Dr. Antoni G. Lewkowicz
Professor, Department of Geography, University of Ottawa, Canada

Dr. Lewkowicz has been researching permafrost in the Canadian Arctic Archipelago for more than 30 years. He has published numerous papers, edited five books, and given more than one hundred conference presentations on permafrost science. He appeared at the Mackenzie Gas Project hearings in Inuvik as an expert on pipelines and permafrost and is currently the Principal Investigator on the Federal Government of Canada funded International Polar Year project entitled 'The Thermal State of Permafrost'. Dr. Lewkowicz is Editor of *Permafrost and Periglacial Processes*, Vice-President of the International Permafrost Association (IPA) and previously chaired the IPA Working Group on Periglacial Processes and Environments. He is currently Academic Colleague for the University of Ottawa on the Council of Ontario Universities, and Co-Chair of the Academic Colleagues as a group. In 2006 Dr. Lewkowicz was named Professor of the Year in the Faculty of Arts at the University of Ottawa for excellence in research, teaching and academic service.

IC³ Seminar Series 2009

Presented by the Interdisciplinary Centre on Climate Change

Mountain permafrost and Climate Change in the Yukon

Potential resource development, infrastructure planning and climate change impact studies for the Yukon mountains are currently impeded by a lack of knowledge concerning permafrost distribution and characteristics at useful scales. To rectify this, statistical-empirical modeling based on the basal temperature of snow (BTS) method, is being undertaken to produce detailed estimates of permafrost probability within the discontinuous zone (the southern half of the Yukon Territory). Extensive ground-truthing, using probing, pits and ground temperature profiles, constitutes an important component of the research. Efforts are being made to predict and incorporate the impacts of persistent cold air drainage within valley bottoms, and to examine the significance of vegetation. The distribution of more than 1500 rock glaciers will be used as an independent test of permafrost presence. DC resistivity profiling and the first temperature measurements in boreholes within bedrock are providing addition information about permafrost characteristics. Although BTS modeling generates an equilibrium indication of permafrost conditions, climate change scenarios can also be examined by manipulating inputs of elevation (to change air temperatures) and potential incoming solar radiation. Analyses suggest that predicted future air temperature increases will be the more important of these two factors.

January 14, 2009, 12:00— 1:15 pm Room EV1—221

Please note, seating is limited. Refreshments provided.

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