Johan Asplund

Contact information.	
Stony Brook University	
Department of Mathematics	
100 Nicolls Road	
Stony Brook, NY 11794, USA	
math.stonybrook.edu/~jasplund	
Research interests.	
 Symplectic geometry, contact geometry Symplectic field theory, Floer theories, holomorphic curves String topology, knot theory 	
Education	
Ph.D. in Mathematics, Uppsala University	2016-2021
Thesis: Chekanov–Eliashberg dg-algebras and partially wrapped Floer cohomology	
Advisors: Tobias Ekholm, Thomas Kragh	
MSc. in Mathematics, Uppsala University	2014-2016
Thesis: Contact homology of Legendrian knots in five-dimensional circle bundles Advisor: Thomas Kragh	
BSc. in Mathematics. Uppsala University	2011 - 2014
Thesis: Linking and Morse theory Advisor: Tobias Ekholm	
Appointments	
James H. Simons Instructor, Stony Brook University Mentor: Mark McLean	2024-2027
Postdoctoral Research Fellow, Columbia University	2022-2024
Mentor: Mohammed Abouzaid	
Research assistant, Uppsala University	2021
Head teaching assistant, Uppsala University	2014 - 2016
reaching assistant, Oppsala University	2013-2014
Scholarships, grants and awards	
G.S. Magnuson Foundation	2024
The Royal Swedish Academy of Sciences	0000 0004
Knut and Alice Wallenberg postdoc scholarship (\$135,000)	2022-2024
Liliewalchs travel scholarship	2020
Stecksén–Norbergs	2016
Norrlands Nation	
Research visits	
Institute for Advanced Study (Summer Collaborators Program)	Jun 2024
with Yash Deshmukh and Alex Pieloch.	
10pic: Homotopy Incoretic Structures in Floer Theory Institute for Basic Science, Center for Geometry and Physics	Mar 2022
Institut Mittag-Leffler (Program: Knots, Strings, Symplectic Geometry and Dualities)	Fall 2020

PUBLICATIONS AND PREPRINTS

Persistence of unknottedness of clean Lagrangian intersections	Preprint
with Yin Li	_
[arxiv:2501.09110]	
Spectral equivalence of nearby Lagrangians	Preprint
with Yash Deshmukh and Alex Pieloch	
[arxiv:2411.08841]	
Singular Legendrian unknot links and relative Ginzburg algebras	Preprint
To appear in Algebr. Geom. Topol. [arxiv:2311.03330]	
Lagrangian cobordism of positroid links	2024
with Youngjin Bae, Orosola Capovilla-Searle, Marco Castronovo,	
Caitlin Leverson, and Angela Wu	
Pacific J. Math., 332(1):1-21, 2024. [arxiv:2305.16232]	
Tangle contact homology	2024
Internat. J. Math., 33(12):Paper No 2450044, 59, 2024 [arxiv:2210.03036]	
Simplicial descent for Chekanov–Eliashberg dg-algebras	2023
J. Topol., $16(2)$:489–541, 2023. [arxiv:2112.01915]	
Chekanov–Eliashberg dg-algebras for singular Legendrians	2022
with Tobias Ekholm	
J. Symplectic Geom., 20(3):509–559, 2022. [arxiv:2102.04858]	
Fiber Floer cohomology and conormal stops	2021
J. Symplectic Geom., 19(4):777-864, 2021. [arxiv:1912.02547]	

INVITED TALKS

Geometry/Physics Seminar, Northwestern University	$Mar \ 2024$
Symplectic geometry, gauge theory, and low-dimensional topology seminar	Feb 2024
Stony Brook University	
Paris algebra seminar (Online)	Jan 2024
Institut de Mathématiques de Jussieu-Paris Rive Gauche	
Geometry & Topology Seminar, Uppsala University	Dec 2023
CGP Seminar, Institute for Basic Science	Mar 2023
Princeton/IAS Symplectic Geometry seminar, Princeton University	Oct 2022
Symplectic seminar, MIT	Sep 2022
Symplectic geometry, gauge theory and low-dimensional topology seminar	Sep 2022
Stony Brook University	
Recent developments in Lagrangian Floer theory	Mar 2022
Simons Center for Geometry and Physics	
Symplectic Zoominar (Online), CRM-Montréal, Princeton/IAS, Tel Aviv, and Paris	Dec 2021
Nantes–Orsay Seminar on Symplectic and Contact Topology	Nov 2021
Université Paris-Saclay	
Geometry & Topology Seminar, Uppsala University	Nov 2021
Freemath Seminar (Online)	Jun 2021
University of Lancaster, University of Cambridge, and Imperial College London	
Symplectix Seminar (Online)	Apr 2021
Institut Henri Poincaré, Université de Nantes, and Université Paris-Sud	
Geometry & Topology Seminar, Uppsala University	Feb 2021
Symplectic Geometry Seminar (Online), Humboldt-Universität zu Berlin	Jan 2021
Knots, Strings, Symplectic Geometry and Dualities, Institut Mittag-Leffler	Oct 2020
Topology Seminar (Online), Korea Institute for Advanced Study	Jun 2020

EXPOSITORY TALKS

Spectral equivalence of nearby Lagrangians	Dec 2024
Symplectic Topology Student Seminar, Stony Brook University	
Spectra and orientations	Nov 2024
Symplectic Topology Student Seminar, Stony Brook University	
Flow categories	Nov 2024
Symplectic Topology Student Seminar, Stony Brook University	N. 2024
The Cohen–Jones–Segal construction	Nov 2024
Symplectic geometry and gauge theory learning seminar, Stony Brook University	
Spectra and orientations	Oct 2024
Symplectic geometry and gauge theory learning seminar, Stony Brook University	
Legendrian knot theory	Oct 2024
Stony Brook University Math Club, Stony Brook University	0 1 000 1
Flow categories	Oct 2024
Symplectic geometry and gauge theory learning seminar, Stony Brook University	N. 0000
Legendrian knots and complex Grassmannians	Nov 2023
Postdoc Seminar Series, Columbia University	
Legendrian knot theory	Oct 2023
Columbia Undergraduate Math Society, Columbia University	1 0000
The Ozsváth–Szabó contact invariant	Apr 2023
Reading seminar on applications and computations of Floer homology,	
Columbia University	N
Legendrian knot theory and the Chekanov–Eliashberg dg-algebra	Nov 2022
Michael Zhao Student Colloquium, Columbia University	
Legendrian knots and constructible sheaves	Oct 2022
Reading seminar on microlocal sheaf theory, Columbia University	F 1 2022
The Chekanov–Eliashberg dg-algebra	Feb 2022
Columbia Undergraduate Math Society, Columbia University	0 + 2021
Functoriality of Legendrian contact homology	Oct 2021
Reading seminar on Lagrangian fillings, Columbia University	
Introduction to homological mirror symmetry and the Fukaya category	Mar 2020
Uppsala Ph.D. Mathematics Conference, Uppsala University	G 2010
Legendrian approximation or how to parallel park a car	Sep 2019
Ph.D. Seminar, Uppsala University	N. 0010
Associativity in topology	Nov 2018
Ph.D. Seminar, Uppsala University	A 0010
LCH and the art of counting pseudoholomorphic disks	Apr 2018
Ph.D. Seminar, Uppsala University	C 0017
Flexibility of Legendrian immersions	Sep 2017
Geometry & Topology Seminar, Uppsala University	A 0017
Morse now trees and their relation to LCH in 1-jet spaces	Aug 2017
Legendrian Contact Homology and a variety of augmentations,	
Krusenberg Herrgard, Uppsala	
Service and organization	
Symplectic geometry, gauge theory, and low-dimensional topology seminar	2024 - 2025
Stony Brook University (co-organizer)	
Symplectic geometry and gauge theory seminar	Fall 2023
Columbia University (co-organizer)	

Symplectic geometry, gauge theory and categorification seminar Columbia University (co-organizer) 2022

Reading seminar on microlocal sheaf theory in symplectic geometry	Fall 2022	
Columbia University (co-organizer) Student Symplectic Seminar, Uppsala University (co-organizer) 2017–2020 Journal of Symplectic Geometry.		
Conferences and workshops attended		
2024 Simons Math Summer Workshop	Jul 2024	
Simons Center for Geometry and Physics, Stony Brook		
From Hamiltonian Dynamics to Symplectic Topology and Beyond Institut Henri Poincaré, Paris	Jun 2024	
Birational Geometry and Quantum Invariants	Oct 2023	
Simons Center for Geometry and Physics, Stony Brook		
Symplectic Geometry, Low Dimensional Topology, and Quantum Fields Clav Mathematics Institute, Oxford	Sep 2023	
Symplectic Field Theory 10, Humboldt-Universität zu Berlin, Berlin	Aug 2023	
2023 Simons Math Summer Workshop	Aug 2023	
Simons Center for Geometry and Physics, Stony Brook		
GTiNY (Geometric Topology in New York), Columbia University, New York	Jun 2023	
Concluding Conference of Simons Collaboration on Homological Mirror Symm	\mathbf{etry}	
Simons Center for Geometry and Physics, Stony Brook	Apr 2023	
AIM Workshop: Cluster algebras and braid varieties	Jan 2023	
American Institute of Mathematics, San Jose		
Simons Collaboration on Homological Mirror Symmetry Annual Meeting	Nov 2022	
Ingrid Daubechies Auditorium, New York		
Symplectic and contact topology early career workshop, UC Davis, Davis	Aug 2022	
Convexity in contact and symplectic topology, Institut Henri Poincaré, Paris	Jul 2022	
Frontiers of Quantitative Symplectic and Contact Geometry	Jun 2022	
Institut Mittag-Leffler, Stockholm	T 0000	
Reflections on Geometry: 3-manifolds, groups and singularities	Jun 2022	
Columbia University, New York		
Columbia University, New York	May 2022	
Homological Mirror Symmetry, University of Miami, Miami	Apr 2022	
Recent developments in Lagrangian Floer theory	${\rm Mar}~2022$	
Simons Center for Geometry and Physics, Stony Brook		
Uppsala–Nantes Workshop on Lagrangian cobordisms and Floer theory	Oct 2021	
Haga Slott, Enköping		
Braids, mutations and twists in algebra and geometry (Online)	Jun 2021	

Uppsala University, Uppsala	
Advances in Symplectic topology (Online), Institut Henri Poincaré, Paris	May 2021
From Hamiltonian Dynamics to Symplectic Topology (Online), CIRM, Marseille	Apr 2021
Spring School on Symplectic and Contact Topology (Online), CIRM, Marseille	Apr 2021
CAST 2020, University of Antwerp, Antwerp	Feb 2020
International Conference on Symplectic Topology, IMPA, Rio de Janeiro	Aug 2019
School of Symplectic Topology, IMPA, Rio de Janeiro	Aug 2019
String Math 2019, Uppsala University, Uppsala	Jul 2019
Mathematics and Physics of Knots, Institut Mittag-Leffler, Stockholm	Jun 2019
CAST 2018, Uppsala University, Uppsala	Jan 2018
Legendrian Contact Homology and a variety of augmentations	Aug 2017
Krusenberg Herrgård, Uppsala	
Holomorphic Curves and Symplectic Topology, Institut Mittag-Leffler, Stockholm	Aug 2017
Symplectic Field Theory VIII, Humboldt-Universität zu Berlin, Berlin	Aug 2016

QGM Summer School, Centre for Quantum Geometry and Moduli Spaces, Aarhus Aug 2016

TEACHING EXPERIENCE

Stony Brook University:	
MAT 127 Calculus C, Instructor and coordinator	Fall 2024
MAT 127 Calculus C, Instructor and coordinator	Spring 2024
MAT 322 Analysis in Several Dimensions, Instructor	Spring 2024
Uppsala University:	
1MA024 Linear Algebra II, TA (recitations)	Fall 2021
1MA179 Basic Topology , Instructor	Spring 2021
1MA004 Algebra I, TA (recitations)	Fall 2020
1MA010 Basic Course in Mathematics, TA (recitations)	Fall 2020
1MA179 Basic Topology , Instructor	Spring 2020
1MA025 Linear Algebra and Geometry I, TA (recitations)	Fall 2019
1MA010 Basic Course in Mathematics, TA (recitations)	Fall 2019
1MA004 Algebra I , TA (recitations)	Fall 2018
1MA008 Algebra and Vector Geometry, TA (recitations)	Fall 2018
1MA013 Single Variable Calculus, TA (recitations)	Spring 2018
1MA004 Algebra I, TA (recitations)	Fall 2017
1MA010 Basic Course in Mathematics, TA (recitations)	Fall 2017
1MA013 Single Variable Calculus, TA (recitations)	Fall 2016–Spring 2017
1MA010 Basic Course in Mathematics, TA (recitations)	Fall 2016
1MA013 Single Variable Calculus M, TA (recitations)	Fall 2015
1MA013 Single Variable Calculus, Instructor	Summer 2015
1MA025 Linear Algebra and Geometry I, TA (recitations)	Spring 2015
1MA024 Linear Algebra II, TA (recitations)	Fall 2014
1MA013 Single Variable Calculus, Instructor	Summer 2014
1MA010 Basic Course in Mathematics, TA (recitations)	Fall 2013
1MA013 Single Variable Calculus, Instructor	Summer 2013
1MA013 Single Variable Calculus, TA (recitations)	Fall 2012

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