

CURRICULUM VITAE

O-Yeat Chan

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Positions Held

School of Mathematical and Physical Sciences, University of Newcastle, Australia
2009–2010 CARMA Postdoctoral Researcher
Supervisor: Jonathan M. Borwein

Department of Mathematics and Statistics, Dalhousie University, Canada
2007–2009 NSERC Postdoctoral Fellow
2006–2007 Postdoctoral Fellow
Supervisors: Jonathan M. Borwein and Karl Dilcher

Education

May 2006 Ph. D. in Mathematics, University of Illinois at Urbana-Champaign,
Urbana, Illinois, USA.
Thesis: Investigations into cranks of partitions, trigonometric sums,
and q -integrals.
Supervisor: Bruce C. Berndt.

December 2001 M. S. in Mathematics, University of Illinois at Urbana-Champaign,
Urbana, Illinois, USA.

May 2000 B. Sc. (Honours) in Mathematics, Physics, and Astronomy,
University of British Columbia, Vancouver, British Columbia, Canada.
Thesis: Quantum amplitudes in $2 + 1$ dimensional simplicial gravity.
Supervisor: Kristin Schleich.

Research Interests

- Combinatorial and analytic number theory.
- Computational and experimental number theory.
- Elementary number theory, recreational mathematics.
- Issues and policies in mathematics education.

Publications

1. O-Y. Chan and P. Prałat, *Chipping away at the edges: how long does it take?*, (2010), 16 pp. Submitted.
Preprint available at <http://www.oyeat.com/pubs.html>
2. J. M. Borwein, O-Y. Chan, and R. Crandall, *Higher-dimensional box integrals*, *Exp. Math.*, (2010), 24 pp. To appear.
3. O-Y. Chan and D. V. Manna, *Congruences for Stirling numbers of the second kind*, in *Gems in Experimental Mathematics*, Contemporary Math. **517**, Amer. Math. Soc., (2010), 97–111.
4. J. M. Borwein and O-Y. Chan, *Duality in tails of multiple zeta values*, *Int. J. Number Theory*, (2009), 13 pp. To appear.
5. J. M. Borwein and O-Y. Chan, *Uniform bounds for the complementary incomplete gamma function*, *Math. Ineq. Appl.* **12** (2009) 115–121.
6. D. Borwein, J. M. Borwein, and O-Y. Chan, *The evaluation of Bessel functions via exp-arc integrals*, *J. Math. Anal. Appl.*, **341** (2008) 478–500.
7. B. C. Berndt, O-Y. Chan, S.-G. Lim, A. Zaharescu, *Questionable claims found in Ramanujan's Lost Notebook*, in *Tapas in Experimental Mathematics*, T. Amdeberhan and V. Moll, eds., Contemporary Math. **457**, Amer. Math. Soc., (2008) 69–98.
8. O-Y. Chan, *Weighted trigonometric sums over a half-period*, *Adv. in Appl. Math.*, **38** (2007), no. 4, 482–504.
9. O-Y. Chan and J. Smoak, *More designer decimals: the integers and their geometric extensions*, *College Math. J.*, **37** (2006), no. 5, 355–363.
10. M. Beck, B. C. Berndt, O-Y. Chan, and A. Zaharescu, *Determinations of analogues of Gauss sums and other trigonometric sums*, *Int. J. Number Theory*, **1** (2005), no. 3, 333–356.
11. O-Y. Chan, *Some asymptotics for cranks*, *Acta Arith.*, **120** (2005), no. 2, 107–143.
12. O-Y. Chan, G. Choi, and A. Zaharescu, *A Multidimensional Version of a Result of Davenport-Erdős*, *J. Integer Seq.* **6** (2003), no. 2, Article 03.2.6, 9 pp.

Professional and Service Activities

- 2005–present Referee for International Journal of Number Theory, Journal of Computational and Applied Mathematics, Journal of the London Mathematical Society, Journal of Mathematical Analysis and Applications, American Mathematical Monthly, Mathematics Magazine, Integers: Electronic Journal of Combinatorial Number Theory, the Missouri Journal of Mathematical Sciences, and the Ramanujan Journal.
- 2007–2009 Coach of the Dalhousie teams for the Putnam and APICS (Atlantic Provinces Council on the Sciences) mathematics competitions.
- 2006–2009 Co-organizer of the Analysis and Number Theory Seminar at Dalhousie University (with Rob Noble (2008–2009) and Dante Manna (2006–2008)).
- 2008 Book Reviewer for CMS Notes.
- 2007 Lecturer for CMS Math Camp, Dalhousie University.
- 2007 Lecturer for Dalhousie Math Circles, a seminar for high-school students.
- 1999–2000 Examinations Coordinator for the University of British Columbia Math Club.
- 1998–1999 Treasurer for the University of British Columbia Math Club.

Invited Talks

- August 2009 CARMA Workshop on Multidimensional Numerical Integration and Special Function Evaluation, University of Newcastle, Callaghan, Australia.
- January 2009 Special Session on Experimental Mathematics, AMS National Meeting, Washington D.C.
- June 2008 Mathematics Seminar, University of Newcastle, Callaghan, Australia.
- November 2007 UBC/SFU Number Theory Seminar, Simon Fraser University, Burnaby, British Columbia.
- April 2006 Special Session on Special Functions, AMS Sectional Meeting, University of Notre Dame, Notre Dame, Indiana.
- March 2006 York University, Toronto, Ontario.
- November 2004 Conference on Additive Number Theory, University of Florida, Gainesville, Florida.

(Also gave talks at the CARMA Seminar, University of Newcastle, September 2009, Canadian Number Theory Association X Meeting, July 2008, Bluenose Numerical Analysis Day, July 2007, Illinois Number Theory Fest, May 2007, Canadian Number Theory Association IX Meeting, July 2006, Dalhousie University Analysis and Number Theory Seminar, 2006–2008, and at the University of Illinois Math Department Analytic Number Theory Seminar, 2003–2006)

Awards and Honours

- 2007–2009 Postdoctoral Fellowship
Natural Sciences and Engineering Research Council of Canada
- 2006–2008 Pre-approved for the Industrial Research and Development Fellowship
Natural Sciences and Engineering Research Council of Canada
- 2006 Bateman Prize in Number Theory
University of Illinois
- 2004–2005 Arnold O. Beckman Research Assistantship
University of Illinois Research Board
- 2004 Nominated for the University of Illinois Department of Mathematics
TA Instructional Award
- 1996–98; 99–00 Dean's Honour List
University of British Columbia
- 1999 Undergraduate Student Research Award
Natural Sciences and Engineering Research Council of Canada
- 1999 Lawrence Roberts Putnam Prize
University of British Columbia
- 1998 Golden Key International Honor Society

Teaching Experience

University of Newcastle

- Sem. 2, 2009 Lecturer and Tutor for Math 1110, Mathematics I
(First-year calculus and algebra)

Dalhousie University

- Fall 2008 Instructor for Math 3070, Theory of Numbers
- Summer 2007 Instructor for Math 2002, Intermediate Calculus II
- Spring 2007 Instructor for Math 2113, Discrete Structures II
- Fall 2006 Instructor for Math 2112, Discrete Structures I

University of Illinois

2002–2006 TA for Math 117 Discussion Sections,
(5 semesters) Elementary Mathematics for Pre-service Teachers

Summer 2004 Instructor for Math 234, Calculus for Business I

Fall 2001, 2003 TA for Math 234, Calculus for Business I, Discussion Sections

Spring 2002 Instructor for Math 230, Calculus II

Spring 2001 TA for Math 220, Calculus I, Discussion Sections

Fall 2000 Grader for Math 213, Discrete Mathematics
and Math 417, Introduction to Abstract Algebra

University of British Columbia

Spring 2000 Grader for Math 300, Introduction to Complex Variables

Fall 1999

Spring 1999 Grader for Math 317, Calculus IV

Fall 1998 Grader for Math 100, Calculus I

Other Skills

- Proficient with computer algebra systems, especially PARI/GP, Magma, and Maple.
- Fluent in English and Cantonese, excellent command of Mandarin, reading knowledge of French, German, and Japanese.
- Familiar with software development using Visual Basic.NET.