

Gregory M. King

Assistant Professor of Environmental Science
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I. EDUCATION

- 2014 **Ph.D. Climate Sciences, *summa cum laude***
University of Bern, Switzerland
Advisors: Dr. David Frank, Dr. Patrick Fonti, Dr. Fortunat Joos
Thesis Title: *Tree Growth Along Elevational Gradients in the Swiss Alps*
- 2009 **M.Sc. Physical Geography**
Carleton University, Ottawa, Ontario
Advisor: Dr. Michael F.J. Pisaric
- 2006 **B.Sc. (Honours) in Environmental Science**
Carleton University, Ottawa, Ontario

II. PROFESSIONAL APPOINTMENTS

- 2018 **Assistant Professor of Environmental Science**
Department of Science
University of Alberta, Augustana Campus, Camrose, Alberta
- 2016 **Robert Gilbert Postdoctoral Fellow**
Department of Geography and Planning
Queen's University, Kingston, Ontario
Sponsor: Dr. Ryan Danby
- 2014 **Part-Time Faculty**
Department of Geography & Environment
Mount Allison University, Sackville, New Brunswick

III. PUBLICATIONS

- 2016 Rossi S., Anfodillo, T., Čufar K., et al., Pattern of xylem phenology in conifers of cold ecosystems at the Northern Hemisphere. *Global Change Biology*. doi: 10.1111/gcb.13317
- 2015 Cuny, H., Rathgeber, C.B.K., Frank, D., et al. Woody biomass production lags stem-girth increase by over one month in coniferous forests. *Nature Plants*. doi: 10.1038/nplants.2015.160
- 2014 Tremblay V, Ponocná T, **King G.M.**, Büntgen U. A new tree ring-based summer temperature reconstruction over the last three centuries for east-

- central Europe. *International Journal of Climatology*. doi: 10.1002/joc.4201
- 2013 Rossi, S., Anfodillo, T., Cufar, K., et al. A meta-analysis of cambium phenology and growth: linear and non-linear patterns in conifers of the northern hemisphere. *Annals of Botany*. doi:10.1093/aob/mct243
- 2013 Simard, S., Giovannelli, A., Treydte, K., Traversi, M.L., **King, G.M.**, Frank, D., Fonti, P. Intra-annual dynamics of non-structural carbohydrates in the cambium of mature conifer trees reflects radial growth demands. *Tree Physiology*. 33: 913–923. doi:10.1093/treephys/tpt075
- 2013 **King, G.M.**, Gugerli, F., Fonti, F., Frank, D.C. Tree growth response along an elevational gradient: climate or genetics? *Oecologia*. doi: 10.1007/s00442-013-2696-6
- 2013 **King, G.**, Fonti, F., Nievergelt, D., Buntgen, U., Frank, D. Climatic drivers of hourly to yearly tree radius variations along a 6 °C natural warming gradient. *Agricultural and Forest Meteorology*. 168: 38-48. doi: 10.1016/j.agrformet.2012.08.002
- 2010 Johnstone, J.F., McIntire, E.J.B., Pedersen, E.J., **King, G.M.**, Pisaric, M.F.J. A sensitive slope: estimating landscape patterns of forest resilience in a changing climate. *Ecosphere*. 1(6): Article 14.

IV. GRANTS, SCHOLARSHIPS, AWARDS AND HONOURS

Grants & Scholarships:

- 2017 Northwest Territories Cumulative Impact Monitoring Program (CIMP 187) - *Collaborator*
- 2017 Queen's University Post-Doctoral Travel Award
- 2016 German Science Foundation RESPONSE exchange grant, Ernst-Moritz-Arndt University Greifswald
- 2015 Robert Gilbert Postdoctoral Fellowship, Queen's University
- 2011 COST Action Scientific Grant
- 2010 NCCR Climate Summer School Funding
- 2007 NSERC Northern Internship - GNWT Environment and Natural Resources
- 2006 Northern Scientific Training Program (NSTP) Research Grant, Carleton University
- 2006 Alexander Graham Bell Canada Graduate Scholarship, Natural Sciences and Engineering Research Council (NSERC), Carleton University
- 2005 Research Grant, Royal Canadian Geographic Society (RCGS), Carleton University

Awards & Honours:

- 2010 Best Poster Prize at 8th International World Dendrochronological Congress. Rovaniemi, Finland

- 2008 Best Master's Presentation Award at the 1st American Dendrochronology Conference. Vancouver, BC
- 2006 Carleton University Senate Medal for Outstanding Academic Achievement

V. TEACHING & MENTORING

Teaching:

- 2016 Lecturer. Queen's University. Department of Geography and Planning. Principles of Hydroclimatology (GPHY 209)
- 2014 Lecturer. Mount Allison University. Department of Geography and Environment. Environment & Society (GENV 2001)
- 2014 Lecturer. Mount Allison University. Department of Geography and Environment. Weather & Climate (GENS 2421)
- 2013 Lecturer. Mount Allison University. Department of Geography and Environment. Biogeography (GENS 3421)

Mentoring:

- 2017 Emily Featherstone (B.Sc. Queen's University). Independent Environmental Study (ENSC 501). *Comparison of White and Black Spruce Growth within the Boreal Forest-Tundra Ecotone in the Northwest Territories.*
- 2017 Georgina Preston (B.Sc. Queen's University). Independent Study (GPHY 594). *Urban Forest Best Practice Guide for the City of Kingston.*
- 2014 Lauren Perrin (B.Sc. Mount Allison University). Independent Study - Wetlands Ecology (GENS 4951). *A Changing Landscape: The Tantramar Wetland Dykes.*
- 2014 Robyn Snook (B.Sc. Mount Allison University). Independent Study - Wetlands Ecology (GENS 4951). *A Six Year Study of Biologically Controlling Purple Loosestrife with *Galerucella* spp. within the restored wetlands of the Tantramar Wetlands Centre, Sackville, NB.*
- 2014 Kristie N. Duncan (B.Sc. Mount Allison University). Independent Study - Wetlands Ecology (GENS 4951). *Tantramar Wetland Water Chemistry and Macroinvertebrate Analysis.*

VI. SELECTED PRESENTATIONS

Invited:

- 2017 *Off the Beaten Path: A Canoe-Based Expedition Assessing Vegetation Change Across Treeline.* Queen's University Post-Doc Appreciation Week Showcase. September 20.
- 2016 *Boreal Biome Shifts: Climate and Ecology Shape Future Forests of the North.* Planet Earth 3.0 Lecture Series, Alfried Krupp Wissenschaftskolleg, Universität Greifswald, Germany. November 22
- 2015 *Forest Response: Bridging the Temporal Divide.* Queen's University Department of Geography and Planning Seminar. September 22.

Contributed Talks & Posters:

- 2018 *Vegetation productivity and phenology across the Bathurst caribou range.* Western Division of the Canadian Association of Geographers Meeting. March 10.
- 2017 *Off The Beaten Path: A Canoe-Based Expedition Across the Treeline Ecotone.* Queen's Northern Research Symposium. April 10
- 2017 *Patch Dynamics within the Forest-Tundra Ecotone: A Dendroecological Investigation.* American Association of Geographers. April 5
- 2016 *Forest Advance: Do radial growth and seedling recruitment share similar drivers?* Canadian Association of Geographers Annual Meeting. May 31
- 2016 *Dendrochronology: From Seconds to Centuries.* Humboldt Kollege: Time. May 6
- 2013 *Elevational gradients reveal tree growth response to a warming climate.* Oral presentation at the 2nd American Dendrochronology Congress. Tucson, AZ. May 16
- 2011 *Influences on and inferences from the circadian cycles of radial growth in two conifer species across a 900 m altitudinal gradient in the Swiss Alps.* Poster presentation at the European Dendrochronology Conference. Engelberg, CH. September 20
- 2010 *Circadian stem size dynamics in larch and spruce along a 900-meter elevational gradient.* Oral presentation at World Dendrochronological Congress. Rovaniemi, Finland. June 17
- 2009 *Factors influencing the growth of white spruce (*Picea glauca*), Mackenzie Delta, Northwest Territories, Canada.* Oral presentation at TRACE: Tree Rings in Archaeology, Climatology and Ecology. Otocec, Slovenia. April 17
- 2008 *Radial growth investigations and intra-annual dynamics of white spruce, Mackenzie Delta, NWT.* Oral presentation at the 1st American Dendrochronology Congress. Vancouver, BC. June 25
- 2007 *Radial growth response of white spruce to climatic conditions, Mackenzie Delta, NWT.* Poster presentation at the American Geophysical Union

(AGU) Fall Meeting. San Francisco, CA. December 14

Community Outreach:

- 2018 Judge for Caring for Our Watersheds competition (Central Alberta). Battle River Watershed Alliance. Wetaskiwin, AB. May 12.
- 2017 Speaker and Student Workshop Facilitator. Elbow Lake Environmental Education Centre. Frontenac County, ON. May 16
- 2016 Speaker and Student Workshop Facilitator. Elbow Lake Environmental Education Centre. Frontenac County, ON. May 15
- 2015 Tales Urban Trees Tell. Tree Ottawa Workshop. April 22

VII. SERVICE TO PROFESSION

Manuscript Peer Review:

- 2018 Tree Physiology
- 2017 Agricultural and Forest Meteorology
- 2016 Dendrochronologia
- 2015 Ecosphere
- 2015 Dendrochronologia
- 2014 Journal of Biogeography
- 2014 Journal of Geophysical Research: Atmospheres
- 2013 Canadian Journal of Forest Research
- 2012 Annals of Forest Science
- 2011 Journal of Climate Research
- 2010 Journal of Geophysical Research
- 2010 Theoretical and Applied Climatology
- 2009 Global Change Biology

Conference Administration:

- 2016 Session Co-organizer and Chair. Temporal and spatial perspectives on ecosystem change. Canadian Association of Geographers Annual Meeting. May 31.
- 2011 Session Chair. Intra-annual dynamics and wood anatomy. European Dendrochronology Conference. September 20.

VIII. SOCIETY AFFILIATIONS

Arctic Institute of North America
Canadian Association of Geographers
Canadian Society for Ecology and Evolution
Tree-Ring Society
American Association of Geographers

IX. SKILLS

Software/Statistics	R, SPSS, QGIS, ArcGIS, Adobe Illustrator, Microsoft Office Suite, Campbell Scientific, HoboWare
Field/Laboratory	Dendrochronological sampling, vegetation surveys, lake sediment coring, charcoal analysis, loss-on-ignition, permafrost sampling, remote field work design, planning, and experience, WHMIS training, First Aid training (Standard, Wilderness & CPR-C), Pleasure Craft Operator's Card, Restricted Radio Operator's Certificate, Firearms Training (PAL, Hunter Education), Driver's Licence
Languages	English (Fluent), French (Speaking & Writing - Intermediate; Reading - Advanced), German (Conversational)