

Recent Events

Visiting Speakers

Dr. Simon Ming Yuen Lee from the Institute of Chinese Medical Sciences at the University of Macau in China spoke on November 12, 2013 to OGIRC and invited guests. Dr. Lee's presentation was *From Omics to Drug Metabolism and High Content Screen of Natural Product in Zebrafish* and he spoke of the use of the zebrafish model for evaluating drug metabolism and mode of pharmacological action with emerging omics approaches. Dr. Lee also discussed why zebrafish are suitable models for identifying lead compounds from Chinese medicines used for treatment for disorders such as cerebral hemorrhage, Parkinson's and cardiovascular diseases.



Outreach

Royal Agricultural Winter Fair

The Ontario Ginseng Innovation & Research Consortium (OGIRC) was an active presence at the Royal Agricultural Winter Fair in Toronto for the week of November 1 to 10, 2013. The OGIRC supported the 2013 food education feature, For the Love of Food, in the Future of Food & Farming area with information about the on-going research and health benefits of North American ginseng. The exhibit featured posters and hand-outs describing health benefits and research; live ginseng micropropagation samples from embryo to shoot production; preserved ginseng root; samples of sliced ginseng root; and some samples of fruity ginseng tea. This feature helped to link farmers and producers, scientists, health professionals and chefs. Various OGIRC staff and students as well as Mary Alton Mackey, an international consultant in food and nutrition, were on hand to help.



On Wednesday, November 6, 2013, Dr. Ed Lui demonstrated a method for making a delicious chicken and ginseng soup. Dr. Lui spent time explaining the benefits of each ingredient used to make this traditional Chinese dish and spectators were invited to try a sample while they were there.

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Conference Activities

Past Conferences



The 2nd International Symposium on Plant Cryopreservation, Fort Collins, CO – Aug 11-14, 2013. The symposium included in-depth analyses of basic research in the cryobiology of living cells as well as reports on state-of-the-art methods, research and successes with cryopreservation of selected horticultural and agricultural crops. As part of the symposium, **Dr. Praveen Saxena** delivered his presentation on *Cryopreservation of medicinal plants: The role of melatonin*.



Solar panel farm at France Ginseng

In September, 2013, **Dr. Ed Lui** visited with France Ginseng to learn firsthand about different technologies with respect to ginseng agriculture. France Ginseng is utilizing photovoltaic roof panels that serve a dual purpose – the panels provide shading for the ginseng plants and also produce valuable energy that secures financial income.



4th meeting of ISO/TC249/WG1: Quality and safety of raw materials used in TCM, Beijing, China – October 11, 2013.

Dr. Ed Lui participated in this meeting and spoke about the progress on the quality standards of both seeds and seedlings of *Panax quinquefolius*. WG1 praised Dr. Lui's work on the project Seed and Seedling of *Panax quinquefolius* and they encouraged more collaborative research on collecting more data to support this project.

Inaugural Meeting and the First Academic Annual Meeting of Specialty Committee of Medical Resources Utilization and Conservation of World Federation of Chinese Medicine Societies, Beijing, China – October 12-13, 2013. The purpose of the conference was conservation and the sustainable/ effective use of medicinal resources. A variety of topics were discussed including: new technology and methods for the conservation of medicinal resources; searching for new medicinal resources; research on the substitution of endangered medicinal resources; platform building for the utilization and conservation of medicinal resources, and; research on the comprehensive use of medicinal resources. As an invited expert, **Dr. Ed Lui** presented information about the program to improve the quality of Ontario-grown *Panax quinquefolius*.



American Institute for Cancer Research Conference, 2nd Annual Conference, Bethesda, MD – Nov 7-8, 2013. **Dr. Tahira Fatima** participated in this two-day conference that covered a wide range of topics that were designed to increase knowledge, stimulate research, and promote the prevention and treatment of cancer through nutrition, physical activity and weight management. Tahira presented a poster under the chemotherapy and treatment category. The poster was well received and led to terrific feedback from and discussion with other participants. Tahira spent time learning about the latest research in cancer prevention and treatment with topics such as micro-RNAs, regulation by epigenetics and RNAi. Financial support (travel and accommodation) for this conference was provided by OGIRC through the Jamieson Travel Fund.



International Conference on the Lens, Kona, Hawaii – January 19-24, 2014. This conference was an interactive meeting focused on the biology of the normal lens and lens-related diseases. **Tomaz Dzialoszynski**, from Dr. Trevithick's lab, presented his poster and a brief oral talk on the *Effects of North American Ginseng Extracts and Exercise on Cataract in Streptozotocin Diabetic Rats*. This

presentation highlighted the research being done to investigate the possible beneficial effects of North American ginseng and exercise on cataract in Type 1 diabetic rats.

Upcoming Conferences

American Thoracic Society International Conference, San Diego – May 16-21, 2014.

Dr. Suntres' student, Karina Kachur, will be presenting her poster entitled *North American Ginseng Extracts Reduce Pseudomonas Aeruginosa Biofilm Formation*.

The 11th Annual NHP Conference and Trade Show, Kelowna, BC – May 13-16, 2014.

The 2014 NHPRS Conference is being held in conjunction with the Canadian Institute of Chinese Medicinal Research (CICMR). Leading researchers will present themes ranging from Eastern Medicine to Traditional Chinese Medicine in sessions covering NHP research in cardiovascular health, cancer, and neurodegenerative disorders. See <http://www.nhprs.ca/content/nhprs-annual-conference> for details. The abstract submission deadline has been extended to March 15th, 2014.

News & Announcements

OGIRC in the News!

The **Globe and Mail** published an article on September 26, 2013, *Ontario research uprooting myths about ginseng's health benefits*, featuring information regarding the research behind ginseng's health benefits performed by OGIRC and what it means for the future of the ginseng industry in Canada. The article is available at <http://www.theglobeandmail.com/news/national/ginseng-growers-hope-science-will-enhance-the-myth/article14561107/>

OGIRC Funding Update

The March 31, 2014 end date of the Ontario Research Fund grant to support OGIRC research is quickly approaching. A number of activities are necessary to produce the final progress report and complete the financial close out of the grant.

Progress Reports - Requests for progress reports will be forwarded in February to each investigator on the grant. The deadline to return reports will be in line with the grant end date – March 31, 2014 so please be prepared to help us meet our timelines

Financial – There is no carry forward of funds or extension to the end date. If you hold an active sub grant from OGIRC, please ensure all expenses related to your ginseng research are processed before March 31, 2014. ***Expenses after the end date will not be eligible.*** Please contact Wendy at OGIRC Central (wendy.ambrose-hope@schulich.uwo.ca) or X82996 if you have any questions.

The OGIRC Central office at MSB 285 will be active for a short period of time to complete the necessary financial and progress reports. Please stop by or contact us with any questions or comments you might have.

Book Publication

The OGIRC project has entered into its final year and since its inception in 2008 there have been great advancements in the research behind the agriculture, phytochemistry, pre-clinical medicinal effects, safety and advanced processing of North American ginseng. As part of our knowledge transfer effort, we are proud to say that we are in the beginning stages of developing a book that disseminates the vast amount of information that has been gathered.

This book will be a collaborative writing effort between OGIRC researchers and other scientists graciously agreeing to contribute chapters based on their own expertise. It is intended to be used as a reference for a wide audience from healthcare professionals to research and regulatory personnel. With approximately 60 chapters, this book promises to be a very exciting and ambitious project!

What's Up with Us?

A warm, albeit belated, welcome is extended to Rebecca Coates. The Board of Directors of the Ontario Ginseng Growers Association (OGGA) appointed Rebecca as the new full time Executive Director of the Association effective May 27, 2013. Rebecca is responsible for the daily operations of the OGGA and plays a key role in developing and strengthening the market for Ontario's ginseng.

OGIRC has some new and returning people working on ginseng project in 2014. Welcome to: Danny Poinapen, a new technician working with Dr. Brown; and in Dr. Lui's lab, Nandana Ranatunga, a volunteer; Ryann Kwan, a 4th year Scholar's Elective student; as well as work study students Ylonna Kurtzke and Anisa Wu. We're happy to have you on board!

Farewell to:

Maha Hoseh, Inna Stetsenko, and Di Wu – best of luck in all your future endeavours.

Publications/Presentations

Bailey DG. **Grapefruit-medication interactions**. Can Med Assoc J. (2013) 185: 507-508

Bell CE, Watson AJ. **p38 MAPK regulates cavitation and tight junction function in the mouse blastocyst**. PLoS One. (2013) 8(4): e59528.

Kachur, K and Suntres, Z. **Antibacterial properties of ginseng extracts**. Northern Health Research Conference, June 7-8, 2013 North Bay ON

Messenger SA, Moreau JM, Ciriello J. **Effect of chronic intermittent hypoxia on leptin and leptin receptor protein expression in the carotid body**. Brain Res. (2013) 1513: 51-60.

Moazzen, Hoda. **Congenital heart defects in pregestational diabetes: Role of reactive oxygen species**". Department of Phys/Pharm seminar series, May 27, 2013

Sen S, Querques MA, Chakrabarti S. **North American Ginseng (*Panax quinquefolius*) prevents hyperglycemia and associated pancreatic abnormalities in diabetes**. J Med Food (2013)16(7):587-92.

Awards & Recognition

Congratulations!

Subrata Chakrabarti was awarded operating grants of almost \$275,000 over three years from the Canadian Diabetes Association for his submission "Pathogenesis of diabetic retinopathy".

Questions or Comments?



Please contact the **OGIRC Central Office**:

Dept of Physiology and Pharmacology
The University of Western Ontario
Medical Sciences Building, Rm 285
London, ON N6A 5C1

Ph: (519) 850-2996 Fax: (519) 661-3827

E: ogirc@uwo.ca Website: www.uwo.ca/ogirc

Research Outside of OGIRC

What else is happening in ginseng research around the world? Below are some publications by external researchers that may be of interest:

1. Mucalo I, Jovanovski E, Rehelic D, Bozиков V, Romić Z, Vuksan V. **Effect of American ginseng (*Panax quinquefolius* L.) on arterial stiffness in subjects with type-2 diabetes and concomitant hypertension**. J Ethnopharmacol. 2013 Oct 28; 150(1):148-53.
2. Kim H, Lee HJ, Kim DJ, Kim TM, Moon HS, Choi H. **Panax ginseng exerts antiproliferative effects on rat hepatocarcinogenesis**. Nutr Res. 2013 Sep;33(9): 753-60.
3. Barton DL, Lui H, Dakhil SR, CR, McGin TW, Stella PJ, Seeger GR, Sood A, Loprinzi CL. **Wisconsin Ginseng (*Panax quinquefolius*) to improve cancer-related fatigue: a randomized, double-blind trial, N07C2**. J Natl Cancer Inst. 2013 Aug 21; 105(16): 1230-8.
4. McGraw JB, Lubbers AE, Van der Voort M, Mooney EH, Furedi MA, Souther S, Turner JB, Chandler J. **Ecology and conservation of ginseng (*Panax quinquefolius*) in a changing world**. Ann N Y Acad Sci. 2013 May;1286:62-91.
5. Proctor JT, Sullivan JA. **Effect of seeding depth on seedling growth and dry matter partitioning in American ginseng**. J Ginseng Res. 2013 Apr;37(2):254-60.

OGIRC Facebook & Website

Don't forget, the OGIRC website has a *Publications* page showcasing group members' publications. Let us know if you have publications that should be added to the page. <http://www.uwo.ca/physpharm/ogirc/>.



If you haven't visited our Facebook page, please take a moment to look us up, and "Like" the page at <http://www.facebook.com/OntarioGinsengInnovationAndResearchConsortium>.