**BIO-DATA**

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| **1.** | **Name and full correspondence address** | Dr. Shyam Sundar  Associate Professor  Department of Computer Applications  National Institute of Technology Raipur  G.E. Road, Raipur, Chhattisgarh – 492010 (India) |
| **2.** | **Email(s) and contact number(s)** | [ssundar.mca@nitrr.ac.in](mailto:ssundar.mca@nitrr.ac.in)  Mobile No.: 7745968949 |

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| **3. Educational Qualification** | Ph.D. (CS), University of Hyderabad, India |

**4. Research Area of Interest:** Heuristic and Metaheuristic Techniques for Combinatorial Optimization

Problems

**5. Publications (List of papers published in SCI Journals).**

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| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Authors** | **Title** | **Name of Journal** | **Volume** | **Page** | **Year** |
| 1 | Manisha Israni and Shyam Sundar | An artificial bee colony algorithm for the minimum edge-dilation K-center problem | [Soft Comput](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24)ing, Springer | 28 | 8497-8511 | 2024 |
| 2 | Manisha Israni and Shyam Sundar | Iterated local search with two strategies in the acceptance criterion for the tree t-spanner problem | International Transactions in Operational Research, Wiley Online Library  (https://doi.org/10.1111/itor.13599) |  |  | 2024 |
| 3 | Punit Kumar Chaubey and Shyam Sundar | Two phases of metaheuristic techniques for the minimum conflict weighted spanning tree problem | Applied Soft Computing, Elsevier | 138 | 110205 | 2023 |
| 4 | Kavita Singh and Shyam Sundar | Artificial bee colony algorithm using permutation encoding for the bounded diameter minimum spanning tree problem | [Soft Comput](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24)ing, Springer | 25 | 11289-11305 | 2021 |
| 5 | Sudishna Ghoshal and Shyam Sundar | Two approaches for the min-degree constrained minimum spanning tree problem | Applied Soft Computing, Elsevier | 111 | 107715 | 2021 |
| 6 | [Sudishna Ghoshal](https://dblp.uni-trier.de/pid/265/3908.html) and Shyam Sundar | Two heuristics for the rainbow spanning forest problem | [Eur](https://dblp.uni-trier.de/db/journals/eor/eor285.html#GhoshalS20)opean Journal of Operational Research, Elsevier | 285 | 853-864 | 2020 |
| 7 | Kavita Singh and Shyam Sundar | A hybrid genetic algorithm for the degree-constrained minimum spanning tree problem | [Soft Comput](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24)ing, Springer | 24 | 2169-2186 | 2020 |
| 8 | Kavita Singh and Shyam Sundar | A hybrid steady-state genetic algorithm for the min-degree constrained minimum spanning tree problem | [Eur](https://dblp.uni-trier.de/db/journals/eor/eor285.html#GhoshalS20)opean Journal of Operational Research, Elsevier | 276 | 88-105 | 2019 |
| 9 | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar | A new hybrid genetic algorithm for the maximally diverse grouping problem | [International Journal of Machine Learning and Cybernetics, Springer](https://link.springer.com/journal/13042) | 10 | 2921-2940 | 2019 |
| 10 | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar. | Two new heuristics for the dominating tree problem | Applied Intelligence, Springer | 48 | 2247-2267 | 2018 |
| 11 | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar | Artificial bee colony algorithm using problem-specific neighborhood strategies for the tree t-spanner problem | Applied Soft Computing, Elsevier | 62 | 110-118 | 2018 |
| 12 | Shyam Sundar and Alok Singh | Two grouping-based metaheuristics for clique partitioning problem | Applied Intelligence, Springer | 47 | 430-442 | 2017 |
| 13 | [Sachchida Nand Chaurasia](https://dblp.uni-trier.de/pid/153/7927.html), Shyam Sundar, and Alok Singh | Hybrid metaheuristic approaches for the single machine total stepwise tardiness problem with release dates | Operational Research – An International Journal, Springer | 17 | 275-295 | 2017 |
| 14 | Shyam.Sundar, [Ponnuthurai N. Suganthan](https://dblp.uni-trier.de/pid/s/PNSuganthan.html), [Tay Jin Chua](https://dblp.uni-trier.de/pid/36/127.html), [Tian Xiang Cai](https://dblp.uni-trier.de/pid/34/6480.html), and Chong Chin Soon | A hybrid artificial bee colony algorithm for the job-shop scheduling problem with no-wait constraint | [Soft Comput](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24)ing, Springer | 21 | 1193-1202 | 2015 |
| 15 | Shyam Sundar and Alok Singh | Metaheuristic Approaches for the Blockmodel Problem | IEEE Systems Journal, IEEE | 9 | 1237-1247 | 2014 |
| 16 | Shyam Sundar and Alok Singh | New heuristic approaches for the dominating tree problem | Applied Soft Computing, Elsevier | 13 | 4695-4703 | 2013 |
| 17 | Shyam Sundar, A[lok Singh](https://dblp.uni-trier.de/pid/01/1744-1.html), and André Rossi | New heuristics for two bounded-degree spanning tree problems | Information Sciences, Elsevier | 195 | 226-240 | 2012 |
| 18 | Shyam Sundar and Alok Singh | A hybrid heuristic for the set covering problem | Operational Research – An International Journal, Springer | 12 | 345-365 | 2012 |
| 19 | Shyam Sundar and Alok Singh | A swarm intelligence approach to the early/tardy scheduling problem | Swarm and Evolutionary Computation, Elsevier | 4 | 25-32 | 2012 |
| 20 | Alok Singh and Shyam Sundar | An artificial bee colony algorithm for the minimum routing cost spanning tree problem | [Soft Comput](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24)ing, Springer | 15 | 2489-2499 | 2011 |
| 21 | Shyam Sundar and Alok Singh | A swarm intelligence approach to the quadratic minimum spanning tree problem | Information Sciences, Elsevier | 180 | 3182-3191 | 2010 |

**6. Publications (List of papers published in Scopus Indexed Journal)**

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| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Authors** | **Title** | **Name of Journal** | **Volume** | **Page** | **Year** |
| 1 | Manisha Israni and Shyam Sundar | An Iterative Local Search for the Single Machine Scheduling Problem with Periodic Machine Availability | [SN Computer Science](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24), Springer | 6 | 108 | 2025 |
| 2 | Sudishna Ghoshal and Shyam Sundar | A Steady-State Grouping Genetic Algorithm for the Rainbow Spanning Forest Problem | [SN Computer Science](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24), Springer | 4 | 321 | 2023 |
| 3 | Punit Kumar Chaubey and Shyam Sundar | A Steady-State Genetic Algorithm for the Single Machine Scheduling Problem with Periodic Machine Availability | [SN Computer Science](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24), Springer | 4 | 651 | 2023 |
| 4 | Manisha Israni and Shyam Sundar | An Iterated Local Search for the Minimum Edge-Dilation K-Center Problem | [SN Computer Science](https://dblp.uni-trier.de/db/journals/soco/soco28.html#IsraniS24), Springer | 4 | 781 | 2023 |

**7. Books/Reports/Chapters/General articles etc.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Title** | **Author’s Name** | **Publisher** | **Year of Publication** |
| 1 | A Hybrid Steady-State Genetic Algorithm for the Minimum Conflict Spanning Tree Problem  (Book Chapter) | Punit Kumar Chaubey and Shyam Sundar | Springer | 2023 |
| 2 | [An Iterated Local Search Algorithm for the Degree-Constrained Minimum Spanning Tree Problem](https://link.springer.com/chapter/10.1007/978-981-19-1653-3_27)  (Book Chapter) | [Sudishna Ghoshal](https://dblp.uni-trier.de/pid/265/3908.html) and Shyam Sundar | Springer | 2022 |
| 3 | A hybrid artifical bee colony algorithm for the degree-constrained minimum spanning tree problem | [Sudishna Ghoshal](https://dblp.uni-trier.de/pid/265/3908.html) and Shyam Sundar | Springer | 2022 |
| 4 | [A Heuristic for the Degree-Constrained Minimum Spanning Tree Problem](https://link.springer.com/chapter/10.1007/978-981-13-0589-4_33)  (Book Chapter) | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar | Springer | 2019 |
| 5 | [A New Heuristic for Degree-Constrained Minimum Spanning Tree Problem](https://link.springer.com/chapter/10.1007/978-981-13-1132-1_12)  (Book Chapter) | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar | Springer | 2019 |
| 6 | [A Heuristic for the Bounded Diameter Minimum Spanning Tree Problem](https://dl.acm.org/doi/abs/10.1145/3206185.3206202)  (Book Chapter) | [Kavita Singh](https://dblp.uni-trier.de/pid/193/0254.html) and Shyam Sundar | ACM | 2018 |
| 7 | Properties and Exact Solution Approaches for the Minimum Cost Dominating Tree Problem  (Book Chapter) | André Rossi, Alok Singh, and Shyam. Sundar | Springer | 2018 |
| 8 | An Ant Colony Optimization Approach for the Dominating Tree Problem  (Book Chapter) | Shyam Sundar, Sachchida Nand Chaurasia,  and Alok Singh | Springer | 2015 |
| 9 | A Steady-State Genetic Algorithm for the Dominating Tree Problem  (Book Chapter) | Shyam Sundar | Springer | 2014 |
| 10 | A Swarm Intelligence Approach to Flexible Job-Shop Scheduling Problem with No-Wait Constraint in Remanufacturing  (Book Chapter) | Shyam Sundar, Ponnuthurai N. Suganthan, and Tay Jin Chua. | Springer | 2013 |
| 11 | An Artificial Bee Colony Algorithm for the 0-1 Multidimensional Knapsack Problem  (Book Chapter) | Shyam Sundar, Alok Singh, and André Rossi | Springer | 2010 |
| 12 | A Swarm Intelligence Approach to the Quadratic Multiple Knapsack Problem  (Book Chapter) | Shyam Sundar, and Alok Singh | Springer | 2010 |

**8. Conference Papers:**

* Shyam Sundar (2019): A hybrid ant colony optimization approach for the cyclic antibandwidth problem. 6th International Conference on Control, Decision, and Information Technologies (CODIT'19), IEEE, 23-26 April 2019, Paris, France
* Manisha Israni and Shyam Sundar (2017): Ant Colony Optimization Approaches for the Tree t-Spanner Problem. 9th International Joint Conference on Computational Intelligence (IJCCI 2017), SCITEPRESS pages 200-206, 1-3 November 2017, Funchal,,Madeira- Portugal

**9**. **Ph.D. Guided** – Dr. Kavita Singh and Dr. Sudishna Ghosal

**10. Professional Exposure**

* Post-Doctoral Fellow at Nanyang Technological University, Singapore (May 2012 – May 2013)
* Reviewer for the various journals such as IEEE Transactions on Cybernetics, European Journal of Operation Research (Elsevier), Applied Soft Computing (Elsevier), Soft Computing (Springer), Information Sciences (Elsevier)
* Editorial Board Member: Applied Soft Computing Journal, Elsevier