

Curriculum Vitae  
**Joseph A. MacGregor**

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**Contact info**

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**Miscellaneous info**

Citizenships: England, Canada and United States  
Languages: English (native) and French (fluent)

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**Research Interests**

Glacier and ice-sheet dynamics; basal processes under ice bodies; active glaciogeophysical methods (radar and seismics); glaciochemistry; dielectric properties of ice; crevasse dynamics; geophysical inverse methods; rapid climate change; ice-sheet-climate interactions.

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**Education**

1. Ph.D (in progress, 2002–present), Earth and Space Sciences, University of Washington  
Thesis: Development and applications of a radar-attenuation model for polar ice sheets  
Advisor: Dale Winebrenner  
Anticipated graduation date: Spring 2008
2. B.S. with honors, 2002, Geophysical Engineering. Colorado School of Mines

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**Employment**

1. Teaching and Research Assistant, University of Washington, 2002–present.
  - (a) Teaching Assistant. Taught 3 lab sections for Introduction to Geological Sciences (Fall 2002 and Spring 2003); taught 2 lab sections for Glaciers and Global Change (Winter 2007).
  - (b) Research Assistant. Developed a dispersive model of internal and basal ice-sheet radar reflections; developed methods to detect weak internal reflections; studied the nature of a strong internal reflection in West Antarctica; developed a radar-attenuation for ice sheets and tested it at Siple Dome; participated in West Antarctic GPS and radar fieldwork; studied the nature of physical changes in properties over Lake Vostok.
2. Associate Geophysicist, Parsons, 2001–2002.  
Led geophysical field crews surveying several former bombing ranges in the United States to locate unexploded ordnance; processed and interpreted magnetic and time-domain electromagnetic data.
3. Marine Observer, Veritas DGC, 2000.  
Maintained streamers logged seismic noise and performed sailing duties in support of marine seismic acquisition for hydrocarbon exploration in the North Atlantic ocean.

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## Professional Affiliations

1. American Geophysical Union (since 2002).
2. International Glaciological Society (since 2003).

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## Service

1. 2006–2007. Student representative to faculty of Dept. of Earth and Space Sciences (ESS).
2. 2004–2005. Student representative on ESS Curriculum Committee.
3. 2002–2004. ESS representative to Graduate and Professional Student Senate.

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## Recent Fieldwork

1. 2005–2006. Polarimetric radar studies of the West Antarctic ice divide region. PI: Kenichi Matusoka.
2. 2003–2006 (4 separate trips). Glaciological studies on Blue Glacier, Olympic Mountains, Washington. PIs: Michelle Koutnik and Howard Conway.
3. 2003. Ground-penetrating radar studies of beach ridges. Sitkalidak Island, Kodiak Archipelago, Alaska. PI: Jody Bourgeois.

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## Publications

1. MacGregor, J., D. Winebrenner, H. Conway, K. Matsuoka, P. Mayewski and G. Clow. 2007. Modeling englacial radar attenuation at Siple Dome, West Antarctica, using ice chemistry and temperature data. *Journal of Geophysical Research*, 112, F03008.
2. O’Neal, M., M. O’Mansky and J. MacGregor. 2005. Modeling the natural degradation of earthworks. *Geoarchaeology*, 20(7), 739–748.

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## Selected Abstracts

1. Pettersson, R., R. Jacobel and J. MacGregor. 2007. Radar velocity, attenuation and bed reflectivity from constant midpoint profiles on Kamb Ice Stream, West Antarctica. *EGU General Assembly*, Vienna, Austria.
2. MacGregor, J., D. Winebrenner, H. Conway, K. Matsuoka. 2006. Modeling englacial radar attenuation at Siple Dome, West Antarctica, using ice chemistry and temperature data. *AGU Fall Meeting*, San Francisco, CA.
3. MacGregor, J., D. Winebrenner, H. Conway and K. Matsuoka. 2006. Modeling radar attenuation at Siple Dome, West Antarctica. *WAIS Workshop*, Eatonville, WA.

4. Matsuoka, K., J. MacGregor, D. Winebrenner, E. Waddington, H. Conway and M. Studinger. 2006. Modeling englacial effects on the radio-wave propagation: towards better understanding of subglacial lakes. *Subglacial Antarctic Lake Environments*, Grenoble, France.
  5. MacGregor, J., D. Winebrenner, J. Sylvester and H. Conway. 2004. Ice thickness and basal topography near the Ross-Amundsen Sea ice divide revealed by ground-based radar and new signal processing. *AGU Fall Meeting*, San Francisco, CA.
  6. Winebrenner, D. MacGregor, J., J. Sylvester and H. Conway. 2004. Newly revealed radar layers at Siple Dome and Engelhardt Ice Ridge. *WAIS Workshop*, Sterling, VA.
  7. MacGregor, J., D. Winebrenner and H. Conway. 2004. Towards radar thermometry: basal temperature variations dominate attenuation. *WAIS Workshop*, Sterling, VA.
  8. MacGregor, J. and E. Mahrt. 2003. Imaging surface coastal morphology using ground-penetrating radar near Tanginak Spring archaeological site, Sitkalidak Island, Alaska. *GSA Annual Meeting*, Seattle, WA.
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