

Publications**Refereed Publications**

1. ***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.
2. ***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.
3. ***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.
4. ***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.
5. ***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.
6. ***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.
7. ***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.
8. ***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.
9. ***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.
10. ***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.

11. ***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.
12. ***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.
13. ***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.
14. ***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.
15. ***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.
16. ***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.
17. ***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.
18. ***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
19. ***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.
20. ***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.
21. ***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.
22. ***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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24. **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.
25. **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.
26. **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.
27. **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.
28. **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. **Correlating in-situ process monitoring data with the reduction in load bearing capacity of selective laser melted Ti-6Al-4V porous biomaterials**, D.S. Egan, D.P. Dowling, *Journal of the Mechanical Behavior of Biomedical Materials*, 106 (103723), 1-10, 2020.
34. **Mechanism of stress relaxation and phase transformation in additively manufactured Ti-6Al-4V via in situ high temperature XRD and TEM analyses**, F.R. Kaschel, R.K. Vijayaraghavan, A. Shmeliov, E.K. McCarthy, M. Canavan, P.J. McNally, D.P. Dowling, V. Nicolosi, M. Celikin, *Acta Materialia*, 188, 720-732, 2020.

35. ***Electrochemically Deposited NiO Films as a Blocking Layer in p-Type Dye-Sensitized Solar Cells with an Impressive 45% Fill Factor***, M. Bonomo, D. Di Girolamo, M. Piccinni, D.P.Dowling, D. Dini, *Nanomaterials*, 10, 167, 2020.
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