

Publications

Peer Review Journal Publications

1. **Analysis of unsupervised and semi-supervised machine learning techniques for print defect detection during laser powder bed fusion**, J. J. Power, D.P. Dowling, S. Keaveney and C. Hoare, *The International Journal of Advanced Manufacturing Technology*, 138, 4197-4212, 2025.
2. **Evaluation of the impact performance of 3D printed Nylon 11- continuous stainless steel fibre reinforced composites**, A. Clarke, H. Zhang , A. Dickson, B. Zhao, B. L. Jones and D. P. Dowling, *Composites Part B*, 303, 15, 112484, 2025.
3. **A control system design for selective laser melting process: toward sustainable additive manufacturing**, D. Pazoki, D. Dowling and P. Ghadimi, Accepted for publication in *Procedia CIRP*, April 2025.
4. **A study of the underlying dynamics of phase-space projection of microwave-assisted synthesis of transition metal nanostructures**, V. J. Law and D.P. Dowling, *Materials Technology Reports*, Vol. 3, 1, 2325, 2025.
5. **Winterizing and use of a solar box cooker on the island of Crete, Greece**, J. F. Lalor, V. J. Law and D. P. Dowling, *American Journal of Analytical Chemistry*, 16(3), 2025.
6. **Inclined window solar box cooker with one External Reflector Designed for the Mediterranean latitudes**, V. J. Law, J. F. Lalor and D.P. Dowling, *Journal of Power and Energy Engineering*, 12 (11), 1-33, 2024.
7. **Three-Dimensional Printing Limitations of Polymers Reinforced with Continuous Stainless Steel Fibres and Curvature Stiffness**, A.J. Clarke, A.N. Dickson, V. Milosavljević and D.P. Dowling, *Journal of Composites Science*, 8 (10), 410, 2024.
8. **Ti-6Al-4V alloy printing—correlations between experimental and numerical modelling melt pool data**, A.J.I. Bagasol, G. Parivendhan, A. Ivankovic, D.P. Dowling, *The International Journal of Advanced Manufacturing Technology*, 133, 3603, 2024.
9. **Application of in situ process monitoring to optimise laser parameters during laser powder bed fusion printing of Ti-6Al-4V parts with overhang structures**, J.J. Power, O. Humphreys, M. Hartnett, D. Egan, D.P. Dowling, *The International Journal of Advanced Manufacturing Technology*, 130 (5), 2297-2311, 2024.
10. **Fabrication and Performance of Continuous 316 Stainless Steel Fibre-Reinforced 3D-Printed PLA Composites**, A.J. Clarke, A. Dickson, D. P Dowling, *Polymers*, 16 (1), 63, 2023.

11. **Green Chemistry Allometry Test of Microwave-Assisted Synthesis of Transition Metal Nanostructures**, V. J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, 14, 11, 493-518, 2023.
12. **Microwave-Assisted Transition Metal Nanostructure Synthesis: Power-Law Signature Verification**, V. J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, 14, 8, 326-349, 2023.
13. **Microwave-assisted Au and Ag nanoparticle synthesis: An energy phase-space projection analysis**, V. J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, Volume 14, 4, 149-174, 2023.
14. **Novel co-axial, disposable, low-cost 3D printed videolaryngoscopes for patients with COVID-19: a manikin study**, L. Gorman, A. N. Dickson, M. Monaghan, F. Vaughan, B. Murphy, D. P. Dowling, C. McCaul, J. F. X. Jones, *European Journal of Anaesthesiology and Intensive Care*, 2, 15, 2023.
15. **The influence of a large build area on the microstructure and mechanical properties of PBF-LB Ti-6Al-4 V alloy**, A. J. I. Bagasol, F. R. Kaschel, S. Ramachandran, W. Mirihanage, D. J. Browne & D. P. Dowling, *The International Journal of Advanced Manufacturing Technology*, 125, 1355–1369, 2023.
16. **Solidification microstructure variations in additively manufactured Ti-6Al-4V using laser powder bed fusion**, L. Yang, S. Ramachandran, A. Bagasol, Q. Guan, W. Wang, D.J. Browne, D. Dowling, W. Mirihanage, *Scripta Materialia*, 231, 115430, 2023.
17. **An Information Model with Voxelated Data from Computer Aided Systems and the Additive Manufacturing Workflow**, C. Maguire, A. George, M. Kelly, D. Egan, D. P. Dowling, N. Papakostas, *Procedia CIRP*, Volume 112, 382-387, 2022.
18. **Microwave-Assisted Inactivation of Fomite-Microorganism Systems: Energy Phase-Space Projection**, V.J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, 13, 7, 255-276, 2022.
19. **Comparison between continuous and modulated wave laser emission modes for the selective laser melting of Ti-6Al-4V: Dimensional accuracy, microstructure and mechanical behaviour**, F.R. Kaschel, S. Keaveney, D.P. Dowling, *Additive Manufacturing*, 55, 102825, 2022.
20. **Microwave Detection, Disruption, and Inactivation of Microorganisms**, V. J. Law and D.P. Dowling, *American Journal of Analytical Chemistry*, Volume 13, No.4 April 2022.
21. **Microwave generated steam decontamination of respirators: A thermodynamic analysis**, V.J. Law, D.P. Dowling, *Global Journal of Research in Engineering & Computer Sciences*, Volume 1, Issue 1, September 2021.
22. **MGS decontamination of N95-like respirators: dielectric considerations**, V.J. Law, D.P. Dowling, *Global Journal of Research in Engineering & Computer Sciences*, Volume 1, Issue 02, Nov-December 2021.
23. **Careers-Outreach Programmes for Children: Lessons for Perceptions of Engineering and Manufacturing**, N. J. English, S. Leatham, Maria Isabel Meza Silva, D. P. Dowling, *World*

24. **Concentric annular liquid–liquid phase separation for flow chemistry and continuous processing**, M.J. Harding, B. Feng, R. Lopez-Rodriguez, H. O'Connor, D.P. Dowling, G. Gibson, K.P. Girard, S. Ferguson, *Reaction Chemistry & Engineering*, Issue 9, June 2021.
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27. **Ti–6Al–4V microstructural functionally graded material by additive manufacturing: Experiment and computational modelling**, Y. Geng, W. Xie, Y. Tu, S. Deng, D.S. Egan, D.P. Dowling, H. Song, S. Zhang, N. Harrison, *Materials Science and Engineering: A*, 823, 141782, 2021.
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29. **Using in-situ process monitoring data to identify defective layers in Ti-6Al-4V additively manufactured porous biomaterials**, D.S. Egan, C.M. Ryan, A.C. Parnell, D.P. Dowling, *Journal of Manufacturing Processes*, 64, April 2021, 1248-1254.
30. **In-Situ Sensing, Process Monitoring and Machine Control in Laser Powder Bed Fusion: A Review**, R. McCann, M.A. Obeidi, C. Hughes, É. McCarthy, D.S. Egan, R.K. Vijayaraghavan, A.M. Joshi, V.A. Garzon, D.P. Dowling, P.J. McNally, D. Brabazon, *Additive Manufacturing*, 102058, May 2021.
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35. **3D Printing of Fibre-Reinforced Thermoplastic Composites Using Fused Filament Fabrication—A Review**, A.N. Dickson, H.M. Abourayana, D.P. Dowling, *Polymers, Process—Structure—Properties in Polymer Additive Manufacturing*, 12(10), 2188, 2020.
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