

Publications

Refereed Publications

1. **Evaluation of the impact performance of 3D printed Nylon 11- continuous stainless steel fibre reinforced composites**, Alison Clarke, Hui Zhang , Andrew Dickson, Budi Zhao, Ben L. Jones and Denis P. Dowling, Accepted for publication *Composites Part B*, April 2025.
2. **A control system design for selective laser melting process: toward sustainable additive manufacturing**, Danial Pazoki, Denis Dowling and Pezhman Ghadimi, Accepted for publication in *Procedia CIRP*, April 2025.
3. **Winterizing and use of a solar box cooker on the island of Crete, Greece**, James F. Lalor, Victor J. Law and Denis P. Dowling, *American Journal of Analytical Chemistry*, Vol.16 No.3 2025.
4. **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*, 1-15, June 2024.
5. **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*, Volume 130, 5, 2297-2311, January 2024.
6. **Fabrication and Performance of Continuous 316 Stainless Steel Fibre-Reinforced 3D-Printed PLA Composites**, A.J. Clarke, A. Dickson, Denis P Dowling, *Polymers*, Volume 16, 1, 63, December 2023.
7. **Green Chemistry Allometry Test of Microwave-Assisted Synthesis of Transition Metal Nanostructures**, V. J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, Volume 14, 11, 493-518, October 2023.
8. **Microwave-Assisted Transition Metal Nanostructure Synthesis: Power-Law Signature Verification**, V. J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, Volume 14, 8, 326-349, August 2023.
9. **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, April 2023.
10. **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*, Volume 2, 15, February 2023.

11. ***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*, Volume 125, 1355–1369, January 2023.
12. ***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*, Volume 231, 115430, July 2023.
13. ***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.
14. ***Microwave-Assisted Inactivation of Fomite-Microorganism Systems: Energy Phase-Space Projection***, V.J. Law, D.P. Dowling, *American Journal of Analytical Chemistry*, Volume 13, No.7, 255-276, July 2022.
15. ***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*, Volume 55, July 2022.
16. ***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.
17. ***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.
18. ***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.
19. ***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 Academy of Science, Engineering and Technology International Journal of Educational and Pedagogical Sciences*, Vol: 15, No:9, 2021.
20. ***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.
21. ***Microwave generated steam decontamination of respirators: A thermodynamic analysis***, V.J. Law, D.P. Dowling, *Global Journal of Research in Engineering & Computer Sciences*, Accepted for publication, Volume 1 Issue 1 2021
22. ***Impact of print bed build location on the dimensional accuracy and surface quality of parts printed by multi jet fusion***, B. Sagbas, B. Eker Gümüş, Y. Kahraman, D. P. Dowling, *Journal of Manufacturing Processes*, Volume 70, October 2021, Pages 290-299.
23. ***NiO/ZrO₂ nanocomposites as photocathodes of tandem DSCs with higher photoconversion efficiency with respect to parent single-photoelectrode p-DSCs***, M. Bonomo, E. Ekoi, A. G.

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24. ***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*, Volume 823, 17 August 2021, 141782.
 25. ***In-situ XRD study on the effects of stress relaxation and phase transformation heat treatments on mechanical and microstructural behaviour of additively manufactured Ti-6Al-4V***, F.R. Kaschel, R.K. Vijayaraghavan, P.J. McNally, D.P. Dowling, M. Celikin, *Materials Science and Engineering: A*, Volume 819, 5 July 2021, 141534.
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 27. ***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.
 28. ***Adhesion Improvement of Thermoplastics-Based Composites by Atmospheric Plasma and UV Treatments***, G. Scarselli, D. Quan, N. Murphy, B. Deegan, D.P. Dowling, A. Ivankovic, *Applied Composite Materials*, Jan 2021.
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 31. ***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, September 2020.
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 33. ***Synergistic toughening and electrical functionalization of an epoxy using MWCNTs and silane-/plasma-activated basalt fibers***, D. Quan, P. Moloney, D. Carolan, H. Abourayana, C. Ralph, A. Ivankovic, D.P. Dowling, N. Murphy, *Journal of Applied Polymer Science*, Volume 138 Issue 1, 1-12, July 2020.
 34. ***Failure analysis of 3D printed woven composite plates with holes under tensile and shear loading***, H. Zhang, A.N. Dickson, Y. Sheng, T. McGrail, D.P. Dowling, C. Wang, A. Neville, D. Yang, *Composites Part B: Engineering*, 186 (107835), 1-11, April 2020.

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