

Curriculum Vitae

Russell W. Howell

Education

1969 B.S. (Mathematics), Wheaton College, Wheaton, Illinois
1974 Ph.D. (Mathematics), The Ohio State University, Columbus, Ohio
Dissertation: *Annular Functions in Potential Theory and Probability*
Adviser: Professor Francis W. Carroll
1986 M.Sc. (Computer Science), University of Edinburgh, Edinburgh, Scotland

Military Service

1974–1975 Fort Bliss, Texas
Officer Basic Training
Nike-Hercules Operations and Management Training
1975–1977 White Sands Missile Range, New Mexico
Operations Research/Systems Analysis
1977–1978 HHC I Corps (ROK/US) Group, South Korea
G-3 Officer (Defense Analysis)
1978 Honorable Discharge (Rank: Captain; Clearance: Top Secret)

Teaching History

1978–present Westmont College, Santa Barbara, California
Spring 2000 University of Maryland, College Park, Maryland
Fall 1999 Calvin College, Grand Rapids, Michigan
Fall 1977 New Mexico State University, Las Cruces, New Mexico

Courses Taught

Mathematics and Philosophy in Western Culture, Mathematics in Western Culture, Mathematics for Education Majors, Computer Science for Education Majors, Elementary Statistics, Advanced Statistics, Elementary Calculus, Honors Calculus, Multivariable Calculus, Advanced Calculus, Differential Equations, Linear Algebra, Modern Algebra, Applied Mathematics, Combinatorics, Complex Analysis, Real Analysis, Elementary Problem Solving, Advanced Problem Solving, Introductory Computer Science (Using a variety of languages: BASIC, FORTRAN, Pascal, Turing, C, and C++), Data Structures and Algorithms, Assembly Language Programming, Operating Systems, Mathematics and Linguistics, Perspectives on Civilization, Christian Perspectives on Learning, Great Hymns of the Christian Faith, Mathematics in the Contemporary World

Major Committee Responsibilities

Christian Perspectives on Learning Committee (Chair)
Personnel Committee (Chair)
Faculty Council (Chair)
Computer Committee (Chair)
Student Development Committee (Chair)

Long Range Planning Committee
Hiring for Mission Task Force

Administrative Responsibilities

Department Head, Mathematics (1986–1991; 2000–2006)
Coordinator of faith-learning for pre-tenure faculty (2002–2010)
Coordinator of the NBS seminar and Pascal Society lecture series, 2004–2006
Creator and organizer for Westmont’s annual high school mathematics contest (1987–present)
Organizer for Westmont’s third interdisciplinary symposium (February 3–4, 2006)
Convener and Mentor, CCCU Disciplinary Workshops in Mathematics and Computer Science
(held at Westmont College, May 2003)
Creator and organizer for Westmont’s theological workshops (1999–2001)
Vice Chair of the faculty (1996–1997)
Phi Kappa Phi scholastic honor society (Vice President, 1991–1993; President, 1993–1995)
Omicron Delta Kappa leadership honor society faculty adviser (1983–1991)
Director of Academic Computing, 1978–1985

Publications

- [1] W. J. Bradley, R. W. Howell (Eds.), *Mathematics Through the Eyes of Faith*, HarperOne, San Francisco, CA, **2011**.
- [2] R. W. Howell, A. Tongen, “*Effectiveness*” in [1], chapter 8, pp. 171–192.
- [3] K. Vander Meulen, W. J. Bradley, R. W. Howell, “*Ontology*” in [1], chapter 10, pp. 221–243.
- [4] R. W. Howell, “*An Apology*” in [1], chapter 11, pp. 245–254.
- [5] R. W. Howell, “*Does Mathematical Beauty Pose Problems for Naturalism?*” in *Taking Every Thought Captive: Forty Years of the Christian Scholar’s Review*, D. W. King (Ed.), ACU Press, Abilene, TX, **2011**, chapter 22, pp. 329–339, (One of 25 articles selected from among those published in *Christian Scholar’s Review* between 1970 and 2010).
- [6] J. H. Mathews, R. W. Howell, *Complex Analysis for Mathematics and Engineering sixth ed.*, Jones and Bartlett, Sudbury, MA, **2011**.
- [7] R. W. Howell. “Making it Up,” Review of *Negative Math: How Mathematical Rules Can Be Positively Bent*. *Books and Culture* **2009**, 35–38.
- [8] R. W. Howell, “*Lewis’s Miracles and Mathematical Elegance*” in *C.S. Lewis as Philosopher*, J. W. Dave Bagit, G. Habermas (Eds.), InterVarsity Press, Downers Grove, IL, **2008**, pp. 211–227 (chapter 13).
- [9] R. W. Howell. “Does Mathematical Beauty Pose Problems for Naturalism?”. *Christian Scholar’s Review* **2006**, XXXV, 493–504.
- [10] R. W. Howell. “Does Mathematical Beauty Pose Problems for Naturalism?”. *Journal of the ACMS* **2006**, (Published with permission from *Christian Scholar’s Review*, this article is more mathematically technical than the one appearing with the same title in *CSR*), <http://www.acmsonline.org/journal/2006/Howell.htm>.

- [11] R. W. Howell. Review of *The Divine Challenge: on Matter, Mind, Math and Meaning*. Focus Online **2005**, Mathematical Association of America, <http://mathdl.maa.org/mathDL/19/?pa=reviews&sa=viewBook&bookId=65560>.
- [12] R. W. Howell. Review of *The Divine Challenge: on Matter, Mind, Math and Meaning*. *Journal of the ACMS* **2005**, (This review, while similar to that in *Focus Online*, concentrates more on biblical and philosophical issues), <http://www.acmsonline.org/journal/2005/jacms2005.html#BookReviews>.
- [13] R. W. Howell, W. J. Bradley (Eds.), *Mathematics in a Postmodern Age: A Christian Perspective*, Eerdmans, Grand Rapids, MI, **2001**.
- [14] R. W. Howell, W. J. Bradley, “Introduction” in [13], pp. 1–11.
- [15] R. W. Howell, “Creativity and the Limits of Computer Reasoning” in [13], chapter 9, pp. 250–277.
- [16] R. W. Howell, W. J. Bradley, “Conclusion” in [13], pp. 361–384.
- [17] J. H. Mathews, R. W. Howell. “The Tangent Parabola”. *The AMATYC Review* **2001**, 25–32.
- [18] R. H. Gundry, R. W. Howell. “The Sense and Syntax of John 3:14–17 with Special Reference to the Use of οὐτος . . . ὅσπερ in John 3:16”. *Novum Testamentum* **1999**, 24–39.
- [19] R. W. Howell, J. H. Mathews. “Computing Square Roots Fast: Illustrating the Cubic Order of Convergence”. *International Journal of Mathematics Education in Science and Technology* **1999**, 30, 290–293.
- [20] J. H. Mathews, R. W. Howell. “The Investigation of Tangent Polynomials with a Computer Algebra System”. *The AMATYC Review* **1992**, 20–27.
- [21] R. W. Howell, “Using Mathematica to Teach Calculus” in *Proceedings of the ACMS*, **1991**, pp. 79–89.
- [22] R. W. Howell, “Simulated Annealing on NP-Complete Problems” in *Proceedings of the ACMS*, **1989**, pp. 104–123.
- [23] R. W. Howell, “Comparison of Tank and Tow Losses in Carmonette and DMB Simulations”, Tech. Rep., USA TRADOC Systems Analysis Activity, **1977**, Classified Secret.
- [24] R. W. Howell, “Analysis of Line-of-Sight Data in the IUA-BONDER Model”, Tech. Rep., USA TRADOC Systems Analysis Activity, **1976**, Classified Secret.
- [25] R. W. Howell. “Annular Functions in Probability”. *Proceedings of the American Mathematical Society* **1975**, 217–221.

Papers, seminar talks, panels

- “Grading without Numbers”
Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., New Orleans, Louisiana (January, 2011)

- “Is Mathematics Unreasonably Effective?”
Oxford Philosophy Seminar, Merton Street, Oxford, England (March 8, 2007)
- “Mathematical Measurements: Applications and Implications“
St. Edwards School, Oxford, England, (January 17, 2007)
- “The Impact of Gödel: Theories of Mind and A posteriori Thinking
(Who is right: Penrose and Lucas, or Wittgenstein?)”
Gödel Interdisciplinary Symposium, Westmont College, (February 3, 2006)
- “Does Mathematical Beauty Pose Problems for Naturalism?”
Oxbridge Conference, Oxford, England (July, 2005)
- ACMS Conference, Huntington, Indiana (May, 2005)
 - “Review of The Divine Challenge”
 - “Mathematical Success and Naturalism”
- Wheaton College science symposium invited speaker (March, 2004)
 - “Philosophical views of Mathematics and their Relation to Infinite Sets”
 - “The Subject and Object of Creativity” (chapel address)
- Abilene Christian University faith-learning symposium invited speaker (March, 2003)
 - “Mathematical Implications for Statistical Inference”
 - “The Constrictions of Hilbert’s Formalism”
 - “Faith-Learning Perspectives in Mathematics and Computer Science: Do They Matter?”
 - “The Practice of Christians in Academia”
- Panel organizer and participant: “Mathematics in a Postmodern Age”
Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., San Diego, California (January, 2002)
- Panel member: colloquy for the installation of Stan Gaede as President of Westmont College (January, 2002), Panel Contribution: “Avoiding Affectation and Accommodation”
Fess Parker’s Doubletree Inn, Santa Barbara, CA
- Invited lectures: “Non-Linear Thinking: Implications for Computer Chip Design and Social Science Legitimacy”
 - Muhlenberg College, Allentown, PA (Spring, 2000)
 - Hope College, Holland, MI (Fall, 1999)
 - Calvin College, Grand Rapids, MI (Fall, 1999)
 - Westmont College, Santa Barbara, CA, Natural Science Seminar, (Spring, 1998)
- “Complementary Partial Orders and Rectangle Packing”
Fall meeting of the American Mathematical Society and Mathematical Association of America, Claremont McKenna/Pfizer College, Claremont, California, (October, 1997)
- “Probabilistic Surprises: The Mundane, the Mysterious, and the Esoteric”
Westmont College, Santa Barbara, CA, Natural Science Research Seminar, (Spring, 1992)

- “Using Mathematica to Teach Calculus”
Eighth Biennial Conference of the Association of Christians in the Mathematical Sciences, Wheaton College, Wheaton, IL, (June, 1991)
- “Simulated Annealing on NP-Complete Problems”
Seventh Biennial Conference of the Association of Christians in the Mathematical Sciences, Messiah College, Grantham, PA, (June, 1989)
- “Randomized Optimization, or How to Pack a Suitcase”
Westmont College, Santa Barbara, CA, Natural Science Research Seminar, (Spring, 1988)
- “Creativity and the Limits of Computer Reasoning”
Phi Kappa Phi address at Westmont College, Santa Barbara, CA, (February, 1987)
- “Annular Functions and Probability”
Summer meeting of the American Mathematical Society, Dekalb, IL, (Summer, 1974)

Professional Memberships

- The Mathematical Association of America (1974–present)
- The Association of Christians in the Mathematical Sciences (1977–present)
 - Board Member (1989–1997)
 - Vice President (1991–1993)
 - President (1993–1995)
- Council of Christian Scholarly Societies (1996–2002)
 - Executive Committee (1998–2002)
 - Chair (2000–2002)
- Phi Sigma Tau (1968–present)
- Omicron Delta Kappa (1983–present)
- Phi Kappa Phi (1980–present)
 - Vice President 1991–1993)
 - President (1993–1995)

Honors and Awards

- Grant: The John Templeton Foundation, 2006 (\$29,000)
To develop a book connecting mathematical, philosophical, and theological ideas
- Grant: Lilly Foundation, 2005 (\$12,000)
To fund the faith-learning program at Westmont College for one year
- Grant: The John Templeton Foundation, 2003–2005 (\$6000)
Honorarium for participation in the John Templeton Seminars in Science and Christianity, held at Wycliffe Hall, Oxford, for four weeks in each of three consecutive summers. Also included were room and board plus transportation costs.

- Teacher of the Year, Westmont College, 1999, 1984
- Grant: Digital Equipment Corporation, 1980 (\$4000)
For the purchase of institutional computer equipment
- Army Commendation Medal (USA), 1978
- Korea Service Medal (ROK), 1978

Community Involvement

- Free Methodist Church, 1979–present: various involvements, including
 - Regional Conference Delegate
 - Adult Education Teacher
 - Local Board of Administration
 - Worship Committee Chair
 - Pianist
- Creator and organizer of Westmont’s annual high school mathematics contest (1987–present)
- Organizer of Westmont’s third interdisciplinary symposium, February 3–4, 2006
(Celebrating the 100th anniversary of Gödel’s birth, and the 75th anniversary of the publication of his famous incompleteness theorems)
- Participant for Cal SOAP (2001)

Consulting Activities

- California Thrift and Loan, Santa Barbara, California
- Sansum Medical Foundation, Santa Barbara, California
- ABACUS, Inc., Santa Barbara, California
- General Research Corporation, Santa Barbara, California