

# William A. Bogley

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## Professional Employment

Professor, Department of Mathematics, Oregon State University, 2001-present

Director, Academic Programs, Assessment & Accreditation, Oregon State University, 2012-2103

Associate Chair, Department of Mathematics, Oregon State University, 2011-2012

Associate Dean, Oregon State University Honors College, 2006-2010

Assistant Dean, Oregon State University Honors College, 2004-2006

Visiting Professor, Oregon State University Honors College, 2002-2004

Associate Professor, Oregon State University, 1995-2001

Assistant Professor, Oregon State University, 1990-1995

Visiting Assistant Professor, Dartmouth College, 1990

Assistant Professor, Tufts University, 1988-1990

Assistant Professor, Portland State University, 1987-1988

## Education

Ph. D. in Mathematics, University of Oregon, 1987 (A. J. Sieradski)

M. S. in Mathematics, University of Oregon, 1983

A. B. in Mathematics, Dartmouth College, 1981

## Awards

- Loyd Carter Award for Inspirational Teaching, Oregon State University College of Science, 1996 (nominated 2016).
- Nominee, Olaf Boedtker Advising Award, Oregon State University College of Science, 2016.
- Outstanding Teaching Award, Oregon State University Honors College, 2000 (Honorable Mention 2003, nominated 2013).
- The Honor Society of Phi Kappa Phi, Elected Member 2012.
- Sandy & Elva Sanders Eminent Professorship, Oregon State University Honors College, 2001, 2010.
- Graduate Student Faculty Teaching Award, Oregon State University Department of Mathematics, 1996, 2000, 2004.
- CalculusQuest™, a fully developed web-based course in Differential Calculus co-authored with Oregon State University colleague R. O. Robson, received Honorable Mention from the Paul Allen Foundation in May 1998 as part of its national Outstanding Online Education competition. From the citation for CalculusQuest™:

*Extensive use of online exercises and quizzes organized around a mountain climbing metaphor illustrate the potential for teaching higher order mathematics online in a predominantly asynchronous mode.*

## Activities Related to Curriculum, Teaching, and Student Success

- During 2018-2010, Bogley co-chaired a Faculty Senate Task Force that engineered the formal faculty adoption of seven Learning Goals for Graduates. Later as the university's Director of Academic Programs, Assessment, & Accreditation, he led implementation of general education learning outcome assessment protocols for the entire university. The broader impact of this work has been to reinforce the relevance and interconnection of liberal and general education programs with the research enterprise at a research-intensive land grant university.
- During his term as Associate Dean for the Oregon State University Honors College, Bogley led the implementation of a "plus-one" integrated Bachelors and Masters degree program for Honors Engineering

students. The program included recruiting and mentoring of early career high-achieving students to foster their progress to graduate degrees in Engineering.

- With co-author Robby Robson, Bogley wrote and then in Fall 1996 taught what was arguably the world's first fully developed web-based course in differential calculus. The CalculusQuest interactive online textbook was recognized by the Paul Allen Foundation in a 1998 Outstanding Online Education competition. CalculusQuest served as the basis for Oregon State University's online course in differential calculus until 2010.
- Bogley currently serves as Head Undergraduate Advisor in the Department of Mathematics at Oregon State University. Support for underrepresented and socio-economically diverse student groups is a university-wide advising priority.

## Publications

1. W. A. Bogley and Gerald Williams, Coherence, subgroup separability, and metacyclic structures for a class of cyclically presented groups (under review, 2015).
2. W. A. Bogley and Gerald Williams, Efficient finite groups arising in the study of relative asphericity, *Math. Z.* (2015, to appear).
3. W. A. Bogley, On shift dynamics for cyclically presented groups, *J. Algebra* **418** (2014), 154-173.
4. W. A. Bogley and J. Harlander, Improving tameness for metabelian groups, *New York J. Math.* **10** (2004), 287-294. MR2114792
5. W. A. Bogley and J. Harlander, Homological decision problems for finitely generated groups with solvable word problem, *Internat. J. Algebra Comput.* **12** (2002), 213-221. MR1902366
6. W. A. Bogley, R. M. Burton, C. Escher, and D. Garity, *Oregon State University Mathematics Department Study Guide for Math 252—Integral Calculus*, Fifth Edition (2000).
7. W. A. Bogley, N. D. Gilbert, and James Howie, Cockcroft properties of Thompson's group, *Canad. Math. Bulletin* **43** (2000), 268-281. MR1776055

8. W. A. Bogley and N. D. Gilbert, The homology of Peiffer products of groups, *New York J. Math* **6** (2000), 55-71. MR1751087
9. W. A. Bogley and A. J. Sieradski, Weighted combinatorial group theory and wild metric complexes, in *Groups-Korea '98*, edited by A. C. Kim, (de Gruyter, 2000), 53-80. MR1751087
10. J. Alonso, W. A. Bogley, R. M. Burton, S. J. Pride, and X. Wang, Second order Dehn functions of groups, *Quart. J. Math. Oxford Ser. (2)* **49** (1998) 1-30. MR99c:20047
11. W. A. Bogley, J. Dorbolo, R. O. Robson, and J. Sechrest, Pedagogic innovation in web-based instruction, in: *Proceedings of the Ninth International Conference on Technology in Collegiate Mathematics* (Addison Wesley, 1998) 421, 425.
12. Y. G. Baik, W. A. Bogley, and S. J. Pride, On the asphericity of length four relative groups presentations, *Internat. J. Algebra Comput.* **7** (1997) 277-312. MR98g:20047
13. W. A. Bogley, J. Dorbolo, R. O. Robson, and J. Sechrest, New pedagogies and tools for web-based calculus, in: *WebNet '96, World Conference of the Web Society Proceedings*, Assoc. for Advancement of Computing Education, edited by H. Maurer (1996) 33-39.
14. W. A. Bogley and R. O. Robson, *CalculusQuest™: Differential Calculus* (1996), <http://oregonstate.edu/instruct/mth251/cq>.
15. W. A. Bogley and M. N. Dyer, A group-theoretic reduction of J. H. C. Whitehead's asphericity question, in: *Groups-Korea '94* (Walter de Gruyter, 1995) 15-24. MR98f:57005
16. W. A. Bogley, Unions of Cockcroft two-complexes, *Proc. Edinburgh Math. Soc.* **37** (1994) 317-324. MR95e:57005
17. W. A. Bogley, J. H. C. Whitehead's asphericity question, in: *Two-Dimensional Homotopy and Combinatorial Group Theory*, C. Hog- Angeloni, W. Metzler, and A. J. Sieradski, editors, *London Math. Soc. Lecture Note Series 197* (Cambridge University Press, 1993) 309-334. MR95g:57006
18. W. A. Bogley and S. J. Pride, Computing generators of  $\pi_2$ , in: *Two Dimensional Homotopy and Combinatorial Group Theory*, C. Hog- Angeloni, W. Metzler, and A. J. Sieradski, editors, *London Math. Soc.*

Lecture Note Series 197 (Cambridge University Press, 1993) 157-188.  
MR95g: 57006

19. W. A. Bogley and M. A. Gutierrez, Mayer-Vietoris sequences in homotopy of 2-complexes and in homology of groups, *J. Pure Appl. Algebra* 77 (1992) 39-65. MR93e: 20069
20. W. A. Bogley and S. J. Pride, Aspherical relative presentations, *Proc. Edinburgh Soc.* 35 (1992) 1-39. MR93d: 57019
21. W. A. Bogley, An identity theorem for multi-relator groups, *Math. Proc. Camb. Phil. Soc.* 109 (1991) 313-321. MR92c: 20056
22. W. A. Bogley, An embedding for  $\pi_2$  of a subcomplex of a finite contractible two-complex, *Glasgow Math. J.* 33 (1991) 365-371. MR92k: 57003
23. W. A. Bogley, Local collapses for diagrammatic reducibility, in: *Low Dimensional Topology and Combinatorial Group Theory*, M. P. Latiolais, editor, *Lecture Notes in Math.* 1440 (Springer-Verlag, 1990) 27-38. MR92j: 57002
24. W. A. Bogley, *Retractive Maps and Local Collapsibility*, Ph. D. Dissertation (University of Oregon, 1987).

### **Preprints, In Progress, White Papers**

1. W. A. Bogley, *Calculus: The Mathematics of Change*, in progress.
2. W. A. Bogley and J. A. Hendricks, *The Honors Dividend*, White Paper submitted to the Academic Excellence & Economic Development Subcommittee of the Oregon State Board of Higher Education, 2004.
3. W. A. Bogley and A. J. Sieradski, Universal path spaces, preprint (1998, 50 pp), <http://oregonstate.edu/~bogleyw>.
4. M. Koretsky, S. Brubaker-Cole, W. A. Bogley, and J. Bailey, Undergraduate Student Value Perceptions: Comparisons between General Education and the Major, preprint (2011, 25 pp).

## External Funding

- NSF Research Grant (Topology), pending 2015 \$189784.
- NSF Collaborative Research Grant (CoPI with M. N. Dyer) to fund interaction between mathematicians in Oregon and in Frankfurt, Germany. Companion grant to German counterparts funded by DAAD, 1997-1998.
- UK Engineering and Physical Sciences Research Council Visiting Fellowship (GR/L49932); funding arranged and hosted by N. D. Gilbert at Heriot-Watt University, Edinburgh, Apr-Aug 1997.
- Visiting Scholar (Frankfurt), DFG, July 1992.
- Visiting Scholar (Glasgow), Edinburgh Mathematical Society, July 1989 and July 1991.
- Visiting Scholar (Berkeley), Mathematical Sciences Research Institute (NSF), January 1989.

## Internal Funding

- Various Technology Resource Fee projects funded.
- Integrating Engineering and Mathematics Curricula; Curriculum development project for interdisciplinary Honors instruction in mathematics and engineering sponsored by a William and Flora Hewlett Foundation grant to the Oregon State University College of Engineering, 2004.

## Invited & Featured Talks (Education)

- General Education and Assessment 3.0, Association of American Colleges & Universities, Chicago, March 4, 2011, “Committing to General Education Reform: Beyond Dysfunctional Ad Hoc Committees,” LEAP Featured Session, joint presentation with John Bailey and Susie Brubaker-Cole.
- Invited Panelist, *Beaverton School District Mathematics Education Research Forum*, January 2008.

- Invited Panelist, *Mathematics and Mathematics Instruction in Honors*, Annual Meeting of the National Collegiate Honors Council, Denver, November 2007.
- Invited Panelist, *Taming the Honors Thesis*, Annual Meeting of the National Collegiate Honors Council, Denver, November 2007.
- Invited Panelist, *Fall Forum 1999*, Oregon State University—University-wide forum on teaching sponsored by the Faculty Senate Committee on the Advancement of Teaching and the College of Liberal Arts Center for Teaching Excellence.
- Invited presentation, Award-Winning Online Instruction Conference, University of Kansas, May 1999.

#### **Invited & Featured Talks (Mathematics)**

- Geometric Group Theory, M. Davis 60th Birthday Fest, Bedlewo Poland, June 19, 2009.
- Annual Meeting of the AMS-MAA, San Antonio, Texas, Jan 1999—Special Session in Combinatorial Topology.
- Groups-Korea 98, Pusan, August 1998.
- Southeast Regional Meeting of the AMS, Baton Rouge, Louisiana, April 1996—Special Session in Geometric Group Theory.
- Cascade Topology Seminar, Eugene, Oregon, May 1991.

#### **Selected Research Talks and Colloquia**

- Geometric and Probabilistic Methods in Group Theory and Dynamical Systems, Texas A& M University, November 2015.
- Department Colloquium, University of South Florida, March 2015.
- Groups St. Andrews 2013, St. Andrews Scotland, August 2013.
- Seminarium Topologia Algebraiczna, Warsaw University, April 28, 2009.
- Boise State University Mathematics Colloquium, April 2008.

- CAT '05 Conference on Algebraic Topology, Krakow, Poland, June 2005.
- Tufts University Mathematics Colloquium, Medford, Massachusetts, March 2003.
- International Conference in Groups and Semi-groups, Lincoln, Nebraska, May 2000.
- Groups-St. Andrews in Bath, August 1997.
- University of Newcastle Algebra Seminar, July 1997.
- University of Glasgow Algebra Seminar, June 1997.
- Groups-Korea 94, Pusan, August 1994 (two talks).
- Workshop on Geometric and Combinatorial Methods in Group Theory, International Centre for the Mathematical Sciences, Edinburgh, Scotland, March 1993.
- SUNY-Albany Conference in Low Dimensional Topology and Combinatorial Group Theory, October 1992.
- Niedrigdimensionale Topologie und geometrische Gruppentheorie, Bochum, Germany, July 1992.
- J. W. Goethe Universität, Frankfurt am Main, June 1992.
- Groups-St. Andrews, August 1989.
- Fall Foliage Seminar, Enfield, N. H. October 1988.

#### **Doctoral Students (Current & Graduated)**

- Julie Berglund Fredericks: Ph.D. June 2000
- Igor Biskup: Ph.D. June 2000
- Anton Kaul: Ph.D. June 2000
- Seong Kun Kim: Ph.D. June 2003
- Nicole Webb: Ph.D. March 2011
- Forrest Parker: current
- Kirk McDermott: current



### **Masters Students (Current & Graduated)**

- Steve Black: 1996
- Liam Finlay: 2004
- Amanda Blaker, Andrew Blood, Shari Ultman, Dave Wing: 2005
- Paul Synhavsky: 2008
- Carolyn McCaffrey: 2010
- Kirk McDermott: 2013
- Nancy Scherich: 2013
- Bogdan Krstic: 2014

**Reviewing** Mathematical Reviews, American Mathematical Society, London Mathematical Society, National Science Foundation, International Journal of Algebra and Computation, Journal of Group Theory, Glasgow Mathematics Journal, Communications in Algebra, Topology and its Applications, Geometry & Topology, Proceedings of the Edinburgh Mathematical Society, Mathematica Scandinavica, Algebraic Geometry & Topology, Discrete Mathematics, New York Journal of Mathematics, Algebraic & Geometric Topology

### **University Service**

Executive Committee of the Faculty Senate, 2015-2016 (Elected)

Executive Committee and Faculty Vice President, Phi Kappa Phi, 2014-

Academic Care Team, 2013-2014

First-Year Experience Central Steering Committee, 2013

First-Year Experience Task Force, 2012-2013

University Assessment Council, 2011-2013 (Chair)

Baccalaureate Core Committee, 2011-2012 (Co-Chair)

Baccalaureate Core Ad Hoc Review Committee, 2008-2010 (Co-Chair)

Undergraduate Education Council, 2003-2004, 2006-2010, 2012-2013  
University Faculty Senate, 2000-2003, 2006-2012  
International Degree Committee, 2008-2010  
International Council, 2007-2010  
Pre-College Programs Work Group, 2005  
WIC Advisory Panel, 2005-2012  
University Honors College Council, Faculty Senate, 1999-2004, Chair  
2001-2004

### **Departmental and College Service**

Mathematics Department Undergraduate Advising Committee, 1990-1993, 2010-2011, (Chair) 2013-  
College of Science Promotion & Tenure Committee (elected), 2016-  
College of Science Strategic Planning Faculty Work Group, 2014  
Mathematics Department Associate Chair, 2011-2012  
Mathematics Department Executive Committee, 2011-2012  
Mathematics Department Undergraduate Committee, 2011-2012 (Chair), 2013-  
Mathematics Department Genomic Mathematics Hiring Committee (Chair), 2011-2012  
Arts and Sciences Strategic Planning Committee, 2008  
Mathematics Department Advisory Committee (elected), 2004-2005  
Mathematics Qualifying Exam Committee, 2003-2005  
Author of Mathematics Department Comprehensive Graduate and Undergraduate Program Self-Study, 2002-2003  
Mathematics Department Faculty Search Committee, 2002-2003  
Teaching Committee Chair, Department of Mathematics, 1999-2004

Chair Search Committee, Department of Mathematics, 1996-1997

Graduate Committee, Department of Mathematics, 1995-1997

Colloquium Committee, Department of Mathematics, 1993-1994

Departmental Review Committee, Department of Mathematics, 1992

Library Committee, Department of Mathematics, 1991-1994