Curriculum vitae de

Andrew Granville, Chaire de Recherche du Canada

à *l'Université de Montréal, Quebec, H3C 3J7, Canada.*

Téléphone: (514) 343-6583. *Fax*: (514) 343-5700.
Courriel: andrew@dms.umontreal.ca

Personal:
Married: Two children (1988, 1998).
Born: September 7, 1962, London, England.
Nationality: Citoyen de Royaume-Uni. Résident permanent du Canada.

Home address :
444 ave Prince Albert
Westmount, Québec, H3Y 2P5,
Canada

Professional address :
Département de mathématiques et de statistique,
Université de Montréal,
CP 6128 succ. Centre-Ville,
Montréal Québec, H3C 3J7,
Canada.

Academic positions and education

Autumn 2007: Member of the Institute for Advanced Study, Princeton (*Additive combinatorics* special semester).

2002- *Chaire de Recherche du Canada* et professeur titulaire, Université de Montréal.

June 2001 *BBV Professor*, Universidad Autónoma, Madrid, Spain.

1999 *Kloosterman Professor*, University of Leiden, Holland

1995-2002: Full Professor with tenure, and *David C. Barrow Chair of Mathematics* at The University of Georgia.

Fall 1994: Visitor at The University of Michigan in Ann Arbor.

1993-95: Associate Professor at The University of Georgia.

April 1993: Visitor at Universidad Autónoma, Madrid, Spain.

Spring 1993: Member of the Isaac Newton Institute, Cambridge, England (*L–Functions and Arithmetic* special half-year).

1991-93: Assistant Professor at The University of Georgia.

1989-91: Member of the Institute for Advanced Study, Princeton (*Algorithmic and Analytic Number Theory* special year).

June 1989: Visitor at J.E. Purkyne University, Brno, Czechoslovakia.

1987-89: Postdoctoral Position at The University of Toronto.

1984-87: Doctor of Philosophy, at Queen's University, Kingston, Ontario, Canada.

1983-84: Certificate of Advanced Studies (Distinction), at Trinity Coll., Cambridge U.

1980-83: Bachelor of Arts (Honours) at Trinity Coll., Cambridge U.

Major Honors

2007: Erdős memorial lecture, American Mathematical Society.

2006: Fellow, Royal Society of Canada.

2006: Jeffrey-Williams Prize, Canadian Mathematical Society.

2003: Plenary speaker at Canadian Mathematical Society meeting, Vancouver.

2002: Plenary MAA speaker at the Annual Joint Meeting, San Diego.

1999: Ribenboim Prize, Canadian Number Theory Association.

1996: Plenary AMS/MAA speaker at the Annual Joint Meeting, Orlando.

1995: Hasse Prize, Mathematical Association of America.

1994-99: Presidential Faculty Fellowship (from President Clinton).

1994: Invited Speaker at the International Congress of Mathematicians, Zurich.

1992-95: Alfred P. Sloan Research Fellowship.

Other Awards and Honors

2007 : Public lecture, *Journées Arithmétiques*, Edinburgh.
2006 : Invited speaker, Annual meeting, Royal Society of Canada.
2005 : Gauss-Dirichlet memorial symposium, Gottingen, Germany.
2004 : *Current Events* plenary speaker at Annual Joint Meeting, Phoenix.
2002- : Bourse de Fonds quebécois de la recherche sur la nature et les technologies
2002- : Bourse de Conseil de recherches en science naturelles et en génie de Canada
2000 : University of Georgia's '*Lamar Dodd award*'.
1994 : University of Georgia's '*Creative Research Medal*'.
1993- : Life Member of Clare Hall, Cambridge U.
1990-2002: National Science Foundation Grantee
1985-87: J.S. McLaughlin Fellowship at Queen's University.
1983-84: Senior Scholarship at Cambridge University.
1980-82: Exhibition at Cambridge University.

Graduate Education

Successful doctoral students with current employment:
Anitha Srinivisan (‘95): Researcher at Tata Institute, Madras, India.
Glenn Fox (’97): Assistant professor at Wichita State U., Kansas
Kevin James (’97): Associate professor at Clemson, SC. (NSF grant)
Pamela Cutter (’00): Assistant professor at Albion College, Michigan.
Dina Khalil (’00): Visiting Researcher at Emory U. in Atlanta.
Ernie Croot (’00): Associate professor at Georgia Tech (NSF grant)
Paulo Almeida (’04): Assistant professor at U. Oporto, Portugal
Eric Pine (’04): Cryptographer in Washington D.C. area
Mike Beck (’04): Actuary in Atlanta

I was part-advisor of the following students
Alessandro Zaccagnini (‘93, with Perelli): Professor at U di Parma, Italy.
Jorge Jimenez (‘95, with Cilleruelo): Assistant professor at U Politècnica de Catalunya, Barcelona.
Mark Watkins (’00, with Pomerance): Postdoc at Bristol University.
Gang Yu (’00, with Pomerance): Assistant professor at U. South Carolina
Adrian Ubis (‘06, with Chamizo): Postdoc at U Autonoma, Madrid.

Successful masters students: Chris Orr (’97), Chris Groer (’01), Sana Mekhari (’06).

Current thesis advisor for Youness Lamzouri, Daniel Fiorilli, Tristan Freiberg (PhD) and Marc-André Lacasse (MA).

Postdoctoral Fellows advised: I have ‘supervised’
Ken Ono (1993-94), Binlong Zhang (1994-95), Sonjie Ren (1995-96), Li Guo (1995-96), Seva Lev (1996-98), Morley Davidson (1996-97), Daniel Shiu (1997-99), Tom Tucker (1998-02), Par Kurlberg (1999-01), Steve Astels (1999-’01), Nathan Ng (2001-04), Habiba Kadiri (2003-08), Harald Helfgott (2004-06), Guillaume Ricotta (2004-07), Jason Lucier (2005-2008), Nathan Jones (2005-2008), Igor Wigman (2006-2009).

National Committees

Natural Sciences and Engineering Research Council (NSERC) Canada math grants committee, 1995-1998. Liaison committee, 2007-.
The National Science Foundation CAREER panel, 1996. POWRE panel, 2000.
"Committee of Visitors" for the National Science Foundation, 2001.
Editorial Boards Committee of the AMS, 1996-1999.
Mathematical Assoc. of America's Putnam Prize committee, 1999-2002. Chair 2001-2002.
NSF postdoctoral advisory panel to NATO (1998).
AMS conference program selection committee (SouthEast section, 1998-2000), Chair 1999-2000. (NorthEast section 2007-11).
Scientific Advisory Panel to the Fields' Institute, 2000-2005.
External Review Committees: University of Colorado (2001), University of Bristol (2004), Georgia Tech (2007).
Scientific Advisory Committee to MSRI, 2003-2005.
Prize committees: Fields/CRM (2004), Ribenboim (2004), Cole (2005) , Doob (2007)
Committee to find Head of Centre de Recherche en mathématiques, 2004.
Research Committee, Canadian Mathematical Society, 2004-2007

Editorial boards

The *New York Journal of Mathematics* (1993–),
The *Electronic Journal of Combinatorics* (1994–)
The *Maple Technical Newsletter* (1995–98)
The *Journal of Number Theory* (1995–2004)
The *Ramanujan Journal* (1997–2006)
What's New in Mathematics (1997–).
The *Georgia Review* (1997–2005) – *A literature review*
Mathematics of Computation (1999–2002),
Integers (2000-).
The *Morehead Electronic Journal of Applicable Mathematics* (2000-).
Fields Institute publications (2001-3)
CRM publications (2004–),
Contributions to Discrete Mathematics (2005–),
Bulletin of the American Mathematical Society (2005–),
Online Journal of Analytic Combinatorics (2006–)
involve: a journal of mathematics (2007–)
Algebra and Number Theory (2007–)

Research articles

The set of exponents for which Fermat's Last Theorem is true, has density one, Comptes Rendus Acad Sci Canada **7** (1985), 55-60.

with Michael B. Monagan, *The First Case of Fermat's Last Theorem is true for all prime exponents up to 714,591,416,091,389*, Trans Amer Math Soc **306** (1988), 329-359.

with John B. Friedlander, *Limitations to the equi-distribution of primes* I, Annals of Mathematics **129** (1989), 363-382.

On the size of the first factor of the class number of a cyclotomic field, Inventiones Mathematicae **100**, (1990), 321–338.

with John B. Friedlander, Adolf Hildebrand and Helmut Maier, *Oscillation theorems for primes in arithmetic progressions and for sifting functions*, J Amer Math Soc **4** (1991), 25–86.

with John B. Friedlander, *Limitations to the equi–distribution of primes* IV, Proc Royal Soc London (Series A) **435** (1991), 197–204.

with Enrico Bombieri and János Pintz, *Squares in arithmetic progressions*, Duke Math J **66** (1992), 369–385.

Finding integers k for which a given Diophantine Equation has no solution in kth powers of integers, Acta Arithmetica **60** (1992), 203–212.

with John B. Friedlander, *Limitations to the equi–distribution of primes* III, Compositio Mathematicae **81** (1992), 19–32.

On integers, without large prime factors, in arithmetic progressions I, Acta Mathematica **170** (1993), 255–273.

with John B. Friedlander, *Integers without large prime factors, in short intervals*, Phil Trans Royal Soc London, **345** (1993), 339–348.

On integers, without large prime factors, in arithmetic progressions II. Phil Trans Royal Soc London, **345** (1993), 349–362.

with Red Alford and Carl Pomerance, *There are infinitely many Carmichael numbers*, Annals of Mathematics, **140** (1994), 703–722.

with Red Alford and Carl Pomerance, *On the difficulty of finding reliable witnesses*, in 'Algorithmic Number Theory' Proceedings (ANTS-I) (L. M. Adleman and M.-D. Huang, eds.), Lecture Notes in Computer Sci. **877** (1995), 1–16.

with Henri Darmon, *On the equations* $z^m = F(x, y)$ *and* $Ax^p + By^q = Cz^r$, Bull London Math Soc **27** (1995), 513–543.

The number of fugitive primes, appendix to *Rational torsion of prime order in elliptic curves over number fields*, a paper by Sheldon Kamienny and Barry Mazur, Astérisque **228** (1995), 81–100.

with Ken Ono, *The classification of defect zero p−blocks for finite simple groups*, Trans Amer Math Soc **348** (1996), 331–347.

with Joerg Brüdern, Alberto Perelli, Bob Vaughan and Trevor Wooley, *On the exponential sum over k-free numbers*, Phil Trans Royal Soc London, **356** (1998), 739–761.

ABC means we can count squarefrees, IMRN **19** (1998), 991–1009.

with Harold M. Stark, *ABC implies no "Siegel Zeroes" for L-functions of characters with negative discriminant*, Inventiones Mathematicae **139** (2000), 509–523.

with K. Soundararajan, *Large Character Sums*, J Amer Math Soc **14** (2001), 365–397.

with K. Soundararajan, *The spectrum of multiplicative functions*, Annals of Mathematics **153** (2001), 407–470.

with Carl Pomerance, *Two contradictory conjectures concerning Carmichael numbers*, Math Comp **71** (2002), 873–881.

with Ernest S. Croot III, *Unit fractions and the class number of a cyclotomic field*, J London Math Soc **66** (2002), 579–591.

with K. Soundararajan, *Distribution of values of* $L(1, \chi_d)$, GAFA **13** (2003) 992–1028.

with K. Soundararajan, *The number of unsieved integers up to x*, Acta Arithmetica, **115** (2004) 305–328.

with Valentin Blomer, *Estimates for the representation numbers of binary quadratic forms*, Duke Math J, **135** (2006) 261–302.

with K. Soundararajan, *Large character sums: Pretentious characters and the Polya-Vinogradov theorem*, J Amer Math Soc, **20** (2007) 357–384.

with K. Soundararajan, *An uncertainty principle for arithmetic sequences*, Annals of Mathematics, *to appear.*

Rational and integral points on quadratic twists of a given hyperelliptic curve, IMRN, *to appear.*

with Mike Filaseta and Andrzej Schinzel, *Irreducibility and greatest common divisor algorithms for sparse polynomials*, in "Number Theory and Polynomials", *to appear.*

with Andras Biro, *Zeta functions for ideal classes in real quadratic fields, at s=0*, *submitted.*

with Par Kurlberg, *Poisson statistics via the Chinese Remainder Theorem*, *submitted.*

with Ernest S. Croot III and Prasad Tetali, *When is a subproduct a square? submitted.*

with Antal Balog and K. Soundararajan, *Multiplicative functions in arithmetic progressions*, *submitted.*

with Hendrik W. Lenstra Jr., *Primitive prime factors in second-order linear recurrence sequences*, *in preparation.*

with K. Soundararajan, *Notes on Burgess's Theorem*, *in preparation.*

Expository articles

Primality testing and Carmichael numbers, Notices Amer Math Soc , **39** (1992), 696–700.

Zaphod Beeblebrox's brain and the fifty–ninth row of Pascal's triangle, American Mathematical Monthly, **99** (1992), 318–331.

Unexpected irregularities in the distribution of prime numbers, Proc International Congress of Mathematicians (Zurich, Switzerland, 1994), Vol. I (1995), 388–399.

It's as easy as abc (with Tom Tucker), Notices of the American Mathematical Society **49** (2002) 1224–1231.

Prime Possibilities and Quantum Chaos Emissary (Spring 2002). `Traduction en francais`: *Nombres premiers et chaos quantique*, Gazette des Mathématiciens **97** (2003), 29–44.

It is easy to determine whether a given integer is prime, Bull Amer Math Soc **42** (2005), 3–38.

with Greg Martin, *Prime number races*, American Mathematical Monthly **113** (2006), 1-33. `Traducción en español:` *Carreras de numeros primos*, La Gaceta de le Real Sociedad Matematica Espanola **8** (2006), 197-240.

Prime number patterns, American Mathematical Monthly, *to appear.*

Smooth numbers: Computational number theory and beyond, MSRI workshop, *to appear.*

Analytic Number Theory, Princeton Companion to mathematics, *to appear.*

The Fundamental Theorem of Arithmetic, in Mathematics and Culture, *to appear.*

Anatomy of integers and permutations, *in preparation.*