

# ANTOINE SONG

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Citizenship : France

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## Employment and Education

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PostDoc	2019-present 2019-2024	<b>UC Berkeley</b> Clay Research Fellow
Ph.D.	2015-2019	<b>Princeton University</b> Advisor : Fernando C. Marques
M.S.	2014-2015	<b>Université Pierre et Marie Curie (Paris 6)</b>
B.S.	2010-2014	<b>Université Pierre et Marie Curie (Paris 6)</b> Elève normalien, <b>Ecole Normale Supérieure de Paris</b> Classes préparatoires, <b>Lycée Henri IV</b>

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## Research

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- *Generic scarring for minimal hypersurfaces along stable hypersurfaces*,  
(with Xin Zhou), arXiv :2006.03038
- *Morse index, Betti numbers and singular set of bounded area minimal hypersurfaces*,  
arXiv :1911.09166
- *On the existence of minimal Heegaard surfaces*,  
(with Daniel Ketover and Yevgeny Liokumovich), arXiv :1911.07161
- *A dichotomy for minimal hypersurfaces in manifolds thick at infinity*,  
arXiv :1902.06767
- *Existence of infinitely many minimal hypersurfaces in closed manifolds*,  
arXiv :1806.08816
- *Equidistribution of minimal hypersurfaces for generic metrics*,  
(with Fernando C. Marques and André Neves), Invent. Math., vol. 216, pp. 423-443 (2019),  
arXiv :1712.06238

- *Local min-max surfaces and strongly irreducible minimal Heegaard splittings*, arXiv :1706.01037
- *Appearance of stable spheres along the Ricci flow in positive scalar curvature*, Geom. Topol., vol. 23, no. 7, pp. 3501-3535 (2019), arXiv :1611.09747
- *Embeddedness of least area minimal hypersurfaces*, J. Differential Geom., vol. 110, no. 2, pp. 345-377 (2018), arXiv :1511.02844
- *A maximum principle for self-shrinkers and some consequences*, arXiv :1412.4755

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### Teaching experience

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Fall 2018	Instructor, Calculus MAT103	<b>Princeton University</b>
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### Service

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Journal referee and quick opinion	Duke, CPAM, Journal of Differential Geometry, Geometry and Topology, American Journal of Mathematics, Journal of Geometric Analysis, Communications in Analysis and Geometry, Revista Matematica Iberoamericana, Archiv der Mathematik
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### Conferences and seminars

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#### Conferences and colloquia :

- Cornell colloquium, USA, 11/2020
- CRM Nirenberg lectures, Montréal, Canada, 09/2020
- ICCM lectures, Tsinghua University, China, 07/2020
- 2020 International Conference on PDEs and Geometric Analysis, Shanghai Jiaotong University, China, 07/2020
- Princeton colloquium, USA 06/2020
- SCGAS, Irvine, USA, 02/2020
- ICCM, Sanya, China, 12/2020
- 2019 Young Mathematician Forum, Peking University, China, 12/2020
- AMS sectional meeting, Riverside, USA, 11/2019
- Arbeitstagung 2019, Bonn, Germany, 07/2019
- Oberwolfach Workshop in Geometry, Germany, 07/2019
- 1st Joint Meeting Brazil France, IMPA, Brazil, 07/2019
- AMS sectional meeting, Hartford, USA, 04/2019
- AMS sectional meeting, Hawaii, USA, 03/2019
- AMS sectional meeting, Auburn, USA, 03/2019
- Workshop in Geometric Analysis, IHP, Paris, France, 12/2018
- Oberwolfach Workshop in Geometry, Germany, 06/2018
- ICMS Workshop in Geometric Analysis, Edinburgh, Scotland, 05/2018

— VIII Workshop on Differential Geometry, Praia do Francês, Brazil, 03/2018

**Seminars :**

- UC Berkeley, 11/2020
- Princeton University, 10/2020
- Stony Brook, 07/2020
- UC Santa Cruz, 02/2020
- University of Chicago, 02/2020
- UC Davis 01/2020
- Caltech, 11/2019
- Courant institute, 04/2019
- Harvard University, 02/2019
- Institut Fourier, 12/2018
- Fields institute, 11/2018
- Rutgers University, 11/2018
- IAS, special year in variational methods, 10/2018
- Stanford University, 10/2018
- UC Berkeley, 10/2018
- CUNY, 03/2018
- UC Berkeley, 10/2017
- UCSB, 10/2017
- University of Chicago, 10/2017
- UC Berkeley, 04/2017
- Princeton University, 03/2017
- University of Pennsylvania, 02/2017
- Université Paris-Diderot-Paris 7, 05/2015

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**Research interests**

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Differential Geometry, Geometric PDE, Geometric Topology

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**Miscellaneous**

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- Clay fellowship, 2019-2024
- Concours général de mathématiques, 3rd prize
- French mathematics olympiads, 2nd prize