Stanford

Kannan Soundararajan

Anne T. and Robert M. Bass Professor of the School of Humanities and Sciences

Mathematics

Bio

ACADEMIC APPOINTMENTS

- Professor, Mathematics

Teaching

COURSES

2026-27

- Topics in number theory: MATH 249A (Aut)

2024-25

- Groups and Rings: MATH 120 (Spr)
- Modern Mathematics: Discrete Methods: MATH 62DM (Win)

2023-24

- Modern Mathematics: Discrete Methods: MATH 62DM (Win)
- Topics in Number Theory: MATH 249C (Spr)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Alex Lopez

Doctoral (Program)

Travor Liu

Publications

PUBLICATIONS

- **A supplement to Chebotarev's density theorem** *SCIENCE CHINA-MATHEMATICS*
  Harcos, G., Soundararajan, K.
  2023
- **Almost all entries in the character table of the symmetric group are multiples of any given prime** *JOURNAL FUR DIE REINE UND ANGEWANDTE MATHEMATIK*
  Peluse, S., Soundararajan, K.
  2022
- **A model problem for multiplicative chaos in number theory** *ENSEIGNEMENT MATHEMATIQUE*
  Soundararajan, K., Zaman, A.

2022; 68 (3-4): 307-340

- **The distribution of consecutive prime biases and sums of sawtooth random variables** *MATHEMATICAL PROCEEDINGS OF THE CAMBRIDGE PHILOSOPHICAL SOCIETY*
  Oliver, R., Soundararajan, K.
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- **THE MEAN SQUARE OF THE PRODUCT OF A DIRICHLET L-FUNCTION AND A DIRICHLET POLYNOMIAL** *FUNCTIONES ET APPROXIMATIO COMMENTARII MATHEMATICI*
  Conrey, B., Iwaniec, H., Soundararajan, K.
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- **WEAK SUBCONVEXITY WITHOUT A RAMANUJAN HYPOTHESIS** *DUKE MATHEMATICAL JOURNAL*
  Soundararajan, K., Thorner, J., Brumley, F.
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- **Maximum of the Riemann Zeta Function on a Short Interval of the Critical Line** *COMMUNICATIONS ON PURE AND APPLIED MATHEMATICS*
  Arguin, L., Belius, D., Bourgade, P., Radziwill, M., Soundararajan, K.
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- **Fourier optimization and prime gaps** *COMMENTARII MATHEMATICI HELVETICI*
  Carneiro, E., Milinovich, M. B., Soundararajan, K.
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- **A MORE INTUITIVE PROOF OF A SHARP VERSION OF HALASZ'S THEOREM** *PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY*
  Granville, A., Harper, A. J., Soundararajan, K.
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- **The variance of divisor sums in arithmetic progressions** *FORUM MATHEMATICUM*
  Rodgers, B., Soundararajan, K.
  2018; 30 (2): 269–93
- **Nonzero coefficients of half-integral weight modular forms mod l** *RESEARCH IN THE MATHEMATICAL SCIENCES*
  Bellaiche, J., Green, B., Soundararajan, K.
  2018; 5
- **Large character sums: Burgess's theorem and zeros of L-functions** *JOURNAL OF THE EUROPEAN MATHEMATICAL SOCIETY*
  Granville, A., Soundararajan, K.
  2018; 20 (1): 1–14
- **CORRIGENDUM TO "CONDITIONAL BOUNDS FOR THE LEAST QUADRATIC NON-RESIDUE AND RELATED PROBLEMS"** *MATHEMATICS OF COMPUTATION*
  Lamzouri, Y., Li, X., Soundararajan, K.
  2017; 86 (307): 2551-2554
- **LOWER BOUNDS FOR THE VARIANCE OF SEQUENCES IN ARITHMETIC PROGRESSIONS: PRIMES AND DIVISOR FUNCTIONS** *QUARTERLY JOURNAL OF MATHEMATICS*
  Harper, A. J., Soundararajan, K.
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- **ON SHORT SUMS OF TRACE FUNCTIONS** *ANNALES DE L INSTITUT FOURIER*
  Fouvry, E., Kowalski, E., Michel, P., Raju, C. S., Rivat, J., Soundararajan, K.
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- **Selberg's central limit theorem for log vertical bar zeta(1/2** *ENSEIGNEMENT MATHEMATIQUE*
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  Jin, S., Ma, W., Ono, K., Soundararajan, K.
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- **Moments and distribution of central L-values of quadratic twists of elliptic curves** *INVENTIONES MATHEMATICAE*
  Radziwill, M., Soundararajan, K.
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- **CONDITIONAL BOUNDS FOR THE LEAST QUADRATIC NON-RESIDUE AND RELATED PROBLEMS** *MATHEMATICS OF COMPUTATION*
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  Bellaiche, J., Soundararajan, K.
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  Frolenkov, D. A., Soundararajan, K.
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- **CONTINUOUS LOWER BOUNDS FOR MOMENTS OF ZETA AND L-FUNCTIONS** *MATHEMATIKA*
  Radziwill, M., Soundararajan, K.
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- **An asymptotic expansion related to the Dickman function** *RAMANUJAN JOURNAL*
  Soundararajan, K.
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  Conrey, J. B., Iwaniec, H., Soundararajan, K.
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- **Random Multiplicative Functions in Short Intervals** *INTERNATIONAL MATHEMATICS RESEARCH NOTICES*
  Chatterjee, S., Soundararajan, K.
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- **Small gaps between zeros of twisted L-functions** *ACTA ARITHMETICA*
  Conrey, J. B., Iwaniec, H., Soundararajan, K.
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- **A RULE OF THUMB FOR RIFFLE SHUFFLING** *ANNALS OF APPLIED PROBABILITY*
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