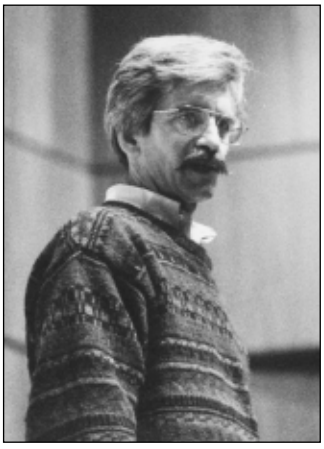
2003 Conant Prize



Nicholas Katz

Peter Sarnak

Sarnak (left) and Katz

The 2003 Levi L. Conant Prize was awarded at the 109th Annual Meeting of the AMS in Baltimore in January 2003.

The Conant Prize is awarded annually to recognize an outstanding expository paper published in either the *Notices of the AMS* or the *Bulletin of the AMS* in the preceding five years. Established in 2000, the prize honors the memory of Levi L. Conant (1857–1916), who was a mathematician at Worcester Polytechnic University. The prize carries a cash award of $1,000.

The Conant Prize is awarded by the AMS Council acting on the recommendation of a selection committee. For the 2003 prize the members of the selection committee were: Brian J. Parshall, Anthony V. Phillips, and Joseph H. Silverman.

Previous recipients of the Conant Prize are: Carl Pomerance (2001), and Elliott Lieb and Jakob Yngvason (2002).

The 2003 Conant Prize was awarded to NICHOLAS KATZ and PETER SARNAK. The text that follows presents the committee's citation, brief biographical sketches, and the awardees' response upon receiving the prize.

Citation

The Levi L. Conant Award in 2003 is granted to Nicholas Katz and Peter Sarnak for their expository paper "Zeroes of zeta functions and symmetry", *Bulletin of the AMS* **36** 1–26 (1999). "Zeroes of zeta functions and symmetry" is a model of high-level exposition. Katz and Sarnak do justice to their beautiful topic, a rich mix of intensive numerical exploration, conjectures, and theorems. The theorems take us deep into Weil-Deligne territory, but the authors manage, with well-chosen, concrete examples, to keep the general mathematical reader on the trail. In this paper, obviously a labor of love, the authors' enthusiasm and wonderment are inescapable and contagious.

Biographical Sketch: Nicholas Katz

Nicholas M. Katz was born in Baltimore, Maryland, in 1943. He received his B.A. from Johns Hopkins University in 1964 and his Ph.D. from Princeton University in 1966 under the direction of Bernard Dwork, who had a profound influence on his entire mathematical life. He has been at Princeton University ever since. In 1968–69, he was awarded

a NATO Postdoctoral Fellowship, which allowed him to spend his first year at the Institut des Hautes Études Scientifiques (IHÉS). There he came under the enduring spell of Pierre Deligne and Alexander Grothendieck. He returned to IHÉS incessantly over the years to come. On later visits he was able to learn from Ofer Gabber, the fourth of his mathematical heroes. He has held Sloan and Guggenheim Fellowships, been a Japan Society for the Promotion of Science Fellow, and several times has had the privilege of being a visiting professor at Orsay and an Ordway Visiting Professor at the University of Minnesota.

Biographical Sketch: Peter Sarnak

Peter Sarnak was born on December 18, 1953, in Johannesburg, South Africa. He received his Ph.D. from Stanford University (1980).

Sarnak began his academic career at the Courant Institute of Mathematical Sciences, advancing from assistant professor (1980–83) to associate professor (1983). He moved to Stanford University as a professor of mathematics (1987–91). Since 1991 he has been a professor of mathematics at Princeton University. At Princeton he has also served as the H. Fine Professor (1995–96) and as department chair (1996–99). He was a professor at the Courant Institute (2001–02).

Sarnak was a Sloan Fellow (1983–85) and a Presidential Young Investigator (1985–90). He was a fellow at Hebrew University's Institute of Advanced Studies (1987–88), the Sherman Fairchild Distinguished Scholar at the California Institute of Technology (1989), and a member at the Institute for Advanced Study (1999–2002).

He has published extensively in his areas of research interest, which include number theory and cusp forms.

Response

It is both a great honor and a great pleasure for us to receive the Levi L. Conant Award in 2003 for our article "Zeroes of zeta functions and symmetry". We are very pleased to be complimented on our exposition. We are also particularly gratified that our article and the ideas put forth in it have stimulated some very interesting work by others. Some of this work provides partial evidence for our conjectures, which we find reassuring. Even more exciting to us is that much of this work, both analytical and numerical, goes way beyond what we had envisioned and establishes the use of random matrix models as a powerful predictor of what should be true in some very classical questions concerning Dirichlet L-functions and the Riemann zeta function.