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**MEDIA RELEASE**  
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## **NEW FELLOWSHIPS TO SPUR CLIMATE CHANGE MITIGATION AND ADAPTATION RESEARCH**

VICTORIA - Sixteen new fellowships, worth \$684,000 over the next three years will spur climate change innovation, mitigation and adaptation, says Tom Pedersen, Executive Director of the Pacific Institute for Climate Solutions (PICS). The new fellowships—announced today—will focus on a variety of cutting-edge climate change issues that span the province.

“BC has a growing reputation as a knowledge center for climate change technologies and clean energy because of investments like these in our students and our universities,” said John Yap, Minister of State for Climate Action. “Alongside timber, electricity, natural gas and ores we can add climate action know-how to our export profile”.

All fellowship recipients are based at the four collaborating universities that comprise PICS— the University of Victoria, the University of British Columbia, Simon Fraser University and the University of Northern British Columbia.

“Tackling climate change effectively requires a foundation of solid science and research,” says Pedersen. “PICS researchers are at the forefront of climate change innovation and expertise and they will help British Columbia meet the challenge of shifting from a carbon intensive economy to a low carbon future.”

Some of the research topics tackled by the new PICS fellowships include:

- Community responses to the BC Green Communities Act
- Communicating the implications of climate change through the study of glacier recession
- Improving water allocation adaptation policies through an integrated water demand model
- Economic and environmental effects of wind-energy integration in the Pacific North West
- British Columbia’s “Carbon-Neutral” Government – A critical evaluation
- Getting serious about sustainability: Exploring the potential for one-planet living in Vancouver

Since 2008, PICS has awarded forty-three fellowships totaling over \$1,000,000 in funding to pursue research on topics across a spectrum of climate change issues that span multiple disciplines.

Pedersen says this broad range of PICS-funded research will result in solutions not just from a science and engineering perspective, but across the full breadth of human endeavor. PICS fellowships are worth up to \$12,000 a year for master's students, \$18,000 a year for PhD students, and \$50,000 a year



for post-doctoral fellows. PICS has allocated \$700,000 annually for fellowships support at the three academic levels.

PICS is a collaboration of BC's four research-intensive universities hosted and led by the University of Victoria. Building on the strengths of its partner universities, PICS seeks to develop innovative climate change solutions, explore new opportunities for adaptation, and lead the way to a vibrant low-carbon economy by turning climate knowledge into climate action. The four key interdisciplinary research themes that guide PICS' research are: the low carbon emissions economy, resilient ecosystems, sustainable communities and social mobilization.

The attached backgrounder provides a detailed summary of all sixteen of the new PICS fellowship recipients.

A full list of PICS fellowships since 2008 can be viewed here:  
<http://www.pics.uvic.ca/fellowships.php>

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## PICS Fellowships 2010/11

### BACKGROUND

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#### University of Victoria

- **Michael Shives, MSc candidate, Mechanical Engineering.** Shives is studying the efficiency of tidal current turbines, which could be used in large arrays in ocean channels where there are significant tidal flows. Using computational fluid dynamics models, Shives is analyzing various ducted turbine designs to observe how duct geometry affects power output and efficiency.
- **Amy Sopinka, PhD candidate, Geography.** Sopinka's research focuses on the market effects of integrating high levels of wind energy into existing electricity grids. In particular, she's examining the extent to which electricity markets in Western provinces are co-integrated. She's also estimating the price of storage—the value of an additional unit of electricity storage in BC, a concept related to the province's internal cost of power generation.
- **Trevor Williams, PhD candidate, Mechanical Engineering.** Williams' research focuses on developing an electrical grid-modelling tool to study plug-in (hybrid) electric vehicle (PEVs/PHEVs) integration as a renewal energy storage mechanism. The modelling tool will assist in reviewing grid impacts, assumptions about PEV growth, electrical grid power quality effects, and supply-demand balancing.

#### University of British Columbia

- **Maggie Baynham, MSc candidate, School of Community and Regional Planning.** Baynham's research explores how BC's Official Community Plans (OCPs) can be an effective tool for climate change adaptation resilience. Her research will analyze the potential for OCPs to fulfill adaptation goals and begin identifying the tools and policies that are most effective if integrated into OCPs.
- **Laura Cornish, MA candidate, Resource Management and Environmental Studies.** Cornish's research is focused on ways of mobilizing communities and the general public to respond to climate change, and in supporting and implementing them. Her research will examine the ability of landscape visualization tools to set communities on new

development paths. The aim is to help strengthen the UBC's Local Climate Change Visioning Project.

- **Susanna Haas Lyons, MA candidate, Resource Management and Environmental Studies.** This research aims to engage thousands of Vancouverites in a thoughtful discussion about the city's response to climate change and overall sustainability. The project will employ interactive digital media, collaborative scenario visualization, fun and engaging learning exhibits, art performances, and online and offline dialogues to identify priorities for collective climate change responses.
- **Kim Lau, MA candidate, Resource Management and Environmental Studies.** In 2007, the BC government became the first in North America to commit to being "carbon-neutral." Lau will do a systematic assessment of the effectiveness of this policy in achieving real, sustainable reduction of greenhouse gas emissions. The research will also highlight possible unintended impacts and trade-offs, and recommend additional support mechanisms to assist public sector organizations in achieving carbon neutral success.
- **Jennie Moore, PhD candidate, Community and Regional Planning.** This research will identify changes to policy and planning that the City of Vancouver could implement to enable its residents to lead sustainable lifestyles. It will ask what an ecologically sustainable Vancouver might "look like," meaning what changes to urban morphology and lifestyle choices could result from changes to policy and planning practice?
- **Polly Ng, MSc candidate, Community and Regional Planning.** This research will examine municipal approaches to reducing greenhouse gas emissions in BC. Analysis of community policies will determine whether they are sufficiently robust, detailed, and comprehensive enough to drive the changes in land use, urban form, transportation patterns, waste management, and energy consumption and production needed to reduce emissions.
- **Elizabeth Schwartz, PhD candidate, Political Science.** Many Canadian municipalities have established greenhouse gas reduction targets or implemented measures designed to increase energy efficiency. This research will investigate climate change mitigation policy at the municipal level, to understand the motivations and constraints of local governments in reducing greenhouse gas emissions and creating sustainable communities.
- **Gerald Singh, PhD candidate, Resource Management and Environmental Studies.** Singh will examine how multiple anthropogenic disturbances (including climate change) impact coastal ecosystems and the ecosystem services that these ecosystems provide. He'll use spatial and dynamic models of the BC coast to assess the resilience of these ecosystems and the acceptability of different policy options to decision-makers.

#### **University of Northern British Columbia**

- **Matthew Beedle, PhD candidate, Natural Resources and Environmental Studies.** Beedle's work focuses on reconstruction of past glacier extent and monitoring of current glacier fluctuations, with the ultimate goal of discerning implications for water resources in Western Canada. His research includes new ways of communicating the impacts and consequences of climate change via glaciers and human interactions with them.

- **Ian Picketts, PhD candidate, Natural Resources and Environmental Studies.** Picketts is collaborating with the community of Prince George to identify climate-related impacts that the city will be facing over the next 50 years, and to implement effective adaptation actions. The project explores how to communicate complex climate projection information to planners and to community stakeholders in a way that is understandable and scientifically rigorous.

### **Simon Fraser University**

- **Steven Conrad, PhD candidate, Resource and Environmental Management.** Conrad is examining ways of integrating social science theories with engineering to improve water management decision-making. His research focuses on four themes and will result in an integrated hydrological-behavioural demand model to aid in the development of water management policies.
- **Cedar Morton, PhD candidate, Resource and Environmental Management.** Morton is studying trans-boundary water governance in the Columbia River Basin. The study explores potential adaptations under the Columbia River Treaty for promoting a desirable governance institution able to absorb the ecological, economic and social impacts of climate change.
- **Vinu Rajus, PhD candidate, Interactive Arts and Architecture.** This research will focus on the usefulness of ambient and interactive display and controls in residential energy conservation. These devices represent electricity use with light rather than numbers, allowing users to quickly understand their home energy use. Rajus aims to understand perceptions of users, which will be used to guide the design of prototype systems. He'll also study the value of these innovative approaches in reducing energy usage compared to traditional display systems.