

- Program -



October 31 (Wednesday)

13:00~15:00: **Registration**

15:00~15:10: **Opening Ceremony**

15:10~16:00: **Opening Keynote Lecture** (Chair: **Asif Ahmed**)

Sponsored by the Tumor Microenvironment Global Core Research Center of Seoul National University

Mahin Maines (USA)

The heme oxygenase-biliveridin reductase system: the humble beginnings, the precipitous ascent and the bright future

16:00~17:20: **Session I. Heme oxygenase and its master regulator Nrf2 in aging, metabolic/neurodegenerative disorders and cancer** (Chair: **Shinya Toyokuni & Jung Han Yoon Park**)

Sponsored by the Medical Research Center of Daegu Haany University

Henry J. Forman (USA)

Altered basal and inducible Nrf2-regulated gene expression in aging

Young-Joon Surh (Korea)

Dual roles for Nrf2 and HO-1 in carcinogenesis

Ben Jing Wu (Australia)

Role of heme oxygenase-1 in the apolipoprotein A-I-mediated reduction of insulin resistance in pregnant Wistar rats

Jung Hee Jang (Korea)

Role of the Nrf2-HO-1 axis in neurohormetic responses for the prevention and treatment of Alzheimer's disease

17:30~20:30: **Welcome Reception**

November 1 (Thursday)

9:00~10:20: **Session II. Heme oxygenase and iron metabolism/disposition**

(Chair: **David Stec & Myung Hee Chung**)

Phyllis Dennery (USA)

HO-1 regulates cellular iron transport and bioenergetics

Shinya Toyokuni (Japan)

Ferroptosis in cancer research

Des R. Richardson (Australia)

Intracellular iron transfer mediated by the iron chaperone, PCBP2: Formation of a metabolon with heme oxygenase I and cytochrome P450 reductase.

Gennadiy Kovtunovych (USA)

Heme oxygenase-1 deficiency disease: pathogenesis and treatment

10:20~10:50: **Coffee Break**

10:50~11:20: **State-of-the-Art Lecture I** (Chair: **Roberto Motterlini**)

Hun Taeg Chung (Korea)

HO-1/CO system expands its territory to metabolism via interorganellar communication

11:20~12:40: **Session III. Physiologic functions of carbon monoxide** (Chair: **Libor Vitek & Chang Duk Jun**)

Sponsored by the National Creative Research Laboratory for Ca²⁺ signaling Network, Chonbuk National University

Stefan W. Ryter (USA)

Mechanisms of HO-1/CO dependent cytoprotection: from autophagy to

inflammasomes

Uh-Hyun Kim (Korea)

Roles of CO and NO in Ca²⁺ signaling for insulin secretion in pancreatic islets

Hiroaki Kitagishi (Japan)

Detection and removal of endogenous carbon monoxide in vitro and in vivo by an aqueous hemoprotein model complex

Hongjun Wang (USA)

Harvesting human islets in carbon monoxide-saturated medium enhances insulin Independence after Islet autotransplantation

12:40~13:40: **Lunch & Poster Viewing**

13:40~15:00: **Session IV. Heme oxygenase in cellular immunity and inflammation**
(Chair: **Mahin Maines & Ki Churl Chang**)

Sponsored by National Creative Research Laboratory/Immune Synapse and Immune Disorder Research Lab., GIST

Jong-Seok Moon (Korea)

Carbon monoxide regulates glycolysis-dependent NLRP3 inflammasome activation in macrophages

Tomohisa Takagi (Japan)

The role of heme oxygenase-1 in the intestinal inflammation

Yeonsoo Joe (Korea)

CO-induced TTP resolves acute inflammation by increasing autophagolysosome under microbial sepsis

Sebastian Weis (Germany)

Heme induces trained immunity

15:00~16:00: **Poster Discussion (with Refreshments)**

16:00~17:15: **Young Investigator Session I** (Chair: **Yoshito Kumagai & Taeg Kyu Kwon**)

Nils Schallner (Germany)

Carbon monoxide controls microglial erythrophagocytosis by regulating CD36 surface expression to reduce the severity of hemorrhagic injury

Young Sam Keum (Korea)

Identification of marliolide and convallatoxin as novel activator and inhibitor of Nrf2/HO-1 axis

Mateusz Tomczyk (Poland)

Significance of heme oxygenase-1 and cardiac macrophages in myocardial injury

Youngtae Jeong (Korea)

Role of KEAP1/Nrf2 mutations in lung stem cells and lung cancers

Do-Hee Kim (Korea)

Role of heme oxygenase-1 and Nrf2 in manifestation of breast cancer stem cell-like properties

18:30~ 21:00: **Faculty Dinner**

November 2 (Friday)

9:00~10:20: **Session V. Regulators/targets of heme oxygenase and its products**
(Chair: **Henry J. Forman & Young-Min Park**)

Sponsored by the Medical Research Center/TLR (Toll-like receptor) Related Diseases Research Center, Konkuk University

Chhanda Biswas (USA)

Toll-like receptor 9 (TLR9) induced IL-10 in macrophages is under the control of a HO-1/CO axis

Hyeyoung Kim (Korea)

ATM inhibits oxidative stress-induced apoptosis by regulating HO-1 expression

Sabine Amslinger (Germany)

Electrophile tuning for the development of new heme oxygenase-1 (HO-1) inducers

Hye-Kyung Na (Korea)

15-Keto-prostaglandin E₂ facilitates efferocytosis through Nrf2-mediated upregulation of HO-1 expression

10:20~10:50: **Coffee Break**

10:50~11:20: **State-of-the-Art Lecture II** (Chair: **Phyllis Dennergy**)

Roland Stocker (Australia)

Heme oxygenase in vascular health and disease

11:20~12:40: **Session VI. Bilirubin and biliverdin reductase** (Chair: **Miguel Soares & Ock Jin Park**)

David Stec (USA)

Loss of biliverdin reductase-A (BVRA) promotes lipid accumulation and lipotoxicity in mouse proximal tubule cells

Libor Vitek (Czech Republic)

Bilirubinomics 2018

Karl-Heinz Wagner (Austria)

Bilirubin metabolism and its link to metabolic health

Yoon Kyung Choi (Korea)

The role of heme oxygenase metabolites in regulation of neurovascular function

12:40~13:40: **Lunch & Poster Viewing**

13:40~15:00: **Session VII. Heme oxygenase in tissue repair, remodeling and protection** (Chair: **Jesus Araujo & Jeong Woo Park**)

Sponsored by the Medical Research Center of Wonkwang University

Miguel Soares (Portugal)

Heme catabolism in disease tolerance to infection

Ki Baik Hahm (Korea)

Walnut mitigates NSAIDs-associated gastrointestinal damage via HO-1 induction

Asif Ahmed (UK)

Interplay between soluble Flt-1, heme oxygenase-1 and microRNAs in preeclampsia

Jerzy W. Kupiec-Weglinski (USA)

HO-1 in liver transplantation: from bench to bedside

15:00~16:00: **Poster Discussion (with Refreshments)**

18:00~21:00: **Gala Dinner**

Nov. 3 (Saturday)

9:00~10:20: **Session VIII. Heme oxygenase and other mediators of cellular stress response** (Chair: **Karl-Heinz Wagner & Kwon Moo Park**)

Cellular Responses to Metabolic Stress Research Center, UNIST

Jesus Araujo (USA)

Relevance of the Nrf2/HO-1 axis in the cardiovascular responses to environmental stresses

Yoshito Kumagai (Japan)

Electrophilic stress regulated by reactive sulfur species

Chuen-Mao Yang (Taiwan)

ROS/Nrf2/ARE-dependent HO-1 induction attenuates lung inflammatory diseases

David Haines (USA)

Heat shock protein-mediated immunoregulation for prevention and treatment of systemic inflammatory response syndromes (SIRS)

10:20~10:50: **Coffee Break**

10:50~11:20: **State-of-the-Art Lecture III** (Chair: **Leo Otterbein**)

Jozef Dulak (Poland)

Heme oxygenase-1 in stem cells: More than cytoprotection

11:20~12:40: **Session IX. Heme oxygenase and Nrf2 in cell differentiation, proliferation and survival** (Chair: **Roberta Foresti & Jong-Sang Kim**)

Shaw-Fang Yet (Taiwan)

Heme oxygenase-1 in embryonic stem cell differentiation

Jin-Won Hyun (Korea)

The involvement of RUNX3 in the NRF2-HO1 pathway

Roberta Foresti (France)

Dual-activity molecules targeting the Nrf2/heme oxygenase-1 as anti-inflammatory agents

Anna Grochot-Przeczek (Poland)

S-Nitrosylation of NOX4 prevents oxidative damage and apoptosis of endothelial cells devoid of Nrf2

12:40~13:40: **Lunch**

13:40~15:20: **Session X. Clinical aspects of heme oxygenase and its products**

(Chair: **Shaw-Fang Yet & Yong Chool Boo**)

Sponsored by the Meta Inflammation Research Institute, University of Ulsan

Roberto Motterlini (France)

Therapeutic applicability of CO-releasing molecules and detection of CO in biological samples

Binghe Wang (USA)

Organic carbon monoxide prodrugs as research tools and for medicinal applications

Stephan Immenschuh (Germany)

Role of the heme-heme oxygenase-1 system in inflammation

Sylvain Doré (USA)

Haptoglobin is present as zonulin in the brain and its overexpression improves intracerebral hemorrhage (ICH) outcomes

15:20~15:40: **Coffee Break**

15:40~16:55: **Young Investigator Session II** (Chair: **Stefan W. Ryter & Hong Pyo Kim**)

Laura Braud (France)

Carbon monoxide-induced metabolic switch in adipocytes improves insulin resistance in obese mice

Kaniz Fatima Binte Hossain (Japan)

Effects of dihydrolipoic acid on mercury toxicity and heme oxygenase-1 expression in PC12 cells

Vijith Vijayan (Germany)

Genetic deficiency of C5aR2 protects against ischemia-reperfusion-induced kidney injury-role of heme oxygenase (HO)-1 expressing M2-macrophages

Claudia Anna Lang (Austria)

Targeting mechanisms to better understand the improved lipid and glucose status of mild hyperbilirubinemia.

Siriwoot Butsri (Thailand)

13-cis-Retinoic acid induces apoptosis by increasing intracellular reactive oxygen species and down-regulating Nrf-2 targeted genes in human cholangiocarcinoma cells

16:55~17:20: **Closing & Award Ceremony**