

# Curriculum Vitae

## Angel V. Kumchev

### CONTACT INFORMATION

*Mail:* Department of Mathematics  
The University of Texas at Austin  
1 University Station, C1200  
Austin, TX 78712  
U.S.A.

*Phone:* (512) 471-1159 (office)  
(512) 419-9899 (home)

*Fax:* (512) 471-9038

*E-mail:* [kumchev@math.utexas.edu](mailto:kumchev@math.utexas.edu)

*URL:* <http://www.math.utexas.edu/~kumchev/>

### PERSONAL DATA

*Date of Birth:* December 6, 1973  
*Citizenship:* Bulgarian

### EDUCATION

- **Ph.D. in Mathematics,**  
**University of South Carolina, August 1997–August 2001**  
Advisor: Prof. M. A. Filaseta  
Thesis title: “Diophantine problems involving prime numbers”
- **B.S. and M.S. in Mathematics,**  
**Plovdiv University, September 1991–July 1996**  
Advisor: Dr. D. I. Tolev  
Thesis title: “An additive problem involving prime numbers”

**RESEARCH INTERESTS** Analytic and elementary number theory, with particular interest in additive number theory, sieves, the distribution of primes, and analytic number theory in number fields.

### EMPLOYMENT

- **Instructor:** The University of Texas at Austin, 01/2003–present
- **Postdoctoral Fellow:** The University of Toronto, 07/2001–12/2002
- **Graduate Teaching/Research Assistant:** The University of South Carolina, 08/1997–06/2001

### PROFESSIONAL ACTIVITIES

- **Referee work:** Boletín de la Sociedad Matemática Mexicana, Glasgow Mathematical Journal, Journal of Number Theory, London Mathematical Society, Monatshefte für Mathematik, Ramanujan Journal, Rocky Mountain Journal of Mathematics, Quarterly Journal of Mathematics
- **Reviewer work:** Mathematical Reviews

## PROFESSIONAL MEMBERSHIPS

- American Mathematical Society (AMS)
- Mathematical Association of America (MAA)

## HONORS AND AWARDS

- 2001:** Dean's Award for Excellence in Graduate Study, Graduate School, the University of South Carolina
- 2001:** Outstanding Graduate Student Award, Department of Mathematics, the University of South Carolina
- 1998:** Outstanding First Year Graduate Student Award, Department of Mathematics, the University of South Carolina
- 1996–97:** Co-investigator for grant #MM–430/94 from the Bulgarian National Science Fund
- 1996:** Outstanding Young Scientist Award (Mathematics), EVRIKA Foundation (Bulgaria)
- 1995:** Outstanding Mathematics Student Award, Department of Mathematics, Plovdiv University
- 1992–95:** Outstanding Mathematics Student Awards for 1st, 3rd, and 4th Year Student, EVRIKA Foundation (Bulgaria)

## PUBLICATIONS AND PREPRINTS

1. *On a system of two Diophantine equations with prime numbers*, C. R. Acad. Bulgar. Sci. **49** (1996), 21–24.
2. *On the Piatetski-Shapiro–Vinogradov theorem*, J. Theor. Nombres Bordeaux **9** (1997), 11–23.
3. *An additive problem with prime numbers from a thin set* (with D. I. Tolev), Acta Math. Hungar. **76** (1997), 31–43.
4. *On an equation with prime numbers* (with T. Nedeva), Acta Arith. **83** (1998), 117–126.
5. *On the distribution of prime numbers of the form  $[n^c]$* , Glasgow Math. J. **41** (1999), 85–102.
6. *A Diophantine inequality involving prime powers*, Acta Arith. **89** (1999), 311–330.
7. *A note on the  $2k$ -th mean value of the Hurwitz zeta function*, Bull. Austral. Math. Soc. **60** (1999), 403–405.
8. *The  $k$ -free divisor problem*, Monatsh. Math. **129** (2000), 321–327.
9. *Diophantine approximation by cubes of primes and an almost prime*, Rocky Mountain J. Math. **30** (2000), 961–980.
10. *Diophantine approximation by cubes of primes and an almost prime II* (with J. Brüdern), Illinois J. Math. **45** (2001), 309–321.
11. *On a binary Diophantine inequality involving prime powers* (with M. B. S. Laporta), in "Number Theory for the Millennium", vol. 2, AK Peters, 2002, pp. 307–329.
12. *The difference between consecutive primes in an arithmetic progression*, Quart. J. Math. Oxford (2) **53** (2002), 479–501.

13. *The distribution of prime ideals of imaginary quadratic fields* (with G. Harman and P. A. Lewis), Trans. Amer. Math. Soc. **356** (2004), 599–620.
14. *Quadratic equations with five prime unknowns* (with S. K. K. Choi), J. Number Theory **107** (2004), 357–367.
15. *On the Waring–Goldbach problem: exceptional sets for sums of cubes and higher powers*, to appear in Canad. J. Math.
16. *The Waring–Goldbach problem for seventh powers*, to appear in Proc. Amer. Math. Soc.
17. *On sums of squares of primes* (with G. Harman), to appear in Math. Proc. Cambridge Philos. Soc.
18. *On Weyl sums over primes and almost primes*, submitted.
19. *On the irreducibility of a truncated binomial expansion* (with M. Filaseta and D. V. Pasechnik), submitted.

#### SEMINAR AND CONFERENCE TALKS

- June 2004: *The large sieve in additive prime number theory*, 8th Meeting of the Canadian Number Theory Association, Toronto, ON.
- June 2004: *Applications of the large sieve in additive prime number theory*, CECM Colloquium, Simon Fraser University, Burnaby, BC.
- March 2004: *The Waring–Goldbach problem*, Number Theory Seminar, the University of Texas, Austin, TX.
- June 2003: *The Waring–Goldbach problem*, PIMS Summer Program in Number Theory, Simon Fraser University, Burnaby, BC.
- November 2002: *The Waring–Goldbach problem*, Number Theory Seminar, the University of Toronto, Toronto, ON.
- October 2002: *Exponential sums over primes and the Waring–Goldbach problem*, AMS Meeting #981, Salt Lake City, UT (invited talk).
- May 2002: *Distribution of primes in arithmetic progressions and short intervals*, 7th Meeting of the Canadian Number Theory Association, Montreal, QC.
- March 2002: *Distribution of primes in arithmetic progressions and in short intervals*, Number Theory Seminar, McMaster University, Hamilton, ON.
- January 2002: *The difference between consecutive primes in an arithmetic progression*, AMS Meeting #973, San Diego, CA.
- October 2001: *The distribution of primes in arithmetic progressions and in short intervals*, Number Theory Seminar, University of Toronto, Toronto, ON.
- March 2001: *Distribution of prime ideals of quadratic fields and prime values of binary quadratic forms*, AMS Meeting #963, Columbia, SC (invited talk).
- January 2001: *The distribution of prime ideals of imaginary quadratic fields*, AMS Meeting #962, New Orleans, LA.
- December 2000: *The distribution of prime values of binary quadratic forms*, West Coast Number Theory Conference, San Diego, CA.

- September 2000: *Sieve methods and Diophantine problems involving primes*, Number Theory Seminar, University of Michigan, Ann Arbor, MI.
- May 2000: *Diophantine approximation by cubes of primes and an almost prime*, Millennial Conference on Number Theory, Urbana–Champaign, IL.
- April 2000: *Diophantine approximation by fractional powers of primes*, South East Regional Meeting on Numbers, Blacksburg, VA.
- December 1999: *Diophantine approximation by cubes of primes and an almost prime*, West Coast Number Theory Conference, Asilomar, CA.
- April 1999: *Diophantine approximation by cubes of primes and an almost prime*, South East Regional Meeting on Numbers, Columbia, SC.
- March 1999: *The  $k$ -free divisor problem*, AMS Meeting #941, Urbana–Champaign, IL.
- December 1998: *A Diophantine inequality involving prime powers*, West Coast Number Theory Conference, San Francisco, CA.
- May 1998: *A Diophantine inequality involving prime powers*, South East Regional Meeting on Numbers, Greensboro, NC.

### **TEACHING EXPERIENCE**

- at the University of Texas: Instructor for Calculus I and II, Discrete Mathematics, Linear Algebra, Probability, and Complex Analysis.
- at the University of Toronto: Instructor for Calculus and Advanced Differential Equations (Introduction to PDEs);
- at the University of South Carolina: TA for Calculus II and Numerical Linear Algebra; Instructor for Precalculus and Finite Mathematics.