CURRICULUM VITAE

GIULIO TIOZZO

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1. Academic History

Education

Harvard University, Cambridge MA
Ph.D. Mathematics, 2013.
Thesis: *Entropy, dimension and combinatorial moduli for one-dimensional dynamical systems*
Advisor: Curtis T. McMullen.

Scuola Normale Superiore di Pisa, Italy
Corso Ordinario 2003-08. Diploma di Licenza in Mathematics, cum laude, 2008.

Università di Pisa, Italy
M.A. Mathematics, cum laude, 2008.
Thesis: *Dynamics of continued fractions and central limit theorem*, advisor S. Marmi.
B.A. Mathematics, cum laude, 2006.

Employment

Associate Professor, University of Toronto	2022-now
Assistant Professor, University of Toronto	2016-22
Gibbs Assistant Professor, Yale University	2014-16
ICERM Postdoctoral Institute Fellow, Brown University	2013-14

Research interests

Dynamical systems: complex dynamics, geometric group theory, random walks, ergodic theory.

Grants and Awards

André Aisenstadt Prize	2021
Alfred P. Sloan Research Fellowship in Mathematics	2018-20
Ontario Early Researcher Award	2019-24
Connaught New Researcher Award	2017
Benedetto Sciarra Prize	2008-09
NSERC Discovery Grant, *Dynamics and Entropy of Group Actions*, $215,000	2024-29
NSERC Discovery Grant, *Ergodic Theory of Low-Dimensional Dyn. Systems*, $175,000	2017-23
Thematic semester on *Randomness and geometry*, Fields Institute, Toronto, $425,000	2024
NSF Conference Grant (co-PI), *Boundaries of Random Walks and Applications*	2019
Departmental Teaching Fellow in Mathematics, Harvard University	2012-13
Certificate of Distinction in Teaching, Harvard University	Fall 2011

2. Scholarly and professional work

Publications

Books

1. *Open Dynamical Systems: Volume I - Symbolic Thermodynamic Formalism and Statistics*, with T. Das, M. Urbański, A. Zdunik, De Gruyter Expositions in Mathematics, Volume 76/1, 2024, ISBN: 978-3-11-103415-7.

Selected journal articles

2. *The core entropy for polynomials of higher degree*, with Y. Gao, **J. Eur. Math. Soc.** 24 (2022), no. 7, pp. 2555–2603.
3. *A central limit theorem for random closed geodesics: proof of the Chas-Li-Maskit conjecture*, with I. Gekhtman, S. Taylor, **Adv. Math.** 358 (2019), 106852.
4. *Random walks on weakly hyperbolic groups*, with J. Maher, **J. Reine Angew. Math.** 742 (2018), 187–239.
5. *Continuity of core entropy of quadratic polynomials*, **Invent. Math.** 203 (2016), no. 3, 891–921.
6. *Sublinear deviation between geodesics and sample paths*, **Duke Math. J.** 164 (2015), no. 3, 511–539.
7. *Topological entropy of quadratic polynomials and dimension of sections of the Mandelbrot set*, **Adv. Math.** 273 (2015), 651–715.

Other journal articles

8. *Equidistribution of hyperbolic groups in homogeneous spaces*, with I. Gekhtman, S. Taylor, **Math. Annalen**, accepted (2024).
9. *Sublinearly Morse Boundary II: Proper geodesic spaces*, with Y. Qing, K. Rafi, **Geom. Topol.** 28 (2024), no. 4, 1829–1889.
10. *A central limit theorem for the degree of a random product of Cremona transformations*, with N.-B. Dang, **Indiana Univ. Math. J.** (2023) 72, no. 1, 301–329.
11. *The fundamental inequality for cocompact Fuchsian groups*, with P. Kosenko, **Forum of Math. Sigma** 10 (2022), E102.
12. *Central limit theorems for counting measures in coarse negative curvature*, with I. Gekhtman, S. Taylor, **Compositio Math.** 158 (2022), no. 10, 1980–2013.
13. *Shannon's theorem for locally compact groups*, with B. Forghani, **Ann. Probab.** 50 (2022), no. 1, 61–89.
14. Appendix in *Sublinearly Morse boundary I: CAT(0) spaces*, by Y. Qing, K. Rafi, **Adv. Math.** 404 (2022), 108442.
15. *Random walks, WPD actions, and the Cremona group*, with J. Maher, **Proc. London Math. Soc.** 123 (2021), no. 2, 153–202.
16. *Generalizations of Douady's magic formula*, with A. Epstein, **Ergodic Theory Dynam. Systems** 42 (2022), no. 9, 2784–2799.
17. *The bifurcation locus for numbers of bounded type*, with C. Carminati, **Ergodic Theory Dynam. Systems** 42 (2022), no. 7, 2239–2269.
18. *Thermodynamic formalism for coarse expanding dynamical systems*, with T. Das, F. Przytycki, M. Urbański, A. Zdunik,

Comm. Math. Phys. 384 (2021), 165–199.

19. *Cusp excursion in hyperbolic manifolds and singularity of harmonic measure*, with A. Randecker, **J. Mod. Dyn.** 17 (2021), 183–211.
20. *Entropy and drift for Gibbs measures on geometrically finite manifolds*, with I. Gekhtman, **Trans. Amer. Math. Soc.**, 373 (2020), 2949–2980.
21. *Counting problems in graphs products and relatively hyperbolic groups*, with I. Gekhtman, S. Taylor, **Israel J. Math.** 237 (2020), 311–371.
22. *Galois conjugates of entropies of real unimodal maps*, **Int. Math. Res. Not. IMRN** 2020 (2020), no. 2, 607–640.
23. *Excursions of generic geodesics in right-angled Artin groups and graph products*, with Y. Qing, **Int. Math. Res. Not. IMRN** 2021 (2021), no. 22, 16910–16937.
24. *Random walks of infinite moment on free semigroups*, with B. Forghani, **Probab. Theory Related Fields** 175 (2019), no. 3, 1099–1122.
25. *Counting loxodromics for hyperbolic actions*, with I. Gekhtman, S. Taylor, **J. Topol.** 11 (2018), no. 2, 379–419.
26. *Continued fractions with $SL(2,\mathbb{Z})$-branches: combinatorics and entropy*, with C. Carminati, S. Isola, **Trans. Amer. Math. Soc.** 370 (2018), no. 7, 4927–4973.
27. *The local Hölder exponent for the entropy of real unimodal maps*, **Sci. China Math.** 61 (2018), no. 12, 2299–2310.
28. *Word length statistics for Teichmüller geodesics and singularity of harmonic measure*, with V. Gadre, J. Maher, **Comment. Math. Helv.** 92 (2017), no. 1, 1–36.
29. *Generalised continuation by means of right limits*, with D. Sauzin, **J. Anal. Math.** 133 (2017), no. 1, 27–49.
30. *The local Hölder exponent for the dimension of invariant subsets of the circle*, with C. Carminati, **Ergodic Theory Dynam. Systems** 37 (2017), no. 6, 1825–1840.
31. *Random extensions of free groups and surface groups are hyperbolic*, with S. Taylor, **Int. Math. Res. Not. IMRN** 2016 (2016), no. 1, 294–310.
32. *Word length statistics and Lyapunov exponents for Fuchsian groups with cusps*, with V. Gadre, J. Maher, **New York J. Math.** 21 (2015), 511–531.
33. *The entropy of Nakada's α-continued fractions: analytical results*, **Ann. Sc. Norm. Super. Pisa Cl. Sci.** 13 (2014), 1009–1037.
34. *Tuning and plateaux for the entropy of α-continued fractions*, with C. Carminati, **Nonlinearity** 26 (2013), 1049–1070.
35. *Dynamics of continued fractions and kneading sequences of unimodal maps*, with C. Bonanno, C. Carminati, S. Isola, **Discrete Contin. Dyn. Syst.** 33 (2013), no. 4, 1313–1332.
36. *A canonical thickening of $\mathbb{Q}$ and the entropy of α-continued fraction transformations*, with C. Carminati, **Ergodic Theory Dynam. Systems** 32 (2012), no. 4, 1249–1269.
37. *The entropy of α-continued fractions: numerical results*, with C. Carminati, S. Marmi, A. Profeti, **Nonlinearity** 23 (2010), 2429–2456.

Preprints

38. *Roots of Alexander polynomials of random positive 3-braids*,

with N. Dunfield, available at `arXiv:2402.06771`.

39. *Genericity of contracting geodesics in groups*,
with K. Chawla, I. Choi, available at `arXiv:2308.01877`.

40. *The Poisson boundary of hyperbolic groups without moment conditions*,
with K. Chawla, B. Forghani, J. Frisch, available at `arXiv:2209.02114`.

41. *Master Teapots and Entropy Algorithms for the Mandelbrot Set*,
with K. Lindsey, C. Wu, available at `arXiv:2112.14590`.

42. *Metrics on trees I. The tower algorithm for interval maps*,
available at `arXiv:2112.02398`.

43. *A global shadow lemma and logarithm law for geometrically finite Hilbert geometries*,
with H. Bray, available at `arXiv:2111.04618`.

3. Teaching experience

Courses Taught

At Toronto:

Undergraduate

MATC34 Complex Analysis I	Fall 2023
MATC01 Groups and Symmetry	Fall 2023
MATB43 Introduction to Analysis	Fall 2021
MATA32 Calculus I for Management	Winter 2021
MATD35 Introduction to Dynamical Systems	Winter 2020
MATC34 Complex Analysis I	Fall 2017, Fall 2021
MATD34 Complex Analysis II	Winter 2017, Winter 2019, Winter 2020

Graduate

MAT1045 Introduction to Random Walks on Groups	Fall 2023
MAT1045 Topics in Ergodic Theory	Fall 2021
MAT1847 Introduction to Holomorphic Dynamics	Winter 2021
MAT1045 Introduction to Ergodic Theory	Fall 2018
MAT1847 Topics in Holomorphic Dynamics	Winter 2018
MAT1045 Topics in Ergodic Theory: random walks on groups	Fall 2016

At Yale:

Vector Calculus and Linear Algebra II	Spring 2015, Spring 2016
Intermediate Complex Analysis	Spring 2015, Spring 2016
Vector Calculus and Linear Algebra I	Fall 2014, Fall 2015

At Harvard:

Multivariable calculus	Spring 2013
Introduction to calculus	Fall 2010, Fall 2011
Tutorial *Dynamics of analytic maps and small divisor problems*	Fall 2009

Invited talks

Mini courses

1. *Harmonic measure for random walks on groups*, University of Warsaw, Poland, March 2023

2. *Harmonic measures and Poisson boundaries for random walks on groups*, Tata Institute of Fundamental Research, Bangalore, India, February 2023
3. *Poisson boundaries for random walks on groups*, "A week at infinity" online conference, March 2022
4. *Random walks on weakly hyperbolic groups*, MSRI Berkeley (online), September 2020
5. *An introduction to entropy in one complex variable*, Peking University, China, December 2019 (one-month graduate course)
6. *Random walks on the Cremona group*, Del Duca Workshop, Toulouse, September 2019
7. *An introduction to core entropy*, Bedlewo, Poland, April 6-8, 2019
8. *Random walks on weakly hyperbolic groups*, Fields Institute Toronto, August 24-28, 2018
9. *Entropy in dimension one*, RIMS Kyoto, December 7-11, 2014

Colloquia

10. Indiana University, Bloomington, October 6, 2022
11. The College of Charleston, September 30, 2022
12. George Mason University, September 23, 2022
13. Quebec Math Sciences Colloquium (A. Aisenstadt lecture), October 15, 2021
14. University of Michigan, April 23, 2019
15. City College of New York, December 6, 2018
16. Millican Lecture, University of North Texas, November 12, 2018
17. Queen's University, November 25, 2016
18. IUPUI, Indianapolis, October 7, 2016
19. Seoul National University, South Korea, March 2016
20. Rice University, February 17, 2016
21. University of Toronto, January 27, 2016
22. MIT, January 25, 2016
23. Brandeis University, January 22, 2016
24. University of Utah, January 14, 2016
25. Ohio State University, January 12, 2016
26. Northwestern University, January 6, 2016
27. University of Texas at Austin, December 7, 2015
28. Boston College, November 23, 2015
29. Undergraduate Math Society Colloquium, Yale, January 22, 2015
30. Jacobs University, Bremen, February 3, 2014
31. Washington University in St Louis, April 11, 2013

Conference talks

32. *Groups, Languages, and Random Walks*, Cortona (Italy), June 2024
33. *Dynamics and Finance: From KAM Tori to ETFs*, ICTP Trieste, October 2023
34. *Groups, Actions, and Geometry*, Tufts University, August 2023

35. *Thermodynamic formalism in negative curvature*, BIRS Kelowna, July 2023
36. *Around the Mandelbrot set: a workshop celebrating the 60th birthday of Mitsuhiro Shishikura*, Kyoto University, Japan, May 2023
37. *Complex dynamics: connections to other fields*, Checiny, Poland, March 2023
38. *Simons Symposium on Algebraic, Complex and Arithmetic Dynamics*, Schloss Elmau, Germany, August 2022
39. *On Geometric Complexity of Julia Sets - IV*, Bedlewo, Poland, August 2022
40. *Modern Group Theory and Related Topics (ICM satellite)*, June 2022 (online)
41. *Complex Dynamics Week*, Lima, Peru, December 2021 (online)
42. *6th Brazilian School of Dynamical Systems*, Ceará, Brazil, October 2021 (online)
43. *First Dynamical Systems Summer Meeting*, Bedlewo, Poland, August 2021
44. *The geometry of Julia sets*, IMPAN Warsaw, Poland, July 2020 (online)
45. Invited to *Groups, Random Walks and Dynamics*, Paris, France, June 2020 (postponed)
46. Invited to *Random walks in mathematics, physics, and society*, Queen's U, April 2020 (postponed)
47. Invited to *North Carolina Ergodic Theory Workshop*, Chapel Hill, April 2020 (postponed)
48. *Dynamics Day*, Northwestern University, March 2020
49. *Complex Dynamics in the Southern Hemisphere*, Santiago, Chile, January 2020
50. *Fields Medal Symposium: in honor of Artur Avila*, Toronto, November 2019
51. *Illustrating Dynamics and Probability*, ICERM, Providence, November 2019
52. *Ergodic Theory and Related Fields*, Bucharest, Romania, October 2019
53. *Dynamics, measures and dimensions*, Bedlewo, Poland, April 2019
54. *60 years of dynamics and number expansions*, Pisa, December 2018
55. *William Rowan Hamilton Geometry and Topology Workshop*, Trinity College, Dublin, August 2018
56. *Growth in topology and number theory*, Bonn, July 2018
57. *Complex and arithmetic dynamics*, Northwestern U, May 2018
58. *Ergodic theory and dynamical systems*, UNC Chapel Hill, April 2018
59. *Computation in geometry and topology*, U Warwick, December 2017
60. *Complex dynamics and quasi-conformal geometry* in memoriam of Tan Lei, Angers, October 2017
61. *Dynamics in Number Theory and Geometry*, Queen's University, August 2017
62. *Geometric and probabilistic properties of infinite groups*, Lille, June 2017
63. *Aperiodic Patterns in Crystals, Numbers and Symbols*, Leiden, June 2017
64. *Probabilistic methods in topology*, CRM Montreal, November 14-18, 2016
65. *Bloomington Geometry Workshop*, Univ. Indiana, April 8-10, 2016
66. *Renormalization in Dynamics*, Pisa, April 4-8, 2016
67. *Fractal Geometry, Hyperbolic Dynamics and Thermodynamical Formalism*, ICERM, March 7-11, 2016

68. *Dynamical developments: Complex Dynamics and Teichmüller Theory (in honor of J.H. Hubbard)*, Jacobs University, Bremen, August 17-21, 2015
69. *Boundaries and Ergodic Geometry*, Univ. Notre Dame, June 1-5, 2015
70. *Midwest Dynamical Systems Conference*, Univ. Michigan at Ann Arbor, November 8, 2014
71. *Journées dynamiques holomorphes*, Angers, France, May 29, 2014
72. *Mapping class groups and Teichmülller theory*, Ramat Hanadiv, Israel, May 14, 2014
73. *Random walks on groups*, Institut Henri Poincaré, Paris, January 30, 2014
74. *Holomorphic and symbolic dynamics*, Toulouse, January 21, 2014
75. *Approximation and numeration*, Université Paris Diderot, December 20, 2013
76. *Geometric structures in low-dimensional dynamics*, ICERM, Providence, November 18, 2013
77. *Topological and combinatorial problems in complex dynamics*, Pisa, Italy, October 17, 2013
78. *Complex Dynamics and Arithmetic Geometry*, UIC, Chicago, June 5, 2013
79. *Probability and Numbers*, TU Delft, Netherlands, April 3, 2013
80. *Random walks on groups*, University of Michigan at Ann Arbor, March 30, 2013

Short talks

81. AMS meeting, session on *Constructive Aspects of Complex Analysis*, Honolulu HI, March 22-25, 2019
82. AMS meeting, session on *Geometric Group Theory*, Buffalo NY, September 2017
83. AMS meeting, session on *Dynamics, Geometry and Number Theory*, Denton TX, September 2017
84. CMS meeting, session on *Stochastic Properties of Dynamical Systems*, Niagara Falls, December 4, 2016
85. Joint Mathematics Meetings, session on *Dynamics in One and Several Complex Variables*, San Antonio, January 10, 2015
86. *Ahlfors-Bers Colloquium*, dynamics session, Yale, October 24, 2014
87. *Euro-Nordic Congress of Mathematics*, Lund, Sweden, June 10, 2013
88. *Combinatorics, Automata and Number Theory 2012*, Luminy, France, May 24, 2012
89. *Dynamical Systems: Perspectives and Prospects*, Warwick, UK, April 19, 2012
90. *Numération 2011*, Liège, Belgium, June 9, 2011
91. AMS Sectional Meeting, Worcester MA, April 10, 2011
92. *Periodic Approximation in Dynamics*, CRM De Giorgi, Pisa, Italy, January 29, 2010

Seminars

93. ENS Paris, May 2024
94. University of British Columbia, March 2024
95. University of Wisconsin-Madison, October 2023
96. Centro De Giorgi, Pisa, February 2023
97. University of Roma Tor Vergata, January 2023
98. U Chicago dynamics seminar, May 2022

99. U North Texas dynamics seminar, April 2022
100. UC Berkeley topology seminar, April 2022
101. Caltech-UCLA joint probability forum, March 2022
102. Yale Group Actions and Dynamics seminar (online), March 2022
103. U Michigan dynamics seminar (online), January 2022
104. OSU ergodic theory seminar (online), December 2021
105. ENS Paris group theory seminar (online), May 22, 2021
106. *Numeration* global seminar (online), May 11, 2021
107. Bremen dynamics seminar (online), March 22, 2021
108. Enriques-Lebesgue seminar (online), January 18, 2021
109. University of Porto (online), December 18, 2020
110. University of Michigan (online), December 15, 2020
111. Geometric Group Theory in East Asia (online), December 10, 2020
112. University of Wisconsin (online), October 21, 2020
113. ViSGaT seminar - KAIST (online), May 26, 2020
114. DinAmici seminar - Univ. of Rome Tor Vergata (online), May 14, 2020
115. Peking University, China, December 19, 2019
116. Chinese Academy of Sciences, Beijing, December 13, 2019
117. NYU Shanghai, China, December 10, 2019
118. Queen's University, November 1, 2019
119. Stony Brook University, October 25, 2019
120. Boston College, October 21, 2019
121. University of Chicago, March 11, 2019
122. Yale University, February 5, 2019
123. Columbia University, December 7, 2018
124. University of Michigan, April 16, 2018
125. McMaster University, March 8, 2018
126. Penn State University, December 4, 2017
127. University of Chicago, April 10, 2017
128. Harvard University, April 4, 2017
129. Yale University, April 2, 2017
130. Stony Brook University, March 30, 2017
131. University of Toronto, September 19, 2016
132. University of Utah, January 15, 2016
133. Ohio State University, December 3, 2015
134. University of Connecticut, October 9, 2015
135. University of Illinois at Urbana-Champaign, September 15, 2015

136. Temple University, April 28, 2015
137. University of Utah, March 13, 2015
138. University of Chicago, March 9, 2015
139. Penn State University, February 16, 2015
140. COOL Seminar, Institut Henri Poincaré, Paris, December 19, 2014
141. Université d'Angers, France, December 18, 2014
142. Scuola Normale Superiore, Pisa, Italy, December 16, 2014
143. City University of New York, April 11, 2014
144. University of Michigan at Ann Arbor, March 24, 2014
145. University of Texas at Austin, March 19, 2014
146. Northwestern University, February 25, 2014
147. University of Chicago, February 24, 2014
148. Brown University, February 19, 2014
149. Boston College, February 13, 2014
150. Université Paris XIII, January 29, 2014
151. COOL Seminar, Institut Henri Poincaré, Paris, January 10, 2014
152. École Normale Supérieure de Lyon, January 8, 2014
153. Harvard University, December 4, 2013
154. ICERM Brown University, November 4, 2013
155. TU Graz, Austria, July 5, 2013
156. University of Leoben, Austria, July 2, 2013
157. COOL Seminar, Institut Henri Poincaré, Paris, June 21, 2013
158. Université d'Orléans, France, June 18, 2013
159. Université d'Angers, France, December 18, 2012
160. University of Ottawa, October 23, 2012
161. SUNY at Stony Brook dynamics seminar, October 19, 2012
162. CUNY geometry and topology seminar, October 16, 2012
163. Harvard dynamics seminar, September 12, 2012
164. TU Delft, Netherlands, July 12, 2012
165. CRM De Giorgi, Pisa, Italy, June 27, 2012
166. Université de Genève, Switzerland, June 19, 2012
167. Cornell University dynamics seminar, April 27, 2012
168. Harvard dynamics seminar, January 11, 2012
169. Boston University dynamics seminar, March 21, 2011
170. Scuola Normale Superiore di Pisa, Italy, January 10, 2011
171. Harvard dynamics seminar, November 17, 2010
172. Harvard dynamics seminar, December 2, 2009

173. PUC Rio de Janeiro, Brazil, May 30, 2008

Supervisory activities

Postdoctoral fellows

1. Inhyeok Choi, 2024
2. Abdul Zalloum 2022-24
3. Kirill Lazebnik, 2020-22
4. Yan Mary He, 2018-21
5. Yulan Qing, 2019-20
6. Ilya Gekhtman, 2018-20
7. Anja Randecker, 2017-19

PhD students

1. Petr Kosenko, 2018-23
   Thesis: *Harmonic measures for random walks on cocompact Fuchsian groups*
2. Mariam Al-Hawaj, 2017-24
   Thesis: *Generalized pseudo-Anosov maps arising from holomorphic dynamics*
3. Reila Zheng, 2018-now
4. Jacob Kewarth, 2023-now

MA students

1. Kunal Chawla, 2022-23
   Thesis: *Drift and Poisson boundaries for random walks*
2. Adriano Pacifico, 2018-19
   Thesis: *Geometry and dynamics of the Cremona group*

PhD thesis committees

1. Eduardo Silva, École Normale Supérieure de Paris (external referee), 2024
2. Yan Sheng Ang, MIT (external referee), 2023
3. Daniel Stoll, University of Michigan (external referee), 2024
4. Malavika Mukundan, University of Michigan (external referee), 2024
5. Vivian He, 2024-
6. David Ledvinka, 2024-
7. Ali Pirhossenloo, 2022-
8. Adriano Pacifico, 2021-
9. Stanislav Balchev, 2020-
10. Lemonte Alie-Lamarche, 2021-24
11. Maria (Virginia) Pedreira, 2020-24
12. Julian Ransford, 2021-24
13. Pouya Honaryar, 2020-23
14. Mateusz Olechnowicz, 2018-23
15. Alexandru Gatea, 2021-22
16. Lucas Ashbury Bridgewood, 2020-22
17. Wenbo Li, 2021-22
18. Assaf Bar-Natan, 2019-22
19. Ivan Telpukhovskiy, 2018-22
20. Yvon Verberne, 2017-20
21. Jonguk Yang, 2017

Undergraduate projects

1. Kunal Chawla (NSERC USRA project):

Drift estimates for random walks on right-angled Artin groups, 2021

2. Hussain Kadhem, *The lamplighter group and the strong Atiyah conjecture*, 2020
3. Alex Karapetyan - Curtis Grant - Isabel Beach, *Ergodic theory and geodesic flows*, 2020
4. Amanda Petcu - Schinella D'Souza, *Counting hyperbolic components in the main molecule*, 2019
5. Jenkin Tsui, *Complex dynamical systems*, 2018
6. Anmol Bhullar, *Linearization of analytic germs of diffeomorphisms of* $(\mathbb{C}, 0)$, 2018
7. Andrew McCormack, *An application of importance sampling to graph excursions*, 2017
8. Gian Paolo Labuguen, *The Böttcher coordinate and the filled Julia set*, 2017
9. Robbie Nohra, *Topics in game theory - the price of anarchy*, 2017

4. Organization and service

Within the Department

- Brauer postdoctoral hiring committee — 2023-24
- Awards committee — 2021-22, 2023-24
- Alumni/Outreach committee — 2021-22
- UTSG Merit (PTR) committee — 2020-21 (UTSG), 2023-24 (UTSC)
- Hiring committee — 2017-18, 2018-19, 2019-20, 2023-24
- Graduate committee — 2016-17, 2017-18, 2018-19, 2019-20
- Colloquium committee — 2016-17
- Co-organizer, Dynamics seminar — 2016-17, 2017-18, 2018-19, 2019-20

Outside the Department

- Co-organizer, semester on *Randomness and Geometry*, Fields Institute — Jan - Jun 2024
- AMS-Simons Travel Grants Committee - Amer. Math. Society — Feb 2021 - Jan 2024
- Co-organizer, conference on *Random walks beyond hyperbolic groups*, American Institute of Mathematics, San Jose (CA) — Jun 2020 (postponed to 2022)
- Co-organizer, workshop on *Boundaries of random walks and applications*, Bowdoin College, Brunswick (ME) (funded by NSF conference grant: 30000 USD) — Jun 2019
- Co-organizer, Geometry and topology seminar, Yale University — 2015-16
- Co-organizer, Postdoc and graduate student seminar, ICERM, — 2013-14
- Organizer, session on *Random walks and geometry*, meeting of the Canadian Mathematical Society, Ottawa — Dec 2013
- Co-organizer, workshop on *Continued fractions, Interval exchanges and Applications to geometry*, CRM De Giorgi, Pisa — Jun 2013
- Referee (in some cases in multiple occasions) for *Adv. Math.*, *Arnold Math. J.*, *Ann. Ec. Norm. Sup.*, *Comm. Math. Phys*, *Conform. Geom. Dyn.*, *Duke Math. J.*, *Discrete Contin. Dyn. Syst.*, *Enseign. Math.*, *Ergodic Theory Dynam. Systems*, *Exp. Math.*, *Geom. Topol.*, *Groups Geom. Dyn.*, *Int. Math. Res. Not. IMRN*, *Invent. Math.*, *J. Eur. Math. Soc. (JEMS)*, *J. Mod. Dyn.*, *J. Reine Angew. Math.*, *Monatsh. Math.*, *Nonlinearity*, *Potential Anal.*, *Trans. Amer. Math. Soc.*
- Reviewer for Mathematical Reviews
- Grant reviewer, Agence Nationale de la Recherche - France
- Grant reviewer, NWO - Netherlands Organisation for Scientific Research
- Reviewer for VQR 2015-19, ANVUR - Italy
- Grant reviewer, NSERC - Canada
- Grant reviewer, Instituto Serrapilheira - Brazil

Media

Featured in *Canadian excellence, Global recognition: Celebrating Canada's 2018 winners of major international research awards*, 2018 edition, by *Universities Canada*, link

Featured on *Quanta* magazine article *Entropy Bagels and Other Complex Structures Emerge From Simple Rules*, February 24, 2024, link