



Sudebkumar Prasant Pal

Personal Information

Nationality Indian
Designation Professor
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Education

- 1991 **Ph.D.**, *Department of Computer Science and Automation, IISc Bangalore.*
Ph.D. Thesis Title: Weak visibility and related problems on simple polygons
1986 **M.Tech.**, *Department of Computer Science and Engineering, IIT Kanpur.*
M.Tech. Thesis Title: A concurrent object oriented programming system
1983 **B.Tech.**, *Department of Computer Science and Engineering, IIT Kharagpur.*

Work Experience

- 2004 – now **Professor**, *Indian Institute of Technology, Kharagpur.*
1998 – 2004 **Associate Professor**, *Indian Institute of Technology, Kharagpur.*
1993 – 1998 **Assistant Professor**, *Indian Institute of Technology, Kharagpur.*
1990 – 1993 **Lecturer**, *Indian Institute of Technology, Kharagpur.*

Courses Taught

- 2017-20 Approximation and Online Algorithms (CS60023, LTP 3-0-0, 3 credits)
2003, 2009, Computational Geometry (CS60064, LTP 3-0-0, 3 credits)
2017-2018
2008-10, Algorithms II
2014-16
2016 Programming and Data Structures

2007, 2014 Special Topics in Algorithms

2004-08 Quantum Computing and Quantum Information Processing (LTP 3-1-0, 4 credits)

2003, 2006 Computational Complexity

Research Interests

Computational Geometry, Approximation Algorithms, Visibility and Reflection Paths, Art Gallery Problem

Selected List of Publications

- 1 **Niranjan Balachandran, Rogers Mathew, Tapas Kumar Mishra, Sudebkumar Prasant Pal**, *System of unbiased representatives for a collection of bicolourings.*, Discrete Applied Mathematics (Elsevier) (2020), Volume 286, 15 November 2020, Pages 116-127, 2019.
- 2 **Niranjan Balachandran, Rogers Mathew, Tapas Kumar Mishra and Sudebkumar Prasant Pal**, *Induced-bisecting families of bicolourings for hypergraphs*, Discrete Mathematics 341, pp. 1732-1739, (Elsevier), 2018.
- 3 **Niranjan Balachandran, Rogers Mathew, Tapas Kumar Mishra and Sudebkumar Prasant Pal**, *Bisecting and D-secting families for set systems*, Discrete Applied Mathematics, Volume 280, 15 June 2020, Pages 2-13, Elsevier.
- 4 **Tapas K. Mishra and S. P. Pal**, *Lower bounds for Ramsey numbers for complete bipartite graphs and 3-uniform tripartite subgraphs*, Journal of Graph Algorithms and Applications (special issue for WALCOM 2013), 17(6):671-688, 2013.
- 5 **Arindam Khan, S. P. Pal, Mridul Aanjaneya, Arijit Bishnu, Subhas C. Nandy**, *Diffuse Reflection Diameter and Radius for Convex-Quadrilateralizable Polygons*, Discrete Applied Mathematics, 161(10-11):1496-1505, 2013.
- 6 **Subir Kumar Ghosh, Partha P. Goswami, Anil Maheshwari, Subhas C. Nandy, S. P. Pal, Swami Sarvattomananda**, *Algorithms for computing diffuse reflection paths in polygons*, The Visual Computer, 28(12): 1229-1237, 2012.
- 7 **Saswata Shannigrahi and S. P. Pal**, *Efficient Prufer-like coding and counting labelled hypertrees*, Proceedings of the International Symposium on Algorithms and Computation, ISAAC 2006, LNCS 4288:141-152, 2006, (revised version in special issue of Algorithmica, vol. 54, pp. 208-225, Springer). 2009
- 8 **Sudhir Kumar Singh, S. P. Pal, Somesh Kumar and R. Srikanth**, *A combinatorial approach for studying LOCC transformations of multipartite states*, Journal of Mathematical Physics 46, 122105, 2005.
- 9 **S. P. Pal, Siddhartha Brahma and Dilip Sarkar**, *A linear worst-case lower bound on the number of holes in regions visible due to multiple diffuse reflections*, Journal of Geometry, Vol. 81, No. 1-2, December 2004, Birkhauser-Verlag, 2004.
- 10 **D. Chithra Prasad, S. P. Pal and T. K. Dey**, *Visibility with multiple diffuse reflections*, Computational Geometry: Theory and Applications, 10:187-196, 1998.

- 11 **B. Aronov, A. Davis, T. K. Dey, S. P. Pal and D. Chithra Prasad**, *Visibility with multiple reflections*, Discrete & Computational Geometry, 20(61):61-78, 1998.
(preliminary version in Proceedings of SWAT 1996, LNCS 1097:284-295)
- 12 **B. Aronov, A. Davis, T. K. Dey, S. P. Pal and D. Chithra Prasad**, *Visibility with one reflection*, Discrete & Computational Geometry, 19(4):553-574, 1998.
(preliminary version in Proceedings of SoCG 1995:316-325)
- 13 **S. K. Ghosh, A. Maheshwari, S. P. Pal, S. Saluja and C. E. Veni Madhavan**, *Characterizing and recognizing weak visibility polygons*, Computational Geometry: Theory and Applications, 3:213-233, Elsevier, North-Holland, 1993.
(preliminary version in the Proceedings of CCCG 1990, pp. 93-97)
- 14 **S. Biswas, D. Chithra Prasad and S. P. Pal**, *Recognizing weakly convex visible polygons*, Computational Geometry: Theory and Applications, 10:171-186, Elsevier, North-Holland, 1998.
(preliminary version in Proceedings of FSTTCS 1994, LNCS 880:181-192, Springer-Verlag)
- 15 **R. K. Pal, S. P. Pal and A. Pal**, *An algorithm for finding a non-trivial lower bound for channel routing*, INTEGRATION: The VLSI Journal, 25:71-84, Elsevier, North-Holland, 1998.

Honours, Achievements, and Positions Held

- 1) Governing body member of Association for Computer Science and Discrete Mathematics (ACSDM) for a few years.
- 2) Received the Rajiv Gandhi Research Grant for Innovative Ideas in Science and Technology, in 1993, from The Rajiv Gandhi Foundation and Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur, Bangalore.
- 3) Worked as Visiting Associate Professor in the Mathematics and Computer Science department in the University of Miami, Coral Gables, Miami, Florida - 33124, USA, during the period from August 1999 to May 2000.
- 4) Convenor of Advisory Committee for Centre for Theoretical Studies, IIT Kharagpur
- 5) Member of Programme Committee for FSTTCS 2004, Chennai
- 6) Member of National Advisory Committee for ISCQI 2008, IOP Bhubaneswar
- 7) Member of Programme Committee for WALCOM 2008 and WALCOM 2012
- 8) Co-Chairman of Organizing Committee for WALCOM 2013, IIT Kharagpur
- 9) Co-Chairman of Programme Committee for WALCOM 2014, IIT Madras
- 10) Member of Programme Committees for CALDAM 2015, CALDAM 2016 and CALDAM 2017.