# Jonathan Kish

*Analytic Number Theorist and Award-Winning Educator* ✉ *Jonathan.Kish@Colorado.edu*

## Education

2013 **Doctor of Philosophy**, *University of Colorado Boulder*, Mathematics.
Dissertation: *Harmonic analysis on the positive rationals: Multiplicative functions and exceptional Dirichlet characters*, Supervisor: Peter D. T. A. Elliott

1999 **Bachelor of Arts**, *Carleton College*, Mathematics, with Distinction.

## Professional

2019– **Andrews Hall Faculty Fellow**, *CU Boulder*, Engineering Honors Program.
Provide the Andrews Hall community with an additional faculty presence that integrates academic achievement, academic support, research and mentoring

2019– **Instructor**, *CU Boulder*, Department of Applied Mathematics.
Courses taught: Calculus 1 and 2 for Engineers, Introduction to Differential Equations with Linear Algebra, Undergraduate Applied Analysis 2

2019 **Curriculum Development, Lecturer**, *CU Boulder*, ITP/TCP Program.
Designed and taught the *Mathematics of Cryptosystems* course for the Interdisciplinary Telecommunications/Technology, Cybersecurity and Policy Program, also taught *Introduction to Cyber Security*

2016–2019 **Sitting Math Fellow**, *CU Boulder*, Andrews Honors Engineering Dorm.

2013–2019 **Lecturer**, *CU Boulder*, Department of Applied Mathematics.
Courses taught: Calculus 1, 2 and 3 for Engineers, Calculus 1B with Algebra, Introduction to Differential Equations with Linear Algebra

2018 **Curriculum Development**, *CU Boulder*, Department of Applied Mathematics.
Designed student materials that integrate *Mathematica* into Calculus 3

2014 **Lecturer**, *CU Boulder*, Department of Mathematics.
Courses taught: Introduction to Discrete Mathematics, Introduction to Linear Algebra

2012–2013 **Graduate Teaching Assistant**, *CU Boulder*, Department of Applied Mathematics.
Courses taught: Calculus 1 for Engineers, Calculus 1 for Engineers Work Group, Calculus 1A with Algebra

2012 **Invited Co-Organizer**, *New Perspectives in Multiplicative Number Theory*, Special Session of the Joint Mathematics Meeting of the American Mathematical Society and the Mathematical Association of America, Boston, Massachusetts.

2011 **Invited Participant**, *The 'Pretentious' View of Analytic Number Theory*, American Mathematical Society Mathematics Research Community, Snowbird, Utah.

2005–2011 **Graduate Teaching Assistant**, *CU Boulder*, Department of Mathematics.
Courses Taught: College Algebra, Sprit and Uses of Mathematics 1, Precalculus, Calculus 1, 2, and 3

## Service

2019– **Andrews Hall Research Group**, *CU Boulder*, Engineering Honors Program.
Lead a research group of undergraduate Honors Engineering Students investigating number-theoretic applications to modern cryptography, telecommunications and cyber security as well as curves and their properties

## Decoration

2021 **Marinus Smith Award**, *CU Boulder*.

2018 **Residence Life Institution Faculty of the Month Award**, *CU Boulder*.

2017 **Marinus Smith Award**, *CU Boulder*.

2011 **Pre-Doctoral Stribic Fellowship**, *CU Boulder Mathematics Department*.

2008 **Burton Jones Teaching Award**, *CU Boulder Mathematics Department*.

2008 **Residence Life Academic Teaching Award**, *CU Boulder*.

## Eclectic

2000-2001 **United States Peace Corps Volunteer**, *Darkhan, Mongolia*.

Teacher of English as a foreign language, prepared students for local and national English competitions, assisted Japanese aid workers and a visually-impaired Mongolian student one-on-one with their English, proofread and contributed to the joint Peace Corps and Volunteer Services Overseas English Language Teachers' Activity Book, beginner and intermediate German tutor, helped implement paper recycling program at a local orphanage

## Publications

1. P. D. T. A. Elliott and J. Kish. Harmonic analysis on the positive rationals. Computation of character sums. *Ramanujan J.*, 2021. See also arXiv:1906.10060 [math.NT].

2. P. D. T. A. Elliott and J. Kish. Harmonic analysis on the positive rationals. Determination of the group generated by the ratios $(an+b)/(An+B)$. *Mathematika*, 63(3):919–943, 2017. See also arXiv:1602.03263 [math.NT].

3. P. D. T. A. Elliott and J. Kish. Harmonic analysis on the positive rationals II: Multiplicative functions and Maass forms. *J. Math. Sci. Univ. Tokyo*, 23(3):615–658, 2016. See also arXiv:1405.7132 [math.NT].

4. P. D. T. A. Elliott and J. Kish. Harmonic analysis on the positive rationals I: Basic results. *J. Math. Sci. Univ. Tokyo*, 23(3):569–614, 2016. See also arXiv:1405.7130 [math.NT].

5. P. D. T. A. Elliott and J. Kish. Multiplicative Functions and a Taxonomy of Dirichlet Characters. arXiv:1208.0051 [math.NT], 2012.

6. P. D. T. A. Elliott and J. Kish. A Large Sieve Inequality for Euler Products. arXiv:1203.0804 [math.NT], 2012.

7. M. Budden, R. J. Eisenmenger, and J. Kish. A Generalization of Scholz's Reciprocity Law. *J. Théor. Nombres Bordeaux*, 19(3):583–594, 2007.