

## OGIRC at Western's Indigenous Camp

Ontario Ginseng Innovation & Research Consortium (OGIRC) hosted an afternoon session on July 5, 2011 for 16 campers in grades 8 and 9 to introduce the campers to research on Traditional Medicines in an interdisciplinary environment. Mother Nature gave us good weather and an active and educational afternoon was enjoyed by all participants.

The group was welcomed outside the Biotron by Dr. Lui and OGIRC staff. Dr. Lui introduced the OGIRC project which links traditional knowledge with modern science to reveal health effects of medicinal plants, improve medicinal crop agriculture, and produce new dosage forms. Post doctoral fellow, Dr. Di Wu, outlined ginseng biotechnology research, and the campers had an opportunity to see ginseng seeds, micropropagated plantlets and seedlings.

Biology professor Dr. Greg Thorn, led the campers on a "Medicine Walk" along the Alumni Trail to point out and describe some of the traditionally used plants found on campus such as Sweet Grass, Basswood, Black Walnut and Common Burdock.



**Dr. Greg Thorn**

Pre-Clinical research was illustrated in a poster designed by Jessica Davie (Coolen lab) showing how the active components of ginseng (polysaccharides and ginsenosides) can be extracted from the plant to treat various health conditions. An active game of "Capture the Flag" led by Holly Lemmon and Jane Sham (Madrenas lab) set a team of campers acting as "disease/health conditions" ready to "invade the body" against a team of campers acting as "ginseng health effects" that were to protect the flag. We are happy to report that Team Ginseng won the day!



**Team Ginseng wins the day**

The campers then toured Dr. Charpentier's Advanced Processing lab. Graduate students Raziye Samimihaggozar and Mehrnaz Salarian demonstrated the extraction process, and how ginseng extracts can be added to bone cement to promote healing. The camp session wrapped up with a visit to Dr. Zhu's Particle Technology Research Centre where graduate student Sima Manifar showed the campers how ginseng can be ground into ultra fine particles and made into tablets.

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## Feature Interviews Korean Television

Two of Korea's major television broadcast networks – **Korean Broadcasting System** and **SBS TV** - recently highlighted the OGIRC in feature documentaries.

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KBS-TV's *Science Café* aired a feature documentary on the ginseng industry in North America, and Ontario in particular, focusing on Dr Lui's insights into trends, research, production and marketing. Included in the show's taping were the labs of Drs. Feng and Karmazyn.

The SBS-TV documentary, *Ginseng*, dealt with the approaches different countries use to bring their ginseng to local and global consumers, and what lessons Korean producers can learn from these practices. Dr. Lui and the labs of Drs. Feng, Karmazyn and Noble were highlighted in the documentary.

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## Summer Field Trip

On June 16, 2011 a large contingent of OGIRC trainees, investigators and staff travelled by bus to Windsor, Ontario, for an extensive and informative tour of the Jamieson Laboratories facilities hosted by Gary Leong, Vice-President, Scientific & Regulatory Affairs, and Megan Thomas, Research Manager. The London group was joined by members of Dr. Siyaram Pandey's lab from the Department of Chemistry & Biochemistry at the University of Windsor, as well as five students from the lab of Dr Robert Kakos, Director, College of Engineering, at Wayne State University in Detroit, Michigan.

All participants were given a chance to explore both the tablet/liquid manufacturing operation and the soft gel facility. After the tours, trainees had an opportunity to share information and present an overview of their work to the group.



Following the lab presentations, Gary Leong and Megan Thomas provided trainees with their insight on the skills and training necessary for a successful career path. Questions and discussion from participants rounded out the session and brought a close to the day.



We thank Jamieson Laboratories whose hospitality and generosity made the OGIRC field trip such a resounding success.

## What's Up with Us!

Our best wishes for every future success to graduate students that successfully defended their thesis: Colin Carruthers (K.Rogers) and Matthew Barnes, (L Coolen)

Cheryl Lui (Co-op, McMaster U) returned this summer to continue her work in Dr. Bailey's lab.

Yan Wu has also returned from China to continue her ginseng project in Dr. Feng's lab.

*Congratulations* go out to Jennifer Heidenheim! Jen accepted the position of "Administrative Coordinator" in the Centre for Planetary Science and Exploration (CPSX) at Western.

*A warm welcome* to Susan Underhill. Susan is the new administrative assistant in the OGIRC Central Office and can usually be found in the office on Monday, Wednesday and Friday or by email at [susan.underhill@schulich.uwo.ca](mailto:susan.underhill@schulich.uwo.ca).

OGIRC Central also welcomes new work study students and volunteers:

Office - Pranshu Bharadwaj and Brianna Kim  
Lab – Julie La, Narmatha Benedict, Andrew Tse,  
Allen Xian and Andy Zhang  
4<sup>th</sup> year thesis student – Pearl Chung

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## Journal Club

September brings with it another year of Journal Club meetings and an opportunity for OGIRC trainees to share their research and next steps with fellow trainees. For several of our soon-to graduate students it is a chance to receive feedback from OGIRC Investigators and prepare for thesis defence. Graduate student, Mehrbod Estaki started the year off with his presentation *Protective effects of North American ginseng against exercise-induced muscular damage*.

Upcoming schedule to be announced soon!

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## New Collaborations

Collaboration in pharmacometabolomics between Ed Lui and AB Sciex was established in 2010. The results of this joint effort have been presented at the Annual conference of the American Society of Mass Spectrometry in Denver, Colorado on May 9-12, 2011. See the publications and presentations section for more information.

Ed Lui and Sharareh Hekmat, Food & Nutrition Sciences at Brescia College, have started a joint project on ginseng-based probiotic yogurt.

# Conference News

The 10th Meeting of the Consortium for Globalization of Chinese Medicine (CGCM) was held on August 26-28, 2011 in Shanghai with 518 attendees and 379 abstracts. Next year's meeting will be held in Macau (towards the end of August). OGIRC is a member of CGCM and we were well represented at this annual meeting:

1. Ed Lui was the panellist for: i) Education Pre-Meeting Workshop: Integration of Chinese Medicine Education within Conventional Medical Education Globally; ii) Bioinformatics and Database (Application of "Omics" in TCM Research) Session.
2. Praveen Saxena was a panelist for the "Herbal resource" session.
3. Presentations by OGIRC members were made by Ed Lui, Dan Brown, and Praveen Saxena – see presentations for detail.

## Oral Presentations

	Conference Name	Title
Ed Lui, OGIRC Scientific Director - <b>Plenary Lecture</b>	AB Sciex Triple TOF <sup>TM5600</sup> Chinese Medicine Workshop in Shanghai, Aug 29, 2011	Challenges and new approaches in evaluation of product quality and efficacy of herbal medicines: a case study with ginseng
Ed Lui, J Hou, S. Ramagiri, T. Sakuma, E Duchoslav, R. Bonner; L. Burton, D. Cox, T. Moy	American Society of Mass Spectrometry Conference 2011, Denver, CO. June 5-9, 2011	Pharmacometabonomics of ginseng extracts on vascular injury induced by chronic homocysteine treatment. (oral)
Ed Lui, J. Hou, T. Sakuma, T. Moy, D. Cox, R. Bonner, E. Duchoslav, S. Ramagiri	10 <sup>th</sup> Meeting Consortium for Globalization of Chinese, Medicine, Shanghai. August 26-28, 2011	Pharmacometabonomics of ginseng extracts on vascular injury induced by chronic homocysteine treatment. (oral)

## Poster Presentations

<i>Sarah Wilson, Pre-Clinical (D. Mutch, U of Guelph)</i> S.A.F. Wilson*, C. Stryjecki, A. De Boer, E. Lui, and D.M. Mutch.	The 2nd National Obesity Summit, Montreal (April 28-May 1, 2011)	Immunomodulatory activity of North American Ginseng in 3T3-L1 adipocytes.
S.A.F. Wilson*, M.Wong, C. Stryjecki, A. De Boer, E. Lui, and D.M. Mutch.	Canadian Nutrition Society Annual Meeting, Guelph (June 2-4, 2011)	Unravelling adipocyte inflammatory pathways modulated by North American ginseng. (poster)
Carmai Seto, Suma Ramagiri, Takeo Sakuma, <u>Ed Lui</u> , M. Barnes, Lique Coolen.	American Society of Mass Spectrometry Conference 2011, Denver, CO. (June 5-9, 2011)	LC-MS/MS Study of Ginseng Metabolism.
Suma Ramagiri, Jirui Hou, Takeo Sakuma, Carmai Seto, Vanaja Raghuvaran, <u>Ed Lui</u> .	American Society of Mass Spectrometry Conference 2011, Denver, CO. (June 5-9, 2011)	Metabolite Identification of Complex Herbal Medicines in Rat Plasma and Intestine using High Resolution Accurate Mass Spectrometry.
Xu Guo, Eva Duchoslav, <u>Ed Lui</u> , H. Pei, Takeo Sakuma, Yun Yun Zou, B.H. Shin, S.H. Yeo, D.S. Lee, Y.C. Kim, Robert Ellis.	American Society of Mass Spectrometry Conference 2011, Denver, CO. (June 5-9, 2011)	High resolution profiling of ginseng extracts using triple-quadrupole-time-of-flight mass spectrometry technology.
Raziye Samimi, Paul Charpentier, Suya Liu, Edmond Lui	Annual Green Chemistry Conference, Washington, DC. (June 21-23, '11)	Ultrasound-assisted extraction of North American Ginseng: Selectivity and Immunoactivity.
E.E. Uchendu, D.C.W. Brown and P.K. Saxena	10 <sup>th</sup> Meeting Consortium for Globalization of Chinese, Medicine, Shanghai (Aug 26-28, '11)	Canadian Research Initiative for Saving the Sacred Plants (CRISSP): Micropropagation and Cryopreservation of North American Ginseng ( <i>Panax quinquefolius</i> L.)
Sijun Zhou, Dan Brown, <u>Ed Lui</u> , Chris Siow, Di Wu.	10 <sup>th</sup> Meeting Consortium for Globalization of Chinese, Medicine, Shanghai (Aug 26-28, '11)	North American ginseng constituent analysis and evaluation of potential efficacy for therapeutic applications.
Sijun Zhou, Dan Brown	2011 World Ginseng Expo, Geumson, Korea. September 2-October 3, 2011. Presented by Dr. Zhou (Sept 22, 2011)	Application of Plant Biotechnology to North American Ginseng Production
Misagh Alipour, Abdel Omri, and Zacharias Suntres.	Phytochemical Society of North America, Hilo, Hawaii. (Dec 10-15, 2011)	Synergistic effects between an aqueous extract of panax quinquefolius and tobramycin against pseudomonas aeruginosa in a rat model of lung infection.

## Publications

Alipour M, Omri A, Suntres ZE. *Ginseng aqueous extract attenuates the production of virulence factors, stimulates twitching and adhesion, and eradicates biofilms of Pseudomonas aeruginosa*. Can J Physiol Pharmacol. 2011 Jun;89(6):419-27.

Azike C, Charpentier P, Hou, J, Pei, H, Lui EMK. *The Yin and Yang Actions of North American Ginseng Root in Modulating the Immune Function of Macrophages*. Chinese Medicine Journal, 6: 21 (May 27, 2011).

Moey M, Rajapurohitam V, Zeidan A and Karmazyn M. *Ginseng (Panax quinquefolius) attenuates leptin-induced ventricular cardiac hypertrophy through inhibition of p115RhoGEF-RhoA/ROCK-dependent MAPK pathway activation*. J Pharmacol Exp Ther. 2011 Aug 29.

Subhrojit Sen, Shali Chen, Biao Feng, Yuexiu Wu, Edmund Lui, Subrata Chakrabarti. *American ginseng (Panax quinquefolius) prevents glucose-induced oxidative stress and associated endothelial abnormalities*. Phytomedicine (2011), doi:10.1016/j.physmed.2011.06.013

Wu Y, Lu X, Xiang FL, Lui EMK, Feng Q. *North American ginseng protects the heart from ischemia and reperfusion injury via upregulation of endothelial nitric oxide synthase*. Pharmacological Research, 64:3(September 2011):195-20

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## Upcoming Events

**November 27-28, 2011**

### **OGIRC Research Retreat and Annual General Meeting**

Windermere Manor, University of Western Ontario  
London Ontario

**December 10-15, 2011**

### **Phytochemical Society of North America**

University of Hawai'i at Hilo College of Pharmacy  
Hilo, Hawai'i

**Save the Date!**

**July 2012**

### **Natural Bioactives and Networking Conference**

London, Ontario

Currently in the planning stages, this Conference will bring together international researchers, industry partners and the public in London, Ontario from July 9– 12, 2012.

The conference will include a forum on the proposed *International Ginseng Network*: a non-profit international organization to promote the globalization of ginseng to ensure sustainable sourcing/production of high quality ginseng and medicinal use that is based on both science and tradition worldwide.

If you are interested in becoming a member of the Organising Committee or volunteering for the conference, please contact Dr Ed Lui or Wendy Ambrose-Hope at the OGIRC main office.

Watch for more information on this exciting conference.

## Jamieson Travel Awards

In early 2011, OGIRC was excited to announce the Jamieson Graduate Student Travel Award. To date, the fund has supported travel to the following conferences: ACS Green Chemistry, Washington; Society for Neuroscience, Washington; Canadian Society for Exercise Physiology (CSEP), Quebec; and Phytochemical Society of North America (PSNA), Hawaii. For more information on the Jamieson GSTA, visit the OGIRC website at:

<http://www.uwo.ca/physpharm/ogirc/training/index.html>

Remember - it is important to acknowledge OGIRC and our funding agency Ministry of Research & Innovation (MRI) in your presentations. Logos and a short acknowledgement template are available on our website at:

<http://www.uwo.ca/physpharm/ogirc/members/index.html>



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## OGIRC

## New Office Space

Due to the Schulich School of Medicine & Dentistry renovations the OGIRC offices moved from our original location in the Dental Sciences Building to new quarters just down the hall in Medical Sciences. The move went smoothly, and we are now comfortably settled in our new permanent home. The Lui lab, currently in MSB 287, will soon be returning to its original quarters in DSB Rm 2003.

OGIRC main office

MSB 285

Dr Ed Lui

MSB 286

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### **Questions or Comments?**

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