

# DILIP DATTA

(Updated at 10:30am on Saturday 1<sup>st</sup> August, 2020)

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## 1. Personal detail

- Present status : Professor, Department of Mechanical Engineering  
Tezpur University, Tezpur – 784 028, Assam, India.
- Contact Number : +91-3712 27 5865 (Office)
- E-mail : ddata@tezu.ernet.in / datta.dilip@rediffmail.com
- URL : <http://www.tezu.ernet.in/dmech/people/ddatta.htm>

## 2. Educational qualifications

- Ph.D. : Indian Institute of Technology Kanpur (IIT Kanpur), India (2007).  
*Thesis Title:* Multi-objective evolutionary algorithms for resource allocation problems.  
*Supervisors:* (i) Prof. Kalyanmoy Deb, IIT Kanpur.  
(ii) Prof. Carlos M. Fonseca, University of Algarve, Portugal.
- M.Tech. : Indian Institute of Technology Delhi (IIT Delhi), India (1998).  
*Thesis Title:* Optimal shape design system for plates under dynamic loads.  
*Supervisor:* Prof. C.V. Ramakrishnan, Deptt. of Applied Mechanics, IIT Delhi.
- B.E. : Assam Engineering College, Gauhati University, Assam, India (1992).
- 10+2 : Assam Higher Secondary Education Council (AHSEC), Assam, India (1988).
- 10+ : Assam Board of Secondary Education (SEBA), Assam, India (1986).

### 3. Honours, awards, and membership

- Post-doctoral fellowship grant (2008–2010), offered by Fundação para a Ciência e a Tecnologia (FCT), Ministério da Ciência, Tecnologia e Ensino Superior, Portugal (SFRH/BPD/34482/2006).
- National scholarship (1986–1992), offered by the Ministry of Human Resources Development (MHRD), Government of India.
- College honour for proficiency in academics (1992), offered by Assam Engineering College, Guwahati, Assam.
- Life member of Indian Society for Technical Education (ISTE), *Membership number*: LM 21969.

### 4. Teaching experience

| Institute         | Post                            | Period                   | Years                    |
|-------------------|---------------------------------|--------------------------|--------------------------|
| Tezpur University | Professor                       | 10-02-2014 to till date  | –                        |
| Tezpur University | Associate Professor             | 30-11-2011 to 09-02-2014 | 02 yrs 02 months 08 days |
| NIT Silchar       | Lecturer to Associate Professor | 26-06-1995 to 25-11-2011 | 16 yrs 05 months 00 days |

### 5. Administrative experience

- HOD : Department of Mechanical Engineering, Tezpur University  
*Period* : 06-06-2012 to 05-06-2015.  
*Major achievements* : – Started M.Tech. Programme in 2013.  
– Started Ph.D. Programme in 2013.

### 6. Involvement in University-level other Academic/Administrative activities

- Member : Research Committee, Tezpur University (2020–2022).
- Member : Security Committee, Tezpur University (2019–2022).
- Member : Committee to coordinate the preparation work of *E-Learning Contents* for Tezpur University (2018).
- Member : Publication Committee on Book Section (PCBS), Tezpur University (2017–2019).
- Member : Committee to frame a set of guidelines on conduct of Tezpur University Entrance Examinations (TUEE), Tezpur University (2017).
- Coordinator : Committee to review the *Plans of Research* of Ph.D. programme under School of Engineering (since 2017).
- Chairperson : Tezpur University Entrance Examination (TUEE) Committee (2016–2017).
- Convenor : Committee to review and update the Regulations on Academic Matters (2016).
- Member : Planning Board, Tezpur University (2016–2019).
- Coordinator : Committee to recommend uniformity in evaluation of M.Tech. Projects under School of Engineering (2016).
- Member : Committee to review and recommend the acceptance of *Plans of Research* of Ph.D. programme under School of Engineering (2015–2017).
- Member : Committee to suggest a uniform pattern of writing Bibliographic references in Ph.D. theses (2015).
- Member : Committee to co-ordinate activities for an Integrated B.Tech.-MBA programme (2015).
- Member : Committee to identify the courses and explore the syllabii from the National Vocational Education Qualifications Framework (NVEQF) for offering B.Voc. Programme (2013).
- Member : Core Committee for Infrastructure Development for Jonai Campus (2013).
- Member : Disaster Management Committee (2012–2015).
- Member : B.Tech. Screening cum Selection Committee (BSSC) (2012).

### 7. Involvement with other Academic Departments

- Ext. Member : Departmental Research Committee (DRC) of CSE, TU (2016–2018).
- Ext. Member : Departmental Research Committee (DRC) of Energy, TU (2016–2018).
- Ext. Member : Departmental Research Committee (DRC) of FET, TU (2016–2018).

- Ext. Member : Departmental Research Committee (DRC) of ECE, TU (2012–2016).
- Ext. Member : Departmental Advisory Committee (DAC) of ECE, TU (2012–2016).
- Ext. Member : Departmental Advisory Committee (DAC) of Energy, TU (2012–2016).

## 8. Involvement with Event Organization/Management

- Coordinator : One-day ARP-ARDB seminar organized at Tezpur University on 08-10-2018 by the Aerospace Resources (AR) Panel of the Aeronautics Research and Development Board (AR&DB), in collaboration with DRDO, ARP-ARDB and Tezpur University, focusing primarily on Materials and Structures for Aeronautical Systems.

## 9. Research area: Optimization / Operational Research

- Theoretical development as well as applications of various population-based meta-heuristics, such as Genetic Algorithm (GA), Differential Evolution (DE), and Particle Swarm Optimization (PSO).
- Special emphasis to various real-life and practical multi-objective combinatorial problems of any domain, like engineering (mechanical, industrial, civil, electrical, computer, etc.), healthcare system, districting problem, computational biology, environmental problem, scheduling problem, etc.

## 10. Reviewer of research articles

Regular reviewer of journal papers from many reputed International publishers, like

- *Elsevier* : **Outstanding reviewer status**  
Applied Soft Computing,  
European Journal of Operational Research,  
Knowledge-Based Systems,  
: **Recognized reviewer status**  
Ain Shams Engineering Journal,  
Applied Mathematical Modelling  
Computers & Chemical Engineering,  
Computers & Operations Research,  
Energy Conversion and Management,  
International Journal of Electrical Power and Energy Systems,  
International Journal of Production Economics,  
Information Sciences,  
Neurocomputing,  
Omega – The International Journal of Management Science,  
Operations Research for Health Care.
- *Springer* : Electrical Engineering, Engineering with Computers, Evolutionary Intelligence,  
Journal of Global Optimization, Optimization Letters, Proceedings of the National Academy of Sciences India, Soft Computing
- *Wiley* : International Journal of Numerical Modelling: Electronic Network Devices and Fields, Journal of Multi-Criteria Decision Analysis
- *Academic Journals* : International Journal of Computer Engineering Research
- *Hindawi* : Mathematical Problems in Engineering
- *IEEE* : Transactions on Evolutionary Computation
- *InderScience* : International Journal of Modeling Identification and Control
- *MIT Press* : Evolutionary Computation
- *Taylor & Francis* : International Journal of Production Research

## 11. Program Committee (PC) member

- Genetic and Evolutionary Computation Conference (GECCO): 2020 (Cancun, Mexico).
- Genetic and Evolutionary Computation Conference (GECCO): 2019 (Prague, Czech Republic).
- Genetic and Evolutionary Computation Conference (GECCO): 2018 (Kyoto, Japan).
- Genetic and Evolutionary Computation Conference (GECCO): 2017 (Berlin, Germany).
- Genetic and Evolutionary Computation Conference (GECCO): 2016 (Denver, Canada).

- Genetic and Evolutionary Computation Conference (GECCO): 2015 (Madrid, Spain).
- Genetic and Evolutionary Computation Conference (GECCO): 2014 (Vancouver, Canada).
- International Conference on Simulated Evolution And Learning (SEAL): 2010 (Kanpur, India).
- International Symposium on Aspects of Mechanical Engineering & Technology for Industry (AMETI) (Arunachal Pradesh, India, 2014).

## 12. Research collaboration with researchers from other Institutes

- Instituto Superior Técnico, Lisbon, Portugal
- Pontifical Catholic University of Paraná, Paraná, Brazil
- Positivo University, Curitiba, Paraná, Brazil
- Federal University of Paraná, Paraná, Brazil
- London School of Economics and Political Science, London, UK
- University of Southampton, Southampton, UK
- University of Western Ontario, Ontario, Canada
- Kaunas University of Technology, Kaunas, Lithuania
- Gauhati University, Guwahati, India
- Assam University, Silchar, India.

## 13. Invited Talks

| SN | Title of Talk   | Event   | Location          | Level         | Date           |
|----|---|---|-------------------|---------------|----------------|
| 19 | <i>A Glimpse of L<sup>A</sup>T<sub>E</sub>X</i>   | Workshop on <i>Optimization Techniques in Multidisciplinary Research</i>                                      | NIT Agartala      | National      | 26-Nov-2019    |
| 18 | <i>A Glimpse of Optimization</i>  | Workshop on <i>Optimization Techniques in Multidisciplinary Research</i>                                      | NIT Agartala      | National      | 25&26-Nov-2019 |
| 17 | <i>Research Disciplinarity</i>  | Workshop on <i>Optimization Techniques in Multidisciplinary Research</i>                                      | NIT Agartala      | National      | 25-Nov-2019    |
| 16 | <i>Minimizing energy consumption in food processing</i>   | International Conference on <i>Technological Innovations for Integration of Food and Health (TiFH - 2019)</i> | Tezpur University | International | 14-Feb-2019    |
| 15 | <i>Combinatorial Optimization</i>   | Workshop on <i>Recent Trends on Optimization Techniques in Science and Engineering</i>                        | NIT Silchar       | National      | 18-Aug-2018    |
| 14 | <i>Multi-Objective Optimization</i>   | Workshop on <i>Recent Trends on Optimization Techniques in Science and Engineering</i>                        | NIT Silchar       | National      | 18-Aug-2018    |
| 13 | <i>L<sup>A</sup>T<sub>E</sub>X for Scientific Writing</i>   | National Workshop on <i>Computational Technologies</i>  | NIT Silchar       | National      | 17-Aug-2018    |
| 12 | <i>Multi-objective optimization for biological science</i>  | National Workshop on <i>Computational Modeling and Simulation for Bioengineering Applications</i>             | IIT Guwahati      | National      | 09-Jun-2018    |
| 11 | <i>Multi-Objective Optimization and Performance Metrics</i>   | AICTE-NEQIP sponsored FDP on <i>Algorithms in Applications</i>  | Tezpur University | National      | 30-Dec-2017    |
| 10 | <i>Optimization and Annular Fin Design</i>  | AICTE-NEQIP sponsored FDP on <i>Recent Trends in Computational and Experimental Mechanics</i>                 | Tezpur University | National      | 14-Dec-2017    |
| 9  | <i>Optimization and Food Processing</i>   | AICTE-NEQIP sponsored FDP on <i>Advances in Food Processing Technologies</i>                                  | Tezpur University | National      | 22-Nov-2017    |
| 8  | <i>Combinatorial optimization</i>   | AICTE-NEQIP sponsored STC on <i>Advances in Mechanical Engineering and Industrial Applications</i>            | Tezpur University | National      | 20-Jul-2015    |
| 7  | <i>M-ary cardinal metrics for performance measurement of multi-objective optimizers</i>   | QIP sponsored workshop on <i>Genetic algorithms for engineering optimization</i>                              | IIT Guwahati      | National      | 31-Dec-2014    |
| 6  | <i>Combinatorial optimization</i>   | QIP sponsored workshop on <i>Genetic algorithms for engineering optimization</i>                              | IIT Guwahati      | National      | 31-Dec-2014    |
| 5  | <i>Real-coded evolutionary algorithms</i>   | QIP sponsored workshop on <i>Genetic algorithms for engineering optimization</i>                              | IIT Guwahati      | National      | 30-Dec-2014    |
| 4  | <i>Optimization techniques in engineering research</i>  | FDP on <i>Current Approaches in Teaching and Research in Science and Technology</i> , School of Engineering   | Tezpur University | National      | 16-Dec-2014    |
| 3  | <i>Design and process optimization in manufacturing</i>   | National conference on <i>Manufacturing: Vision for Future</i>  | IIT Guwahati      | National      | 13-Oct-2013    |
| 2  | <i>Multi-objective metaheuristics for graph partitioning problem and empirical metrics for comparing performances of multi-objective metaheuristics</i> | Computational Intelligence Research Group (CA3), Centre of Technologies and Systems (CTS) of UNINOVA          | Lisbon, Portugal  | International | 01-Jul-2009    |
| 1  | <i>Graph partitioning using evolutionary algorithms</i>   | Workshop on <i>Speech and image signal processing</i>   | NIT Silchar       | National      | 19-Dec-2008    |

## 14. Research recognition

- Web of Science : Documents – 23  
Citations – 277  
 $h$ -index – 10  
Average citation per item – 12.04.
- SCOPUS : Documents – 46  
Citations – 537 citations by 441 documents  
 $h$ -index – 13  
Number of co-authors – 27  
Subject area: Computer Science, Decision Sciences, Mathematics
- ACM DL : Publication count – 16  
Citation count – 48  
Average citations per article – 3.00
- DBLP : Book – 01  
Journal – 12  
Book Chapter – 01  
Conference – 06  
Number of co-authors – 16.
- ORCID : Number of documents – 43.
- Google Scholar : Citations – 877  
 $h$ -index – 17  
 $i10$ -index – 21.

## 15. Selective research contributions

- Development of a real-integer-discrete-coded particle swarm optimization (PSO) algorithm for working with any type of variables (real, integer or discrete) without conversion, which has a wide application in engineering design problems.
- Development of a real-integer-discrete-coded differential evolution (DE) algorithm for working with any type of variables (real, integer or discrete) without conversion, which has a wide application in engineering design problems.
- Proposed three convergence-based M-ary metrics for evaluating performances of multi-objective optimizers from their multiple runs.
- Formulation of facility layout design as an unconstrained optimization problem, which is being followed by many researchers.
- Formulation of the corridor allocation as a bi-objective optimization problem.
- Development of a permutation-based genetic algorithm for facility layout problem, which has been recognized recently as one of the best techniques till date.
- Development of an integer-coded genetic algorithm for the graph partitioning problem, which has already been applied to many real case-studies.

## 16. Ph.D. Theses supervision

| SN | Name of Scholar   | Thesis Title  | Year      |
|----|-------------------|---|-----------|
| 4  | Dimbalita Deka    | Optimization of continuous flow processes using Evolutionary Algorithms | Oct/2019  |
| 3  | Zahnupriya Kalita | Facility layout optimization using genetic algorithm                    | Sept/2019 |
| 2  | Satadru Kashyap   | Development of industrial lime sludge waste filled polymeric composites | Jun/2019  |
| 1  | Abhijit Deka      | Multi-objective optimization of annular fins                            | Aug/2018  |

## 17. M.Tech. Theses supervision

| SN | Name of Scholar | Thesis Title   | Year |
|----|-----------------|--|------|
| 11 | Debasish Gogoi  | Design and Fabrication of a Hydraulic Jack Actuated Lug Wrench Mechanism                             | 2019 |
| 10 | Arpeeta Saikia  | Design and development of a mechanism for enhancing stability of female bicyclists on sudden braking | 2018 |

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**M.Tech Theses supervision (contd...)**

| SN | Name of Scholar     | Thesis Title  | Year |
|----|---------------------|---|------|
| 9  | Sudipta Saikia      | Design and development of a mechanism for enhancing stability of bicycle by steering back handlebar automatically | 2018 |
| 8  | Punyajit Bezbaruah  | Characterization of SMA wire for energy dissipation   | 2017 |
| 7  | Numan S. Mazumdar   | Multi-objective optimization of micro-heat pipe using genetic algorithm   | 2016 |
| 6  | Dimbalita Deka      | Multi-objective optimization of heat treatment process under milk fouling   | 2015 |
| 5  | Deepak Kumar Gupta* | Detection and localisation of a crack in a shaft system   | 2015 |
| 4  | Pankaj Kumar Nath*  | Hardware/software partitioning of embedded systems using evolutionary algorithms (NIT - Silchar)                  | 2012 |
| 3  | Saptarshi Dutta     | Mixed-integer metaheuristics for unit commitment problem (NIT - Silchar)  | 2011 |
| 2  | Sujoy Chakraborty*  | Numerical studies on effects of blade number variations on performance of centrifugal pumps (NIT - Silchar)       | 2011 |
| 1  | Akan Kumar Das      | Optimization of process parameters of advanced machining processes by using a genetic algorithm (NIT - Silchar)   | 2010 |

\* Joint supervision.

## 18. Number of publications

| Publication                           | Total     |
|---------------------------------------|-----------|
| Book                                  | 01        |
| Articles in International Journals    | 33        |
| Book Chapters                         | 14        |
| Articles in International Conferences | 15        |
| Articles in National Conferences      | 04        |
| <b>Overall Total</b>                  | <b>67</b> |

## 19. Book publication

| SN | Author   | Title   | Publisher | Citation |
|----|----------|---|-----------|----------|
| 1  | D. Datta | L <sup>A</sup> T <sub>E</sub> X in 24 Hours – A Practical Guide for Scientific Writing<br>ISBN: 978-3-319-47831-9<br>URL: <a href="https://www.springer.com/in/book/9783319478302">https://www.springer.com/in/book/9783319478302</a> | Springer  | 03       |

## 20. Publications in International Journals

| SN | Publication detail   | IF    | Citation |
|----|--|-------|----------|
| 33 | D. Deka and D. Datta* (2019). <i>Optimization of unit commitment problem with ramp-rate constraint and wrap-around scheduling</i> . Electric Power Systems Research, <b>177</b> :105948, doi: <a href="https://doi.org/10.1016/j.epsr.2019.105948">https://doi.org/10.1016/j.epsr.2019.105948</a>  | 3.211 | 01       |
| 32 | Z. Kalita, D. Datta*, and G. Palubeckis (2019). <i>Bi-objective corridor allocation problem using a permutation-based genetic algorithm hybridized with a local search technique</i> . Soft Computing, <b>23</b> (3):961–986, doi: <a href="https://doi.org/10.1007/s00500-017-2807-0">https://doi.org/10.1007/s00500-017-2807-0</a>   | 2.367 | 07       |
| 31 | D. Datta (2019). <i>Comments on “Multi-objective optimization of double effect series and parallel flow water-lithium chloride and water-lithium bromide absorption refrigeration systems” by Konwar et al. [Energy Convers. Manage. 180 (2019) 425–441]</i> . Energy Conversion and Management, <b>185</b> :935–937, doi: <a href="https://doi.org/10.1016/j.enconman.2018.12.107">https://doi.org/10.1016/j.enconman.2018.12.107</a> | 7.181 | –        |
| 30 | A. Deka* and D. Datta (2019). <i>Multiobjective optimization of annular fin array subject to thermal load</i> . Journal of Thermophysics and Heat Transfer, <b>33</b> (1):254–263, doi: <a href="https://doi.org/10.2514/1.T5394">https://doi.org/10.2514/1.T5394</a>  | 1.064 | 02       |
| 29 | S. Kashyap*, J. Islam and D. Datta (2018). <i>A study of industrial lime sludge waste as filler in hybrid polymeric composites</i> . Materials Science and Engineering (IOP Conf. Series), <b>377</b> :012019, doi: <a href="https://doi.org/10.1088/1757-899X/377/1/012019">https://doi.org/10.1088/1757-899X/377/1/012019</a>  | –     | –        |
| 28 | Z. Kalita and D. Datta* (2018). <i>A constrained single-row facility layout problem</i> . International Journal of Advanced Manufacturing Technology, <b>98</b> (5-8):2173–2184, doi: <a href="https://doi.org/10.1007/s00170-018-2370-6">https://doi.org/10.1007/s00170-018-2370-6</a>  | 2.601 | 05       |
| 27 | S. Kashyap* and D. Datta (2018). <i>Evaluation of stearic acid modified industrial lime sludge waste as filler in high density polyethylene composites</i> . Journal of Polymer Engineering, <b>38</b> (4):333–341, doi: <a href="https://doi.org/10.1515/polyeng-2017-0138">https://doi.org/10.1515/polyeng-2017-0138</a>   | 0.778 | 02       |
| 26 | A. Deka* and D. Datta (2018). <i>Multi-objective optimization of annular fin array with B-spline curve based fin profiles</i> . Journal of Thermal Stresses, <b>41</b> (2):247–261, doi: <a href="http://dx.doi.org/10.1080/01495739.2017.1393321">http://dx.doi.org/10.1080/01495739.2017.1393321</a>   | 1.852 | 05       |

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**Publications in International Journals (contd...)**

| SN | Publication detail   | IF    | Citation |
|----|--|-------|----------|
| 25 | S. Kashyap* and <b>D. Datta</b> (2017). <i>Industrial lime sludge waste – HDPE composites – a study of their mechanical, thermal and morphological properties</i> . Journal of Thermoplastic Composite Materials, <b>31</b> (10):1323–1340, doi: <a href="https://doi.org/10.1177/0892705717738289">https://doi.org/10.1177/0892705717738289</a>   | 1.343 | 02       |
| 24 | P.J. Steiner Neto, <b>D. Datta</b> , M.T.A. Steiner*, O. Cancigliieri Jr., J.R. Figueira, S.P. Detto, and C.T. Scarpin (2017). <i>A multi-objective genetic algorithm based approach for location of grain silos in Paraná State of Brazil</i> . Computers & Industrial Engineering, <b>111</b> :381–390, doi: <a href="https://doi.org/10.1016/j.cie.2017.07.019">https://doi.org/10.1016/j.cie.2017.07.019</a> | 3.195 | 03       |
| 23 | S. Kashyap* and <b>D. Datta</b> (2017). <i>Reusing industrial lime sludge waste as a filler in polymeric composites</i> . Materials Today: Proceedings, <b>4</b> (2) Part A:2946–2955, doi: <a href="https://doi.org/10.1016/j.matpr.2017.02.176">https://doi.org/10.1016/j.matpr.2017.02.176</a>  | 1.09  | 07       |
| 22 | A. Deka* and <b>D. Datta</b> (2017). <i>B-spline curve based optimum profile of annular fins using multi-objective genetic algorithm</i> . Journal of Thermal Stresses, <b>40</b> (6):733–746, doi: <a href="http://dx.doi.org/10.1080/01495739.2016.1276419">http://dx.doi.org/10.1080/01495739.2016.1276419</a>  | 1.852 | 07       |
| 21 | A. Deka and <b>D. Datta*</b> (2017). <i>Geometric size optimization of annular step fin using multi-objective genetic algorithm</i> . Journal of Thermal Science and Engineering Applications, <b>9</b> (2):021013 (9 pages), doi: <a href="http://dx.doi.org/10.1115/1.4035838">http://dx.doi.org/10.1115/1.4035838</a>   | 0.993 | 07       |
| 20 | D. Deka and <b>D. Datta*</b> (2017). <i>Multi-objective optimization of the scheduling of a heat exchanger network under milk fouling</i> . Knowledge-Based Systems, <b>121</b> :71–82, doi: <a href="http://dx.doi.org/10.1016/j.knosys.2016.12.027">http://dx.doi.org/10.1016/j.knosys.2016.12.027</a>   | 4.396 | 08       |
| 19 | S. Kashyap and <b>D. Datta*</b> (2015). <i>Process parameter optimization of plastic injection molding: a review</i> . International Journal of Plastics Technology, <b>19</b> (1):1–18, doi: <a href="http://dx.doi.org/10.1007/s12588-015-9115-2">http://dx.doi.org/10.1007/s12588-015-9115-2</a>  | –     | 40       |
| 18 | M.T.A. Steiner, <b>D. Datta*</b> , P.J. Steiner Neto, C.T. Scarpin, and J.R. Figueira (2015). <i>Multi-objective optimization in partitioning the healthcare system of Parana State in Brazil</i> . Omega, The International Journal of Management Science, <b>52</b> :53–64, doi: <a href="http://dx.doi.org/10.1016/j.omega.2014.10.005">http://dx.doi.org/10.1016/j.omega.2014.10.005</a>                     | 4.311 | 45       |
| 17 | Z. Kalita and <b>D. Datta*</b> (2014). <i>Solving the bi-objective corridor allocation problem using a permutation-based genetic algorithm</i> . Computers & Operations Research, <b>52</b> :123–134, doi: <a href="http://dx.doi.org/10.1016/j.cor.2014.07.008">http://dx.doi.org/10.1016/j.cor.2014.07.008</a>   | 2.962 | 16       |
| 16 | P.K. Nath and <b>D. Datta*</b> (2014). <i>Multi-objective hardware-software partitioning of embedded systems: a case study of JPEG encoder</i> . Applied Soft Computing, <b>15</b> :30–41, doi: <a href="http://dx.doi.org/10.1016/j.asoc.2013.10.032">http://dx.doi.org/10.1016/j.asoc.2013.10.032</a>  | 3.907 | 24       |
| 15 | <b>D. Datta</b> (2013). <i>Unit commitment problem with ramp rate constraint using a binary-real-coded genetic algorithm</i> . Applied Soft Computing, <b>13</b> (9):3873–3883, doi: <a href="http://dx.doi.org/10.1016/j.asoc.2013.05.002">http://dx.doi.org/10.1016/j.asoc.2013.05.002</a>   | 3.907 | 54       |
| 14 | <b>D. Datta*</b> and J.R. Figueira (2013). <i>A real-integer-discrete-coded differential evolution</i> . Applied Soft Computing, <b>13</b> (9):3884–3893, doi: <a href="http://dx.doi.org/10.1016/j.asoc.2013.05.001">http://dx.doi.org/10.1016/j.asoc.2013.05.001</a>   | 3.907 | 38       |
| 13 | <b>D. Datta</b> , J.R. Figueira, A. Gourtani and A. Morton* (2013). <i>Optimal administrative geographies: an algorithmic approach</i> . Socio-Economic Planning Sciences, <b>47</b> (3):247–257, doi: <a href="http://dx.doi.org/10.1016/j.seps.2013.03.002">http://dx.doi.org/10.1016/j.seps.2013.03.002</a>   | 1.610 | 17       |
| 12 | N. Ahmed*, S. Sengupta and <b>D. Datta</b> (2013). <i>An exact analysis for MHD free convection mass transfer flow past an oscillating plate embedded in a porous medium with Soret effect</i> . Chemical Engineering Communications, <b>200</b> (4):494–513, doi: <a href="http://dx.doi.org/10.1080/00986445.2012.709474">http://dx.doi.org/10.1080/00986445.2012.709474</a>                                   | 1.282 | 11       |
| 11 | <b>D. Datta*</b> and S. Dutta (2012). <i>A binary-real-coded differential evolution for unit commitment problem</i> . International Journal of Electrical Power & Energy Systems, <b>42</b> (1):517–524, doi: <a href="http://dx.doi.org/10.1016/j.ijepes.2012.04.048">http://dx.doi.org/10.1016/j.ijepes.2012.04.048</a>  | 3.610 | 74       |
| 10 | <b>D. Datta*</b> , J. Malczewski and J.R. Figueira (2012). <i>Spatial aggregation and compactness of census areas with a multi-objective genetic algorithm: a case study in Canada</i> . Environment and planning B: Planning and Design, <b>39</b> (2):376–392, doi: <a href="http://dx.doi.org/10.1068/b38078">http://dx.doi.org/10.1068/b38078</a>  | 2.825 | 16       |
| 9  | <b>D. Datta*</b> and J.R. Figueira (2012). <i>Some convergence-based M-ary cardinal metrics for comparing performances of multi-objective optimizers</i> . Computers & Operations Research, <b>39</b> :1754–1762, doi: <a href="http://dx.doi.org/10.1016/j.cor.2011.10.013">http://dx.doi.org/10.1016/j.cor.2011.10.013</a>   | 2.962 | 18       |
| 8  | <b>D. Datta*</b> , A.R.S. Amaral and J.R. Figueira (2011). <i>Single row facility layout problem using a permutation-based genetic algorithm</i> . European Journal of Operational Research, <b>213</b> (2):388–394, doi: <a href="http://dx.doi.org/10.1016/j.ejor.2011.03.034">http://dx.doi.org/10.1016/j.ejor.2011.03.034</a>  | 3.428 | 141      |
| 7  | <b>D. Datta*</b> and J.R. Figueira (2011). <i>Graph partitioning by multi-objective real-valued metaheuristics: A comparative study</i> . Applied Soft Computing, <b>11</b> (5):3976–3987, doi: <a href="http://dx.doi.org/10.1016/j.asoc.2011.01.044">http://dx.doi.org/10.1016/j.asoc.2011.01.044</a>  | 3.907 | 31       |
| 6  | <b>D. Datta*</b> and J.R. Figueira (2011). <i>A real-integer-discrete-coded particle swarm optimization for design problems</i> . Applied Soft Computing, <b>11</b> (4):3625–3633, doi: <a href="http://dx.doi.org/10.1016/j.asoc.2011.01.034">http://dx.doi.org/10.1016/j.asoc.2011.01.034</a>  | 3.907 | 49       |
| 5  | M. Ghosh, B.K. Tiwary and <b>D. Datta*</b> (2010). <i>Maintaining optimal state probabilities in biological systems</i> . Systems and Synthetic Biology, <b>4</b> (2):117–124, doi: <a href="http://dx.doi.org/10.1007/s11693-010-9058-z">http://dx.doi.org/10.1007/s11693-010-9058-z</a>  | –     | 01       |
| 4  | <b>D. Datta*</b> , C.M. Fonseca and K. Deb (2008). <i>A multi-objective evolutionary algorithm to exploit the similarities of resource allocation problems</i> . Journal of Scheduling, <b>11</b> (6):405–419, doi: <a href="http://dx.doi.org/10.1007/s10951-008-0073-9">http://dx.doi.org/10.1007/s10951-008-0073-9</a>  | 1.153 | 30       |
| 3  | <b>D. Datta*</b> , K. Deb, C.M. Fonseca, F.G. Lobo, P.A. Condado and J. Seixas (2007). <i>Multi-objective evolutionary algorithm for land-use management problem</i> . International Journal of Computational Intelligence Research, <b>3</b> (4):371–384. KanGAL Tech. Report No. 2006005 (2006), IIT-Kanpur.   | –     | 69       |
| 2  | <b>D. Datta</b> (2006). <i>An efficient technique for handling infeasibility in sequential linear programming method</i> . Journal of Computational Mathematics and Optimization, ISSN:0972-9372, <b>2</b> :11–34.   | –     | –        |

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**Publications in International Journals (contd...)**

| SN | Publication detail   | IF | Citation |
|----|--|----|----------|
| 1  | <b>D. Datta*</b> and K. Deb (2006). <i>Design of optimum cross-sections for load-carrying members using multi-objective evolutionary algorithms</i> . International Journal of Systemics, Cybernetics and Informatics, ISSN:0973-4864, 1(1):57–63. KanGAL Tech. Report No. 2006005 (2006), IIT-Kanpur. | –  | 12       |

## 21. Publications as book chapters

| SN | Publication detail  | Citation |
|----|---|----------|
| 12 | Z. Kalita and <b>D. Datta*</b> (2018). <i>Corridor allocation as a constrained optimization problem using a permutation-based multi-objective genetic algorithm</i> . In: Metaheuristic Optimization Methods: Algorithms and Engineering Applications, Springer (to appear)   | –        |
| 11 | Z. Kalita and <b>D. Datta*</b> (2018). <i>The constrained single-row facility layout problem with repairing mechanisms</i> . In: Metaheuristic Optimization Methods: Algorithms and Engineering Applications, Springer (to appear)  | –        |
| 10 | A. Deka and <b>D. Datta*</b> (2018). <i>Geometric size optimization of annular step fin array for heat transfer by natural convection</i> . In: Metaheuristic Optimization Methods: Algorithms and Engineering Applications, Springer (to appear)   | –        |
| 9  | S. Kashyap* and <b>D. Datta</b> (2018). <i>Development of various industrial lime sludge waste-filled hybrid polymeric composites for environmental sustainability</i> . In: Futuristic Composites, Springer; pages 197-221, ISBN: 978-981-13-2416-1 (Print), doi: <a href="https://doi.org/10.1007/978-981-13-2417-8_10">https://doi.org/10.1007/978-981-13-2417-8_10</a>  | –        |
| 8  | D. Deka* and <b>D. Datta*</b> (2018). <i>Evolutionary algorithms for scheduling of crude oil preheating process under linear fouling</i> . Bioinspired Optimization Methods and their Applications (BIOMA-2018), Paris (France), May 16-18, 2018; Lecture Notes in Computer Science (LNCS), Springer; 10835:1–13, ISBN: 978-3-642-25724-7 (Print), doi: <a href="https://doi.org/10.1007/978-3-319-91641-5_10">https://doi.org/10.1007/978-3-319-91641-5_10</a> | 01       |
| 7  | S. Dutta and <b>D. Datta*</b> (2011). <i>A binary-real-coded differential evolution for unit commitment problem: A preliminary study</i> . Lecture Notes in Artificial Intelligence (LNAI), Springer; 7080/2011:406–417, ISBN: 978-3-642-25724-7, (Print), doi: <a href="http://dx.doi.org/10.1007/978-3-642-25725-4_36">http://dx.doi.org/10.1007/978-3-642-25725-4_36</a>   | 02       |
| 6  | M. Ghosh, B.K. Tiwary and <b>D. Datta*</b> (2011). <i>Optimizing state probabilities of biological systems: a preliminary study</i> . In: Advanced Computing, Applications, Databases and Networks; Narosa Publishing House, India; ISBN: 978-81-8487-109-8; 18–24.   | –        |
| 5  | <b>D. Datta*</b> and J.R. Figueira (2010). <i>A real-integer-discrete-coded differential evolution algorithm: A preliminary study</i> . In: Lecture Notes in Computer Science (LNCS), Springer; 6022/2010:35–46, ISBN: 978-3-642-12138-8 (Print), doi: <a href="http://dx.doi.org/10.1007/978-3-642-12139-5_4">http://dx.doi.org/10.1007/978-3-642-12139-5_4</a>  | 06       |
| 4  | <b>D. Datta*</b> and A.K. Das (2010). <i>Tuning process parameters of electrochemical machining using a multi-objective genetic algorithm: A preliminary study</i> . In: Lecture Notes in Computer Science (LNCS), Springer; 6457/2010:485–493, ISBN: 978-3-642-17297-7 (Print), doi: <a href="http://dx.doi.org/10.1007/978-3-642-17298-4_52">http://dx.doi.org/10.1007/978-3-642-17298-4_52</a>   | 14       |
| 3  | <b>D. Datta*</b> , J.R. Figueira, C.M. Fonseca and F. Tavares-Pereira (2008). <i>Graph partitioning through a multi-objective evolutionary algorithm: A preliminary study</i> . Genetic and evolutionary computation (GECCO-2008), Atlanta (USA); 625–632, ISBN: 978-1-60558-130-9, doi: <a href="http://dx.doi.org/10.1145/1389095.1389222">http://dx.doi.org/10.1145/1389095.1389222</a>  | 18       |
| 2  | <b>D. Datta*</b> , K. Deb and C.M. Fonseca (2007). <i>Multi-objective evolutionary algorithm for university class timetabling problem</i> . In: Evolutionary Scheduling, Studies in Computational Intelligence; Springer; 49/2007:197–236, ISBN: 978-3-540-48582-7 (Print), doi: <a href="http://dx.doi.org/10.1007/978-3-540-48584-1_8">http://dx.doi.org/10.1007/978-3-540-48584-1_8</a>  | 34       |
| 1  | <b>D. Datta*</b> , K. Deb and C.M. Fonseca (2007). <i>Multi-objective evolutionary algorithms for resource allocation problems</i> . In: Lecture Notes in Computer Science (LNCS), Springer; 4403/2007:401–416, ISBN: 978-3-540-70927-5 (Print), doi: <a href="http://dx.doi.org/10.1007/978-3-540-70928-2_32">http://dx.doi.org/10.1007/978-3-540-70928-2_32</a>   | 23       |

## 22. Publications in International Conferences

| SN | Publication detail  | Citation |
|----|---|----------|
| 15 | A. Deka* and <b>D. Datta</b> (2017). <i>A comparative investigation of annular fins of different profiles using multi-objective genetic algorithm</i> . IEEE International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS-2017), MNNIT Allahabad, India. 3-5 February 2017, doi: <a href="http://dx.doi.org/10.1109/AMIAMS.2017.8069192">http://dx.doi.org/10.1109/AMIAMS.2017.8069192</a> | 04       |
| 14 | P. Dutta* and <b>D. Datta</b> (2017). <i>Bi-level problem as a plain multi-objective optimization problem: A preliminary study</i> . IEEE International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS-2017), MNNIT Allahabad, India. 3-5 February 2017, doi: <a href="http://dx.doi.org/10.1109/AMIAMS.2017.8069191">http://dx.doi.org/10.1109/AMIAMS.2017.8069191</a>                    | –        |
| 13 | Z. Kalita* and <b>D. Datta</b> (2017). <i>Multi-objective optimization of the multi-floor facility layout problem</i> . IEEE International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS-2017), MNNIT Allahabad, India. 3-5 February 2017, doi: <a href="http://dx.doi.org/10.1109/AMIAMS.2017.8069190">http://dx.doi.org/10.1109/AMIAMS.2017.8069190</a>                                 | 02       |
| 12 | D. Deka* and <b>D. Datta</b> (2017). <i>Operational cost minimization in heat exchanger network under milk fouling</i> . IEEE International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS-2017), MNNIT Allahabad, India. 3-5 February 2017, doi: <a href="http://dx.doi.org/10.1109/AMIAMS.2017.8069189">http://dx.doi.org/10.1109/AMIAMS.2017.8069189</a>                                | –        |
| 11 | P.J. Steiner Neto, <b>D. Datta</b> , M.T.A. Steiner, O. Canciglieri Jr., J.R. Figueira, S. Detto and C.T. Scarpin (2016). <i>An optimized approach for location of grain silos in Brazil through a multi-objective genetic algorithm</i> . XVIII-th Latin-Iberoamerican Conference on Operations Research (CLAIO-2016), Santiago, Chile, pages 897-904.   | –        |

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**Publications in International Conferences (contd...)**

| SN | Publication detail   | Citation |
|----|--|----------|
| 10 | M.T.A. Steiner, P.J. Steiner Neto, <b>D. Datta</b> , J.R. Figueira and C.T. Scarpin (2016). <i>Territorial partitioning problem applied to Brazil healthcare system using a multi-objective approach</i> . XVIII-th Latin-Iberoamerican Conference on Operations Research (CLAIO-2016), Santiago, Chile, pages 890-896.                            | –        |
| 9  | J.R. Figueira*, M.T.A. Steiner, <b>D. Datta</b> , P.J. Steiner Neto and C.T. Scarpin (2015). <i>Multi-objective optimization in partitioning the healthcare system of Parana State in Brazil</i> . 28th Conference of the European Chapter on Combinatorial Optimization (ECCO XXVIII), Catania, Italy, 60 (Abstract).                             | –        |
| 8  | M.T.A. Steiner*, <b>D. Datta</b> , P.J. Steiner Neto, C.T. Scarpin and J.R. Figueira (2014). <i>Multi-objective optimization in the partitioning healthcare system of Parana State, Brazil</i> . 20th Conference of the International Federation of Operational Research Societies (INFORS), Barcelona, 33 (Abstract).                             | –        |
| 7  | P.K. Nath*, A.C. Paul and <b>D. Datta</b> (2012). <i>Hardware/software partitioning of embedded systems using a binary version of particle swarm optimization</i> . International Conference on Computer Science and Engineering (CSE-2012), Guwahati (India).   | –        |
| 6  | P.K. Nath*, <b>D. Datta</b> and A.C. Paul (2012). <i>Hardware-software codesign of embedded system using a binary version of genetic algorithm – a case study on JPEG encoder using a metaheuristic approach</i> . International Joint Conference on Emerging Intelligent Sustainable Technologies (EISTCON-2012), Bangalore (India), pages 19–25. | –        |
| 5  | A.K. Das* and <b>D. Datta</b> (2010). <i>Optimization of process parameters of ultrasonic machining (USM) using a genetic algorithm</i> . All India Manufacturing Technology Design and Research (AIMTDR-2010).  | –        |
| 4  | <b>D. Datta</b> *, J.R. Figueira and J. Malczewisk (2010). <i>Aggregating census units with a multi-objective genetic algorithm: Preliminary results of a case study in Canada</i> . 24th European Conference on Operational Research (EURO-XXIV), Lisbon (Portugal), 98 (Abstract).   | –        |
| 3  | J.R. Figueira* and <b>D. Datta</b> (2010). <i>Graph partitioning by a real-coded multi-objective genetic algorithm</i> . 24th European Conference on Operational Research (EURO-XXIV), Lisbon (Portugal), 98 (Abstract).   | –        |
| 2  | <b>D. Datta</b> * and K. Deb (2005). <i>Design of optimum cross-sections for load carrying members using multi-objective evolutionary algorithms</i> . International Conference on Systemics, Cybernetics and Informatics (ICSCI-2005), Hyderabad (India), 571–577.  | 08       |
| 1  | <b>D. Datta</b> (2002). <i>Sequential linear programming method using minimum number of gradients</i> . 47th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM-2002), Guwahati (India), 120–127.  | 01       |

## 23. Publications in National Conferences

| SN | Publication detail   | Citation |
|----|--|----------|
| 4  | A.K. Das and <b>D. Datta</b> * (2010). <i>Maximizing the material removal rate in advanced machining processes using a genetic algorithm: A preliminary study</i> . 25th National Convention of Production Engineers and National Seminar on Recent Developments in Manufacturing Technology, Agartala (India), 115–119. | –        |
| 3  | <b>D. Datta</b> * and J.R. Figueira (2008). <i>Comparing performances of real-coded and integer-coded multi-objective genetic algorithms</i> . National Conference on Recent Advances in Mechanical Engineering (NCRAME), Silchar (India), 39–44.  | –        |
| 2  | <b>D. Datta</b> * and J.R. Figueira (2008). <i>Improving the performance of a multi-objective particle swarm optimization: A preliminary study</i> . National Conference on Recent Advances in Mechanical Engineering (NCRAME), Silchar (India), 176–181.  | –        |
| 1  | <b>D. Datta</b> *, K. Deb and C.M. Fonseca (2007). <i>Solving class timetabling problem of IIT-Kanpur using multi-objective evolutionary algorithm</i> . National Conference of Research Scholars in Mechanical Engineering (NCRSME), Kanpur (India), 163–168. KanGAL Tech. Report No. 2006006 (2006), IIT - Kanpur.     | 20       |