

## CURRICULUM VITAE

**Prof. Manoj Kumar Tiwari** (FNAE, FNASc, FIISE, FIIIE, FIETI)

*Director, NITIE Mumbai*

*Vihar Lake Road, Powai, Mumbai – 400087 (MH)*

*Contact : +91 (22) 2803 5225*

Email : [mkt09@hotmail.com](mailto:mkt09@hotmail.com), [mkt09@nitie.ac.in](mailto:mkt09@nitie.ac.in)

[mkt009@gmail.com](mailto:mkt009@gmail.com), [mktiwari9@iem.iitkgp.ernet.in](mailto:mktiwari9@iem.iitkgp.ernet.in)

Web Page: [www.mktiwari.in](http://www.mktiwari.in)

OrcidID: <http://orcid.org/0000-0001-8564-1402>

*(On lien from Department of Industrial and Systems Engineering, Indian Institute of Technology, Kharagpur)*



**Date of Birth:** September 10<sup>th</sup>, 1962 (Age 59 Years)

### Academic Qualifications:

- 1999-2004 :** Ph.D. “Application of intelligent search heuristic to resolve the complexities of machine loading problems of FMS”  
Department of Production Engineering, **University of Jadavpur, West Bengal, India**
- 1988-1990 :** M. Tech. (Production Engg.) [First Division]  
Department of Mechanical Engineering, **Motilal Nehru Regional Engineering College (now known as MNNIT Allahabad), Prayagraj, Uttar Pradesh, India**
- 1982-1986 :** B. E. in Mechanical Engineering [First Division]  
Department of Mechanical Engineering, **Visvesvaraya Regional Engineering College (now known as VNIT), Nagpur, Maharashtra, India**

### Academic Experience:

#### Professional Experience:

- 2019 (Nov 05 – Present)** **Director**  
NITIE Mumbai, India
- 2016 (August 18 – Nov 2019) #** **Professor (Higher Academic Grade Scale)**  
Department of Industrial and Systems Engineering, Indian Institute of Technology (IIT), Kharagpur, India
- 2010 - 2016** **Professor**  
Department of Industrial and Systems Engineering, Indian Institute of Technology (IIT), Kharagpur, India
- 2007-2010:** **Associate Professor**  
Department of Industrial Engineering and Management, Indian Institute of Technology (IIT), Kharagpur, India
- 2005-2007\*:** **Professor**  
Department of Forge Technology, National Institute of Foundry and Forge Technology (NIFFT), Ranchi, India  
*NIFFT is fully funded and administered by Ministry of Human Resource Development, Government of India.*
- 1998 –2005:** **Assistant Professor**  
Department of Manufacturing Engineering, NIFFT, Ranchi, India
- 1996 – 1998:** **Senior Lecturer**  
Department of Mechanical Engineering, North Eastern Regional Institute of Science and Technology (NERIST), Itanagar, India  
*NERIST is established and funded by Ministry of Human Resource Development, Government of India.*
- 1990- 1996:** **Lecturer**  
Department of Mechanical Engineering, NERIST, Itanagar, India

**\*Visiting Professor:** From 11th July 2006 to 11th September 2006 at Department of Industrial and Systems Engineering, University of Wisconsin-Madison, USA

**#Director, NITIE Mumbai:** On lien from IIT Kharagpur from Nov 4, 2019 – till date

**Current Assignments/Responsibilities:**

- Director, NITIE Mumbai (05-Nov-2019 – till date)
- Chairman, Sectional Committee of Global Initiative for Academic Networks (GIAN) in Higher Education (Dec 2019 – till date)
- Member, Board of Governor, National Institute of Foundry and Forge Technology, Hatia, Ranchi (Nominated by AICTE, New Delhi, (July 2016-continuing)
- Member, Board of Governor, Institute of Chemical Technology, Mumbai, India. (January 2020 - continuing)
- Member of Board of UG Studies AICTE since 2016 and after that appointed as Chairman of Board of UG Studies AICTE (2018-continuing)

**Administrative Contribution:*****Director, NITIE (2019 – present)***

As a Director of NITIE Mumbai, Prof. Tiwari is responsible for implementing the policies related to admission, faculty recruitment, staff recruitment, and training, ensuring industry connections, and running the institute as an administrative head. He started several reforms related to academics and research, especially actionable analysis and performance standards for faculty and staff. Under his leadership, the institute's rank has been improved to 12 from 29 in the National Institutional Ranking Framework (NIRF) ranking for Management. Furthermore, NITIE has been ranked 73<sup>rd</sup> globally and 2<sup>nd</sup> in India on Times Higher Education's Impact Ranking 2021 on Sustainability Development Goals (SDG)-4 (Quality Education). Initiatives to launch programs are in progress to cover the different aspects of oil and petroleum sector executives, supply chain and manufacturing analytics, etc. During the COVID-19 pandemic, NITIE carried out the process of final exams, admission, and interviews through online mode under the leadership of Prof. Tiwari. Numerous lecture series, workshops, webinars, and Annual Leadership Summit - Prerana Business Meet 2020 have also been successfully completed.

***Dean Planning and Coordination at IIT Kharagpur (2017 - 2019)***

Prof. Tiwari developed an effective ground-level structure to establish the performance of institute ranking data to be fully responsible for enhancing the ranking, particularly QS and THE ranking of IIT Kharagpur. The fastest improvement in the QS Ranking has been witnessed under the leadership of Prof. Tiwari (308 in 2018, 295 in 2019, and 281 in 2020). Similarly, in subject ranking under Engineering and Technology, IIT Kharagpur improved from 7<sup>th</sup> to 3<sup>rd</sup> in India in the same period. He also carried the responsibility for MoU between MHRD and IIT Kharagpur, RTI responses, Ministry Communication, Parliamentary Questions, Annual Reports, Prepared documents for Institute of Eminence (IoE), Convocation Report, etc.

***Head of Department, ISE, IIT Kharagpur (2013-2016)***

Prof. Tiwari is a key motivator to change the department's name from Industrial and Engineering Management to Industrial and Systems Engineering in 2013. During his tenure, the 2<sup>nd</sup> floor of the department has been established with several laboratories and classes with prominent machines and software-related 3D printing, Logistics Laboratory, Design for Manufacturing and Assembly Laboratory (with software). Due to careful monitoring, articles in reputed journals have been increased in the department. He led the foundation to purchase SAS Software and implement a fully flagged Artificial Intelligence and Machine Learning application in academia and research. Quality Engineering Design and Manufacturing (QEDM) planned in 2012 has been successfully implemented under his term as Head of Department.

***Member of Board of Governor, IIT Kharagpur***

Prof. Tiwari is actively involved with the key policies initiative related to Human Resource Development as a chair of the HR Committee of IIT Kharagpur. Many issues have been resolved by timely interrogation by Prof. Tiwari as Board Member at IIT Kharagpur.

**Research Interests:**

- Decision Support Models, Planning, Scheduling and Control Problems of Manufacturing System, Supply Chain Network
- Operations Research and Simulation Model for decision making in Manufacturing and Supply Chain
- Computational Intelligence and Analytics (Manufacturing and Logistics domain)
- Product and Process Improvements (Design for Manufacturing and Assembly, Quality Improvements methods)

**Teaching Interests:**

During his academic career, he has taught several courses, which includes Supply Chain Management, Intelligent Manufacturing, Flexible Manufacturing System, Operations Research, Operations Management, Computational Intelligence, Networks and Project Management, and Design for Manufacturing (DfM), and Design for Assembly and Automation (DfAA) at various institutes and universities.

**Contribution as a Supervisor:**

- Supervised 10 Ph.D. students and presently running six more Ph.D. students.

#	Student Name	Year of Completion	Type
1	Mayank Shukla	Ongoing	Joint Supervisor
2	Rony Mitra	Ongoing	Joint Supervisor
3	Rosalin Sahoo	Submitted	Joint Supervisor
4	Aishwarya Dash	Ongoing	Joint Supervisor*
5	Jasashwi Mandal	Submitted	Joint Supervisor
6	Sumit Kumar Biswas	Ongoing	Supervisor
7	Vishal Kumar Gupta	Ongoing	Supervisor
8	Sankara Narayanan G	Ongoing	Joint Supervisor*
9	Sube Singh	2021	Supervisor
10	Yerasani Sinjana	2019	Supervisor
11	Mogale Dnyaneshwar Gangadhar	2019	Supervisor
12	Arijit De	2018	Supervisor
13	Ramkrishna Punjaji Manatkar	2017	Supervisor
14	Saurabh Pratap	2016	Supervisor
15	Mohit Goswami	2016	Supervisor
16	Vijaya Kumar Manupati	2014	Supervisor
17	Priyabrata Mohapatra	2012	Supervisor
18	Hiremath Nagayya C	2011	Supervisor
*Not working with me.			

- Supervised 60 Master's thesis.
- Supervised over 150 Bachelor's project work.

## Honors:

- Fellow of the National Academy of Sciences (NASI), Allahabad, India (effect from Dec 2019)
- Fellow of National Academy of Engineering, India (Effect from 2013)
- Fellow of Institute of Industrial and Systems Engineers (IISE) (IIE Fellow), in May 2018, during IISE Annual Conference, held at the Loews Royal Pacific Resort at Universal Orlando, Florida, USA. (22nd May 2018)
- Fellow of International Engineering and Technology Institute, Hong Kong (FIETI) on July 18, 2019.
- Visiting Fellow in Durham University Business School, Durham, the UK for a period of two years from January 1, 2019, to December 31, 2020.
- Recipient of Fellowship of Indian Institution of Industrial Engineering (IIIE) Mumbai for the recognition of his outstanding contribution to the promotion of the Industrial Engineering profession (29th September 2018)
- Recipient of Institute Chair Professorship Award 2018 for outstanding contributions towards Teaching, Research, and Institutional Development at IIT Kharagpur, during 68th Foundation Day of Indian Institute of Technology Kharagpur (18th August 2018)
- Appointed as an Honorary Visiting Professor of Computational Intelligence in Manufacturing in the Wolfson School of Mechanical, Electrical and Manufacturing Engineering, at Loughborough University, UK (2018-21).
- Recipient of Mahalanobis Distinguished Educator Award from the Operations Research Society of India (ORSI), as a Distinguished Educator in the field of Management for his noteworthy contribution (21st Dec 2017)
- Recipient of Dr. R.P. Mohanty Gold Medal Award (2016) for Outstanding Teacher in Industrial Engineering by Indian Institution of Industrial Engineering on 59th National Convention of IIIE at Aurangabad, 2017.
- Member, Board of Governor, IIT Kharagpur, January 2016-2018
- Member, Board of Governor, National Institute of Foundry and Forge Technology, Hatia, Ranchi (Nominated by AICTE, New Delhi, July 2016-continuing)
- Chairman of Board of UG Studies AICTE (2018-continuing) and Member of Board of UG Studies AICTE since 2016
- Member of Steering Committee, International Federation of automatic control (IFAC TC 5.2), France, (2014-Continuing). IFAC TC 5.2 is the technical committee under IFAC for the domain of Manufacturing Modelling for Management and Control
- Member of National Research Development Corporation (NRDC) Expert Screening Committee for selecting the NRDC National Awards in three categories of Innovation Awards, Societal Innovation Awards, and Budding Innovators Awards. (2017-continuing)

## Achievements:

- In the top Scientist list, Ranked at 16<sup>th</sup> position (National) by the [Research.Com](https://www.research.com) in the domain of Computer Science because of major research interests in artificial intelligence, operating system, and statistics (2022).
- Article on Impact of COVID-19 Scenarios on Air Freight Logistics Supply Chain has been recognized as Outstanding Conference Paper of the IEEM2021 Virtual Conference - IEEE 28th International Conference on Industrial Engineering and Engineering Management (IEEM 2021) - 13-16 Dec 2021, Marina Bay Sands (Sands Expo & Convention Centre), Singapore.
- Our paper published on COVID-19 and Logistics System is Most Read Article in the 60-year-old Journal, International Journal of Production Research (IJPR) (100K+ views)
- Top leading author in the domain of Supply Chain Analytical Techniques who has published in Journal of Computer & Industrial Engineering during last 25 years (CAIE, Volume 137, November 2019, 106015).
- Commended Paper Award in 9th IFAC Conference Manufacturing Modelling, Management and Control MIM 2019 for an article titled as “Digital Twin Driven Inclusive Manufacturing Using Emerging Technologies”
- Recipient of Most Influential Researcher Award in the domain of Operations and Supply Chain Management (Award is given to the Third Green Supply Chain International Conference, 2016 organized by School of Business and Economics, Loughborough University, London Campus. Prof. Sir Mike Gregory, Founder and Former Head of IFM, Cambridge University has presented the award)
- Rated 2<sup>nd</sup> among many researchers working in Logistics and Supply Chain Management in India (Analysis of the logistics Research in India-White paper published in TU Dortmund University, Dortmund Germany-2012)
- Placed at the 14<sup>th</sup> position in the world’s top 20 most productive authors in five leading POM journals (1959-2008), and 9<sup>th</sup> position in the world’s top 10 most productive authors in the last decade (1999-2008). [As published in a research article in the Int. J. Production Economics, 2009, vol-120, pp. 540-551]
- Rated as Rank 1 among top 100 individual researchers across the world, who had published research articles in International Journal of Production Research (Taylor and Francis) during the time period 1985-2010. The origins of research and patterns of authorship in the International Journal of Production Research. International Journal of Production Research, 2013 Vol. 51, Nos. 23–24, 7470–7500.  
<http://dx.doi.org/10.1080/00207543.2013.832436>
- Rated as Rank 5<sup>th</sup> among top 100 authors (distributed articles) based on papers published in top 11 journals of Operations Management (between 1985-2010). Reported in International Journal of Production Research, 5<sup>th</sup> May 2015. (DOI:10.1080/00207543.2015.1037935)
- Ranked 5<sup>th</sup> Among top ten authors in India among the entire Engineering Section as a subject area on account of a number of publications in 2002-2014. Among these authors, Prof. Tiwari is having second highest H-index. [Listed in Bibliographic study conducted by a study group engaged by DST-Govt of India-April 2016] (<http://nstmis-dst.org/PDF/Elsevier.pdf>)
- Received “Leadership in Inspiring Research in Management Science” award during XX Annual International Conference of the Society of Operations Management, SOM 2016, held at ABV-IIITM Gwalior on December 23, 2016.

- Received the IJPR Best Paper Award for the article: “Distributed manufacturing: scope, challenges and opportunities” (2018)
- Listed the article “Optimising integrated inventory policy for perishable items in a multi-stage supply chain” in a Special Issue of Leading Scholars in Production Research published by IJPR on its 55th anniversary (2018)

#### **Editorial Responsibilities:**

- Senior Associate Editor of *Sadhana*, Academy Proceedings in Engineering Sciences, Indian Academy of Sciences Bangalore, Springer (2015 – continuing)
- Senior Editor of *Production and Operations Management*, published by Production and Operations Management Society (2019 – continuing)
- Associate Editor of *IEEE Transactions on Systems, Man, and Cybernetics: Systems* (2012 – continuing)
- Associate Editor of *International Journal of Production Research*, published by Taylor and Francis. (2005 – continuing)
- Associate Editor of *Expert Systems with Applications*, published by Elsevier. (2020 – till date)
- Associate Editor of *Manufacturing and Logistics Systems - Manufacturing Modeling for Management and Control* for IFAC 2020.
- Regional Associate Editor (Asia) of *Journal of Intelligent Manufacturing*, published by Springer (2005 – continuing)
- Associate Editor of *International Journal of System Science*, published by Taylor and Francis (2006 – continuing)
- Area Editor (chief in Manufacturing Process) of *Journal of Computers and Industrial Engineering*, published by Elsevier (2012 – continuing)
- Associate Editor of *Journal of Decision Support System*, published by Elsevier (2010-2012) second term( August 2014 – continuing)
- Associate Editor of *Cogent Engineering*, published by Taylor & Francis (2015 – till date)
- Associate Editors of *Smart and Sustainable Manufacturing Systems*, published by ASTM International (2016 – continuing)
- Associate Editor of *Journal of Advanced Manufacturing Systems*, published by World Scientific (2018 – continuing)
- Associate Editor of *Journal of Neurocomputing*, Published by Elsevier (2012 – 2019)
- Managing Editor of *OPSEARCH*, Journal of the operational research society of India published by Springer (2018 – 2021)
- Associate Editor of *OPSEARCH*, Journal of the operational research society of India published by Springer (2017 – 2021)
- Associate Editor of *Sadhana*, Academy Proceedings in Engineering Sciences, Indian Academy of Sciences Bangalore, Springer (2013 – 2015)
- Associate Editor, Engineering Applications of Artificial Intelligence, Elsevier (2016-2018)
- Editorial Board Member of European Journal of Operational Research (EJOR) published by Elsevier (2010- 29<sup>th</sup> October 2014)
- Editorial Board Member of International Journal of Computer Integrated Manufacturing (IJCIM), published by Taylor and Francis
- Editorial Board Member of Robotics and Computer Integrated Manufacturing (RCIM), published by Elsevier (2007 – 2018)

- Editorial Board Member of International Journal of Advanced Manufacturing Technology (IJAMT), Published by Springer
- Editorial Board Member of Journal of Transportation Security (JTS) published by Springer
- Editorial Board Member of International Journal of Decision Making in Manufacturing and Services, AGH University of Science and Technology Press, Poland
- Editorial Board Member of International Journal of Mechanical Engineering Science, (Proceedings the IMechE, Part C) (2007-2012), Professional Engineering Publisher
- Guest Editor of Special issue of International Journal of Production Research (IJPR), published by Taylor and Francis
- Member of the team working on “Next-Gen Supply Chain” (A European Council Project). It was headed by CS Lalwani (University of Hull, UK). Other members of the team are from other IITs and IIMs.
- Member of Scientific Committee of 7<sup>th</sup> International Conference on Manufacturing Research (ICMR 09). (<http://go.warwick.ac.uk/icmr09>)(2008-2010)
- Member of Scientific Committee of 3<sup>rd</sup> International Conference on Changeable, Agile, Reconfigurable and Virtual Production (CARV) 2009
- Member of Scientific Committee of Flexible Automation and Intelligent Manufacturing (FAIM) 2005, 2006 and 2007
- Member of International Advisory Committee of International Manufacturing Leaders Forum (IMLF) 2006, Taipei, Taiwan
- Member of Program Committee of International multiconference of Engineers and Computer Scientists (IMECS) 2007

**Listed in the panel of reviewers of 37 International Journals:**

- ASME - Journal of Manufacturing Science and Engineering
- Computers and Industrial Engineering (CIE)
- Engineering Optimization (T&F)
- European Journal of Operation Research (EJOR)
- IEEE Transactions Automation Science and Engineering
- IEEE Transactions on Engineering Management
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Systems, Man, and Cybernetics (Part: A)
- IEEE Transactions on Systems, Man, and Cybernetics (Part: B)
- IEEE Transactions on Systems, Man, and Cybernetics (Part: C)
- Information Sciences
- Integrated Computer-Aided Engineering (ICAE)
- Integrated Manufacturing Systems
- International Journal of Advanced Manufacturing Technology.
- International Journal of Business Performance Management
- International Journal of Computer Integrated Manufacturing
- International Journal of Management Science (Omega)
- International Journal of Manufacturing Technology & Management
- International Journal of Material Processing Technology
- International Journal of Mechanical Sciences
- International Journal of Production Economics (IJPE)
- International Journal of Production Research (IJPR)
- International Journal of Six Sigma and Competitive Advantage
- International Journal of System Science (IJSS)
- International Journal of Technology Management
- Journal of Heuristics
- Journal of Operation Research Society (JORS)

- Journal of Organizational Computing and Electronic Commerce
- Management Research News
- Physica A: Statistical Mechanics and its Applications
- Proceedings of Institute of Mechanical Engineering Part: B Journal of Engineering Manufacture
- Proceedings of Institute of Mechanical Engineering Part: C Journal of Mechanical Engineering Science
- Proceedings of Institute of Mechanical Engineering Part: G Journal of Aerospace Engineering
- Production Planning and Control (PPC)
- Transactions of Institute of Industrial Engineering (Design and Manufacturing) (*now IISE*)
- Transactions of Institute of Industrial Engineering (Quality and Reliability) (*now IISE*)
- Transportation Research Part E: Logistics and Transportation Review

#### **Societies Membership:**

- American Society of Mechanical Engineers - ASME (*February 2022 – continuing*)
- Institute of Industrial and Systems Engineering – IISE (Fellow and Senior Member) - (*March 2005 – continuing*)
- Institute for Operations Research and the Management Sciences – INFORMS (*January 2011 – continuing*)
- IEEE Membership (Senior Member) – (*March 2011 – continuing*)
- Production and Operations Management Society - POMS (*January 2019 – continuing*)
- Council of Supply Chain Management Professionals – CSCMP (*September 2018 – continuing*)
- Society of Manufacturing Engineers – SME (*Nov 2016 – continuing*)
- Operational Research Society of India – ORSI (*Lifetime member*)
- Indian Institution of Industrial Engineering – IIIE (*Lifetime member*)

#### **Keynotes/Invited Lectures/Seminar (International):**

1. Delivered a short talk on “Sustainability risk and mitigation strategy with analytical approaches” in a workshop Sustainability Risk (ESG Risk), organised by the UK Forum for Supply Chain Sustainability, Loughborough University, UK, 10 Feb, 2021 (Online)
2. Delivered a keynote talk on “An operational perspective on data analytics for resilience in the age of ‘digital twin’ supply chains” in 24th Cambridge International Manufacturing Symposium held during 17-18 September 2020. (Online)
3. Delivered a Track Keynote talk on “Manufacturing Analytics” at MIM 2019: 9th IFAC Triannual Conference on Manufacturing Modeling, Management and Control. Berlin, GERMANY (28-30 August, 2019).
4. Visited Loughborough University and Durham University, UK to pursue academic interaction with Prof. Jenny Harding and Prof. Kiran Fernandes (8-9 June 2019)
5. Visited Cambridge University (IfM), UK for attending the Leadership for Academicians Programme (LEAP) sponsored by Ministry of Human Resource Development (MHRD), India (2-7 June 2019)
6. Delivered a seminar talk at Warwick Manufacturing Group (14th July 2018)
7. Delivered a talk on digital product, process, and service platform with reference to Smart Manufacturing at Loughborough School of Business and Economics, Loughborough University, Loughborough, UK (11th July 2018)
8. Visited Warwick Manufacturing Group, Bristol University Business School, Cardiff Business School, UK, 14<sup>th</sup>-19<sup>th</sup> July 2016.



9. Delivered a keynote on Modern Trends in Sustainable Supply Chain at 3<sup>rd</sup> GSC (Green Supply Chain Conference) held at Loughborough School of Business and Economics, London (10-13<sup>th</sup> July 2016)
10. Chaired two sessions at Manufacturing Modelling Management and Control (MIM), held at University of Technology of Troyes, France, June 28-30, 2016.
11. Delivered a talk and coordinated a session on Distributed Manufacturing at Institute for Manufacturing, the University of Cambridge on 23<sup>rd</sup> September 2015.
12. Delivered a keynote on “An Integrated Framework based on Virtual Manufacturing to Enhance the Capability of SMEs”, in a joint workshop organized by Royal Academy of Engineering, UK and Indian National Academy of Engineering. The workshop was coordinated by Professor Mike Gregory, Head, Institute for Manufacturing, University of Cambridge. June 16<sup>th</sup> -18<sup>th</sup>, 2014 at London.
13. Invited Talk on Supply Chain and Food Security, Invited by The University of Waikato, School of Management, Hamilton, 9<sup>th</sup> -17<sup>th</sup> May 2014
14. Invited Talk on Self-Healing architecture of Supply chain, Invited by TU Dortmund University, Dortmund Germany-2013
15. Warwick Manufacturing Group (WMG) UK-2009
16. School of Business and Economics, University of Exeter, Exeter, UK (July 2006)
17. Department of Mechanical Engineering, University of Bath, UK (July 2006)
18. Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University, UK (July 2006)
19. Department of Engineering Management and Systems Engineering, Engineering Management, University of Missouri-Rolla, USA (September 2006)
20. Department of Industrial Engineering, University of Wisconsin-Madison, Wisconsin, USA (July-September 2006)

**Keynotes/Invited Lectures/Seminar (National):**

- Panelist speaker in the Webinar by PM GatiShakti: Creating Synergy for Accelerated Economic Growth. Budget Announcement: 2022-23. Theme 4: Logistics Workforce Strategy- enhancing skill and employment opportunities on February 28, 2022.
- Chief Guest during Inaugural Ceremony of ATAL FDPs - Faculty Development Program (FDPs) of AICTE on 15<sup>th</sup> November 2021.
- Delivered a keynote session on the topic “Key Logistics and Supply Chain Challenges” organized by IEEE CS Bombay Chapter on 26<sup>th</sup> June 2021.
- Keynote speaker in an online Half-day Workshop on “Additive Manufacturing for Competitiveness” held at NITIE Mumbai on May 20, 2021.
- Delivered several webinars talks on Impact of COVID-19 on Supply Chain, Manufacturing Systems, and Digital Supply Chain, hosted by numerous renowned institutions in India, like, MANIT Bhopal, NIT Jamshedpur, NIT Jalandhar, NITIE Mumbai, Doon University, etc.
- Participated in various high level panel discussions on implementation and future outcomes of National Education Policy 2020 (NEP-2020).
- Keynote speaker in 3<sup>rd</sup> National Conference on Industrial Engineering and Technology Management 2018 held at NITIE Mumbai during 30<sup>th</sup> November to 1<sup>st</sup> December 2018. (1<sup>st</sup> December, 2018)

- Delivered keynote talk on Industry 4.0: an era of digital manufacturing in Diamond Jubilee Convention of IIIE and International Conference ICIEIND at ITER, Bhubaneswar, India (27<sup>th</sup> to 30<sup>th</sup> September, 2018)
- Craft & Small Scale Manufacturing: Policy for IM at Inclusive Manufacturing Forum 2018-NIAS, Bangalore, India (05<sup>th</sup> -7<sup>th</sup> April 2018)
- Delivered an invited lecture on Operations Research and Nature inspired Search Algorithms: A Lethal combination for solving large sized problems. At Operational Research Society of India (ORSI) during its Diamond Jubilee, India (21<sup>st</sup> to 23<sup>rd</sup> December, 2017)
- Delivered an invited talk on Sustainable freight transportation for food grain distribution at IIT Delhi, India (1<sup>st</sup> November, 2017)
- Application of Machine Learning and Big Data Analytics in Smart Manufacturing at IIT Madras, India (23<sup>rd</sup> June, 2017)
- Framework of Inclusive Manufacturing at Inclusive Manufacturing Forum 2017-NIAS, Bangalore, India (06<sup>th</sup> -8<sup>th</sup> April 2017)
- Delivered an invited talk on Sustainable Manufacturing at XX Annual International Conference of the Society of Operations Management, IIITM, Gwalior, (22<sup>nd</sup> -23<sup>rd</sup> December 2016)
- Modeling and analysis of Sustainable Shipping Operations at International Conference on E-Business and Supply Chain Competitiveness, IISc Bangalore (19<sup>th</sup> -21<sup>st</sup> December 2016)
- Delivered an invited talk on Digital product and Service Platform to exchange the Manufacturing Productivity at Design Workshop, IIITDM Jabalpur (12<sup>th</sup>-14<sup>th</sup> December 2016)
- Delivered an invited talk on Digital product and service platforms at NIAS, Bangalore (21<sup>st</sup>-22<sup>nd</sup> Oct 2016)
- Delivered an invited talk on Distributed Manufacturing at NIAS, Bangalore (18<sup>th</sup> June 2016)
- Delivered a keynote on Predictions in Product Development at SOM Conference held at IIM Kolkata (12<sup>th</sup> December 2015).
- Delivered an invited talk on Digital Manufacturing and Case studies in an international conference organized by DRDO, December 2015.
- Delivered a keynote on Product Process and Service Platform at ITER Bhubaneswar on October 2015.
- Delivered a keynote and presented a report on a Joint study on “Requirements for and impact of ICT-based advanced manufacturing with special reference to an International context” sponsored by ACATECH (German National Academy of Science and Engineering), and INAE (Indian National Academy of Engineering) under a research project “Advanced Manufacturing/Industry 4.0 and Urban Development- the Case of Indian Metropolitan Areas”, Conference held in Delhi on September 3<sup>rd</sup> - 4<sup>th</sup> 2014.
- Delivered an invited talk on Supply Chain Network Design at IIT Bhubaneswar, 6<sup>th</sup> April 2014
- Delivered a keynote to address Self-Healing in Supply Chain Management and was a part of the core team to organize an International Conference of Society of Operation Management, IIT Delhi, (Dec 2012).
- Keynote speaker at International Conference on Swarm Evolutionary and Memetic Computing Conference (SEMCCO-2012), SOA University, Bhubaneswar, Odisha (held on Dec 2012)

- Keynote speaker at International Conference on Best Practices in Supply Chain Management (BPSCM) 2012, SOA University, Bhubaneswar, Odisha (held on 22<sup>nd</sup>-23<sup>rd</sup> November 2012).
- Keynote speaker at National Conference on Research Scholars in Management-NCRS-2011, ABV-IIIIT Gwalior, India (held on 26<sup>th</sup>-27<sup>th</sup> March 2011).
- Delivered a lecture on Evolutionary computations in solving the Manufacturing Planning Problems (July 2010, Jadavpur University).
- Keynote speaker at National Conference on "Emerging Trends in Nano-Technology and Innovations in Design and Manufacturing-ETNDM-2006, Rourkela, India (held on 18<sup>th</sup> February 2006).
- Keynote speaker at National Conference on Quality and Reliability – CQR-2006, Rourkela, India (held on 4<sup>th</sup> November 2006)

### Summary of Research Publications:

Site	H-Index	Citations (on 8-May-2022)
<a href="#">Google Scholar</a>	72	21034
<a href="#">Scopus</a>	57	13218
<a href="#">Web of Science</a>	52	12068
<hr/>		
<i>i.</i>	<a href="#">Refereed International Journal Publications</a>	341
<i>ii.</i>	<a href="#">Scientific Report (Nature)</a>	2
<i>iii.</i>	<a href="#">International Conferences Proceedings</a>	56
<i>iv.</i>	<a href="#">National Conferences Proceedings</a>	31
<i>v.</i>	<a href="#">Edited Books</a>	4
<i>vi.</i>	<a href="#">National Journals</a>	2
<i>vii.</i>	<a href="#">Book Chapters</a>	7
<i>viii.</i>	<a href="#">Research reports</a>	10
<i>ix.</i>	<a href="#">News articles/mentions</a>	12

#### *i.* Refereed International Journal Publications

1. Singh, S., Mohanty, A., Rai, R., Mahanty, B., & Tiwari, M. (2022). An optimization framework for operational-level resource composition in an inclusive manufacturing system. *ASME Journal of Computing and Information Science in Engineering*, 22(5), 051003.
2. Mogale, D. G., De, A., Ghadge, A., & Tiwari, M. K. (2022). Designing a sustainable freight transportation network with cross-docks. *International Journal of Production Research*, 1-24. Accepted *in press*.
3. Dwivedi, Y. K., Hughes, L., Kar, A. K., Baabdullah, A. M., Grover, P., Abbas, R., ... **Tiwari, M. K.**, ... & Wade, M. (2022). Climate change and COP26: Are digital technologies and information management part of the problem or the solution? An editorial reflection and call to action. *International Journal of Information Management*, 63, 102456.
4. Chen, M. C., Yerasani, S., & **Tiwari, M. K.** (2022). Solving a 3-dimensional vehicle routing problem with delivery options in city logistics using fast-neighborhood based crowding differential evolution algorithm. *Journal of Ambient Intelligence and Humanized Computing*, 1-14. Accepted *in press*.

5. Sahoo, R., Pasayat, A. K., Bhowmick, B., Fernandes, K., & **Tiwari, M. K.** (2022). A hybrid ensemble learning-based prediction model to minimise delay in air cargo transport using bagging and stacking. *International Journal of Production Research*, 60(2), 644-660.
6. Dixit, V., & **Tiwari, M. K.** (202). Learning curve based integrated procurement and project scheduling of multiple sister ships project. *Computers & Industrial Engineering*, 162, 107691.
7. Sahoo, R., Bhowmick, B., & **Tiwari, M. K.** (2021). Developing a model to optimise the cost of consolidated air freight considering the varying scenarios. *International Journal of Logistics Research and Applications*, 1-25. Accepted *in press*.
8. Mishra, A., Verma, P., & **Tiwari, M. K.** (2021). A circularity-based quality assessment tool to classify the core for recovery businesses. *International Journal of Production Research*, 1-19. Accepted *in press*.
9. Ng, F., Harding, J. A., & **Tiwari, M. K.** (2021). A bespoke PSS development roadmap for construction OEMs. *Sādhanā*, 46(3), 1-14.
10. Rai, R., **Tiwari, M. K.**, Ivanov, D., & Dolgui, A. (2021). Machine learning in manufacturing and industry 4.0 applications. *International Journal of Production Research*, 56(16), 4773-4778. Accepted *in press*.
11. Mandal, J., Mitra, R., Gupta, V. K., Subramanian, Kayikci, Y., & **Tiwari, M. K.** (2021). Optimal allocation of near-expiry food in a retailer-foodbank supply network with economic and environmental considerations: An aggregator's perspective. *Journal of Cleaner Production*, 318, 128421.
12. Akarte, M., Khanzode, V., Iqbal, R., & **Tiwari, M. K.** (2021). IE Tools for Boosting Competitiveness in Iron and Steel Industry: A Review. *Transactions of the Indian Institute of Metals*, 1-12. Accepted *in press*.
13. Tanksale, A. N., Das, D., Verma, P., & **Tiwari, M. K.** (2021). Unpacking the Role of Primary Packaging Material in Designing Green Supply Chains: An Integrated Approach. *International Journal of Production Economics*, 236, 108133.
14. Gupta, V. K., Dakare, S., Fernandes, K. J., Thakur, L. S., & **Tiwari, M. K.** (2021). Bilevel Programming for Manufacturers Operating in an Omnichannel Retailing Environment. *IEEE transactions on engineering management*. Accepted *in press*.
15. Das, D. N., Sewani, R., Wang, J., & **Tiwari, M. K.** (2020). Synchronized Truck and Drone Routing in Package Delivery Logistics. *IEEE Transactions on Intelligent Transportation Systems*. Accepted *in press*.
16. De, A., Wang, J., & **Tiwari, M. K.** (2021). Fuel Bunker Management Strategies Within Sustainable Container Shipping Operation Considering Disruption and Recovery Policies. *IEEE Transactions on Engineering Management*, 68(4), 1089-1111.
17. Ghadge, A., Jena, S. K., Kamble, S., Misra, D., & **Tiwari, M. K.** (2021). Impact of financial risk on supply chains: a manufacturer-supplier relational perspective. *International Journal of Production Research*, 59(29), 7090-7105.
18. Bharsakade, R. S., Acharya, P., Ganapathy, L., & **Tiwari, M. K.** (2021). A lean approach to healthcare management using multi criteria decision making. *OPSEARCH*, 1-26. Accepted *in press*.
19. Singh, S., Kumar, R., Panchal, R., & **Tiwari, M. K.** (2021). Impact of COVID-19 on logistics systems and disruptions in food supply chain. *International Journal of Production Research*, 59(7), 1993-2008.
20. Bhalodiya, J. M., Palit, A., Giblin, G., **Tiwari, M. K.**, Prasad, S. K., Bhudia, S. K., ... & Williams, M. A. (2021). Identifying Myocardial Infarction Using Hierarchical Template Matching–Based Myocardial Strain: Algorithm Development and Usability Study. *JMIR Medical Informatics*, 9(2), e22164.

21. De, A., Choudhary, A. K., Turkey, M., **Tiwari, M. K.** (2021). Bunkering Policies for a Fuel Bunker Management Problem for Liner Shipping Networks. *European Journal of Operational Research*, 289(3), 927-939.
22. Maity, M., Toloioe, A., Sinha, A. K., & **Tiwari, M. K.** (2021). Stochastic batch dispersion model to optimize traceability and enhance transparency using Blockchain. *Computers & Industrial Engineering*, 154, 107134.
23. Ruan, J. H., Wang, Z. X., Chan, F. T., Patnaik, S., & **Tiwari, M. K.** (2021). A reinforcement learning-based algorithm for the aircraft maintenance routing problem. *Expert Systems with Applications*, 169, 114399.
24. Ghadge, A., Bag, S., Goswami, M., & **Tiwari, M. K.** (2020). Mitigating demand risk of durable goods in online retailing. *International Journal of Retail & Distribution Management*, 49(2), 165-186.
25. Singh, S., Barde, A., Mahanty, B., & **Tiwari, M. K.** (2020). Emerging Technologies Based and Digital Twin Driven Inclusive Manufacturing System. *International Journal of Integrated Supply Management*, 13(4), 353 – 375.
26. Malolan, S., Mathirajan, M., & **Tiwari, M. K.** (2020). A methodology for determining the optimal reverse flow capacities and the breakeven period for a multi products-component remanufacturing problem of an OEM. *Operations Management Research* 13(3), 233-248.
27. Dixit, V., Verma, P., & **Tiwari, M. K.** (2020). Assessment of pre and post-disaster supply chain resilience based on network structural parameters with CVaR as a risk measure. *International Journal of Production Economics*, 227, 107655.
28. Chan, F. T., Wang, Z. X., Patnaik, S., **Tiwari, M. K.**, Wang, X. P., & Ruan, J. H. (2020). Ensemble-learning based neural networks for novelty detection in multi-class systems. *Applied Soft Computing*, 93, 106396.
29. Kumar, R., Ganapathy, L., Gokhale, R., & **Tiwari, M. K.** (2020). Quantitative approaches for the integration of production and distribution planning in the supply chain: a systematic literature review. *International Journal of Production Research*, 58(11), 3527-3553.
30. Mandal, J., Goswami, A., Wang, J., & **Tiwari, M. K.** (2020). Optimization of vehicle speed for batches to minimize supply chain cost under uncertain demand. *Information Sciences*, 515, 26-43.
31. Chan, F. T., Wang, Z. X., Goswami, A., Singhanian, A., & **Tiwari, M. K.** (2020). Multi-objective particle swarm optimisation based integrated production inventory routing planning for efficient perishable food logistics operations. *International Journal of Production Research*, 58(17), 5155-5174.
32. Reddy, K. N., Kumar, A., Sarkis, J., & **Tiwari, M. K.** (2020). Effect of carbon tax on reverse logistics network design. *Computers & Industrial Engineering*, 139, 106184.
33. Dixit, V., & **Tiwari, M. K.** (2020). Project portfolio selection and scheduling optimization based on risk measure: a conditional value at risk approach. *Annals of Operations Research*, 285(1-2), 9-33.
34. Boehmer, J. H., Shukla, M., Kapletia, D., & **Tiwari, M. K.** (2020). The impact of the Internet of Things (IoT) on servitization: an exploration of changing supply relationships. *Production Planning & Control*, 31(2-3), 203-219.
35. Yerasani, S., Tripathi, S., Sarma, M., & **Tiwari, M. K.** (2020). Exploring the effect of dynamic seed activation in social networks. *International Journal of Information Management*, 51, 102039.
36. Mogale, D. G., Ghadge, A., Kumar, S. K., & **Tiwari, M. K.** (2020). Modelling supply chain network for

procurement of food grains in India. *International Journal of Production Research*, 58(21), 6493-651.

37. Mogale, D. G., Cheikhrouhou, N. & **Tiwari, M. K.** (2020). Modelling of sustainable food grain supply chain distribution system: a bi-objective approach. *International Journal of Production Research*. 58(18), 5521-5544.
38. Shukla, M., Pal, K., & **Tiwari, M. K.** (2020). A framework for understanding institutional factors affecting the success and failure of offshoring models in India. *International Journal of Production Research*, 58(19), 5911-5928.
39. De, A., Pratap, S., Kumar, A., & **Tiwari, M. K.** (2020). A hybrid dynamic berth allocation planning problem with fuel costs considerations for container terminal port using chemical reaction optimization approach. *Annals of Operations Research*, 290 (1), 783-811.
40. De, A., Wang, J., & **Tiwari, M. K.** (2020). Hybridizing basic variable neighborhood search with particle swarm optimization for solving sustainable ship routing and bunker management problem. *IEEE Transactions on Intelligent Transportation Systems*, 21(3), 986-997.
41. Mogale, D.G., Kumar, S.K. & **Tiwari, M.K.** (2020). Green food supply chain design considering risk and post-harvest losses: a case study. *Annals of Operations Research*, 295, 257–284.
42. Bhalodiya, J. M., Palit, A., Ferrante, E., **Tiwari, M. K.**, Bhudia, S. K., Arvanitis, T. N., & Williams, M. A. (2019). Hierarchical Template Matching for 3D Myocardial Tracking and Cardiac Strain Estimation. *Scientific reports*, 9(1), 1-13.
43. Maiyar, L. M., Cho, S., **Tiwari, M. K.**, Thoben, K. D., & Kiritsis, D. (2019). Optimising online review inspired product attribute classification using the self-learning particle swarm-based Bayesian learning approach. *International Journal of Production Research*, 57(10), 3099-3120.
44. Choudhary, A. K., Harding, J. A., **Tiwari, M. K.**, & Shankar, R. (2019). Knowledge management based collaboration moderator services to support SMEs in virtual organizations. *Production Planning & Control*, 30(10-12), 951-970.
45. Maiyar, L. M., Singh, S., Prabhu, V., **Tiwari, M. K.** (2019). Part segregation based on particle swarm optimization for assembly design in additive manufacturing. *International Journal of Computer Integrated Manufacturing*, 32(7), 705-722.
46. Chan, F. T., Wang, Z., Singh, Y., Wang, X. P., Ruan, J. H., & **Tiwari, M. K.** (2019). Activity scheduling and resource allocation with uncertainties and learning in activities. *Industrial Management & Data Systems*, 119(6), 1289-1320.
47. Garza-Reyes, J. A., Kumar, V., Lim, M. K., Antony, J., & **Tiwari, M. K.** (2019). Interventions for delivering the triple-bottom-line. *Production Planning & Control*, 30(5-6), 347-352.
48. Gupta, V. K., Ting, Q. U., & **Tiwari, M. K.** (2019). Multi-period price optimization problem for omnichannel retailers accounting for customer heterogeneity. *International Journal of Production Economics*, 212, 155-167.
49. Jha, S. B., Jha, J. K., & **Tiwari, M. K.** (2019). A multi-objective meta-heuristic approach for transit network design and frequency setting problem in a bus transit system. *Computers & Industrial Engineering*, 130, 166-186.
50. Singh, S., Ghosh, S., Jayaram, J. & **Tiwari, M. K.** (2019). Enhancing supply chain resilience using ontology based decision support system. *International Journal of Computer Integrated Manufacturing*, 32(7), 642-657.

51. Bag, S., Ghadge, A., & **Tiwari, M. K.** (2019). An integrated recommender system for improved accuracy and aggregate diversity. *Computers & Industrial Engineering*, 130, 187-197.
52. Khan, M. H. A., Jain, R., Thakur, L., Kumar, S. K., & **Tiwari, M. K.** (2019). Exploiting co-existence and co-evolution of mutualistic communities: A stable algorithm based on the plant-pollinator interactions. *Computers & Industrial Engineering*, 128, 637-650.
53. Yerasani, S., Appam, D., Sarma, M., & **Tiwari, M. K.** (2019). Estimation and maximization of user influence in social networks. *International Journal of Information Management*, 47, 44-51.
54. Murarka, U., Sinha, V., Thakur, L. S., & **Tiwari, M. K.** (2019). Multiple criteria risk averse model for multi-product newsvendor problem using conditional value at risk constraints. *Information Sciences*, 478, 595-605.
55. Singh, S., Mahanty, B., & **Tiwari, M. K.** (2019). Framework and modelling of inclusive manufacturing system. *International Journal of Computer Integrated Manufacturing*, 32 (2), 105-123.
56. Arndt, T., Kumar, M., Lanza, G., & **Tiwari, M. K.** (2019). Integrated approach for optimizing quality control in international manufacturing networks. *Production Planning and Control*, 30(2-3), 225-238.
57. Bag, S., Kumar, S., Awasthi, A., & **Tiwari, M. K.** (2019). A noise correction-based approach to support a recommender system in a highly sparse rating environment. *Decision Support Systems*, 118, 46-57.
58. Bag, S., Kumar, S. K., & **Tiwari, M. K.** (2019). An efficient recommendation generation using relevant Jaccard similarity. *Information Sciences*, 483, 53-64.
59. Bag, S., **Tiwari, M. K.**, & Chan, F. T. (2019). Predicting the consumer's purchase intention of durable goods: An attribute-level analysis. *Journal of Business Research*, 94, 408-419.
60. Dutta, G., Rao, H. V., Basu, S., & **Tiwari, M. K.** (2019). Asset liability management model with decision support system for life insurance companies: Computational results. *Computers & Industrial Engineering*, 128, 985-998.
61. Shukla, N., **Tiwari, M. K.**, & Beydoun, G. (2019). Next Generation Smart Manufacturing and Service Systems using Big Data Analytics. *Computers & Industrial Engineering*, 128, 905-910.
62. Habibi, M. K. K., Battaia, O., Cung, V. D., Dolgui, A., & **Tiwari, M. K.** (2019). Sample average approximation for multi-vehicle collection–disassembly problem under uncertainty. *International Journal of Production Research*, 57(8), 2409-2428.
63. Ghadge, A., Kidd, E., Bhattacharjee, A. and **Tiwari, M. K.** (2019). Sustainable procurement performance of large enterprises across supply chain tiers and geographic regions. *International Journal of Production Research*, 57(3), 764-778.
64. Kumar, R., Sen, G., Kar, S., & **Tiwari, M. K.** (2018). Station Dispatching Problem for a Large Terminal: A Constraint Programming Approach. *Interfaces*, 48(6), 510-528.
65. Bajpai, A., Fernandes, K. J., & **Tiwari, M. K.** (2018). Modeling, analysis, and improvement of integrated productivity and energy consumption in a serial manufacturing system. *Journal of Cleaner Production*, 199, 296-304.
66. Dutta, G., Gupta, N., Mandal, J., & **Tiwari, M. K.** (2018). New decision support system for strategic planning in process industries: Computational results. *Computers & Industrial Engineering*, 124, 36-47.
67. Patne, K., Shukla, N., Kiridena, S., & **Tiwari, M. K.** (2018). Solving closed-loop supply chain problems using game theoretic particle swarm optimisation. *International Journal of Production Research*, 1-18.

68. Aggarwal, S., Kumar, S., & **Tiwari, M. K.** (2018). Decision support system for Pradhan Mantri Ujjwala Yojana. *Energy Policy*, 118, 455-461.
69. Ojha, R., Ghadge, A., **Tiwari, M. K.**, & Bititci, U. S. (2018). Bayesian network modelling for supply chain risk propagation. *International Journal of Production Research*, 57(17), 5795-5819.
70. Mogale, D. G., Lahoti, G., Jha, S. B., Shukla, M., Kamath, N., & **Tiwari, M. K.** (2018). Dual Market Facility Network Design under Bounded Rationality. *Algorithms*, 11(4), 54.
71. Gupta, N., Dutta, G., & **Tiwari, M. K.** (2018). An integrated decision support system for strategic supply chain optimisation in process industries: the case of a zinc company. *International Journal of Production Research*, 56(17), 5866-5882.
72. Mogale, D. G., Kumar, M., Kumar, S. K., & **Tiwari, M. K.** (2018). Grain silo location-allocation problem with dwell time for optimization of food grain supply chain network. *Transportation Research Part E: Logistics and Transportation Review*, 111, 40-69.
73. Jaiswal, A., Williams, M. A., Bhalerao, A., **Tiwari, M. K.**, & Warnett, J. M. (2018). Markov random field segmentation for industrial computed tomography with metal artefacts. *Journal of X-ray science and technology*, 26(4), 573-591.
74. Bhalodiya, J. M., Palit, A., **Tiwari, M. K.**, Prasad, S. K., Bhudia, S. K., Arvanitis, T. N., & Williams, M. A. (2018). A Novel Hierarchical Template Matching Model for Cardiac Motion Estimation. *Scientific reports*, 8(1), 4475.
75. Mogale, D. G., Kumar, S. K., & **Tiwari, M. K.** (2018). An MINLP model to support the movement and storage decisions of the Indian food grain supply chain. *Control Engineering Practice*, 70, 98-113.
76. Piroozfard, H., Wong, K. Y., & **Tiwari, M. K.** (2018). Reduction of carbon emission and total late work criterion in job shop scheduling by applying a multi-objective imperialist competitive algorithm. *Int. J. Comput. Intell. Syst.*, 11(1), 805-829.
77. Pratap, S., Daultani, Y., **Tiwari, M. K.**, & Mahanty, B. (2018). Rule based optimization for a bulk handling port operations. *Journal of Intelligent Manufacturing*, 29(2), 287-311.
78. De, A., Choudhary, A., & **Tiwari, M. K.** (2017). Multiobjective Approach for Sustainable Ship Routing and Scheduling With Draft Restrictions. *IEEE Transactions on Engineering Management*, 99, 1-17.
79. Dolgui, A., **Tiwari, M. K.**, Sinjana, Y., Kumar, S. K., & Son, Y. J. (2017). Optimising integrated inventory policy for perishable items in a multi-stage supply chain. *International Journal of Production Research*, 56(1-2), 902-925.
80. Jha, A., Fernandes, K., Xiong, Y., Nie, J., Agarwal, N., & **Tiwari, M. K.** (2017). Effects of demand forecast and resource sharing on collaborative new product development in supply chain. *International Journal of Production Economics*, 193, 207-221.
81. Qu, T., Zhang, J. H., Chan, F. T., Srivastava, R. S., **Tiwari, M. K.**, & Park, W. Y. (2017). Demand prediction and price optimization for semi-luxury supermarket segment. *Computers & Industrial Engineering*, 113, 91-102.
82. Goswami, M., Daultani, Y., & **Tiwari, M. K.** (2017). An integrated framework for product line design for modular products: product attribute and functionality-driven perspective. *International Journal of Production Research*, 55(13), 3862-3885.
83. Shukla, M., & **Tiwari, M. K.** (2017). Big-data analytics framework for incorporating smallholders in sustainable palm oil production. *Production Planning & Control*, 28(16), 1365-1377.



84. Jha, A., Acharya, D., & **Tiwari, M. K.** (2017). Humanitarian relief supply chain: a multi-objective model and solution. *Sādhanā*, 42(7), 1167-1174.
85. Mogale, D. G., Dolgui, A., Kandhway, R., Kumar, S. K., & **Tiwari, M. K.** (2017). A multi-period inventory transportation model for tactical planning of food grain supply chain. *Computers & Industrial Engineering*, 110, 379-394.
86. De, A., Kumar, S. K., Gunasekaran, A., & **Tiwari, M. K.** (2017). Sustainable maritime inventory routing problem with time window constraints. *Engineering Applications of Artificial Intelligence*, 61, 77-95.
87. Mogale, D. G., Kumar, S. K., Márquez, F. P. G., & **Tiwari, M. K.** (2017). Bulk wheat transportation and storage problem of public distribution system. *Computers & Industrial Engineering*, 104, 80-97.
88. Reddy, R. H., Kumar, S. K., Fernandes, K. J., & **Tiwari, M. K.** (2017). A Multi-Agent System based simulation approach for planning procurement operations and scheduling with multiple cross-docks. *Computers & Industrial Engineering*, 107, 289-300.
89. Kumar, R. S., Choudhary, A., Babu, S. A. I., Kumar, S. K., Goswami, A., & **Tiwari, M. K.** (2017). Designing multi-period supply chain network considering risk and emission: A multi-objective approach. *Annals of Operations Research*, 250(2), 427-461.
90. Kadambala, D. K., Subramanian, N., **Tiwari, M. K.**, Abdulrahman, M., & Liu, C. (2017). Closed loop supply chain networks: Designs for energy and time value efficiency. *International Journal of Production Economics*, 183, 382-393.
91. Gautam, R., Singh, A., Karthik, K., Pandey, S., Scrimgeour, F., & **Tiwari, M. K.** (2017). Traceability using RFID and its formulation for a kiwifruit supply chain. *Computers & Industrial Engineering*, 103, 46-58.
92. Pratap, S., Nayak, A., Kumar, A., Cheikhrouhou, N., & **Tiwari, M. K.** (2017). An integrated decision support system for berth and ship unloader allocation in bulk material handling port. *Computers & Industrial Engineering*, 106, 386-399.
93. Raj, R., Suman, R., Ghandehariun, S., Kumar, A., & **Tiwari, M. K.** (2016). A techno-economic assessment of the liquefied natural gas (LNG) production facilities in Western Canada. *Sustainable Energy Technologies and Assessments*, 18, 140-152.
94. Gunasekaran, A., **Tiwari, M. K.**, Dubey, R., & Fosso Wamba, S. (2016). Big data and predictive analytics applications in supply chain management. *Computers and Industrial Engineering*, 101(C), 525-527.
95. Li, J., Ghadge, A., & **Tiwari, M. K.** (2016). Impact of replenishment strategies on supply chain performance under e-shopping scenario. *Computers & Industrial Engineering*, 102, 78-87.
96. Brady, M., Mamanduru, V. K., & **Tiwari, M. K.** (2016). An evolutionary algorithmic approach to determine the Nash equilibrium in a duopoly with nonlinearities and constraints. *Expert Systems with Applications*, 74, 29-40.
97. Raj, Baldev, Sir Mike Gregory, & **Tiwari, M. K.** (2016). Editorial note on the special issue of "Distributed Manufacturing to Enhance Productivity". *International Journal of Production Research*, 54(23), 6913-6916.
98. Gunasekaran, A., Subramanian, N., & **Tiwari, M. K.** (2016). Information technology governance in Internet of Things supply chain networks. *Industrial Management & Data Systems*, 116(7).
99. Srai, J. S., Harrington, T. S., & **Tiwari, M. K.** (2016). Characteristics of redistributed manufacturing systems: a comparative study of emerging industry supply networks. *International Journal of Production*

*Research*, 54(23), 6936-6955.

- 100.** Srai, J. S., Kumar, M., Graham, G., Phillips, W., Tooze, J., Ford, S., **Tiwari, M. K.** ... & Ravi, B. (2016). Distributed manufacturing: scope, challenges and opportunities. *International Journal of Production Research*, 54(23), 6917-6935.
- 101.** K Kangale, A., Kumar, S. K., Naeem, M. A., Williams, M., & **Tiwari, M. K.** (2016). Mining consumer reviews to generate ratings of different product attributes while producing feature-based review-summary. *International Journal of Systems Science*, 47(13), 3272-3286.
- 102.** Chen, M. C., Hsiao, Y. H., Reddy, R. H., & **Tiwari, M. K.** (2016). The Self-Learning Particle Swarm Optimization approach for routing pickup and delivery of multiple products with material handling in multiple cross-docks. *Transportation Research Part E: Logistics and Transportation Review*, 91, 208-226.
- 103.** Tiwari, A., Chang, P. C., **Tiwari, M. K.**, & Kandhway, R. (2016). A Hybrid Territory Defined evolutionary algorithm approach for closed loop green supply chain network design. *Computers & Industrial Engineering*, 99, 432-447.
- 104.** Kumar, R. S., Kondapaneni, K., Dixit, V., Goswami, A., Thakur, L. S., & **Tiwari, M. K.** (2016). Multi-objective modeling of production and pollution routing problem with time window: A self-learning particle swarm optimization approach. *Computers & Industrial Engineering*, 99, 29-40.
- 105.** Ghadge, A., Ghadge, A., Yang, Q., Yang, Q., Caldwell, N., Caldwell, N.,... & **Tiwari, M. K.** (2016). Facility location for a closed-loop distribution network: a hybrid approach. *International Journal of Retail & Distribution Management*, 44(9), 884-902.
- 106.** De, A., Mamanduru, V. K. R., Gunasekaran, A., Subramanian, N., & **Tiwari, M. K.** (2016). Composite particle algorithm for sustainable integrated dynamic ship routing and scheduling optimization. *Computers & Industrial Engineering*, 96, 201-215.
- 107.** Chen, M. C., Hsu, C. C., Malhotra, B., & **Tiwari, M. K.** (2016). An efficient ICA-DW-SVDD fault detection and diagnosis method for non-Gaussian processes. *International Journal of Production Research*, 54(17), 5208-5218.
- 108.** Choudhary, D., Shankar, R., **Tiwari, M. K.**, & Purohit, A. K. (2016). VMI versus information sharing: an analysis under static uncertainty strategy with fill rate constraints. *International Journal of Production Research*, 54(13), 3978-3993.
- 109.** Manupati, V. K., Chang, P. C., & **Tiwari, M. K.** (2016). Intelligent search techniques for network-based manufacturing systems: multi-objective formulation and solutions. *International Journal of Computer Integrated Manufacturing*, 29(8), 850-869.
- 110.** Chan, F. T., Jha, A., & **Tiwari, M. K.** (2016). Bi-objective optimization of three echelon supply chain involving truck selection and loading using NSGA-II with heuristics algorithm. *Applied Soft Computing*, 38, 978-987.
- 111.** Dixit, V., Seshadrinath, N., & **Tiwari, M. K.** (2016). Performance measures based optimization of supply chain network resilience: A NSGA-II+ Co-Kriging approach. *Computers & Industrial Engineering*, 93, 205-214.
- 112.** Awasthi, A., Singh, P., Pujari, P., Manupati, V. K., Mahanty, B., & **Tiwari, M. K.** (2016). Vibration suppression of a tool in a lathe machine through contract-based design. *The International Journal of Advanced Manufacturing Technology*, 86(5-8), 1763-1773.
- 113.** Manatkar, R. P., Karthik, K., Kumar, S. K., & **Tiwari, M. K.** (2016). An integrated inventory optimization model for facility location-allocation problem. *International Journal of Production Research*,

54(12), 3640-3658.

- 114.** Afrin, K., Iquebal, A. S., Kumar, S. K., **Tiwari, M. K.**, Benyoucef, L., & Dolgui, A. (2016). Towards green automated production line with rotary transfer and turrets: a multi-objective approach using a binary scatter tabu search procedure. *International Journal of Computer Integrated Manufacturing*, 29(7), 768-785.
- 115.** Derakhshan Asl, A., Wong, K. Y., & **Tiwari, M. K.** (2016). Unequal-area stochastic facility layout problems: solutions using improved covariance matrix adaptation evolution strategy, particle swarm optimisation, and genetic algorithm. *International Journal of Production Research*, 54(3), 799-823.
- 116.** Hussain, M., Awasthi, A., & **Tiwari, M. K.** (2016). Interpretive structural modeling-analytic network process integrated framework for evaluating sustainable supply chain management alternatives. *Applied Mathematical Modelling*, 40(5), 3671-3687.
- 117.** Manupati, V. K., Putnik, G. D., **Tiwari, M. K.**, Ávila, P., & Cruz-Cunha, M. M. (2016). Integration of process planning and scheduling using mobile-agent based approach in a networked manufacturing environment. *Computers & Industrial Engineering*, 94, 63-73.
- 118.** Pratap, S., Kumar B, M., Saxena, D., & **Tiwari, M. K.** (2016). Integrated scheduling of rake and stockyard management with ship berthing: a block based evolutionary algorithm. *International Journal of Production Research*, 54(14), 4182-4204.
- 119.** Kumar, R. S., **Tiwari, M. K.**, & Goswami, A. (2016). Two-echelon fuzzy stochastic supply chain for the manufacturer-buyer integrated production-inventory system. *Journal of Intelligent Manufacturing*, 27(4), 875-888.
- 120.** Daultani, Y., Kumar, S., Vaidya, O. S., & **Tiwari, M. K.** (2015). A supply chain network equilibrium model for operational and opportunism risk mitigation. *International Journal of Production Research*, 53(18), 5685-5715.
- 121.** Choudhary, A., Sarkar, S., Settur, S., & **Tiwari, M. K.** (2015). A carbon market sensitive optimization model for integrated forward-reverse logistics. *International Journal of Production Economics*, 164, 433-444.
- 122.** Tiwari, A., Chang, P. C., **Tiwari, M. K.**, & Kollanoor, N. J. (2015). A Pareto block-based estimation and distribution algorithm for multi-objective permutation flow shop scheduling problem. *International Journal of Production Research*, 53(3), 793-834.
- 123.** Shukla, N., Ceglarek, D., & **Tiwari, M. K.** (2015). Key characteristics-based sensor distribution in multi-station assembly processes. *Journal of intelligent manufacturing*, 26(1), 43-58.
- 124.** Raj, R., Wang, J. W., Nayak, A., **Tiwari, M. K.**, Han, B., Liu, C. L., & Zhang, W. J. (2015). Measuring the resilience of supply chain systems using a survival model. *IEEE Systems Journal*, 9(2), 377-381.
- 125.** **Tiwari, M. K.**, Chang, P. C., & Choudhary, A. (2015). Carbon-efficient production, supply chains and logistics. *International Journal of Production Economics*, 164, 193-196.
- 126.** Chan, F. T. S., Tibrewal, R. K., Prakash, A., & **Tiwari, M. K.** (2015). A biased random key genetic algorithm approach for inventory-based multi-item lot-sizing problem. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 229(1), 157-171.
- 127.** Igoulalene, I., Benyoucef, L., & **Tiwari, M. K.** (2015). Novel fuzzy hybrid multi-criteria group decision making approaches for the strategic supplier selection problem. *Expert Systems with Applications*, 42(7), 3342-3356.
- 128.** Goswami, M., & **Tiwari, M. K.** (2015). Product feature and functionality driven integrated framework for product commercialization in presence of qualitative consumer reviews. *International Journal of*

129. Choudhary, A., Suman, R., Dixit, V., **Tiwari, M. K.**, Fernandes, K. J., & Chang, P. C. (2015). An optimization model for a monopolistic firm serving an environmentally conscious market: Use of chemical reaction optimization algorithm. *International Journal of Production Economics*, 164, 409-420.
130. Jabbour, C. J. C., Jabbour, A. B. L. D. S., Yong, G., & **Tiwari, M. K.** (2015). Introduction: Sustainable shipping and transport logistics in developing economies. *International Journal of Shipping and Transport Logistics*, 7(6), 649-654.
131. Mohapatra, P., Kumar, N., Matta, A., & **Tiwari, M. K.** (2015). A nested partitioning-based approach to integrate process planning and scheduling in flexible manufacturing environment. *International Journal of Computer Integrated Manufacturing*, 28(10), 1077-1091.
132. Mohapatra, P., Nayak, A., Kumar, S. K., & **Tiwari, M. K.** (2015). Multi-objective process planning and scheduling using controlled elitist non-dominated sorting genetic algorithm. *International Journal of Production Research*, 53(6), 1712-1735.
133. Babu, S. A. I., Pratap, S., Lahoti, G., Fernandes, K. J., **Tiwari, M. K.**, Mount, M., & Xiong, Y. (2015). Minimizing delay of ships in bulk terminals by simultaneous ship scheduling, stockyard planning and train scheduling. *Maritime Economics & Logistics*, 17(4), 464-492.
134. Khakdaman, M., Wong, K. Y., Zohoori, B., **Tiwari, M. K.**, & Merkert, R. (2015). Tactical production planning in a hybrid Make-to-Stock–Make-to-Order environment under supply, process and demand uncertainties: a robust optimisation model. *International Journal of Production Research*, 53(5), 1358-1386.
135. Chan, F. T., Shekhar, P., & **Tiwari, M. K.** (2014). Dynamic scheduling of oil tankers with splitting of cargo at pickup and delivery locations: a Multi-objective Ant Colony-based approach. *International Journal of Production Research*, 52(24), 7436-7453.
136. Iquebal, A. S., Pal, A., Ceglarek, D., & **Tiwari, M. K.** (2014). Enhancement of Mahalanobis–Taguchi System via rough sets based feature selection. *Expert Systems with Applications*, 41(17), 8003-8015.
137. Zuting, K. R., Mohapatra, P., Daultani, Y., & **Tiwari, M. K.** (2014). A synchronized strategy to minimize vehicle dispatching time: a real example of steel industry. *Advances in Manufacturing*, 2(4), 333-343.
138. Kumar, M., **Tiwari, M. K.**, Wong, K. Y., Govindan, K., & Kuah, C. T. (2014). Evaluating reverse supply chain efficiency: manufacturer's perspective. *Mathematical Problems in Engineering*.
139. Bhattacharya, A., Mohapatra, P., Kumar, V., Dey, P. K., Brady, M., **Tiwari, M. K.**, & Nudurupati, S. S. (2014). Green supply chain performance measurement using fuzzy ANP-based balanced scorecard: a collaborative decision-making approach. *Production Planning & Control*, 25(8), 698-714.
140. Turley, G. A., Kiraci, E., Olifent, A., Attridge, A., **Tiwari, M. K.**, & Williams, M. A. (2014). Evaluation of a multi-sensor horizontal dual arm coordinate measuring machine for automotive dimensional inspection. *The International Journal of Advanced Manufacturing Technology*, 72(9-12), 1665-1675.
141. Choudhury, S., Ghosh, S., Bhattacharya, A., Fernandes, K. J., & **Tiwari, M. K.** (2014). A real time clustering and SVM based price-volatility prediction for optimal trading strategy. *Neurocomputing*, 131, 419-426.
142. Goswami, M., & **Tiwari, M. K.** (2014). A predictive risk evaluation framework for modular product concept selection in new product design environment. *Journal of Engineering Design*, 25(1-3), 150-171.

143. Kumar, A., Roy, D., & **Tiwari, M. K.** (2014). Optimal partitioning of vertical zones in vehicle-based warehouse systems. *International Journal of Production Research*, 52(5), 1285-1305.
144. Khodaei, G., Wong, K. Y., & **Tiwari, M. K.** (2014). Recycler Selection Using Fuzzy AHP by Considering Sustainability. In *Advanced Materials Research*, 845, 574-578.
145. Bhattacharya, A., Kumar, S. A., **Tiwari, M. K.**, & Talluri, S. (2014). An intermodal freight transport system for optimal supply chain logistics. *Transportation research part C: Emerging technologies*, 38, 73-84.
146. Kuah, C. T., Wong, K. Y., & **Tiwari, M. K.** (2013). Knowledge sharing assessment: An ant colony system based data envelopment analysis approach. *Expert Systems with Applications*, 40(8), 3137-3144.
147. Mungle, S., Benyoucef, L., Son, Y. J., & **Tiwari, M. K.** (2013). A fuzzy clustering-based genetic algorithm approach for time–cost–quality trade-off problems: A case study of highway construction project. *Engineering Applications of Artificial Intelligence*, 26(8), 1953-1966.
148. Mohapatra, P., Benyoucef, L., & **Tiwari, M. K.** (2013). Integration of process planning and scheduling through adaptive setup planning: a multi-objective approach. *International Journal of Production Research*, 51(23-24), 7190-7208.
149. Chang, P. C., Chen, M. H., **Tiwari, M. K.**, & Iquebal, A. S. (2013). A block-based evolutionary algorithm for flow-shop scheduling problem. *Applied Soft Computing*, 13(12), 4536-4547.
150. Aggarwal, A., Chan, F. T., & **Tiwari, M. K.** (2013). Development of a module based service family design for mass customization of airline sector using the coalition game. *Computers & Industrial Engineering*, 66(4), 827-833.
151. Manupati, V. K., Thakkar, J. J., Wong, K. Y., & **Tiwari, M. K.** (2013). Near optimal process plan selection for multiple jobs in networked based manufacturing using multi-objective evolutionary algorithms. *Computers & Industrial Engineering*, 66(1), 63-76.
152. Pandey, M., Zuo, M. J., Moghaddass, R., & **Tiwari, M. K.** (2013). Selective maintenance for binary systems under imperfect repair. *Reliability Engineering & System Safety*, 113, 42-51.
153. Choudhary, A. K., Harding, J., Camarinha-Matos, L. M., Lenny Koh, S. C., & **Tiwari, M. K.** (2013). Knowledge management and supporting tools for collaborative networks. *International Journal of Production Research*, 51(7), 1953-1957.
154. Manupati, V. K., Anand, R., Thakkar, J. J., Benyoucef, L., Garsia, F. P., & **Tiwari, M. K.** (2013). Adaptive production control system for a flexible manufacturing cell using support vector machine-based approach. *The International Journal of Advanced Manufacturing Technology*, 67(1), 1-13.
155. Kumar, S. K., & **Tiwari, M. K.** (2013). Supply chain system design integrated with risk pooling. *Computers & Industrial Engineering*, 64(2), 580-588.
156. Nageshwaranier, S. S., Khilwani, N., **Tiwari, M. K.**, Shankar, R., & Ben-Arieh, D. (2013). Solving the design of distributed layout problem using forecast windows: a hybrid algorithm approach. *Robotics and Computer-Integrated Manufacturing*, 29(1), 128-138.
157. Shukla, N., Dashora, Y., **Tiwari, M. K.**, & Shankar, R. (2013). Design of computer network topologies: a vroom inspired psychoclonal algorithm. *Applied Mathematical Modelling*, 37(3), 888-902.
158. Agrawal, T., Sao, A., Fernandes, K. J., **Tiwari, M. K.**, & Kim, D. Y. (2013). A hybrid model of component sharing and platform modularity for optimal product family design. *International Journal of Production Research*, 51(2), 614-625.
159. Mohapatra, P., Benyoucef, L., & **Tiwari, M. K.** (2013). Realising process planning and scheduling integration through adaptive setup planning. *International Journal of Production Research*, 51(8), 2301-2323.
160. Kumar, S. K., Muddada, R. R., Pandey, M. K., Mahanty, B., & **Tiwari, M. K.** (2013). Logistics planning and inventory optimization using swarm intelligence: a third party perspective. *The International Journal of Advanced Manufacturing Technology*, 65(9-12), 1535-1551.
161. Ching-Jong Liao, Mitsuo Gen, **Tiwari, M. K.**, Pei-Chann Chang (2013). Meta-heuristics for manufacturing scheduling and logistics problems (editorial), *International Journal of Production Economics*, 141(1), 1-3.

162. Shukla, N., Choudhary, A. K., Prakash, P. K. S., Fernandes, K. J., & **Tiwari, M. K.** (2013). Algorithm portfolios for logistics optimization considering stochastic demands and mobility allowance. *International Journal of Production Economics*, 141(1), 146-166.
163. Chong, A. Y. L., Chan, F. T., Goh, M., & **Tiwari, M. K.** (2013). Do interorganisational relationships and knowledge-management practices enhance collaborative commerce adoption?. *International Journal of Production Research*, 51(7), 2006-2018.
164. Hiremath, N. C., Sahu, S., & **Tiwari, M. K.** (2013). Multi objective outbound logistics network design for a manufacturing supply chain. *Journal of Intelligent Manufacturing*, 24(6), 1071-1084.
165. Shukla, N., **Tiwari, M. K.**, & Ceglarek, D. (2013). Genetic-algorithms-based algorithm portfolio for inventory routing problem with stochastic demand. *International Journal of Production Research*, 51(1), 118-137.
166. Naeem, M. A., Dias, D. J., Tibrewal, R., Chang, P. C., & **Tiwari, M. K.** (2013). Production planning optimization for manufacturing and remanufacturing system in stochastic environment. *Journal of Intelligent Manufacturing*, 24(4), 717-728.
167. Singh, V., Sarwar, F., Chan, F. T., & **Tiwari, M. K.** (2012). Monitoring the performance of conveyor system using radio frequency identification in manufacturing environment: a recurrent neural network and genetic algorithm-based approach. *International Journal of Computer Integrated Manufacturing*, 25(7), 551-564.
168. Sahoo, A. K., Zuo, M. J., & **Tiwari, M. K.** (2012). A data clustering algorithm for stratified data partitioning in artificial neural network. *Expert Systems with Applications*, 39(8), 7004-7014.
169. Barari, S., Agarwal, G., Zhang, W. C., Mahanty, B., & **Tiwari, M. K.** (2012). A decision framework for the analysis of green supply chain contracts: An evolutionary game approach. *Expert systems with applications*, 39(3), 2965-2976.
170. Mandal, S. K., Chan, F. T., & **Tiwari, M. K.** (2012). Leak detection of pipeline: An integrated approach of rough set theory and artificial bee colony trained SVM. *Expert Systems with Applications*, 39(3), 3071-3080.
171. Gumasta, K., Chan, F. T., & **Tiwari, M. K.** (2012). An incorporated inventory transport system with two types of customers for multiple perishable goods. *International Journal of Production Economics*, 139(2), 678-686.
172. Manupati, V. K., Deo, S., Cheikhrouhou, N., & **Tiwari, M. K.** (2012). Optimal process plan selection in networked based manufacturing using game-theoretic approach. *International Journal of Production Research*, 50(18), 5239-5258.
173. Prakash, P. K. S., Ceglarek, D., & **Tiwari, M. K.** (2012). Constraint-based simulated annealing (CBSA) approach to solve the disassembly scheduling problem. *The International Journal of Advanced Manufacturing Technology*, 60(9), 1125-1137.
174. Hiremath, N. C., Sahu, S., & **Tiwari, M. K.** (2012). Designing a Multi Echelon Flexible Logistics Network using Co-evolutionary Immune-particle Swarm Optimization with Penetrated Hyper-mutation (COIPSO-PHM). *In Applied Mechanics and Materials*, 110, 3713-3719.
175. Sinha, A. K., Zhang, W. J., & **Tiwari, M. K.** (2012). Co-evolutionary immuno-particle swarm optimization with penetrated hyper-mutation for distributed inventory replenishment. *Engineering Applications of Artificial Intelligence*, 25(8), 1628-1643.
176. Shukla, S. K., & **Tiwari, M. K.** (2012). GA guided cluster based fuzzy decision tree for reactive ion

etching modeling: a data mining approach. *IEEE Transactions on Semiconductor Manufacturing*, 25(1), 45-56.

177. Hens, A. B., & **Tiwari, M. K.** (2012). Computational time reduction for credit scoring: An integrated approach based on support vector machine and stratified sampling method. *Expert Systems with Applications*, 39(8), 6774-6781.
178. Tiwari, A., Chang, P. C., & **Tiwari, M. K.** (2012). A highly optimised tolerance-based approach for multi-stage, multi-product supply chain network design. *International Journal of Production Research*, 50(19), 5430-5444.
179. Agarwal, G., Barari, S., & **Tiwari, M. K.** (2012). A PSO-based optimum consumer incentive policy for WEEE incorporating reliability of components. *International Journal of Production Research*, 50(16), 4372-4380.
180. Jha, A., Somani, K., **Tiwari, M. K.**, Chan, F. T., & Fernandes, K. J. (2012). Minimizing transportation cost of a joint inventory location model using modified adaptive differential evolution algorithm. *The International Journal of Advanced Manufacturing Technology*, 60(1), 329-341.
181. Bhattacharya, A., **Tiwari, M. K.**, & Harding, J. A. (2012). A framework for ontology based decision support system for e-learning modules, business modeling and manufacturing systems. *Journal of Intelligent Manufacturing*, 23(5), 1763-1781.
182. Mishra, N., Kumar, V., Chan, F. T., & **Tiwari, M. K.** (2012). A CBFSA approach to resolve the distributed manufacturing process planning problem in a supply chain environment. *International Journal of Production Research*, 50(2), 535-550.
183. Chaube, A., Benyoucef, L., & **Tiwari, M. K.** (2012). An adapted NSGA-2 algorithm based dynamic process plan generation for a reconfigurable manufacturing system. *Journal of Intelligent Manufacturing*, 23(4), 1141-1155.
184. Mishra, N., Kumar, V., Kumar, N., Kumar, M., & **Tiwari, M. K.** (2011). Addressing lot sizing and warehousing scheduling problem in manufacturing environment. *Expert Systems with Applications*, 38(9), 11751-11762.
185. Kumar, M., Antony, J., & **Tiwari, M. K.** (2011). Six Sigma implementation framework for SMEs—a roadmap to manage and sustain the change. *International Journal of Production Research*, 49(18), 5449-5467.
186. Yadav, S. R., Mishra, N., Kumar, V., & **Tiwari, M. K.** (2011). A framework for designing robust supply chains considering product development issues. *International Journal of Production Research*, 49(20), 6065-6088.
187. Khilwani, N., Ulutas, B. H., Islier, A. A., & **Tiwari, M. K.** (2011). A methodology to design virtual cellular manufacturing systems. *Journal of intelligent manufacturing*, 22(4), 533-544.
188. Prason, R., Das, D., **Tiwari, M. K.**, & Wang, L. (2011). An algorithm portfolio approach to reconfigurable set-up planning. *International Journal of Computer Integrated Manufacturing*, 24(8), 756-768.
189. Verma, A., **Tiwari, M. K.**, & Mishra, N. (2011). Minimizing time risk in on-line bidding: An adaptive information retrieval based approach. *Expert Systems with Applications*, 38(4), 3679-3689.
190. Mishra, K., Mohanty, C., **Tiwari, M. K.**, & Benyoucef, L. (2011). Coordinating collaborative assembly involving heterogeneous computer-aided design agents by an automated coordinator. *International Journal of Computer Integrated Manufacturing*, 24(4), 365-374.
191. Deshpande, P., Shukla, D., & **Tiwari, M. K.** (2011). Fuzzy goal programming for inventory

- management: A bacterial foraging approach. *European Journal of Operational Research*, 212(2), 325-336.
192. Modi, S., **Tiwari, M. K.**, Lin, Y., & Zhang, W. J. (2011). On the architecture of a human-centered CAD agent system. *Computer-Aided Design*, 43(2), 170-179.
193. Gumasta, K., Kumar Gupta, S., Benyoucef, L., & **Tiwari, M. K.** (2011). Developing a reconfigurability index using multi-attribute utility theory. *International Journal of Production Research*, 49(6), 1669-1683.
194. Sinha, A. K., Aditya, H. K., **Tiwari, M. K.**, & Chan, F. T. (2011). Agent oriented petroleum supply chain coordination: Co-evolutionary Particle Swarm Optimization based approach. *Expert Systems with Applications*, 38(5), 6132-6145.
195. Gandhi, A. K., Kumar, S. K., Pandey, M. K., & **Tiwari, M. K.** (2011). EMPSO-based optimization for inter-temporal multi-product revenue management under salvage consideration. *Applied Soft Computing*, 11(1), 468-476.
196. Chan, F. T. S., Shukla, M., **Tiwari, M. K.**, Shankar, R., & Choy, K. L. (2011). B2B multi-attribute e-procurement: an artificial immune system based goal programming approach. *International Journal of Production Research*, 49(2), 321-341.
197. Khilwani, N., **Tiwari, M. K.**, & Sabuncuoglu, I. (2011). Hybrid Petri-nets for modelling and performance evaluation of supply chains. *International Journal of Production Research*, 49(15), 4627-4656.
198. Khilwani, N., Harding, J. A., & **Tiwari, M. K.** (2011). Enterprise competence organization schema: publishing the published competences. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 225(6), 921-942.
199. Choudhary, A. K., Harding, J. A., Lin, H. K., **Tiwari, M. K.**, & Shankar, R. (2011). Knowledge discovery and data mining integrated (KOATING) Moderators for collaborative projects. *International Journal of Production Research*, 49(23), 7029-7057.
200. Pal, A., Chan, F. T. S., Mahanty, B., & **Tiwari, M. K.** (2011). Aggregate procurement, production, and shipment planning decision problem for a three-echelon supply chain using swarm-based heuristics. *International Journal of Production Research*, 49(10), 2873-2905.
201. Nanda, S. R., Mahanty, B., & **Tiwari, M. K.** (2010). Clustering Indian stock market data for portfolio management. *Expert Systems with Applications*, 37(12), 8793-8798.
202. Chan, F. T. S., Chaube, A., Mohan, V., Arora, V., & **Tiwari, M. K.** (2010). Operation allocation in automated manufacturing system using GA-based approach with multifidelity models. *Robotics and Computer-Integrated Manufacturing*, 26(5), 526-534.
203. **Tiwari, M. K.**, Jha, S. K., & Anand, R. B. (2010). Operation allocation and part type selection in E-manufacturing: An auction based heuristic supported by agent technology. *Robotics and Computer-Integrated Manufacturing*, 26(4), 312-324.
204. **Tiwari, M. K.**, Raghavendra, N., Agrawal, S., & Goyal, S. K. (2010). A Hybrid Taguchi-Immune approach to optimize an integrated supply chain design problem with multiple shipping. *European Journal of Operational Research*, 203(1), 95-106.
205. Erenay, F. S., Sabuncuoglu, I., Toptal, A., & **Tiwari, M. K.** (2010). New solution methods for single machine bicriteria scheduling problem: Minimization of average flowtime and number of tardy jobs. *European Journal of Operational Research*, 201(1), 89-98.
206. Shukla, S. K., **Tiwari, M. K.**, Wan, H. D., & Shankar, R. (2010). Optimization of the supply chain network: Simulation, Taguchi, and Psychoclonal algorithm embedded approach. *Computers & Industrial*



*Engineering*, 58(1), 29-39.

- 207.**Arora, V., Chan, F. T., & **Tiwari, M. K.** (2010). An integrated approach for logistic and vendor managed inventory in supply chain. *Expert Systems with Applications*, 37(1), 39-44.
- 208.**Pandey, M. K., Singh, R. K., Venkataramanaiah, S., & **Tiwari, M. K.** (2010). Sequential metamodelling application to improve porthole die design. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 224(2), 279-295.
- 209.**Kumar, S. K., **Tiwari, M. K.**, & Babiceanu, R. F. (2010). Minimisation of supply chain cost with embedded risk using computational intelligence approaches. *International Journal of Production Research*, 48(13), 3717-3739.
- 210.**Kumar, V. V., Pandey, M. K., **Tiwari, M. K.**, & Ben-Arieh, D. (2010). Simultaneous optimization of parts and operations sequences in SSMS: a chaos embedded Taguchi particle swarm optimization approach. *Journal of Intelligent Manufacturing*, 21(4), 335-353.
- 211.**Mandal, S. K., Pandey, M. K., & **Tiwari, M. K.** (2010). Incorporating dynamism in traditional machine loading problem: an AI-based optimisation approach. *International Journal of Production Research*, 48(12), 3535-3559.
- 212.**Mishra, N., Choudhary, A. K., **Tiwari, M. K.**, & Shankar, R. (2010). Rollout strategy-based probabilistic causal model approach for the multiple fault diagnosis. *Robotics and Computer-Integrated Manufacturing*, 26(4), 325-332.
- 213.**Kumar, V. V., Tripathi, M., Pandey, M. K., & **Tiwari, M. K.** (2009). Physical programming and conjoint analysis-based redundancy allocation in multistate systems: a Taguchi embedded algorithm selection and control (TAS&C) approach. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, 223(3), 215-232.
- 214.**Choudhary, A. K., Harding, J. A., & **Tiwari, M. K.** (2009). Data mining in manufacturing: a review based on the kind of knowledge. *Journal of Intelligent Manufacturing*, 20(5), 501-521.
- 215.**Yogeswaran, M., Ponnambalam, S. G., & **Tiwari, M. K.** (2009). An efficient hybrid evolutionary heuristic using genetic algorithm and simulated annealing algorithm to solve machine loading problem in FMS. *International Journal of Production Research*, 47(19), 5421-5448.
- 216.**Verma, A., & **Tiwari, M. K.** (2009). Role of corporate memory in the global supply chain environment. *International Journal of Production Research*, 47(19), 5311-5342.
- 217.**Bachlaus, M., **Tiwari, M. K.**, & Chan, F. T. S. (2009). Multi-objective resource assignment problem in a product-driven supply chain using a Taguchi-based DNA algorithm. *International Journal of Production Research*, 47(9), 2345-2371.
- 218.**Tripathi, M., Agrawal, S., Pandey, M. K., Shankar, R., & **Tiwari, M. K.** (2009). Real world disassembly modeling and sequencing problem: Optimization by Algorithm of Self-Guided Ants (ASGA). *Robotics and Computer-Integrated Manufacturing*, 25(3), 483-496.
- 219.**Nagalakshmi, M. R., Tripathi, M., Shukla, N., & **Tiwari, M. K.** (2009). Vehicle routing problem with stochastic demand (VRPSD): optimisation by neighbourhood search embedded adaptive ant algorithm (ns-AAA). *International Journal of Computer Aided Engineering and Technology*, 1(3), 300-321.
- 220.**Shukla, S. K., & **Tiwari, M. K.** (2009). Soft decision trees: A genetically optimized cluster oriented approach. *Expert Systems with Applications*, 36(1), 551-563.
- 221.**Shukla, M., Shukla, N., **Tiwari, M. K.**, & Chan, F. T. S. (2009). Integrated model for the batch

- sequencing problem in a multi-stage supply chain: an artificial immune system based approach. *International Journal of Production Research*, 47(4), 1015-1037.
- 222.**Shukla, N., **Tiwari, M. K.**, & Shankar, R. (2009). Optimal sensor distribution for multi-station assembly process using chaos-embedded fast-simulated annealing. *International Journal of Production Research*, 47(1), 187-211.
- 223.**Yadav, S. R., Muddada, R. R. M., **Tiwari, M. K.**, & Shankar, R. (2009). An algorithm portfolio based solution methodology to solve a supply chain optimization problem. *Expert Systems with Applications*, 36(4), 8407-8420.
- 224.**Chan, F. T., Kumar, V., & **Tiwari, M. K.** (2009). The relevance of outsourcing and lean strategies in performance optimization of an integrated process planning and scheduling model. *International Journal of Production Research*, 47(1), 119-142.
- 225.**Yadav, S. R., Ghorpade, A., Mahajan, C., **Tiwari, M. K.**, & Shankar, R. (2008). Optimising a logistics system with multiple procurements and warehousing using endosymbiotic evolutionary algorithm. *International Journal of Logistics Systems and Management*, 5(1-2), 154-175.
- 226.**Agrawal, R., Shukla, S. K., Kumar, S., & **Tiwari, M. K.** (2009). Multi-agent system for distributed computer-aided process planning problem in e-manufacturing environment. *The International Journal of Advanced Manufacturing Technology*, 44(5-6), 579-594.
- 227.****Tiwari, M. K.**, Antony, J., & Montgomery, D. C. (2008). Editorial note for the special issue on 'Effective decision support to implement lean and six sigma methodologies in the manufacturing and service sectors'. *International Journal of Production Research*, 46(23) 6563-6566.
- 228.****Tiwari, M. K.**, Saha, J., & Mukhopadhyay, S. K. (2008). Part-selection and machine-loading problems in a flexible manufacturing system environment: a heuristic approach based on reallocation paradigm. *International Journal of Computer Applications in Technology*, 32(2), 142-157.
- 229.**Bachlaus, M., Pandey, M. K., Mahajan, C., Shankar, R., & **Tiwari, M. K.** (2008). Designing an integrated multi-echelon agile supply chain network: a hybrid taguchi-particle swarm optimization approach. *Journal of Intelligent Manufacturing*, 19(6), 747.
- 230.**Dashora, Y., Kumar, S., Shukla, N., & **Tiwari, M. K.** (2008). Improved and generalized learning strategies for dynamically fast and statistically robust evolutionary algorithms. *Engineering Applications of Artificial Intelligence*, 21(4), 525-547.
- 231.**Prakash, A., **Tiwari, M. K.**, & Shankar, R. (2008). Optimal job sequence determination and operation machine allocation in flexible manufacturing systems: an approach using adaptive hierarchical ant colony algorithm. *Journal of Intelligent Manufacturing*, 19(2), 161-173.
- 232.**Sahoo, A. K., **Tiwari, M. K.**, & Mileham, A. R. (2008). Six Sigma based approach to optimize radial forging operation variables. *Journal of materials processing technology*, 202(1), 125-136.
- 233.**Shukla, S. K., **Tiwari, M. K.**, & Son, Y. J. (2008). Bidding-based multi-agent system for integrated process planning and scheduling: a data-mining and hybrid tabu-SA algorithm-oriented approach. *The International Journal of Advanced Manufacturing Technology*, 38(1), 163-175.
- 234.**Dashora, Y., **Tiwari, M. K.**, & Karunakaran, K. P. (2008). A psycho-clonal-algorithm-based approach to the solve operation sequencing problem in a CAPP environment. *International Journal of Computer Integrated Manufacturing*, 21(5), 510-525.
- 235.**Khilwani, N., Prakash, A., Shankar, R., & **Tiwari, M. K.** (2008). Fast clonal algorithm. *Engineering Applications of Artificial Intelligence*, 21(1), 106-128.

- 236.**Ravi, V., Shankar, R., & **Tiwari, M. K.** (2008). Selection of a reverse logistics project for end-of-life computers: ANP and goal programming approach. *International Journal of Production Research*, *46*(17), 4849-4870.
- 237.**Yadav, S. R., Dashora, Y., Shankar, R., Chan, F. T., & **Tiwari, M. K.** (2008). An interactive particle swarm optimisation for selecting a product family and designing its supply chain. *International Journal of Computer Applications in Technology*, *31*(3-4), 168-186.
- 238.**Chan, F. T., Kumar, N., **Tiwari, M. K.**, Lau, H. C., & Choy, K. L. (2008). Global supplier selection: a fuzzy-AHP approach. *International Journal of production research*, *46*(14), 3825-3857.
- 239.**Prakash, A., Khilwani, N., **Tiwari, M. K.**, & Cohen, Y. (2008). Modified immune algorithm for job selection and operation allocation problem in flexible manufacturing systems. *Advances in engineering software*, *39*(3), 219-232.
- 240.**Shankar, R., Ravi, V., & **Tiwari, M. K.** (2008). Analysis of interaction among variables of reverse logistics: a system dynamics approach. *International journal of logistics systems and management*, *4*(1), 1-20.
- 241.**Sahoo, A. K., Singh, N. K., Shankar, R., & **Tiwari, M. K.** (2008). Lean philosophy: implementation in a forging company. *The International Journal of Advanced Manufacturing Technology*, *36*(5-6), 451-462.
- 242.**Srivastava, S. C., Choudhary, A. K., Kumar, S., & **Tiwari, M. K.** (2008). Development of an intelligent agent-based AGV controller for a flexible manufacturing system. *The International Journal of Advanced Manufacturing Technology*, *36*(7), 780-797.
- 243.**Shukla, S. K., Son, Y. J., & **Tiwari, M. K.** (2008). Fuzzy-based adaptive sample-sort simulated annealing for resource-constrained project scheduling. *The International Journal of Advanced Manufacturing Technology*, *36*(9), 982-995.
- 244.**Mishra, N., Choudhary, A. K., & **Tiwari, M. K.** (2008). Modeling the planning and scheduling across the outsourcing supply chain: a Chaos-based fast Tabu-SA approach. *International Journal of Production Research*, *46*(13), 3683-3715.
- 245.**Agrawal, S., & **Tiwari, M. K.** (2008). A collaborative ant colony algorithm to stochastic mixed-model U-shaped disassembly line balancing and sequencing problem. *International journal of production research*, *46*(6), 1405-1429.
- 246.**Bachlaus, M., **Tiwari, M. K.**, & Shankar, R. (2008). Sequencing of parts on single-stage multifunctional machining systems using a chaos-embedded simulated annealing algorithm. *International Journal of Production Research*, *46*(12), 3387-3413.
- 247.**Agrawal, S., Dashora, Y., **Tiwari, M. K.**, & Son, Y. J. (2008). Interactive particle swarm: a Pareto-adaptive metaheuristic to multiobjective optimization. *IEEE Transactions on systems, man, and cybernetics-Part A: Systems and humans*, *38*(2), 258-277.
- 248.**Khilwani, N., Shankar, R., & **Tiwari, M. K.** (2008). Facility layout problem: an approach based on a group decision-making system and psychoclonal algorithm. *International Journal of Production Research*, *46*(4), 895-927.
- 249.**Goswami, M., **Tiwari, M. K.**, & Mukhopadhyay, S. K. (2008). An integrated approach to solve tool-part grouping, job allocation and scheduling problems in a flexible manufacturing system. *The International Journal of Advanced Manufacturing Technology*, *35*(11), 1145-1155.
- 250.**Kumar, N., **Tiwari, M. K.**, & Chan, F. T. S. (2008). Development of a hybrid negotiation scheme for multi-agent manufacturing systems. *International journal of production research*, *46*(3), 539-569.

251. Singh, R. K., Choudhury, A. K., **Tiwari, M. K.**, & Shankar, R. (2007). Improved Decision Neural Network (IDNN) based consensus method to solve a multi-objective group decision making problem. *Advanced Engineering Informatics*, 21(3), 335-348.
252. Dashora, Y., Kumar, S., **Tiwari, M. K.**, & Newman, S. T. (2007). Deadlock-free scheduling of an automated manufacturing system using an enhanced colored time resource Petri-net model-based evolutionary endosymbiotic learning automata approach. *International Journal of Flexible Manufacturing Systems*, 19(4), 486-515.
253. Kumar, S., Nassehi, A., Newman, S. T., Allen, R. D., & **Tiwari, M. K.** (2007). Process control in CNC manufacturing for discrete components: A STEP-NC compliant framework. *Robotics and Computer-Integrated Manufacturing*, 23(6), 667-676.
254. Dwivedi, S. N., Tyagi, S. K., & **Tiwari, M. K.** (2007). Optimal part orientation in fused deposition modeling: an approach based on continuous domain ant colony optimization. *Int J Adv Manuf Syst*, 10(2), 95-110.
255. Choudhary, A. K., **Tiwari, M. K.**, & Shankar, R. (2007). Fuzzy modelling of an agent oriented manufacturing enterprise. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 221(10), 1533-1541.
256. Singh, R. K., Khilwani, N., & **Tiwari, M. K.** (2007). Justification for the selection of a reconfigurable manufacturing system: a fuzzy analytical hierarchy based approach. *International Journal of Production Research*, 45(14), 3165-3190.
257. Panigrahi, B. K., Yadav, S. R., Agrawal, S., & **Tiwari, M. K.** (2007). A clonal algorithm to solve economic load dispatch. *Electric Power Systems Research*, 77(10), 1381-1389.
258. Tyagi, S. K., Ghorpade, A., Karunakaran, K. P., & **Tiwari, M. K.** (2007). Optimal part orientation in layered manufacturing using evolutionary stickers-based DNA algorithm. *Virtual and Physical Prototyping*, 2(1), 3-19.
259. Pandey, M. K., **Tiwari, M. K.**, & Zuo, M. J. (2007). Interactive enhanced particle swarm optimization: a multi-objective reliability application. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, 221(3), 177-191.
260. Ghorpade, A., Karunakaran, K. P., & **Tiwari, M. K.** (2007). Selection of optimal part orientation in fused deposition modelling using swarm intelligence. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 221(7), 1209-1219.
261. Chan, F. T., Swarnkar, R., & **Tiwari, M. K.** (2007). Infrastructure for co-ordination of multi-agents in a network-based manufacturing system. *The International Journal of Advanced Manufacturing Technology*, 31(9), 1028-1033.
262. Kumar, N., Ranjan, R., & **Tiwari, M. K.** (2007). Recognition of undercut features and parting surface of moulded parts using polyhedron face adjacency graph. *The International Journal of Advanced Manufacturing Technology*, 34(1-2), 47-55.
263. Agarwal, R., **Tiwari, M. K.**, & Mukherjee, S. K. (2007). Artificial immune system based approach for solving resource constraint project scheduling problem. *The International Journal of Advanced Manufacturing Technology*, 34(5), 584-593.
264. Anand, R. B., Shukla, S. K., Ghorpade, A., **Tiwari, M. K.**, & Shankar, R. (2007). Six sigma-based approach to optimize deep drawing operation variables. *International Journal of Production Research*, 45(10), 2365-2385.

- 265. Tiwari, M. K.,** Saha, J., & Mukhopadhyay, S. K. (2007). Heuristic solution approaches for combined-job sequencing and machine loading problem in flexible manufacturing systems. *The International Journal of Advanced Manufacturing Technology*, 31(7), 716-730.
- 266. Kumar, S., Kumar, S., Shankar, R., Tiwari, M. K., & Kumar, S. B.** (2007). Prediction of flow stress for carbon steels using recurrent self-organizing neuro fuzzy networks. *Expert Systems with Applications*, 32(3), 777-788.
- 267. Agarwal, A., Shankar, R., & Tiwari, M. K.** (2007). Modeling agility of supply chain. *Industrial marketing management*, 36(4), 443-457.
- 268. Sahoo, A. K., Singh, N. K., & Tiwari, M. K.** (2007). Implementation of lean initiatives to minimise defects in a forging enterprise. *International Journal of Productivity and Quality Management*, 2(3), 322-346.
- 269. Kumar, V., Prakash, Tiwari, M. K., & Chan, F. T. S.** (2006). Stochastic make-to-stock inventory deployment problem: an endosymbiotic psychoclonal algorithm based approach. *International Journal of Production Research*, 44(11), 2245-2263.
- 270. Bachlaus, M., Shukla, N., Tiwari, M. K., & Shankar, R.** (2006). Optimization of system reliability using chaos-embedded self-organizing hierarchical particle swarm optimization. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, 220(2), 77-91.
- 271. Singh, R. K., Choudhury, A. K., Tiwari, M. K., & Maull, R. S.** (2006). An integrated fuzzy-based decision support system for the selection of lean tools: a case study from the steel industry. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 220(10), 1735-1749.
- 272. Tiwari, M. K., Dashora, Y., Kumar, S., & Shankar, R.** (2006). Ant colony optimization to select the best process plan in an automated manufacturing environment. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 220(9), 1457-1472.
- 273. Tiwari, M. K., Kumar, S., & Shankar, R.** (2006). Solving part-type selection and operation allocation problems in an FMS: An approach using constraints-based fast simulated annealing algorithm. *IEEE Transactions on Systems, Man, and Cybernetics-Part A: Systems and Humans*, 36(6), 1170-1184.
- 274. Choudhury, A. K., Shankar, R., & Tiwari, M. K.** (2006). Consensus-based intelligent group decision-making model for the selection of advanced technology. *Decision Support Systems*, 42(3), 1776-1799.
- 275. Chan, F. T., Chung, S. H., Chan, L. Y., Finke, G., & Tiwari, M. K.** (2006). Solving distributed FMS scheduling problems subject to maintenance: *Genetic algorithms approach. Robotics and Computer-Integrated Manufacturing*, 22(5), 493-504.
- 276. Choudhary, A. K., Tiwari, M. K., & Harding, J. A.** (2006). Part selection and operation-machine assignment in a flexible manufacturing system environment: A genetic algorithm with chromosome differentiation-based methodology. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 220(5), 677-694.
- 277. Singh, G., Choudhary, A. K., Karunakaran, K. P., & Tiwari, M. K.** (2006). An evolutionary approach for multi-pass turning operations. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 220(2), 145-162.
- 278. Antony, J., Swarnkar, R., Kumar, M., & Tiwari, M. K.** (2006). Design of synchronised supply chain: a genetic algorithm based six sigma constrained approach. *International Journal of Logistics Systems and Management*, 2(2), 120-141.
- 279. Kumar, M., Antony, J., Singh, R. K., Tiwari, M. K., & Perry, D.** (2006). Implementing the Lean Sigma framework in an Indian SME: a case study. *Production Planning and Control*, 17(4), 407-423.

- 280.** Pandey, V., **Tiwari, M. K.**, & Kumar, S. (2006). An interactive approach to solve the operation sequencing problem using simulated annealing. *The International Journal of Advanced Manufacturing Technology*, 29(11), 1212-1231.
- 281.** Singh, R. K., Kumar, S., & **Tiwari, M. K.** (2006). Psycho-clonal based approach to solve a TOC product mix decision problem. *The International Journal of Advanced Manufacturing Technology*, 29(11-12), 1194-1202.
- 282.** Kumar, A., **Tiwari, M. K.**, Shankar, R., & Baveja, A. (2006). Solving machine-loading problem of a flexible manufacturing system with constraint-based genetic algorithm. *European journal of operational research*, 175(2), 1043-1069.
- 283.** Agarwal, A., Shankar, R., & **Tiwari, M. K.** (2006). Modeling the metrics of lean, agile and leagile supply chain: An ANP-based approach. *European Journal of Operational Research*, 173(1), 211-225.
- 284.** Kumar, A., Prakash, A., Shankar, R., & **Tiwari, M. K.** (2006). Psycho-Clonal algorithm based approach to solve continuous flow shop scheduling problem. *Expert Systems with Applications*, 31(3), 504-514.
- 285.** Chan, F. T., Bhagwat, R., Kumar, N., **Tiwari, M. K.**, & Lam, P. (2006). Development of a decision support system for air-cargo pallets loading problem: A case study. *Expert Systems with Applications*, 31(3), 472-485.
- 286.** Antony, J., Bardhan Anand, R., Kumar, M., & **Tiwari, M. K.** (2006). Multiple response optimization using Taguchi methodology and neuro-fuzzy based model. *Journal of Manufacturing Technology Management*, 17(7), 908-925.
- 287.** Choudhary, A. K., Singh, K. A., & **Tiwari, M. K.** (2006). A statistical tolerancing approach for design of synchronized supply chains. *Robotics and Computer-Integrated Manufacturing*, 22(4), 315-321.
- 288.** Kumar, V., Kumar, S., **Tiwari, M. K.**, & Chan, F. T. S. (2006). Auction-based approach to resolve the scheduling problem in the steel making process. *International journal of production research*, 44(8), 1503-1522.
- 289.** Singh, R. K., Kumar, S., Choudhury, A. K., & **Tiwari, M. K.** (2006). Lean tool selection in a die casting unit: a fuzzy-based decision support heuristic. *International Journal of Production Research*, 44(7), 1399-1429.
- 290.** Anand, R. B., **Tiwari, M. K.**, & Shankar, R. (2006). A self-organized neural network metamodelling and clonal selection optimization-based approach for the design of a manufacturing system. *International journal of production research*, 44(6), 1147-1170.
- 291.** Goswami, M., & **Tiwari, M. K.** (2006). A reallocation-based heuristic to solve a machine loading problem with material handling constraint in a flexible manufacturing system. *International Journal of production research*, 44(3), 569-588.
- 292.** Kumar, S., Choudhary, A. K., Kumar, M., Shankar, R., & **Tiwari, M. K.** (2006). Kernel distance-based robust support vector methods and its application in developing a robust K-chart. *International Journal of Production Research*, 44(1), 77-96.
- 293.** Mishra, S., Prakash, **Tiwari, M. K.**, & Lashkari, R. S. (2006). A fuzzy goal-programming model of machine-tool selection and operation allocation problem in FMS: a quick converging simulated annealing-based approach. *International Journal of Production Research*, 44(1), 43-76.
- 294.** **Tiwari, M. K.**, Mukherjee, A., & Shankar, R. (2005). Application of a kin selection based simulated annealing algorithm to solve a complex scheduling problem. *International journal of computer integrated manufacturing*, 18(8), 671-685.

- 295.** Mohanty, R. P., Agarwal, R., Choudhury, A. K., & **Tiwari, M. K.** (2005). A fuzzy ANP-based approach to R&D project selection: a case study. *International Journal of Production Research*, 43(24), 5199-5216.
- 296.** Choubey, A. M., Prakash, Chan\*, F. T. S., & **Tiwari, M. K.** (2005). Solving a fixture configuration design problem using genetic algorithm with learning automata approach. *International Journal of Production Research*, 43(22), 4721-4743.
- 297.** Chan\*, F. T. S., Swarnkar, R., & **Tiwari, M. K.** (2005). Fuzzy goal-programming model with an artificial immune system (AIS) approach for a machine tool selection and operation allocation problem in a flexible manufacturing system. *International Journal of Production Research*, 43(19), 4147-4163.
- 298.** Ranjan, R., Kumar, N., Pandey, R. K., & **Tiwari, M. K.** (2005). Automatic recognition of machining features from a solid model using the 2D feature pattern. *The International Journal of Advanced Manufacturing Technology*, 26(7), 861-869.
- 299.** Kumar, R., Kumar, S., & **Tiwari, M. K.** (2005). An expert enhanced coloured fuzzy Petri net approach to reconfigurable manufacturing systems involving information delays. *The International Journal of Advanced Manufacturing Technology*, 26(7), 922-933.
- 300.** Tripathi, A. K., **Tiwari, M. K.**, & Chan, F. T. S. (2005). Multi-agent-based approach to solve part selection and task allocation problem in flexible manufacturing systems. *International Journal of Production Research*, 43(7), 1313-1335.
- 301.** Ravi, V., Shankar, R., & **Tiwari, M. K.** (2005). Analyzing alternatives in reverse logistics for end-of-life computers: ANP and balanced scorecard approach. *Computers & industrial engineering*, 48(2), 327-356.
- 302.** **Tiwari, M. K.**, Prakash, Kumar, A., & Mileham, A. R. (2005). Determination of an optimal assembly sequence using the psychoclonal algorithm. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 219(1), 137-149.
- 303.** Antony, J., Kumar, M., & **Tiwari, M. K.** (2005). An application of Six Sigma methodology to reduce the engine-overheating problem in an automotive company. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 219(8), 633-646.
- 304.** Mishra, N., **Tiwari, M. K.**, Shankar, R., & Chan, F. T. (2005). Hybrid tabu-simulated annealing based approach to solve multi-constraint product mix decision problem. *Expert systems with applications*, 29(2), 446-454.
- 305.** Dashora, Y., Choudhary, A., Harding, J., & **Tiwari, M. K.** (2005). A cooperative multi colony ant optimization based approach to efficiently allocate customers to multiple distribution centers in a supply chain network. *Computational science and its applications—ICCSA 2005*, 259-285.
- 306.** Ravi, V., Shankar, R., & **Tiwari, M. K.** (2005). Productivity improvement of a computer hardware supply chain. *International Journal of Productivity and Performance Management*, 54(4), 239-255.
- 307.** Ranjan, R., Kumar, N., Pandey, R. K., & **Tiwari, M. K.** (2004). Agent-based design framework for riser and gating system design for sound casting. *International journal of production research*, 42(22), 4827-4847.
- 308.** Singh, S. P., & **Tiwari, M. K.** (2004). Object oriented modelling and development of a dispatching algorithm for automated guided vehicles. *The International Journal of Advanced Manufacturing Technology*, 23(9-10), 682-695.
- 309.** Singh, K. A., & **Tiwari, M. K.** (2004). Modelling the slab stack shuffling problem in developing steel rolling schedules and its solution using improved Parallel Genetic Algorithms. *International Journal of Production Economics*, 91(2), 135-147.

- 310.**Jain, V., **Tiwari, M. K.**, & Chan, F. T. S. (2004). Evaluation of the supplier performance using an evolutionary fuzzy-based approach. *Journal of Manufacturing Technology Management*, 15(8), 735-744.
- 311.**Ben-Arieh, D., Kumar, R. R., & **Tiwari, M. K.** (2004). Analysis of assembly operations' difficulty using enhanced expert high-level colored fuzzy Petri net model. *Robotics and Computer-Integrated Manufacturing*, 20(5), 385-403.
- 312.**Swarnkar, R., & **Tiwari, M. K.** (2004). Modeling machine loading problem of FMSs and its solution methodology using a hybrid tabu search and simulated annealing-based heuristic approach. *Robotics and Computer-Integrated Manufacturing*, 20(3), 199-209.
- 313.**Kumar, R. R., Singh, A. K., & **Tiwari, M. K.** (2004). A fuzzy based algorithm to solve the machine-loading problems of a FMS and its neuro fuzzy Petri net model. *The International Journal of Advanced Manufacturing Technology*, 23(5-6), 318-341.
- 314.**Singh, K. A., Mukherjee, A., & **Tiwari, M. K.** (2004). Incorporating kin selection in simulated annealing algorithm and its performance evaluation. *European Journal of Operational Research*, 158(1), 34-45.
- 315.**Choudhury, A. K., **Tiwari, M. K.**, & Mukhopadhyay, S. K. (2004). Application of an analytical network process to strategic planning problems of a supply chain cell: case study of a pharmaceutical firm. *Production Planning & Control*, 15(1), 13-26.
- 316.**Kumar, R., **Tiwari, M. K.**, & Allada\*, V. (2004). Modelling and rescheduling of a re-entrant wafer fabrication line involving machine unreliability. *International Journal of Production Research*, 42(21), 4431-4455.
- 317.**Srinivas, **Tiwari, M. K.**, & Allada, V. (2004). Solving the machine-loading problem in a flexible manufacturing system using a combinatorial auction-based approach. *International Journal of Production Research*, 42(9), 1879-1893.
- 318.****Tiwari, M. K.**, & Roy, D. (2003). Solving a part classification problem using simulated annealing-like hybrid algorithm. *Robotics and Computer-Integrated Manufacturing*, 19(5), 415-424.
- 319.**Singh, A. K., **Tiwari, M. K.**, & Mukhopadhyay, S. K. (2003). Modelling and planning of the disassembly processes using an enhanced expert Petri net. *International Journal of Production Research*, 41(16), 3761-3792.
- 320.**Mohanty, R. P., Kumar, S., & **Tiwari, M. K.** (2003). Expert enhanced coloured fuzzy petri net models of traditional, flexible and reconfigurable kanban systems. *Production Planning & Control*, 14(5), 459-477.
- 321.**Jain, V., Swarnkar, R., & **Tiwari, M. K.** (2003). Modelling and analysis of wafer fabrication scheduling via generalized stochastic Petri net and simulated annealing. *International Journal of Production Research*, 41(15), 3501-3527.
- 322.**Kumar, S., Kumar, R., Shankar, R., & **Tiwari, M. K.** (2003). Expert enhanced coloured stochastic Petri net and its application in assembly/disassembly. *International journal of production research*, 41(12), 2727-2762.
- 323.**Mondal, S., & **Tiwari, M. K.** (2003). Formulation of mobile agents for integration of supply chain using the KLAIM concept. *International Journal of Production Research*, 41(1), 97-119.
- 324.**Mukhopadhyay, S. K., Roy, D., Sarma, U. M. B. S., & **Tiwari, M. K.** (2003). A part classification system using a shape-analysis based heuristic approach. *The International Journal of Advanced Manufacturing Technology*, 21(5), 355-364.
- 325.**Kumar, R., **Tiwari, M. K.**, & Shankar, R. (2003). Scheduling of flexible manufacturing systems: an ant



colony optimization approach. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 217(10), 1443-1453.

- 326.Tiwari, M. K.,** & Roy, D. (2002). Application of an evolutionary fuzzy system for the estimation of workforce deployment and cross-training in an assembly environment. *International Journal of Production Research*, 40(18), 4651-4674.
- 327.Singh, S. P., & Tiwari, M. K.** (2002). Intelligent agent framework to determine the optimal conflict-free path for an automated guided vehicles system. *International Journal of Production Research*, 40(16), 4195-4223.
- 328.Rai, R., Rai, V., Tiwari, M. K., & Allada, V.** (2002). Disassembly sequence generation: a Petri net based heuristic approach. *International Journal of Production Research*, 40(13), 3183-3198.
- 329.Rai, R., Kameshwaran, S., & Tiwari, M. K.** (2002). Machine-tool selection and operation allocation in FMS: solving a fuzzy goal-programming model using a genetic algorithm. *International Journal of Production Research*, 40(3), 641-665.
- 330.Sarma, U. M. B. S., Kant, S., Rai, R., & Tiwari, M. K.** (2002). Modelling the machine loading problem of FMSs and its solution using a tabu-search-based heuristic. *International Journal of Computer Integrated Manufacturing*, 15(4), 285-295.
- 331.Mondel, S., & Tiwari, M. K.** (2002). Application of an autonomous agent network to support the architecture of a holonic manufacturing system. *The International Journal of Advanced Manufacturing Technology*, 20(12), 931-942.
- 332.Tiwari, M. K.,** & Roy, D. (2002). Minimization of internal shrinkage in castings using synthesis of neural networks. *International Journal of Smart Engineering System Design*, 4(3), 205-214.
- 333.Tiwari, M. K.,** Sinha, N., Kumar, S., Rai, R., & Mukhopadhyay, S. K. (2002). A Petri net based approach to determine the disassembly strategy of a product. *International Journal of Production Research*, 40(5), 1113-1129.
- 334.Vidyarthi, N. K., & Tiwari, M. K.** (2001). Machine loading problem of FMS: a fuzzy-based heuristic approach. *International Journal of Production Research*, 39(5), 953-979.
- 335.Tiwari, M. K.,** Rama Kotaiah, K., & Bhatnagar, S. (2001). A case-based computer-aided process-planning system for machining prismatic components. *The international journal of Advanced manufacturing technology*, 17(6), 400-411.
- 336.Tiwari, M. K.,** Chandrasekaran, M., & Mohanty, R. P. (2001). Use of timed petri net and activity cycle diagram methodologies for modelling tandem AGVs in FMSs and their performance evaluation. *International Journal of Computer Integrated Manufacturing*, 14(4), 399-408.
- 337.Tiwari, M. K.,** & Banerjee, R. (2001). A decision support system for the selection of a casting process using analytic hierarchy process. *Production planning & control*, 12(7), 689-694.
- 338.Tiwari, M. K.,** & Vidyarthi, N. K. (2000). Solving machine loading problems in a flexible manufacturing system using a genetic algorithm based heuristic approach. *International Journal of Production Research*, 38(14), 3357-3384.
- 339.Tiwari, M. K.,** N.K. Vidyarthi.(1998) An integrated approach to solve process plan selection problem in automated manufacturing system, *International Journal of Production Research*, 36(8), 2167-2184.
- 340.Tiwari, M. K.,** M. Chandrasekharan and P.K. Jain. (1997) Tool management issues in FMS and its Petri net modeling, *International Journal of Modeling Measurement and Control*, 16(2), 33 -48.

**341. Tiwari, M. K.,** Rika, B. H., Rathi, N. V., Jaggi, P., & Mukhopadhyay, S. K. (1997). A heuristic solution approach to the machine loading problem of an FMS and its Petri net model. *International Journal of Production Research*, 35(8), 2269-2284.

## **ii. Scientific Report (Nature)**

1. Bhalodiya, J. M., Palit, A., Ferrante, E., Tiwari, M. K., Bhudia, S. K., Arvanitis, T. N., & Williams, M. A. (2019). Hierarchical Template Matching for 3D Myocardial Tracking and Cardiac Strain Estimation. *Scientific reports*, 9(1), 1-13.
2. Bhalodiya, J. M., Palit, A., Tiwari, M. K., Prasad, S. K., Bhudia, S. K., Arvanitis, T. N., & Williams, M. A. (2018). A Novel Hierarchical Template Matching Model for Cardiac Motion Estimation. *Scientific reports*, 8(1), 4475.

## **iii. International Conferences Proceedings**

1. Sahoo, R., Bhowmick, B., & **Tiwari, M. K.** (2021, December). Simulating the Impact of COVID-19 Scenarios on Air Freight Logistics Supply Chain. In *2021 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 280-283). IEEE.
2. Singhanian, R., Sawkar, C., & **Tiwari, M. K.** (2021, June). Optimal Sensor Deployment to Diagnose Large-Scale Manufacturing Systems Using a Convergence-Trajectory Controlled Ant Colony System Algorithm. In *International Manufacturing Science and Engineering Conference* (Vol. 85079, p. V002T09A002). American Society of Mechanical Engineers.
3. Mitra, R., Shukla, M., Goswami, A., & **Tiwari, M. K.** (2021, September). Digitization of Real-Time Predictive Maintenance for High Speed Machine Equipment. In *IFIP International Conference on Advances in Production Management Systems* (pp. 132-140). Springer, Cham.
4. Gupta, N., Dutta, G., Mitra, K., & **Tiwari, M. K.** (2021, September). Analytics with Stochastic Optimization: Experimental Results of Demand Uncertainty in a Process Industry. In *IFIP International Conference on Advances in Production Management Systems* (pp. 78-88). Springer, Cham.
5. Sahoo, R., Bhowmick, B., & **Tiwari, M. K.** (2021, September). Smart Integration of Blockchain in Air Cargo Handling for Profit Maximization. In *IFIP International Conference on Advances in Production Management Systems* (pp. 107-114). Springer, Cham.
6. Mandal, J., Goswami, A., Mishra, N., & **Tiwari, M. K.** (2021, September). Liner Ship Freight Revenue and Fleet Deployment for Single Service. In *IFIP International Conference on Advances in Production Management Systems* (pp. 123-131). Springer, Cham.
7. Keshari, A., Simeone, A., & **Tiwari, M.K.** (2021). Assembly Design of Additive Manufacturing Products: A Computational Framework for Part Separation. *Procedia CIRP*, 96, 121-126.
8. Singh, S., Barde, A., Mahanty, B., & **Tiwari, M.K.** "Digital Twin Driven Inclusive Manufacturing Using Emerging Technologies". In *9th IFAC Conference Manufacturing Modelling, Management and Control MIM 2019*, August, 2019. IFAC: Berlin, Germany.
9. Gupta, V., Chaudhuri, A., & **Tiwari, M.K.** "Modeling for Deployment of Digital Technologies in the Cold Chain". In *9th IFAC Conference Manufacturing Modelling, Management and Control MIM 2019*, August, 2019. IFAC: Berlin, Germany.
10. Gupta, E.V., Mogale, D. G., & **Tiwari, M.K.** "Optimal Control of Production and Maintenance Operations in Smart Custom Manufacturing Systems with Multiple Machines". In *9th IFAC Conference Manufacturing Modelling, Management and Control MIM 2019*, August, 2019. IFAC: Berlin, Germany.

11. Gupta, V., Dakare, S., & **Tiwari, M.K.** “Direct and Wholesale Price Optimization in Omnichannel Environment Using Bilevel Optimization Model”. In *INFORMS Annual Meeting 2018*, November, 2018. INFORMS: Phoenix, AZ, USA.
12. Dakare, S., Gupta, V., & **Tiwari, M.K.** “Revenue Management for Dual Channel Retailer Using Randomized Decomposition Based Evolutionary Algorithm”. In *INFORMS Annual Meeting 2018*, November, 2018. INFORMS: Phoenix, AZ, USA.
13. Mogale, D. G., Kumar, S.K., & **Tiwari, M.K.** “An Integrated Sustainable Food Supply Chain Network Design Model for Optimization of Strategic & Tactical Decisions”. In *INFORMS Annual Meeting 2018*, November, 2018. INFORMS: Phoenix, AZ, USA.
14. Barde, A., Franciosa, P., Ceglarek, D., & **Tiwari, M. K.** (2017, June). Characterization, Modelling and Analysis of Light Reflectance During In-Process Surface Measurements Using White Light Based 3D Optical Gauge. In *ASME 2017 12th International Manufacturing Science and Engineering Conference collocated with the JSME/ASME 2017 6th International Conference on Materials and Processing* (pp. V003T04A019-V003T04A019). American Society of Mechanical Engineers.
15. Mogale, D. G., Kumar, S.K., & **Tiwari, M.K.** “Two Stage Indian Food Grain Supply Chain Network Transportation-Allocation Model." *IFAC-PapersOnLine* 49, no. 12 (2016): 1767-1772.
16. LM Maiyar, JJ Thakkar, A Awasthi, **Tiwari, M.K.** “Development of an Effective Cost Minimization Model for Food Grain Shipments”. *INCOM Canada, IFAC-PapersOnLine* 48 (3), 881-886. May 2015.
17. A De, A Awasthi, **Tiwari, M.K.**, Robust Formulation for Optimizing Sustainable Ship Routing and Scheduling Problem, , *INCOM Canada, IFAC-PapersOnLine* 48 (3), 368-373. May 2015.
18. S Pratap, A Nayak, N Cheikhrouhou, **Tiwari, M.K.**, Decision support system for discrete robust berth allocation, , *INCOM Canada , IFAC-PapersOnLine* 48 (3), 875-880. May 2015.
19. S Pratap, M Kumar, N Cheikhrouhou, **Tiwari, M.K.**, The robust quay crane allocation for a discrete bulk material handling port, *Industrial Engineering and Engineering Management (IEEM)*, 2015 IEEE International Conference.
20. Mu-Chen Chen, Chun-Chin Hsu, Bharat Malhotra and **Tiwari, M.K.**, Applying the ICA-Based Approach to Detect Faults in Processes, accepted for *The Asian Conference on Technology, Information, & Society*, actis2014, Osaka, Japan, 20-23 October 2014
21. Abhijeet Ghadge and **Tiwari, M.K.**, Development of Quality Flexible Contract Mode for Make to Order Manufacturing Environment, **accepted for** *The 7<sup>th</sup> International Conference on Manufacturing Research (ICMR 09)* , *University of Warwick*, 8-10 September 2009. (Submission ID: 20384288)
22. Sri Krishna Kumar, S. Sahu, **Tiwari, M.K.**, Supply Chain Risk Management: A Flexibility Prospective, **accepted for** *The 7<sup>th</sup> International Conference on Manufacturing Research (ICMR 09)* , *University of Warwick*, 8-10 September 2009 (Submission ID: 19883996)
23. R. Swarnkar, A. Chaube, J. A. Harding, B. Das and **M.K. Tiwari** , Prioritising Tendering Activities for Small to Medium –Sized Enterprise, *The 15<sup>th</sup> International Conference on Concurrent Enterprising, Leiden, The Netherlands, 22-24 June 2009, Paper No. – P67 .*
24. F. T. S. Chan, and **M. K. Tiwari**, Anticipating Performance of Work Stations in MMPs at Sensor Breakdowns, *The 4<sup>th</sup> IEEE International Conference on Management of Innovation and Technology (ICMIT08-P-0002)*, *Bangkok, Thailand, 21<sup>st</sup>-24<sup>th</sup> Sep. 2008.*

25. Nitesh Khilwani, J. A. Harding, **M. K. Tiwari**, Ontology Mining for Platform Extraction in Product Development, 14<sup>th</sup> International Conference on Concurrent Enterprising, Lisboa, Purtgal, 23-25 June 2008.
26. M. Yogeswaran; S. G. Ponnambalam, and **M. K. Tiwari**, An efficient hybrid evolutionary heuristic using genetic algorithm and simulated annealing algorithm to solve machine loading problem in FMS, Proceedings of 3<sup>rd</sup> Annual IEEE Conference on Automation Science and Engineering, Scottsdale, AZ, USA on 22-25 Sept, 2007.
27. Nagesh Shukla, Dariusz Ceglarek, and **M.K. Tiwari**, Fault Diagnosis in Multi-station Assembly System using an Agent-based Simulation Model (ABSM), 2<sup>nd</sup> International Conference on Changeable, Agile, Reconfigurable and Virtual Production (CARV 2007) to be held at Toronto, Canada on 22-24 July 2007.
28. Nagesh Shukla, Yogesh Dashora, **M K Tiwari**, and F T S Chan, Introducing Algorithm Portfolios to a Class of Vehicle Routing and Scheduling Problem, OSCM Conference 2007.
29. Prakash, Dariusz Ceglarek, and **M.K. Tiwari**, Fault failure diagnosis for complaint assembly structures using statistical modal analysis, ASME international Conference on Manufacturing Science and Engineering, 2006.
30. Manish Bachlaus, **M. K. Tiwari**, S. Kumar, A. Nassehi, and S. T. Newman, Web based multi agent platform for collaborative manufacturing, 3<sup>rd</sup> International CIRP Conference on Digital Enterprise Technology, 2006.
31. Felix T. S. Chan, Vikas Kumar and **M.K. Tiwari**, Optimizing the Performance of an Integrated Process Planning and Scheduling Problem: An AIS-FLC based approach, IEEE International Conferences on Cybernetics & Intelligent Systems (CIS) and Robotics, Automation & Mechatronics (RAM) (CIS-RAM 2006), 2006.
32. Yogesh Dashora, **M.K. Tiwari** and F T S Chan, "Selection of Best Alternative Process Plan Automated Manufacturing Environment: An Approach Based on Particle Swarm Optimization", The International Conference on Flexible Automation in Manufacturing (FAIM) 2005, Bilbao, Spain. pp. 237-245, Presented by Prof. Felix T. S. Chan, Hong Kong University, Hong Kong
33. K P Karunakaran, Yogesh Dashora, **M.K. Tiwari**, and S. N. Dwivedi, "Solving Planning and Scheduling Problems for Web Supported Plant Chains Using Hierarchical Concepts in Ant Colony Optimization", The 12th ISPE International Conference on Concurrent Engineering: Research and Applications, (CE-2005), Texas at Dallas, Texas (USA), Presented by Prof. Suren Dwivedi, University of Louisiana at Lafayette, Lafayette, LA
34. Prakash and **M. K. Tiwari**, Solving a Disassembly Line Balancing Problem with Task Failure Using a Psycho-Clonal Algorithm, ASME 2005 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Long Beach, California, USA, 24-28<sup>th</sup> September, 2005
35. Srinivas, Yogesh Dashora, A.K. Choudhary, J.A. Harding, and **M.K. Tiwari**, A Cooperative Multi Colony Ant Optimization Based Approach to Efficiently Allocate Customers to Multiple Distribution Centres in a Supply Chain Network, International Conference on Computational Science and its Applications Suntec City, Singapore, May 9-12, 2005 ICSSA 2005
36. **M. K. Tiwari** and Maneesh Kumar, Optimization of vacuum sealed molding process using Taguchi's Robust Design Technique and Fuzzy rule based system, First International Conference on Six Sigma, Glasgow, Scotland, 16-17<sup>th</sup> December, 2004)

37. R.R. Kumar, R. Kumar, **M.K. Tiwari** and S.K. Mukhopadhyay, Solving a Capacity Expansion Problem Using Ant Colony Optimization based techniques, Proceedings of 17<sup>th</sup> International Conference of Production Research, Virginia Tech, Blacksburg, VA, August 2003.
38. R. Kumar and **M. K. Tiwari**, Selection of Modular Design using Learning Embedded Genetic Algorithm, Proceedings of 17<sup>th</sup> International Conference of Production Research, Virginia Tech, Blacksburg, VA, August 2003.
39. V. Jain and **M. K. Tiwari**, “Adaptive Scheduling in Wafer Fabrication: A Fuzzy Rule based approach” Proceedings of 17<sup>th</sup> International Conference of Production Research, Virginia Tech, Blacksburg, VA, August 2003.
40. S. Kumar, **M.K. Tiwari** and R.Shankar, Solving a scheduling problem of FMS using cluster-oriented genetic algorithm, Proceedings of International Conference on CAD, CAM, Robotics and Autonomous Factories (Session III B), IIT Delhi, New Delhi, India, August 11-13, 2003.
41. A. Mukherjee, **M.K. Tiwari** and R.Shankar, “Selection of a delayed product differentiation design using nested partitions method”, Proceedings of International Conference on CAD, CAM, Robotics and Autonomous Factories (Session VI B), IIT Delhi, New Delhi, India, August 11-13, 2003.
42. V. Ravi., A. Agarwal, R. Shankar, and **M. K. Tiwari**, Closed Loop Supply Chain: Some Insights Proceedings of International Conference on Management of R&D(ICMARD 2003), Deptt. of Management Studies, IIT Delhi, 2003, pp. 679-685.
43. D. Roy, **M.K. Tiwari**, R.K. Ohdar and R. Shankar, Evaluation of supplier performance: an approach based on evolutionary fuzzy system, Proceedings of First Global Conference on Flexible System Management, New Delhi, India, December 17-20, 2000, pp.109-124.
44. U.M.B.S. Sarma, D. Roy, U.P.S. Bhushan, **M.K. Tiwari** and R.Shankar, Resolving the complexities of synchronization of a supply chain using simulated annealing based six sigma constrained approach, Proceedings of First Global Conference on Flexible System Management, New Delhi, India, December 17-20, 2000, pp. 619-630.
45. A. Rastogi, U.M.B.S. Sarma, **M.K. Tiwari** and R. Shankar, Assessment of machine and routing flexibility in a manufacturing system: A Petri net based approach, Proceedings of First Global Conference on Flexible System Management, New Delhi, India, December 17-20, 2000, pp. 811-820.
46. **M.K. Tiwari**, N. Sinha, S. Kumar and S.K. Mukhopadhyay, Operation planning issues for a disassembly process Proceedings of 15<sup>th</sup> International Conference on Production Research, University of Limerick, Ireland, August 9-13, 1999, pp. 491-494.
47. S. Kameshwaran, **M.K. Tiwari** and S.P. Dutta, A simulated annealing based approach to solve process plan selection problem, Proceedings of 4<sup>th</sup> Annual International Conference as Industrial Engineering Theory, Application and Practices, Texas, USA, November 17-20, 1999.
48. S.K. Tiwari, **M.K. Tiwari** and R.P. Mohanty, A comparative study of process plan selection problem in FMS, Second International Conference on Operations and Quantitative Management (ICOQM), Ahmedabad, January 3-6, 1999.
49. R. Rai, S. Kameshwaran and **M.K. Tiwari**, Solving an FMS design problem using genetic algorithms, Proceedings POMS - 99, International Conference on Operation Management in Global Economy, Challenges and Prospects, IIT Delhi, December 21-24, 1999, pp 523-528.
50. R. Rai, S. Kameshwaran and **M.K. Tiwari**, Solving the Markovian decision problem using genetic algorithms, Proceedings POMS - 99, International Conference on Operation Management in Global Economy, Challenges and Prospects, IIT Delhi, December 21-24, 1999, pp 545-549.

51. R.K. Ohdar, R. Shankar and **M.K. Tiwari**, Controlling the properties of Sinterforged Iron Powder Preform: artificial neural network approach", Proceedings POMS - 99, International Conference on Operation Management in Global Economy, Challenges and Prospects, IIT Delhi, December 21-24, 1999, pp 582-588.
52. **M.K. Tiwari**, N.K.Vidyarthi and S.Kameshwaran, Generalized stochastic Petri nets for modelling of assembly sequences, Proceedings POMS - 99, International Conference on Operation Management in Global Economy, Challenges and Prospects, IIT Delhi, December 21-24, 1999, pp 792-800.
53. N.K. Vidyarthi, G.D. Vidyarthi and **M.K. Tiwari**, Machining operation sequencing for rotational parts using fuzzy logic approach, Proceedings POMS - 99, International Conference on Operation Management in Global Economy, Challenges and Prospects, IIT Delhi, December 21-24, 1999, pp 801-807.
54. **M.K. Tiwari**, N.K.Vidyarthi and S.K.Mukhopadhyay, Algorithms for solving process plan selection problem, Proceedings of 14<sup>th</sup> International Conference on Production Research, Osaka, Japan, August 1997, pp. 478-481.
55. S.K. Mukhopadhyay and **M.K. Tiwari**, Solving machine loading problems of FMS using conjoint measurement Proceedings of 13<sup>th</sup> International Conference on Production Research, Jerusalem, August 6-10, 1995, pp. 74-76.
56. **M.K. Tiwari** and M. Murlidhar, An expert system for casting defect analysis, Proceedings of 4<sup>th</sup> Asian Foundry Congress, Japan, 1994.

#### iv. National Conferences Proceedings

1. Singh, S., Mahanty, B., & **Tiwari, M.K.** "Digital Twin Driven Inclusive Manufacturing Using Emerging Technologies". In *1st International Conference on Industry 4.0 and Advanced Manufacturing 28 - 29 June 2019* Indian Institute of Science, Bangalore, India. 2019.
2. Saurabh Pratap, Arijit De, **MK Tiwari**. Develop a model on discrete robust berth allocation at dry bulk material handling port. XIX Annual Conference of the Society of Operations Management (SOM), IIM Calcutta (Peer conference). 2015.
3. P. Mohapatra, M. Kumar and **M. K. Tiwari**, Process planning and scheduling integration through an artificial immune system(AIS) based adaptive setup planning, NCRSM, National Conference of Research Scholars in Management, 2011.
4. S. K. Mandal, S.K. tyagi. M.K. tripathi, N. Padi, and **M.K. Tiwari**, Optimization of Series-Parallel System Reliability: Adaptive Memetic Particle Swarm Optimization based Approach, INCREASE-2007, International Conference on Reliability and Safety Engineering, Indian Institute of Technology Kharagpur, 17-19 December 2007.
5. V.V. Kumar, M. tripathi, S.K.Tyagi, S.K. Shukla, and **M.K.Tiwari**, An Integrated Real Time Optimization Approach (IRTO) for Physical Programming based Redundancy Allocation Problem, INCREASE-2007, International Conference on Reliability and Safety Engineering, Indian Institute of Technology Kharagpur, 17-19 December 2007.
6. Optimizing The Operational Design of A Supply Chain Network Using The Psychoclonal algorithm" Sanjay Kumar Shukla, Ravi Shankar, **M. K. Tiwari** (Accepted for publication in 10th Annual Conference of the Society of Operations Management (ASCOM), Indian Institute of Management, Ahmedabad, India, December 21-23, 2006.)
7. Exploring Six sigma to reduce demand variation in supply chain, Amol Ghorpade, **M. K. Tiwari.**, Conference on Quality and Reliability CQR 2006, Rourkela (India), November 4<sup>th</sup>, 2006

8. A. Keshari, Yogesh Dashora and **M. K. Tiwari**, Design of Efficient Cluster Architectures and Communication Protocols: A Framework for Distributed Microflow Sensor Networks, Emerging Trends in Nano-Technology and Innovations in Design and Manufacturing-ETNDM-2006, Rourkela (India), 18<sup>th</sup> February, 2006
9. V. Pandey, S. Kumar and **M.K. Tiwari**. "Artificial Intelligence and its impact on CAD/CAM", Proceedings of AMTEG, January 21-22, 2005.
10. S.C. Srivastava, A. K. Choudhary, Surendra Kumar and **M.K.Tiwari** "Part Selection and Operation Allocation on machines in an FMS for Sheet Metal Processing using Genetic Algorithm with Chromosome Differentiation based Approach" Proceedings of AMTEG, JANUARY 21-22, 2005.
11. R. K. Singh, S. Kumar, and **M. K. Tiwari**, "A Theory of Constraint based Product mix Decision Problem: A Hybrid Tabu-Simulated Annealing Based Approach" AMTIDR, Pune, January, 2005.
12. **M. K. Tiwari**, "Web Supported Engineering Education and Training: A Modern Tool to Improve Learning Process" National Conference on Curriculum Development for Technical Education, 3-4 th April, 2005 at BIT Mesra.
13. Kamlesh Kumar, Maneesh Kumar, **M. K. Tiwari**, "Determination of Optimal Parameter for Finishing Advanced Ceramic Balls: An Approach Based On Grey Relational Analysis", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 113-124.
14. Saurabh Mishra, Maneesh Kumar, Rohit Pratap Singh, **M. K. Tiwari**, "Six Sigma Applications to the Sheet Metal Forming by Deep Drawing and determining the Key Process Variables", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 102-112 .
15. Jitendra Kumar, Maneesh Kumar, Kumar Ashutosh Singh, **M. K. Tiwari**, "Optimization of the parameters of Electrical discharge machining process: An approach based on PCR-TOPSIS", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 92-101.
16. Amit Gupta, Abhiranjan Anand, Maneesh Kumar, **M. K. Tiwari**, "The Determination of Optimal Burnishing Parameters of Freeform Surface Finish of Plastic Injection Mold Using A Six Sigma Based Methodology", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 58-65.
17. Amit Kumar Sinha, Anand Mohan Choubey, A. K. Choudhury, **M. K. Tiwari**, " Selection of Casting Process using Analytical Hierarchy Process (AHP) based Six Sigma Compliant Approach", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 66-75.
18. Anand Mohan Choubey, Alok Kumar Choudhary, **M. K. Tiwari**, "Solving Tolerance Allocation Problem of Casting Processes: A Genetic Algorithm Based Six Sigma Constrained Approach" National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 81-91.
19. Ravindra Kumar, Jayant Kumar, **M. K. Tiwari**, "Optimizing The Die Casting Process Parameters Using Six Sigma Supported Approach", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 125-138.
20. Prakash, Sanjeev Kumar, Shashi Kumar, **M. K. Tiwari**, "Optimization Of A Centerless Grinding Operation- A Six Sigma Approach", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFT, Ranchi, April 2004, pp 139-147.

21. Raj Bardhan Anand, Akhilesh Kumar, K. K. Verma, **M. K. Tiwari**, " Optimization of Electrical Discharge Machining process using Taguchi's Quality Loss Function and Fuzzy Rule based system", National Workshop on Six Sigma Implementation in Foundry / Forge Industries, NIFFIT, Ranchi, April 2004, pp 148-155.
22. P. Vrat, R. Shankar, **M.K. Tiwari**, Srinivas and M. Soleymanpour, "Transiently chaotic neural network approach for transportation problem", Proceedings of the National Conference on Transportation Systems (NCTS), IIT Delhi, India, April 24-25, 2002.
23. **M.K. Tiwari**, S. Mondal and R. Shankar, "An effective heuristic approach for resolving the shipping problem from an origin to a destination in presence of discrete shipping frequency", Proceedings of the National Conference on Transportation Systems (NCTS), IIT Delhi, India, April 24-25, 2002.
24. **M.K. Tiwari**, R. Kumar, and R. Shankar, "Solving a vehicle routing problem using ant colony optimization based algorithm", Proceedings of the National Conference on Transportation Systems (NCTS), IIT Delhi, India, April 24-25, 2002.
25. **M.K.Tiwari** and N.K. Vidyarthi, "A neural network approach for solving a control problem of FMS", 11<sup>th</sup> Indian Society of Mechanical Engineering, IIT Delhi, February 3-5, 1999.
26. A. Pal, S. Jha and **M.K. Tiwari**, "Computer aided process planning: a neuro expert system approach", Proceedings of 21<sup>st</sup> National Systems Conference NSC'97, Hyderabad, India, January 20-24, 1998.
27. **M.K. Tiwari**, N.K. Vidyarthi, "Solving process plan selection problem using simulated annealing algorithm", Proceedings of 30<sup>th</sup> Annual Convention of Operation Research Society of India (ORSI), Jamshedpur, December 22-24, 1997.
28. **M.K. Tiwari**, N.K. Vidyarthi, "Cell formation in group technology: a genetic algorithm approach", Proceedings of 30<sup>th</sup> Annual Convention of ORSI, Jamshedpur, December 22-24, 1997.
29. **M.K. Tiwari**, N.K. Vidyarthi, "Modeling of alternative process plans by Petri nets and a fuzzy logic approach to select optimum process plan", Accepted for presentation and publication in 17<sup>th</sup> AIMTDR Conference, REC Warangal, January 9-11, 1997.
30. **M.K. Tiwari**, M. Chandrasekharan and P.K. Jain, "A heuristic solution approach to solve the loading problem of flexible assembly system", Proceedings of 10<sup>th</sup> ISME Conference, Delhi, India, December 10, 1996.
31. **M.K.Tiwari**, N.D.Vaini and P.K.Jain, "Optimization of multistage systems for the minimization of work-in-process", Proceedings of 29<sup>th</sup> Annual Convention of Operation Research Society of India (ORSI), IIT Bombay, 1996.

#### v. Edited Books

1. Applications of Multi-Criteria and Game Theory Approaches, Manufacturing and Logistics, Edited by Prof. L. Benyoucef, Prof. J.C. Hennet, and Prof. **M. K. Tiwari**, Springer, 2014.
2. Modeling of Responsive Supply Chain, Edited by Prof. **M. K. Tiwari**, Prof. B. Mahanty, Prof. S.P. Sharma and Prof. M. Jenamani, CRC Press, Taylor & Francis Group. 2012
3. Evolutionary Computing in Advanced Manufacturing, Edited by **Prof. M. K. Tiwari** and Jenny A. Harding, Scrivener Publishing, WILEY, 2011.
4. Swarm Intelligence, Focus on Ant and Particle Swarm Optimization, Edited by Prof F. T. S. Chan and **Prof M. K. Tiwari**, I-Tech Education and Publishing, Vienna, Austria, 2007.



#### **vi. National Journal:**

1. A. Agarwal, R. Shankar and **M.K. Tiwari**, Agility of supply chains: a study of some sectoral dissimilarities, *Productivity*, 2005, 45(3) pp. 396-403.
2. A. Ranjan, G. Mishra and **M.K. Tiwari**, Machine Selection: A Fuzzy Multi Attribute Decision Making (FMADM) Approach, *Journal of Advances in Management Research*, 2004,1( 2), pp. 60-72.

#### **vii. Book Chapters**

1. Y Lundia, K Jain, MV Krishna, **MK Tiwari**, B Raj. "Solving Quality and Reliability Optimization Problems for MEMS with Degradation Data". *Materials and Failures in MEMS and NEMS*, 381-399. 2015.
2. **MK Tiwari**, RA Kumar, P Mohapatra, WK Yew, L Benyoucef, "Route Selection and Consolidation in International Intermodal Freight Transportation", *Applications of Multi-Criteria and Game Theory Approaches*, Pages 181-194. 2014.
3. S Mungle, S Saurav, **MK Tiwari**, "Multi-objective optimization approach to product-planning in quality function deployment incorporated with Fuzzy-ANP", *Applications of Multi-Criteria and Game Theory Approaches*, Pages 83-105. 2014.
4. Raja Ram Muddada, Forrest Zhang, **M.K. Tiwari**, W. J. Zhang, A new index to evaluate solutions in the CLONALG Algorithm: Structural Similarity Index. *Proceedings of the 6th CIRP-Sponsored International Conference on Digital Enterprise Technology, Advances in Intelligent and Soft Computing Volume 66*, 2010, pages 1119-1132.
5. **M.K. Tiwari** and M.K. Pandey, Auction-based heuristic in digitised manufacturing environment for part type selection and operation allocation. *Collaborative Design and Planning for Digital Manufacturing*, Springer Verlag 2009 pages 217-224.
6. Anoop Prakash, Nagesh Shukla, R. Shankar, and **M.K. Tiwari**, Solving machine loading problem of FMS: An artificial intelligence (AI) based random search optimization approach, *Handbook of Computational Intelligence in Manufacturing and Production Management: A book edited by Dr. Dipak Laha, and Dr. Purnendu Mandal, Lamar University, USA, Idea Group Publishing*
7. Mukul Tripathy, Shuham Agrawal, and **M.K. Tiwari**, The disassembly sequencing problem: Resolving the complexity by random search techniques, a book on Environmentally Conscious Manufacturing, edited by Prof. S.M. Gupta and Prof. A.J.D. Lambert, published by Taylor and Francis

#### **viii. Research reports**

1. Adaptive production control system: A Genetic Algorithm and Neural Network based approach
2. Development of framework for e-manufacturing
3. Simulation and Analysis of Practical Issues in Scheduling Wafer Fabrication: A Simulated Annealing Based Approach
4. Hole quality evaluation in reaming an evolutionary fuzzy system
5. Evaluation of engineering design with imprecise parameter: a fuzzy based approach
6. A GA approach for slab stack shuffling problem
7. Process plan selection problem: a game theory based heuristic approach
8. Generating a robust schedule for a wafer fabrication facility via expert enhanced high level colored time Petri net and neuro-simulated annealing based heuristic
9. Analysis of miniaturized electromagnetic devices using evolution algorithms with fast simulated annealing based approach (EFSA)
10. Analysis of assembly operation difficulty using advanced expert fuzzy Petri net

#### **ix. News Articles/Mentions (National and International)**

1. Mediawire. (2022, Jan 29). NITIE launched the 2nd Edition of Global Online Certification Course on 'Business & Operations Analytics 2022'. [The Economics Times](#).
2. Mediawire. (2021, Dec 7). NITIE Alumni made a Generous Contribution towards the Data Science Centre of the Institute. [Times of India](#).

3. Mediawire. (2021, Nov 11). NITIE, Mumbai has launched the Global Online Certification Course on 'End-to-End Supply Chain Transformation through Digitization'. [Times of India](#).
4. ANI (2021, Oct 04). NITIE's Centre of Excellence in Logistics and Supply Chain Management to buttress India's Vision for Economic Growth. [ANI](#).
5. Mediawire. (2021, Oct 4). Unique pathway to promote Academia Industry Collaboration. [Times of India](#).
6. Indiaretailing Bureau (2021, Aug 9). FLO Mumbai Collaboration with NITIE: Signing of the MOU. [India Retailing](#).
7. Mediawire. (2021, Jun 11). NITIE, Mumbai Ranked at 68 in Sustainable Development Goal 8 by THE Impact Ranking 2021. [Times of India](#).
8. Mediawire. (2021, May 26). NITIE builds an [online dashboard](#) that works on dynamically optimizing oxygen allocation across the country. [Times of India](#), and [The Economics Times](#).
9. Mediawire. (2021, April 17). NITIE, Mumbai successfully completes the 30 Hour Global Online Certification Course on Supply Chain Digitization and Management for 2500+ Participants. [Times of India](#).
10. Tiwari, M. K., Date, H., Sharma, V., Singh, P. K., Ramakrishna, K., Kumar, S., Pathak, V. (2020, December 14). A joint view of Tata Consultancy Service (TCS) & National Institute of Industrial Engineering (NITIE) to manage COVID vaccine distribution for India. [Times of India](#).
11. Mediawire. (2020, August 13). Prof David Simchi-Levi at NITIE Webinar - Government should prioritize critical supply chains to apply stress-test. Content Produced by [Optimal Media Solutions](#). [Times of India](#).
12. Mediawire. (2020, July 1). NITIE's Support to COVID Warriors during Pandemic. [Times of India](#).
13. Service, E. N. (2020, May 28). Covid effect: NITIE adopts 5 villages to aid adivasi communities in absence of livelihood. [Indian Express](#).
14. Mediawire. (2020, May 26). NITIE extends help to Adivasi villages in Murbad during COVID-19. [Times of India](#).
15. PTI. (2020, May 7). Covid-19 lockdown: NITIE ties up with edu-tech firm to conduct exams online. [India Today](#).
16. Live, E. (2020, May 6). National Institute of Industrial Engineering opts for mUniParkisha to conduct online exams during lockdown. [Edex Live](#).
17. Careers360, T. (2020, May 5). Lockdown 3 - NITIE shows way for conducting online exams. [Team Careers360](#).
18. Mediawire. (2020, April 27). NITIE: A front runner in Industrial Engineering. [Times of India](#).
19. Verma, P. (2019, April 16). IIT Kharagpur researchers create algorithm for marketing & sales on social media. [The Economic Times](#).

## Sponsored Project:

### At NITIE Mumbai

Last one year as a director of the institute and as a professor in domain of logistics and supply chain management. The following project has been undertaken.

- **Pradeep Metals Limited**  
This is an integrated project of several activities including, Pre-order inventory to reduce lead time and increase production speed, identify material type required over the next 2-months time period, and pre-plan inventory for these materials through forecasting using machine learning techniques.
- **o9solutions:**  
It is a start-up, which offers as a project to identify and build a forecasting model for large scale retailers. (5 Lakh per Annum)

- ***Air Asia:***  
Under my principal investigator implementing real-life project related to ground staff demand generation and roster allocation, crew planning, tail mapping and optimal development for manpower allocation. (16 Lakh per Annum)  
In two of project, the company save more than one crore rupees after implementing as staff allocation model.
- ***Sustainable Logistics of the Future (FutureLOG) (International collaboration)***  
This Research project is funded by the Research Council of Norway and collaboration with eighteen research organisation across the globe. I have been a partner of Research Council and led by Prof. Dr Fabio Sgarbossa, Norwegian University of Science and Technology, Norway. (10 Lakh per Annum)

#### ***At IIT Kharagpur***

- ***Digital manufacturing and industrial internet of things for enhanced supply chain coordination, quality, and maintenance (Role: Principal Investigator)***  
This project aims to provide visibility, traceability, and simulated setting of the products and entire value chain for performance assessment of manufacturing and supply chain efficiently and reliably, to develop a framework to apply digital manufacturing and the Internet of things across different partners of discrete products and heavy industry units and contribute to technological progress in manufacturing and supply chain environment on a global scale. I am the principal project investigator of this project. It is sponsored by the Department of Heavy Industry under the component Centre of Excellence for Technology Development (COE) of the Scheme on enhancing competitiveness in the Indian capital goods sector. The value of this project is Rs 3.34 crores (0.48 Million USD @ 69.25 Indian rupees to 1 US dollar.). It is a five-years duration project (2018-2022).
- ***Sustainable Food Security through Technological Interventions for Production, Processing and Logistics (Role: Principal Investigator)***  
The vision of this research is to develop integrated and focused mission projects to pursue aggressive research and innovation, which will guide to enhance the food productivity, appropriate storage optimally, reduced wastage and logistics, to support the realization of sustainable implementation of NFSA and positively contribute to safe, healthy and on-time supply to the beneficiaries. It is sponsored by the Ministry of Human Resource Development, Govt of India. The value of this project is Rs 16 crores(2.3 Million USD). It is a three-years duration project (2014-2017).
- ***Center of Excellence on E-Business (Role: Principal Investigator)***  
The center is developed to support logistics and manufacturing, decision making and operation analytics. It is conceptualized to foster research and develop decision support models with view to resolve complexities in the area of loading/unloading of vehicles, market analysis, procurement, supplier selection, manufacturing planning and scheduling, etc. It is sponsored by Ministry of Human Resource Development, Govt. of India, providing a competitive project grant of Rs 4 crores.

#### ***At NIFFT Ranchi***

- ***Technical Education Quality Improvement Programme (TEQIP)***  
To develop the institute and modernize the laboratories, I took the lead and prepared comprehensive project documents. After presentation and scrutiny, National Project Implementation Unit (NPIU), a body responsible to implement World Bank project, considered NIFFT in the category of Lead Institutions. Under this project, institute received a grant of Rs. 14 Crore (US \$3.04 Million) and I was acting as its coordinator of the project till July 2007.
- ***Campus wide Networking (CWN)***  
This project was of worth Rs 1.5 Crore (US \$ 0.32 Million). Its proposal was prepared by me and under the plan grant of the institute. The project was sanctioned by Board of Governors and controlling Ministry (year 2002). I was convener of the project. Here, main task was to prepare the specifications of networking components and other hardwares and softwares by involving experts from premier institutions like IIT's. I have coordinated each and every activity, right from selection of networking experts, procurement consultant, floating the advertisement, evaluation of tenders, installation and commissioning, and finally certification. This project was success fully completed and institute was fully connected with internet.

As a coordinator, I prepared the documents and supervised the visit of National Board of Accreditation (NBA) team deputed by AICTE. It was a massive coordinated efforts from various agencies and departments and all the six programs got accredited by the team in 2004.

Presented the case of NIFFT before the University Grant Commission for Deemed to be University status. Commission agreed to send an expert team to assess the institute and its proposal (2005).

#### **Sponsored Project (Supported by International Agencies):**

- Requirements for and impacts of ICT based advanced manufacturing with special reference to Indian context sponsored by **Germany- ACATECH, Indian Institute of Technology National Academy of Science and Engineering.**
- Studying and analyzing carbon trading regime for Global Collaborative Supply Chain (ACTR) sponsored by **The University of Sheffield, UK.**
- Dynamic Scheduling and chartering of oil tankers and their solution by simulation based Optimization sponsored by **University of Connecticut, Gali, Zaicek.**
- ***EU Indian Research & Innovation Partnership for efficient and sustainable freight Transportation (REINVSET). Duration: 4 Year; Amount: 30 Lakh Rupee***

Prof M K Tiwari is the main Project Investigator and here work package proposed are leading to exploration of areas related to sustainable freight analysis and intermodal transportation. The Key performance indicators related to freight transportation (that covers flexible, quality, reaction time and intermodal freight transfer) need to be evolved and linked with developing supply chain network, cross docking and profit and carbon trading among the partners (EU sponsored project, where main leading partners are Sheffield university-UK, Loughborough University-UK, South East European Research Centre (SEERC), IIT-B and IIT-D).

#### **Industrial and Consultancy services:**

1. Organized a 20-hour Global Online Certification Course on 'End-to-End Supply Chain Transformation through Digitization' in association with Prof. David Simchi-Levi (MIT, USA) during 13th November 2021 – 5th December 2021
2. Organized a 30-hour Global Online Certification Course on 'Supply Chain Operations & Disruptions Management' in association with Prof. Tadeusz Sawik (AGH University, Poland & Reykjavik University, Iceland) during 29<sup>th</sup> September 2021 – 27<sup>th</sup> October, 2021
3. Organized a 30-hour Global Online Certification Course on 'Business and Operations Analytics' in association with Prof. David Simchi-Levi (MIT, USA) during 3<sup>rd</sup> July 2021 – 5th September 2021
4. Organized a 30-hour Global Online Certification Course on Supply Chain Digitization and Management with Prof. David Simchi Levi (MIT, USA) by engaging 2500+ participants from academia and industry professionals (*16<sup>th</sup> January 2021 – 21<sup>st</sup> March 2021*)
5. Developed and taught 20 hours course material - Decision support on modeling of naval operations to the officers of Indian Navy. It was organized by Prof. Ravi Shankar, Dept of Management Studies, IIT Delhi on 01.06.2011 to 08.07.2011, 2013
6. Delivered 3 hours talk on Coordination in Supply Chain Management in a week long QIP course "Supply Chain Excellence" organized by Dept of Management Studies, IIT Delhi on 13.06.2011 to 18.06.2011.
7. Organized a short term course on "Facility Layout and Decision Modeling" Dept of Industrial Engineering and Management, IIT Kharagpur on 04.07.2011 to 08.07.2011.
8. Developed a Software to address the route optimization and Truck Load Capacity Planning for Proctor Gamble India Limited. (I am the Project Investigator, Project cost is 3 Lac, 2011).

9. Conducted a Course on Reconfigurable Manufacturing System for Faculty members of different Technical Institutes. (Cost was 1.5 Lac, Feb-2010).
10. Conducted a Course on Lean Manufacturing for managers of different companies. (Cost was 1.35 Lac, Dec-2010).
11. Developed a Faculty Retention Plan and Man Power Planning to Establish Indian Institute of Corporate Affairs, New Delhi.(I was one of the co-Project Investigator, Project Cost was 1.5 core, 2009-2010).
12. Implementation of Lean Manufacturing in a Repair Department of Indian Air- Force. (Completed in one and half years, Project Cost was 56 Lac; I was a Co-Project Investigator, 2008-2010).
13. Involved in a Project to train the Engineers and Managers of Maccanly Bharat India Limited on Different Aspect of Project Management. (I was one of the Co-Project investigator and imparted training for three consecutive years, Project cost Average one Lac per year, 2008-2009-2010).
14. Conducted a Course on PLM/PDM for DRDO Professionals. (Cost of the Course 8 Lac, 2008-2009).
15. Conducted a course on Lean Manufacturing for Air-Force Professionals. (Cost was 4 Lac, 2008-2009).
16. Conducted a 3-days course on Facility Layout Planning at TATA Steel, Jamshedpur.(Cost was 54 Thousands, Feb-2008).
17. Developed resource material for selection of executive trainees for ACC Cement Ltd., Mumbai (2005 and 2007).
18. Delivered lectures to the graduate engineers trainees of ACC Ltd., Mumbai on implementation of project management techniques (2004).
19. Organized a National level Workshop on Six Sigma Implementation in Foundry/Forge and other allied Manufacturing Industries (2004).
20. Conducted a week long course on Quick Response Manufacturing (2003).
21. Participated as a member of expert committee to develop the tool room by Govt. Jharkhand, Ranchi.

**Contribution to Laboratory Development:**

- Developed Internet Laboratory at NIFFT, Ranchi (2005)
- Involved in Developing CAD lab at NIFFT, Ranchi (2005-2007)
- Involved in modernizing the laboratories of Forge Department, NIFFT, Ranchi (2005-2007)
- Developed a Research Promotion Cell at NIFFT, Ranchi (2004)
- Associated with development of establishing Machine shop, Tool room, Welding shop in the department of mechanical engineering at NERIST, Itanagar, (1992-1998)
- Development a Computer Integrated Manufacturing System Lab in the Tool Room of the Mechanical Engineering Department, NERIST (1993).

### **Contribution to the Curriculum Development:**

- Member of core group looking after the academic requirement of a new school “Ranbir and Chitra school of Infrastructure Design and management” at IIT Kharagpur.
- Attached with development of syllabus to a proposal on a course “Quality Engineering Design and Manufacturing” at IIT Kharagpur.
- Developed the syllabus and course structure for IGNOU, New Delhi (2004-2006).
- Member of a committee that looks into the syllabus revision for U.G. and Graduate program related to manufacturing engineering at NIFFT, Ranchi (1999)
- Developed the syllabus of theory and practical contents related to Industrial Engineering, Operational Research, CAM, AI & Robotics Manufacturing Science, Production Engineering, etc. at NERIST, Itanagar, (1990-1998) and NIFFT, Ranchi (2004)
- Co-coordinator for preparing and presenting the proposal of a Graduate Program on CAD/CAM by Mechanical Engineering department at NERIST, Itanagar (1996-1997)

### **Administrative Assignments:**

#### **At NITIE Mumbai:**

- Director (Nov 2019 – till date)

#### **At IIT Kharagpur:**

- Dean (Planning and Coordination), (Jan 2018 – Nov 2019)
- Former Member, Board Of Governors IIT Kharagpur (Jan 2016 - Dec 2017)
- Head of Department -Industrial and Systems Engineering (Jan 2013 – Dec 2015)
- Head of Reliability Engineering center (2013-2014)
- Senate appointed member of RPC (Research promotion Committee)
- Member of a review committee to assess Reliability Engineering centre, IIT Kharagpur.
- Member of Curtain Raiser Committee to celebrate Diamond Jubilee Year (2011-2012) of IIT, Kharagpur.
- Co-Chairman of the Spring Fest, IIT Kharagpur, 2010.
- Member of a committee for running the “Ranbir and Chitra School of Infrastructure Design and Management” at IIT Kharagpur (2007- 2010).
- Examination in- Charge for Post-Graduate program in IE&M Department, IIT Kharagpur, 2007-2010.

#### **At NIFFT, Ranchi**

- Head of the Department, Forge Technology, NIFFT, Ranchi (2006-2007 )
- I was TEQIP Co-Coordinator of worth 14 Core Rupees. This project aims to upgrade the Laboratories, Curriculums and Networking of Institute at NIFFT, Hatia, Ranchi. This Project was conceded and almost implemented by me. (2004-2007 July).
- I was Coordinator of NBA (National Board of Accredition ) at NIFFT, Hatia, Ranchi. I got all the program accredited at NIFFT, Ranchi, 2005.
- Team member to select a security agency for NIFFT (2005)
- Team member to select civil work contractors at NIFFT (2001-2004)
- In-charge of Training and Placement for Under Graduate and Graduate students at NIFFT, Ranchi (1998-2001).
- Three times participated in conducting assembly elections and parliamentary elections as a patrolling magistrate and sector magistrate in Ranchi (1998-2005)

- Transport Chairman (1996-1997) at NERIST, Itanagar
- Involved in conducting the entrance examination at different places for Under graduate and post graduate students.

#### **Other Assignment:**

- I was a Programme Coordinator of Leadership for Academicians Programme (LEAP) sponsored by MHRD, India and completed three modules, two at IIT Kharagpur and one with foreign collaborators at IFM Cambridge University, UK, 13<sup>th</sup>-24<sup>th</sup> May 2019 and 3<sup>rd</sup> -7<sup>th</sup> June, 2019 respectively.
- I was a Coordinator in organizing 2<sup>nd</sup> INAE Youth Conclave 2018 held at IIT Kharagpur during 10<sup>th</sup> -12<sup>th</sup> August, 2018.
- I was the member of selection committee for selecting the faculty members at M.S. University, Baroda.
- I was the member of selection committee for selecting the faculty members at NIT, Jamshedpur.
- Member of faculty selection committee at IIT Delhi, IIT Roorkee (2018), IIT Madras (2019), IIT BHU (two times), IIT Goa (2019), NITIE Mumbai, and several other IITs and NITs.
- Member of Selection Committee for selecting the senior officer (Grade-A) in the All India Council for Technical Education (AICTE) under Requirement Regulation, 2007. (*December 2018*)
- Member of an Expert Committee for subject wise ranking of Engineering Discipline, constructed by National Board of Accreditation (NBA), New Delhi, India. (*January 2019*)
- Developed a Decision support system for Pradhan Mantri Ujjwala Yojana (PMYU) to analyze the impact of maximum cylinder (subsidised) available per connection on dealers commissioned (PMYU is a flagship energy policy initiated by the government of India to provide women below poverty line (BPL) access to clean energy fuel, Liquefied Petroleum Gas).
- Developed the forecast model of daily cash demand of currency chests in India for the Reserve bank of India, central banking institution.
- Part of an organizing committee of 3-days Inclusive Manufacturing Forum held at National Institute of Advanced Studies, Bangalore, India with the participants from Cambridge University, Cranfield University, and delegates from BRICS nations in April 2017 and April 2018.
- Prepared action plan for the Institute of Eminence (IoE) of IIT Kharagpur and it results to get the recognition in 10 IoE of the country from the Government of India.
- Patron and member of organizing committee of International Conference on E-Business and Supply Chain Competitiveness (EBSCC 2016) held at IIT Kharagpur, Kharagpur, India

#### **Social Activities:**

- Helping the students of weaker sections to pursue higher studies.

#### **Research Collaborators:**

1. Prof. Y.J. Son, Department of Systems and Industrial Engineering, The University of Arizona, Tucson, AZ, USA
2. Prof. David Ben Ariah, Department of Manufacture and system Engineering, Kansas State University, Kansas, USA
3. Prof. Venkat Allada, Department of Engineering Management and Systems Engineering, Engineering Management, Missouri University of Science and Technology-Rolla, USA
4. Prof. Ming J. Zuo , Department of Mechanical Engineering, University of Alberta, Edmonton, Canada
5. Prof. Stephan Newman, Department of Mechanical Engineering, University of Bath, UK
6. Prof. Jenny Harding, Wolfson School of Mechanical, Electrical & Manufacturing Engineering, Loughborough University, UK
7. Prof. F.T.S. Chan, Department of Industrial & Manufacturing Systems Engineering, The University of Hong Kong, Hong Kong

8. Prof. Ravi Shankar, Department of Management Studies, Indian Institute of Technology Delhi, New Delhi, India
9. Prof. K.P. Karunakaran, Professor, Department of Mechanical Engineering, Indian Institute of Technology Bombay, Mumbai.
10. Dr. B. K. Panigrahi, Associate Professor, Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi, India

**Eminent Academicians well known to me:**

1. Prof. David Simchi-Levi, MIT Professor – Business & Supply Chain Analytics, Director, Data Science Lab, Massachusetts Institute of Technology, USA < [dslevi@mit.edu](mailto:dslevi@mit.edu) >
2. Prof. A. Y. C. Nee, Department of Mechanical and Production Engineering, National University of Singapore, Singapore < [mpeneeyc@nus.edu.sg](mailto:mpeneeyc@nus.edu.sg) >
3. Prof. Stephan Newman, Department of Mechanical Engineering, University of Bath, UK < [s.t.newman@bath.ac.uk](mailto:s.t.newman@bath.ac.uk) >
4. Prof. Jenny Harding, Wolfson School of Mechanical, Electrical & Manufacturing Engineering, Loughborough University, UK, < [j.a.harding@lboro.ac.uk](mailto:j.a.harding@lboro.ac.uk) >
5. Prof. D. Ben-Ariah, Department of Industrial Engineering, Kansas state University, < [davidbe@ksu.edu](mailto:davidbe@ksu.edu) >
6. Prof. Anil D Sahasrabudhe, Chairman AICTE, Govt of India New Delhi < [anil.sahasrabudhe@gmail.com](mailto:anil.sahasrabudhe@gmail.com) >
7. Prof. Pramod K Jain, Director, IIT-BHU Varanasi, former director of IIITDM Jabalpur, and Professor of Mechanical Engineering at IIT Roorkee < [pkjain123@gmail.com](mailto:pkjain123@gmail.com) > < [director@iitbhu.ac.in](mailto:director@iitbhu.ac.in) >
8. Prof. Damodar Acharya, Former Director of IIT Kharagpur and Former Chairman AICTE Delhi, < [acharyadamodar94@gmail.com](mailto:acharyadamodar94@gmail.com) >
9. Prof. S.G. Deshmukh, Director, ABV Indian Institute of Information Technology and Management, Gwalior, India < [director@iiitm.ac.in](mailto:director@iiitm.ac.in) >
10. Prof. N. Viswanadham, INSA Senior Scientist in the Computer Science and Automation at the Indian Institute of Science < [n.viswanadham@gmail.com](mailto:n.viswanadham@gmail.com) >
11. Prof. Alexandre Dolgui, Editor-in-Chief of the International Journal of Production Research (Taylor & Francis). < [dolgui@emse.fr](mailto:dolgui@emse.fr) >
12. Prof. Bopaya Bidanda, Department Chair, Ernest E. Roth Professor of Industrial Engineering, University of Pittsburgh. < [bidanda@pitt.edu](mailto:bidanda@pitt.edu) >