

Curriculum Vitae

Prof Kuldip Singh Sangwan, Ph. D.

Shri B. K. Birla and Shrimati Sarala Birla Chair Professor and
Senior Professor, Mechanical Engineering Department
Chief, Workshop Unit
Birla Institute of Technology and Science,
Pilani, Rajasthan, INDIA – 333031
Ph: +91 1596 255205/730 | +91 9929095384
e-mail: kss@pilani.bits-pilani.ac.in, kssangwan@gmail.com



Residence: 510/3 New Faculty Housing, Mandir Marg, BITS Campus, Vidya Vihar, Pilani,
Rajasthan – 333031

Education

- Doctor of Philosophy: 2003
Mechanical Engineering, Birla Institute of Technology & Science, Pilani, 2003
Thesis Title: An Integrated Approach for Design of Cellular Manufacturing Systems
- Master of Engineering: 1992 (First class)
Punjab Engineering College, Chandigarh, India, 1992
- Bachelor of Engineering: 1989 (First class)
Punjab Engineering College, Chandigarh, India, 1989
- PG Diploma in Operations Management, Indira Gandhi National Open University, New Delhi, India, 1996

Significant Achievements

1. Found a place in the “top 2% world scientists” list by Stanford University researchers in the area of “Industrial Engineering and Automation” in 2020 and 2021. <https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918>
<https://drive.google.com/file/d/1bUJrvurVVBbxSI9eFZRSHFif7tt30-5U/view>
2. Awarded “Shri B. K. Birla and Shrimati Sarala Birla Chair Professor”, against an open international advertisement, for my outstanding contribution to teaching and research.
3. Editor (August 2021 – till date), Industrial Engineering Journal, Published by Indian Institute of Industrial Engineering.

4. Developed a learning factory named “Joint Indo-German Experience Lab” at BITS Pilani in collaboration with German Academic Exchange Services (DAAD), Festo Didactic DE Germany, and TU Braunschweig, Germany for improvement of problem solving skills of engineering students. <https://www.igcsm.org/2016/01/01/jingel/>
5. Developed international collaboration with Technical University of Braunschweig, Germany through competitive projects sponsored by DAAD (German Academic Exchange Services) and industry. The collaboration is strongly active since 2010. More than 100 undergraduate & graduate students, and research scholars have visited each other campuses for a period ranging from one week to six months. The scope of visits ranges from collaborative research and field visits to thesis/dissertation. Total funding till date is approximately 0.8 million Euros (650 lakhs INR approx.).
6. Co-hosted 28th CIRP conferences on Life Cycle Engineering at Jaipur in 2021. This was the first CIRP conference hosted in India. The conference is awarded to Professors in a competitive manner 4-5 years in advance. Some of the previous hosts of the conference are: 2011 TU Braunschweig, Germany; 2012 UC Berkely, USA; 2013 NUS, Singapore; 2014 NTNU Norway; 2015 UNSW, Australia; 2016 TU Berlin, Germany; 2017 Tokyo Univ., Japan, 2018 TU Copenhagen, Denmark; 2019 Purdue Univ., USA., 2020 Institut polytechnique de Grenoble, France. (<https://lce2021.in/>)
7. Member, International Scientific Committee, CIRP conferences on Life Cycle Engineering: 2011 Germany, 2013 Singapore, 2014 Norway, 2015 Australia, 2016 Germany, 2017 Japan, 2018 Denmark, 2019 USA, 2020 France, and 2021 Belgium.
8. Session chair at CIRP conferences on life cycle engineering at Purdue University, TU Copenhagen, TU Berlin, UNSW Sydney, NUS Singapore.
9. **Visiting researcher to Technical University of Braunschweig, Germany in 2010, 2011, 2015, 2016, 2017, 2018, 2019.**

Curriculum Development

- Designed and developed course entitled “Sustainable Manufacturing” for the undergraduate students
- Designed and developed course titled “Concurrent Engineering” for Graduate students
- Designed course titled “Maintenance Engineering” for Post Graduate Degree in Manufacturing Management
- Coordinated a team to restructure the curricula on post graduate programmes in Manufacturing Management and Engineering Management
- Coordinated a team to restructure the curricula for under graduate programmes in Manufacturing Engineering and Engineering Design
- Actively involved in the development of a post graduate programme on Automotive Engineering for Tata Technologies Ltd

- Actively involved in the course curriculum development for the Post Graduate Degrees in Manufacturing Systems Engineering (on-campus) and Manufacturing Management (off-campus)

RESEARCH PROJECTS

- Partner. PAN ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP), German Academic Exchange Programme, May 2021 – December 2025, 2.800.000 €
- Geometric tolerancing and precision measurement skill enhancement, Mitutoyo South Asia Pvt. Ltd, New Delhi, 33 lakhs, January 2020 – December 2023
- Joint Indo-German Academy towards Sustainability in Engineering, Education and Entrepreneurship, German Academic Exchange Programme, January 2020 - December 2023, 200000 €.
- Assessment of problem solving and social skills in engineering education: Bridging the gap between academia and industry, Indian Council of Social Science Research (ICSSR), 2020-2021, 7.94 lakhs
- Envisioning Future Low-Carbon Lifestyles and Transitioning Instruments Project Phase II, United Nations Environment Programme (UNEP), Institute for Global Environmental Strategies (IGES) Japan, *Swechha* (NGO) Delhi, BITS Pilani, September 2019-September 2020, 25000 USD (Indian partners)
- Indo-German Challenge for Sustainable Production, Club MINTernational, Germany, January – December 2019. 58,000 €.
- Joint Indo-German Experience Lab at BITS Pilani, DAAD (German Academic Exchange Programme) and FESTO, January 2016 - December 2019, 346954 €.
- 3-Cycle studies in India, AKB Stiftung, Germany, 2005-2006, 5000 €
- Development of drivers, barriers and key performance indicators for implementation of green manufacturing in Indian Micro, Small and Medium Ceramic Enterprises, UGC Major Research Project, (PI)2013, INR 9.91 lakhs
- Development and validation of sustainability measurement framework for manufacturing industries (Co-PI), UGC Major Research Project, 2013, INR 3.22 lakhs
- Automotive Life Cycle Engineering, DAAD and Volkswagen, Jan 2013 – December 2016, 94 423 €.
- Fund for Improvement of S&T Infrastructure in Higher Educational Institutions (FIST), DST, Coordinator, 2012-2017, 163 Lakhs
- Lean and Green Manufacturing, DAAD (German Academic Exchange Programme), 2010-2011, 54030 €.

Post Doc/PhD Supervision

1. Assessment of problem solving and social skills in engineering education: Bridging the gap between academia and industry, Funded by Indian Council of Social Science Research (ICSSR), Dec 2019 – Nov. 2021, Dr. (Mrs.) Rajni Singh (**Post Doc**)
2. Development and Validation of Performance Measures for World Class Manufacturing (**awarded**), **2006**, Dr A K Digalwar
3. Development and Validation of Performance Measures for Environmentally Conscious Manufacturing (**awarded**), **2009**, Dr P J Singh (as co-supervisor)
4. Development and Validation of Lean Manufacturing Drivers, Barriers and Framework with a focus on Ceramic Industry (**awarded**), **2013**, Dr J P Bhamu
5. Selected Experimental Studies on Machinability of Ti54M, Ti10.2.3, Ti5553 and Ti6Al4V Titanium Alloys (**awarded**), **2013**, Dr Navneet Khanna
6. Development and Validation of Drivers for, Barriers to and Stakeholders of Green Manufacturing (**awarded**), **2014**, Dr V K Mittal
7. Multi-objective Design and Optimization of a Closed-loop Supply Chain Network, and Assessment of Collection Methods, Product Recovery Methods and Network Configurations (**awarded**), **2015**, Dr Anil Jindal
8. Prediction and Optimization of Machining Parameters for Minimizing Surface Roughness and Power Consumption during Turning of AISI 1045 Steel (**awarded**), **2016**, Dr Girish Kant
9. Development of a sustainability Assessment Framework for manufacturing industry (**awarded**), **2018**, Dr V Bhakar
10. Development of an integrated performance measurement framework for leanness assessment of manufacturing organizations (**awarded**), **2019**, Dr Narpat R Sangwa
11. Development of performance measures to evaluate green supply chain in Indian ceramic industry (**awarded**), **2019**, Dr Kailash Choudhary
12. An experimental analysis of energy consumption and environmental impacts of milling process (**awarded**), **2020**, Dr Nitesh Sihag
13. Study of EFQM Business Excellence Model in Industry 4.0 Era, (**awarded**), **2021**, Dr. Narasimha Murthy
14. Productivity Improvement in Micro, Small and Medium Automotive Enterprises by Using Lean Tools and Techniques, Krishan Rohilla
15. Development of a Cyber-Physical Production System Framework for Resource and Energy Efficiency at Factory level, Rishi Kumar

16. Investigations on Thin-Wall Machining of Curved Geometries, Pawar Shrikant Shankarrao (as co-supervisor)
17. Design of Resilient and Sustainable Supply Chains, Akshay Patidar (as co-supervisor).
18. Empirical Studies on Lean and Green Practices in Indian Small and Medium Enterprises, Pankaj Kumar Soni
19. Development of Industry 4.0 Enablers and Challenges for Indian Industry, Rupen Trehan (as co-supervisor)
20. Development of a Cognitive Interoperable Digital Twin for Manufacturing Application, Suveg V. Iyer
21. Numerical and Experimental Investigation of Accuracy Improvement Techniques for Non-Contact Measuring Instruments, Sowrabh Kugunavar
22. Development of a Mathematical Model for Circular Economy, Vijaypal Poonia (as co-supervisor)

Publications: Books

1. Rahul S Mor, Sachin Kamble, **Kuldip Singh Sangwan** (eds), Operations and Supply Chain Management in the Food Industry, Springer. ISBN 978-981-16-5555-5. [DOI 10.1007/978-981-16-5555-5](https://doi.org/10.1007/978-981-16-5555-5)
2. **Kuldip Singh Sangwan** and Christoph Herrmann (eds), Enhancing Future Skills and Entrepreneurship, 2020 Springer Nature Switzerland AG, ISBN 978-3-030-44248-4. <https://www.springer.com/gp/book/9783030442477>
3. S. P Regalla and **Kuldip Singh Sangwan** (eds), Product Design and Manufacturing: A Product Life Cycle Approach, New Age International Pvt. Ltd., New Delhi, 2014, ISBN 978-81-224-3608-2.
4. **Kuldip Singh Sangwan**, A K Digalwar and Monica Sharma (eds), Sustainable Manufacturing, EPH, New Delhi, 2011, ISBN 978-93-81583-10-4.

Publications: Technical Magazines, Opinions & videos

1. Satoshi KOJIMA, Aditi KHODKE, Vimlendu Kumar JHA, Ashim BERY, **Kuldip Singh SANGWAN**, Kailash CHOUDHARY, “New Delhi in 2030: Envisioning 1.5-Degree Lifestyles”, Published by Institute for Global Environmental Strategies Japan. Findings of the ‘Envisioning Future Low-Carbon Lifestyles and Transitioning Instruments’ demonstration project, 2019-2021. This project was implemented under the United Nations’ One Planet network, administered by the United Nations Environment Programme (UNEP).
2. **Kuldip Singh Sangwan**, Challenges inherent to circular economy are more pronounced in India, Down to Earth, 15-30 June 2019.
3. **Kuldip Singh Sangwan**, Love thy vendor, Business Standard – The Strategists, December 9, 2013, Front Page.

4. **Kuldip Singh Sangwan**, Views on "Fostering eco-innovation" by Indira Rao, Efficient Manufacturing, September/October 2011.
5. **Kuldip Singh Sangwan**, Development of Energy Efficient Machine Tools. Pro|MFG Media. https://www.youtube.com/watch?v=N2rxL_rpj4M

Publications: Book Chapters

1. Patidar A., Sharma M., Agrawal R., **Sangwan K.S.**, Jamwal A., Gonçalves M. (2022) Sustainable Supply Chain Research and Key Enabling Technologies: A Systematic Literature Review and Future Research Implications. In: Machado J., Soares F., Trojanowska J., Ivanov V. (eds) Innovations in Industrial Engineering. icieng 2021. Lecture Notes in Mechanical Engineering. Springer, Cham. https://doi.org/10.1007/978-3-030-78170-5_27 (SCOPUS)
2. Patidar A., Sharma M., Agrawal R., Sangwan K.S. (2021) A Smart Contracts and Tokenization Enabled Permissioned Blockchain Framework for the Food Supply Chain. In: Dolgui A., Bernard A., Lemoine D., von Cieminski G., Romero D. (eds) Advances in Production Management Systems. Artificial Intelligence for Sustainable and Resilient Production Systems. APMS 2021. IFIP Advances in Information and Communication Technology, vol 630. Springer, Cham. https://doi.org/10.1007/978-3-030-85874-2_24 (SCOPUS)
3. Narasimha Murthy M.A., **Sangwan K.S.**, Narahari N.S. (2021) Progression of EFQM and Deep-Dive into EFQM 2020. In: Agrawal R., Jain J.K., Yadav V.S., Manupati V.K., Varela L. (eds) Recent Advances in Smart Manufacturing and Materials. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-3033-0_26 (SCOPUS)
4. Patidar A., Sharma M., Agrawal R., Sangwan K.S., Jamwal A., Gonçalves M. (2022) Sustainable Supply Chain Research and Key Enabling Technologies: A Systematic Literature Review and Future Research Implications. In: Machado J., Soares F., Trojanowska J., Ivanov V. (eds) Innovations in Industrial Engineering. icieng 2021. Lecture Notes in Mechanical Engineering. Springer, Cham. https://doi.org/10.1007/978-3-030-78170-5_27 (SCOPUS)
5. Srivastava A., **Sangwan K.S.**, Dhiraj (2021) Real-Time Driver Drowsiness Detection Using GRU with CNN Features. In: Singh S.K., Roy P., Raman B., Nagabhushan P. (eds) Computer Vision and Image Processing. CVIP 2020. Communications in Computer and Information Science, vol 1378. Springer, Singapore. https://doi.org/10.1007/978-981-16-1103-2_42 (SCOPUS)
6. **Sangwan K.S.**, Choudhary K., Agarwal S. (2020) Sustainability Assessment of Sanitary Ware Supply Chain Using Life Cycle Assessment Framework—A Case Study. In: Sangwan K., Herrmann C. (eds) Enhancing Future Skills and Entrepreneurship. Sustainable Production, Life Cycle Engineering and Management. Springer, Cham. pp. 167-179. https://doi.org/10.1007/978-3-030-44248-4_17 (SCOPUS)
7. Garg G.K., Pawanr S., **Sangwan K.S.** (2020) A Comparative Analysis of Surface Roughness Prediction Models Using Soft Computing Techniques. In: Sangwan K., Herrmann C. (eds) Enhancing Future Skills and Entrepreneurship. Sustainable Production,

- Life Cycle Engineering and Management. Springer, Cham. pp. 149-155. https://doi.org/10.1007/978-3-030-44248-4_15 (SCOPUS)
8. Sihag N., **Sangwan K.S.** (2020) Development of an Electric-Load Intelligence System for Component Level Disaggregation to Improve Energy Efficiency of Machine Tools. In: Sangwan K., Herrmann C. (eds) Enhancing Future Skills and Entrepreneurship. Sustainable Production, Life Cycle Engineering and Management. Springer, Cham. pp. 117-129. https://doi.org/10.1007/978-3-030-44248-4_12 (SCOPUS)
 9. Sangwa N.R., **Sangwan K.S.** (2020) Continuous Kaizen Implementation to Improve Leanness: A Case Study of Indian Automotive Assembly Line. In: Sangwan K., Herrmann C. (eds) Enhancing Future Skills and Entrepreneurship. Sustainable Production, Life Cycle Engineering and Management. Springer, Cham. pp. 51-69. https://doi.org/10.1007/978-3-030-44248-4_6 (SCOPUS)
 10. Bhamu J., Bhadu J., **Sangwan K.S.** (2020) Lean Manufacturing Implementation in Ceramic Industry: A Case Study. In: Sangwan K., Herrmann C. (eds) Enhancing Future Skills and Entrepreneurship. Sustainable Production, Life Cycle Engineering and Management. Springer, Cham. pp 21-29. https://doi.org/10.1007/978-3-030-44248-4_3 (SCOPUS)
 11. Varinder Kumar Mittal, Patricia Egede, Christoph Herrmann, **Kuldip Singh Sangwan**, Comparison of Drivers and Barriers to Green Manufacturing: A Case of India and Germany In: Re-engineering Manufacturing for Sustainability, eds Andrew Y.C. Nee · Bin Song · Soh-Khim Ong, pp. 723-728, 2013, Springer, Singapore. (SCOPUS)
 12. Varinder Kumar Mittal, **Kuldip Singh Sangwan**, Christoph Herrmann, Patricia Egede, and Christian Wulbusch, Drivers and Barriers of Environmentally Conscious Manufacturing: A Comparative Study of Indian and German Organizations, In: Leveraging Technology for a Sustainable World, eds. David A. Dornfeld, Barbara S. Linke, pp 97-102, 2012, Springer, Singapore. <http://DOI.10.1007/978-3-642-29069-5> (SCOPUS)
 13. Mittal V and **Sangwan K S**, Environmentally Conscious Manufacturing Initiatives: Investigations on the barriers in Indian industry, In: Innovations for Sustainable Manufacturing, Eds Bhattacharyya B, Chakraborty S, Doloi B, Excel India Publishers, New Delhi, 2012, pp. 1295-1300. ISBN 978-9382062-92-9
 14. **Sangwan K S**, Quantitative and Qualitative Benefits of Green Manufacturing: an Empirical Study of Indian Small and Medium Enterprises; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin Heidelberg, 2011 pp 371-376. DOI 10.1007/978-3-642-19692-8_64 (SCOPUS)
 15. Herrmann C, **Sangwan K S**, Mennenga M, Halubek P and Egede P, Assessment of Alternate Propulsion Systems for Vehicles ; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin Heidelberg, 2011 pp 51-56. DOI 10.1007/978-3-642-19692-8_9 (Scopus)
 16. Mittal V K and **Sangwan K S**, Development of an Interpretive Structural Model of Obstacles to Environmentally Conscious Technology adoption in Indian industry ; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin Heidelberg, 2011 pp 383-388. DOI 10.1007/978-3-642-19692-8_66 (SCOPUS)
 17. Jindal A and **Sangwan K S**, Development of an Interpretive Structural Model of Barriers to Reverse Logistics Implementation in Indian Industry ; In : Glocalized Solutions for

Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin Heidelberg, 2011 pp 448-45. DOI 10.1007/978-3-642-19692-8_77 (SCOPUS)

18. **Sangwan K S**, Fuziness in materials flow and plant layout, In: Production Engineering and Management under Fuziness, eds. Kahraman C and Yavuz M, Springer-Verlag, Berlin Heidelberg, 2010, pp. 359-380. DOI 10.1007/978-3-642-12052-7_15 (SCOPUS)

Publications: Peer Reviewed International Journals

1. S.S. Pawar, T.C. Bera, K.S. Sangwan (2022), Energy Consumption Modelling in Milling of Variable Curved Geometry, International Journal of Advanced Manufacturing Technology (Accepted).
2. Sangwa, N.R. and Sangwan, K.S. (2022), Prioritization and ranking of lean practices: a case study, International Journal of Productivity and Performance Management, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJPPM-04-2021-0214>
3. M.A. Narasimha Murthy, Kuldip Singh Sangwan & N.S. Narahari (2021) Tracing evolution of EFQM and its relationship with Industry 4.0, Total Quality Management & Business Excellence, <https://doi.org/10.1080/14783363.2021.1999802>
4. Jasti, N.V.K., Venkateswaran, V., Kota, S. and Sangwan, K.S. (2021), A literature review on total quality management (models, frameworks, and tools and techniques) in higher education, The TQM Journal, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/TQM-04-2021-0113>
5. K S Sangwan and R Singh (2021), An experiential learning-integrated framework to improve problem-solving skills of engineering graduates, Higher Education, Skills and Work-Based Learning, Vol. ahead-of-print No. ahead-of-print, DOI [10.1108/HESWBL-02-2021-0033](https://doi.org/10.1108/HESWBL-02-2021-0033)
6. Choudhary, K. and Sangwan, K.S. (2021), "Green supply chain management pressures, practices and performance: a critical literature review", Benchmarking: An International Journal, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/BIJ-05-2021-0242>
7. M A N Murthy, K S Sangwan, N S Narahari (2021), Empirical Classification of EFQM model Enabler's Sub-criterion using a Quadrant Matrix, International Journal of Quality & Reliability Management, 39(2), 537-569. DOI [10.1108/IJQRM-10-2020-0351](https://doi.org/10.1108/IJQRM-10-2020-0351)
8. Rishi Kumar, Omkar Patil, Karthik Nath S, Krishan Rohilla, Kuldip Singh Sangwan, Machine Vision and Radio-Frequency Identification (RFID) based Real-Time Part Traceability in a Learning Factory, Procedia CIRP, 104, 2021, 630-635, <https://doi.org/10.1016/j.procir.2021.11.106>
9. Dharmendra Singh, Jaiprakash Bhamu, Jagdish Bhadu, Kuldip Singh Sangwan (2021), An ISM approach for lean implementation barriers in labor intensive Indian ceramic SMEs, International Journal of Productivity and Quality Management (accepted), DOI: [10.1504/IJPQM.2020.10035980](https://doi.org/10.1504/IJPQM.2020.10035980)
10. M A N Murthy, K S Sangwan, N S Narahari (2021), Demystifying the Relationship between Enablers and Results at Sub-criteria level: An Empirical Study on EFQM

- model, *International Journal of Business Excellence* (Accepted).
<https://doi.org/10.1504/IJBEX.2020.10034481>.
11. Rishi Kumar, Christopher Rogall, Sebastian Thiede, Christoph Herrmann, Kuldeep Singh Sangwan (2021), Development of a Decision Support System for 3D Printing Processes based on Cyber Physical Production Systems, *Procedia CIRP*, 98, 348-353. <https://doi.org/10.1016/j.procir.2021.01.115>.
 12. Anil Jindal, Satyendra Kumar Sharma, Kuldeep Singh Sangwan, Gajanand Gupta (2021), Modelling Supply Chain Agility Antecedents Using Fuzzy DEMATEL, *Procedia CIRP*, 98, 436-441, <https://doi.org/10.1016/j.procir.2021.01.130>.
 13. Rishi Kumar, Omkar Patil, Karthik Nath S, Kuldeep Singh Sangwan, Rajneesh Kumar (2021), A Machine Vision-based Cyber-Physical Production System for Energy Efficiency and Enhanced Teaching-Learning Using a Learning Factory, *Procedia CIRP*, 98, 424-429, <https://doi.org/10.1016/j.procir.2021.01.128>.
 14. Kuldeep Singh Sangwan, Manbir Sodhi, Thomas Spengler, Christian Thies (2021), Exploring the three dimensions of sustainability related to clay cups, *Procedia CIRP*, 98, 139-144, <https://doi.org/10.1016/j.procir.2021.01.019>.
 15. Dhiraj, Akshit Agarwal, Aviral Agrawal, Viviana Meruane, K.S. Sangwan(2021), Development of a Machine Learning based model for Damage Detection, Localization and Quantification to extend Structure Life, *Procedia CIRP*, 98, 199-204, <https://doi.org/10.1016/j.procir.2021.01.030>.
 16. Shrinidhi Sambamurthy, Smita Raghuvanshi, K S Sangwan (2021), Environmental impact of recycling spent lithium-ion batteries, *Procedia CIRP*, 98, 2021, 631-636, <https://doi.org/10.1016/j.procir.2021.01.166>.
 17. S.S. Pawar, T.C. Bera, K.S. Sangwan (2021), Modelling of Energy Consumption for Milling of Circular Geometry, *Procedia CIRP*, 98, 470-475, <https://doi.org/10.1016/j.procir.2021.01.136>.
 18. Pramod Kumar, Jaiprakash Bhamu, Kuldeep Singh Sangwan (2021), Analysis of Barriers to Industry 4.0 adoption in Manufacturing Organizations: an ISM Approach, *Procedia CIRP*, 98, 85-90, <https://doi.org/10.1016/j.procir.2021.01.010>.
 19. Rahul S Mor, Kuldeep Singh Sangwan, Sarbjit Singh, Atul Singh, Manjeet Kharub (2021), E-waste Management for Environmental Sustainability: an Exploratory Study, *Procedia CIRP*, 98, 193-198, <https://doi.org/10.1016/j.procir.2021.01.029>.
 20. Nitesh Sihag, Kuldeep Singh Sangwan (2020), A systematic literature review on machine tool energy consumption, *Journal of Cleaner Production*, 275, 123125. <https://doi.org/10.1016/j.jclepro.2020.123125>
 21. Vikrant Bhakar, Kuldeep Singh Sangwan, Abhijeet K Digalwar (2020), Readiness self-assessment of cement industry for sustainable manufacturing implementation: a case study of India, *Procedia CIRP*, 90, 449-454. <https://doi.org/10.1016/j.procir.2020.02.042>
 22. Rishabh Bajpai, Kailash Choudhary, Anshuman Srivastava, Kuldeep Singh Sangwan, Manpreet Singh (2020), Environmental impact assessment of fly ash and silica fume based geopolymer concrete, *Journal of Cleaner Production*, 254, 120147, <https://doi.org/10.1016/j.jclepro.2020.120147>.
 23. Devika, P Raj, A Venugopal, B Thiede, C Herrmann, KS Sangwan (2020), Development of the Transversal Competencies in Learning Factories, *Procedia Manufacturing* 45, 349-354. <https://doi.org/10.1016/j.promfg.2020.04.031>

24. L Büth, M Juraschek, KS Sangwan, C Herrmann, S Thiede (2020), Integrating virtual and physical production processes in learning factories, *Procedia Manufacturing* 45, 121-127. <https://doi.org/10.1016/j.promfg.2020.04.082>
25. Jasti, N., Kota, S. and Sangwan, K. (2019), An application of value stream mapping in auto-ancillary industry: a case study, *The TQM Journal*, Vol. 32 No. 1, pp. 162-182. <https://doi.org/10.1108/TQM-11-2018-0165>
26. K Choudhary, K S Sangwan (2019), Multiple case study analysis and development of an interpretive structural model for greening of supply chains in Indian ceramic enterprises, *Management of Environmental Quality: An International Journal*, 30(6), 1279-1296. DOI 10.1108/MEQ-11-2018-0196
27. N Sihag, K S Sangwan (2019), An improved micro analysis-based energy consumption and carbon emissions modeling approach for a milling center, *The International Journal of Advanced Manufacturing*, 104, 705-721. <https://doi.org/10.1007/s00170-019-03807-x>
28. K Choudhary, KS Sangwan (2019), Adoption of green practices throughout the supply chain: an empirical investigation, *Benchmarking: An International Journal*, 26(6), 1650-1675. doi.org/10.1108/BIJ-09-2018-0293
29. Sangwan, K.S. and Choudhary (2019), Benchmarking environmental performance of electric insulator supply chain in India using life cycle assessment, *Int J Life Cycle Assess.* 24 (3), 518-529. <https://doi.org/10.1007/s11367-018-1455-7>
30. KS Sangwan, V Bhakar, AK Digalwar (2019), A sustainability assessment framework for cement industry—a case study, *Benchmarking: An International Journal* 26 (2), 470-497. <https://doi.org/10.1108/BIJ-01-2018-0021>
31. M Vogt, B Uhlig, KS Sangwan, C Herrmann, S Thiede (2019), Implementation of a cyber-physical cooling storage station in a learning factory, *Procedia Manufacturing* 31, 142-147. <https://doi.org/10.1016/j.promfg.2019.03.022>
32. K Choudhary, SA Soherwordi, Y Singh, KS Sangwan (2019), Evaluation and comparison of environmental performance for shackle insulators—a case study, *Management of Environmental Quality: An International Journal* 30 (2), 400-413. <https://doi.org/10.1108/MEQ-04-2018-0073>
33. KS Sangwan, N Sihag (2019), Multi-objective optimization for energy efficient machining with high productivity and quality for a turning process, *Procedia CIRP* 80, 67-72. <https://doi.org/10.1016/j.procir.2019.01.022>
34. K Choudhary, KS Sangwan, D Goyal (2019), Environment and economic impacts assessment of PET waste recycling with conventional and renewable sources of energy, *Procedia CIRP* 80, 422-427. <https://doi.org/10.1016/j.procir.2019.01.096>
35. N Sihag, KS Sangwan (2019), Development of a sustainability assessment index for machine tools, *Procedia CIRP* 80, 156-161. <https://doi.org/10.1016/j.procir.2019.01.018>
36. N Sihag, A Leiden, V Bhakar, S Thiede, KS Sangwan, C Herrmann (2019), The Influence of Manufacturing Plant Site Selection on Environmental Impact of Machining Processes, *Procedia CIRP* 80, 186-191. <https://doi.org/10.1016/j.procir.2019.01.023>
37. R Singh, Devika, C Herrmann, S Thiede, KS Sangwan (2019), Research based Learning for Skill Development of Engineering Graduates: An empirical study, *Procedia Manufacturing* 31, 323-329. <https://doi.org/10.1016/j.promfg.2019.03.051>
38. Kuldip Singh Sangwan, Vikrant Bhakar, Abhijeet K Digalwar, (2018), Sustainability assessment in manufacturing organizations – development of assessment models,

- Benchmarking: An International Journal, 25(3), pp. 994-1027. <https://doi.org/10.1108/BIJ-08-2017-0227>
39. Narpat Ram Sangwa, Kuldeep Singh Sangwan, (2018) "Leanness assessment of organizational performance: a systematic literature review", Journal of Manufacturing Technology Management, 25(6), pp. 1746-1761. <https://doi.org/10.1108/JMTM-09-2017-0196>
 40. K S Sangwan, K Choudhary, C Batra, 2018, Environmental impact assessment of a ceramic tile supply chain—a case study, International Journal of Sustainable Engineering, 11(3), pp. 211-216. <https://doi.org/10.1080/19397038.2017.1394398>
 41. K Choudhary, KS Sangwan (2018), Benchmarking Indian ceramic enterprises based on green supply chain management pressures, practices and performance, Benchmarking, 25(9), pp. 3628-3653, <https://doi.org/10.1108/BIJ-12-2017-0330>
 42. Sangwan, K.S. and Choudhary (2018), Benchmarking manufacturing industries based on green practices, Benchmarking, 25(6), pp. 1746-1761. <https://doi.org/10.1108/BIJ-12-2016-0192>
 43. Kuldeep Singh Sangwan, Christoph Herrmann, Manoj S. Soni, Sanjeev Jakhar, Gerrit Posselt, Nitesh Sihag, Vikrant Bhakar (2018), Comparative Analysis for Solar Energy Based Learning Factory: Case Study for TU Braunschweig and BITS Pilani, Procedia CIRP, 69, 2018, 407-411, <https://doi.org/10.1016/j.procir.2017.11.018>
 44. Kuldeep Singh Sangwan, Vikrant Bhakar, Vinti Arora, Prem Solanki (2018), Measuring Carbon Footprint of an Indian University Using Life Cycle Assessment, Procedia CIRP, 69, 2018, 475-480, <https://doi.org/10.1016/j.procir.2017.11.111>.
 45. Smita Raghuvanshi, Vikrant Bhakar, Ramakrishna Chava, K.S. Sangwan (2018), Comparative Study Using Life Cycle Approach for the Biodiesel Production from Microalgae Grown in Wastewater and Fresh Water, Procedia CIRP, 69, 2018, 568-572, <https://doi.org/10.1016/j.procir.2017.11.030>.
 46. Nitesh Sihag, Kuldeep Singh Sangwan, Siddhant Pundir (2018), Development of a Structured Algorithm to Identify the Status of a Machine Tool to Improve Energy and Time Efficiencies, Procedia CIRP, Volume 69,2018,Pages 294-299, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2017.11.081>.
 47. Nitesh Sihag, Kuldeep Singh Sangwan (2018), Development of a Multi-criteria Optimization Model for Minimizing Carbon Emissions and Processing Time During Machining, Procedia CIRP, 69, 2018, 300-305, <https://doi.org/10.1016/j.procir.2017.11.060>.
 48. Girish Kant Garg and Suman Garg and K.S Sangwan (2018), Development of an Empirical Model for Optimization of Machining Parameters to Minimize Power Consumption, Materials Science and Engineering, volume 346, number 1, pages 012078, 2018, <https://doi.org/10.1088/1757-899X/346/1/012078>.
 49. Vikrant Bhakar, A.K. Digalwar, Kuldeep Singh Sangwan (2018), Sustainability Assessment Framework for Manufacturing Sector – A Conceptual Model, Procedia CIRP, 69, 2018, 248-253, <https://doi.org/10.1016/j.procir.2017.11.101>.
 50. A. Leiden¹, G. Posselt, V. Bhakar, R. Singh, K. S. Sangwan and C. Herrmann (2018), Transferring experience labs for production engineering students to universities in newly industrialized countries, IOP Conf. Ser.: Mater. Sci. Eng. Vol. 297, 012053, <https://doi.org/10.1088/1757-899X/297/1/012053>.

51. Narpat Ram Sangwa, Kuldeep Singh Sangwan (2018), Development of an integrated performance measurement framework for lean organizations, *Journal of Manufacturing Technology Management*, Vol. 29 Issue: 1, pp.41-84, <https://doi.org/10.1108/JMTM-06-2017-0098>
52. A. Jindal and K. S. Sangwan (2017), Multi-objective fuzzy mathematical modelling of closed-loop supply chain considering economical and environmental factors, *Annals of Operations Research*, vol. 257: 95. <https://doi.org/10.1007/s10479-016-2219-z>
53. Manpreet Singh; Kailash Choudhary; Anshuman Srivastava; Kuldeep Singh Sangwan; Dipendu Bhunia, 2017, A study on environmental and economic impacts of using waste marble powder in concrete, *Journal of Building Engineering*, Vol: 13, Page: 87-95. <https://doi.org/10.1016/j.jobbe.2017.07.009>
54. Lennart Büth, Vikrant Bhakar, Nitesh Sihag, Gerrit Posselt, Stefan Böhme, Kuldeep Singh Sangwan, Christoph Herrmann, Bridging the Qualification Gap between Academia and Industry in India, *Procedia Manufacturing*, Vol 9, 2017, pp 275-282, ISSN 2351-9789, <https://doi.org/10.1016/j.promfg.2017.04.009>
55. Kuldeep Singh Sangwan, Vikrant Bhakar, Life cycle analysis of HDPE Pipe Manufacturing – A Case Study from an Indian Industry, *Procedia CIRP*, Vol 61, 2017, pp 738-743, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2016.11.193>.
56. Smita Raghuvanshi, Vikrant Bhakar, Chelikani Sowmya, K.S. Sangwan, Waste Water Treatment Plant Life Cycle Assessment: Treatment Process to Reuse of Water, *Procedia CIRP*, Vol 61, 2017, pp 761-766, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2016.11.170>.
57. Kuldeep Singh Sangwan, Girish Kant, Optimization of Machining Parameters for Improving Energy Efficiency using Integrated Response Surface Methodology and Genetic Algorithm Approach, *Procedia CIRP*, Vol 61, 2017, pp 517-522, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2016.11.162>.
58. Varinder Kumar Mittal, Rahul Sindhwani, Vivek Kalsariya, Faizan Salroo, Kuldeep Singh Sangwan, Punj Lata Singh, Adoption of Integrated Lean-Green-Agile Strategies for Modern Manufacturing Systems, *Procedia CIRP*, Vol 61, 2017, pp 463-468, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2016.11.189>.
59. Kuldeep Singh Sangwan, Key Activities, Decision Variables and Performance Indicators of Reverse Logistics, *Procedia CIRP*, Vol 61, 2017, pp 257-262, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2016.11.185>.
60. A Jindal and K S Sangwan, 2016, A fuzzy-based decision support framework for product recovery process selection in reverse logistics *International Journal of Services and Operations Management*, Vol 25, Issue 4, pages 413-439. <https://doi.org/10.1504/IJSOM.2016.080274>
61. J. Bhamu and K.S. Sangwan (2016) ‘A framework for lean manufacturing implementation’, *Int. J. Services and Operations Management*, 2016, Vol. 25, No. 3, pp.313–333. <https://doi.org/10.1504/IJSOM.2016.079515>
62. K S Sangwan, Christoph Herrmann, Patricia Egede, Vikrant Bhakar, Jakob Singer, Life Cycle Assessment of Arc Welding and Gas Welding Processes, *Procedia CIRP*, 48, 2016, 62-67. <https://doi.org/10.1016/j.procir.2016.03.096>
63. V Bhakar, DNSH Kumar, NK Sai, KS Sangwan, S Raghuvanshi, Life Cycle Assessment of Filtration Systems of Reverse Osmosis Units: A Case Study of a University Campus, *Procedia CIRP*, 40, 2016, 268-273. <https://doi.org/10.1016/j.procir.2016.01.119>

64. Kuldip Singh Sangwan and Varinder Kumar Mittal, A bibliometric analysis of green manufacturing and similar frameworks, *Management of Environmental Quality: An International Journal*, 2015, Vol. 26, No 4, pp. 566-587. <https://doi.org/10.1108/MEQ-02-2014-0020>
65. Girish Kant, Kuldip Singh Sangwan, Predictive Modelling for Energy Consumption in Machining Using Artificial Neural Network, *Procedia CIRP*, Vol 37, 2015, pp 205-210, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2015.08.081>.
66. G Kant, KS Sangwan, Predictive Modelling and Optimization of Machining Parameters to Minimize Surface Roughness using Artificial Neural Network Coupled with Genetic Algorithm, *Procedia CIRP*, Vol 31, 2015, pp. 453-458. <https://doi.org/10.1016/j.procir.2015.03.043>.
67. K S Sangwan, S Saxena, G Kant, Optimization of Machining Parameters to Minimize Surface Roughness using Integrated ANN-GA Approach, *Procedia CIRP*, Vol 29, 2015, pp.305-310. <https://doi.org/10.1016/j.procir.2015.02.002>
68. Jindal, A. and Sangwan, K. S., Network Design and Optimization for Multi-product, Multi-time, Multi-echelon Closed-loop Supply Chain under Uncertainty, *Procedia CIRP*, 2015, Vol 29, pp. 656-661. <https://doi.org/10.1016/j.procir.2015.01.024>
69. V Bhakar, N Sihag, R Gieschen, A Stefan, C Herrmann, K S Sangwan, Environmental impact analysis of a water supply system: study of an Indian university campus, *Procedia CIRP*, 2015, Vol 29, pp. 468-473. <https://doi.org/10.1016/j.procir.2015.02.061>
70. V Bhakar, A Agur, AK Digalwar, KS Sangwan (2015) Life Cycle Assessment of CRT, LCD and LED Monitors, *Procedia CIRP*, 2015, Vol 29, pp. 433-438. <https://doi.org/10.1016/j.procir.2015.02.003>
71. Akhil Garg, Venkatesh Vijayaraghavan, Kang Tai, Pravin M Singru, Liang Gao, K S Sangwan, (2015) "An ensemble evolutionary approach in evaluation of surface finish reduction of vibratory finishing process", *Engineering Computations*, Vol. 32 Issue: 5, pp.1214-1229, <https://doi.org/10.1108/EC-03-2014-0047>
72. A Garg, V Vijayaraghavan, CH Wong, K Tai, PM Singru, SS Mahapatra, KS Sangwan, Investigation of mechanical strength of 2D nanoscale structures using a molecular dynamics based computational intelligence approach, *International Journal of Modern Physics B*, 2015, Vol. 29, No. 1, pp. 1450242. <https://doi.org/10.1142/S0217979214502427>
73. Jindal, A. and Sangwan, K. S., Evaluation of collection methods in reverse logistics by using fuzzy mathematics, *Benchmarking: An International Journal*, 2015, Vol. 22 No. 4, pp 393-410. <https://doi.org/10.1108/BIJ-05-2013-0062>
74. A K Digalwar, Anil Jindal, K S Sangwan, Modeling the performance measures of world class manufacturing using interpreting structural modeling, *Journal of Modelling in Management*, 2015, Vol. 10, No.1, pp. 4-22. <https://doi.org/10.1108/JM2-05-2012-0015>
75. Varinder Kumar Mittal and Kuldip Singh Sangwan, Ranking of Drivers for Green Manufacturing Implementation Using Fuzzy Technique for Order of Preference by Similarity to Ideal Solution Method, *Journal of Multi-Criteria Decision Analysis*, 2015, Vol 22, No.1-2, pp. 119-130. <https://doi.org/10.1002/mcda.1527>
76. J Bhamu and K S Sangwan, Reduction of Post-kiln Rejections for Improving Sustainability in Ceramic Industry: A Case Study, *Procedia CIRP*, 2015, Vol 26, pp. 618-623. <https://doi.org/10.1016/j.procir.2014.07.176>

77. G Kant and K S Sangwan, Predictive Modeling for Power Consumption in Machining Using Artificial Intelligence Techniques, *Procedia CIRP*, 2015, Vol. 26, pp. 403-407. <https://doi.org/10.1016/j.procir.2014.07.072>
78. G Kant, KS Sangwan, Prediction and optimization of machining parameters for minimizing power consumption and surface roughness in machining, *Journal of Cleaner Production*, 2014, Vol 83, pp 151-164. <https://doi.org/10.1016/j.jclepro.2014.07.073>
79. V Vijayaraghavan, A Garg, K Tai, PM Singru, L Gao, KS Sangwan, A Molecular Dynamics Based Artificial Intelligence Approach for Characterizing Thermal Transport in Nanoscale Material, *Thermochimica Acta*, 2014, vol. 594, pp 39-49. <https://doi.org/10.1016/j.tca.2014.08.029>
80. Anil Jindal and Kuldeep Singh Sangwan, Closed loop supply chain network design and optimisation using fuzzy mixed integer linear programming model, *International Journal of Production Research*, 2014, Vol 52, No 14, pp 4156-4173. <https://doi.org/10.1080/00207543.2013.861948>
81. Jaiprakash Bhamu and Kuldeep Singh Sangwan, Lean Manufacturing: Literature review and research issues, *International Journal of Operations and Production Management*, vol 34, No 7, 2014, pp 876-940. <https://doi.org/10.1108/IJOPM-08-2012-0315>
82. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Prioritizing barriers to green manufacturing: environmental, social and economic perspectives, *Procedia CIRP*, Vol 17, 2014, pp 559-564. <https://doi.org/10.1016/j.procir.2014.01.075>
83. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Modeling Drivers for Successful Adoption of Environmentally Conscious Manufacturing, *Journal of Modelling in Management*, vol. 9, no. 2, 2014, pp. 127-140. <https://doi.org/10.1108/JM2-03-2013-0011>
84. Kuldeep Singh Sangwan, Vikrant Bhakar, Shilpa Naik and Sylvi Nazareth Andrat, Life cycle assessment of incandescent, fluorescent, compact fluorescent and light emitting diode lamps in an Indian scenario, *Procedia CIRP*, Vol 15, 2014, pp 467-472. <https://doi.org/10.1016/j.procir.2014.06.017>
85. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Prioritizing drivers for green manufacturing: environmental, social and economic perspectives, *Procedia CIRP*, Vol 15, 2014, pp 135-140. <https://doi.org/10.1016/j.procir.2014.06.038>
86. K S Sangwan, J Bhamu, D Mehta, Development of lean manufacturing implementation drivers for Indian ceramic industry, *International Journal of Productivity and Performance Management*, Vol 63, No 5, 2014, pp. 569-587. <https://doi.org/10.1108/IJPPM-06-2013-0105>
87. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Fuzzy TOPSIS method for ranking barriers to environmentally conscious manufacturing implementation: government, industry and expert perspectives, *International Journal of Environmental Technology and Management*, vol 17, No. 1, 2014, pp 57-82. [10.1504/IJETM.2014.059466](https://doi.org/10.1504/IJETM.2014.059466)
88. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Development of a Structural Model of Environmentally Conscious Manufacturing Drivers, *Journal of Manufacturing Technology Management*, vol 25, no 8, 2014, pp 1195-1208. <https://doi.org/10.1108/JMTM-02-2013-0012>
89. Varinder Kumar Mittal and Kuldeep Singh Sangwan, Development of a Model of Barriers to Environmentally Conscious Manufacturing Implementation, *International Journal of Production Research*, vol. 52, no 2, 2014, pp 584-594. <https://doi.org/10.1080/00207543.2013.838649>

90. Anil Jindal and Kuldip Singh Sangwan, Development of an Interpretive Structural Model of Drivers for Reverse Logistics Implementation in Indian Industry, *International Journal of Business Performance and Supply Chain Management*, vol. 15, No. 4, 2013, pp 325-342. <https://doi.org/10.1504/IJBPSM.2013.058201>
91. Varinder Kumar Mittal and Kuldip Singh Sangwan, Assessment of hierarchy and inter-relationships of barriers to Environmentally Conscious Manufacturing Adoption, *World Journal of Science, Technology and Sustainable Development* 10 (4), 2013, pp. 297-307. <https://doi.org/10.1108/WJSTSD-04-2013-0020>
92. Navneet Khanna, Kuldip Singh Sangwan, Machinability analysis of heat treated Ti64, Ti54M and Ti10.2.3 titanium alloys, *International Journal of Precision Engineering and Manufacturing*, vol 14, No. 5, 2013, pp 719-724. <https://doi.org/10.1007/s12541-013-0096-9>
93. Navneet Khanna, Kuldip Singh Sangwan, Interrupted machining analysis for Ti6Al4V and Ti5553 titanium alloys using physical vapor deposition (PVD)-coated carbide inserts, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, vol 227, No. 3, 2013, pp 465-470. <https://doi.org/10.1177/0954405412472888>
94. Navneet Khanna, Kuldip Singh Sangwan, Machinability study of α/β and β titanium alloys in different heat treatment conditions, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, vol 227, No. 3, 2013, pp 357-361. <https://doi.org/10.1177/0954405412469509>
95. J P Bhamu, Ankit Khandelwal and Kuldip Singh Sangwan, Lean manufacturing implementation in an automated production line: a case study, *International Journal of Services and Operations Management*, vol 15, No 4, 2013, pp 411-429. <https://doi.org/10.1504/IJSOM.2013.054883>
96. Kuldip Singh Sangwan, Evaluation of manufacturing systems based on environmental aspects using a multi criteria decision model, *International Journal of Industrial and Systems Engineering*, vol 14, No. 1, 2013, pp 40-57. <https://doi.org/10.1504/IJISE.2013.052920>
97. Navneet Khanna, Kuldip S Sangwan, Comparative machinability study on Ti54M titanium alloy in different heat treatment conditions, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, vol 227, No. 1, 2013, pp 96-101. <https://doi.org/10.1177/0954405412466234>
98. Girish Kant, Kuldip Singh Sangwan, Aditya Deshpande, Pankaj Sharma, Modeling of Stresses and Temperature in Turning Using Finite Element Method, *Applied Mechanics and Materials*, Vol 307, 2013, pp 174-177. <https://doi.org/10.4028/www.scientific.net/AMM.307.174>
99. Girish Kant, V Rao, Kuldip Singh Sangwan, Predictive Modeling of Turning Operations Using Response Surface Methodology, *Applied Mechanics and Materials*, Vol 307, 2013, pp 170-173. <https://doi.org/10.4028/www.scientific.net/AMM.307.170>
100. P J Singh, V Kumar and Kuldip Singh Sangwan, Development and Validation of Performance Measures for Environmentally Conscious Manufacturing, *International Journal of Services and Operations Management*, vol 14, No.2, 2013, pp 197-220. <https://doi.org/10.1504/IJSOM.2013.051829>

101. Kuldip Singh Sangwan and Anil Jindal, An integrated fuzzy multi-criteria evaluation of lithium ion battery recycling processes, *International Journal of Sustainable Manufacturing*, vol. 6, No. 4, 2013, pp. 359-371. <https://doi.org/10.1080/19397038.2012.735717>
102. Vikrant Bhakar, Venkata Vamsi K Uppala, A K Digalwar, K S Sangwan, Life Cycle Assessment of Smithy Training Processes, *Procedia Engineering*, vol 64, 2013, pp 1267-1275. <https://doi.org/10.1016/j.proeng.2013.09.207>
103. Kuldip Singh Sangwan, V Kumar and P J Singh, Stakeholders for environmentally conscious technology adoption in Indian micro, small and medium enterprises: an empirical study, *International Journal of Management and Decision Making*, Vol. 12, No. 1, 2012, pp 36-49. <https://doi.org/10.1504/IJMDM.2012.051047>
104. J P Bhamu, S Kumar and Kuldip Singh Sangwan, Productivity and quality improvement through value stream mapping: a case study of Indian automotive industry, *International Journal of Productivity and Quality Management*, vol 10, No. 3, 2012, pp 288-306. <https://doi.org/10.1504/IJPQM.2012.048751>
105. Navneet Khanna, Ainhara Garay, Luis M. Iriarte, Daniel Soler, Kuldip S. Sangwan and Pedro J. Arrazola, Effect of heat treatment conditions on the machinability of Ti64 and Ti54M alloys, *Procedia CIRP*, Vol 1, 2012, pp 477 – 482. <https://doi.org/10.1016/j.procir.2012.04.085>
106. Kuldip Singh Sangwan, Part family formation in cellular manufacturing using fuzzy mathematics, *Industrial Engineering Journal*, vol V, No. 6, 2012, pp 40-46.
107. Kuldip Singh Sangwan, Development of a multi criteria decision model for justification of green manufacturing systems, *International Journal of Green Economics*, vol 5, No. 3, 2011, pp 285-305. <https://doi.org/10.1504/IJGE.2011.044239>
108. Kuldip Singh Sangwan, Design of layout for cellular manufacturing systems using intercell and intracell flow, *Industrial Engineering Journal*, vol II, No. 25, 2011, pp 23-26
109. Kuldip Singh Sangwan and Rambabu Kodali, An intelligent hybrid model for the integrated design of cellular manufacturing systems, *International Journal of Services and Operations Management*, vol 9, No. 2, 2011, pp 202-226. <https://doi.org/10.1504/IJSOM.2011.040708>
110. A. K. Digalwar and Kuldip Singh Sangwan, An overview of existing performance measurement frameworks in the context of world class manufacturing performance measurement, *International Journal of Services and Operations Management*, vol 9, No. 1, 2011, pp 60-82. <https://doi.org/10.1504/IJSOM.2011.040322>
111. Kuldip Singh Sangwan and Rambabu Kodali, FUGEN: A Tool for Design of Layout for Cellular Manufacturing Systems, *International Journal of Services and Operations Management*, vol 5, No. 5, 2009, pp 595-615. <https://doi.org/10.1504/IJSOM.2009.025116>
112. Kuldip Singh Sangwan and A. K. Digalwar, Evaluation of world class manufacturing systems: a case of Indian automotive industries, *International Journal of Services and Operations Management*, vol 4, No. 6, 2008, pp 687-708. <https://doi.org/10.1504/IJSOM.2008.018725>
113. A. K. Digalwar and Kuldip Singh Sangwan, Development and Validation of Performance Measures of World Class Manufacturing Practices in India, *Journal of Advanced Manufacturing Systems*, vol 6, No. 1, 2007, pp 21-38. <https://doi.org/10.1142/S0219686707000887>

114. Kuldip Singh Sangwan and Deepika G, Development of a PROMTHER Model for the Evaluation of Facilities Layout, *Industrial Engineering Journal*, vol XXXVI, No. 6, 2006, pp 2-7.
115. Kuldip Singh Sangwan and Rambabu Kodali, Multicriteria Heuristic model for Design of facilities Layout using Fuzzy Logic and AHP, *International Journal of Industrial Engineering*, vol 13, No. 4, 2006, pp 364-373.
116. Kuldip Singh Sangwan, Performance Value Analysis for Justification of Green Manufacturing Systems, *Journal of Advanced Manufacturing Systems*, vol 5, no. 1, 2006, pp 59-73. <https://doi.org/10.1142/S0219686706000765>
117. Kuldip Singh Sangwan and Rambabu Kodali (2004), Fuzzy part family formation for cellular manufacturing systems, *Production Planning and Control*, vol.15, no. 3, 2004, pp 292-302. <https://doi.org/10.1080/09537280410001697729>
118. R. Kodali, K S Sangwan and V K Sunnapwar (2004), Performance Value Analysis for the Justification of World-Class Manufacturing Systems, *International Journal of Advanced Manufacturing Systems*, vol. 3 no. 1, 2004, pp. 85-102. <https://doi.org/10.1142/S0219686704000417>
119. Rambabu Kodali and Kuldip Singh Sangwan (2004), Multi-attribute decision models for justification of cellular manufacturing systems, *International Journal of Business Performance Management*, vol 6, no. 3/4, 2004, pp. 298-320. <https://doi.org/10.1504/IJBPM.2004.005634>
120. Kuldip Singh Sangwan and Rambabu Kodali (2003), Multicriteria Heuristic Model for the Design of Layout for Cellular Manufacturing Systems, *Journal of Institute of Engineers (India)*, vol 84, 2003, pp 23-29.

PUBLICATIONS IN PEER REVIEWED INTERNATIONAL CONFERENCES (Last five years only)

1. Rolinck, Maximilian and Kumar, Rishi and Thiede, Bastian and Cerdas, Felipe and Sangwan, Kuldip Singh and Herrmann, Christoph, Internet of Learning Factories to Support the Teaching & Learning Experience on Distributed Production Systems and Blockchain Networks (June 17, 2021). Proceedings of the Conference on Learning Factories (CLF) 2021, Available at SSRN: <https://ssrn.com/abstract=3868778> or <http://dx.doi.org/10.2139/ssrn.3868778>
2. Singh P J and Sangwan K S, 2014, Employee involvement and training in environmentally conscious manufacturing implementation for Indian manufacturing industry, The IEEE International Conference on Industrial Engineering and Engineering Management, 9-12 December 2014, Malaysia, IEEM14-P-0419.
3. Navneet Khanna and Kuldip Singh Sangwan, Machinability analysis of Ti10.2.3 titanium alloys using ANOVA, In: Proc. of **NAMRI/SME**, vol 41, 2013.
4. Vikrant Bhakar, Venkata Vamsi K Uppala, A.K.Digalwar, K.S.Sangwan, Life Cycle Assessment of Smithy Training Processes, *Procedia Engineering*, 64, pp 1267-1275, 2013
5. Varinder Kumar Mittal, Patricia Egede, Christoph Herrmann, and Kuldip Singh Sangwan, Comparison of Drivers and Barriers to Green Manufacturing: A Case of India and Germany, In: Proc. Of 20th CIRP International Conference on Life Cycle Engineering, Singapore, 2013, p 723-728 (**Available online in Springer**)

6. Jindal, A. and **Sangwan, K. S.**, 2013. An Integrated Fuzzy Multi-Criteria Evaluation of Sustainable Reverse Logistics Network Models IEEE International Conference on Fuzzy Systems. Hyderabad (**available online in IEEE explore**)
7. Vikrant Bhakar, A K Digalwar and Kuldip Singh Sangwan, Development of Organizational and Technological Performance Measures for Sustainable Manufacturing, In: Proc. Of International Conference on Management and Business Innovation, MNIT Jaipur, pp 4-8, 2013
8. Vikrant Bhakar, Anupam Purwar, Avinash Nayak, Krishna kumar Jakob Singer, Patricia Egede, Christoph Herrmann, Kuldip Singh Sangwan, Life Cycle Assessment of Lathe Processes for training application, In: Proc. of International Conference on Management and Business Innovation, MNIT Jaipur, pp 9-13, 2013
9. Vikrant Bhakar, Roshni Shah, Jakob Singer, Patricia Egede, Christoph Herrmann, Kuldip Singh Sangwan, Environmental Life Cycle Assessment of Carpentry Training Processes, In: Proc. Of 3rd International Conference on Production and Industrial Engineering, MNIT Jalandhar, p 48-53, 2013
10. Girish kant, Vaibhav Rao, K.S Sangwan, Development of Predictive Models for Forces in Machining using Regression Analysis, Response surface Methodology, Artificial Neural Network and Support vector regression, In: Proc. Of 3rd International Conference on Production and Industrial Engineering, MNIT Jalandhar, p 130-139, 2013
11. Girish Kant, Nalin Gupta, KS Sangwan, Measurement of tool chip interface temperature in machining: A Comprehensive Review, In: Proc. Of 3rd International Conference on Production and Industrial Engineering, MNIT Jalandhar, p 869-881, 2013
12. Navneet Khanna, Kuldip Singh Sangwan, Machinability analysis of Ti6Al4V titanium alloy, In: Proc. Of 3rd International Conference on Production and Industrial Engineering, MNIT Jalandhar, p 915-919, 2013
13. Jindal, A. and Sangwan, K. S., 2012. Fuzzy Multi Criteria Evaluation of Product Recovery Process In: Bhattacharyya, B., Chakraborty, S. and Doloi, B. eds. 25th All India Manufacturing Technology, Design and Research Conference. Jadavpur University, Kolkata, 1259-1265, 2012. ISBN 978-9382062-92-9
14. Jindal, A. and Sangwan, K. S., 2012. Fuzzy Multi Criteria Evaluation of Collection Methods in Reverse logistics. In: Shankar, R., Kumar, A. and Chadhuri, A. eds. XVI Annual International Conference of the Society of Operations Management. IIT Delhi, 296-307, 2012
15. Varinder Kumar Mittal, Kuldip Singh Sangwan, Christoph Herrmann, Patricia Egede, and Christian Wulbusch, Drivers and Barriers of Environmentally Conscious Manufacturing: A Comparative Study of Indian and German Organizations, In: 19th CIRP International Conference on Life Cycle Engineering, Berkeley, 2012, pp 97-102 (**available online on Springer**)
16. Navneet Khanna, Ainhara Garay, Luis M. Iriarte, Daniel Soler, Kuldip S. Sangwan, and Pedro J. Arrazola, Effect of heat treatment conditions on the machinability of Ti64 and Ti54M alloys, 5th CIRP Conference on High Performance Cutting 2012, Procedia CIRP 1 (2012) 477 – 482 (**available online on Elsevier**)
17. Mittal V and Sangwan K S, Environmentally Conscious Manufacturing Initiatives: Investigations on the barriers in Indian industry, In: Innovations for Sustainable Manufacturing, Eds Bhattacharyya B, Chakraborty S, Doloi B, Excel India Publishers, New Delhi, pp. 1295-1300. ISBN 978-9382062-92-9

18. Nayagam P V, Mittal V K and Sangwan K S, Ranking of drivers for sustainable manufacturing using analytical hierarchy process, In: Proc of 3rd National Conference on Recent Advances in Manufacturing, 27-29 June 2012, SVNIT Surat, pp 13-18.
19. Mittal V K, Sangwan K S, Herrmann C, Egede P and Wulbusch C, Drivers and barriers of environmentally conscious manufacturing: a comparative study of Indian and German organizations, In: Leveraging Technology for a Sustainable world, eds, Dornfeld D and Linke B S, Springer – Verlag, Berlin, pp 97-102.
20. Digalwar A K and Sangwan K S, Role of knowledge management in world class manufacturing: an empirical investigation, Proc. of the IEEE international conference on Industrial Engineering and Engineering Management, 6-9 December 2011, Singapore, pp. 415-419.
21. Mittal V K, Singh P and Sangwan K S, Role of Human and Technological Recourses in Green Manufacturing Implementation: A case of India, Proc. of the International Conference on Sustainable Manufacturing: Issues, Trends and Practices, 10-12 November, 2011, BITS Pilani, pp. 25-30.
22. Singh P, Mittal V K, and Sangwan K S, Product and Process Characteristics for Green Manufacturing: Evidence from Indian Large Scale Enterprise, Proc. of the International Conference on Sustainable Manufacturing: Issues, Trends and Practices, 10-12 November, 2011, BITS Pilani, pp. 62-67.
23. Singh R, Metri B A, Sangwan K S, Singh P, Measuring Manufacturing Performance: A Literature Review, Proc. of the International Conference on Sustainable Manufacturing: Issues, Trends and Practices, 10-12 November, 2011, BITS Pilani, pp. 79-83.
24. Bhamu J P, Bhakar V and Sangwan K S, Integrated Lean Management System for Sustainable Development: A Conceptual Model, Proc. of the International Conference on Sustainable Manufacturing: Issues, Trends and Practices, 10-12 November, 2011, BITS Pilani, pp. 235-238.
25. Jindal A and Sangwan K S, Fuzzy TOPSIS Method for Lithium Ion Battery Recycling Process Selection, Proc. of the International Conference on Sustainable Manufacturing: Issues, Trends and Practices, 10-12 November, 2011, BITS Pilani, pp. 266-272.
26. Singh P J and Sangwan K S, Management Commitment and Employee Empowerment in Environmentally Conscious Manufacturing Implementation, Proc. of the World Congress on Engineering 2011, WCE 2011, 6-8 July, 2011, London, U.K., pp 644-649.
27. Bhamu J P and Sangwan K S, Lean manufacturing tools, techniques and methodology, In: Proc. of 26th national Convention of Production Engineers, 7-8 May 2011, IEI Jaipur, pp 21-26.
28. Bhamu J P, Shailendra Kumar J V and Sangwan K S, Application of value stream mapping in lean manufacturing: a case study, In: Proc. Of 26th national Convention of Production Engineers, 7-8 May 2011, IEI Jaipur, pp 27-33.
29. Sangwan K S, Quantitative and Qualitative Benefits of Green Manufacturing: an Empirical Study of Indian Small and Medium Enterprises; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin, 2011 pp 371-376.

30. Herrmann C, Sangwan K S, Mennenga M, Halubek P and Egede P, Assessment of Alternate Propulsion Systems for Vehicles ; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin, 2011 pp 51-56.
31. Mittal V K and Sangwan K S, Development of an Interpretive Structural Model of Obstacles to Environmentally Conscious Technology adoption in Indian industry ; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin, 2011 pp 383-388
32. Jindal A and Sangwan K S, Development of an Interpretive Structural Model of Barriers to Reverse Logistics Implementation in Indian Industry ; In : Glocalized Solutions for Sustainability in Manufacturing, eds Hesselbach Jurgen and Herrmann Christoph, Springer Berlin, 2011 pp 448-45.
33. Girish Kant and Sangwan K S, Modelling and simulation of metal cutting processes, In: Proc. of International Conference on Emerging Trends in Mechanical Engineering, Thapar University Patiala, 24-26 Feb 2011, pp416-422.
34. Bhamu J P and Sangwan K S, Lean manufacturing tools and techniques: a review of literature during 2001-2010, In: Proc. of the International Congress on Productivity, Quality, Reliability, Optimization and Modeling, eds S S Handa, C Umashankar and A K Chakraborty, Allied Publishers Pvt Ltd, New Delhi, pp 979-990
35. Khanna N and Sangwan K S, Comparison of cutting tool performance in machining of titanium alloys and inconel 718 super alloy, In: Proc. of the CIRP 4th high performance cutting conference, Gifu, Japan, October 26-28 2010.
36. Singh P and Sangwan K S, Product and process characteristics for green manufacturing: evidence from Indian SMEs, In: Proc. of the 2010 ASME International Manufacturing Science and Engineering Conference, October 12-15, 2010, Erie, Pennsylvania, USA, pp 479-485
37. Khanna N and Sangwan K S, Cutting tool performance in machining of Ti555.3 Timetal54M, Ti6-2-4-6 and Ti 6-4 alloys: a review and analysis, 2nd International Conference on Process Machine Interactions, University of British Columbia, Vancouver, Canada, June 10-11, 2010.
38. A K Digalwar and K S Sangwan, Knowledge management and employee empowerment for manufacturing excellence – an empirical study, In: Proc. Of the 3rd International Conference on Advances in Mechanical Engineering, S.V. National Institute of Technology, Surat, India, Jan 4-6, 2010, pp 707-712.
39. Girish Kant, Navneet Khanna and K S Sangwan, Modelling and simulation of orthogonal metal cutting process using finite element method, In: Proc. Of the 3rd International Conference on Advances in Mechanical Engineering, S.V. National Institute of Technology, Surat, India, Jan 4-6, 2010, pp 913-917.
40. Girish Kant, Navneet Khanna and K S Sangwan, The influence of cutting speed on workpiece temperature and effective stress during machining of AISI 1045 steel, In: Proceedings of the International Conference on Latest Trends in Simulation Modelling and Analysis 9COSMA 2009), December 17-19, 2009, NIT Calicut, Kerala, India, pp. 155-159.

41. V. Kumar, P.J. Singh and K S Sangwan, Benefits and Stakeholders of green manufacturing: a study of Indian industry, In: Proc. Of the 7th Global Conference on Sustainable Manufacturing, Dec. 2-4, 2009, IIT Chennai, India, pp.335-340.
42. Kuldip Singh Sangwan, A Multi-Attribute Decision Making Methodology for the supplier Selection Problem in Supply Chain Management, *In: The Proceedings of 2nd International and 23rd AIMTDR Conference, IIT Madras, December 15-17, 2008*, pp. 1187-1192.
43. Digalwar A. K. and Sangwan K. S., 2008, Imperatives of new performance measurement system for green manufacturing, In Proc. Of First National Conference on MOCT at IMT Nagpur, Feb. 16-17, 2008.
44. Digalwar A. K. and Sangwan K. S., 2006, Performance Measurement Practices of Indian Manufacturing Companies: An Empirical Analysis, 10th SOM Conference, December 21-24, IIM Ahmedabad.
45. Digalwar A. K. and Sangwan K. S., 2006, Statistical Analysis for Justification of World Class Manufacturing Performance Measures, 3rd International Conference on Quality, Reliability and Infocom Technology: Trends and Future Directions, December 2-4, 2006, INSA New Delhi.
46. Sangwan K. S, 2006, Performance Measures for Environmentally Conscious Production, In Proceedings of the National Conference on Environmental Conservation, September 1-3, BITS Pilani, pp. 581-588.
47. Digalwar A. K. and Sangwan K. S, 2006, Performance Measurement System for Green Manufacturing, In Proceedings of the National Conference on Environmental Conservation, September 1-3, BITS Pilani, pp. 677-682.
48. Kuldip Singh Sangwan, Concurrent Engineering: An Integrated Approach for Product Life Cycle Design, In Proc. Of National Conference on Design for Product Life Cycle, February 17-18, 2006, BITS Pilani.
49. Kuldip Singh Sangwan, Green Manufacturing: What & Why, All India Seminar on Advances in Manufacturing Technologies and Robotics Perspectives – 2020, The Institution of Engineers (India), Feb 24-25, 2005, Jaipur
50. Abhijeet K. Digalwar and Kuldip Singh Sangwan, Critical Success Factors for World-Class Manufacturing Performance Measurement”, In proceedings of 14th ISME International Conference on Mechanical Engineering in Knowledge Age, December,12-14, 2005
51. Vishwas S and K S Sangwan, Development of multi-attribute decision model for international facilities location, Proc. of 8th SOM conference, December 17-20, 2004, NITIE Mumbai,
52. S Chandra, R B Kodali, K S Sangwan, Development of self-assessment system for Total Productive Maintenance (TPM), eds. V Radhakrishnan, L Vijayaraghavan and N Ramesh Babu, Manufacturing Technology – Proc. Of 19th AIMTDR Conf. 2000, IIT Chennai.
53. S. Mukherjee, K S Sangwan and R B Kodali, Trends and perspectives in cellular manufacturing systems, Operations management for global economy: challenges and prospects, eds A Kanda et al, Phoenix Publishing House, New Delhi, pp. 488-497, Proc. of POMS international conf. December 21-24, 1999, IIT Delhi

54. K S Sangwan and R B Kodali, Concurrent Engineering: tools and techniques, Operations management for global economy: challenges and prospects, eds A Kanda et al, Phoenix Publishing House, New Delhi, pp. 498-506, Proc. of POMS international conf. December 21-24, 1999, IIT Delhi

Development of Laboratories/Centre

- **Indo German Centre for Sustainable Manufacturing** (<https://www.igcsm.org/>): Received funding for development of laboratory, joint organization of conferences/workshops, and exchange of more than 100 faculty/researchers/students between two universities since 2010.
- **Sustainable Manufacturing and Life Cycle Engineering Lab**: Developed this lab with funding from AKB Stiftung, Germany and BITS Pilani. Used by the faculty from mechanical engineering, chemical engineering, and chemistry departments. Published interdisciplinary collaborative papers.
- **Joint Indo-German Experience Lab (Learning Factory)**: Partially funded by DAAD and FESTO sponsored project. The learning factory concept is gaining importance to teach engineering and management students to develop problem solving techniques against the backdrop of experiential learning. I have developed a small learning factory through Indo-German competitive project. <https://www.igcsm.org/2016/01/01/jingel/>
- **Advanced Measurement Lab**: Developed an advanced measurement lab in collaboration with Mitutoyo South Asia Pvt Ltd. New Delhi. The lab has the state of the art equipment, worth 20 million INR, for precision measurement of manufactured parts.
- **New Central Workshop**: Planned a new central workshop for all BITS Pilani students as a head/chief of the workshop. It includes the equipment selection, shop floor layout, electric/pneumatic/water layout, purchasing, and getting approval from BITS Pilani Chancellor. New workshop includes 11 new labs including a 470 sqm “Fab Lab” where students can play, create, learn, and invent. The new workshop takes care from designing an idea to 3D printing to testing of the product. The chancellor has approved a budget of 12.12 crore INR for the new workshop for equipment only.

Conference/Seminars/Refresher Courses Conducted

- **Chairperson**, 3rd Indo-German Conference on Sustainability in Engineering: Enhancing Future Skills and Entrepreneurship, September 16-17, 2019.
- **Coordinator**, 6th Two Day workshop on Sustainable Engineering (Theme: Industry 4.0, Sustainable manufacturing and Entrepreneurship), September 17-18, 2018.
- **Coordinator**, Two Day workshop on Additive Manufacturing: Applications and Recent Trends, 30-31 October 2017, BITS Pilani, Pilani Campus.

- **Chairperson**, 2nd Joint Indo-German Conference on Sustainable Engineering (Theme: Skilling India for Digital and Sustainable Future), September 15-16, 2017.
- **Co-chairperson**, 5th Indo-German Workshop on Sustainable Engineering (Theme: Skilling & Shaping India towards Smart Manufacturing - “Industry 4.0”), Festo India Pvt Ltd. Bangalore, September 12, 2017.
- **Convenor**, 4th Indo-German Workshop on Sustainable Engineering (Theme: learning factories, sustainability education, IoT, Industry 4.0), September 17-18, 2016
- **Convenor**, 3rd Indo-German Workshop on Green Manufacturing (Theme: Resource Efficiency in Manufacturing), November 3-4, 2015
- **Convenor**, 2nd Indo-German Workshop on Green Manufacturing (Theme: Life Cycle Engineering), November 7, 2013
- **Chairperson**, International Conference on Sustainable Manufacturing: Issues, Trends and Practices, November 10-12, 2011
- **Coordinator**, Workshop on Umberto ILCA software), 1- 4 November, 2011
- **Co-convenor**, Indo-German Workshop on Green Manufacturing, Sept. 21, 2009.
- **Co-convenor**, National Conference on Design for Product Life Cycle, Feb 17-18, 2006.
- **Coordinator**, UGC Refresher Course on Manufacturing Excellence, December 12-31, 2005.

Selected Invited Lectures/Talks

- Teardown & Benchmarking in Reverse Engineering, Expert Lecture during Short Term Course on "Reverse Engineering", National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, 27 October 2021.
- Concurrent Engineering & its role in Product Development, Expert Lecture during Short Term Course on "Reverse Engineering", National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, 25 October 2021.
- Smart Manufacturing Enablers, Chief Guest and expert Lecture during Short Term Course on Recent Trends & Challenges in Instrumentation and Control, NIT Jalandhar, 20 October 2021.
- Smart Manufacturing: The Way Ahead, An invited talk during 18-07-2021, ATAL Academy sponsored FDP on MANUFACTURING: HINDSIGHT TO FORESIGHT, Birla Institute of Technology & Science Pilani, 18 July 2021.
- Smart Manufacturing, An invited talk during Faculty Development Program on "Advance Materials and Processes for Sustainable Intelligent Manufacturing” sponsored by All India Council for Technical Education (AICTE) and Indian Society for Technical Education (ISTE), DAV Institute of Engineering and Technology Jalandhar, 8 June 2021.
- How to write a technical paper, An invited talk during 48th National conference on fluid mechanics and fluid power, Birla Institute of Technology & Science Pilani, 17 June 2021.
- Smart Manufacturing, An invited talk during Short Term Training Program (STTP) on Sustainable Manufacturing for Atma Nirbhar Bharat, Malaviya National Institute of Technology Jaipur, 25 December 2020.

- Historical Perspective of Sustainable Manufacturing, An Invited talk during Short Term Training Program (STTP) on Sustainable Manufacturing for Atma Nirbhar Bharat, Malaviya National Institute of Technology Jaipur, 21 December 2020.
- Smart Manufacturing, An invited talk during AICTE sponsored short term training program on Advanced Manufacturing Technologies and Applications, Sant Longowal Institute of Engineering and Technology (Centrally Funded Technical Institute), 27 November 2020.
- Sustainability and circular economy: A supply chain perspective during Chintan- Friedrich Ebert Stiftung Foundation Webinar Series on Circular Economy, 27 October 2020.
- Industry4.0: Smart manufacturing, digitalization and beyond, A short term course on Industry 4.0- Industrial Automation Solutions & Applications, National Institute of Technology Jalandhar, 21 September 2020.
- Tech Talk, Automotive Component Manufacturers Association (ACMA) India, 15 September 2020.
- Smart Manufacturing, Invited talk at short term course on Advanced Manufacturing Processes & Applications Program, Malaviya National Institute of Technology Jaipur, 27 August 2020.
- Reverse logistics and integrated supply chain: network design and research issues during Short Term Course on Effective Logistics for Sustainable Environment, National Institute of Technology Jalandhar, 12 August 2020.
- Smart Manufacturing and Cyber Physical Production Systems, Invited talk at short term training program on Manufacturing Practices and Industry 4.0, Government Engineering College Bikaner, 11 June 2020.
- Smart Manufacturing, TEQIP-III sponsored five-days Short Term Course on “Industrial Engineering and Future Factory”, National Institute of Technology Jalandhar, August 16, 2019.
- Learning factories for education towards Industry 4.0, Invited talk at the BRICS seminar on Skills Development for Industry 4.0 organized by FICCI New Delhi, September 16, 2016.
- Circular economy challenges for Indian industry, International Conference on Waste Reduction, Circular Economy and Enhanced Livelihoods: Ideas from Near and Afar, March Energy Policy Institute at UChicago, Fredrich Ebert Stiftung and Chintan Environmental Research and Action Group, 18 February 2019, New Delhi.
- Life cycle assessment and management: opportunities and challenges for India, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, February 12, 2019.
- Role of learning factories to improve employability of Indian engineering graduates, National Workshop on improving synergy between teaching and research in Indian academia, 26-27 March 2018, BITS Pilani, Pilani campus.
- Transferring Learning Factories to Indian Universities, 5th Indo-German Workshop on Sustainable Engineering (Theme: Skilling & Shaping India towards Smart Manufacturing - “Industry 4.0”), Festo India Pvt Ltd. Bangalore, September 12, 2017.
- Session Chair and address at “Stakeholders consultation meeting on science, technology & innovation in agriculture” organized by DST, CII and MNIT Jaipur, September, 1, 2017

- Reverse logistics and integrated supply chain: network design and research issues, at NIT Jalandhar during Short Term Course on “Operations & Supply Chain Management”, September 6, 2016.
- Sustainable manufacturing: A perspective for Indian Industry, National Conference on Sustainable Manufacturing, MNIT, Jaipur, 2 Jan 2015.
- Lean management and green management, Academic Staff College, Guru Jambheshwar University of Science & Technology, Hisar, May 3, 2013
- Innovative Product Design and Development, PEC university of technology Chandigarh, April 21, 2010
- Sustainable Manufacturing during German Federal Ministry of Education and Research Seminar on “India and Germany – Strategic Partners for Innovation”. MCCA (Maharatta Chamber of Commerce, Industries & Agriculture) Pune, March 12, 2010

Membership of Professional Bodies

- Fellow, The Institution of Engineers (India)
- Senior member, Indian Institute of Industrial Engineering
- Member, Society of Operations Management

This is to certify that the above information is true to the best of my knowledge.


(Kuldeep Singh Sangwan)