSERM, University Paris-Est, Paris, France. The interplay between CO and mitochondria
	19:30- 21:30			<b>Welcome Reception (Carolinum)</b>
15.9. Thru	8:00-8:30		<b>State-of-the Art Lecture</b> Asif Ahmed, UK	<b>Phyllis Dennery</b> , University of Pennsylvania, USA. Role of heme oxygenase in cellular signaling

	8:30-9:30	2	<b>Role of HMOX in cellular differentiation</b> Roland Stocker, Australia	8:30-8:50. Szade K, Zukowska M, Nowak WN, Szade A, Bukowska-Strakova K, Kachamakova-Trojanowska N, Dulak J, <b>Alicja Jozkowicz</b> , Jagiellonian University, Krakow, Poland. To be still young: heme oxygenase-1 prevents hematopoietic stem cells from premature aging 8:50-9:10. <b>James F. George</b> , University of Alabama, Birmingham. HMOX1 in immune cell differentiation 9:10-9:30. <b>Rodriguez AM</b> , Mahrouf-Yorgov M, Motterlini R, Foresti R. Université Paris Est, France. Mitochondria from dying cells activate the cytoprotective function of mesenchymal stem cells through a heme oxygenase-1- dependent mechanism
	9:30-10:00	<b>Coffee Break</b>		
	10:00-11:30	3	<b>HMOX1 and cardiovascular and metabolic diseases</b> Jozsef Balla, Hungary	10:00-10:20. <b>Karl Nath</b> , Kang L, Juncos JP, Grande JP, Croatt AJ, Hillestad ML, Barry MA, Katusic ZS. Mayo Clinic, Rochester, MN, USA. The functional significance of the heme oxygenase system in pathologic shear stress 10:20-10:40. <b>Joseph F Ndisang</b> , University of Saskatchewan. Heme oxygenase is an important switch-box that regulates insulin signaling and glucose metabolism 10:40-11:00. <b>Jeremias C Kupatt</b> , Hinkel R, Ludwig Maximilian University, Munich, Germany. Heme oxygenase 1 gene therapy provides cardioprotection in a preclinical pig model 11:00-11:15. Zhang M, Nakamura K, Lawal A, Gong KW, Agarwal A, Kupiec-Weglinski J, <b>Araujo J</b> . UCLA School of Medicine, USA. Myeloid specific HO-1 expression protects against ischemia reperfusion injury 11:15-11:30. <b>Leaf DE</b> , Body SC, Muehlschlegel JD, McMahon GM, Lichtner P, Collard CD, Shernan SK, Fox AA, Waikar SS. Brigham and Women's Hospital, Boston, USA. Length polymorphisms in heme oxygenase-1 and AKI following cardiac surgery
	11:30-12:00		<b>State-of-the Art Lecture</b> Karl-Heinz Wagner	<b>Jiri Neužil</b> , Kovarova J, Bajzikova M, Dong L, Berridge MV. Griffith University, Australia. Horizontal transfer of mitochondria and its context in cancer
	12:00-13:00	<b>Lunch and Poster Viewing</b>		
	13:00-14:10	4	<b>HMOX1 and microRNAs</b> Barbara Wegiel	13:00-13:20. <b>Feng Guo</b> , UCLA, USA. microRNA maturation and heme oxygenase 13:20-13:40. Pietraszek-Gremplewicz K, Kozakowska M, Szade K, Ciesla M, Bronisz I, Seczynska M, Bukowska-Strakova K, Jozkowicz A, <b>Jozef Dulak</b> , Jagiellonian University, Krakow, Poland. Heme oxygenase-1 and microRNAs interaction in Duchenne muscular dystrophy 13:40-13:55. <b>Cressatti M</b> , Song W, Liberman A, Galindez C, Schipper HM. MicroRNA regulation in the GFAP. HMOX1 mouse model of Parkinson disease 13:55-14:10. <b>Ciesla M</b> , Marona P, Jež M, Seczyńska M, Kozakowska M, Loboda A, Szade A, Nowak W, Dulak J, Józkowicz A. Jagiellonian University, Krakow, Poland. Heme oxygenase-1 controls the oxidative stress – HDAC4 – miR-206 axis in rhabdomyosarcoma

	14:10-15:40	5	<b>HMOX pathway and iron metabolism</b> Prem Ponka, Canada	<p>14:10-14:30. <b>John D Belcher</b>, Nathan Brinkman, Gregory M. Vercellotti. University of Minnesota, USA. HO-1: The ultimate cytoprotectant in sickle cell disease?</p> <p>14:30-14:50. Lanceta L, Burkhardt P, Soucy P, Li C, <b>John W Eaton</b>, University of Louisville, Kentucky, USA. Heme oxygenase-1, ferritin and life in extreme environments</p> <p>14:50-15:10. <b>Alex Sheftell</b>, Spartan Bioscience Inc. Ottawa, ON, Canada. Is the heme oxygenase activity of HO-1 necessary for the protection of cells from oxidative insult?</p> <p>15:10-15:25. Ingoglia G, Sag CM, Rex N, De Franceschi L, Vinchi F, Cimino J, Petrillo S, Wagner S, Silengo L, Altruda F, Maier L, Hirsch E, Ghigo A, <b>Tolosano E</b>. University of Torino, Italy. Hemopexin counteracts systolic dysfunction induced by heme-driven oxidative stress</p> <p>15:25-15:40. <b>Hamdi A</b>, Garcia dos Santos D, Sheftel A, Ponka P, McGill University, Montreal, Canada. Regulation of heme levels during erythroid cell development: a balancing act</p>
	15:40-16:10	<b>Coffee Break</b>		
	16:10-17:40	6	<b>Biliverdin reductase</b> Mahin Maines, USA	<p>16:10-16:30. Gibbs PE, Miralem T, <b>Mahin Maines</b>, University of Rochester, Rochester, USA. A novel hBVR-based technology to regulate insulin receptor and Akt kinase activities and treat diabetes</p> <p>16:30-16:50. <b>Barbara Wegiel</b>, Harvard University, USA. Is biliverdin reductase a key regulator of inflammation?</p> <p>16:50-17:10. <b>Terry Hinds</b>, University of Toledo, USA. Biliverdin reductase A and hepatic steatosis</p> <p>17:10-17:25. <b>Barone E</b>, Di Domenico F, Butterfield DA, Perluigi M. Sapienza University of Rome, Italy. Impairment of biliverdin reductase-A promotes brain insulin resistance in Alzheimer disease</p> <p>17:25-17:40. <b>Paul B.</b>, Vasavda C, Tokhunts R, Sbodio JJ, Snowman AM, Snyder SH. Johns Hopkins University, Baltimore, USA. Neuroprotective roles of biliverdin reductase in the brain</p>
	17:40-18:50	7	<b>Controversial role of HMOX in carcinogenesis</b> Alicja Józkowicz, Poland	<p>17:40-18:00. <b>Elba Vazquez</b>, Buenos Aires, Argentina. Anti-oncogenic potential of HMOX1</p> <p>18:00-18:20. Park SA, <b>Hye-Kyung Na</b>, Sungshin Women's University, Seoul, South Korea. Induction of heme oxygenase-1 by 4-hydroxyestradiol promotes mammary cell transformation and tumorigenesis</p> <p>18:20-18:35. <b>Fest S</b>, Zenclussen AC. Otto-von-Guericke University, Magdeburg, Germany. HO-1 blockage is effective in stimulating the host immune system to fight against neuroblastoma</p> <p>18:35-18:50. <b>Jaworski FM</b>, Gentilini LD, Gueron G, Meiss RP, Ortiz EG, Berguer PM, Ahmed A, Navone N, Rabinovich GA, Compagno D, Laderach DJ, Vazquez E, University of Buenos Aires, Argentina. In vivo hemin pre-conditioning targets the vascular and immunological compartments and restrains prostate tumor development</p>
	19:40	<b>Faculty Dinner</b>		
16.9. Fri	8:00-8:30		<b>State-of-the Art Lecture</b> Jozef Dulak, Poland	Garcia-Santos D, Hamdi A, Sheftel AD, <b>Prem Ponka</b> , McGill University, Canada. Iron and heme: Our friends and foes

	8:30-10:00	8	<b>HMOX and vascular system</b> Anupam Agarwal, USA	8:30-8:50. Wang K, Ahmad S, Murdoch C, <b>Asif Ahmed</b> , Aston University, Birmingham, UK. Vascular-targeted molecules to limit the risky business of pregnancy 8:50-9:10. Kong S, Ni J, Newington D, Dunn LL, Ayer A, Suarna C, Lam M, Maghzal G, <b>Roland Stocker</b> , Victor Chang Cardiac Research Institute, Sydney, Australia. Inhibition of vascular smooth muscle cell migration by C-terminus-truncated, enzymatically active heme oxygenase-1 9:10-9:30. <b>Gregory Vercelloti</b> , Smith A, Belcher JD. University of Minnesota, USA. Hepatic overexpression of hemopexin inhibits inflammation and vascular stasis in murine models of sickle cell disease 9:30-9:45. <b>Petrillo S</b> , Chiabrando D, Mercurio S, Merlo G, Santoro M, Silengo L, Altruda F, Tolosano E. University of Turin, Italy. Endothelial loss of the heme exporter Flvcr1A alters vascular integrity 9:45-10:00. <b>Vinchi F</b> , Simmelbauer A, Altamura S, Spaich S, Galy B, Hentze MW, Muckenthaler MU. University of Heidelberg, Germany. Iron causes vascular oxidation and accelerates atherosclerosis progression
	10:00-10:30	<b>Coffee Break</b>		
	10:30-12:00	9	<b>HMOX and immune system</b> Miguel Soares, Portugal	10:30-10:50. <b>Ana Zenclessen</b> , Otto-von-Guericke University Magdeburg, Germany. HO-1 derived carbon monoxide modulates immune cells to support pregnancy 10:50-11:10. Nakamura K, Zhang M, Kageyama S, Araujo J, <b>Jerzy Kupiec-Weglinski</b> , UCLA, Los Angeles, USA. HO-1/SIRT1/p53 axis regulates macrophage activation and attenuates liver ischemia-reperfusion injury in mice 11:10-11:30. <b>Brian Zuckerbraun</b> , University of Pittsburgh, USA, HMOX/CO and trauma/hemorrhagic shock mediated inflammatory and immune dysfunction 11:30-11:45. <b>Zhao H</b> , Kalish F, Wong RJ, Stevenson DK. Stanford University, USA. Heme oxygenase-1 affects uterine infiltration of myeloid cells and their oxidative stress in early pregnancy 11:55-12:00. <b>Leclerc J</b> , Moestrup SK, Doré S. University of Florida, USA. CD163 has distinct temporal influences on hemorrhagic stroke outcomes
	12:00-13:00	<b>Lunch and Poster Viewing</b>		
	13:00-14:30	10	<b>HMOX and inflammation</b> Leo Otterbein, USA	13:00-13:20. <b>Hun Taeg Chung</b> , University of Ulsan, South Korea. Carbon Monoxide Promotes Inter-Organelle Communication through the Activation of TFEB/3 and PGC-1+A24:E26 13:20-13:40. <b>Miguel Soares</b> , Instituto Gulbenkian de Ciência, Oeiras, Portugal. A central stage for heme catabolism in tissue damage control 13:40-14:00. <b>Marcelo T. Bozza</b> , Universidade Federal do Rio de Janeiro, Brasil. Heme modulates innate immune receptor signaling dependently of ROS and Syk 14:00-14:15. Dorresteyn M, Paine M, Zilian E, Fenten MG, Janciauskiene S, Figueiredo C, Eiz-Vesper B, Blasczyk R, Dekker D, Pennings B, Scharstuhl A, Smits P, Larmann J, Theilmeier G, Hoeven JG, Wagener FADT, Pickkers P, <b>Immenschuh S</b> . Hannover Medical School, Hannover, Germany. Cell-type specific down-regulation of heme oxygenase-1 by lipopolysaccharide via Bach1 in primary human mononuclear cells 14:15-14:30. <b>Ramos S</b> , Sundaram B, Tolosano E, Gozzelino R, Soares MP, Instituto Gulbenkian de Ciência, Oeiras, Portugal. Kidney proximal tubular epithelial cells control disease tolerance to malaria by maintaining heme/iron homeostasis

	14:30-15:45	11	<b>Novel techniques to study HMOX pathway</b> Claudio Tiribelli, Italy	<p>14:30-14:50. <b>Gus Maghzal</b>, Suarna C, Ayer A, Chen YC, Peter KH, Stocker R. Victor Chang Cardiac Research Institute, Sydney, Australia- Sensitive LC-MS/MS Assay for the simultaneous detection of heme, biliverdin and bilirubin in complex biological sample</p> <p>14:50-15:10. <b>Ichiro Morioka</b>, Kobe University Graduate School of Medicine, Japan. A novel measurement method for serum unconjugated bilirubin levels using a bilirubin-inducible fluorescent protein from eel muscle</p> <p>15:10-15:30. Erapaneedi R, da Graca AP, <b>Friedemann Kiefer</b>, Max Planck Institute for Molecular Biomedicine. Approaches to image vascular development and disease in the mouse</p> <p>15:30-15:45. <b>Jašprová J</b>, Teclová A, Vitek L. Charles University in Prague, Czech Republic. Novel method for quantitative determination of bilirubin photoisomers</p>
	15:45-16:15	<b>Coffee Break</b>		
	16:15-18:00	12	<b>Young Investigators Session</b> Roberta Foresti, France	<p>16:15-16:30. <b>Lucie Muchova</b>, Charles University in Prague, Czech Republic. Beneficial roles of CO in liver pathologies.</p> <p>16:30-16:45. Tomczyk M, Szade K, Kraszewska I, Bukowska-Strakowa K, Jozkowicz A, Dulak J, <b>Agnieszka Jazwa</b>, Jagellonian University, Krakow, Poland. HMOX1 and macrophages in cardiac homeostasis and repair following myocardial infarction</p> <p>16:45-17:00. <b>Luca Vanella</b>, University of Catania, Italy. Heme oxygenase-1 nuclear translocation regulates bortezomib-induced cytotoxicity in myeloma cells</p> <p>17:00-17:15. <b>Andrew Bulmer</b>, Griffith University, Australia. Metabolic effects of bilirubin: key findings from animal models</p> <p>17:15-17:30. <b>Schallner N</b>, Goebel U; Gallo D; Fuller P, Hanafy KA, Otterbein LE. University Medical Center Freiburg, Germany. Neuronal injury after subarachnoid hemorrhage is determined by a carbon monoxide sensing change in circadian rhythm</p> <p>17:30-17:45. <b>Garcia dos Santos D</b>, Hamdi A, Zidova Z, Horvathova M, Ponka P, McGill University, Montreal, Canada. Investigations of heme oxygenase 1 and its inhibitors in <math>\beta</math>-thalassemia</p> <p>17:45-18:00. <b>Vijayan V</b>, Zilian E, Saragih H, Hiller O, Figueiredo C, Aljabri A, Blasczyk R, Theilmeier G, Becker JU, Larmann J, Immenschuh S. Hannover Medical School, Hannover, Germany. Heme oxygenase-1 inhibits HLA class I antibody-dependent endothelial cell activation</p>
	19:00	<b>GalaDinner</b>		
17.9. Sat	8:00-8:45	13	<b>Natural products as modulators of HMOX system</b> Ron Wong, USA	<p>8:00-8:22. Kim SH, Kim W, Zhong X, Lee HN, Kim K, Suh YG, Kim C, Cha YN, <b>Young-Joon Surh</b>, Seoul National University, South Korea. Taurine chloramine exerts anti-inflammatory and proresolving effects through induction of heme oxygenase-1 expression</p> <p>8:22-8:45. <b>Vladimir Kren</b>, Vitek I. Czech Acad Sci, Prague, Czech Rep; Silymarin uncovered: Molecules or a "quack remedy"</p>

8:45-10:15	14	<b>Gaseous transmitters</b> Viktor Kožich, Czech Republic	8:45-9:05. <b>Roberto Motterlini</b> , Roberta Foresti. INSERM, University Paris-Est, Paris, France. Advances in the design of pharmacological agents targeting HO-1/CO 9:05-9:25. <b>Andreas Papapetropoulos</b> , University of Athens, Greece. H2S in homeostasis and disease: paradigms from the cardiovascular system 9:25-9:45. <b>Csaba Szabo</b> , University of Texas, USA. Gaseous transmitters (NO, CO, H <sub>2</sub> S) in cancer: pathways and interactions 9:45-10:00. <b>Steiger C</b> , Uchiyama K, Naito Y, Meinel L. University of Wuerzburg, Germany. Controlled oral delivery of therapeutic gases – local carbon monoxide for ulcerative colitis 10:00-10:15. <b>Doré S</b> . University of Florida, Gainesville, USA. Neuroprotective mechanisms of carbon monoxide and heme oxygenases on stroke outcomes
10:15-10:45	<b>Coffee Break</b>		
10:45-12:00	15	<b>Biological effects of bilirubin</b> Libor Vitek, Czech Republic	10:45-11:05. <b>Claudio Tiribelli</b> , Silvia Gazzin, Liver Research Center, Trieste, Italy. Bilirubin research overview with the focus on cellular events 11:05-11:25. <b>Ron Wong</b> , Stanford University, USA: Bilirubin neurotoxicity 11:25-11:45. <b>Karl-Heinz Wagner</b> , University of Vienna. Protective effects of bilirubin 11:45-12:00. <b>Zelenka J</b> , Dvořák A, Alán L, Zadinová M, Haluzík M, Vitek L. Charles university in Prague, Czech Republic. Hyperbilirubinemia counteracts inflammation in aging: role of redox homeostasis
12:00-13:00	<b>Lunch</b>		
13:00-13:45	16	<b>Heme oxygenase-2</b> Kanji Nakatsu. Canada	13:00-13:22. <b>Stephen W Ragsdale</b> , Fleischhacker A, Zuiderweg E, Kochert B, Engen J. University of Michigan, USA. Role of HMOX2 in oxidative stress defense 13:22-13:45. <b>David E. Stec</b> , University of Mississippi. Role of heme oxygenase-2 (HO-2) in arterial hypertension
13:45-15:00	17	<b>Interplay between Nrf2 and HMOX pathway</b> Young-Joon Surh, South Korea	13:45-14:05. <b>Agnieszka Łoboda</b> , Jagiellonian University, Krakow, Poland. Nephroprotective effect of heme oxygenase-1 and Nrf2 – role of microRNAs 14:05-14:25. <b>Kazuhiko Igarashi</b> , Watanabe-Matsui M, Tohoku University, Japan. Heme regulates Bach2 protein interaction by binding to its intrinsically disordered region 14:25-14:45. <b>Antonio Cuadrado</b> , Autonomous University of Madrid. Role of Nrf2 in carcinogenesis 14:45-15:00. Kłoska D, Kopacz A, Augustyniak A, Dulak J, Jozkowicz A, <b>Grochot-Przeczek A</b> . Jagiellonian University, Krakow, Poland. Nrf2-dependent angiogenesis is not directly related to its transcriptional activity
15:00-16:15	18	<b>Novel approaches in chemistry and pharmacology with respect to HMOX system</b> Petr Klán, Czech Republic	15:00-15:20. <b>Hiroaki Kitagishi</b> , Koji, Doshisha University, Japan. Induction of HO-1 expression by selective removal of endogenous CO 15:20-15:40. <b>Kanji Nakatsu</b> , Queen's University, Kingston, Canada. Structure-activity relationship of HMOX modulation 15:40-16:00. <b>Kamil Sitarz</b> , SELVITA, Krakow, Poland. Heme oxygenase-1 as an oncology target: focus on small molecule inhibitors 16:00-16:15. <b>Wang B</b> . Georgia State University, USA. Organic carbon monoxide prodrugs that release CO under physiological conditions with tunable release rates
16:15-16:25	<b>Concluding Remarks</b> Libor Vitek		

Time for all presentations include 3 minutes for discussion