

Publications

Refereed Publications

1. **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.
2. **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.
3. **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.
4. **An Information Model with Voxlated 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.
5. **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.
6. **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.
7. **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.
8. **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.
9. **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.
10. **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.

11. **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.
12. **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
13. **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.
14. **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. Marrani, A. Securazarate, D.P. Dowling, C. Barolo, D. Din, *Sustainable Energy and Fuels*, August 2021.
15. **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.
16. **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.
17. **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.
18. **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.
19. **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.
20. **The effects of geometry and laser power on the porosity and melt pool formation in additively manufactured 316L stainless steel**, S. Piazza, B. Merrigan, D.P. Dowling, M. Celikin, *The International Journal of Advanced Manufacturing Technology*, 111, (2020), 1457-1470.
21. **Selective laser melting of Ti-6Al-4V: Comparing μ CT with in-situ process monitoring data**, D.S. Egan, K. Jones, D.P. Dowling, *CIRP Journal of Manufacturing Science and Technology*, 31 (2020) 91-98.
22. **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.

23. **Investigation of Process by-products during the Selective Laser Melting of Ti6Al4V Powder**, S. Keaveney, Aleksey Shmeliov, V. Nicolosi, D.P. Dowling, *Additive Manufacturing*, Volume 36, August 2020 (101514).
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25. **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.
26. **3D printing of PEEK reactors for flow chemistry and continuous chemical processing**, M.J. Harding, S. Brady, H.O'Connor, R. Lopez-Rodriguez, M.D. Edwards, S. Tracy, D.P. Dowling, G. Gibson, K.P. Girard, S. Ferguson, *Reaction Chemistry & Engineering*, 5, 728-735 March 2020.
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33. **Influence of process parameters on the correlation between in-situ process monitoring data and the mechanical properties of Ti-6Al-4V non-stochastic cellular structures**, D.S Egan, D.P. Dowling, *Additive Manufacturing*, 30 (100890), 1-9, 2019.
34. **Enhancing the mechanical performance of 3D printed basalt fibre reinforced composites using in-line atmospheric plasma pre-treatments**, D.P Dowling, H. M. Abourayana, T. Brantseva, A. Antonov, P. J. Dobbyn, *Plasma Processes and Polymers*, Volume 17, Issue 1, 2019.
35. **Evaluation of the protective performance of hydrophobic coatings applied on carbon-fibre epoxy composites**, H. O'Connor, D. P. Dowling, *Journal of Composite Materials*, 1-12, 2019.

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37. **Evaluation of the microstructure, mechanical and tribological properties of nickel-diamond nanocomposite coatings**, E. J. Ekoi, D. P. Dowling, *Diamond & Related Materials*, 94, 118–128, 2019.
38. **Investigation of the performance of a pilot-scale barrel atmospheric plasma system for plasma activation of polymer particles**, H. M. Abourayana, P. J. Dobbyn, P. Whyte, D. P. Dowling, *Nanotechnology and Precision Engineering*, 2(1), 1-7, 2019.
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45. **Predictive modelling of the water contact angle of surfaces using attenuated total reflection – Fourier transform infrared (ATR-FTIR) chemical imaging and partial least squares regression (PLSR)**, S. Mukherjee, J.A. Martínez-González, D.P. Dowling, A.A. Gowen, *The Analyst*, 143, 3729-3740, 2018.
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Book Chapters

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