
Curriculum Vitae

Dr. Pierpaolo Vivo

Personal Details

Name Pierpaolo Vivo
Address

Education

- Sep 2005 - Sep 2008** Ph.D. in Mathematics
Brunel University - West London (UK)
Thesis Title: *From Wishart to Jacobi ensembles: statistical properties and applications.*
Supervisor: Gernot Akemann
- Nov 2003 - Dec 2005** Laurea Specialistica in Fisica Teorica *cum laude*
(M.Sc. in Theoretical Physics)
Università degli Studi di Parma, Parma, Italy
Thesis Title: *Modifications of gravity for low accelerations.*
Supervisor: Enrico Onofri
- Sep 2000 - Oct 2003** Laurea Triennale in Fisica *cum laude*
(B.Sc. in Physics)
Università degli Studi di Parma, Parma, Italy
Thesis Title: *Numerical and analytical studies on deterministic sandpile automata.*
Supervisor: Mario Casartelli
- Jul 2000** Diploma in Flute
(Seven years programme - Score 9.50/10)
Conservatorio di Musica "G. Nicolini", Piacenza, Italy

Current position

- ▷ [UKRI Future Leaders Fellow](#).
- ▷ Group Leader of the [Quantitative and Digital Law Lab](#).
Starting date: Sep 2019.
- ▷ Reader in Disordered Systems (Dept. Mathematics - King's College London).
Appointed: Jan 2021.

Previous positions

- ▷ Lecturer/Senior Lecturer in Disordered Systems (Dept. Mathematics - KCL).
First Appointed: Sep 2014.
- ▷ Chargé de Recherche (CR2) - Permanent position
as a Research Scientist at [LPTMS](#) - CNRS (French National Research Council).
Appointed: Sep 2011 (ranked 3rd in the international competition).
- ▷ Postdoctoral Fellow at The Abdus Salam International Centre for Theoretical Physics (ICTP) - Trieste (Italy) in the [Condensed Matter and Statistical Physics Group](#) (Sep 2008 - Sep 2011).

Research interests

- ▷ Mathematical Physics: Random Matrix Theory and applications to complex systems.
- ▷ Applications of Statistical Mechanics to socio-economic and interdisciplinary fields.
- ▷ Large Deviations and Extreme Value Statistics of correlated random variables.

Placements abroad

- ▷ LPTMS Orsay (Paris) under the supervision of Prof. O. Bohigas (Jun 2006).
 - ▷ IDSIA (Lugano) under the supervision of Dr. S. Fernandez (16 Apr - 5 Jul 2007).
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Professional Qualifications

- ▷ Fellow of the Higher Education Academy ([HEA](#)) since 19th May 2016

Previous professional experience

- ▷ Lecturer for the Tutorials in Basics Physics - ICTP Diploma Programme
- ▷ Organizer of NET-ACE Seminars at Brunel University
- ▷ Lecturer at [NETADIS Summer School](#) - Hillerød
- ▷ Chair of the Assessment Sub-Board “Complex Systems Modelling” at KCL
- ▷ Member of the Marketing group
[participation in KCL events for prospective students - taster talks to offer holders]
- ▷ Panel member of the College Misconduct and Disciplinary Committee at KCL
- ▷ Member of the Steering Committee of EPSRC Centre for Doctoral Training in Cross-Disciplinary Approaches to Non-Equilibrium Systems ([CANES](#))
- ▷ Semifinal judge for [Google Science Fair](#) (2015 - 2019)
- ▷ Organizer of [The Physics of the Law](#) online conference (Nov 2020)
- ▷ Visiting scholar at Univ. of Salerno (Apr 2024), Univ. Rome ‘Sapienza’ (Jan 2026), Univ. of Cagliari (appointment by Academic Senates)
- ▷ Guest Editor for [special issue](#) of *J. Phys. A* “Random Matrices: the first 90 years”
- ▷ Guest Editor for [special issue](#) of *Entropy*
- ▷ Guest Editor for [special issue](#) of *Frontiers in Physics* “The physics of the law”
- ▷ Guest Editor for [special issue](#) of *Proc. Royal Society A* “A complexity science approach to law and governance”
- ▷ Guest Editor for [special issue](#) of *Eur. Phys. J. B* “CompLex: Complexity Science for Legal Applications”
- ▷ Guest Editor for [special issue](#) of *Data-Driven Modelling* “Statistical Physics & Data-Driven approaches in Ecology and Economics”

Current professional experience

- ▷ Head of Disordered Systems Group at KCL
- ▷ Ph.D. Admission Tutor for the Disordered Systems group
- ▷ Departmental Lead for the [King's-China Scholarship programme](#)
- ▷ Personal tutor at KCL (responsible for 29 UG and MSc students)
- ▷ Member of the [London Mathematical Society](#)
- ▷ Member of the [European Legal Tech Association \(ELTA\)](#)
- ▷ External examiner for Ph.D. theses and international grant applications
- ▷ Member of the [MECO](#) Advisory Board and lead organiser of [MECO47](#) in Erice (2022)
- ▷ Lead organizer of [Como Lake Summer School](#) on Legal Complexity (Aug 2025)
- ▷ Lead organizer of [ECO²STAT](#) 2025 (satellite of StatPhys29)
- ▷ Editorial Board Member for *Scientific Reports* (Nature Research)
- ▷ Editorial Board Member for *Complex Systems*
- ▷ Editorial Board Member for *Entropy* (Statistical Physics)
- ▷ Associate Editor for *Springer Journal of Statistical Physics*
- ▷ Associate Editor for *IOP Journal of Physics A: Math. Theor.*
- ▷ Associate Editor for *J. of Computational Law and Legal Technology*
- ▷ Associate Editor for *Frontiers in Physics* (Interdisciplinary Physics)

Teaching

- ▷ 6CCM314A/7CCM314B [Mathematical Aspects of Statistical Mechanics](#)
- ▷ 7CCMNE06 [Rare Events and Large Deviations](#) (MSc module)
- ▷ Master Class on “Random matrices: theory and practice” (KCL - Mar 2016)
- ▷ Invited series of lectures at [Beg Rohu summer school - Wind and Physics](#) (Aug 2015)
- ▷ Invited lectures at [ICTP Spring College on the Physics of Complex Systems](#) (2017)
- ▷ Module leader of RMT course at [SISSA - Trieste](#) (2018/19/20/21/22/23/24/25)
- ▷ Invited lectures on RMT at [Politecnico di Torino](#) (2019)
- ▷ Invited lectures on RMT at [Università di Bologna](#) (2022)
- ▷ Invited lectures at ICTP [Summer School](#) on ML and inference (2022)
- ▷ Invited lectures at [Puglia Summer Trimester](#) (2023)
- ▷ Invited long course at [Les Houches Summer School](#) on Large Deviations (2024)

Conferences, Invited Talks & Summer Schools (I)

- ▷ Random Matrix Theory International Workshop - Brunel University (Nov 2005).
- ▷ Les Houches Summer School - session on Complex Systems (Jul 2006).
- ▷ Random Matrix Theory International Workshop - Brunel University (Dec 2006).
- ▷ Talk given at Brunel University (Jan 2007).
- ▷ Invited Talk at IDSIA - Lugano (Apr 2007).
- ▷ Invited Talk at ESF Exploratory Workshop - Kraków (May 2007).
- ▷ Invited Talk at XII Convegno Nazionale di Fisica Statistica in Parma (Jun 2007).
- ▷ StatPhys 2007 in Genova - Italy (Jul 2007).
- ▷ Invited Talk at ICTP - Trieste (Feb 2008).
- ▷ Invited Talk at ICTP - Trieste (Dec 2008).
- ▷ Invited Talk at University of Umeå (Mar 2009).
- ▷ International Summer School - Leuven (Sep 2009).
- ▷ Invited Talk at Nottingham University (Apr 2010).
- ▷ Invited Talk at Queen Mary University - London (May 2010).
- ▷ Invited Talk at King's College - London (May 2010).
- ▷ Invited Talk at NORDITA - Stockholm (Feb 2010).
- ▷ Invited Talk at LPTHE - Paris (Oct 2010).
- ▷ Invited Talk at LPTMC - Paris (Oct 2010).
- ▷ Invited Talk at ENS - Lyon (Nov 2010).
- ▷ Invited Talk at ENS - Paris (Nov 2010).
- ▷ Invited Talk at Niels Bohr Institute - Copenhagen (Mar 2011).
- ▷ Invited Talk at Santa Fe Institute (U.S.A.) (Apr 2012).
- ▷ Nordita Workshop (Sweden) on Nonequilibrium Systems (May 2012).
- ▷ Isola del Giglio (Italy) Workshop on Nonequilibrium Systems (Jun 2012).
- ▷ Invited Talk at Bielefeld University (Jun 2012).
- ▷ Invited Talk at ICTP (Jun 2012).
- ▷ Invited Series of Lectures on RMT - Trondheim (Sep 2012).
- ▷ Workshop on Quantum Transport - Benasque (Sep 2012).
- ▷ Invited Talk at Jagiellonian University - Kraków (Oct 2012).
- ▷ Invited Talk at Bielefeld University (Nov 2012).
- ▷ Random Matrix Theory International Workshop - Brunel University (Dec 2012).
- ▷ Invited Talk at ICTP Trieste (May 2013).
- ▷ Participation at Beg Rohu Summer School on Disordered Systems (Jun 2013).
- ▷ Invited RMT lectures at NETADIS Summer School - Hillerød (Sep 2013).
- ▷ Invited Talk at University of Bari (Jan 2014).
- ▷ Invited Talk at ENS - Paris (Feb 2014).
- ▷ Invited Talk at IHP - Paris (Nov 2014).
- ▷ Invited Talk at Manchester University (Feb 2015).
- ▷ Several visits and talks at Bristol University (2015 - 2016).
- ▷ Invited Talk and short research visit at ICTP - Trieste (May 2015).
- ▷ Invited Talk at Maths Teachers' Conference at KCL (Jun 2015).
- ▷ Invited Colloquium at Xmaths Workshop - Bari (Dec 2015).
- ▷ Outreach activity at Harris Academy school (Feb 2016).
- ▷ Invited Talk at Brunel University (Mar 2016).
- ▷ Invited Talk at Warwick University (Mar 2016).
- ▷ Invited research period at Jagiellonian University - Kraków (May 2016).
- ▷ Invited Talk at Bielefeld University (Jan 2017).
- ▷ Keynote Talk at the [EPS/EPL Prize Award session](#) (Sep 2017).

Conferences, Invited Talks & Summer Schools (II)

- ▷ Invited talk at Imperial College London (Nov 2017).
 - ▷ Invited talk at Francis Crick Institute (Nov 2017).
 - ▷ Research visit at University College Dublin (May 2018).
 - ▷ Invitation to deliver a talk at [Sums and Products of Random Matrices](#) (Aug 2018).
 - ▷ Invitation for a talk at [Random Matrices, Integrability and Complex Systems](#) (Oct 2018).
 - ▷ Invited talk at Brunel-Bielefeld Workshop on RMT (Dec 2018).
 - ▷ Invited talk at KCL Workshop on Random Graphs and Random Processes (Apr 2019).
 - ▷ Invited talk at [One Day Workshop on Applied Mathematics](#) (June 2019).
 - ▷ Invitation for a talk at [IIP Workshop - Natal](#) (July 2019).
 - ▷ Oral contribution at StatPhys27 - Buenos Aires (July 2019).
 - ▷ [Friday Physics Colloquium](#) at NTNU (May 2021).
 - ▷ Invited talk at Los Alamos National Lab (Dec 2022).
 - ▷ Invited Colloquium at University of Como (2024).
 - ▷ Invited talk at [Conclave on Complex Systems](#) - Santa Fe (2024).
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Skills

Languages	Italian (mother tongue)
	English (good, both written and spoken)
	French (good, both written and spoken)
Computer Skills	MATLAB (Proficient)
	MATHEMATICA (Proficient)
	L ^A T _E X typesetting package (Proficient)
	MS Office (Proficient)
	C, C ⁺⁺ , Linux, Unix (Proficient)

Publication List

[Google Scholar citations = 3034; h-index = 30]

In peer-reviewed journals (► for papers with KCL affiliation)

- 1) P.Vivo
Random linear systems with quadratic constraints: from random matrix theory to replicas and back
In: Cassano, B., Cunden, F.D., Gallone, M., Ligabò, M., Michelangeli, A. (eds) *Singularities, Asymptotics, and Limiting Models*. Springer INdAM Series, vol 64. Springer, Singapore.
- 2) B. Budnick, P. Forer, P.Vivo, S. Aufiero, S. Bartolucci, F. Caccioli
Top eigenpair statistics of diluted Wishart matrices
Journal of Physics A: Math. Theor. **58**, 325001 (2025)
- 3) S. Bartolucci, F. Caccioli, F. Caravelli, and P. Vivo
Upstreamness and downstreamness in input-output analysis from local and aggregate information
Scientific Reports **15**(1), 2727 (2025)
- 4) M. J. Crumpton, Y. V. Fyodorov, and P. Vivo
Statistics of the largest eigenvalues and singular values of low-rank random matrices with non-negative entries
J. Phys. A: Math. Theor. **58**, 225201 (2025)
- 5) S. Bartolucci, F. Caccioli, F. Caravelli, and P. Vivo
Correlation between upstreamness and downstreamness in random global value chains
Journal of Economic Behavior and Organization **233**, 106945 (2025)
- 6) S. Aufiero, P. Forer, P. Vivo, F. Caccioli, and S. Bartolucci
Phase transitions in debt recycling
Journal of Economic Dynamics and Control **171**, 105044 (2025)
- 7) P. Vivo, D. M. Katz, and J.-B. Ruhl
CompLex: legal systems through the lens of complexity science
EuroPhysics Letters **149**, 22001 (2025) - **Invited Perspective**
- 8) S. Bartolucci, F. Caccioli, F. Caravelli, and P. Vivo
Distribution of centrality measures on undirected random networks via the cavity method
Proceedings of the National Academy of Sciences (PNAS) **121**, e2403682121 (2024)
- 9) L. Gamberi, A. Annibale, and P. Vivo
Price of information in games of chance: A statistical physics approach
Physical Review Research **6**, 033250 (2024)

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- 10) S. N. Majumdar, F. Mori, and P. Vivo
 Cost of excursions until first crossing of the origin for random walk and Lévy flights: An exact general formula
Physical Review Research **6**, 043053 (2024)
 - 11) S. N. Majumdar, F. Mori, and P. Vivo
 Nonlinear-cost Random Walk: exact statistics of the distance covered for fixed budget
Physical Review E **108**, 064122 (2023)
 - 12) U. Adomaityte, G. Sicuro, and P. Vivo
 Classification of Superstatistical Features in High Dimensions
arXiv:2304.02912 - accepted at **NeurIPS2023** (2023)
 - 13) S. Bartolucci, F. Caccioli, F. Caravelli, and P. Vivo
 Ranking influential nodes in networks from aggregate local information
Phys. Rev. Research **5**, 033123 (2023)
 - 14) E. Tzanis, P. Vivo, Y.-P. Förster, L. Gamberi, and A. Annibale
 Graphie: A network-based visual interface for UK's Primary Legislation
F1000Research **12**, 236 (2023)
 - 15) S. N. Majumdar, F. Mori, and P. Vivo
 Cost of diffusion: nonlinearity and giant fluctuations
Phys. Rev. Lett. **130**, 237102 (2023)
 - 16) L. Gamberi, P. Vivo, Y.-P. Förster, E. Tzanis, and A. Annibale
 Rationalizing systematic discrepancies between election outcomes and opinion polls
J. Stat. Mech. 123403 (2022)
 - 17) G. Carugno, P. Vivo, and F. Coghi
 Delocalization-localization dynamical phase transition of random walks on graphs
Phys. Rev. E **107**, 024126 (2023)
 - 18) Y.-P. Förster, A. Annibale, L. Gamberi, E. Tzanis, and P. Vivo
 Information retrieval and structural complexity of legal trees
J. Phys. Complex. **3**, 035008 (2022)
 - 19) G. Carugno, P. Vivo, and F. Coghi
 Graph-combinatorial approach for large deviations of Markov chains
J. Phys. A: Math. Theor. **55**, 295001 (2022)
 - 20) Y.-P. Förster, L. Gamberi, E. Tzanis, P. Vivo, and A. Annibale
 Exact and Approximate Mean First Passage Times on Trees and other Necklace Structures: a Local Equilibrium Approach
J. Phys. A: Math. Theor. **55**, 115001 (2022)
 - 21) G. Carugno, I. Neri, and P. Vivo
 Instabilities of complex fluids with partially structured and partially random interactions
Phys. Biol. **19**, 056001 (2022)

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- 22) L. Gamberi, Y.-P. Förster, E. Tzanis, A. Annibale, and P. Vivo
Maximal modularity and the optimal size of parliaments
Scientific Reports **11**, 14452 (2021)

 - 23) S. Bartolucci, F. Caccioli, F. Caravelli, and P. Vivo
"Spectrally gapped" random walks on networks: a Mean First Passage Time formula
SciPost Phys. **11**, 088 (2021)

 - 24) G. Biroli, D. Facoetti, M. Schirò, M. Tarzia, and P. Vivo
Out-of-equilibrium phase diagram of the quantum random energy model
Physical Review B **103**, 014204 (2021)

 - 25) V. A. R. Susca, P. Vivo, and R. Kühn
Cavity and replica methods for the spectral density of sparse symmetric random matrices
SciPost Phys. Lect. Notes **33** (2021)

 - 26) P. Vivo
Index of a matrix, complex logarithms, and multidimensional Fresnel integrals
Journal of Physics A: Mathematical and Theoretical **54**, 025002 (2021)

 - 27) V. A. R. Susca, P. Vivo, and R. Kühn
Second largest eigenpair statistics for sparse graphs
Journal of Physics A: Mathematical and Theoretical **54**, 015004 (2021)

 - 28) W. Tarnowski, I. Neri, and P. Vivo
Universal transient behavior in large dynamical systems on networks
Physical Review Research **2**, 023333 (2020)

 - 29) O. Sikder, R. E. Smith, P. Vivo, and G. Livan
A minimalistic model of bias, polarization and misinformation in social networks
Scientific Reports **10**, 5493 (2020)

 - 30) S. Bartolucci, F. Caccioli, and P. Vivo
A percolation model for the emergence of the Bitcoin Lightning Network
Scientific Reports **10**, 4488 (2020)

 - 31) V. A. R. Susca, P. Vivo, and R. Kühn
Top Eigenpair Statistics for Weighted Sparse Graphs
Journal of Physics A: Mathematical and Theoretical **52**, 485002 (2019)

 - 32) F. D. Cunden, P. Facchi, M. Ligabò, and P. Vivo
Third-order phase transition: random matrices and screened Coulomb gas with hard walls
J. Stat. Phys. **175** (6), 1262-1297 (2019)

 - 33) A. Verma, P. Vivo, and T. Di Matteo
A memory-based method to select the number of relevant components in Principal Component Analysis
J. Stat. Mech. **093408** (2019)

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- ▶ 34) É. Roldán and [P. Vivo](#)
Exact Distributions of Currents and Frenesy for Markov Bridges
Phys. Rev. E **100**, 042108 (2019)

 - ▶ 35) F. D. Cunden, P. Facchi, M. Ligabò, and [P. Vivo](#)
Universality of the weak pushed-to-pulled transition in systems with repulsive interactions
J. Phys. A: Math. Theor. **51**, 35LT01 (2018)

 - ▶ 36) F. D. Cunden, P. Facchi, M. Ligabò, and [P. Vivo](#)
Universality of the third-order phase transition in the constrained Coulomb gas
J. Stat. Mech. **053303** (2017)

 - ▶ 37) Z. Burda, B. J. Spisak, and [P. Vivo](#)
Eigenvector statistics of the product of Ginibre matrices
Phys. Rev. E **95**, 022134 (2017)

 - ▶ 38) D. Facoetti, [P. Vivo](#), and G. Biroli
From non-ergodic eigenvectors to local resolvent statistics and back: a random matrix perspective
EPL **115**, 47003 (2016)

 - ▶ 39) F. D. Cunden, F. Mezzadri, N. Simm, and [P. Vivo](#)
Large-N expansion for the time-delay matrix of ballistic chaotic cavities
J. Math. Phys. **57**, 111901 (2016)

 - ▶ 40) F. D. Cunden, F. Mezzadri, and [P. Vivo](#)
Large deviations of radial statistics in the two-dimensional one-component plasma
J. Stat. Phys. **164**, 1062 (2016)

 - ▶ 41) [P. Vivo](#), M. P. Pato, and G. Oshanin
Random pure states: quantifying bipartite entanglement beyond the linear statistics
Phys. Rev. E **93**, 052106 (2016)

 - ▶ 42) F. D. Cunden, F. Mezzadri, N. Simm, and [P. Vivo](#)
Correlators for the Wigner-Smith time-delay matrix of chaotic cavities
J. Phys. A: Math. Theor. **49**, 18LT01 (2016)

 - ▶ 43) R. Marino, S. N. Majumdar, G. Schehr, and [P. Vivo](#)
Number statistics for β -ensembles of random matrices: applications to trapped fermions at zero temperature
Phys. Rev. E **94**, 032115 (2016)

 - ▶ 44) F. D. Cunden, P. Facchi, and [P. Vivo](#)
A shortcut through the Coulomb gas method for spectral linear statistics on random matrices
J. Phys. A: Math. Theor. **49**, 135202 (2016)

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- 45) F. D. Cunden and [P. Vivo](#)
 Large deviations of spread measures for Gaussian matrices
J. Stat. Mech. 043306 (2016)
 - 46) [P. Vivo](#)
 Large deviations of the maximum of independent and identically distributed random variables
Eur. J. Phys. **36**, 055037 (2015)
 - 47) F. D. Cunden, F. Mezzadri, and [P. Vivo](#)
 A unified fluctuation formula for one-cut β -ensembles of random matrices
J. Phys. A: Math. Theor. **48**, 315204 (2015)
 - 48) F. D. Cunden, P. Facchi, and [P. Vivo](#)
 Joint statistics of quantum transport in chaotic cavities
EPL **110**, 50002 (2015)
 - 49) Z. Burda, G. Livan, and [P. Vivo](#)
 Invariant sums of random matrices and the onset of level repulsion
J. Stat. Mech. **P06024** (2015)
 - 50) I. Pérez Castillo, E. Katzav, and [P. Vivo](#)
 Phase transitions in the condition number distribution of Gaussian random matrices
Phys. Rev. E **90**, 050103(R) (2014)
 - 51) G. Akemann, D. Villamaina, and [P. Vivo](#)
 Singular-potential random matrix model arising in mean-field glassy systems
Phys. Rev. E **89**, 062146 (2014)
 - 52) F. D. Cunden and [P. Vivo](#)
 Universal covariance formula for linear statistics on random matrices
Phys. Rev. Lett. **113**, 070202 (2014)
 - 53) R. Marino, S. N. Majumdar, G. Schehr, and [P. Vivo](#)
 Phase transitions and edge scaling of number variance in Gaussian random matrices
Phys. Rev. Lett. **112**, 254101 (2014)
 - 54) A. Karadimitrakakis, A. L. Moustakas, and [P. Vivo](#)
 Outage capacity for the optical MIMO channel
IEEE Transactions on Information Theory **60**, 4370 (2014)
 - 55) R. Marino, S. N. Majumdar, G. Schehr, and [P. Vivo](#)
 Index distribution of Cauchy random matrices
J. Phys. A: Math. Theor. **47**, 055001 (2014)
 - 56) S. N. Majumdar, G. Schehr, D. Villamaina, and [P. Vivo](#)
 Large deviations of the top eigenvalue of large Cauchy random matrices
J. Phys. A: Math. Theor. **46**, 022001 (2013)

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- 57) S. Rodríguez-Pérez, R. Marino, M. Novaes, and [P. Vivo](#)
Statistics of quantum transport in weakly non-ideal chaotic cavities
Phys. Rev. E **88**, 052912 (2013)
- 58) Y. Y. Atas, E. Bogomolny, O. Giraud, [P. Vivo](#), and E. Vivo
Joint probability densities of level spacing ratios in random matrices
J. Phys. A: Math. Theor. **46**, 355204 (2013)
- 59) R. Allez, J.-P. Bouchaud, S. N. Majumdar, and [P. Vivo](#)
Invariant β -Wishart ensembles, crossover densities and asymptotic corrections to the Marčenko-Pastur law
J. Phys. A: Math. Theor. **46**, 015001 (2013)
- 60) D. Villamaina and [P. Vivo](#)
Entanglement production in nonideal cavities and optimal opacity
Phys. Rev. B **88**, 041301 (2013)
- 61) S. N. Majumdar and [P. Vivo](#)
Number of relevant directions in Principal Component Analysis and Wishart random matrices
Phys. Rev. Lett. **108**, 200601 (2012)
- 62) S. Pigolotti, S. Bernhardtsson, J. Juul, G. Galster, and [P. Vivo](#)
Equilibrium strategy and population-size effects in lowest unique bid auctions
Phys. Rev. Lett. **108**, 088701 (2012)
- 63) K. Damle, S. N. Majumdar, V. Tripathi, and [P. Vivo](#)
Phase transitions in the distribution of the Andreev conductance of superconductor-metal junctions with multiple transverse modes
Phys. Rev. Lett. **107**, 177206 (2011)
- 64) G. Akemann and [P. Vivo](#)
Compact smallest eigenvalue expressions in Wishart-Laguerre ensembles with or without a fixed-trace
J. Stat. Mech. **P05020** (2011)
- 65) G. Livan and [P. Vivo](#)
Moments of Wishart-Laguerre and Jacobi ensembles of random matrices: application to the quantum transport problem in chaotic cavities
Acta Physica Polonica B **42**, 1081 (2011)
- 66) S. N. Majumdar, C. Nadal, A. Scardicchio, and [P. Vivo](#)
How many eigenvalues of a Gaussian random matrix are positive?
Phys. Rev. E **83**, 041105 (2011)
- 67) [P. Vivo](#)
Largest Schmidt eigenvalue of random pure states and conductance distribution in chaotic cavities
J. Stat. Mech. **P01022** (2011)

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- 68) C. Carré, M. Deneufchâtel, J.-G. Luque, and P. Vivo
Asymptotics of Selberg-like integrals: the unitary case and Newton's interpolation formula
J. Math. Phys. **51**, 123516 (2010)
- 69) P. Vivo
Entangled random pure states with orthogonal symmetry: exact results
J. Phys. A: Math. Theor. **43**, 405206 (2010)
- 70) J.-G. Luque and P. Vivo
Nonlinear Random Matrix Statistics, symmetric functions and hyperdeterminants
J. Phys. A: Math. Theor. **43**, 085213 (2010)
- 71) P. Vivo, S. N. Majumdar, and O. Bohigas
Probability distributions of Linear Statistics in Chaotic Cavities and associated phase transitions
Phys. Rev. B **81**, 104202 (2010)
- 72) G. Akemann, J. Fischmann, and P. Vivo
Universal Correlations and Power-Law Tails in Financial Covariance Matrices
Physica A **389**, 2566 (2010)
- 73) S. N. Majumdar, C. Nadal, A. Scardicchio, and P. Vivo
Index Distribution of Gaussian Random Matrices
Phys. Rev. Lett. **103**, 220603 (2009)
- 74) R. Potestio, F. Caccioli, and P. Vivo
Random Matrix approach to collective behavior and bulk universality in protein dynamics
Phys. Rev. Lett. **103**, 268101 (2009)
- 75) F. Caccioli, M. Marsili, and P. Vivo
Eroding market stability by proliferation of financial instruments
Eur. Phys. J. B **71**, 467 (2009)
- 76) A. Y. Abul-Magd, G. Akemann, and P. Vivo
Superstatistical generalizations of Wishart-Laguerre ensembles of random matrices
J. Phys. A: Math. Theor. **42**, 175207 (2009)
- 77) G. Akemann and P. Vivo
Power law deformation of Wishart-Laguerre ensembles of random matrices
J. Stat. Mech. **P09002** (2008)
- 78) P. Vivo, S. N. Majumdar, and O. Bohigas
Distributions of Conductance and Shot Noise and Associated Phase Transitions
Phys. Rev. Lett. **101**, 216809 (2008)

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- 79) P. Vivo and E. Vivo
Transmission Eigenvalue Densities and Moments in Chaotic Cavities from
Random Matrix Theory
J. Phys. A: Math. Theor. **41**, 122004 (2008)
- 80) P. Vivo and S. N. Majumdar
On invariant 2×2 β -ensembles of random matrices
Physica A **387**, 4839 (2008)
- 81) P. Vivo, M. Casartelli, L. Dall'Asta, and A. Vezzani
On a class of rational matrices and interpolating polynomials related to the discrete
Laplace operator
Note di Matematica **28**, 1 (2008)
- 82) P. Vivo, S. N. Majumdar, and O. Bohigas
Large deviations of the maximum eigenvalue in Wishart random matrices
J. Phys. A: Math. Theor. **40**, 4317 (2007)
- 83) P. Vivo, S. N. Majumdar, and O. Bohigas
Large deviations and Random Matrices
proceedings of ESF Workshop in Krakow, 2-6 May 2007.
Acta Physica Polonica **38**, 4139 (2007)
- 84) M. Casartelli, L. Dall'Asta, A. Vezzani, and P. Vivo
Dynamical Invariants in the Deterministic Fixed-Energy Sandpile
Eur. Phys. J. B **52**, 91 (2006)

Submitted for publication

- 1s) S. Aufiero, S. Bartolucci, F. Caccioli, and P. Vivo
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arXiv preprint arXiv:2508.12007 (2025)
- 2s) A. Rodríguez-Martínez, S. Bartolucci, F. Caravelli, V. Landaberry, P. Vivo,
and F. Caccioli
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- 3s) P. Forer, B. Budnick, P. Vivo, S. Aufiero, S. Bartolucci, and F. Caccioli
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cation
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► 5s) P. Vivo

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► 7s) C. von der Osten, S. Aufiero, P. Vivo, F. Caccioli, S. Bartolucci

A calibrated model of debt recycling with interest costs and tax shields: viability under different fiscal regimes and jurisdictions

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Books

► 1b) G. Livan, M. Novaes, and P. Vivo

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