# **Curriculum Vitae** | Dr Adam Thomas Clare, MEng, PhD, FHEA, FCIRP, FIET, FREng

**Nationality |** British **Location |** Vancouver, British Columbia, Canada **| D.O.B** | 30.11.81
**Email |** adam.clare@ubc.ca **Phone |** +1 7788738194

## Professional Summary

● Holder of the Rolls-Royce/Royal Academy of Engineering Research Chair manufacturing technology ● Extensive international experience across Europe, Asia and North America ● Passion for communication of science and delivering impact at scale ● Professor of Manufacturing Engineering with extensive experience of fundamental and industrially relevant research having created and **transitioned multiple technologies from the lab to industrial proposition** ● Founded two spin-out companies now led by former PhD students ● Demonstrated academic leadership heading an international and diverse research team of 25 research staff and students that has activities across additive manufacturing/3D printing and high value manufacturing ● 9 patents in the area of repair and manufacture of gas turbines ● Multi-year strategic partnerships held with Rolls-Royce (UK), Oerlikon (USA/Germany), Siemens Turbomachinery (UK) and Mitsubishi (Japan) ● Extensive experience of working and collaborating in Asia, Europe and North America ● Proven leadership (selecting, resourcing and delivering) as Director of Admissions and Chair of Research Operations Group creating policy and business planning for an annual UG intake of ~700 students and PG intake of 400-600 students (**annual revenue to business of ~£6.5M**) ● Demonstrated leadership to staff both within and outside my line management ● Established an entirely new apprenticeship program including business case, recruitment and delivery. ● Extensive experience of financial planning, management and human resource processes. ● Seasoned manager in relation to stakeholder engagement.

## Education and Training

PhD, "Layer Based Manufacturing of Functional Materials and Components" | 2009 University of Liverpool
MEng (Hons), Integrated Engineering | 2005 University of Liverpool
Certificate in Professional Studies "Teaching and Learning in Higher Education" | 2009 University of Liverpool

## Professional Appointments

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|---|---|
| Fellow, College International pour la Recherche en Productique (CIRP) | 2023 - Present |
| Professor, University of British Columbia | 2022 - Present |
| Ministry of Defence Manufacturing Technical Working Group – Appointment as Member | 2021 - Present |
| Founder, Non-Executive Director and Scientific Advisor \| Scintam Engineering Ltd. | 2021 - Present |
| President \| Association of Industrial Laser Users (AILU) | 2021 - 2023 |
| Research Chair \| Rolls-Royce Royal Academy Research Chair | 2019 - Present |
| Founder, Non-Executive Director and Scientific Advisor \| Texture Jet Ltd. | 2019 - Present |
| Secretary \| CIRP STC-E | 2019 - Present |

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| Visiting Professor \| Kanazawa University, Japan | 2019 - Present |
| Associate Head of Department \| M3, Faculty of Engineering | 2019 - 2022 |
| Deputy Director, Rolls-Royce UTC \| University of Nottingham | 2019 - 2022 |
| EPSRC Strategic Advisory Team: Manufacturing the Future theme | 2019 - 2022 |
| Li Dak Sum Professor of Advanced Manufacturing \| University of Nottingham, Ningbo, China | 2018 – 2021 |
| Professor of Manufacturing Engineering \| University of Nottingham | 2018 - Present |
| Secondment \| Rolls-Royce PLC Submarines | 2016 - 2017 |
| Associate Professor of Advanced Manufacturing \| University of Nottingham | 2015 - 2017 |
| Assistant Professor of Advanced Manufacturing \| University of Nottingham | 2010 - 2015 |
| Research Associate \| University of Liverpool | 2008 - 2009 |

## Honors and Awards

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|---|---|
| 2X ISEM Best Paper Award, CIRP ISEM | 2018 |
| Excellent Paper Award, CIRP ISEM<br>*"Electrolyte Jet Machining of Titanium Alloys Using Novel Electrolytes"* | 2016 |
| International teaching Fellow and Visiting Academic, Sichuan University, China | 2015 - 2017 |
| FAME Award Recipient, Solid Freeform Fabrication Conference (Austin, TX) for Contributions to Additive Manufacturing and 3D printing | 2014 |
| Furusato Award Recipient, Collaboration with University of Tokyo | 2012 |
| Invited Fellow, Japan Society for the Promotion of Science at the University of Tokyo | 2011 |

## Internet Based Resources (hyperlinked)

## Research Funding Overview

Secured over £6M in Research Grants as PI, and in excess of **£14.5M** total grants since appointment at the University of Nottingham.

| Dates | Funding Body and Title | Role | Valuation |
|---|---|---|---|
| 2023 - 2026 | MITACS/Rapidia – new materials development for MEX | PI | $240,000 |
| 2023 – 2028 | Discovery Grant – Stochastic Materials by 3D Printing | PI | $250,000 |
| 2021 - 2022 | Metrology Hub/EPSRC – Electrolyte Metrology | PI | £61,000 |

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|---|---|---|---|
| 2021 - 2023 | Innovate UK, Startup funding “Scintam Engineering Ltd” | PI | £289,000 |
| 2020 - 2023 | Innovate UK, ATI, Rolls-Royce, “RESINSTATE” | CI | £1,900,000 |
| 2021 - 2022 | SBRI, INNOVATE UK, Sustainability Demonstrator Texture Jet Ltd | CI | £500,000 |
| 2021 - 2025 | Liberty Metals UK PhD Sponsorship \| Ian Marsh | PI | £73,000 |
| 2020 - 2022 | MAPP/EPSRC – ‘3 Easy Pieces’ | PI | £62,000 |
| 2020 - 2024 | Oerlikon PhD Sponsorship \| Sebastien Faron | PI | £67,000 |
| 2020 - 2024 | Rolls-Royce PhD Sponsorship \| Thomas Girerd | PI | £67,000 |
| 2020 - 2024 | Siemens Turbomachinery PhD Sponsorship \| Hendrik Groth | PI | £82,000 |
| 2019 - 2021 | Mitsubishi Electric Europe: Direct Support, Provision of Machinery, EDM Coating Apparatus | PpI | £167,000 |
| 2019 - 2024 | Royal Academy of Engineering/ Rolls-Royce Research Chair | PI | £850,000 |
| 2019 - 2024 | EPSRC Program Grant, UK FIRES EP/S019111/1 | PI/CI | £410,000 |
| 2018 - 2019 | Various Confidential Projects, Rolls-Royce | PI | £320,000 |
| 2018 - 2019 | IAA Research Grant \| Jonathon Mitchell-Smith PDR | PI | £56,000 |
| 2018 - 2022 | Oerlikon Balzers, PhD Studentship \| Timothy Cooper | PI | £62,000 |
| 2018 - 2019 | Fastener Removal, Rolls-Royce | PI | £156,000 |
| 2018 - 2020 | EPSRC - UK Research Centre In Non-Destructive Evaluation – SRAS for AM | PI | £194,000 |
| 2018 - 2019 | IAA – EJM Advancement | PI | £62,000 |
| 2017 - 2020 | Rolls-Royce PhD Studentship \| Nuhaize Ahmed | PI | £66,000 |
| 2017 - 2020 | Oerlikon Metco PhD Studentship \| Alex Gullane | PI | £80,000 |
| 2016 - 2019 | Oerlikon Metco PhD Studentship \| Alexander Gasper | PI | £30,000 |
| 2016 - 2018 | EPSRC (EP/N034201/1) High Resolution Biomedical Imaging Using Ultrasonic Metamaterials | PI | £202,000 |
| 2015 - 2018 | Siemens PhD Studentship \| Sam Catchpole-Smith | PI | £80,000 |
| 2014 - 2022 | EPSRC (EP/L01534X/1) Centre for Doctoral Training in Additive Manufacturing and 3D Printing | CI | £4,557,035 |
| 2016 - 2019 | INNOVATE UK, Functional Lattices for Automotive Components (FLAC) | CI | £1,731,610 |
| 2014 - 2020 | EPSRC (EP/L022125/1): UK Research Centre In Non-Destructive Evaluation – Laser Acoustic Emission for Integrity Monitoring in SLM | CI | £600,000 |
| 2014 - 2016 | EPSRC (EP/L01713X/1): In-situ Monitoring of Component Integrity During Additive Manufacturing Using Optical Coherence Tomography | PI | £144,323 |
| 2014 - 2016 | EPSRC (EP/L017482/1): Functional Surfaces via Non-Conventional Processes | PI | £246,961 |
| 2013 - 2019 | Mitsubishi Electric Europe: Direct Support, Provision of Machinery, EDM Coating Apparatus | PI | £212,000 |
| 2013 - 2016 | EPSRC (EP/K034987/1): Underpinning Power Electronics - Integrated Drives | CI | £489,598 |

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|---|---|---|---|
| 2013 - 2016 | TSB/Renishaw/Delcam/ Alcon: ALSAM (Lightweight Aluminum Structures for Automotive Applications) | CI | £229,586 |
| 2013 - 2014 | Royal Academy of Engineering: Industrial Secondment – Rolls-Royce Submarines | PI | £26,000 |
| 2012 - 2017 | Cummins Generator Technologies: 2 x EngD studentships | PI/CI | £140,000 |
| 2012 - 2014 | BAE Systems: Advanced Tooling for Waterjet Masking | CI | £96,000 |
| 2012 - 2014 | JSPS: Bilateral Research Partnership – "Micro-EDM of Single Crystal Silicon" with University of Tokyo | CI | £30,000 |
| 2013 | JSPS: Furusato Award (Received at Japanese Embassy) | PI | £2,000 |
| 2011 - 2012 | JSPS: Invited Fellow - University of Tokyo | PI | £15,000 |
| 2010 | JSPS: Short Term Fellow - University of Tokyo | PI | £10,000 |
| 2012 | Nuffield Foundation: Process Analysis of Electrical Discharge Machining – Undergraduate Summer Placement | PI | £1,500 |
| 2012 | EPSRC (µProject in EP/I016813/1): Characterisation of Aerospace Materials Processed by Electrical Discharge Machining and Electron Beam Melting | PI | £24,000 |
| 2010 - 2012 | Transport iNET: Improved Longevity of Railway Track Using Laser Cladding | PI | £137,691 |

# Research Related Activities

**Knowledge Exchange**

Industrial partners include: Transport iNet, Rolls-Royce, Renishaw (MTT), Mitsubishi Electric Europe/Japan, Cummins Generator Technologies, Siemens, Oerlikon Balzers/Metco, Oerlikon AM, TADA Electric.

Scientific Advisor and Director at Texture Jet Ltd – University Spinout company.

**Inventions and Patents**

"Satelliting for Additive Manufacturing Materials", Patent Filed September 2013
Further 4 disclosures to University of Nottingham IP Office:

- Salt Blend Preparations for SLM
- Electrolyte Development for EJM
- Nozzle Arrangement and Operation for EJM
- µwave Detect and Repair Technologies

4 filed patents with Rolls-Royce Plc 'An Electro-Discharge Machining Tool and a Method of Using the Same' 2018
2 Further disclosures made with Rolls-Royce (further details available upon request) including 'ARCHER' – A new technology for the clearance of blocked turbine blade cooling holes.
AN ELECTRO-DISCHARGE MACHINING TOOL AND A METHOD OF USING THE SAME
CA3058729 (A1) CN111069720 (A) GB2578306 (A) GB2580474 (A) GB2580474 (B) SG10201909661Q (A) US2020122253 (A1)

**Public Outreach**

Nottingham Lead – Royal Academy of Engineering - '88 Pianists' Outreach Program
Local School Host, University of Nottingham STEM Outreach Program

## Additional Activities and Engagements

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|---|---|
| Associate Editor, International Journal Machine Tools and Manufacturing | 2023 - Present |
| Editorial Board, Additive Letters | 2021 - Present |
| Faculty Director of Apprenticeships | 2020 - Present |
| External Examiner \| Warwick University | 2020 - Present |
| Scientific Advisor SLPC April 21-23, 2020, Yokohama, Japan | 2020 - Present |
| Scientific Advisory Board \| ISEM, Switzerland | 2020 - Present |
| Scientific Advisory Board \| SFI Manufacturing Centre, Ireland | 2020 - Present |
| Scientific Advisory Board \| EPSRC Future Formulations | 2018 - Present |
| Scientific Advisory Board \| EPSRC Future Electrical Machines Hub | 2020 - Present |
| Faculty of Engineering Director of Admissions \| University of Nottingham | 2018 - 2020 |
| Member \| EPSRC Strategic Advisory Team (SAT), Manufacturing the Future Theme | 2018 - Present |
| External Examiner \| Queen's University Belfast | 2018 - Present |
| Li Dak Sum Chair of Additive Manufacturing, University of Nottingham Ningbo Campus | 2018 - Present |
| Board of Reviewers \| International Journal of Machine tools and Manufacturing | 2017 - Present |
| Associate Editor \| Journal of Materials Processing Technology | 2017 - Present |
| Subject Editor \| Precision Engineering | 2017 - 2019 |
| Founding Member \| EPSRC Future Leaders Initiative in Engineering | 2016 - Present |
| Member \| EPSRC College of Reviewers | 2016 - Present |
| Member \| EPSRC College of Reviewers | 2015 - Present |
| Reviewer \| Deutsche Forschungsgemeinschaft (German Research Foundation)<br>Fonds de Recherche du Québec – Nature et Technologies, Knowledge Foundation (Sweden) | 2012 - Present |
| Chairman \| Faculty of Engineering Research Operations Group | 2014 - 2016 |
| Founding Member \| EPSRC Early Career Forum in Manufacturing | 2013 - 2016 |
| Rolls-Royce Nuclear, Royal Academy of Engineering Secondment | 2013 - 2014 |

# Publication List

### Summary

- Over **185** Journal Publications in high quality peer reviewed international journals across manufacturing technology and materials science.
- Average of 12 journal publications per year in high quality journals since appointment at Nottingham in 2010
- Currently have 6 papers ranked in the top 10 most downloaded across journals (Materials and Design, Journal Materials Processing Technology and Surface and Coatings Technology. Including the most downloaded in Materials and Design).

- Google Scholar provides a searchable list of publications.

The majority of work is published in journals relating to manufacturing processes and material science, but more recently has expanded into general science including scientific reports and nature communications. Since taking up an academic position, I have been listed as the corresponding author and not the first author in most cases, a common practice to develop the exposure of students involved in the work. Where listed as corresponding author or last author my contribution is in the conception, planning, resource allocation, oversight of the experimental and analytical work and production of the paper.

**Peer Reviewed Journal Publications (conference contributions available upon request)**

1) S. Yang, A. T. Clare, C.J Bennett, X. Jin (2024) Informing Directed Energy Deposition Strategies through Understanding the Evolution of Residual Stress **Additive Manufacturing**

2) A. Speidel, I. Bisterov, S. Ahmed, A.T. Clare (2024) Ambient grain orientation imaging on complex surfaces **Acta Materialia**

3) A.T. Clare, M. Seita, A. Speidel, P. Collins, M. Clark (2024) Driving next generation manufacturing through advanced metals characterisation capability **Scripta Materialia**

4) L. Caprio, W. Reynolds, A.G Demir, A.T. Clare, B. Previtali (2024) Temporal modulation of the laser emission power for microstructural manipulation in powder bed fusion **Journal of Materials Processing Technology**

5) D. Yang, Y. Zheng, J. Li, A.T. Clare, K. Choi, X. Hou (2024) Anisotropic icephobic mechanisms of textured surface: barrier or accelerator? **ACS Applied Materials & Interfaces**

6) Y. Zhao, Z. Lyu, W. Liu, B. Zhang, A.T. Clare (2024) Submerged electrochemical jet machining with in-situ gas assistance **CIRP Annals**

7) S. Hosseinimehr, A. Mohammadpanah, M.J. Benoit, D.F. Ester, A. Zang, M. Martinez, X. Jin, A.T. Clare (2024) Defect Evolution and Mitigation in Metal Extrusion Additive Manufacturing: from Deposition to Sintering **Journal of Materials Processing Technology**

8) H. Hizli, J. Murray, M. Simonelli, A. Clare (2024) Microstructural Evolution in Laser Melted Boron Alloyed Ti-6Al-4V **Journal of Alloys and Compounds**

9) T. Girerd, O. Mypati O, R. Adamson, A.G. Gameros, M. Simonelli, A. Norton, A.T. Clare (2024) A new approach to laser DED as a repair technology **Journal of Materials Processing Technology**

10) A.T. Clare et al. (2025) Multi-Material Additive Manufacturing: Overcoming Barriers to Implementation **CIRP Annals (Kn)**

11) Deyu Yang; Rui Bao; Adam T. Clare; Kwing-So Choi (**2024**) Phase change surfaces with porous metallic structures for long-term anti/de-icing application **Journal of Colloid & Interface Science**

12) T. Girerd, O. Mypati O, R. Adamson, A.G. Gameros, M. Simonelli, A. Norton, A.T. Clare (2024) Modulation of melt pool behavior using novel laser beam oscillation methods **Journal of Materials Processing Technology**

13) M.D Wadge, M. Lowther, T. P Cooper, W.J Reynolds, A. Speidel, L.N Carter, D. Rabbitt, Z. R Kudrynskyi, R.M Felfel, I. Ahmed, A.T Clare, D.M Grant, L.M Grover, S.C Cox (2023) Tailoring absorptivity of highly reflective Ag powders by pulsed-direct current magnetron sputtering for additive manufacturing processes **Journal of Materials Processing Technology**

14) Xi Du, Marco Simonelli, James W Murray, Adam T Clare (2023) Facile manipulation of mechanical properties of Ti-6Al-4V through composition tailoring in laser powder bed fusion **Journal of Alloys and Compounds**

15) S. Readyhoof, D. Clark, C. Bennett, M. Boyd, A.T Clare (2023) Dynamic Ideality for Energy Beam Processes Electron Beam Welding **Journal of Materials Processing Technology**

16) P. Li, N. T. Aboulkhair, D. Yanga, A. T. Clare, B. Ghosh, X. Hou, F. Xu (2022) Tailoring the in-situ formation of intermetallic phases in the self-lubricating Al-WS2 composite for enhanced tribological performance with wear track evolution analysis **Journal of Materials Science & Technology**

17) T. Girerd, A. Gameros Madrigal, AT. Clare, A. Norton (2022) Lissajous curve oscillations in laser welding **Procedia CIRP**

18) A. Speidel, I. Bisterov, K.K. Saxena, M. Zubayr, D. Reynaerts, W. Natsu, A. T. Clare (2022) Electrochemical jet manufacturing technology: From fundamentals to application **International Journal of Machine Tools and Manufacture**

19) I. Bisterov, S. Abayzeed, A. Speidel, M. Magnini, M. Zubayr, A.T. Clare (2023) Adapting 'tool' size using flow focusing: a new technique for electrochemical jet machining **Journal of Materials Processing Technology**

20) A. Speidel, I. Bisterov, A. T. Clare (2022) Direct writing unclonable watermarks with an electrochemical jet **Advanced Functional Materials**

21) A. Gullane, J.W. Murray, C.J. Hyde, S. Sankare, A. Evirgen, A.T. Clare (2022) Failure modes in dual layer thickness Laser Powder Bed Fusion components using a novel post-mortem reconstruction technique **Additive Manufacturing**

22) Shamraze Ahmed, A. Speidel, J. W. Murray, N. Ahmed, M. Cuttell, A. T. Clare (2022) Electrolytic-Dielectrics: A route to zero recast Electrical Discharge Machining **International Journal of Machine Tools and Manufacture**

23) Z. Li, S. Sui, X. Ma, H. Tan, C. Zhong, G. Bi, A.T. Clare, A. Gasser, J. Chen (2022) High deposition rate powder- and wire-based laser directed energy deposition of metallic materials: A review **International Journal of Machine Tools and Manufacture**

24) Y. Wang, Z. Feng, F. Zhang, W. Shang, A.T. Clare, X. Lin (2022) Enhanced mechanical properties of in situ synthesized TiC/Ti composites by pulsed laser directed energy deposition **Materials Science & Engineering A**

25) W.J. Reynolds, M. Simonelli, G. Del Guercio, A. G. Demir, A.T. Clare (2022) Temperature regulation in laser powder bed fusion **Journal of Materials Processing Technology (under review)**

26) L. Astolfi, D.A. Hutchins, R.L. Watson. P.J. Thomas, M. Ricci, L. Nie, S. Freear, T.P. Cooper, A. T. Clare, S. Laureti (2022) Optimised polymer trapped-air lenses for ultrasound focusing in water exploiting Fabry-Pérot resonance **Ultrasonics**

27) D. Yang, R. Bao, A. T. Clare, K-S. Choi, X. Hou (2022) Hydrophobically/oleophilically guarded powder metallurgical structures and liquid impregnation for ice mitigation **Chemical Engineering Journal**

28) J.W. Murray, Alistair Speidel; Adriaan Spierings; Ian J. Marsh; Adam. T. Clare Manuscript (2022) Extending powder lifetime in additive manufacturing: chemical etching of stainless steel spatter **Additive Manufacturing Letters**

29) W.W. Wits, E. Scolaro, E. Amsterdam and A. T. Clare (2022) The role of scan strategies in fatigue performance for laser powder bed fusion **CIRP Annals**

30) J. H Groth, M. Magnini, C. Tuck, A.T Clare (2022) Stochastic Design for Additive Manufacture of True Biomimetic Populations **Additive Manufacturing**

31) P. Li, N. Aboulkhir, F. Xu, A.T. Clare. X. Hou (2022) Metallurgical reactions and tribological properties of self-lubricating Al-WS2 composites: Laser powder bed fusion Vs. spark plasma sintering **Materials and Design**

32) S. Sanchez, C. J. Hyde, I. A. Ashcroft, R. G. Aswathanaraynaswamy, A. T. Clare* (2022) On the thermomechanical aging of LPBF alloy 718 **Materials Engineering and Science A**

33) I. Bisterov, A. Speidel, A.T. Clare (2022) On-machine measurement with an electrochemical jet machine tool **International Journal of Machine Tools and Manufacture**

34) A. Speidel, L. Gargalis, J. Ye, M. J. Matthews, A. Spierings, R. Hague, A. T.Clare, J.W. Murray (2022) Chemical recovery of spent copper powder in laser powder bed fusion **Additive Manufacturing**

35) M. Castro-Palacios, S. Ahmed, J. Kell, A. Speidel, J.W. Murray, A.T. Clare (2021) A dual material removal mechanism for clearing of obstructed holes via electrical discharge machining **Manufacturing Letters**

36) L. Nie, D. A. Hutchins, L. Astolfi, T. P. Cooper, A. T. Clare, C. Adams, R. L. Watson, P. J. Thomas, D. M. J. Cowell, J. R. McLaughlan, S. Laureti, M. Ricci, S. Freear (2021) A Metallic Additively-Manufactured Metamaterial for Enhanced Monitoring of Acoustic Cavitation-Based Therapeutic Ultrasound **Advanced Engineering Materials**

37) A. Gullane, J.W. Murray, C.J. Hyde, S. Sankare, A. Evirgen, A.T. Clare (2021) On the use of multiple layer thicknesses within laser powder bed fusion and the effect on mechanical properties **Materials and Design**

38) T. Furumoto, K. Oishi, S. Abe, K. Tsubouchi, M. Yamaguchi, A.T. Clare (2021) Evaluating the thermal characteristics of laser powder bed fusion **Journal of Materials Processing Technology**

39) J.H Groth, C. Anderson, M. Magnini, C. Tuck, A.T. Clare (2021) Five simple tools for stochastic lattice creation **Additive Manufacturing**.

40) J.W. Murray, A. Speidel, A. Jackson-Crisp, P.H. Smith, H. Constantin, A.T. Clare (2021) Unprocessed machining chips as a practical feedstock in directed energy deposition **International Journal of Machine Tools and Manufacture**

41) A.T. Clare, R Mishra, M. Merklein, H. Tan, I. Todd, J Li, L. Chechik, M. Bambach (2021) Alloy design and adaptation for additive manufacture. **Journal of Materials Processing Technology**

42) P.H. Smith, J.W. Murray, A. Jackson-Crisp, J. Segal, A.T. Clare (2021) Magnetic manipulation in directed energy deposition using a programmable solenoid. **Journal of Materials Processing Technology**

43) A. Speidel, M.D. Wadge, L. Gargalis, T.P. Cooper, W. Reynolds, D. Grant, R. Hague, A.T. Clare, J.W. Murray (2021). The interaction of volatile metal coatings during the laser powder bed fusion of copper **Journal of Materials Processing Technology**

44) F. Zhang, K. Wang, Y. Li, Y. Chen, M. Yang, M. Wang, A.T. Clare (2021). Composition fine-tuning for directed energy deposition of Ti-6Al-4V **Journal of Materials Processing Technology**

45) L. Astolfi, D.A. Hutchins, P. J. Thomas, R.L. Watson, L. Nie, S. Freear, A. T. Clare, M. Ricci, S. Laureti (2021). Holey-structured tungsten metamaterials for broadband ultrasonic sub-wavelength imaging in water **The Journal of the Acoustical Society of America**

46) A.T Clare, J.W Murray, A. Speidel, I. Bisterov (2021). Electrical Machining at Nottingham: A Short History **International journal of electrical machining**

47) N Ahmed, JW Murray, T Yuzawa, T Kurokawa, T Nakagawa, S Sarugaku A.T. Clare (2021). Residual stress in electrical discharge coatings **Surface and Coatings Technology**

48) S. Sanchez, Z. Xu, G. Gaspard. C.J. Hyde, W.W. Wits, I.A. Ashcroft, H. Chen, P. Smith, A.T Clare (2021). Powder Bed Fusion of Nickel-based Superalloys: A Review **International Journal of Machine Tools and Manufacture**

49) A.T. Clare*, A. Gullane, C. Hyde, S. Sankare, J.W. Murray, W.W. Wits (2021). Interlaced layer thicknesses within single LPBF Geometries **CIRP Annals**

50) F. Zhang, P. Gao, H. Tan, Y. Li, Y. Chen, M. Mei, A.T. Clare, L.C. Zhang (2021). Tailoring grain morphology in Ti-6Al-3Mo through heterogeneous nucleation in directed energy deposition **Journal of Materials Science & Technology**

51) S. Sanchez, C. J. Hyde, I. A. Ashcroft, R. G. Aswathanaraynaswamy, A. T. Clare* (2021). Multi-laser scan strategies for enhancing creep performance in LPBF **Additive Manufacturing**

52) L. Gargalis, J. Ye, M. Strantza, A. Rubenchik, J.W. Murray, A.T. Clare, I.A. Ashcroft, R. Hague, M. J. Matthews (2021). Determining processing behavior of pure Cu in laser powder bed fusion using direct micro-calorimetry **Journal of Materials Processing Technology**

53) A. Speidel, R. Sélo, I. Bisterov, J. Mitchell-Smith, A.T. Clare* (2021). Post processing of additively manufactured parts using electrochemical jet machining **Materials Letters**

54) I. Bisterov, A. Speidel, J. Mitchell-Smith, A.T. Clare* (2021) Implications of vector change in electrochemical jet processing **Manufacturing Letters**

55) S. Sanchez, G. Gaspard, C. J. Hyde, I. Ashcroft, R. G. Aswathanaraynaswamy, A. T. Clare* (2021). The creep behaviour of nickel alloy 718 manufactured by laser powder bed fusion **Materials and Design**

56) A. Speidel, I. Bisterov, J. Mitchell-Smith, M. Castro-Palacios, A. Jackson-Crisp, M. Hirsch, A.T. Clare* (2021). Towards selective compositionally graded coatings by electrochemical jet processing **Procedia CIRP**

57) A. Speidel, D. Xu, I. Bisterov, J. Mitchell-Smith, A. T. Clare* (2021). Unveiling surfaces for advanced materials characterisation with large-area electrochemical jet machining **Materials and Design**

58) S. Patwardhan, A.T. Clare (2021). Plate Spinning: A Beginner's Guide to Surviving and Thriving as an Engineering/Science Academic. **Book** doi.org/10.15131/shef.data.13516478.v1

59) M.S. Knieps, W.J. Reynolds, J. Dejaune, A.T. Clare, A. Evirgen (2021). In-situ alloying in powder bed fusion: The role of powder morphology **Materials Science and Engineering A.**

60) Z. Liao, A. la Monaca, J. Murray, A. Speidel, D. Ushmaev, A.T. Clare, D. Axinte, R. M'Saoubi (2021). Surface integrity in metal machining - Part I: Fundamentals of surface characteristics and formation mechanisms **International Journal of Machine Tools and Manufacture**.

61) A. la Monaca Z. Liao, J. Murray, A. Speidel, D. Ushmaev, D. Axinte, M. Hardy, A.T. Clare* (2021). Surface integrity in metal machining - Part II: functional performance **International Journal of Machine Tools and Manufacture.**

62) R. Fuentes-Domínguez, M. Yao, A. Colombi, P. Dryburgh, D. Pieris, A. Jackson-Crisp, D. Colquitt, A.T. Clare, R. J. Smith, M. Clark, (2021). Design of a resonant Luneburg lens for surface acoustic waves **Ultrasonics**.

63) F. Zhang, Y. Qiu,T. Hua, A. T. Clare, Y. Li, L.C. Zhang (2020). Microstructures and mechanical behavior of beta-type Ti-25V-15Cr-0.2Si titanium alloy coating by laser cladding **Materials Science and Engineering: A.**

64) G.J. Chaplain, J. M. De Ponti, A. Colombi, R. Fuentes-Dominguez, P. Dryburg, D. Pieris, R.J. Smith, A.T. Clare, M. Clark And R.V. Craster, (2020). Tailored Elastic Surface to Body Wave Umklapp Conversion **Nature Communications**.

65) S. Laureti, D.A. Hutchins, L. Astolfi, R.L. Watson, P.J. Thomas, P. Burrascano, L. Nie, S. Freear, M. Askari, A.T. Clare And M. Ricci, (2020). Trapped Air Metamaterial Concept for Ultrasonic Sub-Wavelength Imaging In Water **Scientific Reports**.

66) A.T. Clare*, W.J. Reynolds, J.W. Murray, N.T. Aboulkhair, M. Simonelli, M. Hardy, D.M. Grant, C. Tuck, (2020). Laser Calorimetry For Assessment Of Melting Behaviour In Multi-Walled Carbon Nanotube Decorated Aluminium By Laser Powder Bed Fusion **CIRP Annals**.

67) Speidel, Alistair; Murray, James; Bisterov, Ivan; Mitchell-Smith, Jonathon; Parmenter, Christopher; Clare, Adam* (2020). Thermal Activation of Electrochemical Seed Surfaces for Selective and Tuneable Hydrophobic Patterning **ACS Applied Materials and Interfaces.**

68) R. Sebastian, H. Chen, A. Rushworth, A.T Clare*(2020). Unit Cell Type Scan Strategies For Powder Bed Fusion: The Hilbert Fractal **Additive Manufacturing**.

69) Hutchins, D, M. Askari, R. Watson, L. Nie, R. Wildman, L. Astolfi, S. Freear. P. Thomas, S. Laureti, M. Clark, E. Woods, C. Tuck, A.T. Clare* (2020). Additive Manufacturing of Metamaterials: A Review **Additive Manufacturing**.

70) P. Smith, J. Murray, J. Segal, A. T. Clare* (2020). Magnetically Assisted Directed Energy Deposition **Journal of Materials Processing Technology**.

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140) A Sumner, C Gerada, N Brown And A.T. Clare, 2017. Controlling DC Permeability in Cast Steels **Journal of Magnetism and Magnetic Materials**. [If – 2.63] (35%)

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143) Catchpole-Smith, S; Clare, At; 2017 In-Situ Synthesis of Titanium Aluminides by Direct Metal Deposition **Journal of Materials Processing Technology** 239 230-239 [If – 2.359] (50%)

144) Guan, Guangying; Hirsch, Matthias; Syam, Wahyudin P; Leach, Richard K; Huang, Zhihong; Clare, Adam T; 2016 Loose Powder Detection and Surface Characterization in Selective Laser Sintering Via Optical Coherence Tomography **Proceedings of The Royal Society A** [If – 2.450 ] (50%)

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153) Murray, James W; Clare, Adam T; 2016 Morphology and Wear Behaviour of Single and Multi-Layer Electrical Discharge Coatings **Procedia Cirp** 42, 236-239 (60%)

154) Abioye, TE; Farayibi, PK; Mccartney, DG; Clare, AT; 2016 Effect of Carbide Dissolution on the Corrosion Performance of Tungsten Carbide Reinforced Inconel 625 Wire Laser Coating **Journal of Materials Processing Technology** 231, 89-99 [If – 2.359] (60%)

155) Maskery, Ian; Aboulkhair, NT; Corfield, MR; Tuck, Christopher; Clare, AT; Leach, RK; Wildman, RD; Ashcroft, LA; Hague, RJM; 2016 Quantification and Characterisation of Porosity in Selectively Laser Melted Al–Si10–Mg Using X-Ray Computed Tomography **Materials Characterization** 111, 193-204 [If – 2.383] (15%)

156) Allwood, Julian M; Childs, Tom HC; Clare, Adam T; De Silva, Anjali Km; Dhokia, Vimal; Hutchings, Ian M; Leach, Richard K; Leal-Ayala, David R; Lowth, Stewart; Majewski, Candice E; 2016 Manufacturing at Double the Speed **Journal of Materials Processing Technology** 229, 729-757 [If – 2.359] (5%)

157) Murray, JW; Sun, J; Patil, DV; Wood, TA; Clare, AT; 2015 Physical and Electrical Characteristics of EDM Debris **Journal of Materials Processing Technology** 229, 54-60 [If – 2.359] (60%)

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162) Abioye, TE; Mccartney, DG; Clare, AT; 2015 Laser Cladding of Inconel 625 Wire for Corrosion Protection **Journal of Materials Processing Technology** 217, 232-240 [If – 2.359] (60%)

163) Hirsch, Matthias; Dedenbach, Johannes; Lawes, Simon; Clare, Adam T; 2015 In Situ Low-Cost And Adaptable Braze Tool Evaluation System With Vision Analysis **Proceedings Of The Institution of**

**Mechanical Engineers, Part B: Journal of Engineering Manufacture** 229, 9, 1595-1602 [If – 0.978] (60%)

164) Murray, JW; Walker, JC; Clare, AT; 2014 Nanostructures in Austenitic Steel After Edm and Pulsed Electron Beam Irradiation **Surface And Coatings Technology** 259, 465-472 [If - 2.139] (50%)

165) Li, Cl; Murray, JW; Voisey, KT; Clare, AT; Mccartney, DG; 2014 Corrosion Behaviour of a Rapidly Solidified Al 87.4 Co 7.9 Ce 4.7 Layer Prepared by Large Area Electron Beam Irradiation **Applied Surface Science** 320, 581-590 [If – 3.150] (25%)

166) Boud, F; Murray, JW; Loo, LF; Clare, AT; Kinnell, PK; 2014 Soluble Abrasives for Waterjet Machining **Materials and Manufacturing Processes** 1346-1352 [If – 1.63] (40%)

167) 川中拓磨; ムレージェームズ; クレアアダム; 国枝正典; 2013 電解液ジェットによるテクスチャリング 精密工学会学術講演会講演論文集 0, 979-980 [*See* Item 122]

168) Walker, JC; Murray, JW; Nie, Mengyan; Cook, RB; Clare, AT; 2014 The Effect of Large-Area Pulsed Electron Beam Melting on the Corrosion and Microstructure of a Ti6al4v Alloy **Applied Surface Science** 311, 534-540 [If – 3.150] (30%)

169) Kawanaka, Takuma; Kato, Shigeki; Kunieda, Masanori; Murray, James W; Clare, Adam T; 2014 Selective Surface Texturing Using Electrolyte Jet Machining **Procedia Cirp** 13, 345-349 (40%)

170) Presti, Davide Lo; Fecarotti, Claudia; Clare, Adam T; Airey, Gordon; 2014 Toward More Realistic Viscosity Measurements of Tyre Rubber–Bitumen Blends **Construction and Building Materials** 67,270-278 [If – 2.421] (30%)

171) Cl Li, JW Murray, KT Voisey, AT Clare, DG Mccartney 2014 Effect of Prior Laser Microstructural Refinement on the Formation of Amorphous Layer in an Al< Sub> 86</Sub> Co< Sub> 7.6</Sub> Ce< Sub> 6.4</Sub> Alloy **Applied Surface Science** 289, 230-236 [If – 2.538] (20%)

172) T Kawanaka, S Kato, M Kunieda, JW Murray, AT Clare 2014 Selective Surface Texturing Using Electrolyte Jet Machining **Procedia Cirp** 13, 345-349 (20%)

173) F Boud, JW Murray, LF Loo, AT Clare, PK Kinnell 2014 Soluble Abrasives for Waterjet Machining **Materials and Manufacturing Processes** [If – 1.486] (40%)

174) JC Walker, JW Murray, M Nie, RB Cook, AT Clare 2014 The Effect of Large-Area Pulsed Electron Beam Melting on the Corrosion and Microstructure of a Ti6al4v Alloy **Applied Surface Science** [If – 2.538] (40%)

175) D Lo Presti, C Fecarotti, At Clare, G Airey 2014 Toward More Realistic Viscosity Measurements of Tyre Rubber–Bitumen Blends **Construction and Building Materials** [If - 2.265] (20%)

176) M Hirsch, J Dedenbach, S Lawes, At Clare 2014 In Situ Low-Cost and Adaptable Braze Tool Evaluation System with Vision Analysis **Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture** [If - 0.661] (40%)

177) PK Farayibi, JW Murray, L Huang, F Boud, PK Kinnell, AT Clare* 2014 Erosion Resistance Of Laser Clad Ti-6al-4v/Wc Composite for Waterjet Tooling **Journal of Materials Processing Technology** 214 (3), 710-721 [If - 2.041] (50%)

178) A.Okada, Y. Okamoto, Y. Uno And A.T. Clare* 2013. Effect Of EB Polishing on Releasability of Molded Rubber from Metal Mold Tools **International Journal Of Mechanics And Materials In Design** [If - 0.732] (20%)

179) T. E. Abioye, J. Folkes And A. T. Clare 2013 A Parametric Study of Inconel 625 Wire Laser Deposition **Journal of Materials Processing Technology** [If - 2.041] (50%)

180) C.L. Li, J.W. Murray, K.T. Voisey, A.T. Clare And D.G. Mccartney 2013. Amorphous Layer Formation in an Al-Co-Ce Glass-Forming Alloy by Large-Area Electron Beam Irradiation **Applied Surface Science**. [If – 2.538] (20%)

181) Walker, J.C., Cook, R.B., Murray, J.W. And Clare, A.T., 2013. Pulsed Electron Beam Surface Melting of Cocrmo Alloy For Biomedical Applications **Wear**. [If – 1.862] (40%)

182) J. W. Murray, M. W. Fay, M. Kunieda And A. T. Clare, 2013. Tem Study on the Electrical Discharge Machined Surface of Single-Crystal Silicon **Journal of Materials Processing Technology**. [If - 2.041] (50%)

183) P.K. Farayibi, T.E. Abioye, And A.T. Clare, 2013. Abrasive Wear Performance Of Laser Deposited Ti-6al-4v Wire/Wc Powder **Surface Engineering** [If – 1.51] (50%)

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185) J. Murray, P. Kinnell, A. Cannon, B. Bailey, A.T. Clare*, 2013 Surface Finishing of Intricate Metal Mold Structures by Large-Area Electron Beam Irradiation **Precision Engineering**. [If – 1.403] (50%)

186) A.T. Clare*, O. Oyelola, P. Farayibi And J. Folkes, 2012. Laser Cladding for Railway Repair and Preventative Maintenance **Journal Of Laser Applications**. [If - 1.338] (30%)

187) J. Murray, D. Zdebski And A.T. Clare*, 2012. Workpiece Debris Deposition on Tool Electrodes and Secondary Discharge Phenomena in Micro-Edm **Journal of Materials Processing Technology**. [If - 2.041] (50%)

188) J. Murray And A.T. Clare*,2012. Repair of EDM Induced Surface Cracks by Pulsed Electron Beam Irradiation **Journal of Materials Processing Technology**. [If - 2.041] (50%)

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## References

*For contact upon request only.*

Professor Chris Tuck
Faculty Associate Pro-Vice Chancellor Research (Professor, Additive Manufacturing)
Faculty of Engineering, University of Nottingham
ezzcjt@nottingham.ac.uk

Professor Steve Feng
Chair of Mechanical Engineering
Faculty of Applied Science, University of British Columbia
feng@mech.ubc.ca

Professor Julian Allwood
Professor of Mechanical Engineering

Faculty of Engineering, University of Cambridge
jma42@cam.ac.uk

Professor Dragos Axinte
Director Rolls-Royce UTC
University of Nottingham
dragos.axinte@nottingham.ac.uk