Curriculum Vitae – Joseph Najnudel

University of Bristol
School of Mathematics
Fry building, Woodland Road, Bristol BS8 1UG
United Kingdom
email: joseph.najnudel@bristol.ac.uk

Research interests

Random matrix theory: study of random unitary matrices (in particular the Circular Unitary Ensemble), random permutation matrices and related infinite-dimensional limiting objects, link between random matrix theory and number theory, link between random matrix theory and mathematical physics.

Stochastic analysis: study of limiting measures constructed by modifying the Brownian motion or more general stochastic processes, study of the Brownian local times and polymer models.

Number theory: study of extreme values and moments of the Riemann zeta function, study of random multiplicative functions.

For more detail see the publication list.

Employment

09.2022 - Associate Professor at the University of Bristol, UK.

09.2021 - 08.2022 Professeur des Universités (Professor) at the Université Côte d'Azur, Nice, France.

09.2018 - 08.2021 Reader/Associate Professor at the University of Bristol.

08.2016 - 08.2018 Assistant Professor at the University of Cincinnati, USA.

09.2012 - 08.2016 Maître de conférences (Assistant Professor, tenured) at the Université Paul Sabatier, Toulouse, France.

06.2008 - 05.2012 Lecturer at the Universität Zürich, Switzerland.

03.2008 - 05.2008 Postdoctorant at the Universität Zürich, in the working group of Prof. Erwin Bolthausen.

09.2007 - 02.2008 Postdoctorant at the ETH Zürich, in the working group of Prof. Alain-Sol Sznitman.

Scientific education

12.2011 "Habilitation à diriger des recherches", the French diploma needed to apply for professorship and to supervise PhD students.

12.2003 - 08.2007 PhD at the Université Paris VI, under the supervision of Prof. Marc Yor (defense: June 27, 2007).

07.2003 "Agrégation de mathématiques", a French national mathematics recruitment competition for teaching in high schools or in higher education, obtained with rank 1.

09.2000 - 09.2004 Student at the Ecole Normale Supérieure in Paris.

Awards

07.1997 and 07.1998 Two gold medals at the International Mathematical Olympiad.

Teaching

Spring 2025 Tutorials in Probability and Statistics, at the University of Bristol.

Springs 2023 - 2024 - 2025 Further Topics in Probability (3rd/4th year students), at the University of Bristol.

Spring 2024 Tutorials in Analysis and Linear Algebra (1st year students), at the University fo Bristol, UK

Springs 2023 - 2024 Taught Course Centre online graduate course, on circular ensembles in random matrix theory, open to students at University of Bristol, University of Bath, University of Oxford, University of Warwick, Imperial College London, Swansee University, UK.

Spring 2023 Tutorials in Analysis, at the University of Bristol.

Autumns 2019 - 2020 - 2022 Tutorials in Probability, at the University of Bristol.

Spring 2022 Exercise classes in probability theory (3rd year students), statistics (2nd year), algebra (2nd year), introduction to mathematical finance (2nd year), at the Universié Côte d'Azur, Nice, France.

Autumn 2021 Mathematical finance (5th year students), at the Université Côte d'Azur.

Autumn 2021 Exercise classes in stochastic simulations (4th year students), at the Université Côte d'Azur.

Springs 2020 - 2021 Number Theory, at the University of Bristol.

Springs 2019 - 2021 Tutorials in Statistics, at the University of Bristol.

Spring 2019 Further Topics in Probability, at the University of Bristol.

Spring 2018 Financial Modeling, at the University of Cincinnati, USA.

Springs 2017 - 2018 Number theory, at the University of Cincinnati.

Autumn 2017 Introduction to Probability, at the University of Cincinnati.

Spring 2017 Stochastic differential equations, at the University of Cincinnati.

Autumn 2016 Linear algebra, at the University of Cincinnati.

Springs 2015 - 2016 Exercise classes in statistics, at the Université Paul Sabatier Toulouse III, France.

Spring 2015 Stochastic simulations, at the Université Paul Sabatier.

Autumns 2013 - 2015 Convergence of probability measures and large deviations, at the Université Paul Sabatier.

Autumns 2012 - 2015 General mathematics for students in statistics and economics, at the Université Paul Sabatier.

Springs 2013 - 2015 General mathematics for engineering students, at the Université Paul Sabatier.

January - February 2014 Introduction to random matrix theory, invited short course (20 hours in two weeks) at the Université Félix-Houphouët-Boigny, Abidjan, Ivory Coast.

Spring 2012 Stochastic simulations, at the Universität Zürich, Switzerland.

Spring 2011 Probability theory, at the Universität Zürich.

Autumns 2008 - 2010 Introduction to mathematical finance, at the Universität Zürich.

Autumn 2004 - Spring 2007 Exercise classes: arithmetic, algebra, calculus, at the Université Paris VI, France.

July 2006 Invited short course (30 hours in three weeks), on the topic of my PhD, organized by the Bocconi University, Italy.

October 2005 Invited short course, on my PhD topic, at the University of Warwick, UK.

Students

09.2025 - Supervision of a PhD student (Luke Wentworth), at the University of Bristol (expected).

03.2025 - 07.2025 Supervision of a master project (student from Ecole Polytechnique in France), at the University of Bristol.

09.2024 - Supervision of a PhD student (Christopher Atherfold), with Dr. Oleksiy Klurman, at the University of Bristol.

09.2024 - 03.2025 Supervision of four projects (third and fourth year students), on random permutations and on probabilistic number theory, at the University of Bristol.

09.2023 - 09.2024 Supervision of a Master by research project (Christopher Atherfold), at the University of Bristol.

10.2020 - 05.2021 Supervision of two projects (third and fourth year students), in number theory, at the University of Bristol.

Spring 2020 Supervision of two projects, for third years students from the Université Paul Sabatier, visiting the University of Bristol (the visit was interrupted by the COVID-19).

09.2019 - Supervision of a PhD student (Nick Baskerville), with Prof. Jon Keating and Prof. Francesco Mezzadri, at the University of Bristol.

Spring 2019 Supervision of a third year student from the Université Paul Sabatier, visiting the University of Bristol.

09.2015 - 07.2018 Supervision of a PhD student (Valentin Bahier) from the Université Paul Sabatier.

Spring 2018 Supervision of a third year student from the Université Paul Sabatier, visiting the University of Cincinnati.

Spring 2018 Supervision of a third year student (Capstone project) at the University of Cincinnati.

Spring 2015 Supervision of two master theses (Valentin Bahier et Sylvain Bonnamy), at the Université Paul Sabatier.

Spring 2015 Supervision of third year projects, at the Université Paul Sabatier.

Spring 2013 Supervision of a master thesis (Victor Treinsoutrot), at the Université Paul Sabatier.

Professional service

02.2023 - Participation to the visit days, offer holder days, and open days, at the University of Bristol.

10.2020 - 08.2021 Computer Science/Maths programme co-director, at the University of Bristol.

08.2017 - 08.2018 Member of the committee for the Qualifying Exam, for students starting their PhD, at the University of Cincinnati.

Autumn 2017 Member of the committee for funding conferences and lectures by the Charles Phelps Taft Research Center, at the University of Cincinnati.

09.2015 - 07.2016 Teaching coordinator for the fourth year students in pure mathematics, at the Université Paul Sabatier.

Organization and co-organization of events

06.2021 Workshop "Random Matrices and Integrable Systems", at the University of Bristol.

10.2019 Workshop "Spiking and collapsing in large noise limits of SDE", at the University of Bristol.

11.2018 Cincinnati Symposium on Probability Theory and Applications, at the University of Cincinnati.

04.2010 Workshop on random matrices, at the Universität Zürich.

Funding

09.2018 - 07.2020 Start-up grant (U100560-109) from the University of Bristol.

10.2019 Focused Research Grant, for the organization of the workshop "Spiking and collapsing in large noise limits of SDE", at the University of Bristol.

11.2018 NSF grant (DMS-1832863), for the organization of the Cincinnati Symposium on Probability Theory and Applications, at the University of Cincinnati.

08.2016 - 08.2018 Start-up grant from the University of Cincinnati.

10.2010 - 07.2011 Forschungskredit from the Universität Zürich, funding my salary and my travels during that period.

Talks in conferences and seminars

06.2025 Workshop on stochastic interacting particle systems and random matrices, Erdös center, Alfréd Renyi Instituite of Mathematics, Budapest, Hungary.

06.2025 Random Matrix Theory Seminar, University of Oxford.

03.2025 Workshop "Multiplicative Chaos in Number Theory", University of Warwick, UK.

11.2024 Probability Seminar, University of Bristol.

10.2024 Seminar Bielefeld-Melbourne-Seoul Random Matrices, online.

10.2024 Algebraic Aspects of Random Matrices, CIRM, Marseille, France.

10.2024 North British Probability Seminar, University of Edinburgh, UK.

09.2024 Random Matrices and Scaling Limits, Institut Mittag-Leffler, Sweden.

05.2024 Cincinnati Symposium on Probability Theory and Applications, University of Cincinnati, USA.

02.2024 Number Theory, Algebra and Geometry seminar, University of Exeter, UK.

11.2023 Toronto Probability Seminar, Canada.

11.2023 Probability seminar, University of Cincinnati, USA.

07.2023 YMSC Probability Seminar, Tsinghua University, Beijing, China.

06.2023 Shenzhen Conference on Random Matrix Theory and Applications, China.

06.2023 Probability Seminar, Jilin University, Changchun, China.

06.2023 High Dimensional Statistics and Random Matrices, Porquerolles, France.

05.2023 Séminaire Probabilités et Statistique, Institut Elie Cartan de Lorraine, France.

01.2023 Séminaire de probabilités, Université Côte d'Azur, Nice, France.

05.2022 Séminaire Probabilités et Statistique, Aix-Marseille Université, France.

10.2021 Séminaire de probabilités, Université Côte d'Azur, Nice, France.

01.2021 Random Matrix Theory Seminar, at the University of Oxford, UK (online).

01.2021 Analysis seminar, at the University of Tel Aviv, Israel (online).

12.2020 Analysis and Probability seminar, University of Lancaster, UK (online).

11.2020 Séminaire de probabilités, Université Paul Sabatier Toulouse III, France (online).

09.2020 Séminaire de probabilités, Aix-Marseille Université, France.

06.2020 Séminaire de probabilités, Université Paris Saclay, France (online).

06.2020 Working group MEGA, Institut Henri Poincaré, Paris, France (online).

12.2019 Random Matrices, workshop at the Mathematisches Forschungsinstitut Oberwolfach, Germany.

12.2019 Probability seminar, University of Bochum, Germany.

12.2019 Random Matrix Theory and Applications, workshop at the Center for Interdisciplinary Research, Bielefeld University, Germany.

11.2019 Probability seminar, University College Dublin, Ireland.

10.2019 Combinatorics Seminar, Ohio State University, Columbus, USA.

09.2019 Probability seminar, University of Cincinnati (three talks), USA.

07.2019 Random geometries and multifractality in condensed matter and statistical mechanics, International Institute of Physics, Natal, Brazil.

04.2019 Random Matrices and Random Graphs, CIRM, Marseille, France.

01.2019 Number Theory seminar, York University, UK.

12.2018 Seminar on Stochastic Processes, ETH Zürich, Switzerland.

11.2018 Probability seminar, University of Cincinnati (three talks), USA.

10.2018 Escuela de Probabilidad y Procesos Estocásticos, UNAM, Mexico City, Mexico.

10.2018 Analysis and Probability seminar, University of Lancaster, UK.

10.2018 Probability and Mathematical Physics seminar, University of Bristol, UK.

06.2018 Gaussian Fields in Random Matrix Theory, Institut Mittag-Leffler, Djursholm, Sweden.

06.2018 Hausdorff School on Log-correlated Fields, Hausdorf Center of Mathematics, Bonn, Germany.

04.2018 Probability seminar, MIT, USA.

11.2017 Probability seminar, New York University, USA.

10.2017 Probability seminar, University of Cincinnati, USA.

04.2017 AMS meeting, Indiana University, USA.

03.2017 Probability seminar, University of Illinois at Urbana Champaign, USA.

02.2017 Probability seminar, University of Cincinnati, USA.

12.2016 Probability seminar, Université de Bordeaux, France.

12.2016 Latin American Congress of Probability and Mathematical Statistics, San Jose, Costa Rica.

11.2016 Probability seminar, University of Cincinnati, USA.

11.2016 Probability seminar, Ohio State University, USA.

09.2016 Probability seminar, University of Wisconsin-Madison, USA.

07.2016 Probability seminar, University of Warwick, UK.

06.2016 Probability seminar, University of Kyoto, Japan.

06.2016 Conference "Brownian Motions and Stochastic Processes", in Memory of Marc Yor, Ritsumeikan University, Japan.

05.2016 Conference "Extrema of Logarithmically Correlated Processes, Characteristic Polynomials, and the Riemann zeta Function", Heilbronn Institute for Mathematical Research, Bristol, UK.

04.2016 Séminaire de Probabilités, Université Toulouse III, France.

04.2016 Beta Ensembles: Universality, Integrability, and Asymptotics, Banff International Research Station, Canada.

12.2015 Probability seminar, Université Paris V, France.

11.2015 Talks at the University of Cincinnati and Purdue University, USA.

07.2015 - 08.2015 Stochastic Processes and Applications, National University of Mongolia, Ulaanbaatar.

07.2015 Stochastic Processes and their Applications, Oxford, UK.

06.2015 Journées à la mémoire de Marc Yor, Université Paris VI, France.

02.2015 Frontiers in Analysis and Probability, Université de Strasbourg, France.

10.2014 Séminaire de Probabilités, Université de Strasbourg, France.

09.2014 Cincinnati Symposium on Probability Theory and Applications, University of Cincinnati, USA.

07.2014 Ecole d'été de Probabilités de Saint-Flour, France.

10.2013 Séminaire de Probabilités, Université de Strasbourg, France (two talks).

06.2013 Probability seminar, Fields Institute, Toronto, Canada.

01.2012 Colloquium, Mathematisches Institut, Universität Freiburg, Germany.

11.2011 Probability seminar, Fields Institute, Toronto, Canada.

06.2010 Probability seminar, Fields Institute, Toronto, Canada.

04.2010 Workshop on Random Matrices, University of Zürich, Switzerland.

07.2009 Stochastic Processes and their Applications, Berlin, Germany.

06.2009 Conference in honor of the 60th birthday of Marc Yor, Institut Henri Poincaré, Paris, France.

10.2008 Random matrices, L-functions and primes, ETH Zürich, Switzerland.

Referee reports

I have written review for articles submitted in a number of mathematical journals, including: International Mathematical Research Notices, Electronic Journal of Probability, Electronic Communications in Probability, Journal of Physics A: Mathematical and Theoretical, Séminaire de Probabilités, Annales de l'Institut Henri Poincaré, Journal of Functional Analysis, Stochastics Processes and their Applications.

Other mathematical activity

Between February 2015 and August 2016, I was one of the founding members of the "cercle Sofia Kovaleskaïa" of the French association "Animath", in order to share my passion for mathematics with high school students, and to prepare those who wish to participate to several mathematical competitions like International Mathematical Olympiads. In March 2017 and March 2018, I have trained high school students participating in the Math Bowl competition at the University of Cincinnati. Between 2019 and 2021 and since September 2022, I prepare students from the University of Bristol for the International Mathematics Competition for University Students (IMC).

Languages

French: mother tongue.
English: fluent.
German: B1 certificate of the Goethe-Institut.

Music

I play the piano in a regular and intensive way. Between 1997 and 2007, I was a student at the Conservatoire National Supérieur de Musique de Paris, where I have obtained several prizes and awards, and two diplomas. I am regularly playing in classical music concerts, and I have composed a number of musical works, mostly for piano.

Publication list – Joseph Najnudel

I have written 48 published papers and 11 preprints, some of my articles being published in top level journals as Inventiones Mathematicae, Duke Mathematical Journal, Journal of the European Mathematical Society, Annals of Probability and Probability Theory and Related Fields. My publications and preprints are related to several research topics.

My current main topic is random matrix theory, for which I have written the following articles:

31. A. Galligo, J. Najnudel, T. Vu: Dynamics of rotationally invariant polynomial root sets under iterated differentiations. Preprint (2025).
http://arxiv.org/pdf/2506.06263
30. A. Galligo, J. Najnudel: Dynamics of roots of randomized derivative polynomials. Preprint (2025).
http://arxiv.org/pdf/2503.06650
29. J. Najnudel, E. Paquette, N. Simm, T. Vu: The Fourier coefficients of the holomorphic multiplicative chaos in the limit of large frequency. Preprint (2025).
http://arxiv.org/pdf/2502.14863
28. M. Girotti, T. Grava, K. D. T-R McLaughlin, J. Najnudel: Law of Large Numbers and Central Limit Theorem for random sets of solitons of the focusing nonlinear Schrödinger equation. Preprint (2024).
http://arxiv.org/pdf/2411.17036
27. G. Lambert, J. Najnudel: Subcritical multiplicative chaos and the characteristic polynomial of the CβE. Preprint (2024).
http://arxiv.org/pdf/2407.19817
26. A. Galligo, J. Najnudel, T. Vu: Anti-concentration applied to roots of randomized derivatives of polynomials. Electron. J. Probab., Volume 29, pp. 1–20 (2024).
http://arxiv.org/pdf/2404.12472
25. J. Najnudel, E. Paquette, N. Simm: Secular Coefficients and the Holomorphic Multiplicative Chaos. **Annals of Probability**, Volume 51, no. 4, pp. 1193–1248 (2023).
http://arxiv.org/pdf/2011.01823
24. N. P. Baskerville, J. P. Keating, F. Mezzadri, J. Najnudel, D. Granziol: Universal characteristics of deep neural network loss surfaces from random matrix theory. Journal of Physics A: Mathematical and Theoretical, Volume 55 (2022).
http://arxiv.org/pdf/2205.08601
23. N. P. Baskerville, J. P. Keating, F. Mezzadri, J. Najnudel: A spin-glass model for the loss surface of generative adversarial network. Journal of Statistical Physics, Volume 186, no. 29 (2022).
http://arxiv.org/pdf/2101.02524

22. J. Najnudel, A. Nikeghbali: Convergence of random holomorphic functions with real zeros and extensions of the stochastic zeta function. Preprint (2022). http://arxiv.org/pdf/2202.04284

21. V. Bahier, J. Najnudel: On smooth mesoscopic linear statistics of the eigenvalues of random permutation matrices. Journal of Theoretical Probability, Volume 35, pp. 1640-1661 (2022) http://arxiv.org/pdf/1910.03621

20. N. P. Baskerville, J. P. Keating, F. Mezzadri, J. Najnudel: The loss surfaces of neural networks with general activation functions. Journal of Statistical Mechanics: Theory and Experiment, Volume 2021, no. 6 (2021). http://arxiv.org/pdf/2004.03959

19. J. Najnudel, B. Virág: Uniform point variance bounds in classical beta ensembles. Random Matrices: Theory and Applications, Volume 10, no. 4 (2021) http://arxiv.org/pdf/1904.00858

18. J. Najnudel, B. Virág: The bead process for beta ensembles. **Probab. Theory Rel. Fields**, Volume 179 (2021) http://arxiv.org/pdf/1904.00848

17. T. Assiotis, J. Najnudel: The boundary of the orbital beta process. Moscow Mathematical Journal, Volume 21, no. 4, pp. 659-694 (2021). http://arxiv.org/pdf/1905.08684

16. J. Najnudel: Eigenvector convergence of minors of unitarily invariant infinite random matrices. Intern. Math. Res. Notices, Volume 2021, no. 8 (2021). http://arxiv.org/pdf/1810.02983

15. R. Chhaibi, J. Najnudel: On the circle, Gaussian Multiplicative Chaos and Beta Ensembles match exactly. **To appear in Journal of the European Math. Soc.** http://arxiv.org/pdf/1904.00578

14. R. Chhaibi, E. Hovhannisyan, J. Najnudel, A. Nikeghbali, B. Rodgers: A limiting characteristic polynomial of some random matrix ensembles. Annales de l'IHP, Volume 20, no. 4, pp. 1093-1119 (2019). http://arxiv.org/pdf/1707.09956

13. K. Maples, J. Najnudel, A. Nikeghbali: Strong convergence of eigenangles and eigenvectors for the Circular Unitary Ensemble. **Annals of Probability**, Volume 47, no. 4, pp. 2417-2458 (2019).

12. R. Chhaibi, T. Madaule, J. Najnudel: On the maximum of the CβE field. **Duke Math. Journal**, Volume 167, no. 12, pp. 2243-2345 (2018). http://arxiv.org/pdf/1607.00243

11. R. Chhaibi, J. Najnudel: Rigidity of the Sine$_\beta$ process. Electron. Commun. Probab, Volume 23, no. 94, pp. 1–8 (2018). http://arxiv.org/pdf/1804.01216

10. R. Chhaibi, J. Najnudel, A. Nikeghbali: The Circular Unitary Ensemble and the Riemann zeta function: the microscopic landscape and a new approach to ratios. **Inventiones Math.**, Volume 207, no. 1, pp. 23-113 (2017). http://arxiv.org/pdf/1410.1440

9. J. Najnudel, A. Nikeghbali, A. Rouault: Limit theorems for orthogonal polynomials related to circular ensembles. Journal of Theoretical Probability, Volume 29, no. 4, pp. 1199-1239 (2016).
http://arxiv.org/pdf/1302.6501

8. Y. Barhoumi-Andréani, C. Hughes, J. Najnudel, A. Nikeghbali: On the number of zeros of linear combinations of independent characteristic polynomials of random unitary matrices. Intern. Math. Research Notices, Volume 2015, pp. 12366–12404 (2015).
http://arxiv.org/pdf/1301.5144

7. R. Chhaibi, J. Najnudel, A. Nikeghbali: A limiting random analytic function related to the CUE. Preprint (2014).
http://arxiv.org/pdf/1403.7814

6. J. Najnudel, A. Nikeghbali: On a flow of operators associated to virtual permutations. Séminaire de probabilités, Volume XLVI, pp. 481-512. Lecture Notes in Math. 2123, Springer, 2014.
http://arxiv.org/pdf/1008.4972v1

5. K. Maples, J. Najnudel, A. Nikeghbali: Limit operators for circular ensembles. Preprint (2013).
http://arxiv.org/pdf/1304.3757

4. C. Hughes, J. Najnudel, A. Nikeghbali, D. Zeindler: Random permutation matrices under the generalized Ewens measure. Annals of Applied Probability, Volume 23, no. 3, pp. 987-1024 (2013).
http://arxiv.org/pdf/1109.5010

3. J. Najnudel, A. Nikeghbali: The distribution of eigenvalues of randomized permutation matrices. Annales de l'Institut Fourier, Volume 63 no. 3, pp. 773–838 (2013).
http://arxiv.org/pdf/1005.0402v1

2. P. Bourgade, J. Najnudel, A. Nikeghbali: A unitary extension of virtual permutations. International Math. Research Notices, Volume 2013, no. 18, pp. 4101–4134 (2012).
http://arxiv.org/pdf/1102.2633v1

1. J. Najnudel, A. Nikeghbali, F. Rubin: Scaled limit and rate of convergence for the largest eigenvalue from the generalized Cauchy random matrix ensemble. Journal of Statistical Physics, Volume 137, no. 2, pp. 373–406 (2009).
http://arxiv.org/pdf/0901.4800v2

The following article is related to exclusion processes:

W. Bryc, J. Najnudel, Y. Wang: Limit fluctuations of stationary measures of totally asymmetric simple exclusion processes with open boundaries on the coexistence line. To appear in: Commun. Math. Physics.
http://arxiv.org/pdf/2407.20835

The following article is related to random permutations:

J. Najnudel, J. Pitman: Feller coupling of cycles and Poisson spacings. Electron. Commun. Probab, Volume 25, no. 73, pp. 1–11 (2020).
http://arxiv.org/pdf/1907.09587

The following articles study the limiting behavior of some diffusions when the noise parameter goes to infinity, in relation to problems in quantum physics:

3. C. Bernardin, R. Chetrite, R. Chhaibi, J. Najnudel, C. Pellegrini: Spiking and collapsing in large noise limits of SDE's. Annals of Applied Probability, Volume 33, no. 1, pp. 417-447 (2023).
   http://arxiv.org/pdf/1810.05629
2. C. Bernardin, R. Chhaibi, J. Najnudel, C. Pellegrini: To spike or not to spike: the whims of the Wonham filter in the strong noise regime. Preprint (2022):
   http://arxiv.org/pdf/2211.02032
1. T. Benoist, C. Bernardin, R. Chetrite, R. Chhaibi, J. Najnudel, C. Pellegrini: Emergence of jumps in quantum trajectories via homogeneization. Communications in Mathematical Physics, Volume 387, no. 3, pp. 1821-1867 (2021).
   http://arxiv.org/pdf/2103.01916

The following articles are related to the interaction between probability theory and analytic number theory:

4. S. Darses, J. Najnudel: Multiple integral formulas for weighted zeta moments: the case of the sixth moment. The Ramanujan Journal. Volume 65, pp. 1421–1447 (2024).
   http://arxiv.org/pdf/2311.02783
3. J. Najnudel: Exponential moments of the argument of the Riemann zeta function on the critical line. Mathematika, Volume 66, no. 3, pp. 612–621 (2020).
   http://arxiv.org/pdf/1804.00343
2. J. Najnudel: On consecutive values of random completely multiplicative functions. Electron. J. Probab, Volume 59, no. 28, pp. 1–28 (2020).
   http://arxiv.org/pdf/1702.01470
1. J. Najnudel: On the extreme values of the Riemann zeta function on random intervals of the critical line. **Probab. Theory Rel. Fields**, Volume 172, pp. 387–452 (2018).
   http://arxiv.org/pdf/1611.05562

The following article studies a particular mode of convergence of probability measures:

E. Kowalski, J. Najnudel, A. Nikeghbali: A characterization of limiting functions arising in mod-* convergence. Elec. Comm. in Probab., Volume 20, no. 79, pp. 1–11 (2015)
http://arxiv.org/pdf/1304.2179

On polymer models, my main result is contained in the following article:

J. Najnudel: Construction of an Edwards' probability measure on $\mathbb{C}(\mathbb{R}_+, \mathbb{R})$. **Annals of Probability**, Volume 38, no. 6, pp. 2295-2321 (2010).

http://arxiv.org/pdf/0801.2751v3

The following articles study σ-finite measures associated to a certain class of sub-martingales. Some of the results which are proven are related to problems in mathematical finance:

6. J. Najnudel, A. Nikeghbali: On penalisation results related with a remarkable class of submartingales. Markov Proc. and Rel. Fields, Volume 19, no. 4, pp. 763-790 (2013).
http://arxiv.org/pdf/0911.4365
5. J. Najnudel, A. Nikeghbali: On some universal sigma-finite measures related to a remarkable class of submartingales. Stochastic Process. and their Appl., Volume 122, no. 4, pp. 1582-1600 (2012).
http://arxiv.org/pdf/0906.1782v1
4. J. Najnudel, A. Nikeghbali: A new kind of augmentation of filtrations. ESAIM: Probability and Statistics, Volume 15, pp. S39–S57 (2011).
http://arxiv.org/pdf/0910.4959v2
3. J. Najnudel, A. Nikeghbali: On some properties of a universal sigma-finite measure associated with a remarkable class of submartingales. Publ. RIMS Kyoto Univ., Volume 47, pp. 911-936 (2011).
http://arxiv.org/pdf/0911.2571v1
2. J. Najnudel, A. Nikeghbali: A remarkable σ-finite measure associated with last passage times and penalisation problems. Contemporary Quantitative Finance, Essays in Honour of Eckhard Platen, pp. 77-98, Springer (2010).
http://arxiv.org/pdf/0912.1693v1
1. J. Najnudel, A. Nikeghbali: A new construction of the σ-finite measures associated with submartingales of class (Σ). C. R. Math. Acad. Sci. Paris, Volume 348, pp. 311-316 (2010).
http://arxiv.org/pdf/0912.4768v1

The following article is related to mathematical finance:

J. Najnudel, S.-N. Tung, K. Yamazaki, J.-Y. Yen: An arbitrage driven price dynamics of Automated Market Makers in the presence of fees. Frontiers of Mathematical Finance, Volume 3, no. 4, pp. 560-571 (2024).
http://arxiv.org/pdf/2401.01526

In the following article, some simple epidemiological models are discussed, in relation to the COVID-19 pandemic:

J. Najnudel, J. Y. Yen: A discussion on some simple epidemiological models. Chaos, Solitons and Fractals, Volume 140, article 110115 (2020).

The following articles are related to my PhD topic (local times and Brownian penalisations):

10. J. Najnudel, C. T. Wu, J. Y. Yen: On moments of Brownian functionals and their interpretation in terms of random walks. Statistics and Probability

Letters, Volume 161 (2020).

9. J. Najnudel, J. Y. Yen: On equalities of sigma-finite measures constructed from discrete recurrent Markov chains. ALEA: Latin American Journal of Probability and Mathematical Statistics, Volume 16, pp. 1201–1211 (2019).
8. J. Najnudel: On sigma-finite measures related to the Martin boundary of recurrent Markov chains. Séminaire de Probabilités, Volume XLVII, in memoriam Marc Yor, pp. 263-297. Lecture Notes in Math 2137, Springer, Berlin, 2015.
http://arxiv.org/pdf/1411.2024
7. J. Najnudel, D. Stroock, M. Yor: On a flow of transformations of a Wiener space. Springer Proceedings in Mathematics and Statistics, Volume 22, pp. 119-131 (2012).
http://arxiv.org/pdf/1101.4974v1
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