

# PRANABENDU MISRA

Postdoctoral Fellow

Department 1: Algorithms and Complexity

Max Planck Institute for Informatics,  
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## RESEARCH INTERESTS

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Algorithms, Graph Theory, Parameterized Complexity, Approximation algorithms.

### ADDITIONAL AREAS OF INTEREST

Network Design problems, Matching under Preferences, Algorithmic Game theory, Matroid theory, Optimization, Derandomization and Algebraic methods in algorithms, Streaming algorithms.

## EMPLOYMENT / EXPERIENCE

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FEB 2019 - PRESENT | Postdoctoral Fellow (Dept 1: Algorithms and Complexity),  
Max Planck Institute for Informatics, Saarbrücken, Germany.

JULY 2016 - JAN 2019 | Researcher (Algorithms group),  
Department of Informatics, University of Bergen, Norway.

## EDUCATION

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Institute of Mathematical Sciences, HBNI, Chennai, India

JUNE 2017 | PhD in Computer Science.  
THESIS : Parameterized Algorithms for Network Design.  
Advisor: Dr. Saket Saurabh.

Chennai Mathematical Institute, Chennai, India

AUG 2012 | M.Sc in Computer Science,  
THESIS : Some applications of the Regularity Lemma in Computer Science.

AUG 2010 | B.Sc (Hons.) in Mathematics and Computer Science.

## SELECTED PUBLICATIONS

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1. *Strong Connectivity Augmentation is FPT*  
with Kristine Vitting Klinkby and Saket Saurabh  
SODA 2021
2. *FPT Approximation for FPT Problems*  
with Daniel Lokshtanov, MS Ramanujanm, Saket Saurabh and Meirav Zehavi  
SODA 2021
3. *Polylogarithmic Approximation Algorithms for Weighted- $\mathcal{F}$ -Deletion Problems*  
with Akanksha Agrawal, Daniel Lokshtanov, Saket Saurabh, and Meirav Zehavi  
TALG (ACM Transactions on Algorithms), 2020 (accepted).  
**APPROX 2018** (Preliminary Version in Conference Proceedings).

4. *Feedback Vertex Set Inspired Kernel for Chordal Vertex Deletion*  
with Akanksha Agrawal, Daniel Lokshantov, Saket Saurabh and Meirav Zehavi.  
TALG (ACM Transactions on Algorithms), Volume 15(1): 11:1-11:28, 2019.  
SODA 2017 (Preliminary version in Conference Proceedings).
5. *Deterministic Truncation of Linear Matroids.*  
with Daniel Lokshantov, Fahad Panolan and Saket Saurabh.  
TALG (ACM Transactions on Algorithms), Volume 14(2):14:1-14:20, 2018.  
ICALP 2015 (Preliminary version in Conference Proceedings).
6. *An Exponential Time Parameterized Algorithm for Planar Disjoint Paths*  
with Daniel Lokshantov, Michal Pilipczuk, Saket Saurabh and Meirav Zehavi  
STOC 2020.
7. *2-Approximating Feedback Vertex Set in Tournaments*  
with Daniel Lokshantov, Joydeep Mukherjee, Geevarghese Philip, Fahad Panolan and Saket Saurabh  
SODA 2020.
8. *Popular Matching in the Roommates Setting is NP-hard*  
with Sushmita Gupta, Saket Saurabh, and Meirav Zehavi  
SODA 2019, Pages 1711-1730.
9. *Interval Vertex Deletion Admits a Polynomial Kernel*  
with Akanksha Agrawal, Saket Saurabh, and Meirav Zehavi  
SODA 2019, Pages 1711-1730.
10. *Parameterized Algorithms for Survivable Network Design with Uniform Demands*  
with Joergen Bang-Jensen, Manu Basavaraju, Kristine Vitting Klinkby, Ramanujan M. S., Saket Saurabh and Meirav Zehavi  
SODA 2018, Pages 2830-2850.

## TEACHING

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SUMMER 2020	<i>Parameterized Algorithms.</i>
Online Lectures in English	Max Planck Institute for Informatics, Saarbrucken, Germany. jointly taught with Dr. Daniel Marx.
SUMMER 2019	<i>Distributed and Sequential Graph Algorithms.</i>
Lectures in English	Max Planck Institute for Informatics, Saarbrucken, Germany. jointly taught with Dr. Saeed Amiri.

## PROFESSIONAL SERVICE

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Program Committee member for IPEC 2020.

Reviewer for conferences and journals such as STOC, SODA, STACS, ICALP, ESA, WG, IPEC, FSTTCS, MFCS, ISAAC, IPCO, ACM Transactions on Algorithms(TALG), SIAM Journal on Computing(SICOMP), Algorithmica, Discrete Applied Mathematics, Theoretical Computer Science, JCSS, SIAM Journal on Discrete Mathematics(SIDMA), Information Processing Letters(IPL).

Full cv and references available on request.