



NRES WEEKLY NEWS

September 24 - 28, 2007

A newsletter for faculty, staff and students
who participate in the
Natural Resources & Environmental Studies Institute
and **NRES Graduate Programs**

Coming Events

NRESI RESEARCH COLLOQUIUM SERIES

Dr. Keith Egger

Professor, Ecosystem Science and Management (Biology)

Microbial Communities and Climate Change: Lessons from the International Tundra Experiment

The International Tundra Experiment (ITEX) is nearing completion of its 2nd decade of monitoring the effects of passive warming on tundra communities. Small open-topped chambers (OTCs) placed over tundra vegetation in arctic, antarctic, and alpine ecosystems in more than a dozen countries are designed to simulate the effects of climate warming on tundra communities. By trapping solar radiation and blocking wind, they raise the temperature in the enclosure by 1-3 C. Impacts upon plant communities are rapid, within 2 years changes are observed in productivity, growth and phenology. Longer term changes include a shift from herbaceous to shrubby growth forms, and an increase in belowground biomass. In an effort to understand how aboveground changes were affecting belowground microbial processes, I started working at the Alexandra Fiord ITEX site on Ellesmere Island, Nunavut (78°53' N, 75°55' W) in 2000. Graduate students who worked at the site include: Kei Fujimura (PhD 2005) studying root-associated fungal communities; Julie Deslippe (MSc 2004) studying nitrogen-fixing bacterial communities; and Jennifer Walker (MSc 2006) studying denitrifying and nitrogen-fixing bacterial communities. In this colloquium I will summarize our finding on how warming has impacted these microbial communities. Briefly, we have found an increase in the density of fungal genotypes on roots which mirrors the increased C allocation belowground, altered structure of N-fixing communities especially late in the growing season, and a reduction in genotype richness of both denitrifying and N-fixing communities due to loss of rare genotypes.

Friday, September 28, 2007

3:30—4:30 pm

Canfor Theatre, 6-213

Light Refreshments served at 3:20 pm

REMINDER: Share your information about recent publications, grants, and /or other honours you may have received with others interested in NRES issues.

**PLEASE EMAIL ALL INFORMATION AND MATERIAL to
Elissa Zemplak: zemplak@unbc.ca**

We're on the web at: www.unbc.ca/nres/newsletter

GRAD STUDENTS!!

Each year the NRES Institute sponsors an NRESI Colloquium given by a guest speaker nominated by the **NRES graduate students**. We are currently seeking nominations for a lecture to be given during the winter semester (2008) of the Colloquium series.

Please send us potential speaker's names, their affiliations and contact information, and a BRIEF description of why you believe your nominee would be appropriate for the NRESI Colloquium series.

Please forward your nominations to nresi@unbc.ca on or before **Friday, September 28, 2007**.

ANNOUNCEMENTS

Jianbing Li was recently invited to be a member of the Editorial Board of International Journal of Hybrid Information Technology (IJHIT) (<http://www.sersc.org/journals/IJHIT/>)

Jianbing Li was recently invited to be a guest editor of International Journal of Environment and Pollution (IJEP), and he will edit a special issue on "Modeling Approaches for the Management of Environmental Pollution" (<http://www.inderscience.com/browse/callpaper.php?callID=767>)

TRAVEL

Kathy Parker will be at the University of Alberta on September 27-29 to serve as the external examiner for a PhD final oral examination in the Department of Renewable Resources. She also will present a seminar in the Ecology series of the Department of Biological Sciences on the dynamics of predator-prey systems in northern BC.

In August, **Phil Owens** traveled to Moscow, Russia and gave an invited keynote presentation on *Erosion processes and pollution transport* at the 10th International Symposium on River Sedimentation.

PUBLICATIONS

Shepherd, William P., **Dezene P. W. Huber**, Steven J. Seybold, and Christopher J. Fettig (2007). Antennal responses of the western pine beetle, *Dendroctonus brevicomis* (Coleoptera: Curculionidae), to stem volatiles of its primary host, *Pinus ponderosa*, and nine sympatric nonhost angiosperms and conifers. *Chemoecology* (published online).

Owens P.N., J. Duzant, L.K. Deeks, G.A. Wood, R.P.C. Morgan and A.J. Collins (2007). Evaluation of contrasting buffer features within an agricultural landscape for reducing sediment and particulate phosphorus delivery to surface waters. *Soil Use and Management*, 23, suppl. 1, 165-175.

Förstner, U. and **P.N. Owens** (2007) Sediment quantity and quality issues in river basins. In: Westrich, B. and Förstner, U. (Eds), *Sediment Dynamics and Pollutant Mobility in Rivers*. Springer-Verlag, Berlin, 1-15.