C U R R I C U L U M V I T A E
(J Á N O S P I N T Z)

Personal facts:
Name: János Pintz
Born: 20th December, 1950, Budapest, Hungary
Marital status: Married, two children
Private address: Hangya u. 18/A, Budapest, Hungary, H-1121
E-mail: pintz@renyi.hu
Institute's address: Alfréd Rényi Mathematical Institute, Hungarian Academy of Sciences,
Reáltanoda u. 13-15, Budapest, Hungary, H-1053

Education, scientific degrees:
1984: ScD, Doctor of Sciences Degree, Hungarian Academy of Sciences
1976: PhD, Eötvös Loránd University, Budapest
1975: Candidate's degree in Mathematics, Hungarian Academy of Sciences
1974: M. Sc. Eötvös Loránd University, Budapest, Mathematics
1969–74: Eötvös Loránd University, Budapest, Mathematics
1965-69: Fazekas Mihály High School, Budapest

Positions held:
1977– . . . : various positions (currently research professor) at the Mathematical Institute of the Hungarian Academy of Sciences (the name of the institute was changed a few years ago to Alfréd Rényi Mathematical Institute, Hungarian Academy of Sciences)
1975–1977: assistant professor, Dept. of Algebra and Number Theory, Eötvös Loránd University
1974–1975: junior assistant, Dept. of Algebra and Number Theory, Eötvös Loránd University

Visiting positions: 1999/2000: Fulbright-fellow, Rutgers University, New Brunswick, NJ, USA
1994: Visiting Professor, BYU, Provo, UT, USA
1990/91: Visiting Member of the Institute for Advanced Study, Princeton, NJ, USA
1986/87: Visiting professor, Rutgers University, New Brunswick, NJ, USA
1984/85: Humboldt-fellow, Frankfurt and Freiburg University, Germany
1983: Visiting Professor, University of Salerno, Salerno, Italy
1979: Visiting Professor, Leiden University, Leiden, Netherland
1979: Visiting professor, Goethe University, Frankfurt, Germany

Editorial Work:
Member of the Editorial Boards of Acta Math. Hung, Studia Sci. Math. Hung., and of the Journal of Combinatorics and Number Theory, to be launched in 2009

Publications:
107 publications, mostly in international journals or proceedings, including 12 chapters of the book „On a New Method of Analysis and its Applications" of Paul Turán, published posthumously, with the assistance of Gábor Halász and János Pintz, John Wiley and Sons, New York, 1984.

Citations:
More than 1000 citations (excluding selfcitations); 51 different books cite at least one of my works

Lectures, invited presentations:
45 lectures at conferences and 32 colloquium lectures at universities, including 30 invited presentations at international conferences

Prizes, Awards, Memberships:
Since 2007: Honorary fellow of the Hardy-Ramanujan Society (Bombay, India) 2007
Since 2004: Member of the Hungarian Academy of Sciences
Distinguished Awards of the Hardy–Ramanujan Society (Bombay), 1987, 1992, 1997 and 2002
Prize of the Hungarian Academy of Sciences, 1995
Alfréd Rényi prize of the Mathematical Institute of the Hungarian Academy of Sciences, 1984
Grünwald Memorial prize of the János Bolyai Mathematical Society, 1974
Kató Rényi prize of the János Bolyai Mathematical Society, 1973

Research area: Analytic number theory, prime number theory, distribution of primes, Goldbach conjecture, Twin prime conjecture

Main results (most recent last):

1) More than 30 papers dealing with irregularities in the distribution of primes, i.e. oscillation of the remainder term of the prime number formula and the partial sums of the Möbius function, lower estimate on the number of sign changes of the remainder term and the partial sums of the Möbius function, connection between the zero-free region of the Zeta-function and the oscillation of the error term.

2) (Joint work with J. Komlós and E. Szemerédi) Disproof of Heilbronn's conjecture, according to which n points in the unit square always contain a triangle of area less than c/n^2 and improvement on the earlier upper estimation of K. F. Roth for the area of the smallest triangle.

3) (Joint work with H. Iwaniec) All intervals of type $[x, x + x^{23/42}]$ contain primes if x is large enough.

4) The first effective disproof of the Mertens conjecture.

5) (Joint work with W. Steiger and E. Szemerédi) The difference set of any set A having at least $N/(\log N)^{c \log\log\log\log N}$ elements below N, contains at least one square.

6) (Joint work with R. Brünner and A. Perelli) The number of integers below X, which cannot be represented as the sum of a prime and a square does not exceed X^c with a $c < 1$.

7) (Joint work with E. Bombieri and A. Granville) Any arithmetic progression with N terms can contain at most $C(\epsilon)N^{2/3+\epsilon}$ squares for any positive ϵ and sufficiently large N.

8) (Joint work with A. Perelli, resp. with J. Kaczorowski and A. Perelli). Almost all even numbers are Goldbach numbers (i.e. sums of two primes) in intervals of type $[x, x + x^{1/3+\epsilon}]$ if x is large enough. Assuming GRH the same is true for intervals of type $[x, x + (\log x)^{6+\epsilon}]$.

9) (Joint work with R. Baker and G. Harman) Almost all even numbers are Goldbach numbers in intervals of type $[x, x + x^{11/160}]$ if x is large enough.

10) In the following let p' denote the prime following p. Then we have infinitely many large gaps between consecutive primes satisfying $p' - p > (2 + o(1))e^{\gamma} \log p \log\log p \log\log\log\log p/(\log\log\log p)^2$.

11) (Joint work with R. Baker and G. Harman) $p' - p \ll p^{21/40}$ for all primes p, that is, all intervals of type $[x, x + x^{0.525}]$ contain primes if x is large enough.

12) (Joint work with I. Z. Ruzsa) Any sufficiently large even integer can be written as the sum of two primes and K powers of two, where $K = 8$ (and $K = 7$ under GRH).

13) The number of even integers below X, which cannot be written as the sum of two primes does not exceed $X^{2/3}$ if X is large enough.

14) (Joint work with D. Goldston and C. Y. Yıldırım). There are infinitely many small gaps between consecutive primes satisfying $p' - p \ll \sqrt{\log p}(\log\log p)^2$. If the primes have any level of distribution larger than $\frac{1}{2}$, that is if the exponent $\frac{1}{2}$ can be improved to any fixed number larger than $\frac{1}{2}$ in the Bombieri–Vinogradov theorem, then bounded gaps between consecutive primes appear infinitely often.

15) (Joint work with D. Goldston, S. W. Graham and C. Y. Yıldırım). If the sequence of numbers having exactly two prime factors is denoted by q_n then we have $\liminf_{n\to\infty}(q_{n+1} - q_n) \le 6$ and we have for any ν a constant $C(\nu)$ such that $\liminf_{n\to\infty}(q_{n+\nu} - q_n) < C(\nu)$.