Eren Mehmet Kıral

Contact Information	RIKEN AIP (Center for Advanced Intelligence Project) Generic Technology Research Group Mathematical Science Team	erenmehmetkiral@protonmail.com https://ekiral.github.io/ Nationality: Republic of Turkey Date of Birth: 19.09.1986, Age 33

Research Interests Automorphic forms and representations, L-functions, metaplectic forms, analytic number theory. Deep Neural Networks, mathematics of machine learning.

Education

Brown University, Providence, RI

Ph.D. in Mathematics, May 2014
Advisor Jeffrey Hoffstein
Thesis Title:
Spectral Theory and Shifted Convolution Sums in Analytic Number Theory
M.S. in Mathematics, May 2012

Boğaziçi University, İstanbul, Turkey. B.Sc. in Mathematics, June 2008
Graduated with GPA 3.93/4.00

Positions Held

Special Postdoctoral Researcher (SPDR) *RIKEN AIP, Mathematical Science Team*, Yokohama, Japan. March 2020–Present.
Team Leader: Kenichi Bannai
JSPS Fellow *Host Insitution: Sophia University.* October 2018–February 2020.
Host Researcher: Maki Nakasuji
Postdoc *Keio University* April 2018–September 2018.
Postdoc Mentor: Kenichi Bannai
Postdoc *MSRI Semester Program: Analytic Number Theory*, Mathematical Sciences Research Institute, Berkeley CA. (Spring 2017).
Postdoc Mentor: Dinakar Ramakrishnan
Visiting Assistant Professor *Texas A&M University* (Fall 2014–Fall 2016)
Postdoc Mentor: Matthew Young
Teaching Fellow Brown University.
Graduate Member *Automorphic Forms, Combinatorial Representation Theory and Multiple Dirichlet series,* semester program in ICERM, Providence, RI (Spring 2013)

Honors and Awards

2018	KAKENHI (2018–2020, 2,300,000 JPY)	Grant-in-Aid for JSPS Fellows
2016	AMS-Simons Travel Grant	An award for scientific travel
2009	Graduate Fellowship, Brown University	
2009	Dora Aksoy Award	Given in recognition of excellence in undergraduate mathematics
2008	Scholarship, Vehbi Koç Foundation	Given in recognition of excellence in undergraduate mathematics
2008	First rank in the Faculty of Arts and Sciences	
2008	The Rectorate Special Award, Boğaziçi University	Given to one person from the outgoing year for academic success and outstanding public work.

PUBLICATIONS AND PREPRINTS	1. "Parametrization of Kloosterman sets and SL$_3$-Kloosterman sums" joint with Maki Nakasuji. https://arxiv.org/abs/2001.01936
	2. "Additive twists and a conjecture by Mazur, Rubin and Stein" joint with Nikolaos Diamantis, Jeffrey Hoffstein and Min Lee *Journal of Number Theory* 209 (2020): 1-36.
	3. "Level reciprocity in the twisted second moment of Rankin-Selberg L-functions" joint with Nickolas Andersen *Mathematika 64 (3), 770-784.*
	4. "The fifth moment of modular L-functions" joint with Matthew Young. https://arxiv.org/abs/1701.07507
	5. "Kloosterman sums and Fourier coefficients of Eisenstein series" joint with Matthew Young. *The Ramanujan Journal* 49.2 (2019): 391-409.
	6. "Oscillatory integrals with uniformity in parameters" joint with Ian Petrow, Matthew Young. *Journal de Théorie des Nombres de Bordeaux 31 (1), 145-159*
	7. "The Voronoi formula and double Dirichlet series" joint with F. Zhou. *Algebra & Number Theory* vol. 10, No 10 (2016), pp. 2267-2286.
	8. "Opposite sign Kloosterman sum Zeta function" *Mathematika* 62, issue 02, (2016): 406-429.
	9. "Bounds on sup-norms of half integral weight modular forms" *Acta Arithmetica* 165 No. 4 (2014): 385-400.
	10. "Counting square discriminants" joint with T. Hulse, C. I. Kuan, L. M. Lim. *Journal of Number Theory* 162, (2016): 255-274.
	11. "Subconvexity for half-integral weight L-functions" *Mathematische Zeitschrift* Vol 281, Issue 3 (2015): 689-722.
	12. "The sign of Fourier coefficients of half integral weight cusp forms" joint with T. Hulse, C. I. Kuan, L. M. Lim *International Journal of Number Theory* 8, no. 03 (2012): 749-762.
POSTER	"Subconvexity Bounds for L-functions of Half Integer Weight Modular Forms" at the *Combinatorics Multiple Dirichlet Series and Analytic Number Theory* workshop in Institute for Computational and Experimental Research in Mathematics (ICERM), April 2013.
SELECTED CONFERENCES AND WORKSHOPS ATTENDED	- *Automorphic forms and Arithmetic* Mathematisches Forschunginstitut Oberwolfach, Workshop ID: 1736. Oberwolfach, Germany. (September 2017)
	- *BIRS Workshop 13w5154 Whittaker Functions: Number theory, Geometry and Physics,* Banff International Research Station. Banff, Alberta, Canada. (October 2013)
	- *International Colloquium on Automorphic forms and Representations,* Tata Institute for Fundamental Research. Mumbai, India (January 2012)
	- *2011 Arizona Winter School,* Arizona State University. Tuscon, AZ. (March 2011)
INVITED TALKS	- *13th Young Mathematicians Conference on Zeta Functions.* Toyoma, Japan (February 2019)
	- *Boğaziçi University Colloquium,* İstanbul, Turkey (January 2020)
	- *Linfoot Number Theory Seminar,* Bristol, UK (December 2019)
	- *RIMS Workshop 2019 "Analytic Number Theory and Related Topics",* Kyoto, Japan (October 2019)
	- *Chung-Ang University Analysis Seminar,* Seoul, Korea (March 2019)
	- *KIAS number theory seminar,* Seoul, Korea (March 2019)
	- *Linfoot Number Theory Seminar,* Bristol, UK (February 2019)
	- *Number Theory mini-workshop at Sophia,* Tokyo, Japan (January 2019)

- *Sophia University Colloquium* Tokyo, Japan (December 2018)
- *Waseda University Number Theory Seminar* Tokyo, Japan (April 2018)
- *Mimar Sinan Güzel Sanatlar Üniversitesi* İstanbul, Turkey (November 2017)
- *Claremont McKenna College Colloquium* Claremont, CA. (April 2017)
- *Texas A&M Number Theory Seminar* College Station, TX. (November 2016)
- *Connecticut Summer School in Number Theory* Storrs, CT. (August 2016)
- *Lousiana State University Algebra and Number Theory Seminar,* Baton Rogue, LA (February 2016).
- *Rutgers University Number Theory Seminar,* New Brunswick, NJ. (December 2015).
- *SUNY at Buffalo Analysis Seminar,* Buffalo, NY. (October 2015).
- *Texas A&M University Number Theory Seminar,* College Station, TX. (September 2015).
- *Texas A&M University Number Theory Seminar,* College Station, TX. (October 2014).
- *Texas A&M University Number Theory Seminar,* College Station, TX. (April 2014).
- *Boğaziçi University Colloquium,* İstanbul, Turkey. (January 2014).
- *University of Colorado Number Theory Seminar,* Boulder, CO. (November 2013).
- *Five College Number Theory Seminar,* Amherst, MA. (September 2013).
- *21st National Mathematics Symposium*, Koç University, Turkey. (September 2008).

SERVICES
- Organized the workshop on automorphic forms and L-functions in Nesin Mathematics Village, İzmir, Selçuk, Turkey, July 30-August 5, 2018.
- Co-organized the Number Theory seminar in Texas A&M University, since 2015.
- Co-organized a graduate student conference at Brown funded by the AMS student chapter. (May 2013)
- Editor for "Matematik Dünyası" (World of Mathematics), a Turkish popular mathematics magazine, since 2005.

TEACHING EXPERIENCE

Texas A&M University, College Station, TX

Communications and Cryptography	Fall 2016
Linear Algebra	Spring 2016
Discrete Mathematics	Fall 2015
Linear Algebra	Spring 2015
Calculus I	Fall 2014

Brown University, Providence, RI
as Teaching Fellow (instructor for the course)

Calculus II	Fall 2013
Multivariable Calculus	Spring 2012, Fall 2012

as Teaching Assistant

Calculus I	Spring 2011, Fall 2011

Mathematics Village, Şirince, Selçuk, İzmir, Turkey
A non-profit initiative that promotes interest and provides training to bright high-school, undergraduate and graduate students
designed and taught courses for all levels:

Lie Algebras	Summer 2014
Coding for high school students (python)	Summer 2014
Classical Automorphic Forms	Summer 2011
Number Theory for high school students	Summer 2011
Dedekind Rings	Summer 2010
Multivariable Calculus	Summer 2010
Hilbert Spaces	Summer 2009
Multivariable Calculus	Summer 2008
Geometric Algebra	Summer 2008
Complex Analysis	Summer 2007

Boğaziçi University Istanbul, Turkey
as Teaching Assistant
Real Analysis   Spring 2010, Fall 2009

LANGUAGES   Turkish (native), English (fluent), German (beginner), Japanese (beginner).

REFERENCES   **Jeffrey Hoffstein**, Professor at Brown University,
jhoff@math.brown.edu
Mathematics Department
Box 1917
Brown University
Providence, RI 02912

Matthew Young, Associate Professor at Texas A&M University,
myoung@math.tamu.edu
Department of Mathematics
Texas A&M University,
College Station, TX 77843-3368

Philippe Michel Chair of Analytic Number Theory at École polytechnique fédérale
de Lausanne (EPFL)
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EPFL, Station 8
1015 Lausanne, Switzerland

Brian Conrey, Executive Director of American Institute of Mathematics (AIM),
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600 East Brokaw Road
San Jose, CA 95112

Stephen D. Miller, Professor at Rutgers University.
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Hill Center-Busch Campus, Room 514
Rutgers, The State University of New Jersey
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Piscataway, NJ 08854-8019

Dorian Goldfeld, Professor at Columbia University,
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Columbia University
New York, NY 10027

Roman Holowinsky, Professor at Ohio State University.
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231 W 18th Ave, MW 634
Columbus OH 43210

Dinakar Ramakrishnan Professor at Caltech
dinakar@caltech.edu
Mathematics 253-37

Caltech, Pasadena, CA 91125

Paulo Lima-Filho (concerns teaching), Professor and Associate Head for Operations
and Undergraduate Programs at Texas A&M University,
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Ali Nesin, Professor at Bilgi University,
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