



# NRES WEEKLY NEWS

## September 14 - 18, 2009

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

Today

**Dr. Chris Wallis**  
PostDoctoral Researcher,  
Ecosystem Science & Mgmt Program, UNBC

### How Pines Adapt to Protect Themselves against Disease



In a world encountering climate change, lodgepole pine (*Pinus contorta*) stands are and continue to more frequently encounter increased pest outbreaks. Attempts are currently underway to mitigate certain climate change issues such as drought by assisting the migration of certain pine populations to locations likely to become hotter and drier, but it remains unclear if such movement of pines will increase or decrease the likelihood of pest attacks. In this work, pine defenses were analyzed in distinct pine populations throughout the province of BC to assess the variations in the levels of these defenses. Pine populations from areas adjacent to the Coast Range and Rockies consistently possessed greater levels of defense compounds in their foliage than those from the more arid Central Interior. These pine populations should be preferred in efforts to move pines northward to mitigate other effects of climate change. Multiple explanations for this finding were also explored, and populations that historically experienced more frequent foliar disease outbreaks seem to have evolved greater levels of foliar defense compounds.

*Light Refreshments will be Served*

Sept. 11, 2009

3:30 - 4:30 pm

Lecture Theatre 7-152

Next FRIDAY

**Mike Apsey**  
Former BC Deputy Minister of Forests  
**Experiences with the Global Forest**

*Light Refreshments will be Served*

Sept. 18, 2009

3:30 - 4:30 pm

Lecture Theatre 7-152

**Don Gosnell, RPF**  
Manager, Bioenergy Initiatives  
Resource Tenures & Engineering Branch,  
BC Ministry of Forests and Range

### Bioenergy, Carbon Sequestration and BC's Forests

**Wednesday, September 23, 2009**

3:30 - 4:30

Canfor Theatre (6-213)

*Light Refreshments will be Served*

## OTHER COMING EVENTS

**Global Fridays**  
Senate Chambers  
12:00—1:30 pm

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**September 18, 2009**

Bonnie Docherty, Human Rights Program, Harvard Law School

**Forging Links: Integrated Approaches to Protecting Human Rights and the Environment**

**The Community Development Institute**  
**Community Speakers Series**

**Wednesday, September 23, 2009**

**7:00—9:00 pm**

**Room 7-158**

Tim McEwan, President and CEO, Initiatives Prince George Development Corporation

**Towards a Northern Decade:**

**Building BC's 'New North' as a Knowledge-based Resource Economy Connected to the World**

## UPCOMING THESIS DEFENCES

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Mr. Dominic Santomauro is a candidate for the degree:

**Master of Natural Resources and Environmental Studies**

Mr. Santomauro will be defending his thesis entitled:

“The Distribution of Woodland Caribou (*Rangifer tarandus caribou*) and Moose (*Alces alces*) in the Fort St. James Region of Northern British Columbia, 1800-1950”

Co-supervisors: **Dr. Chris Johnson and Dr. Gail Fondahl**

Date: September 16, 2009

Time: 8:30 am

Room: Senate Chambers Room 1079  
UNBC Prince George campus

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Mr. Robin Urquhart is a candidate for the degree:

**Master of Arts in Natural Resources and Environmental Studies (Environmental Studies)**

Mr. Urquhart will be defending his thesis entitled:

“Building Consultation From the Bottom Up: A Case Study of the North Yukon”

Supervisor: **Dr. Annie Booth**

Date: October 6, 2009

Time: 9:00 am

Room: Senate Chambers Room 1079  
UNBC Prince George campus

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**We're on the web at : [www.unbc.ca/nres/newsletter](http://www.unbc.ca/nres/newsletter)**

**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 MICHELLE KEEN: [keenm@unbc.ca](mailto:keenm@unbc.ca)**

## PUBLICATIONS

- Arocena, J.M.**, Velde, B. (2009) "Transformation of chlorites by primary biological agents – a synthesis of X-ray diffraction studies." *Geomicrobiology J.* 26:382-388
- Tuason, M., **Arocena, J.M.** (2009) "Root organic acid exudates and properties of rhizospheres of white spruce (*Picea glauca*) and subalpine fir (*Abies lasiocarpa*)." *Can. J. Soil Sci.* 89:287-300
- Martínez-Pagán, P., Faz Cano, A, Aracil, E., **Arocena, J.M.** (2009) "Electrical resistivity imaging (ERI) revealed the spatial chemical properties of mine tailings ponds in the Sierra Minera (SE Spain)." *J. of Environmental and Engineering Geophysics* 14:63-76
- Akça, E., **Arocena, J.**, Kelling, G, Nagano, T., Degryse, P., Poblome, J., Çambel, H., Büyük, G., Tümay, T., Kapur, S.. (2009) "Firing Temperatures and Raw Material Sources of Ancient Hittite Ceramics of Asia Minor." *Trans. Ind. Ceram. Soc.*, 68:35-40
- Akça, E., Kapur, S., Özdöl, S., Hodder, I., Poblome, J., **Arocena, J.**, Kelling, G. and Bedestenci (2009) "Clues of production for the Neolithic Çatalhöyük (central Anatolia) pottery." *Scientific Research and Essay*, 4:612-625
- Tong, J., **Déry, S.J., Jackson, P.J.** (2009) "Interrelationships between MODIS/Terra remotely sensed snow cover and the hydrometeorology of the Quesnel River Basin, British Columbia, Canada." *Hydrol. Earth Syst. Sci.* 13, 1439-1452
- Déry, S.J.**, Hernandez-Henriquez, M., Burford, J.E., Wood, E.F. (2009) "Observational evidence of an intensifying hydrological cycle in northern Canada." *Geophys. Res. Lett.* 36, L13402, doi: 10.1029/2009GL038852
- Clague, J.J., **Menounos, B.**, Osborn, G., Luckman, B.H., Koch, J. (2009) "Nomenclature and resolution in Holocene glacial chronologies." *Quaternary Science Reviews* 28(21-22):2231-2238
- Davis, P.T., **Menounos, B.**, Osborn, G. (2009) "Holocene and latest Pleistocene alpine glacier fluctuations: a global perspective." *Quaternary Science Reviews* 28(21-22):2021-2033
- Menounos, B.**, Osborn, G., Clague, J.J., Luckman, B.H. (2009) "Latest Pleistocene and Holocene glacier fluctuations in western Canada." *Quaternary Science Reviews* 28(21-22):2049-2074
- Grava, T., Grava, A., **Otter, K.A.** (2009) "Supplemental feeding and dawn singing in black-capped chickadees." *Condor* 111: 560-564
- Taylor, K.G., **Owens, P.N.** (Eds) (2009) "Urban sediments: a global perspective." *Journal of Soils and Sediments* 9: 279-392
- Taylor, K.G., **Owens, P.N.** (2009) "Sediments in urban river basins: a review of sediment-contaminant dynamics in an environmental system conditioned by human activities." *Journal of Soils and Sediments* 9: 281-303

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## TRAVEL / RESEARCH / CONFERENCES

**Ken Otter** and his grad student, Naira Johnston attended the recent Society of Canadian Ornithologists' meeting in Edmonton, Alberta (Aug 21-23). Naira presented a poster and I presented a paper:

Johnston, N. & **Otter, K. A.** (2009) Collision risk analysis of raptor migration paths with wind turbine placement. Society of Canadian Ornithologists meeting, Edmonton Alberta, Aug 2009. (Poster)

**Otter, K.A.**, Hartley, M.I., Alexander, N. (2009) "Waterfowl and airports: a case study of spatial analysis of flight paths and collision risk." Society of Canadian Ornithologists meeting, Edmonton Alberta, Aug 2009. (Paper)

Ken also presented (as Chair of the committee) one of the society's awards - the Jamie Smith Award for Mentoring - to the recipient at the meeting.

**Paul Sanborn** is doing field work near Quesnel Lake September 7-11, examining soils formed on post-glacial volcanic deposits. He'll be working with Scott Smith (Agriculture Canada) and Melanie Kelman (Geological Survey of Canada). After that, he'll be working on aeolian sediments and paleosols along the Athabasca and North Saskatchewan Rivers September 14-18 with Steve Wolfe (Geological Survey of Canada).

**Roger Wheate** attended the 1st International Conference on 3D maps, in Dresden, Germany, August 24-28. His talk on the 3D representation of Canadian alpine glaciers included discussion of the UNBC High Performance Computing Centre 'Geowall'.

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