

# John Pardon

## CURRICULUM VITAE

May 2024

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### CONTACT INFORMATION

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Stony Brook, NY 11794-3636

### PERSONAL

Citizenship: USA

### EMPLOYMENT

2022–present Professor, Simons Center for Geometry and Physics, Stony Brook  
2016–2023 Professor, Princeton University (on leave 2022–23)  
2015–2020 Research Fellow, Clay Math Institute  
2015–2016 Assistant Professor, Stanford University

### EDUCATION

2011–2015 Ph.D. Mathematics, Stanford University  
Advisor: Yakov Eliashberg  
2007–2011 A.B. Mathematics, Princeton University  
Valedictorian

### PUBLICATIONS

20. Representability in non-linear elliptic Fredholm analysis. *Submitted to the Proceedings of the International Congress of Basic Science.* (2023).
19. Universally counting curves in Calabi–Yau threefolds. *Preprint.* (2023).
18. Orbifold bordism and duality for finite orbispectra. *Geom. Topol.* **27** (2023), no. 5, 1747–1844.
17. Enough vector bundles on orbispaces. *Compos. Math.* **158** (2022), no. 11, 2046–2081.
16. Smoothing finite group actions on three-manifolds. *Duke Math. J.* **170** (2021), no. 6, 1043–1084.
15. (with Sheel Ganatra and Vivek Shende). Microlocal Morse theory of wrapped Fukaya categories. *Ann. of Math. (2)* **199** (2024), no. 3, 943–1042.
14. (with Sheel Ganatra and Vivek Shende). Sectorial descent for wrapped Fukaya categories. *J. Amer. Math. Soc.* **37** (2024), no. 2, 499–635.
13. Totally disconnected groups (not) acting on two-manifolds. *Proc. Sympos. Pure Math.* **102** (2019), 187–193.
12. (with Sheel Ganatra and Vivek Shende). Covariantly functorial wrapped Floer theory on Liouville sectors. *Publ. Math. Inst. Hautes Études Sci.* **131** (2020), 73–200.
11. Contact homology and virtual fundamental cycles. *J. Amer. Math. Soc.* **32** (2019), no. 3, 825–919.

10. (with Emmanuel Giroux). Existence of Lefschetz fibrations on Stein and Weinstein domains. *Geom. Topol.* **21** (2017), no. 2, 963–997.
9. An algebraic approach to virtual fundamental cycles on moduli spaces of pseudo-holomorphic curves. *Geom. Topol.* **20** (2016), no. 2, 779–1034.
8. The Hilbert–Smith conjecture for three-manifolds. *J. Amer. Math. Soc.* **26** (2013), no. 3, 879–899.
7. The link concordance invariant from Lee homology. *Algebr. Geom. Topol.* **12** (2012), no. 2, 1081–1098.
6. (with János Kóllar). Algebraic varieties with semialgebraic universal cover. *J. Topol.* **5** (2012), no. 1, 199–212.
5. On the distortion of knots on embedded surfaces. *Ann. of Math. (2)* **174** (2011), no. 1, 637–646.
4. Central limit theorems for uniform model random polygons. *J. Theoret. Probab.* **25** (2012), no. 3, 823–833.
3. Central limit theorems for random polygons in an arbitrary convex set. *Ann. Probab.* **39** (2011), no. 3, 881–903.
2. Concurrent normals to convex bodies and spaces of Morse functions. *Math. Ann.* **352** (2012), no. 1, 55–71.
1. On the unfolding of simple closed curves. *Trans. Amer. Math. Soc.* **361** (2009), no. 4, 1749–1764.

## GRANTS

Packard Fellowship 2017 (\$875,000 grant over 5 years)

Alan T. Waterman Award 2017 (National Science Foundation, \$1,000,000 grant over 5 years)

## AWARDS AND HONORS

Frontiers of Science Award 2023 (International Congress of Basic Science Beijing)

Clay Research Award 2022

MCA Prize 2021

Invited Speaker at ICM 2018

Fellow of the AMS 2018

Packard Fellowship 2017

Alan T. Waterman Award 2017

Clay Research Fellowship 2015

Frank and Brennie Morgan Prize 2012

Valedictorian 2011 (Princeton University)

Phi Beta Kappa Prize 2011 (Princeton University)

George B. Covington Prize 2011 (Princeton University Department of Mathematics)

## SERVICE

Simons Center: Research Assistant Professor Hiring Committee Chair 2023, 2022, Scientific Advisory Council member (2022-present)

Princeton: Junior Faculty Hiring Committee (2016, 2020 chair), Strategic Planning Committee (2021 chair), Graduate Admissions Committee (2017, 2019), Advisor to Senior Math Majors (2017–2022)

Referee for: Journal of the AMS, Geometry and Topology (2), Bulletin of the AMS, Journal of Differential Geometry, Journal of Topology (2), Journal of Symplectic Geometry (3), Proceedings of the AMS, Hokkaido Mathematical Journal

Editor of: Annales Henri Lebesgue (2018–2021), Duke Math Journal (2020–present)

## SEMINAR TALKS

BIMSA (Beijing) “ICBS Plenary Lecture”, July, 2024 (planned).

BIMSA (Beijing) “ICBS FSA Lecture”, July, 2024 (planned).

Princeton “Colloquium”, April 17, 2024.

Columbia “Colloquium”, February 27, 2024.

Columbia “Informal Mathematical Physics Seminar”, February 26, 2024.

IMSA Miami “Homological Mirror Symmetry Conference”, January 26, 2024.

IMSA Miami “Mathematical Waves”, January 24, 2024.

Academica Sinica (Taipei) “Enumerative Geometry in East Asia”, December 27, 2023.

Kansas State (via Zoom) “M-Seminar”, December 6, 2023.

SCGP “Birational Geometry and Quantum Invariants”, October 31, 2023.

(via Zoom) “Western Hemisphere Colloquium on Geometry and Physics”, October 16, 2023.

Oxford “Clay Research Conference”, September 27, 2023.

UBC/ETH (via Zoom) “Intercontinental Moduli Zoominar”, September 11, 2023.

Berlin “SFT10 Workshop”, August 28–29, 2023.

BIMSA (Beijing) “ICBS FSA Lecture”, July 17, 2023.

Princeton “RTG Summer School”, July 3–7, 2023.

Stony Brook “AGNES Conference”, April 29, 2023.

Stony Brook “Colloquium”, April 13, 2023.

IMSA Miami “Homological Mirror Symmetry Conference”, January 27, 2023.

SDU Odense “QM Research Seminar”, November 11, 2022.

ICTP Trieste “Frontiers in Geometry and Topology Research Conference”, August 8, 2022.

ICMS Sofia “Edging Higher, ICMS Inaugural Conference”, July 12, 2022.

MIT “Colloquium”, October 21, 2021.

SCGP “Weekly Talk”, October 19, 2021.

Michigan (Ann Arbor) “Complex Analysis, Dynamics and Geometry Seminar”, September 27, 2021.

Buenos Aires (via Zoom) “Mathematical Congress of the Americas 2021”, July 23, 2021.

UBC (via Zoom) “Topology Seminar”, May 26, 2021.

ETH (via Zoom) “Floer Theory and Hamiltonian Dynamics of Non-Compact Hypersurfaces”, January 20, 2021.

Stony Brook (via Zoom) “Colloquium”, November 19, 2020.

Iowa (via Zoom) “Topology Seminar”, October 1, 2020.

Montreal/Princeton/IAS/Paris/Tel Aviv (via Zoom) “Symplectic Zoominar”, July 24, 2020.

IMSA Miami “Homological Mirror Symmetry and Self Organized Criticalities”, September 9, 2019.

Utah “Wasatch Topology Conference”, August 15, 2019.

CRM Montreal “SMS 2019 Summer School: Current Trends in Symplectic Topology”, July 8–12, 2019.

CRM Montreal “Homological Algebra, Microlocal Analysis and Symplectic Geometry”, June 17–21, 2019.

Edinburgh “Geometry Seminar (EDGE)”, May 13, 2019.

Cambridge “Categorical symplectic topology”, March 29, 2019.

Jerusalem “Topology & Geometry”, March 12, 2019.

Cambridge “Differential Geometry & Topology Seminar”, March 6, 2019.

Oxford “Geometry and Analysis Seminar”, March 4, 2019.

Kyoto “Fukaya 60 Geometry and Everything”, February 18, 2019.

Miami “Mirror Symmetry and Related Topics”, January 28–31, 2019.

Stanford “MRC Distinguished Lectures”, January 11–18, 2019.

UCLA “Symplectic Geometry and Homotopy Theory”, December 12, 2018.

Harvard “Gauge–Topology–Symplectic Seminar”, November 30, 2018.

Oxford “CMI at 20”, September 26, 2018.

Packard Meeting “30th Anniversary Reunion”, September 7, 2018.

Asilomar “Geometric methods in symplectic and contact topology”, August 24, 2018.

ICM (Brazil) “Topology Section”, August 7, 2018.

Orsay “Lectures on Fukaya categories”, June 14–15, 2018.

Orsay “Cerf90 Conference”, June 12, 2018.

Duke “Duke Math Journal Conference”, April 29, 2018.

AIM (San Jose) “Arborealization of singularities of Lagrangian skeleta”, March 27, 2018.

Princeton “Colloquium”, December 6, 2017.

Simons Center NYC “Simons Collaboration on Homological Mirror Symmetry Annual Meeting”, November 17, 2017.

Cambridge “Donaldson60”, August 17, 2017.

UCLA “Floer homology and homotopy theory”, July 10–11, 2017.

University of Georgia “International Topology Conference”, May 29, 2017.

SCGP at Stony Brook “Homological mirror symmetry and higher genus invariants”, May 22–25, 2017.

Harvard “Journal of Differential Geometry Conference”, May 2, 2017.

University of Athens “Gromov’s knot distortion”, March 20, 2017.

Princeton “Symplectic Geometry Seminar”, March 2, 2017.

BHU Varanasi “International Conference of TIMC and AMS”, December 15, 2016.

UPenn “Colloquium”, November 30, 2016.

University of Michigan “Colloquium”, October 25, 2016.

Rutgers “Colloquium”, October 21, 2016.

IAS (Princeton) “Homological Mirror Symmetry (minicourse)”, October 5 and 7, 2016.

UCLA “Topology Seminar”, April 29, 2016.

UCLA “Colloquium”, April 28, 2016.

Rice “Wolfe Lecture”, April 14, 2016.

Columbia “McDuff70 Topological and Quantitative Aspects of Symplectic Manifolds”, March 20, 2016.

Stanford “Symplectic Geometry Seminar”, February 22, 2016.

IAS (Princeton) “Flows, foliations, and contact structures”, December 10, 2015.

Nantes “Séminaire de Topologie, Géométrie et Algèbre”, November 12, 2015.  
 Strasbourg “Séminaire Géométrie et applications”, November 9, 2015.  
 IHP (Paris) “Symplectic Geometry Seminar”, November 6, 2015.  
 Orsay “Séminaire de l’équipe Topologie Dynamique”, October 22, 2015.  
 UCL “Symplectic Working Group Seminar”, October 19–20, 2015.  
 Paris 7 “Paris 6–7 Colloquium”, October 15, 2015.  
 IML (Stockholm) “Symplectic Geometry Seminar”, October 6, 2015.  
 PIMS (Vancouver) “Symposium on the Geometry and Topology of Manifolds”, July 9, 2015.  
 CIRM (Luminy) “Moduli Spaces in Symplectic Topology and in Gauge Theory”, June 2, 2015.  
 IHÉS “Séminaire de Mathématiques”, May 7, 2015.  
 Courant (NYU) “Geometry Festival”, May 1–3, 2015.  
 Duke “Geometry/Topology Seminar”, April 17, 2015.  
 Montréal “Symplectic Geometry Seminar”, April 10, 2015.  
 Montréal “Geometry and Topology Seminar”, April 10, 2015.  
 Stanford “Northern California Symplectic Geometry Seminar”, April 6, 2015.  
 Columbia “Symplectic Geometry Seminar”, February 20, 2015.  
 Princeton/IAS “Symplectic Geometry Seminar”, February 19, 2015.  
 Princeton “Department Colloquium”, February 18, 2015.  
 Stanford “Moduli Spaces of Curves and Maps”, February 14, 2015.  
 Stanford “Symplectic Geometry Seminar”, October 27, 2014.  
 ENS Lyon “Seminar”, July 11, 2014.  
 SCGP (Stony Brook) “Moduli Spaces of Pseudo-holomorphic Curves II”, June 3–4, 2014.  
 IM PAN Warsaw “Geometric Topology Workshop”, May 15–16, 2014.  
 MIT “Geometry and Topology Seminar”, May 12, 2014.  
 SCGP (Stony Brook) “Moduli Spaces of Pseudo-holomorphic Curves I”, March 20, 2014.  
 Columbia “Symplectic Geometry, Gauge Theory, and Categorification Seminar”, March 7, 2014.  
 Princeton / IAS “Symplectic Geometry Seminar”, February 28, 2014.  
 Princeton “Topology Seminar”, February 27, 2014.  
 IST Portugal “Symplectic Geometry, Contact Geometry and Interactions”, January 31, 2014.  
 Jussieu “Séminaire de Topologie”, January 28, 2014.  
 CIRM (Luminy) “Young Geometric Group Theory Workshop”, January 21, 2014.  
 Caltech “Geometry and Topology Seminar”, January 10, 2014.  
 UC Berkeley “Topology Seminar”, October 2, 2013.  
 UCLA “Joint Los Angeles Topology Seminar”, April 15, 2013.  
 IPAM at UCLA “Dynamics of Groups and Rational Maps Workshop”, April 11, 2013.  
 Stanford “Symplectic Geometry Seminar”, February 11, 2013.  
 UT Knoxville “Southeast Geometry Conference”, December 9, 2012.  
 SCGP (Stony Brook) “Symplectic and Low Dimensional Topologies in Interaction”, December 4, 2012.  
 UPenn “PATCH Geometry–Topology Seminar”, November 29, 2012.  
 PCMI “Geometric Group Theory Research Program Seminar”, July 12, 2012.

Stanford “Bay Area Differential Geometry Seminar”, June 2, 2012.  
 Cornell “Topology Festival”, May 6, 2012.  
 Stanford “Topology Seminar”, April 24, 2012.  
 UC Berkeley “Topology Seminar”, February 22, 2012.  
 Harvard “Gauge Theory and Topology Seminar”, February 17, 2012.  
 Michigan State “Low-Dimensional Topology Seminar”, February 14, 2012.  
 UC Davis “Geometry/Topology Seminar”, February 7, 2012.  
 Caltech “Geometry and Topology Seminar”, Oct 28, 2011.  
 University of South Carolina “Southeast Geometry Conference”, May 8, 2011.  
 City University of New York “Geometry and Topology Seminar”, February 15, 2011.  
 Georgia Tech “Geometry Topology Seminar”, January 28, 2011.  
 Princeton “Topology Seminar”, December 9, 2010.  
 Princeton “Ergodic Theory and Statistical Mechanics Seminar”, March 11, 2010.  
 Princeton “Miniconference on Dynamical Systems”, January 15, 2010.  
 Georgia Tech “Geometry Topology Seminar”, February 1, 2008.  
 University of Georgia “Geometry Seminar”, February 23, 2007.

#### WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

2010 Winner Group N1 (6th place)  
 2009 Winner Group N1 (6th place)  
 2008 Winner Group N1 (12th place)  
 2007 Honorable Mention (25th place)

#### INTERNATIONAL OLYMPIAD IN INFORMATICS

2007 Gold Medal (5th place)  
 2006 Gold Medal (5th place)  
 2005 Gold Medal (21st place)