

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)

Main Appointments

- 2013 Kathleen Smith Professor of Mathematics, Westmont College, Santa Barbara, CA
1989 Professor of Mathematics, Westmont College, Santa Barbara, CA
1984 Associate Professor of Mathematics, Westmont College, Santa Barbara, CA
1978 Assistant Professor of Mathematics, Westmont College, Santa Barbara, CA

Other Appointments

- Spring 2015 Visiting Professor, United States Air Force Academy, Colorado Springs, CO
2006–2007 Visiting Scholar, Oxford University (Wolfson College), Oxford UK
Spring 2000 Visiting Professor, University of Maryland, College Park, MD
Fall 1999 Visiting Professor, Calvin College, Grand Rapids, MI
Spring 1985 Visiting Scholar, University of California, Berkeley, CA

Courses Taught

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 Philosophy in Western Culture, Mathematics in Context, Mathematics for Education Majors, Computer Science for Education Majors, Mathematics and Linguistics, Perspectives on Civilization, Christian Perspectives on Learning, Great Hymns of the Christian Faith, Westmont in Mexico courses (preparatory, in-country, reentry).

Major Committee Responsibilities

Faculty Senate (Chair)
Strategic Planning Committee
Personnel Committee (Chair)
Faculty Council (Chair)
Computer Committee (Chair)
Student Development Committee (Chair)
Long Range Planning Committee
Christian Perspectives on Learning Committee (Chair)
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)
Association of Christians in the Mathematical Sciences
(Vice President, 1991–1993; President, 1993–1995)
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] R. W. Howell, E. Schrohe. Unpacking Rouché’s Theorem. *PRIMUS* (**forthcoming, 2017**), Also served as guest editor for this special theme issue on complex analysis.
- [2] R. W. Howell. [The Matter of Mathematics](#). *Perspectives on Science and Christian Faith* **2015**, *67(2)*, 74–88, Lead article and guest editor for this special theme issue on mathematics.
- [3] R. W. Howell. Inerrancy: A Cartesian Paux-Pas? (Review of *By Good and Necessary Consequence*). *Books and Culture* **2014**, 8–10.
- [4] J. H. Mathews, R. W. Howell, *Complex Analysis for Mathematics and Engineering sixth ed.*, Jones and Bartlett, Sudbury, MA, **2012**.
- [5] W. J. Bradley, R. W. Howell (Eds.), *Mathematics Through the Eyes of Faith*, HarperOne, San Francisco, CA, **2011**, Also a contributor for Chapter 8 (*Effectiveness*), Chapter 10 (*Ontology*), and Chapter 11 (*An Apology*).
- [6] 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).

- [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*, D. Bagit, J. Walls, G. Habermas (Eds.), InterVarsity Press, Downers Grove, IL, **2008**, chapter 13, 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 . . . ὥστε 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*, Association of Christians in the Mathematical Sciences, **1991**, pp. 79–89.
- [22] R. W. Howell, *Simulated Annealing on NP-Complete Problems* in *Proceedings of the ACMS*, Association of Christians in the Mathematical Sciences, **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

- “The Count of Monte Disco” (given with my research student David Kyle)
Contributed Paper Session, Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., Atlanta, GA (January 6, 2017)
- “Números Complejos: Cómo Llegaron a Ser y Problemas a Resolver”
Invited Address, Universidad Autónoma de Querétaro (November 28, 2016)
- “Optimización por Casualidad: Métodos Matemáticos”
Invited Address, Universidad Autónoma de Querétaro (October 17, 2016)
- “Rouché’s Theorem: Projects and Pedagogy”
Contributed Paper Session, Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., Seattle, WA (January 9, 2016)
- “RAM and Recursion”
Colloquium talk to faculty and cadets, United States Air Force Academy, Colorado Springs, CO (October 9, 2015)
- “Random Complex Functions with Weird Properties”
Colloquium Series, Colorado College, Colorado Springs, CO (May 7, 2015)
- “Revitalizing Complex Analysis”
Contributed Paper Session, MAA Rocky Mountain Sectional Meeting, Colorado College Colorado Springs, CO (April 18, 2015)
- “Drawing Blanks: Experiments for Pre- and Post-Examination Days”
Contributed Paper Session, MAA Rocky Mountain Sectional Meeting, Colorado College, Colorado Springs, CO (April 17, 2015)
- “Simulated Annealing on NP -Complete Problems”
Keynote Address, Service Academy Student Mathematics Conference, United States Air Force Academy, Colorado Springs, CO (April 17, 2015). Also presented to the faculty at the United States Air Force Academy, Colorado Springs, CO (November 20, 2014)
- “How to Pack a Suitcase”
Keynote Address, Pikes Peak Regional Undergraduate Mathematics Conference, United States Air Force Academy, Colorado Springs, CO (March 7, 2015). Also Presented to the cadets at the United States Air Force Academy, Colorado Springs, CO (November 20, 2014),
- “Revitalizing Complex Analysis: Three Philosophies”
Contributed Paper Session, Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., San Antonio, Texas (January 10, 2015)

- “Revitalizing Complex Analysis: The Next Steps”
Contributed Paper Session, Combined meetings of the Mathematical Association of America, American Mathematical Society, etc., San Antonio, Texas (January, 2015)
- “George Berkeley, Mathematics, and Faith: A Pranalogical Potpourri”
Reception speaker for the Association of Christians in the Mathematical Sciences, Baltimore, MD (January 16, 2014)
- “Revitalizing Complex Analysis”
NSF-sponsored poster session, combined meetings of the Mathematical Association of America, American Mathematical Society, etc., Baltimore, MD (January 15, 2014)
- “Mathematical Effectiveness and the Lewis-Anscombe Debate”
Keynote Address, Southern California Christians in Science Fall Meeting, Pepperdine University, Malibu, CA (October 11, 2014)
- “The Lewis-Anscombe Debate; Millieu, Mutations, and Mathematics” Invited Address, C.S. Lewis Symposium, Union University, Jackson, TN (November, 2013)
- “Complementary Partial Orders, or How to Pack a Suitcase”
Invited Address, Mathematics Colloquium, Union University, Jackson, TN (November, 2013)
- “Is Faith Required for Mathematics? Is Mathematics Required for Faith?”
Invited Address, Faith-Learning Colloquium, Union University, Jackson, TN (November, 2013)
- “Is Faith Required for Mathematics? Is Mathematics Required for Faith?”
Installation Address: Kathleen Smith Professor of Mathematics, Westmont College, Santa Barbara, CA (October 18, 2013)
- “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 Aposteriori Thinking
(Who is right: Penrose and Lucas, or Wittgenstein?)”
Gödel Interdisciplinary Symposium, Westmont College, Santa Barbara, CA (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, CA (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, CA, (October, 1997)
- “Probabilistic Surprises: The Mundane, the Mysterious, and the Esoteric”
Natural Science Research Seminar, Westmont College, Santa Barbara, CA, (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”
Natural Science Research Seminar, Westmont College, Santa Barbara, CA, (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)
- The American Scientific Affiliation (2014–present)
- Council of Christian Scholarly Societies (1996–2002)
 - Executive Committee (1998–2002)
 - Chair (2000–2002)
- Phi Sigma Tau (1968–present)
- Westmont Chapter, Omicron Delta Kappa (1983–2000)
- Westmont Chapter, Phi Kappa Phi (1980–present)
 - Vice President (1991–1993)
 - President (1993–1995)

Honors and Awards

- Grant: National Science Foundation (PI, #1245234, 2014–2015, \$39,225)
To convene 14 people from academia and industry at Westmont College in June 2014. The outcomes to date have been: (1) a report recommending revisions to the curriculum in complex analysis as taught at the undergraduate level; (2) contributed paper sessions at the JMM in San Antonio, TX (2015), Seattle, WA (2016), Atlanta, GA (2017), and San Diego, CA (forthcoming, 2018); (3) Editor of and contributor to a theme issue of *PRIMUS* dedicated to complex analysis (to appear, 2017).
- Endowed Chair, Westmont College, 2013–
The Kathleen Smith Endowed Chair for Natural and Behavioral Sciences
- Grant: The John Templeton Foundation, 2006 (\$14,500)
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.
- Grant: National Science Foundation (Co-PI, #0123144, \$55,000)
To fund undergraduate fellowships in mathematics and computer science

- 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, CA
- Sansum Medical Foundation, Santa Barbara, CA
- ABACUS, Inc., Santa Barbara, CA
- General Research Corporation, Santa Barbara, CA