



Professor (Dr.) PRASHANT JINDAL

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Commonwealth Rutherford Fellow,

TARE DST-SERB/ANRF Fellow,

Honorary Advisor and Coordinator for Industry 4.0 Projects with AMTRON(PSU)

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Research Interests

Additive Manufacturing, Mechanical characterization, Nano/Bio-composite materials, Artificial Limbs, Cranio/Maxillo-facial Reconstruction, Dental/Facial prosthesis and IoT medical diagnostic devices.

Awards/Fellowships

	Year of award	Name of the Fellowship/award	Awarding Agency
1	2022	Teacher Associateship for Research Excellence (TARE) Fellowship	Department of Science and Technology (DST)-SERB/ANRF, Government of India
2	2020	Platinum Award at CII Most Innovative Low Cost Automation (MILCA) Academia Awards	Confederation of Indian Industry (CII)
3	2018	Commonwealth Rutherford Fellowship	Commonwealth Scholarship Commission (CSC), United Kingdom

Employment

Institution/Company	Designation	Period
University Institute of Engineering & Technology (UIET), Panjab University(PU), Chandigarh, INDIA	Professor (Academic Level 14)	(Sep, 2024 onwards)
University Institute of Engineering & Technology (UIET), Panjab University(PU), Chandigarh, INDIA	Associate Professor (Academic Level 13A)	(Sep, 2021 – Sep, 2024)
University Institute of Engineering & Technology (UIET), Panjab University(PU), Chandigarh, INDIA	Assistant Professor (Academic Level 12)	(Sep, 2018- Sep, 2021)
Nottingham Trent University (NTU), Nottingham, United Kingdom	Commonwealth Rutherford Post Doc Fellow	(March, 2018- Dec-2018)
University Institute of Engineering & Technology (UIET), Panjab University(PU), Chandigarh, INDIA	Assistant Professor (Academic Level 11)	(Sep, 2013- Sep, 2018)
University Institute of Engineering & Technology (UIET), Panjab University(PU), Chandigarh, INDIA	Assistant Professor (Academic Level 10)	(Sep, 2008- Sep, 2013)
Perot Systems, Noida, India	Software Developer	(June, 2006 – July, 2008)
Chandigarh College of Engineering & Technology(CCET), Chandigarh, India	Lecturer	(Feb, 2003 - July, 2003)
Larsen & Toubro Ltd, Bengaluru, India	Marketing Executive	(Sep, 2002 – Dec, 2003)

Academic Background

Examination/Degree	Institution	Year of Passing	% Marks
Ph.D. (Faculty of Engineering & Technology) <i>(Title- 'Evaluation of dynamic and static strength of carbon nanotubes based composites and coated materials')</i>	Panjab University(PU), Chandigarh, India	2014	-
M.E. (Masters in Mechanical Engineering)	Punjab Engineering College(PEC), Chandigarh, India	2006	79.6
B.E. (Bachelor of Mechanical Engineering)	Punjab Engineering College(PEC), Chandigarh, India	2002	70.7

Funded research grants(Projects/Fellowships/Awards)

1. Principal Investigator for the project title-“ Exploring the feasibility of digital technologies in the design and manufacture of prosthetic sockets in LMIC contexts,” *funded under Nottingham Trent University, International Partnership Fund (UK-IPF)* Dec 2024 to May 2025 (for GBP 12460 ₹13,08,000/-)
2. Principal Investigator for the project title-“Advancing the personalization of lower limb prosthetic components using cutting edge digital technologies,” *funded under Nottingham Trent University, International Partnership Fund (UK-IPF)* June 2024 to Nov 2024 (for GBP 22,775 ₹23,18,375/-)
3. Co-Investigator for the project title-“Artificial Intelligence based automated and optimised cranial reconstruction solutions for various medical grade implant materials,” *funded under Nottingham Trent University, International Partnership Fund (UK-IPF)* June 2024 to Nov 2024(for GBP 16,225 ₹17,03,625/-)
4. Teachers Associateship for Research Excellence(TARE) Fellowship Award for the project title-“ Designing fixture plates with different 3D printing materials for optimizing cranial implant thickness used in skull reconstruction,” *funded by Anusandhan National Research Foundation(ANRF), Department of science & Technology-Science and Engineering Research Board (DST-SERB)*, 2022 to 2025 (for ₹18,30,000/-)
5. Principal Investigator for the project title-“ Designing and Fabrication of an Active Transradial Bionic Prosthetic Arm,” *funded under Anusandhan National Research Foundation(ANRF), Science and Engineering Research Board(SERB), Govt. of India*, 2022 to 2025(for ₹35,00,000/-)
6. Principal Investigator for the project title-“ Heat transfer optimization for Li-ion battery packs for enhanced performance of BTMS ,” *funded under Nottingham Trent University(UK)-PU R&D partnership*, 2021 to 2022(for GBP 7000 ₹7,00,000/-)
7. Co-Investigator for the project title-Designing of craniofacial implants using clinically relevant materials,” *funded under Nottingham Trent University(UK)-PU R&D partnership*, 2021 to 2022(for GBP 6500 ₹6,50,000/-)
8. Co-Investigator for the project title-“Centre for Bio-mechanical engineering and medical devices,” Fund for Improvement of S&T(FIST) *funded by DST, New Delhi*, 2020 to 2025 (for ₹123,00,000/-)
9. Commonwealth Rutherford Fellowship Award for the project title-“ Design and development of low weight and high strength metal-graphene based dental implants, crowns and plates,” *Commonwealth Scholarship Commission in the UK, London*, 2018 to 2019 (for GBP 23,000 ₹23,00,000/-)
10. Principal Investigator for the sub-theme title-“Medical Devices and Restorative Technologies- Design Innovation Centre,” *funded by MHRD, New Delhi*, 2015 to 2026 (for ₹150,00,000/-)

11. Principal Investigator for the project title-“Development and characterization of polycarbonate and glass CNT with specific reference to energy absorption and pressure sensing characteristics,” *funded by ARMREB, DRDO, New Delhi*, 2011 to 2015 (for ₹15,00,000/-)

Patents

1. **Published Indian Patent Journal No. 17/2025, Application No. 202511021892A**, Filing Date-11/03/2025. Title of the Invention- A SYSTEM FOR GENERATING A CRANIAL IMPLANT FOR A PATIENT AND ITS METHOD THEREOF
2. **Granted Indian Patent 569335, Application No. 202411034753**, Filing Date-01/05/2024. Title of the Invention- METHOD FOR GENERATING CUSTOM CRANIAL IMPLANTS USING DEEP LEARNING
3. **Granted Indian Patent No. 548116, Application No. 202211030357**, Filing Date-26/05/2022. Title of the Invention- ACTIVE TRANSRADIAL BIONIC PROSTHETIC ARM
4. **Granted Indian Patent No. 534114 Application No. 202111051825**, Filing Date-11/11/2021. Title of the Invention- IOT BASED HUMAN BITE FORCE MEASUREMENT APPARATUS AND METHOD
5. **Granted Indian Patent No.371489, Application No. 202011028427**, Filing Date-03/07/2020. Title of the Invention-WEARABLE APPARATUS FOR DETERMINING GONIOMETRIC READINGS OF A BODY PORTION OF A SUBJECT

Journal publications

1. M. Juneja, A. Poddar, M. Kharbanda, A. Sudhir, S. Gupta, P. Joshi, A. Goel, N. Fatma, M. Gupta, S. Tarkas, V. Gupta, **P. Jindal**. SCAI-Net: An AI-driven framework for optimized, fast, and resource-efficient skull implant generation for cranioplasty using CT images. *Computers in Biology and Medicine*, 194, 110504. <https://doi.org/https://doi.org/10.1016/j.compbiomed.2025.110504>, 2025. **(IMPACT FACTOR- 6.3)**
2. D. Kumar, D. Kumar, Amika, P. Singh, A.P. Singh, P. Goyal & **P. Jindal**. Mechanical Behavior of PU/MWCNT Composite Materials Under Tensile Loading Conditions Using FEA. *ECS Journal of Solid State Science and Technology*, 14(5), 051003. <https://doi.org/10.1149/2162-8777/add623> 2025 **(IMPACT FACTOR- 2.2)**
3. **P. Jindal**, P. Prakash, H. Bassal, Singh, M.A.M. Din, C.T. Barnett, & P. Breedon, Two-Material-Based Transtibial Socket Designs for Enhanced Load-Bearing Capacity Using FEA. *Prosthesis*, 7(2), 30. <https://doi.org/10.3390/prosthesis7020030>, 2025 **(IMPACT FACTOR- 4.5)**
4. M. Juneja, I. Singla, A. Poddar, N. Pandey, A. Goel, A. Sudhir, P. Bhatia, G. Singh, M. Kharbanda, A. Kaur, I. Bhatia, V. Gupta, S.S. Dhani, Y. Reinwald, **P. Jindal**,

- & P. Breedon. A Comprehensive AI Framework for Superior Diagnosis, Cranial Reconstruction, and Implant Generation for Diverse Cranial Defects. *Bioengineering*, 12, 188. <https://doi.org/10.3390/bioengineering>, 2025 (IMPACT FACTOR- 3.8)
5. **P. Jindal**, A. Kalra, N. Dadwal, A. Goel, V. Gupta, Y. Reinwald, P. Breedon & M. Juneja, Optimising surgical efficiency by designing lightweight skull-PSI assemblies and curved fixture plates for cranial reconstruction using FEA, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*. <https://doi.org/10.1177/14644207241312947>, 2025 (IMPACT FACTOR- 2.5)
 6. **P. Jindal**, M. Juneja, A. Goel, Y. Reinwald, J. Watson, R O'Connor & P. Breedon, "Modeling technique selection for Cranial reconstruction," *Transactions on Additive Manufacturing Meets Medicine, Trans. AMMM*, vol. 46 Issue 1, <https://doi.org/10.18416/AMMM.2024.24091884>, 2024
 7. **P. Jindal**, P. Prakash, H. Bassal, K. Kumar, P. Singh, M. A. M. Din, C. Barnett, & P. Breedon, "Mechanical characterization of Lower Limb 3D printed socket materials under static external loading," *Transactions on Additive Manufacturing Meets Medicine, Trans. AMMM*, vol. 46 Issue 1, <https://doi.org/10.18416/AMMM.2024.24091885>, 2024
 8. M. Juneja, D. Bajaj, D, N. Thakur & **P. Jindal**. "Reproduction of human dental models using different 3D printing techniques." *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. <https://doi.org/10.1177/09544089241239591> 2024 (IMPACT FACTOR- 2.30)
 9. **P. Jindal**, J. Bharti, V. Gupta & S.S. Dhama. "Mechanical behaviour of reconstructed defected skull with custom PEEK implant and Titanium fixture plates under dynamic loading conditions using FEM." *Journal of the Mechanical Behavior of Biomedical Materials*, 146, 106063. <https://doi.org/10.1016/j.jmbbm.2023.106063> 2023 (IMPACT FACTOR- 3.30)
 10. **P. Jindal**, S.S.S. Bharadwaja, S. Ratra, Chaitanya, V. Gupta, P. Breedon, Y. Reinwald, & M. Juneja. "Designing cranial fixture shapes and topologies for optimizing PEEK implant thickness in cranioplasty." *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 237(8), 1752-1770 <https://doi.org/10.1177/14644207231155761>, 2023 (IMPACT FACTOR- 2.5)
 11. **P. Jindal**, Chaitanya, S.S.S. Bharadwaja, S. Ratra, V. Gupta, P. Breedon, Y. Reinwald, & M. Juneja. "Optimizing cranial implant and fixture design using different materials in cranioplasty." *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 237(1), 107–121. <https://doi.org/10.1177/14644207221104875>, 2023 (IMPACT FACTOR- 2.5)
 12. M. Juneja, S.K. Saini, R. Acharjee, S. Kaul, N. Thakur & **P. Jindal**. "PC-SNet for automated detection of prostate cancer in multiparametric-magnetic resonance imaging." *International Journal of Imaging Systems and Technology*, 32(6), 1861–

1879. <https://doi.org/https://doi.org/10.1002/ima.22744>, 2022 (**IMPACT FACTOR- 2.17**)
13. **P.Jindal**, A. Bhattacharya, M. Singh, D. Pareek, J. Watson, R. O’connor, P. Breedon, Y. Reinwald and M. Juneja, “Unilateral cranial defect bone reconstruction utilising 3D design and manufacturing,” *Transactions on Additive Manufacturing Meets Medicine Trans. AMMM*, vol. 4, Issue 1, pp 655-655. 2022
 14. D. Kumar, N. Kumar & **P. Jindal**, “Reinforcing MWCNTs to enhance viscoelastic properties of polyurethane nanocomposites by using nano DMA techniques.” *Journal of Thermoplastic Composite Materials*, 35(8), 1094–1114. <https://doi.org/10.1177/0892705720930748>, 2022 (**IMPACT FACTOR- 3.3**)
 15. S. Kapoor, M. Goyal, and **P. Jindal**, "Enhanced thermal, static and dynamic mechanical properties of multi-walled carbon nanotubes reinforced Acrylonitrile Butadiene Styrene nanocomposite." *Journal of Thermoplastic Composite Materials*, vol. 35, no. 2, pp. 216–280, 2022. (**IMPACT FACTOR- 3.3**)
 16. M. Juneja, J.S. Minhas, N. Singla, S. Thakur, N. Thakur and **P. Jindal**, “Fused framework for glaucoma diagnosis using Optical Coherence Tomography (OCT) images,” *Expert Systems with Applications*, vol. 201, 117202. 2022 (**IMPACT FACTOR- 8.66**)
 17. **P. Jindal**, P. Sharma, M. Kundu, S. Singh, D. K. Shukla, V. J. Pawar, Y. Wei and P. Breedon, “Computational Fluid Dynamics (CFD) analysis of Graphene Nanoplatelets for the cooling of a multiple tier Li-ion battery pack.” *Thermal Science and Engineering Progress*, vol. 31. 2022
 18. M. Juneja, J. Chawla, G. Dhingra, I. Bansal, S. Sharma, P. Goyal, G. Lehl, A. Gupta and **P. Jindal**, “Analysis of additive manufacturing techniques used for maxillofacial corrective surgeries.” *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0(0), 09544062221081992, 2022 (**IMPACT FACTOR- 1.9**)
 19. M. Juneja, S. Thakur, A. Uniyal, A. Wani, N. Thakur and **P. Jindal**, “Deep learning-based classification network for glaucoma in retinal images.” *Computers and Electrical Engineering*, 101, 108009, 2022 (**IMPACT FACTOR- 3.81**)
 20. M. Juneja, J.S. Minhas, N. Singla, S. Thakur, N. Thakur and **P. Jindal**, “Fused framework for glaucoma diagnosis using Optical Coherence Tomography (OCT) images.” *Expert Systems with Applications*, 201, 117202, 2022 (**IMPACT FACTOR- 8.66**)
 21. M. Juneja, S. Joshi, N. Singla, S. Ahuja, S. Kaur Saini, N. Thakur and **P. Jindal** “Denoising of computed tomography using bilateral median based autoencoder network,” *International Journal of Imaging Systems and Technology*, vol. 32, Issue 3, pp 935-955, 2022 (**IMPACT FACTOR- 2.00**)
 22. A. Dhawan and **P. Jindal**, “Mechanical behavior of carboxylic functionalized graphene reinforced polyurethane nanocomposites under static and dynamic

- loading,” *Polymer Composites* vol. 42, no. 9, pp. 4911–4922, 2021. **(IMPACT FACTOR- 3.17)**
23. M. Juneja, S. Kaur Saini, S. Kaul, R. Acharjee, N. Thakur, and **P. Jindal**, “Denoising of magnetic resonance imaging using Bayes shrinkage based fused wavelet transform and autoencoder based deep learning approach,” *Biomedical Signal Processing and Control*, vol. 69, p. 102844, 2021. **(IMPACT FACTOR- 3.88)**
 24. D. Kumar, S. A. Bansal, N. Kumar, and **P. Jindal**, “Two-step synthesis of polyurethane/multi-walled carbon nanotubes polymer composite to achieve high percentage particle reinforcement for mechanical applications,” *Journal of Composite Materials*, vo. 55(21) pp.2877-2855, 2021. **(IMPACT FACTOR- 2.59)**
 25. P. Gupta, S. Kumari, A. Gupta, A. K. Sinha, and **P. Jindal**, “Effect of heat treatment on mechanical properties of 3D printed polylactic acid parts,” *Materials Testing* vol. 63, no. 1, pp. 73–78, 2021. **(IMPACT FACTOR- 1.59)**
 26. M. Juneja, P.Garg, R. Kaur, P. Manocha, S. Batra, P. Singh, S. Singh and **P. Jindal** “A review on cephalometric landmark detection techniques,” *Biomedical Signal Processing and Control*, vol. 66, p. 102486, 2021. **(IMPACT FACTOR- 3.88)**
 27. A.Dhawan and **P. Jindal**, “A review on use of polyurethane in Lighter than Air systems,” *Materials Today: Proceedings* vol. 43, pp. 746–752, 2021.
 28. A. Dhawan and **P. Jindal**, “Thermal characterization of carboxylic functionalized graphene reinforced polyurethane nanocomposite,” *Materials Today: Proceedings* vol. 28, pp. 1679-1682, 2020.
 29. **P. Jindal**, F. Worcester, F. L. Siena, C. Forbes, M. Juneja and P. Breedon “Mechanical behaviour of 3D printed vs thermoformed clear dental aligner materials under non-linear compressive loading using FEM.” *Journal of the Mechanical Behavior of Biomedical Materials*, vol. 112, p.10405, 2020 **(IMPACT FACTOR- 3.30)**
 30. **P. Jindal**, M. Juneja, D. Bajaj, F. L. Siena, and P. Breedon, “Effects of post curing conditions on the mechanical properties of 3D printed clear dental aligners,” *Rapid Prototyping Journal*, vol. 26, no. 8, pp. 1337–1344, Jan. 2020. **(IMPACT FACTOR- 3.80)**
 31. M. Juneja, R. Singla, S.K. Saini, R. Kaur, D. Bajaj and **P. Jindal**, “OCLU-NET for occlusal classification of 3D dental models,” *Machine Vision and Applications*, vol. 31, no. 6 p. 52, 2020. **(IMPACT FACTOR- 2.13)**
 32. M. Juneja, S. Thakur, A. Wani, A. Uniyal, N. Thakur, and **P. Jindal**, “DC-Gnet for detection of glaucoma in retinal fundus imaging,” *Machine Vision and Applications*, vol. 123, p. 31:34, 2020. **(IMPACT FACTOR- 2.01)**
 33. S. Kapoor, M. Goyal, and **P. Jindal**, “Effect of functionalized multi-walled carbon nanotubes on thermal and mechanical properties of acrylonitrile butadiene styrene

- nanocomposite,” *Journal of Polymer Research* , vol. 27, no. 2, p. 40, Jan. 2020. **(IMPACT FACTOR- 3.09)**
34. A. Thakur, A. Manna, S. Samir, and **P. Jindal**, “Polymer nanocomposite reinforced with selectively synthesized coiled carbon nanofibers,” *Composite Interfaces*, vol. 27, no. 2, pp. 215–226, 2020 **(IMPACT FACTOR- 2.95)**
 35. D. Kumar and **P. Jindal**, “Tensile, torsional and bending behavior of multi-walled carbon nanotube reinforced polyurethane composites,” *International Journal of Plastics Technology*, vol. 23, no. 2, pp. 177–187, 2019.
 36. **P. Jindal**, M. Juneja, F.L. Siena, D. Bajaj, and P. Breedon, “Mechanical and geometrical properties of thermoformed and 3D printed clear dental aligners”, *American Journal of Orthodontics & Dentofacial Orthopedics*, vol. 156, no. 5, pp. 694–701, 2019 **(IMPACT FACTOR- 2.65)**
 37. D. Kumar and **P. Jindal**, “Effect of multi-walled carbon nanotubes on thermal stability of polyurethane nanocomposites,” *Materials Research Express*, vol. 6, no. 10, p. 105336, Aug. 2019. **(IMPACT FACTOR- 1.62)**
 38. M. Juneja, S.Singh, N. Agarwal, S. Bali, S. Gupta, N. Thakur and **P. Jindal**, “Automated detection of Glaucoma using deep learning convolution network (G-net),” *Multimedia Tools and Applications*, vol. 79 no.21 pp. 15531-15553 Apr. 2019. **(IMPACT FACTOR- 2.76)**
 39. **P. Jindal**, F. Worcester, K. Walia, A. Gupta, and P. Breedon, “Finite element analysis of titanium alloy-graphene based mandible plate,” *Computer methods in biomechanics and biomedical engineering*, vol. 22, no. 3, pp. 324–330, 2019. **(IMPACT FACTOR- 1.76)**
 40. **P. Jindal**, F. Worcester, A. Gupta, and P. Breedon, “Efficiency of nanoparticle reinforcement using finite element analysis of titanium alloy mandible plate,” *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, vol.233, no.3, pp.309-317, 2019. **(IMPACT FACTOR- 1.62)**
 41. D. K. Gill, K. Walia, A. Rawat, D. Bajaj, V. K. Gupta, A. Gupta, M. Juneja, R. Tuli, and **P. Jindal**, “3D modelling and printing of craniofacial implant template,” *Rapid Prototyping Journal* p. RPJ-12-2017-0257, Vol.25, No.2, pp.397-403, 2019 **(IMPACT FACTOR- 3.80)**
 42. M. Juneja, N. Thakur, D. Kumar, A. Gupta, B. Bajwa, and **P. Jindal**, “Accuracy in dental surgical guide fabrication using different 3-D printing techniques,” *Additive Manufacturing*, vol. 22, no. August 2018, pp. 243–255, 2018. **(IMPACT FACTOR- 10.9)**
 43. S. Arora, G. Saini, L. Singhal, P. Uniyal, N. Kumar, and **P. Jindal**, “Effect of Manufacturing Processes on Creep Modulus, Strain Rate and Residual Stress of Polymers,” *Journal on Material Science* , vol. 5, no. 4, pp. 47–54, 2018.

44. D. Kumar, N. Kumar, and **P. Jindal**, "Effect of MWCNTs on damping behaviour of Polyurethane based nano-composites," *Materials Today: Proceedings.*, vol. 5, no. 2, pp. 5636–5640, 2018.
45. D. Bajaj, I. Madhav, M. Juneja, R. Tuli, and **P. Jindal**, "Methodology for Stress Measurement by Transparent Dental Aligners using Strain Gauge," *World Journal of Dentistry*, vol. 9, no. 1, pp. 13–18, 2018.
46. H. P. Singh, A. Chauhan, and **P. Jindal**, "Fabrication of Al2024/MWCNT Composite," *Res. J. Eng. Technol.*, vol. 8, no. 3, pp. 191–194, 2017.
47. **P. Jindal**, R. N. Yadav, and N. Kumar, "Dynamic mechanical characterization of PC/MWCNT composites under variable temperature conditions," *Iranian Polymer Journal*, vol. 26, no. 6, pp. 445–452, 2017, **(IMPACT FACTOR- 1.89)**
48. K. Kulshrestha, B. Thakur, Y. P. Verma, and **P. Jindal**, "Development of Small Pressure Sensing Unit using Nano-Materials," *Materials Today: Proceedings.*, vol. 4, no. 9, pp. 10422–10426, Jan. 2017.
49. N. Thakur, N. Chaudhary, M. Juneja, and **P. Jindal**, "Modeling and Printing of Successive Misaligned Teeth Stages," *World Journal of Dentistry*, vol. 8, no. 4, pp. 309–314, 2017.
50. S. Bansal, N. Kumar, and **P. Jindal**, "Effect of MWCNT Composition on the Hardness of PP/MWCNT Composites," *Materials Today: Proceedings.*, vol. 4, no. 2, pp. 3867–3871, 2017.
51. D. Kumar, N. Kumar, and **P. Jindal**, "Elastic Modulus Behavior of Multi-Walled Carbon Nano-Tubes / Polyurethane Composites using Nano- Indentation Techniques," *Indian Journal of Science and Technology.*, vol. 10, no. 17, pp. 1–4, 2017.
52. S. Kapoor, M. Goyal, and **P. Jindal**, "Effect of Multi-Walled Carbon Nanotubes (MWCNT) on Mechanical Properties of Acrylonitrile Butadiene Styrene (ABS) Nano-Composite," *Indian Journal of Science and Technology.*, vol. 10, no. 17, pp. 1–6, 2017.
53. V. Sharma, M. Goyal, and **P. Jindal**, "Preparation , Characterization and Study of Mechanical Properties of Graphene / ABS Nano- Composites," *Indian Journal of Science and Technology.*, vol. 10, no. 17, pp. 1–5, 2017.
54. N. Thakur, M. Juneja, and **P. Jindal**, "Tooth / Teeth Segmentation and modeling from X-ray / CT images : A Survey," *International Journal of Control Theory and Applications*, vol. 10, no. 8, pp. 423–428, 2017.
55. M. Goyal, N. Goyal, H. Kaur, A. Gera, K. Minocha, and **P. Jindal**, "Fabrication and characterization of Low Density PolyEthylene(LDPE)/Multi Walled Carbon Nanotubes(MWCNTs) nano-composites," *Perspectives in Science*, vol. 8, pp. 3–5, 2016.
56. **P. Jindal**, J. Jyoti, and N. Kumar, "Mechanical characterisation of ABS/MWCNT composites under static and dynamic loading conditions," *Journal of Mechanical*

- Engineering and Sciences (JMES)*, vol. 10, no. 3, pp. 2288–2299, 2016.
57. S. Singh, A. Kaur, and **P. Jindal**, “Mechanical Behaviour of MWCNT Reinforced Polymer Composites : A Review,” *International Journal of Scientific Research*, vol. 4, no. 10, pp. 68–72, 2015.
 58. **P. Jindal**, M. Sain, and N. Kumar, “Mechanical characterization of PMMA / MWCNT composites under static and dynamic loading conditions,” *Materials Today: Proceedings*, vol. 2, no. 4–5, pp. 1364–1372, 2015.
 59. S. Gairola, S. K. Pandey, S. S. Gupta, and **P. Jindal**, “Effect of MWCNT composition on the thermal conductivity behavior of PP /MWCNT composites,” *International Journal of Mechanical And Production Engineering*, vol. 3, no. 9, pp. 21–24, 2015.
 60. **P. Jindal**, S. S. Gupta, S. Bansal, S. Gairola, S. K. Pandey, A. P. Singh, and R. Bhandari, “Thermal Expansion Behaviour of PMMA / MWCNT Composites,” *International Journal of Research in Mechanical Engineering & Technology* , vol. 4, no. 2, pp. 62–64, 2014.
 61. **P. Jindal**, M. Goyal, and N. Kumar, “Mechanical characterization of multiwalled carbon nanotubes-polycarbonate composites,” *Materials & Design*, vol. 54, pp. 864–868, 2014 (**IMPACT FACTOR- 7.99**)
 62. **P. Jindal**, M. Goyal, and N. Kumar, “Role of carbon nanotubes in polycarbonate composites for modification in hardness,” *International Journal of Nanoelectronics and Materials.*, vol. 7, no. 2, pp. 85–91, 2014.
 63. S. Jandial and **P. Jindal**, “Review of Carbon Nanotubes/Poly (methyl methacrylate) Composite Fabrication and Mechanical Characterization Techniques,” *International Journal of Research in Advent Technology.*, vol. 1, no. 2, pp. 92–94, 2014.
 64. A. Chhibba and **P. Jindal**, “Mechanical Characterization of Varying Deposits of MWCNTs on Glass Surfaces under High Strain Rate Loading,” *International Journal of Research in Advent Technology*, vol. 2, no. 5, pp. 147–151, 2014.
 65. A. Chauhan, A. Singla, N. Panwar, and **P. Jindal**, “CFD based thermo-hydrodynamic analysis of circular journal bearing,” *International Journal of Advanced Mechanical Engineering*, vol. 4, no. 5, pp. 475–482, 2014.
 66. A. Chauhan, A. Singla, A. Chhibba, and **P. Jindal**, “Static Load Measurement Using Multi Walled Carbon Nanotubes,” *International Journal of Advanced Mechanical Engineering*, vol. 4, no. 5, pp. 483–487, 2014.
 67. **P. Jindal**, S. Pande, P. Sharma, V. Mangla, A. Chaudhury, D. Patel, B. P. Singh, R. B. Mathur, and M. Goyal, “High strain rate behavior of multi-walled carbon nanotubes–polycarbonate composites,” *Composites Part B: Engineering*, vol. 45, no. 1, pp. 417–422, Feb. 2013 (**IMPACT FACTOR – 9.08**)
 68. **P. Jindal**, M. Goyal, and N. Kumar, “Modeling Composites of Multi-Walled

- Carbon Nanotubes in Polycarbonate,” *International Journal for Computational Methods in Engineering Science and Mechanics*, vol. 14, no. 6, pp. 542–551, Oct. 2013
69. **P. Jindal**, M. Goyal, and N. Kumar, “Dynamic Impact Absorption Behaviour of Glass Coated with Carbon Nanotubes,” *Journal of Surface Engineered Materials and Advanced Technology*, vol. 3, no. October, pp. 257–261, 2013.
 70. **P. Jindal**, “Compressive Strain Behaviour under Different Strain Rates in Multi-Walled Carbon Nanotubes-Polycarbonate Composites,” *Journal of Material Science & Engineering*, vol. 02, no. 01, pp. 2–4, 2013
 71. **P. Jindal** and V. K. Jindal, “Strains in axial and lateral directions in carbon nanotubes,” *Journal of Computational and Theoretical Nanoscience.*, vol. 3, no. 1, pp. 148–152, 2006.
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Books/Book chapters

1. **P. Jindal**, “Newer Devices and Remote Diagnostics and Monitoring Based on IOT,” in *Role of Science and Technology for Sustainable Future: Volume 2-Applied Sciences and Technologies*, (Springer) 2025, pp. 179–188 ISBN 978-981-97-5177-8
2. K. A. Singh, D. Kumar & **P. Jindal**, “Influence of Graphene on Mechanical Behavior of EVA Composite at Low Strain Rate Loading,” in *Advances in Materials Science and Engineering*, (Springer) 2020, pp. 261–270 ISBN: 978-981-16-0908-4
3. D. Kumar & **P. Jindal**, “Evaluation of Creep and Compressive Behavior of MWCNTs Reinforced Polyurethane Composites.” in *Advances in Materials Science and Engineering*, (Springer)2020, pp. 71–82 ISBN: 978-981-16-0908-4
4. D. Bajaj, A. Rawat, D. K. Gill, M. Juneja, and **P. Jindal**, “Efficacy of Softwares for Generation of Dental Aligners,” in *Proceedings of 2nd International Conference on Communication, Computing and Networking*, (Springer), 2019, pp. 783–794. ISBN: 9789811312175
5. A. Rawat, D. K. Gill, D. Bajaj, M. Juneja, A. Gupta, and **P. Jindal**, “Craniofacial Model Generation Using CAD/CAM Software,” in *Proceedings of 2nd International Conference on Communication, Computing and Networking*, (Springer) 2019, pp. 795–803. ISBN: 9789811312175
6. D. K. Gill, D. Bajaj, A. Rawat, Y. G. Mittal, M. Juneja, and **P. Jindal**,

- “Dimensional Accuracy of Surgical Guides Fabricated from Different Materials Using 3D Printer,” in *Proceedings of 2nd International Conference on Communication, Computing and Networking*, (Springer) 2019, pp. 805–813. ISBN: 9789811312175
7. **P. Jindal**, “*High Strain Rate Behavior of Nanocomposites and Nanocoatings*,” SpringerBriefs in Materials, 2014, ISBN: 978-3-319-14480-1
 8. **P. Jindal**, “*Dimensional measurements and Poisson’s ratio of Carbon Nanotubes*,” LAP LAMBERT Academic Publishing, 2014, ISBN: 978-3-659-56207-5
 9. Saurav Gairola, Amrinder Pal Singh, **P. Jindal**, “*Review of Thermal Characterization of Polymer-Carbon Nanotubes*”, Processing and Fabrication of Advanced Materials: XXIII, Volume-1, 2013, ISBN: 978-93-84588-17-5
 10. **P. Jindal**, Aditya Chhibba, Navin Kumar, “*Dynamic Mechanical Analysis of PMMA/MWCNT composites*”, Nanotechnology: Novel Perspectives and Prospects, (TMH), 2013, ISBN(13): 978-93-392-2109-6

Consultancies

1. Consultant for Industry 4.0 applications for AMTRON(PSU), Assam
2. Service consultancy facility at Design Innovation Centre, Panjab University for 3D printing
3. Service consultancy facility at Design Innovation Centre, Panjab University for material testing

Startup Mentoring

1. Mentor for startup title-“Motion Sensing Glove” *funded by AICTE, New Delhi, 2020-2022*(for USD 5,500/-₹4,00,000/-)
2. Mentor for startup title-“Filament Wire Extrusion Machine” *funded by AICTE, New Delhi, 2020-2022*(for USD 7,500/-₹5,50,000/-)

International talks/visits

1. “Transforming the world of medical devices and healthcare solutions using Digital Technologies”, Biomedical Research Conclave Day 2024, IIT Ropar, INDIA, 27 September, 2024
2. “Mechanical characterization of Lower Limb 3D printed socket materials under static external loading”, International conference on Additive Manufacturing Meets Medicine-AMMM2024, Lubeck, Germany, 09-13, September, 2024
3. “Advancing the personalization of lower limb prosthetic components using cutting edge digital technologies,” visit under UK-International Partnership Fund (UK-

IPF), Nottingham Trent University, United Kingdom, 29 June -07 July, 2024

4. “Advancements in Lower Limb Prosthetic Socket-Technology”, Pre Alumni Workshop 2023, National Institute for Locomotor Disabilities(Divyangjan)(NILD), Kolkata, INDIA, 23-24, December, 2023
5. “Heat transfer optimization for Li-ion battery packs for enhanced performance of BTMS”, symposium under Nottingham Trent University(UK)-PU R&D partnership, Nottingham, United Kingdom, 16-23 July, 2023
6. “Unilateral cranial defect bone reconstruction using 3D designing and manufacturing”, International conference on Additive Manufacturing Meets Medicine-AMMM2022, Lubeck, Germany, 13-15, September, 2022
7. “3D printing and its applications”, ATAL One week workshop on 3D printing and Design, UIET, Panjab University, Chandigarh, INDIA, 25-20 Nov, 2019
8. “Effects of variable temperature conditions and loading frequency on mechanical properties of MWCNT/PC composites”, International Conference on Advanced Nanotechnology and Nanomaterials, Dubai, UAE, 20-21, Nov, 2019
9. “Innovative devices in the area of medical applications,” Technology Day, Panjab University, Chandigarh, INDIA, 3, June, 2019
10. “3D Printing for Medical Applications,” Indian Institute of Technology(IIT), Ropar, INDIA, 15, Jan, 2019
11. “3D Modeling and printing for biomedical devices and restorative materials”, INM, Leibniz Institute for New Materials, Saarbrucken, Germany, 3-5, Sep,2018
12. “Mechanical characterization of PC/MWCNT composites under variable temperature conditions”, 26th Annual International Conference on Composites or Nano Engineering(ICCE-26), Paris, France, 15-21 July, 2018
13. “Storage Modulus variation for MWCNT/PC composites at different temperatures”, International Conference on Advanced Composite Materials(ACM 2015), Shanghai, China, 19-21 July, 2015
14. “Role of Carbon Nanotubes for pressure sensing applications”, Harnessing Engineering, Technology, and Innovation for Sustainable Growth (HETIS-2014), P.U. , Chandigarh, 19-20 September, 2014
15. “Dynamic and static mechanical strength of multi-walled carbon nanotubes polycarbonate composites”, 22nd Annual International Conference on Composites or Nano Engineering(ICCE-22), Malta, Europe, 13-19 July, 2014
16. “Modification of hardness of glass and polycarbonates by carbon nanotubes,” 4th Chandigarh Science Congress, CHASCON 2010 at P.U., Chandigarh, 19-20 March,2010

Conference proceedings

1. **P. Jindal**, et al, “Conceptualization of design and selection of a spanner to unscrew the wheels of a vehicle more efficiently and speedily,” National Conference on Advances in Mechanical Engineering at P.U., Chandigarh, 20-21 May,2011
2. **P. Jindal**, et al, “Design and Analysis of a Multi-headed multi-lever spanner to unscrew the wheels of a vehicle,” National Conference on Advances in Mechanical Engineering at P.U., Chandigarh, 20-21 May,2011
3. **P. Jindal**, et al, “Shock compression of Fullerenes and Carbon Nanotubes.,” The 25th International Symposium on shock waves-ISSW25 at IISc Bangalore, 17-22 July,2005

Conference/Workshops organized

1. ‘International Workshop: Challenges and opportunities for innovative medical prosthetics using Artificial Intelligence and additive manufacturing’, 17-19 July-2025 at UIET, Panjab University, Chandigarh, INDIA
2. ‘International Conference on Aspects of Materials Science and Engineering (ICAMSE-2020)’, 29-30 May-2020 at UIET, Panjab University, Chandigarh, INDIA.
3. ‘StartUp and Incubation Workshop in Medical Devices and Restorative Engineering’, 8-12 July-2019 at UIET, Panjab University, Chandigarh, INDIA
4. ‘3D Modeling and Printing Skill Development Workshop’, 21-23 Sep-2017 at UIET, Panjab University, Chandigarh, INDIA
5. ‘Innovation Contest’, 18-19 Sep-2017 at UIET, Panjab University, Chandigarh, INDIA
6. DIC workshop on Innovative Approach to Materials Research(IAMR-2016), 21-14 December-2016 at PEC University of Technology, (Formerly Punjab Engineering College) Chandigarh, India