Peter Borwein

Professor and Burnaby Mountain Chair,
Executive Director IRMACS
(Interdisciplinary Research in the Mathematical and Computational Sciences)
Simon Fraser University, Vancouver, B.C.

DEGREES

B.Sc. University of Western Ontario, Mathematics, 1974
M.Sc. University of British Columbia, Mathematics, 1976
Ph.D. University of British Columbia, Mathematics, 1979

He has authored six books and over a 150 research articles. His research
interests span Diophantine and computational number theory, classical
analysis and symbolic computation. He has a central interest in scientific
collaboration and computational experimentation technologies.

He is recipient of the Chauvenet Prize and the Hasse prize 1993
(with J. Borwein and D. Bailey); the 1996 CUFA/BC Academic of the Year
(co-recipient); the University of Western Ontario National Alumni Merit
Award 1999; the Ford Prize 2002 (with L. Jorgensen)

He is nominated for the $100000 Edge of Computation Science Prize (with
D.H. Bailey and S. Plouffe) for their work on the so called BBP algorithm

He is Executive Director for the initiative in Interdisciplinary Research
in the Mathematical and Computational Sciences (IRMACS). This is a major
initiative funded by CFI, BCKDF and SFU. The IRMACS Centre is a unique,
interdisciplinary research facility that enables collaborative interaction
- intellectually, physically and virtually. It provides a versatile,
computationally sophisticated infrastructure for nearly 200 scientists
whose primary laboratory tool is the computer. See http://www.irmacs.ca/.

He is also a principal investigator of a MITACS consortium MOCAA in the
Mathematics of Computer Algebra and Analysis. This involves overseeing
a national team of researchers, graduate students, programmers and
post-docs. This project has as its major industrial sponsor Maple Inc. and
involves explorations in computer algebra as well as software development.

Plus he is a co-leader (with David Boyd of UBC) of the PIMS Number Theory
Collaborative Research group.

HONOURS, AWARDS and MAJOR RECENT ADDRESSES:

- Chauvenet Prize 1993. Awarded with J. Borwein and D. Bailey
- Hasse Prize 1993. Awarded with J. Borwein and D. Bailey
- CUFA/BC Academic of the Year for 1996 (co-recipient)
- University of Western Ontario National Alumni Merit Award 1999
- Ford Prize 2002. Awarded with L. Jorgensen

- MAA Hour Invited Address. Joint AMS-MAA Winter Meeting 1993
- Invited Symposium, ICIAM 1995, Hamburg
- Frontiers Lectures, Texas A&M, 1996
- Nagel Lecture, University of South Florida, 1996
- Vancouver Institute, Vancouver, 1997
- Paul Erdos and his Math, Budapest, 1999
- Cognos Lecture, Ottawa, 2000
- Beeger Lecture, Leiden, 2000

MAJOR PROFESSIONAL RESPONSIBILITIES:

- Project Leader - IRMACS - an Interdisciplinary Research Centre
- Initial Principal Investigator on MITACS Consortium (MOCCA)
- Co-Principal (with David Boyd) - PIS collaborative research group in number theory.
- Associate Director: Centre for Experimental and Constructive Mathematics
- Editorial Board - Mathematics of Computation
- Editorial Board - Canadian Journal of Mathematics
- Editorial Board - Journal of Approximation Theory
- Editorial Board - Computational Complexity
- Editorial Board - Ramanujan Quarterly
- Editorial Board - Electronic Transactions in Numerical Analysis
- Co-Editor C.M.S/Springer Advanced Math. Series

SELECTED PUBLICATIONS: (Most are available at http://www.cecm.sfu.ca/~pborwein/)

BOOKS:

Borwein, Peter; Liljedahl, Peter; Zhai, Helen;
Creativity and Mathematics, MAA, Spectrum book series,
to appear.

Borwein, Peter; Choi, Stephen; Rooney, Brendan; Weirathmueller, Andrea
The Riemann Hypothesis, Springer-Verlag, 2007.

Borwein, Peter; Computational Excursions in Analysis and Number Theory
Springer-Verlag, New York, 2002

Berggren Len; Borwein, Jonathan; Borwein, Peter; A Source Book on Pi,
Springer-Verlag, New York, 1997.

Borwein, Peter; Erdelyi, Tamas; Polynomials and polynomial
inequalities. Graduate Texts in Mathematics, 161. Springer-Verlag, New
York, 1995. x+480 pp. ISBN: 0-387-94509-1

PAPERS:

Borwein, Peter; Erdelyi, Tamas; Ferguson, Ron; Lockhart, Richard;
On the zeros of cosine polynomials: solution of an an old problem of Littlewood,}
Annals of Math, (accepted M ar\ 2007).

Borwein, Peter; Dobrowolski, Edward; Mossinghoff, Mike;
Lehmer's problem for polynomials with odd coefficients,
Annals of Math, 166 (2007)', 347--366

Borwein, Peter, Hare, Kevin; Mossinghoff, Mike;
The Mahler measure of Littlewood polynomials
Bull. London Math. Soc. 40 (2004), 331-338

Borwein, Peter; Choi, Stephen;
Explicit merit factor formulae for Fekete and Turyn Polynomials.
Trans. Amer. Math. Soc., 354 (2002), 219--234

Borwein, Peter; Erdelyi, Tamas; Kos, Geza;
Littlewood-type problems on [0,1]
Proc. London Math. Soc., 79 (1999), 22--46

Borwein, Peter; Jorgenson Loki
Visible structures in number theory
(Featured in the Math Forum newsletter (Feb 26, 2001.))
MAA Monthly (2001), 897-910

Bailey, David; Borwein, Peter; Plouffe, Simon; On the rapid computation
of various polylogarithmic constants, Mathematics of Computation
66 (1997), 903--913

Borwein, Peter; Erdelyi, Tamas; Generalizations of Muntz's
Theorem via a Remez-type inequality for Muntz spaces
Jour. A.M.S., 10 (1997), 327--349

Borwein, Peter; Erdelyi, Tamas; A sharp Bernstein-type
inequality for exponential sums, J. Reine Angew. Math.

476 (1996), 127--141.

Over 200 other journal articles or books have been published or are in process.