

# Sucharit Sarkar

Curriculum Vitae

## Contact

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## Interests

Low dimensional topology, symplectic geometry, and algebraic topology, with particular interest in knot theory, Heegaard Floer homology, and Khovanov homology.

## Education

Ph.D. in Mathematics, Princeton University. 2005 – 2009  
Bachelor of Mathematics, Indian Statistical Institute. 2002 – 2005

## Employment

Professor, University of California at Los Angeles. 2021 –  
Associate Professor, University of California at Los Angeles. 2016 – 2021  
Assistant Professor, Princeton University. 2012 – 2016  
Clay Research Fellow, Clay Mathematics Institute. 2009 – 2013  
Ritt Assistant Professor, Columbia University. 2009 – 2012

## Visiting positions

Simons Center for Geometry and Physics. November, 2012  
Mathematical Sciences Research Institute. Spring, 2010

## Awards and honors

Sorgenfrey Distinguished Teaching Award, UCLA. 2020  
Invited talk at International Congress of Mathematics, Brazil. 2018  
CAREER Grant, National Science Foundation. 2014 – 2020  
Clay Research Fellowship, Clay Mathematics Institute. 2009 – 2013  
Honorific Fellowship, Princeton University. 2008 – 2009  
Centennial Fellowship, Princeton University. 2005 – 2009  
S. H. Aravind Gold Medal, Indian Statistical Institute. 2005  
KVPY scholarship, Govt. of India. 2002 – 2005  
Gold and silver medals, International Mathematical Olympiads. 2001 – 2002

## Journals

Editor, *Selecta Mathematica*. 2020 –  
Board member, *Pacific Journal of Mathematics*. 2018 –

## Selected papers

1. (Lipshitz-Sarkar) *Spatial refinements and Khovanov homology*. Proc. of the ICM (2018)
2. (Lipshitz-Sarkar) *A Khovanov stable homotopy type*. J. Amer. Math. Soc. (2014)
3. (Sarkar-Wang) *An algorithm for computing some Heegaard Floer homologies*. Ann. of Math. (2010)
4. (Manolescu-Ozsvath-Sarkar) *A combinatorial description of knot Floer homology*. Ann. of Math. (2009)

## Other publications

5. (Lipshitz-Sarkar) *Khovanov homology detects split links*. Amer. J. Math.
6. (Lawson-Lipshitz-Sarkar) *Khovanov spectra for tangles*. J. Inst. Math. Jussieu
7. (Lawson-Lipshitz-Sarkar) *Khovanov homotopy type, Burnside category, and products*. Geom. Topol.
8. (Cheng-Hedden-Sarkar) *Murasugi sum and extremal knot Floer homology*. Quantum Topol.
9. (Lipshitz-Sarkar) *A mixed invariant of non-orientable surfaces in equivariant Khovanov homology*. Trans. Amer. Math. Soc.
10. (Manolescu-Marengon-Sarkar-Willis) *A generalization of Rasmussen's invariant, with applications to surfaces in some four-manifolds*. Duke Math. J. (2023)
11. (Lawson-Lipshitz-Sarkar) *Homotopy functoriality for Khovanov spectra*. J. Topol. (2022)
12. (Lawson-Lipshitz-Sarkar) *Chen-Khovanov spectra for tangles*. Michigan Math. J. (2022)
13. (Sarkar) *Ribbon distance and Khovanov homology*. Algebr. Geom. Topol. (2020)
14. (Hendricks-Lipshitz-Sarkar) *Correction to the paper "A flexible construction of equivariant Floer homology and applications"*. J. Topol. (2020)
15. (Sarkar-Scaduto-Stoffregen) *An odd Khovanov homotopy type*. Adv. Math. (2020)
16. (Hendricks-Lipshitz-Sarkar) *A simplicial construction of  $G$ -equivariant Floer homology*. Proc. London Math. Soc. (2020)
17. (Sarkar) *Phutball draws*. Games of No Chance 5 (2019)
18. (Baldwin-Levine-Sarkar) *Khovanov homology and knot Floer homology for pointed links*. J. Knot Theory Ramifications (2017)
19. (Lawson-Lipshitz-Sarkar) *The cube and the Burnside category*. Contemp. Math. (2017)
20. (Sarkar-Seed-Szabo) *A perturbation of the geometric spectral sequence in Khovanov homology*. Quantum Topol. (2017)
21. (Hendricks-Lipshitz-Sarkar) *A flexible construction of equivariant Floer homology and applications*. J. Topol. (2016)
22. (Everitt-Lipshitz-Sarkar-Turner) *Khovanov homotopy types and the Dold-Thom functor*. Homology Homotopy Appl. (2016)
23. (Lipshitz-Ng-Sarkar) *On transverse invariants from Khovanov homology*. Quantum Topol. (2015)
24. (Sarkar) *Moving basepoints and the induced automorphisms of link Floer homology*. Algebr. Geom. Topol. (2015)
25. (Lipshitz-Sarkar) *A refinement of Rasmussen's  $s$ -invariant*. Duke Math. J. (2014)
26. (Lipshitz-Sarkar) *A Steenrod square on Khovanov homology*. J. Topol. (2014)
27. (Hedden-Juhász-Sarkar) *On sutured Floer homology and the equivalence of Seifert surfaces*. Algebr. Geom. Topol. (2013)
28. (Sarkar) *Grid diagrams and shellability*. Homology Homotopy Appl. (2012)
29. (Sarkar) *Grid diagrams and the Ozsvath-Szabo tau-invariant*. Math. Res. Lett. (2011)
30. (Sarkar) *A note on sign conventions in link Floer homology*. Quantum Topol. (2011)
31. (Sarkar) *Maslov index formulas for Whitney  $n$ -gons*. J. Symplectic Geom. (2011)
32. (Sarkar) *Commutators and squares in free groups*. Algebr. Geom. Topol. (2004)

## Preprints

33. (Lipshitz-Sarkar) *Khovanov homology of strongly invertible knots and their quotients*.
34. (Manolescu-Sarkar) *A knot Floer stable homotopy type*.