

Daniel J. Pringle

PO Box 750153,
Fairbanks, AK 99775, USA
+1(907) 474-1159
pringle@gi.alaska.edu

Academic Qualifications & Educational Experience

Victoria University of Wellington, Wellington, New Zealand

- Ph.D. (Physics) 2005 'Thermal Conductivity of Sea Ice and Antarctic Permafrost'
- M.Sc. (Physics) 1999 'Doping-Dependent Isotope Effects in high- T_c Cuprates'
- B.Sc. Hons. 1998 1st class, Physics, Mathematics

Cornell University, Ithaca, N.Y., USA (Graduate fellowship, 1999-2000)

United World College USA, Las Vegas, N.M., USA (International Baccalaureate 1993)

Research Experience

Arctic Region Supercomputing Center Postdoctoral Fellow, Geophysical Institute,
University Alaska, Fairbanks

Oct 2005 – present

Investigating experimentally and numerically the connectivity of sea ice brine inclusions and the porosity dependence of the fluid permeability of sea ice. Monitoring land fast sea ice at Barrow Alaska with near-real time internet data delivery. International Polar Year Education and Outreach activities in Alaska.

Post-Doctoral Visitor, Geophysical Institute, University Alaska, Fairbanks

Oct 2004 – April 2005

Analysis and publication of results from a collaborative study of the thermal conductivity of Antarctic and Arctic sea ice.

Research and Teaching Assistant, Victoria University of Wellington, New Zealand

2001 - 2004

Designed, constructed, and installed field equipment in Antarctica and Alaska. Improved existing data collection, and analysis, including validation. Laboratory demonstration and tutoring for 300 level Physics classes.

Researcher, Industrial Research Limited, Lower Hutt, New Zealand

1998 - 99, 2000

Prepared and characterised high-temperature superconductor samples. Wrote laboratory data collection programs. Conducted commercial feasibility study.

Research Assistant, Cornell High Energy Synchrotron Source, Ithaca, NY
2000

Designed, built, and implemented hardware and control algorithm for a new diffractometer for phase-sensitive x-ray crystallography.

Professional Service & Outreach

International Polar Year (IPY) 2007 – 2009

- Founder and Treasurer, University of Alaska IPY Young Researchers' Network
- Member, University of Alaska IPY Steering Committee
- Executive Committee member, Association of Polar Early Career Scientists

Ice Alaska IPY Outreach, 'Snow Day', and sea ice educational outreach at University Park Elementary School, Fairbanks (2007-2008).

Wellington High School Science Fair Judge (2001-03), Wellington, New Zealand.

Physics tutor for hearing-impaired students, Victoria University (1997, 2002-03)

Awards and Honours

S.T. Lee Young Scientist Travel Award, from Victoria University Antarctic Research Center, to University of Alaska, Fairbanks, October 2004.

Royal Society of New Zealand Graduate Student Travel Award, December 2004.

New Zealand Institute of Physics, Student Speaker Award, NZIP Conference, 1999.

Sports Blue (Soccer), Victoria University of Wellington, 1998.

Professional Memberships

American Association for Advancement of Science

American Geophysical Union

American Polar Society

Association of Polar Early Career Scientists

Royal Society of New Zealand

Publications

- Pringle, D.J. and M. Ingham, Measuring sea ice thermal, electrical and hydraulic properties and processes. In: Eicken, H., R. Gradinger, M. Salganek, K. Shirasawa, D. Perovich and M. Lepparanta (eds) Handbook on field techniques in sea-ice research. University of Alaska Press (in preparation).
- Druckenmiller, M.J., H. Eicken, M.A. Johnson, D.J. Pringle, and C.C. Williams, Toward an integrated coastal sea-ice observatory: System components and a case study at Barrow, Alaska, to be submitted Cold Reg. Sci. Tech, *submitted Cold Reg. Sci. Technol.*
- Pringle, D. J., G. Dubuis, and H. Eicken, Impedance measurements of the complex dielectric permittivity of sea ice at 50 MHz: pore microstructure and potential for salinity monitoring, *accepted J. Glaciol.*
- Ingham, M., D. J. Pringle, and H. Eicken (2008), Cross-borehole resistivity tomography of sea ice, Cold Reg. Sci. Technol. 52, 263-277, doi: 10.1016/j.coldregions.2007.05.002
- Jones, A., K. Heal, and D. Pringle (2007) Attracting, Retaining and Engaging Early Career Scientists. EOS, 88(50).
- Golden, K. M., H. Eicken, A. L. Heaton, J. E. Miner, D. J. Pringle, and J. Zhu (2007), Thermal evolution of permeability and microstructure in sea ice, *Geophys. Res. Lett.*, 34, L16501, doi:10.1029/2007GL030447.
- Pringle, D.J., H. Eicken, H.J. Trodahl, L.G.E. Backström (2007), Thermal conductivity of land-fast Antarctic and Arctic sea ice, *J. Geophys. Res.*, 112, C04017, doi:10.1029/2006JC003641
- Pringle, D.J., H.J. Trodahl, T.G. Haskell (2006), Direct measurement of sea ice thermal conductivity: No surface reduction, *J. Geophys. Res.* 111, C05020, doi: 10.1029/2005JC002990.
- Granville, S., B.J. Ruck, F. Budde, A. Koo, D. Pringle, F. Kuchler, A.R.H. Preston, D.H. Housden, N. Lund, A. Bittar, G.V.M. Williams, and H.J. Trodahl (2006), GdN Thin Films: Semiconducting Ground State, *Phys. Rev. B* 73, 235335.
- Pringle, D.J., W.W. Dickinson, H.J. Trodahl, and A.R. Pyne (2003), Depth and seasonal variations in the thermal properties of Antarctic Dry Valley permafrost from temperature time series analysis, *J. Geophys. Res.* 108 (B10), doi: 10.1029/2002JB002364.

- Daniel Pringle and Qun Shen (2003), New five-circle k diffractometer for reference-beam diffraction studies, *J. Appl. Cryst.*, 36, 29-33
- Qun Shen, Daniel Pringle, Marian Szebenyi, and Jun Wang (2002) Solving the crystallographic phase problem with reference-beam diffraction, *Rev. Sci. Instr.*, 73(3), doi:10.1063/1.445828.
- Pringle, D., M. Ingham, D. McKnight, and F. Chamalaun (2000), Magnetovariational soundings across the South Island of New Zealand: difference induction arrows and the Southern Alps conductor, *Phys. Earth Planet. Int.*, 119, 285-298.
- Pringle, D.J., G.V.M. Williams and J.L. Tallon (2000), Effect of doping and impurities on the oxygen isotope-effect in high-temperature superconducting cuprates, *Phys. Rev. B*, 62, 12527-12533.
- Williams, G.V.M., D.J. Pringle and J.L. Tallon (2000), Contrasting oxygen and copper isotope effects in the $\text{YBa}_2\text{Cu}_4\text{O}_8$ superconducting and normal states, *Phys. Rev. B*, 61, R9257-9260.
- Williams, G.V.M., D.M. Pooke, D.J. Pringle, H.J. Trodahl, J.L. Tallon, J. Quilty, N. Malde, J.L. McManus-Driscoll, A. Crossley and L.F. Cohen, (2000), Raman study of $\text{Bi}_{2-x}\text{Pb}_x\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{4+2n+\delta}$ ($n = 2$ and 3) superconductors. *Phys. Rev. B*, 62, 1379-1386.
- Pringle, D.J., J.L. Tallon, B.G. Walker and H.J. Trodahl (1999), Oxygen isotope effects on the critical and Curie temperatures and Raman modes in the ferromagnetic superconductor $\text{RuSr}_2\text{GdCu}_2\text{O}_8$, *Phys. Rev. B (Rapid Comm.)* 59, R11679.

Conference Presentations

- Poster: Resistivity tomography and 50 MHz Dielectric Probes: Sea Ice Salinity and Microstructure, Daniel Pringle, Malcolm Ingham, Hajo Eicken and Guy Dubuis, American Geophysical Union Fall Meeting, San Francisco, December 10-14, 2007.
- Talk: Sea Ice Brine Inclusions: New Insights from X-ray CT and Connectivity Analysis, Daniel Pringle, Roland Glantz, Jeremy Miner, Hajo Eicken, Markus Hilpert, International Union of Geodesy and Geophysics General Assembly, Perugia, July 9-13, 2007.
- Poster: Temperature-Dependent pore Space of Sea Ice: X-ray computed tomography and Dual Model Network Analysis, D.J. Pringle, J. Miner, R. Glantz, M. Hilpert, H. Eicken, American Geophysical Union Fall Meeting, San Francisco, December 11-15, 2006.

- Invited Talk: Thermal Conductivity of Sea ice: Measurement and Modeling Parameterization, Daniel Pringle, Joe Trodahl, American Geophysical Union Fall Meeting, San Francisco, December 13-17, 2004.
- Talk: High-resolution study of the thermal conductivity of first year sea ice, Daniel Pringle, Joe Trodahl, Mark McGuinness, 16th IAHR International Symposium on Ice, Dunedin, New Zealand, December 2-6, 2002.
- Talk: Doping-dependent Isotope Effects in High- T_c Cuprates, D.J. Pringle, J.L. Tallon, H.J. Trodahl, Conference of New Zealand Institute of Physics, Wellington, 1999.