

Curriculum Vitae

STEPHEN R. MCDOWALL

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EMPLOYMENT

- Jan. 2004 – Western Washington University, Bellingham, Washington,
Assistant Professor.
- Sept. – Dec. 2003 Helsinki University of Technology, Helsinki, Finland,
visiting researcher (on leave from WWU).
- Jan. 2002 – Aug. 2003 Western Washington University, Bellingham, Washington,
Assistant Professor.
- Aug. – Dec. 2001 Mathematical Sciences Research Institute, Berkeley, California,
Post-doctoral research member.
- June 1998 – July 2001 University of Rochester, Rochester, New York,
Visiting Assistant Professor
- 1993 – 1998 University of Washington, Seattle, Washington
Teaching assistant, Research assistant.
- 1992 – 1993 University of Canterbury, Christchurch, New Zealand,
Teaching assistant.

EDUCATION

- 1993 – 1998 University of Washington, Department of Mathematics, Seattle, Washington,
PhD. (Mathematics), **Advisor:** G. Uhlmann
Dissertation: *An Electromagnetic Inverse Problem in Chiral Media*
- 1993 University of Canterbury, Dept. of Mathematics, Christchurch, New Zealand,
MSc (Mathematics), with Distinction, Advisor: G. Wood
Thesis: *Construction of Infinite Dimensional Polytopes*
- 1988 – 1992 University of Canterbury, Dept. of Mathematics, Christchurch, New Zealand
Bachelor of Science with First Class Honors

PROFESSIONAL ORGANIZATIONS

Finnish Inverse Problems Society.

GRANTS

- 2004 Professional Development Award, Western Washington University.
- 2003 Professional Development Award, Western Washington University.
- 2002 Summer Research Grant, Western Washington University.
- 2002 Supplement to NSF Research Grant DMS-0070488,
(PI Gunther Uhlmann, University of Washington).
- 1999 – 2001 NSF Research Grant DMS 9970614, CO-PI.

HONORS AND AWARDS

- 2001 Nominated: Goergen Award for Distinguished Achievement
and Artistry in Undergraduate Teaching.
- 1997 McFarlan Fellowship, UW Department of Mathematics
- 1996 McFarlan Fellowship, UW Department of Mathematics
- 1992 University of Canterbury Postgraduate Scholarship
- 1991 University of Canterbury Senior Scholarship
- 1988 University Junior Scholarship

PUBLICATIONS

1. *Optical Tomography on Riemannian surfaces*, (2004) preprint.
2. *An inverse problem for the transport equation in the presence of a Riemannian metric*, Pacific J. Math., (2003) to appear.
3. *An Electromagnetic Inverse Problem in Chiral Media*, Trans. AMS., **352**, (2000) No. 7, 2993-3013
4. *Total Determination of Material Parameters from Electromagnetic Boundary Information*, Pacific J. Math., **193** (2000) No. 1, 107-129, joint with M. Joshi.
5. *Boundary Determination of Material Parameters from Electromagnetic Boundary Information*, Inverse Problems **13** (1997) 153-163.
6. *Constructing Infinite Dimensional Polytopes using Gale Transforms*, SEAMS Bull. Math., **23** (1999) 291-307.

CONFERENCE AND WORKSHOP PARTICIPATION

- 2004, May 31 – June 5 invited speaker, *Main Conference "Perspectives in Inverse Problems"* Helsinki, Finland.
- 2003, Dec. 10 – 12 participant, *The Ninth Inverse Days conference* Syötekeskus, Pudasjärvi, Finland.
- 2003, Sep. 1 – 5 participant, *Workshop on Inverse Spectral Problems* Helsinki, Finland.
- 2003, Aug. 25 – 29 invited speaker, *Opening Conference: Analytic and Geometric Methods in Inverse Problems* Helsinki, Finland.
- 2003, Aug. 4 – 8 invited speaker, *Workshop on Inverse Problems and Medical Imaging* Vancouver, Canada.
- 2003, Mar. 22 – 27 participant, *Workshop of Scattering and Inverse Scattering* Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada.
- 2003, Mar. 14 – 16 invited speaker, *Special Session on Applied Mathematics and Materials Science* AMS 2003 Spring Southeastern Sectional Meeting, Baton Rouge, Louisiana.
- 2002, Jun. 3 – 9 participant, *INdAM Workshop, Inverse Problems and Applications* Cortona, Italy.
- 2001, Dec. 10 – 14 participant, *QMath 8 Mathematical Results in Quantum Mechanics* Taxco, Mexico.
- 2001, Aug. 13 – 24 participant, *Introductory Workshop in Inverse Problems and Integral Geometry* Mathematical Sciences Research Institute, Berkeley, California.
- 2001, Jul. 16 – 27 participant, *Geometric Methods in Inverse Problems and PDE Control* Institute for Mathematics and its Applications, University of Minnesota, Minneapolis.
- 2000, Aug. 3 – 5 invited speaker, *Recent Developments in the Wave Field and Diffuse Tomographic Inverse Problems, Euro-Conference* Edinburgh, Scotland.
- 2000, Jul. 24 – Aug. 2 participant, *New Analytic and Geometric Methods in Inverse Problems, Euro-Summer School* Edinburgh, Scotland.
- 1999, Mar. 16 – 20 invited speaker, *International Conference on Differential Equations and Mathematical Physics* Birmingham, Alabama.
- 1997, Sep. 8 – 14 invited speaker, *Microlocal Analysis and Mathematical Physics* The Fields Institute for Research in Mathematics, Toronto, Canada.
- 1997, Apr. 19 – 20 participant, *921st AMS Meeting, Special Session on Inverse Problems* Oregon State University, Oregon.
- 1996, Jul. 1 – 20 participant, *Advanced course on Modelli Matematici e Problemi Inversi* Scuola Matematica Interuniversitaria, Cortona, Italy.
- 1996, Feb. 16 – 19 participant, *Calderón Symposium* University of Chicago.
- 1995, Jul. 23 – 27 participant, *"Electrical Impedance Tomography" Summer Research Conference* University of Washington, Washington.
- 1995, Jun. 13 – 17 participant, *CBMS Conference, "Nondestructive Determination and Inverse Problems"* University of Kentucky, Kentucky.