presented by:
Ontario Ginseng Innovation
& Research Consortium

HEALTH | DISEASE

CULTIVATING NATURAL BIOACTIVES

INTERNATIONAL CONFERENCE 2012

Development of:

- Functional Foods
- Therapeutics
- Health Supplements *from Ginseng, Chinese Medicines & other Medicinal Herb*

JULY 9 *to* 11, 2012

London Convention Centre
London, Ontario

welcome

WELCOME TO THE CULTIVATING NATURAL BIOACTIVES FOR HEALTH & DISEASE INTERNATIONAL CONFERENCE

On behalf of The Ontario Ginseng Innovation & Research Consortium and Western University we are delighted to welcome you to London for the inaugural Cultivating Natural Bioactives for Health & Disease International Conference.

The program highlights bioactive research as it relates to human health and disease. The program brings together experts from across Canada as well as the international community. We have 45 speakers in 10 sessions covering a wide range of topics with a focus on two primary themes:

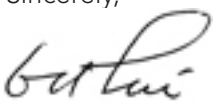
1) Discovery in health benefits and molecular mechanisms; plant biotechnology; medicinal plant quality improvement and use of 'omics' technology.

2) Strategy for sustainable development; multi-sector collaboration and globalization; product standardization and safety.

With over 120 experts in attendance, and more than 20 presenting posters, you will have many opportunities to learn about the latest developments, meet old colleagues and set up new collaborations.

We thank our distinguished colleagues who have agreed to speak about their latest findings, chair scientific sessions, and adjudicate abstracts for awards. We gratefully acknowledge all those who have donated their valuable time and efforts to make this conference a success, as well as the support of our sponsors who share our vision to enhance bioactives research in Canada.

Sincerely,



EMK Lui, PhD
Chair - Cultivating Natural Bioactives for Health & Disease International Conference 2012
Scientific Director, Ontario Ginseng Innovation & Research Consortium
Associate Professor, Department of Physiology and Pharmacology, Western University-London, Canada

ORGANIZING COMMITTEE

Ed Lui, (Chair) Ontario Gingseng Innovation & Research Consortium - Canada
Daniel Brown, Agriculture Agri-Food Canada - Canada
Kelvin Chan, University of Western Sydney - Australia
SL Chen, Institute of Medicinal Plant Development - China
De-Qiang Dou, Liaoning University of Traditional Chinese Medicine - China
Gyeong-ho Han, Korea Ginseng Corporation - Korea
Marvin Karges, Ontario Ginseng Growers Association - Canada
John Kelly, Erie Innovation and Commercialization - Canada
Guixing Ren, Institute of Crop Science - China
Brigitte Simons, AB SCIEX - Canada
Carmen Tamayo, Canadian Institute of Chinese Medicinal Research - Canada
Megan Thomas, Jamieson Laboratories - Canada
Sean Westerveld, Ontario Ministry of Agriculture Food & Rural Affairs - Canada

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special events

Pre-conference Ginseng Farm Tour

Sunday, July 8th - meet in the London Convention Centre main floor lobby at 12:00 pm. The bus will leave promptly at 12:30 pm.

Post-conference Niagara Falls Tour

Thursday, July 12th - meet in the Hilton Hotel main floor lobby at 7:30 am. The bus will leave promptly at 8:00 am.

Welcome reception

Sunday, July 8th - 5:00 - 7:00 pm

Reception & Poster Session

Monday, July 9th - 6:00 - 8:00 pm

Gala dinner

Tuesday, July 10th - 7:00 - 9:00 pm

program at a glance

Sunday July 8

12:00 - 6:00 pm Registration Open ***2nd floor foyer***

1:30 - 4:30 pm **Pre-Conference Session** ***Ballroom 3*** "Omics" Education Session **Sponsored by AB SCIEX**

5:00 – 7:00 pm **Welcome Reception** ***2nd floor foyer***

Monday July 9

7:00-5:00 pm Registration Open ***2nd floor foyer***

8:00-9:00 am Welcome Remarks
Plenary Lecture: Challenges in Dietary Supplement Research - Paul M. Coates ***Ballroom 4***

9:00-12:00 pm **Symposium – S-1: Traditional Chinese Medicine: from traditions to molecular mechanisms - basis of East-West integration** ***Ballroom 4*** **Sponsored by Canadian Institute of Chinese Medicine Research**

9:00-9:25 am Research Advances in Ginseng

9:25-9:50 am Involvement of RISK and NO pathways in the cardioprotective effect of ginseng

9:50-10:15 am American Ginseng and Cancer Chemoprevention

Break 10:15-10:25 am **Sponsored by Canadian Institute of Chinese Medicine Research (CICMR)**

10:25-10:50 am The molecular networks of herbal products used to treat rheumatoid arthritis patients

10:50-11:15 am Drug discovery from traditional Chinese medicinal herbs: An informatics approach through Saphron database

11:15-11:40 am Setting up the Sydney Model of Integrative Medicine

11:40-12:00 pm The way forward with TCM research

Lunch
12:00-1:15 pm **Sponsored by Jamieson Laboratories**
Ballroom 5 & 6
Presentation 12:30 - 12:50 pm
Natural Health Products - Challenges in balancing innovative research & marketing within the Canadian regulatory framework.

1:15-4:00 pm **Symposium – S-2 : Therapeutics Development (Concurrent session)** ***Ballroom 4***

1:15-1:45 pm Development of parenteral curcumin formulations for clinical applications

1:45-2:15 pm Translational study of standardized zembrin extract from South African plant Sceletium tortuosum and mesembrenone targeting PDE-4 (phosphodiesterase subtype 4) for regulation of mood and cognition

2:15-2:45 pm Proof of concept of randomized controlled study of Curcumin C-3 Complex as adjunct treatment in schizophrenia: effects on negative and depressive symptoms

Break 2:45-3:00 pm **Sponsored by Naturex**

3:00-3:30 pm Neuroprotective action of Liposome- encapsuled curcumin (Lipocurc) in Park 7 gene Knockout rat paradigm of Parkinson's disease

3:30-4:00 pm Targeting Epigenetics-Transcription regulation in transforming Ginseng from Herbal supplement to CNS drug lead: RCT findings of Ginsana-115 in schizophrenia

1:15-5:00 pm **Workshop – W-1: Resources for Natural Bioactives (Concurrent session)**

Ballroom 3

1:15-1:35 pm Field and forest to Quality Finished Products: Integrating Traceability, Sustainability, Ethics and Safety

1:35-1:55 pm Conservation and sustainability

1:55-2:15 pm Ginseng production: Challenges facing Ontario ginseng growers

2:15-2:35 pm Characteristics of Ginseng Cultivated under Mountainous Forest Conditions

Break 2:35-2:50 pm

2:50-3:10 pm Private sector perspectives from Naturex

3:10-3:30 pm An overview of medicinal herb production in Ontario

3:30-3:50 pm From Production to Functional Foods: Case Studies in Canadian Functional Foods and Natural Health Products 2012

3:50-4:10 pm Health claim opportunities for natural bioactives

4:10-5:00 pm Discussion

4:00-6:00 pm **Oral Presentations – O-1: Pre-Clinical and traditional medicine** ***Ballroom 4***

4:00-4:15 pm The effect of North American ginseng on central neuronal circuits associated with the metabolic syndrome

4:15-4:30 pm Both American (panax quinquefolius) and Asian (panax ginseng) ginseng extract induce adiponection expression in 3T3-L1 cells but to different degrees

4:30-4:45 pm Paradoxical immuno-modulating effect of North American ginseng aqueous and polysaccharide extracts on macrophage immune function

4:45-5:00 pm Immunomodulatory effects of aqueous extracts of the Ugandan Auriculariap and Pleurotus p mushrooms in Wistar rats

5:00-5:15 pm The effectiveness of dandelion root extract against aggressive and non-responsive cancers

5:15-5:30 pm The mechanism of protective effect of paeonol, paeoniflorin and their different-proportion combinations on coronary heart disease

5:30-5:45 pm Inhibitory effects of ginseng on Cyp3A4-mediated drug metabolism

5:45-6:00 pm Ginsana-115 Effect on Framingham risk score in schizophrenia patients maintained: a post-hoc study of a randomized controlled trial

Reception & Poster Session I
Posters #1 - #16 will be reviewed **Sponsored by Jamieson Laboratories**
6:00-8:00 pm
Ballroom 5 & 6
Sponsored by Ontario Ginseng Grower's Association

program at a glance

Tuesday July 10	
7:00-5:00 am	Registration Open ***2nd floor foyer***
8:00-10:45 am	**Symposium – S-3: Impact of Omics Technology on plant-based medicines** **Sponsored by AB SCIEX** ***Ballroom 4***
8:00-8:25 pm	Drug development from medicinal plants: transcriptomic and metabolomic approaches
8:25-8:50 am	Ginseng cultivar development
8:50-9:15 am	Medicinal plant genomics
9:15-9:40 am	Metabolomics and cataract
Break 9:40-9:55 am	
9:55-10:20 am	Health benefits of polyphenolic anti-oxidants
10:20-10:45 am	MicroRNAs as mediators of ginseng action on angiogenesis
11:00-12:30 pm	**Oral Presentations – O-2: Omics Technology and antioxidants** ***Ballroom 4***
11:00-11:15 am	Fatty acid composition of developing sea buckthorn Hippophae rhamnoides L.) berry and the transcriptome of the mature seed
1:15-11:30 am	Discrimination of Ontario ginseng landraces using NMR spectroscopy
11:30-11:45 am	Mass spectral identification of bioactive compounds(s) in devil's club: an important medicinal plant of the Pacific Northwest
11:45-12:00 pm	In vitro conservation of medicinal plants: a Canadian initiative
12:00-12:15 pm	Antioxidant function of berberine
12:15-12:30 pm	Secoisolariciresinol diglucoside (SDG) - a potential flaxseed bioactive : synthesis and investigation of in vitro and in vivo antioxidant potential
Lunch & Poster Session II **Posters #17 - #29 will be reviewed.** **12:30-2:00 pm** ***Ballroom 5 & 6*** **Sponsored by Journal of Complementary & Integrative Medicine (JCIM)**	
2:00-4:00 pm	**Symposium – S-4 : Cardiovascular Health** ***Ballroom 4***
2:00-2:30 pm	The cardiovascular benefits of dietary flaxseed
2:30-3:00 pm	Ginseng and ischemia reperfusion injury
3:00-3:30 pm	Prevention and Reversal of Post-infarction Remodeling and Heart Failure by North American Ginseng
3:30-4:00 pm	Potential of ginseng to improve vascular function-evidence from RCT's
Break 4:00-4:15pm	
4:15 - 6:00 pm	**Workshop – W-2: Product Quality and Standardization of Raw and Finished Herbal Products** ***Ballroom 4***
4:15-4:40 pm	Chinese Materia Medica and Chinese herbal products
4:40-5:05 pm	International Organization of Standardization program
5:05-5:30 pm	Standardization of herbal extracts
5:30-6:00 pm	Discussion
Gala Dinner **7:00-9:00 pm** ***Ballroom 4*** **Sponsored by Jamieson Laboratories**	

program at a glance

Wednesday July 11

7:00-3:00 pm	Registration Open ***2nd floor foyer***		
8:00-10:50 am	**Symposium – S-5: Advancement in Discovery of Natural Bioactives** ***Ballroom 4***		
8:00-8:25 am	Creating a simple herbal formula for the healing of chronic ulcers - a ten years' pursue, from bench to clinical studies		
8:25-8:50 am	S111, a potent antidepressant discovered by a novel approach from ginseng	**9:00-11:10am**	**Oral Presentations – O-3: Agriculture and Advanced Processing** ***Ballroom 3***
8:50-9:15 am	Ginsenosides and the prophylactic treatment of Parkinson's: a new approach to treating neurological disorders	**9:00-9:15**	De novo assembly ofAamerican ginseng (Panax quinquefolius l.) root transcriptome and analysis of gene expression during development
Break 9:15 - 9:35 am		**9:15- 9:30**	Development of a protocol for holy basil (Ocimum sanctum Linn.) propagation for introduction into Canadian natural health industry
9:35 - 10:00 am	Discovery and evaluation of anti-inflammatory derivatives from natural bioactive curcumin	**9:30-9:45**	Food bioactives and health: chemistry and in vitro and in vivo evidence
		Break 9:45-10:00	
10:00-10:25 am	Selective induction of cancer cell death by natural products from dandelion root, turmeric and long pepper extracts	**10:00-10:15**	Melatonin in medicinal plants: importance and potential applications
		10:15-10:30	Marinating and cooking alter the antioxidant levels in herbs and spiced based marinating sauces
10:25-10:50 am	Stepping over the horizon: Potential future uses for probiotics	**10:30-10:45**	Controlled release of North American ginseng extracts encapsulated within microsphere/hydrogel combination system
		10:45-11:10	Synthesis and characterization of angiogenic bone cement loaded with ginsenoside RG1
11:00 - 12:15 pm	**Workshop – W-3 (I): Future R & D in Natural Bioactives: Impact of regulations, marketing strategy of private sector, consumer attitude, resources from academia** ***Ballroom 4***		
11:00-11:25 am	Future of NHPs: Developing complex therapeutics in the 21st century		
11:25-11:50 am	Clinical perspective on priority medicinal herbs for future R&D		
11:50-12:15 pm	Best Practices in Clinical Trials for Natural Health Products		
Lunch & Public Forum 12:15-1:45 pm ***Ballroom 3***			
1:45-4:00 pm	**Workshop – W-3 (II): Special Case Study: Incorporation of Natural Bioactives in Food Formats** ***Ballroom 4***		
1:45-2:10 pm	Functional Ingredients and Functional Foods - Getting It Right		
2:10-2:35 pm	Preclinical and safety consideration: ginseng case study		
2:35-3:00 pm	Regulatory framework and policy: Food Directorate, Natural Health Products Directorate, Health Canada		
3:00-4:00 pm	**Discussion** Panelists: **Rong Cao** (Agriculture and Agri-Food Canada); **Paul Coates** (Office of Dietary Supplements, NIH); **Lois Ferguson** (Malibu Consulting)		
Close			

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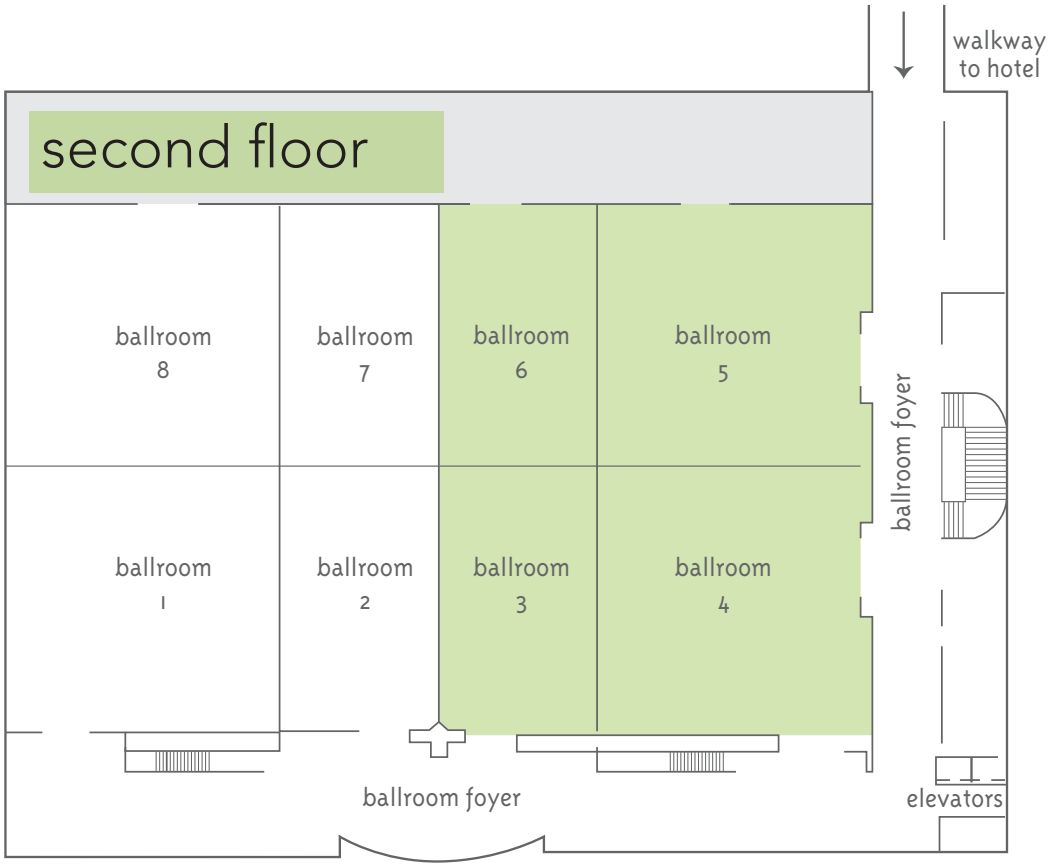
London Convention Centre map



Ballroom foyer	Registration - Welcome reception and Morning coffee
Ballroom 3	OMICS session, breakout sessions and seating area
Ballroom 4	Plenary and Gala dinner
Ballroom 5 & 6	Breaks - Lunch - Posters - Exhibitors - Networking

REGISTRATION OPEN

Registration - will be open each day in the 2nd Floor lobby.
The conference secretariat will be available to assist with any questions or concerns.

Sunday, July 8 - 12:00 pm - 6:00 pm
Monday, July 9 - 7:00 pm - 5:00 pm
Tuesday, July 10 - 7:00 am - 5:00 pm
Wednesday, July 11 - 7:00 am - 3:00 pm

conference program

SUNDAY, JULY 8, 2012

1:30-4:30 pm **PRE-CONFERENCE** (Sponsored by AB SCIEX)

OMICS Education Session

Session 1 Advancements in Accurate Mass Technology for Systems Biology Research- 30 min
Brigitte Simons, AB SCIEX Accurate Mass Technical Specialist

Session 2 Data Processing Strategies for Global Metabolomics Profiling and Metabolite Quantitation - 45 min
Suma Ramagiri, AB SCIEX Applications Scientist

Session 3 The objectives of this interactive workshop are to:

a) Understand the design of LC-MS/MS acquisition method development for addressing global metabolomics profiling on Q-TOF mass spectrometers

b) Accurate mass data processing strategies for hypothesis-driven metabolite identification and relative quantification using new software tools

c) Understand strategies for untargeted metabolomics profiling and general unknown screening using compound database searching tools.

d) Integration of Metscape 2.0 for pathway analysis to link metabolites identified by various strategies and understand their biological relevance and networking between metabolites, genes and enzyme's.

5:00 - 7:00 pm **WELCOME RECEPTION**

* program is subject to change

MONDAY, JULY 9, 2012

8:00-8:15 am **Welcome Remarks: Introduction by Ed Lui**

8:15-9:00 am **Plenary Lecture: "Challenges in Dietary Supplement Research"**

Paul M. Coates - Director, Office of Dietary Supplements, and Acting Director, Office of Disease Prevention, National Institutes of Health, USA.

9:00-12:00 pm (Sponsored by CICMR - Canadian Institute of Chinese Medicinal Research)
Symposium S-1: Traditional Chinese Medicine: from traditions to molecular mechanisms - basis of East-West integration **Co-Chairs: K. Chan and P. Choy**

9:00 - 9:25 am	**Professor Li Lian-Da** - Research advances in ginseng
9:25 - 9:50 am	**Hua Zhou** - Involvement of RSIK and NO pathways in the cardioprotective effect of ginseng
9:50 - 10:15 am	**Chong-Zhi and Chun-Su Yuan** - American Ginseng and Cancer Chemoprevention
10:15 - 10:25 am	**BREAK**
10:25 - 10:50 am	**Aiping Lu** - The molecular networks of herbal products used to treat rheumatoid arthritis patients
10:50 - 11:15 am	**William Jia** - Drug discovery from traditional Chinese medicinal herbs: An informatics approach through Saphron database
11:15 - 11:40 am	**Ven Tan** - Setting up the Sydney Model of Integrative Medicine
11:40 - 12:00 pm	**Kelvin Chan** - The way forward with TCM research

12:00 - 1:15 pm **LUNCH** (Sponsored by Jamieson Laboratories)

12:30 - 12:50 pm **Presentation:** Natural Health Products - Challenges in balancing innovative research & marketing within the Canadian regulatory framework.

1:15-4:00 pm Symposium S-2: Therapeutics Development **Co-Chairs - S. Chiu and L. Helson**

1:15 – 1:45 pm	**Lawrence Helson** - Development of parenteral curcumin formulations for clinical applications
1:45 – 2:15 pm	**Hana Rabeh, Vladimir Badmeav & Michael Woodbury** - Translational study of standardized zembrin extract from South African plant sceletium tortuosum and mesembrenone targeting PDE-4 (phosphodiesterase subtype 4) for regulation of mood and cognition
2:15 – 2:45 pm	**Michael Woodbury** - Proof of concept of randomized controlled study of Curcumin C-3 Complex as adjunct treatment in schizophrenia: effects on negative and depressive symptoms
2:45 – 3:00 pm	**Refreshment break**
3:00 – 3:30 pm	**Kristen J Terpstra and Yves Bureau** - Neuroprotective action of Liposome-encapsuled curcumin (Lipocurc) in Park 7 gene Knockout rat paradigm of Parkinson's disease
3:30 – 4:00 pm	**Simon Chiu** - Targeting Epigenetics-Transcription regulation in transforming Ginseng from Herbal supplement to CNS drug lead: RCT findings of Ginsana-115 in schizophrenia

1:15-5:00 pm **Workshop/Discussion Forum W-1: Resources for Natural Bioactives**
Co-Chairs - S. Westerveld and J. Kelly

1:15 – 1:35 pm	**Ron Smith and Connie Kehler** - Field and forest to Quality Finished Products: Integrating Traceability, Sustainability, Ethics and Safety
1:35 – 1:55 pm	**Danna J Leaman** - Conservation and sustainability
1:55 – 2:15 pm	**Carl Atkinson** - Ginseng production: Challenges facing Ontario ginseng growers
2:15 – 2:35 pm	**De-Qiang Dou** - Characteristics of Ginseng Cultivated under Mountainous Forest Conditions
2:35 – 2:50 pm	**BREAK**
2:50 – 3:10 pm	**Antoine Bily** (Naturex) - Private sector perspectives from Naturex
3:10 – 3:30 pm	**Sean Westerveld** - An overview of medicinal herb production in Ontario

3:30 – 3:50 pm **Sem Ponnambalam and Sara Sarker** - From Production to Functional Foods: Case Studies in Canadian Functional Foods and Natural Health Products 2012

3:50 – 4:10 pm **Krista Conventry** - Health claim opportunities for natural bioactives

4:10 – 5:00 pm Discussion

4:00-6:00 pm **Oral Presentations I:**
Pre-Clinical and traditional medicine **Co-Chairs - C. Tamayo and R. Wong**

4:00 – 4:15 pm **Megan Migchels** - The effect of North American ginseng on central neuronal circuits associated with the metabolic syndrome

4:15 – 4:30 pm **David Popovich** - Both American (panax quinquefolius) and Asian (panax ginseng) ginseng extract induce adiponection expression in 3T3-L1 cells but to different degrees

4:30 – 4:45 pm **Chike Azike** - Paradoxical immuno-modulating effect of North American ginseng aqueous and polysaccharide extracts on macrophage immune function

4:45 – 5:00 pm **Al Hassan Kyakulaga** - Immunomodulatory effects of aqueous extracts of the Ugandan Auricularia **sp** and Pleurotus **sp** mushrooms in Wistar rats

5:00 – 5:15 pm **Pamela Ovadje** - The effectiveness of dandelion root extract against aggressive and non-responsive cancers

5:15 – 5:30 pm **Yi-Kui Lui** - The mechanism of protective effect of paeonol, paeoniflorin and their different-proportion combinations on coronary heart disease

5:30 – 5:45 pm **Cheryl Lui** - nhibitory effects of ginseng on Cyp3A4-mediated drug metabolism

5:45 – 6:00 pm **Rajan Manocha and Zack Cernovsky** - Ginsana-115 Effect on Framingham risk score in schizophrenia patients maintained: a post-hoc study of a randomized controlled trial

6:00 - 8:00 pm **RECEPTION & POSTER SESSION I**

TUESDAY, JULY 10, 2012

8:00-10:45 am (Sponsored by AB SCIEX)
S-3: Symposium Impact of Omics Technology on plant-based medicines
Co-Chairs - B. Simons and E. Lui

8:00 – 8:25 am **C. Robin Buell** - Drug development from medicinal plants: transcriptomic and metabolomic approaches

8:25 – 8:50 am **Dan Brown:** Ginseng cultivar development

8:50 – 9:15 am **Chao Sun and SL Chen:** Medicinal plant genomics

9:15 – 9:40 am **Stephen Barnes:** Metabolomics and cataract

9:40 – 9:55 am **BREAK**

9:55 – 10:20 am **Helen Kim:** Health benefits of polyphenolic anti-oxidants

10:20 – 10:45 am **Ricky N.S. Wong:** MicroRNAs as mediators of ginseng action on angiogenesis

11:00-12:30 pm **Oral Presentations II:**
Omics technology and antioxidants Chair - Dan Brown

11:00 – 11:15 am **Tahira Fatima** - Fatty acid composition of developing sea buckthorn Hippophae rhamnoides L.) berry and the transcriptome of the mature seed

11:15 – 11:30 am **Kimberly Colson** - Discrimination of Ontario ginseng landraces using NMR spectroscopy

11:30 – 11:45 am **Richard Smith** - Mass spectral identification of bioactive compounds(s) in devil's club: an important medicinal plant of the Pacific Northwest

11:45 – 12:00 pm **Praveen Saxena** - In vitro conservation of medicinal plants: a Canadian initiative

12:00 – 12:15 pm **Yaw (Chris) Siow** - Antioxidant function of berberine

12:15 – 12:30 pm **J Rajesha** - Secoisolariciresinol diglucoside (SDG) - a potential flaxseed bioactive : synthesis and investigation of in vitro and in vivo antioxidant potential

12:30-2:00 pm **LUNCH & POSTER SESSION II**

2:00-4:00 pm Symposium S-4: Cardiovascular Health Chair - M. Karmazyn

2:00 – 2:30 pm **Grant Pierce** - The cardiovascular benefits of dietary flaxseed

2:30 – 3:00 pm **Qingping Feng** - Ginseng and ischemia reperfusion injury

3:00 – 3:30 pm **Morris Karmazyn** - Prevention and Reversal of Post-infarction Remodeling and Heart Failure by North American Ginseng

3:30 – 4:00 pm **Elana Jovanovski and V. Vuksan** - Potential of ginseng to improve vascular function-evidence from RCT's

4:00-4:15 pm **BREAK**

4:15-6:00 pm Workshop/Discussion Forum W-2: Product Quality and Standardization of Raw and Finished Herbal Products Chair - PC Leung

4:15 – 4:40 pm **Kelvin Chan** - Chinese Materia Medica and Chinese herbal products

4:40 – 5:05 pm **Ed Lui and Hou Zhou** - International Organization of Standardization program

5:05 – 5:30 pm **Ammar Saleem and John Arnason** - Standardization of herbal extracts

5:30 – 6:00 pm **Discussion**

7:00-9:00 pm **GALA DINNER**

WEDNESDAY, JULY 11, 2012

8:00 - 10:45 am Symposium S-5: Advancement in Discovery of Natural Bioactives
Co-Chair - R. Wong and QP Feng

8:00 – 8:25 am	**Ping-Chung Leung** - Creating a simple herbal formula for the healing of chronic ulcers – a ten years' pursue, from bench to clinical studies
8:25 – 8:50 am	**William Jia -** S111, a potent antidepressant discovered by a novel approach from ginseng
8:50 – 9:15 am	**Denis Kay, Jackalina VanKampen, William Jia & Harold A. Robertson** - Ginsenosides and the prophylactic treatment of Parkinson's: a new approach to treating neurological disorders
9:15 – 9:35 am	BREAK
9:35 – 10:00 am	**Guang Liang** - Discovery and evaluation of anti-inflammatory derivatives from natural bioactive curcumin
10:00 – 10:25 am	**Siyaram Pandey** - Selective induction of cancer cell death by natural products from dandelion root, turmeric and long pepper extracts
10:25 – 10:50 am	**Jeremy Burton** - Stepping over the horizon: Potential future uses for probiotics

9:00-11:10 am **Oral Presentations III:**
Agriculture and advanced processing Chair - P. Charpentier

9:00 – 9:15 am	**Di Wu** - De novo assembly ofAamerican ginseng (Panax quinquefolius l.) root transcriptome and analysis of gene expression during development
9:15 – 9:30 am	**Annaliese Kibler** - Development of a protocol for holy basil (Ocimum sanctum Linn.) propagation for introduction into Canadian natural health industry
9:30 – 9:45 am	**Rong Tsao** - Food bioactives and health: chemistry and in vitro and in vivo evidence
9:45 – 10:00 am	BREAK
10:00 – 10:15 am	**Mukund Shukla** - Melatonin in medicinal plants: importance and potential applications
10:15 – 10:30 am	**Raymond Thomas** - Marinating and cooking alter the antioxidant levels in herbs and spiced based marinating sauces
10:30 – 10:45 am	**Raziye Samimi** - Controlled release of North American ginseng extracts encapsulated within microsphere/hydrogel combination system
10:45 – 11:10 am	**Mehrnaz Salarian** - Synthesis and characterization of angiogenic bone cement loaded with ginsenoside RG1

11:00-12:15 pm Workshop/Discussion Forum W-3 (I): Future R & D in Natural Bioactives: Impact of regulations, marketing strategy of private sector, consumer attitude, resources from academia Chair - C. Tamayo

11:00 – 11:25 am	**Carmen Tamayo** - Future of NHPs: Developing complex therapeutics in the 21st century
11:25 – 11:50 pm	**Paul Saunders** - Clinical perspective on priority medicinal herbs for future R&D
11:50 – 12:15 pm	**Krista Coventry** - Best Practices in Clinical Trials for Natural Health Products

12:15-1:45 pm **LUNCH & PUBLIC FORUM**

1:45-4:00 pm Workshop/Discussion Forum W-3 (II):Special Case Study: Incorporation of Natural Bioactives in Food Formats Co-Chair - M. Alton-Mackey and E. Lui

Panelists: Rong Cao (Agriculture and Agri-Food Canada); **Paul Coates** (Office of Dietary Supplements, NIH);
Lois Ferguson (Malibu Consulting)

1:45 – 2:10 pm	**Mary Alton Mackey** - Functional Ingredients and Functional Foods - Getting it Right
2:10 – 2:35 pm	**Ed Lui** - Preclinical and safety consideration: ginseng case study
2:35 – 3:00 pm	**Samuel Godefroy** - Regulatory framework and policy: Food Directorate, Natural Health Products Directorate, Health Canada
3:00 – 4:00 pm	Discussion

speakers

Mary G. ALTON MACKEY, is currently an international consultant in food and nutrition with extensive national and international experience in health, food and nutrition policy and programme areas, and evaluation. She has conducted research into the public opinions of Canadians and on readability of food and other labels. She was a professor of nutrition in the School of Dietetics and Human Nutrition at McGill University. At Memorial University of Newfoundland she directed food and nutrition research and implementation of programs.

Dr. Alton Mackey has served as Chair of the Food Committee for the Consumers Association of Canada and has been active as a researcher for Consumer Interest Alliance Inc. She was a member of the Canadian Biotechnology Advisory Committee and was the co-chair of the working groups on Genetically Modified Food and on Biotechnology and Health Innovation. She has been a member of the Board of Directors of Dietitians of Canada (Canadian Dietetic Association), Canadian Council for Food and Nutrition, and Newfoundland Dietetic Association, among other organizations. She is a member of the Dietitians of Canada Food Regulatory Committee.

She has published both in scientific journals and in the public press on varied topics. She has worked extensively with communities of first nations in research and in programme development and implementation in foods and nutrition.

Carl ATKINSON was born and raised on a tobacco farm in Ontario Canada. In 1986 and 1987 he married and formed the company of C&R Atkinson Farms Ltd. which grew tobacco, shitake mushrooms and ginseng. In 1999 he developed a herbal supplement and health food wholesale company which provided a line of herbal and health food products in the Ontario market. He has worked with the Canadian Herb, Spice and Natural Health Product Coalition in development of the Good Agricultural Collection Practices , On Farm Food Safety Program for ginseng. He is an auditor for the Canadian Horticultural Council`s Canada GAP On Farm Food Safety program and the Vice Chairman of the Ontario Ginseng Growers Association.

Stephen BARNES, is Professor of Pharmacology & Toxicology at the University of Alabama at Birmingham (UAB). He was the Associate Director of the Purdue University-UAB Botanicals Center for Age-related Disease from 2000-2011. He has an international reputation in the health effects/benefits of soy and its isoflavonoids and is well known for his study of the chemistry and bioavailability of these polyphenols. In particular, he has expertise in the use of various forms of mass spectrometric techniques to study metabolism of small molecules as well as in protein chemistry. He has authored 246 peer-reviewed articles and 28 invited chapters.

Daniel C.W. BROWN is a principal investigator with the Canadian Centre for Agri-Food Research in Health and Medicine in Winnipeg, Manitoba and a research scientist Agriculture and Agri-Food Canada. He was educated (B.Sc. and M.Sc.) at the University of Waterloo, Canada, The University of Calgary (Ph.D.) Canada and the University of Sheffield (Post Doctoral) UK.

He has thirty years research experience in University and Government laboratories in Canada, England and France has been a project leader in a number of plant biotechnology-based programs as well as has consulted for National and International Agencies in Asia, Europe, North America, South America and the Caribbean. His area of scientific expertise includes developmental plant physiology, in vitro morphogenesis, gene transfer and gene expression and plant molecular and genomics studies. He has authored and co-authored over 300 scientific publications, patents and scientific reports.

C. Robin BUELL is a Professor of Plant Biology in the Department of Plant Biology, Michigan State University. Dr. Buell joined Michigan State University in 2007 from The Institute for Genomic Research (TIGR) Rockville, Maryland, USA where she was on the faculty for nearly nine years. Her research primarily involves projects focused on high throughput sequencing, functional genomics, comparative genomics, and bioinformatics. Her work on medicinal plants includes an NIH-funded project to develop transcriptomic and metabolomic data for 14 medicinal plant species (see http://medicinal-plantgenomics.msu.edu/) and a projected funded by Michigan State University GREEEN program on development of genetic resources for American ginseng.

Yves BUREAU received his doctorate from Carleton University in 2001, completed a postdoctoral fellowship in the pharmacology department at Merck Frosst & Company in 2002 and one at the Lawson Health Research Institute (LHRI) in 2004. From 2004, he is faculty at the University of Western Ontario in the Psychology and Medical Biophysics Departments. Dr. Bureau is also a statistician providing services to the LHRI. Recently, Dr. Bureau has begun the registration process to practice psychology in the province of Ontario. He continues to conduct research in the behavioural neurosciences, psychology, psychiatry, and pharmacology.

Jeremy BURTON has worked with probiotics his entire career. Received his PhD from the University of Otago, New Zealand. Part of his PhD was also undertaken at the Nestle Research Centre in Lausanne, Switzerland. He first came as a Post Doctoral Fellow to the Lawson Health Research Institute and the University of Western Ontario in 2001 and was focused on investigating the urogenital microbiota. Then working for a publically listed NZ biotech company, firstly as a Scientist developing new probiotic therapies for the upper respiratory tract and then in Business Development. He has recently returned to an academic role with the probiotics group at Lawson to follow his passion of translational research in probiotics.

Kelvin CHAN is the Joint Chair Professor of Traditional Chinese Medicine (TCM) at the University of Sydney and University of Western Sydney appointed to focus on the strategic research & development of the TCM field in NSW and Australia. He has built an international reputation in R & D of Chinese medicines and natural products; focusing on good practices in QC of Chinese materia medica, laboratory practice in bioactivity screening and clinical studies in linking biomarkers, patients' reported outcomes and quality of life measure on herbal products development.

Professor Chan has several key international appointments: Australia Observer of the Working party on TCM of the European Directorate for Quality Medicines & Healthcare in Strasbourg; The Member of the International Advisory Board for the Hong Kong Chinese Materia Medica Standards, Department of Health, Hong Kong; the Consortium Expert on the EU-funded Framework Program 7 (FP7) in Healthcare project, 'Good Practice of Traditional Chinese Medicine Research in the Post Genomic Era', sharing this as FP7-Beneficiary member to the Work Packages 1 (Quality Control) and Work Package 3 (Safety), and the Co-Chair of the SOP Panel on literature database retrieval and the Co-coordinator of Work Package 7 on 'Functional Genomics in R & D of Chinese Herbal Medicines' .

His published work in both western medicine and TCM has appeared in over 600 publications including peer-reviewed journals, keynote lectures, drug monograph-related publications. He has published 23 book chapters on TCM and 3 specialist books: A Pictorial Compendium of Poisonous Traditional Chinese Medicinal Herbs Available in Hong Kong, Commercial Press HK. Interactions between Chinese Herbal Medicinal Products and Orthodox Drugs, Taylor & Francis, June, 2000, ISBN: 90-5702-413-6. The Way Forward for Chinese Medicine, The Taylor and Francis Group, January 2002, ISBN: 0-415-27720-5.

Simon CHIU graduated from McMaster University PhD program in neurosciences and MD from University of Toronto Ont. He is board certified psychiatrist and holds an academic position of associate professor University of Western Ontario. For the past two decades, he has combined his academic clinical practice in psychiatry with translational research on neuro-psychopharmcology and behavioural neurosciences. His major interests have focussed on transforming molecular targets: Phosphodiesterase subtype-4, Histone deacetylase , Dopamine receptor, NMDA- neurosteroids to CNS therapeutics for treatment of neuropsychiatric and neurodegenerative disorders. Recently his clinical trials on Ginseng and Curcumin C-3 complex are funded by Stanley Medical Research Institute USA.

Paul COATES has directed the Office of Dietary Supplements (ODS) at the National Institutes of Health since 1999 in its mission to strengthen knowledge and understanding of dietary supplements. He oversees a range of initiatives and programs that support research and the training of investigator, as well as the development of research tools and information resources; through these, he has established ODS as a strong and authoritative voice for rigorous science in dietary supplements and related areas of nutrition. In 2011, he received the prestigious Conrad A. Elvehjem Award from the American Society for Nutrition for public service in nutrition. He is lead editor of the authoritative Encyclopedia of Dietary Supplements, now in its second edition, and associate editor of the American Journal of Clinical Nutrition. He also currently serves as Acting Associate Director of the NIH for Disease Prevention.

From 1975 to 1993, prior to his career at NIH, Dr. Coates was on the faculty of the Children's Hospital of Philadelphia and the University of Pennsylvania School of

Medicine as Research Professor in the Departments of Pediatrics and Biochemistry/Biophysics. His Ph.D. in human genetics was awarded by Queen's University in Canada, followed by postdoctoral training in the Department of Human Genetics and Biometry at University College London.

Krista COVENTRY is a Regulatory Affairs Specialist in the Natural Products Sector. As Director of the Nutrition and Nutraceutical Research Division at Nutrasource Diagnostics Inc., she acts as a regulatory liaison between industry stakeholders and government agencies. Ms. Coventry has worked extensively within the Canadian regulatory framework for Natural Health Products and Functional Foods, and has expertise in communicating the health benefits of bioactive ingredients through health claims. Ms. Coventry holds a Master of Science Degree in Human Health and Nutritional Sciences from the University of Guelph, where she is currently enrolled in the Doctor of Philosophy (Ph.D.) program.

De-Qiang DOU is a Professor in the College of Pharmacy, Liaoning University of Traditional Chinese Medicine. He received his Ph. D and M. Sc in Shenyang Pharmaceutical University and B. Sc. in Jilin Univeristy and also has two years post-doctoral experience in Meijo University, Japan and the Rutgers university, USA. Council member of Tonic Drugs Pmarmacology, Chinese Pharmacological Society and Liaoning Pharmaceutical Society. His current research focuses on the quality, bioactives, new drug development and adverse drugs reactions of traditional Chinese medicine. Ginseng has continuously been studied for over 20 years and 5 prizes for the Progress of Science and Technology over Provincial grades were awarded.

Qingping FENG obtained his MD from Southeast University Medical School, Nanjing, China, PhD in pharmacology from the University of Gothenburg, Sweden, and postdoctoral training at Western University. He is currently a Professor of Physiology, Pharmacology, and Medicine at Western University, a senior scientist at Lawson Health Research Institute and a Career Investigator of the Heart and Stroke Foundation of Canada. His research ranges from embryonic heart development to adult diseases that affect the heart including myocardial infarction, diabetes and sepsis. He has published over 90 peer-reviewed papers in excellent journals including Circulation, Diabetes, Stem Cells, Cardiovascular Research, and Critical Care Medicine. His work has increased our understanding on the role of nitric oxide in heart failure and embryonic heart development, and provided novel therapeutic strategies in myocardial infarction and sepsis.

Lois FERGUSON is a Registered Dietitian consulting to the food and agriculture industry. A graduate of the University of Guelph, Lois was Director of Communications for the Grocery Products Manufacturers of Canada, President of the Coffee Council of Canada and Director of Consumer Services at Best Foods Canada.

Malibu Consulting, established in 1992, features Lois' skills in managing food and nutrition projects for food manufactures, marketing boards, governments, and associations. She has been interviewed over 1200 times for radio, television and print media in Canada and the United States. Lois is a member of Dietitians of Canada, The College of Dietitians of Ontario, and the Academy of Nutrition and Dietetics.

Lawrence HELSON is currently CEO President, SignPath Pharma. Inc Parenteral Curcumin Drug Development PA USA. He has been heavily involved in high caliber academic and translational research in pediatric oncology and neuro-oncology. Prior to his switch to pharmaceutical industry, he held the position of Professor of Pediatric and Adult Oncology ,New York Medical College Valhalla, NY. He discovered neuroblastoma cell line and the role of TNF (Tumor Necrosis Factor) in cell death and cancer. past 4 decades. He has been awarded numerous NIH grants and has served as consultant for numerous pharmaceutical companies and cancer foundations. He has trained many clinical investigators in neuro-oncology and has published over 250 papers in cell cycle and growth, carcinogenesis, cancer chemotherapy and novel pharmaceuticals. Recently he succeeded in applying nanotechnology to pharmaceutical development for neurodegenerative disorders: Parkinson's disease.

William Wei-guo JIA had his PhD in 1991 at University of British Columbia (UBC) in molecular neurosciences. He has been an associate professor since 1999 at UBC and an associate scientist of BC Cancer Research Centre. He has been a conjunct professor of Fudan University, Shanghai Institute of Pharmaceutical Industry and the VP (research) for Shanghai Innovative Research Centre of Traditional Chinese Medicine (SIRC-TCM).

Dr. Jia was the first in Canada and the first few scientists in the world using human Herpes simplex virus to treat cancer, which pioneered the field of oncolytic virotherapy for cancer treatment. One gene therapy drug for malignant gliomas developed by Dr. Jia has completed a phase I clinical trial in China. His most recent contribution is to raise the concept of transcription and translation dual regulated

(TTDR) oncolytic viruses for cancer treatment. Unlike deletion mutants that are usually attenuated in viral replication, the TTDR virus remains its aggressiveness in tumor cells but still extremely safe.

The other research activity of Dr. Jia's laboratory at UBC is to study natural products for their anti-cancer and neuroprotective effects. They have recently discovered that a compound extracted from plants not only possesses strong tumor inhibitory effect but also can dramatically enhance the efficacy of conventional anti-tumor drugs on multidrug resistant tumor cells. A patent application based on this finding has been obtained.

Most recently, Dr.Jia has invented a new concept for drug development from traditional medicine. The concept is named "post-absorption/metabolism drugs" or PAMDs. This concept emphasizes on identifying and isolation of chemical components that are absorbed and presence in the blood and target organs after orally taken the medicine instead of original chemicals contained in herbs. Utilizing this concept, Dr. Jia has been working with his colleagues in Shanghai Innovative Research Centre of TCM to discover some novel lead compounds with potent pharmacological activity and extremely low toxicity. They are being developed in SIRC for novel drug candidates. The PAMD concept has won a national award recently at 4th Traditional Chinese Medicine Forum held in Beijing.

In the past years, Dr. Jia has received many awards and research funds. Since 1997, he has been a Scholar of Canadian Institute of Health Research. He received Petro Canada Young Inventors award in 2007.

Elena JOVANOVSKI, MSc, is currently a research associate whose work has made significant contributions within a unique multidisciplinary research group focusing on the investigation of physiological effects of ginseng in vascular health.

Dr Morris KARMAZYN is a Professor of Physiology and Pharmacology at the University of Western Ontario. He is listed in both "American Men and Women of Science" and in the Canadian "Who's Who". He is the co-editor and co-founder of the journal "Prostaglandins Leukotrienes and Essential Fatty Acids" and either has served or serves on the Editorial Boards of a number of journals. In addition to his interest in ginseng, Karmazyn's research focuses on cardiac hypertrophy and heart failure, including the role of leptin, sodium-hydrogen exchange, arachidonic acid metabolites, as well as the role of nitric oxide and adenosine as endogenous antihypertrophic factors. He has over 200 publications in peer-reviewed journals and has edited 3 books. He has been invited to give lectures regarding his research all over the world and has received the Merck Frosst Award of the Pharmacological Society of Canada, the Vincenzo Panagia Award from the Institute of Cardiovascular Sciences of the St Boniface General Hospital Research Center, the Award of Excellence from the Faculty of Medicine at the University of Western Ontario, a Career Investigator Award from the Heart and Stroke Foundation of Ontario and he currently holds a Tier 1 Canada Research Chair in Experimental Cardiology.

Denis G. KAY, A Neurodyn co-founder, Dr. Kay serves as Director and Chief Scientific Officer of Neurodyn and CNS CRO. During his academic career at McGill University and the Clinical Research Institute of Montreal, he became an acknowledged expert in animal model development and characterization especially in the areas of Amyotrophic Lateral Sclerosis and AIDS. He is co-inventor on a patented, commercialized animal model of the multi system diseases associated with HIV infection. Dr. Kay was instrumental in the establishment and development of Neurodyn's R&D program, and is inventor or co-inventor on three patent families currently in prosecution.

Helen KIM is a native of Seoul, South Korea; she obtained her B.S. in Chemistry from Mary Washington College of the University of Virginia, a Master of Forest Science from Yale University School of Forestry & Environmental Studies, and a PhD in Biophysics from the University of Virginia (1983). She is currently Associate Professor of Pharmacology & Toxicology at the University of Alabama at Birmingham, where she also co-directs the Targeted Metabolomics/Proteomics Laboratory. She uses top-down proteomics approaches along with functional assays to assess the mechanisms of dietary polyphenols in models of neurodegeneration and other chronic diseases. Dr. Kim also collaborates with colleagues at the University of Alabama, Huntsville, using proteomics approaches to determine the molecular basis of the symbiosis between the aspen tree Populus tricocarpa and the fungus Laccaria. This is a project funded by the Dept of Energy.

Danna J. LEAMAN, a conservation biologist/ethno-botanist affiliated with the Canadian Museum of Nature as a Research Associate, received her PhD in biology from the University of Ottawa, Canada, in 1996. A member of the Species Survival Commission of the International Union for Conservation of Nature (IUCN), she is Chair of the Medicinal Plant Specialist Group, Deputy Chair of the Plant Conservation Sub-Committee, and member of the SSC Steering Committee. She is a founding member of the Board of Trustees of the FairWild Foundation, established in 2008 to promote sustainable wild collection of medicinal and other commercially useful plants.

Ping-Chung LEUNG, is Emeritus Professor of Orthopaedics & Traumatology, Faculty of Medicine; Director of the Institute of Chinese Medicine (ICM) and Director of the Jockey Club Centre for Osteoporosis Care and Prevention at The Chinese University of Hong Kong. He is also the Past President of the International Research Society of Orthopaedic Surgery and Traumatology (SIROT), 2009-2012.

Professor Leung's professional expertises include General Orthopaedics, Osteoporosis, Microsurgery, Public Health, Traditional Chinese Medicine and General Education. He is the author of over 600 scientific manuscripts published in journals and 88 books. Professor Leung has been appointed as editor of 15 International Journals, and external examiners of colleges of Surgeons since 1985. Examples of publication related in Chinese medicine include: "A Comprehensive Guide to Chinese Medicine", "Limb Salvage for Diabetic Ulceration with Traditional Chinese techniques", "Treatment of Low Back Pain with Acupuncture", "Healthy Aging" etc.

Professor Leung has been awarded many honors, such as Humanity Award (2009), People Award for Outstanding Contribution of Rehabilitation on China (中國康協肢殘康復第18屆年會2009年度突出貢獻人物獎)(2009), Gusi Peace Prize (2006), Far Eastern Economic Review -Asian Innovation Silver Award (2000), Award for National Harmony of the State Council of the People's Republic of China(中華人民共和國國務院民族和諧獎)(2000), Order of the British Empire (1995) and Liston Victoria Jubilee Prize by Royal College of Surgeons (1990).

In his capacity as the Director of the Institute of Chinese Medicine, Professor Leung has put enormous efforts in modernizing Traditional Chinese medicine. He has adopted a special Research Methodology in Clinical Trials and related research. Currently, there are more than 30 clinical trials research projects underway in the Institute of Chinese Medicine.

Lian-Da LI graduated from the medical department of Beijing Medical University in 1956 and was elected to be the academician of Chinese Academy of Engineering in 2003. At present, he is the chief researcher in China Academy of Chinese Medical Sciences, the president of College of Pharmaceutical Sciences of Zhejiang University, the judge member of the State Science and Technology Award, the member of the State New Drug and Health Food Evaluation, the member of the State Committee Pharmacopoeia, and the council member or editor of various kinds of academic groups and journals. He is the Beijing representative of the Seventh People's Congress, and the member of the Eighth, Ninth and Tenth of the National Committee of CPPCC.

He has received significant achievements in long-term scientific research, medical work, academic development of pharmacology of Chinese medicine and the progress of science and technology. He is the first person to use Chinese herbs and stem cell transplantation in treatment of coronary heart disease. Since 1970s' he had spared no effort to promote the development of pharmacology disciplines of Chinese medicine and had set up some new animal model and experimental methods. In 1990, he set up the criteria for pharmacodynamic evaluation and technical regulation, which had been recognized by the academic field and had made giant contributions to carry forward Chinese medicine and promote the development of integration of Chinese and western medicine and the modernization of Chinese medicine. At present, he conducts 973 research topics of the Ministry of Science and Technology, the "Tenth Five-year Plan" topics of the Ministry of Science and Technology and the major scientific and technological projects of the State National Science Foundation and Zhejiang province.

He has published a total of more than 260 academic articles, attended and been the chief editor of 17 works. He has received 20 rewards, i.e. the Top Prize and the Second Prize for State Scientific and Technological progress, the A-class Prize for Scientific and Technological progress, the Ministry of Health and other scientific and technological achievements of various ranks. He has accomplished the preparation or pharmaceutical research on 70 kinds of new Chinese drugs and 18 kinds of drugs had received the certificates of new medicine. He gave the lectures on the academic topics in the United States, Japan, Germany, Taiwan and Hong Kong of China. In view of his contribution to the research and development of new Chinese drugs, he won the Chinese Medical Prize for China Science and Technology Progress.

In 1978, he began to train the graduate students for pharmacology research. Till now, he has trained 6 graduate students of Master's degree, 16 students of Doctoral degree and 9 students of Postdoctoral degree.

Guang LIANG, associate professor in medicinal chemistry, is the director of Bioorganic and Medicinal Chemistry Research Center in School of Pharmaceutical Sciences, Wenzhou Medical College. He has a background in both organic chemistry and molecular pharmacology. His interest focuses on design and discovery of novel anti-inflammatory and anti-cancer derivatives with natural actives as leading compounds, especially, curcumin and chalcones. He is the first author or corresponding author of more than 28 peer-reviewed articles, and is the editorial member of two international journals.

Aiping LU is the Dean and Chair Professor of Chinese Medicine, Hong Kong Baptist University now. He received his PhD degrees from the China Academy of Traditional Chinese Medicine (now called the China Academy of Chinese Medical Sciences, CACMS). He joined the CACMS and serve as the Academy's Director of Institute of Basic Theory in 1999, and the Deputy Director of the Institute of Basic Research in Clinical Medicine of CACMS in 2006.

Professor Lu's research interests focus on the clinical evaluation with RCT focusing on rheumatoid arthritis (RA) with TCM pattern diagnosis, standardization of Chinese medicine diagnosis, the association of Chinese medicine with the outcome of disease treatment, and research and development of new drugs. He has carried out several major research projects funded by National Natural Science Foundation of China (NSFC), Ministry of Science and Technology of the PRC and so on. Prof Lu has published more than 300 articles and obtained more than 40 patents.

Ed LUI, is Associate Professor in the Department of Physiology and Pharmacology, Schulich School of Medicine & Dentistry, Western University. He received his education and research training in Pharmacy, Pharmacology, and Toxicology from Dalhousie University and the National Institute of Environmental Health Sciences. He is the Scientific Director of the Ontario Ginseng Innovation and Research Consortium (OGIRC), which was established in 2008 through a grant from the Ontario Ministry of Research and Innovation - Research Excellence Program (www.uwo.ca/ogirc). Dr. Lui is also the President of the Canadian Institute of Chinese Medicinal Research and the Founding Editor of the Journal of Complementary and Integrative Medicine. He also provides consultation to Health Canada concerning Traditional Chinese Medicines and complementary medicine as well as serving as expert in matter pertaining to Traditional Chinese Medicines for Standard Council Canada as member of International Standards Organization.

Siyaram PANDEY is a Professor in the Department of Chemistry & Biochemistry at the University of Windsor. He received his MSc from Banaras Hindu University (1986), Varansi, India and his PhD from Jawaharlal Nehru University/CCMB (1992), New Delhi, India. He did is postdoctoral training at McGill and joined NRC, Ottawa as a research officer (1993-2000). He joined the University of Windsor in 2000.

Dr. Pandey's research is focused on apoptosis (cell suicide), which is central to various aspects of human health including neurodegeneration, stroke and cancer. Dr. Pandey has been using different cellular and animal models of cancer and Parkinson's disease in order to investigate biochemical mechanisms of cell death and therapeutic interventions. His group is known for their discovery of the novel natural anti-cancer compound Pancratistatin, dandelion root extract and of neuro-protective anti-bax intrabodies, as well as water-soluble CoQ1. His successful collaboration with Dr. Sikorska and Dr. Tanha at NRC, and Dr. Cohen at the Department of Psychology (U of W) and Zymes LLC (a pharmaceutical company in New Jersey, USA) has established a unique research group with expertise in behavioral, biochemical, and histological assessment of neuroprotective agents. He has published more than 6 research articles and received several research grants from NSERC, CIHR, HSFO, Lotte and John Hecht Foundation and research excellence awards from the University of Windsor.

Grant PIERCE has published ~200 manuscripts that have attracted more than 4000 citations. His past work focused on the identification of a cardiomyopathy in diabetes and on Na/H exchange as an important mechanism responsible for ischemic heart disease. He is currently interested in nuclear protein import as a mechanism for cell growth in the cardiovascular system, on the relationship of infection and inflammation with atherosclerosis, and on the potential for nutraceuticals and functional foods to alter cardiovascular disease. He is the Executive Director of Research at St Boniface General Hospital and Co-Editor of the Canadian Journal of Physiology and Pharmacology.

Sem PONNAMBALAM has a BA Honors in Political Science: International Relations from Carleton University. She also has a MA in Legal Studies from Carleton University. Sem's career has included positions at Department of Foreign Affairs, Department of Fisheries and Ocean and Health Canada, where she was responsible for market access issues for specialized fisheries in the EU, highly migratory fish stocks in Asia Pacific region and Reports on Plans and

Priorities and Departmental Performance Review. Sem joined Agriculture and Agri-Food Canada in 2009 as a Senior Market Development Advisor for the Horticulture and Cross Sectoral Division (HCSD). At HCSD, Sem is responsible for market development for herbs, spice, medicinal plants, ginseng and field vegetables. Sem also works on the Financial Risk Mitigation Tools file for fresh produce and the Regulatory Cooperation Council file for Agriculture and Agri-Food Canada.

Suma RAMAGIRI is application scientist for small molecule Quant/Qual workflows at AB SCIEX based in Concord, Canada. She obtained her B.Sc. in Biochemistry, M.Sc. in Organic Chemistry in India. She did her Ph.D. in Analytical Chemistry and after that post-doctoral study at University of Tennessee Health Sciences, Memphis, TN, USA. She worked in many drug discovery and development projects for anti-bacterial, anti-inflammatory and anti-cancer drugs at GTx Inc, ED Laboratories, Memphis TN, USA and Dr. Reddys Laboratories, India. In her current role at AB SCIEX, she drives worldwide efforts in application development and product development to enhance lipidomics, metabolomics, general unknown screening and metabolite ID workflows.

Ammar SALEEM completed his doctoral and postdoctoral work in Natural Products Chemistry from University of Turku, Finland in 2002 and 2004 respectively. His doctoral research was focused on cancer cell growth inhibitory effects of tannins and his postdoctoral work was on the study of structural and functional relationships of photosynthetic protein complexes. Dr. Saleem joined the Laboratory for the Analysis of Natural and Synthetic Environmental Toxins at University of Ottawa in 2005 where is teaching and research interests are mainly focused on the chemical diversity of Canadian Boreal plants and quality control of North American herbal products.

Sara Sarkar, PhD MBA joined Agriculture and Agri-Food Canada in 2009 as a Senior Market Development Officer for Functional Foods and Natural Health Products (FFNHP). She seeks ways to build value chains, support innovation, promote exports, and contributes to policy and programs. She has in-depth knowledge of the FFNHP from her outreach with Canadian companies, researchers and support organizations across Canada, from industry research such as the tri-annual Statistics Canada Survey of FFNHP Firms and Canadian Superfood Case Studies, and from market research. Sara is committed to the commercialization of Canada's great agri-food and health research for the benefit of all. Her PhD in Plant and Microbial Genomics and MBA in Healthcare Management are both from the University of Toronto, and previous positions include Visiting Assistant Professor at Michigan State University.

Paul Richard SAUNDERS, Adjunct Professor of Materia Medica, Canadian College of Naturopathic Medicine, has been in private practice in Dundas, Ontario, Canada over 20 years. His PhD in forest ecology is from Duke University, he was on the faculty at Clemson University, and tenured at Washington State University. He earned his ND from Ontario (now Canadian) College of Naturopathic Medicine, and did additional training and residency at National College of Naturopathic Medicine, Portland, Oregon, served as their interim Research Director, and initiated their Institutional Review Board. As Editor, The Canadian Journal of Herbalism, 2000-2002, he instituted peer-review. He does grant reviews for the NIH, NCCAM and Sick Kids. He was on the Transition Team that established the Office of Natural Health Products, served on its Expert Advisory Committee to 2006 and now serves on their Product Advisory Subcommittee.

Ron SMITH - born in Montreal, Ron took forestry at UNB and began working with the Canadian Forest Service in 1978. His first 15+ years were spent working in applied research in forest genetics/tree improvement and in going back to school where he obtained a MSc and a PhD. In the mid-1990's he gradually transitioned from operational tree improvement to research on Non-Timber Forest Products (NTFP), most notably on Canada yew (ground hemlock) with a long-time friend and colleague Dr. Stewart Cameron. He left CFS in 2005 to pursue a 'second career' which has included promoting the sustainable use of non-timber forest products (NTFPs) in woodlots and working as a research scientist for the University of New Brunswick, Wood Science and Technology Centre. Ron is married with three children. As time allows, he partakes in his hobbies which include philately, basketball, and cross-country skiing.

Chao SUN, Associated Professor received his Ph.D. degree of genetics from Institute of Microbiology, Chinese Academy of Sciences in 2000 and now work in Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences. Major research interests include: 1) whole genome sequencing, assembly and functional genomics research of medicinal plants and fungi; 2) biosynthesis of secondary metabolites and its regulation. Some studies have been published on BMC Genomics, BMC Plant Biology, Physiologia Plantarum, Plant Cell Reports, Plant Biology and Planta Medica.

Carmen TAMAYO was educated at the Central University of Venezuela and completed postgraduate studies in Public Health and Epidemiology at the University of Toronto in Canada. Dr. Tamayo has more than 16 years of experience in traditional, complementary and alternative medicine (TCAM) research and has worked in renown institutes and universities both in Canada and the United States, including the National Cancer Institute of Canada, the University of Texas-Center for Alternative Medicine Research in Cancer (a National Institutes of Health (NIH) funded center), the Centre for Evidence Based Medicine at Mc Master University and the School of Medicine and Dentistry at the University of Western Ontario.

Dr. Tamayo was the first chair of the Natural Health Product Special Interest Area Committee (NHP/SIAC) of the Drug Information Association (DIA) and is the immediate past co-chair of the Natural Products Special Interest Group (NP/SIG) of the International Pharmaceutical Federation (FIP). She serves as an expert reviewer for the World Health Organization and other International committees and several CAM and Phytotherapy journals. She was recently selected to be part of the "Sociedad Latinoamericana de Fitomedicina" (Latinoamerican Phytomedicine Society).

She currently serves a consultant and subcontractor for "Foresight Links Corporation", a consulting firm specialized on knowledge management, evidence-based health care and informatics and for a Polymolecular Drugs Scientific Management Organization, "HeteroGeneity LLC" in Washington, DC. She also serves in various CAM-Research networks and is funding co-editor of an Internet based Canadian CAM journal, Journal of Integrative and Complementary Medicine (JICM) - An international forum for evidence-based practices.

Her major areas of expertise are regulations and clinical development of complex products, clinical monitoring and patient safety. She also specializes on quality control of natural health products, evidence-base medicine and integrative medicine. Her interest is the development and analysis of research methodologies to evaluate complex interventions and traditional systems of medicine and the safety and efficacy of natural health products in general and botanical/polymolecular drugs in particular. Her mission is to help improve health through the development and appropriate use of novel medicines including botanical drugs and nutritional interventions. She has authored a number of peer-review publications and book chapters and is a well sought speaker to many conferences worldwide.

Ven TAN came from Malaysian to Sydney for studying in 1974. After graduating from the University of New South Wales, Dr Ven Tan went on to become a G.P in Sydney and received "Australian Doctor"G.P. Award in 1994.

Dr Ven Tan has a great interest in ethnic diseases. He has notice the language barrier encountered by the chines immigrants when consulting doctors. Therefore he founded the first Healthpac Medical Centre in Hurstville in 1995, providing multi-lingual medical services to take special care of the lingustically disadvantaged group.

As a renowned Western Doctor, Dr Tan has always kept an open mind. Through his own practice he has come to reliazed the limtation of conventional Western medicine and to worship the merit of Traditional Chinese Medicine.

For many year Dr Tan has dedicated his hard work to promote the best form of medicine at Healthpac medical centres, integrating conventional Western clinical practices with complementary Traditional Chinese Medicine methodologies. He has brought together Traditional Chinese Medicine practitioners and the associations to improve and to lobby for the legislation and registration of Traditional Chinese Medicine industry.

Dr. Rong Cao (Rong Tsao) is a Senior Research Scientist at the Guelph Food Research Centre of Agriculture & Agri-Food Canada in Guelph, Ontario. He received his Ph.D. from Kyushu University, Japan, and was a Postdoctoral Research Associate at Iowa State University before he joined Agriculture & Agri-Food Canada in 1996. Dr. Tsao is a well established Research Scientist in the area of food bioactives and their roles in human health and wellness. His research is particularly focused on the chemistry and biochemistry of phytochemicals with antioxidant activities. He is an expert in chemical characterization of bioactives in food and biological samples, mode of action and metabolism, and the develpement of functional foods and nutraceuticals. He is an editorial board member of Food Chemistry, and holds several adjunct positions at different universities. He has been organizer and chair of several international symposiums on antioxidants and health including ACS, Pacifichem and ISNFF. He has edited books, and published more than 150 peer reviewed papers and book chapters.

Chong-Zhi WANG is an Assistant Professor in the Department of Anesthesia and Critical Care, and serves as Associate Director of the Tang Center for Herbal Medicine Research and Botanical Core Director of a NIH/NCCAM center project at the University of Chicago. He obtained his Ph.D. from China Pharmaceutical University and finished his postdoctoral training at the University of Chicago. Dr. Wang's current work, in part supported by his NIH K01 grant, focuses on the identification of active botanical constituents and the evaluation of their pharmacological activities. He has published over 80 peer-reviewed journal research articles, reviews and book chapters.

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