



## 7th Meeting of the Canadian Oxidative Stress Consortium

**May 10-12, 2012**

Lakehead University  
Thunder Bay, Ontario

The aim of the COSM is to bring together **today's leading Canadian researchers** from the vast field of oxidative stress. The Oxidative Stress Consortium has held a meeting every other year, and it is the largest Canadian conference focusing on oxidative stress. Assembling scientists from this exciting field provides an opportunity for all to exchange novel ideas, provide insight into their current work, and initiate collaborations.

### For more information, please contact:

#### Dr. Greg Ross

NOSM Associate Dean, Research  
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Lakehead  
UNIVERSITY



For more information, please visit:  
**[www.nosm.ca/oxistress7](http://www.nosm.ca/oxistress7)**

# AGENDA

All oral presentations will be held at the Advanced Technology and Academic Centre (ATAC), Room 1003, unless otherwise indicated.

**THURSDAY, MAY 10, 2012**

**8:00 Registration Opens / Poster Setup** **Lakehead University, University Centre Agora**  
955 Oliver Road, Thunder Bay

9:30 - 9:45 Welcome and Opening Remarks from Dr. Greg Ross, NOSM Associate Dean, Research **ATAC, Room 1003**  
Dr. Ashok Grover, Professor, McMaster University, and Dr. Rui Wang, VP Research, Lakehead University

**TRAINEE PRESENTATIONS**

- 9:45 - 10:00 **Naif Aljuhani**  
Enhancement of menadione cytotoxicity by bicarbonate: redox cycling and a possible role for the carbonate radical in quinine cytotoxicity
- 10:00 - 10:15 **Ashim Bagchi**  
Role of MyD88 adaptor molecule in the anti-apoptotic function of IL-10-induced cardiomyocyte survival
- 10:15 - 10:30 **Ashley Cerqueira**  
The antioxidant resveratrol down-regulates inflammation in an *in vitro* model of *P. aeruginosa* infection of lung epithelial cells
- 10:30 - 10:45 **Chet Holterman**  
Nox5-dependent reactive oxygen species production in human podocytes exposed to diabetic stimuli

**10:45 - 11:15 Nutrition Break** **University Centre Agora**

**TRAINEE PRESENTATIONS**

- 11:15 - 11:30 **Gkouvatsos Konstantinos**  
Conditional disruption of mouse HFE2 gene: maintenance of systemic iron homeostasis requires hepatic but not skeletal muscle hemojuvelin
- 11:30 - 11:45 **Ana Ludke**  
Differential effects of Doxorubicin on Sca-1 positive cells and adult rat cardiomyocytes
- 11:45 - 12:00 **Imran Malik**  
Tissue lipid and aldehyde concentrations in rats fed diets with differing omega-3 fatty acid content
- 12:00 - 12:15 **Karim Michail**  
The interaction of aminocarboxylates and polyamines with aromatic amine-derived free radicals – potential modulators for aniline toxicity
- 12:15 - 12:30 **Peipei Wang**  
The role of cystathionine gamma lysase in asthma development

**12:30 - 1:30 Lunch** **Residence Cafeteria**

1:30 - 2:30 **Northern Health Research Conference - Keynote Address** **Ryan Building, Room 1042**  
**Dr. Sonia Anand, McMaster University**  
The Epidemic of Diabetes among Aboriginal People in Canada: Cause and Consequences  
*All COSC participants are welcome to attend.*

**2:30 - 3:00 Nutrition Break** **University Centre Agora**

**OXIDATIVE STRESS NUTRITION AND DIABETES**

- 3:00 - 3:20 **Dr. Garry Shen**  
Mitochondrial dysfunction, oxidative stress and diabetic vascular complications
- 3:20 - 3:40 **Dr. Subrata Chakrabarti**  
Oxidative stress induced DNA damage causing transcriptional and post transcriptional changes in chronic diabetic complications
- 3:40 - 4:00 **Dr. Lingyun Wu**  
Glucose, methylglyoxal and oxidative stress in human endothelial cells
- 4:00 - 4:20 **Dr. Ashok Grover**  
Why fruits are rich in antioxidants
- 4:20 - 4:40 **Dr. Ebru Toksoy Oner**  
Bioactive microbial polysaccharides
- 4:40 - 5:00 **Dr. Thomas Netticadan**  
Wild blueberry polyphenols prevent cardiomyocyte hypertrophy and cell death
- 5:00 - 5:20 **Dr. Todd Duhamel**  
Regulation of myocardial SERCA2a protein expression by the 5'adenosine-mono-phosphate-activated protein kinase (AMPK)

**5:30 Dinner & Social Evening (Cash Bar)** **Lakehead University, Faculty Lounge**

# AGENDA

All oral presentations will be held at the Advanced Technology and Academic Centre (ATAC), Room 1003, unless otherwise indicated.

**FRIDAY, MAY 11, 2012**

**8:00 Registration** **Lakehead University, University Centre Agora**  
955 Oliver Road, Thunder Bay

**OXIDATIVE STRESS AND CARDIOVASCULAR SYSTEM**

9:00 - 9:20 **Dr. Peter Backx**  
Iron-mediated elevations in oxidative stress and cardiac arrhythmias

9:20 - 9:40 **Dr. Adriane Belló-Klein**  
Redox-sensitive modulation of pro-survival and pro-apoptotic proteins involved in cardiac remodeling induced by hyperthyroidism

9:40 - 10:00 **Dr. Naranjan Singh Dhalla**  
Mechanisms of oxidative stress induced changes in Ca<sup>2+</sup>-handling by cardiomyocytes

10:00 - 10:20 **Dr. Brian Hasinoff**  
The dual targeted HER1/HER2 tyrosine kinase inhibitor lapatinib strongly potentiates the cardiac myocyte damaging effects of doxorubicin

**10:20 - 11:00 Nutrition Break** **University Centre Agora**

**OXIDATIVE STRESS AND CARDIOVASCULAR SYSTEM**

11:00 - 11:20 **Dr. Elissavet Kardami**  
High molecular weight FGF-2 in chronic cardiac disease

11:20 - 11:40 **Dr. Pawan Singal**  
Oxidative stress and heart failure: evolution of the idea and current understandings

11:40 - 12:00 **Dr. Lorrie Kirshenbaum**  
Cross-talk between mitochondrial and ER death pathways in the heart

**12:00 - 1:00 Lunch** **Faculty Lounge**

**12:00 - 1:00 Open Poster Viewing** **University Centre Agora**

1:00 - 2:00 **COSC Keynote Speaker**  
**Dr. Enrique Cadenas, University of Southern California**  
The mitochondrial energy-redox axis in brain aging and neurodegeneration  
*All NHRC participants are welcome to attend.*

**OXIDATIVE STRESS IN HEALTH AND DISEASE**

2:10 - 2:30 **Dr. Kostas Pantopoulos**  
Accelerated CCl<sub>4</sub>-induced liver fibrosis in H<sub>2</sub>O<sub>2</sub><sup>-/-</sup> mice is associated with an oxidative burst and precocious profibrogenic gene expression

2:30 - 2:50 **Dr. Michel Lebel**  
The effect of oxidative stress in the premature aging disorder Werner Syndrome

2:50 - 3:10 **Dr. Grant Pierce**  
The involvement of oxidative stress in the vascular dysfunction associated with Chlamydia Pneumonia infection

**3:10 - 3:40 Nutrition Break** **University Centre Agora**

**OXIDATIVE STRESS IN HEALTH AND DISEASE**

3:40 - 4:00 **Dr. Gurmit Singh**  
Oxidative stress and cancer pain

4:00 - 4:20 **Dr. Peter Wells**  
Embryonic and fetal biochemical determinants of reactive oxygen species-mediated chemical teratogenesis and neurodevelopmental deficits

4:20 - 4:40 **Dr. Karmin O**  
Regulation of kidney oxidative stress during ischemia reperfusion

4:40 - 5:00 **Dr. Arno Siraki**  
Free radical metabolites of aniline-based drugs – implications for toxicity

**7:00 - 10:00 Dinner & Social Evening (Cash Bar)** **Fort William Historical Park**  
1350 King Road, Thunder Bay

- 6:00 Cocktails
- 7:00 Dinner

# AGENDA

All oral presentations will be held at the Advanced Technology and Academic Centre (ATAC), Room 1003, unless otherwise indicated.

**SATURDAY, MAY 12, 2012**

**8:00 - 9:00 Registration** **Lakehead University, University Centre Agora**  
955 Oliver Road, Thunder Bay

OXIDATIVE STRESS AND CELL SIGNALLING	9:00 - 9:20	<b>Dr. Peter O'Brien</b> An oxidative stress inflammation model markedly increased the hepatotoxicity of fructose dicarbonyl metabolites, alcohols or hepatotoxic drugs: A Fenton mechanism is proposed
	9:20 - 9:40	<b>Dr. Madhu Anand-Srivastava</b> Redox modulation of Gq $\alpha$ PLC $\beta$ -protein expression and signaling in hyperglycemia
	9:40 - 10:00	<b>Dr. Richard Austin</b> The integrated stress response modulates cellular redox state via induction of cystathionine $\gamma$ -lyase: cross-talk between the integrated stress response and thiol metabolism
	10:00 - 10:20	<b>Dr. Diana Averill-Bates</b> The role of the endoplasmic reticulum in survival and death responses in H <sub>2</sub> O <sub>2</sub> -treated HeLa cells

**10:20 - 10:40 Nutrition Break** **University Centre Agora**

OXIDATIVE STRESS AND CELL SIGNALLING	10:40 - 11:00	<b>Dr. Ghassan Bkaily</b> Regulation of nuclear ROS by ET-1 and Ang II in human vascular smooth muscle and endothelial cells
	11:00 - 11:20	<b>Dr. Ashok Srivastava</b> Curcumin attenuates endothelin-1- induced activation of PKB and ERK1/2 signaling as well as EGR-1 expression in vascular smooth muscle cells
	11:20 - 11:40	<b>Dr. William Willmore</b> Nuclear factor-erythroid 2 p45 subunit-related factor 1 (Nrf1) as an understudied factor in the xenobiotic/ antioxidant response
	11:40 - 12:00	<b>Dr. Guandong Yang</b> H <sub>2</sub> S signalling in cellular senescence and aging development

**12:00 - 1:00 Lunch** **Faculty Lounge**

**12:00 - 1:00 Open Poster Viewing** **University Centre Agora**

OXIDATIVE STRESS AND METABOLISM	1:00 - 1:20	<b>Dr. Jean-Claude Lavoie</b> Peroxides contaminating neonatal parenteral nutrition interfere with the metabolism of DNA methylation
	1:20 - 1:40	<b>Dr. Mike Czubryt</b> Biphasic control of cardiac PGC-1 $\alpha$ gene expression in hypoxia
	1:40 - 2:00	<b>Dr. Doug Templeton</b> Pleiotropic effects of cadmium: CaMK-II modulates cytoskeletal dynamics
	2:00 - 2:20	<b>Dr. Hui Wang</b> Oxidative stress mediates Endothelin-1 expression in vascular adventitial fibroblasts

**2:20 - 2:40 Closing Remarks / Conference Evaluation / Wrap Up**  
**Poster Teardown**

## CONFERENCE ACCOMMODATIONS

Block reservations have been made at the following locations (please contact directly):

### DAYS INN AND SUITES

645 Sibley Drive  
Thunder Bay, ON  
P7B 6Z8  
Tel: 807-622-3297 / 800-225-3297 (toll free)  
Rate: \$98.10/night + tax (Standard Room)  
Block Code: NOSM  
Last Date for Guaranteed Rate: April 9, 2012

### DAYS INN NORTH

1250 Golf Links Road  
Thunder Bay, ON  
P7B 0A1  
Tel: 807-344-3297 / 800-225-3297 (toll free)  
Rate: \$98.10/night + tax (Standard Room)  
Block Code: NOSM  
Last Date for Guaranteed Rate: April 17, 2012

### LAKEHEAD UNIVERSITY RESIDENCE

955 Oliver Road  
Thunder Bay, ON  
Rate: \$30.00-35.00/night (Dorm Room) or  
\$100.00/night (Townhouse holds four people)  
For residence booking information, please contact  
Ghislaine Attema at 807-766-7509.

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## MAIL OR FAX YOUR COMPLETED REGISTRATION FORM WITH PAYMENT BY FRIDAY, APRIL 27, 2012, TO:

### Ghislaine Attema

Research Coordinator  
Northern Ontario School of Medicine, West Campus  
955 Oliver Road  
Thunder Bay, Ontario  
P7B 5E1  
Phone: 807-766-7509 | Cell: 807-251-3118 | Fax: 807-766-7311  
Email: ghislaine.attema@nosm.ca | cosc@nosm.ca



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Please print clearly, and fax completed registration form to Ghislaine Attema, NOSM Research Coordinator, at 807-766-7311 **before April 27, 2012.**

First Name:	<input type="text"/>	Address:	<input type="text"/>
Last Name:	<input type="text"/>	City/Province:	<input type="text"/>
Organization:	<input type="text"/>	Postal Code:	<input type="text"/>
Email:	<input type="text"/>	Phone:	<input type="text"/>
Name to appear on your name tag: (ex. Dr. John Doe or John Doe)		<input type="text"/>	

### REGISTRATION FEES

- Non-Student Fee: \$200
- Student Fee: \$100 (*Registered Students and Post-Doctoral Fellows*)

### CONFERENCE EXTRAS (Please check all that apply.)

- Thursday Evening "Meet & Greet" BBQ**  
(Complimentary BBQ / Cash Bar)  
Faculty Lounge  
Lakehead University, Thunder Bay
- Friday Evening Dinner & Social**  
(*\$35.00 per person / Cash Bar / Limited Seating*)  
Fort William Historical Park  
1350 King Road, Thunder Bay

### ADDITIONAL INFORMATION

- Vegetarian**     **Allergies:** \_\_\_\_\_

**I have booked my accommodations at the following location:**

- Days Inn & Suites (Sibley Drive)
- Days Inn North (Golf Links Road)
- Lakehead University Residence
- Other

- NOSM is hosting the *Northern Health Research Conference* concurrently. If you are interested in participating, please check this box, and/or contact Ghislaine Attema at 807-766-7509 or email [cosc@nosm.ca](mailto:cosc@nosm.ca) for more information.

### PAYMENT METHOD (Please choose one.)

- Cheque** made payable to Northern Ontario School of Medicine  
*Mail to:* Ghislaine Attema, Northern Ontario School of Medicine,  
955 Oliver Road, Thunder Bay, Ontario, P7B 5E1

- Visa**     **Mastercard**

Card #: \_\_\_\_\_

Expiry: \_\_\_\_\_ CVC: \_\_\_\_\_ (3-digit number on the back of your card.)

Signature: \_\_\_\_\_

(Unable to process credit card payment if not signed.)

#### Internal Budget Transfer (To be used by all NOSM employees.)

Budget Code: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

(Unable to process transfer if not signed.)

### PAYMENT CALCULATION

Registration Fee:	\$ _____
Friday Dinner (\$35):	\$ _____
<b>TOTAL PAYMENT:</b>	<b>\$ _____</b>



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#### Protection of Personal Information

Authorization for the collection and maintenance of this information is Section 42 (1) of the Freedom of Information and Protection of the Privacy Act. As a Faculty of Medicine of Lakehead and Laurentian Universities, the School collects personal information for the purposes of executing various functions and activities related to Administration processes. Users of this information are the Office of the Associate Dean, Research. Please direct any questions about this collection to the Dean, Research, 935 Ramsey Lake Road, Sudbury, Ontario, P3E 2C6, Telephone: 705-662-7218.