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| |  | | --- | |  |     **Contact**    Address : School of Engineering/ Telford Innovation Campus/ TF2 9NN/Telford  Address: 59 Beveley Road TF2 6DL Telford Westmidland  Phone : 01902 323845  Email : k.bari@wlv.ac.uk    **Skills**     * Simulation of material behaviour under harsh environment * Mechanical Testing * X-ray tomography * 3D printing (SLM, SLA, SLS) * CFD and wind tunnel expertise * Teaching PG and UG students * Machining CNC (Hurco winmax10) * Turnitin and Online Teaching * Materials modelling * Advance Mathematics * Admin and Finance * Project manager * Staff recruitment * Equipment Procurement and Tender specification * PhD supervision and examination * Validation panel member of courses and external examiner * External engagement with companies and communities. * Networks * Course work and examination papers * Remote Control airplane Flying club for student engagement * Open days and strategic planning for recruitment * Microsoft Office * Staff development * Extremely organised * Risk management processes and analysis * Process implementation * Fluent in English/German * Time management * Strong verbal communication * Team management * Problem solving | |  | | --- | | Dr. Klaudio Bari  Reader    **Professional summary**  Aerospace and Aeronautic designer for Unmanned Ariel Vehicle (UAV). My focus is material selection and optimisation for aerostructure part in particular advanced composite for magnetic shielding, heat resistance and extreme light weight (iso-grid lattice structure). In addition, expertise relates to the design parameters of 3D printed structures (SLM, SLS, DMLA, SLA, FDM), for metal, ceramics, polymer and composite. I am leading the composite research at my Department and performed a fundamental research work on lattice structure material for both biomedical and aerospace applications, in particular Ti64 bone implant for human Tibia bone and landing gear for Airbus A320 Neo. I am holding a chair in EPSRC advisory panel for 4D X-ray tomography and multi-scale modelling. I have more 30 journals and conference proceeding papers that related to material science and manufacturing processes.    **Work history**  Principal lecturer/Associate Head of Department  12/2018 to Current  University of Wolverhampton - Telford, Shropshire  Director of Composite Research  Co-investigator for EDRF funding (£1.8m)  Academic leader for developing new course in UG and PG level  5 PhD supervision and 2 completion  Admin responsibility for finance and project funding, Procurement and tender process using Bravo solution.  Developing Research funding proposals  Recruitment using HR E-Recruit software, shortlisting, scoring, interview panel, candidate offer, negotiate, employment, training and identify the potential.  Research field:  Light weight material for aerospace and biomedical application Material microstructure characterisation that include the following:  Optical Microscopy, Scanning Electron Microscopy, Transmission Electron Microscopy, Chemical Analysis in Electron Microscopy, Diffraction Techniques Principles of Diffraction, X-Ray Diffraction, Neutron Diffraction, Electron Diffraction, Spectroscopic Techniques, Energy Dispersive X-Ray Spectroscopy, Wavelength Dispersive X-Ray Spectroscopy, Electron Energy Loss Spectroscopy, X-Ray Photoelectron Spectroscopy, Auger Electron Spectroscopy, Infra-red and Raman Spectroscopy, Ultra-violet and Visible Spectroscopy, Electrical and Magnetic Techniques, Electrical Resistance, Impedance Spectroscopy, Thermal Techniques, Thermo gravimetric Analysis (TGA), Differential Thermal Analysis (DTA), Differential Scanning Calorimetric (DSC), Mechanical Strength, Hardness, Hardness Brinell (HB), Hardness Rockwell (HRB/HRC), Hardness Vickers (HV), Non-destructive testing (NDT), Creep.  Additive layer manufacturing: SLM using EOS 290, EOS 250, SLA, SLS, FDM)  Wind Tunnel in Testing UWR race car (1/3 Model), intake span 900mm, wind velocity 100 mph.  Micro X-ray tomography Bruker SkyScan 2211 and in-situ stage Deben 5kN, up 250C testing rig  Senior Lecturer 02/2014 to 12/2018  University of Derby - Derby, East midland   * In Metallurgy / Mechanical Engineering/ Technical expertise Workshop Skills: Metal forming and casting, glass melting and forming, * Experimental set up for PG students, Welding TIG/MIG stainless steel, CVD and EBPVD for thin film deposition Material characterisation: Raman spectroscopy * ● Professional user of X-ray Tomography, TEM, SEM, EDX, EBSD * 3 PhD students’ supervision and completion * Rolls Royce apprenticeship program leader (55 students)   Post doctorate 01/2013 to 02/2014  University of Manchester - Manchester   * Teaching and Research at School of Mechanical aerospace engineering. * Powder Metallurgy of Stainless Steel in Hot Isostatic Sintering / joint project with Rolls Royce. Turbine Blades Jet engine * British Model Flying association Payload challenge winner 2014 in designing EPO remote access controlled airplane.   Research fellow 01/2008 to 01/2013  University of Manchester - Manchester, Manchester   * Light weight material for aviation using composite (GLARE) Development of composite materials and production technologies for the implementation of function-integrated lightweight-design solutions Implementation of these solutions in economically viable industrial production processes for the aviation and machine tools sectors. * FEA and CFD simulation using Ansys, Solidworks, Abaqus, Autodesk (Fusion 360, Power-Mill, power-shape)   Experimental Officer (Scanning Electron Microscope 01/1996 to  01/2006  University of applied science in Frankfurt - Frankfurt/ Germany, Hessen   * Officer of the Material Science Responsible for Chemical Vapour Deposition (CVD) of ceramic coating (SiC) on metal oxide (ZrO2) substrate. * SEM operator at the University 2001-2006 Lecturer/Senior lecturer in mechanical engineering Frankfurt University Applied Sciences Germany Teaching thermo-fluid, advanced mathematics and material microstructure for level 5 and 6. * Research on composite for automotive industry.   Research Associate 02/1991 to 06/1996  University of Magdeburg - Magdeburg/ Germany, Sachsen Anhalt   * In Mechanical Engineering CFD, FEA simulation. * Advanced Fluid dynamics and thermodynamics, Material Science, Advanced Applied analytical methods.     **Education**  PhD: Mechanical Engineering, 2013  University of Manchester - Manchester  Light Material Selection for Aerospace and automotive application  Forensic Analysis for failed engineering parts FEA and CFD Simulation using Abaqus CAE, Ansys and solid-Works Micro CT scan and multi scale modelling for Bio-medical engineering (Bone implant) Additive and Subtractive Engineering.  MSC (Hon): Material Science, 2006-2008  University of Manchester - Manchester  My MSc modules were involved in structural analysis and design of thin-walled structures, with a strong focus on aerospace applications. We studied both metallic applications (analysis and optimised design considering advanced alloys, novel geometric design and new manufacturing methods) and composite applications (impact modelling, structural analysis and integrated design for manufacture).  My MSc thesis involve in experimentally based research including material characterisation, structural detail testing and higher TRL sub-component testing. my numerical research interests are centred on the finite element modelling of thin-walled structural components across multiple scales, including the sizing of large-scale aerospace components. A major element of my numerical research is FEM modelling automation and the interfacing of various design and analysis tools across multiple software platforms.  Higher National Diploma: Education, 2000  Frankfurt Applied Science University - Frankfurt/Germany  Sachsen-Anhalt Advanced Education Centre Diploma in Nuclear decommissioning PWR reactor   * Coursework in Professional Prospecting Skills   Bachelor of Science: Germany BSc Mechanical Engineering, 1995  University Otto-von-Guericke-Magdeburg    **Accomplishments**   * My PhD Thesis: Crystal Graphic orientation of Nickel super alloy using EBSD at high temperature.2013 * Publication in Thermal diffusion simulation using ABAQUS software. * Expertise Chemical Vapour Deposition (CVD) for SiC 2014 * Research funding EPSRC (£450,000) University of Manchester 2014 * Material Research Laboratory establishment through fund (£1.250,000) from HEFCE / university of Derby 2015 * Postgraduate teaching certificate for teaching at PGCERT 2016 * Leadership and management diploma 2017 university of Derby * Installation of wind tunnel and autoclave at University of Wolverhampton. 2018-2020 * Best Lecturer award of the year 2106 in Derby University * Successful fund proposal for my PhD at UOM, The fund from Rolls Royce PLC Derby Turbine Facilities. * Published more than 25 papers and Reviewed more than 50 papers in material and manufacturing * Successful fund obtained from EPSRC for industrial case in Henry Mosley X-tomography centre in Manchester University,2014 (£200,000) A * Associates member in German Mechanical Engineering Council -2000 * Certificate as a trainer for Solid-work software 2010. * Associate member in American Ceramics Society-2009. * Associate member in Institute for Nuclear Materials USA-2007. * Certificate from Simulia as a trainer in Abaqus Software CAE 6.12.1) 2006 * Certificate from CD-Adapco in Star CMM+ Software 2014. * Certificate from Granta design in CES selector Software 2016. * European Powder Metallurgy Association (EPMA) full membership-2014 * Fellow in Higher Education Academy (HEA) PG-CERT April 2015. * CEng accreditation IMechE 2006 * Fellow of Peer review in Engineering Program for Research Council (EPSRC)   **Recent Publication:**  Bari, K., & Arjunan, A. (2019). Extra low interstitial titanium based fully porous morphological bone scaffolds manufactured using selective laser melting. *Journal of the Mechanical Behavior of Biomedical Materials*, *95*, 1-12. doi:[10.1016/j.jmbbm.2019.03.025](http://doi.org/10.1016/j.jmbbm.2019.03.025)  Vance, A., Bari, K., & Arjunan, A. (2019). Investigation of Ti64 sheathed cellular anatomical structure as a tibia implant. *Biomedical Physics & Engineering Express*, *5*(3). doi:[10.1088/2057-1976/ab0bd7](http://doi.org/10.1088/2057-1976/ab0bd7)  Vance, A., Bari, K., & Arjunan, A. (2018). Compressive performance of an arbitrary stiffness matched anatomical Ti64 implant manufactured using Direct Metal Laser Sintering. *Materials & Design*, *160*, 1281-1294. doi:[10.1016/j.matdes.2018.11.005](http://doi.org/10.1016/j.matdes.2018.11.005)  Bari, K., Rolfe, A., Christofi, A., Mazzuca, C., & Sudhakar, K. V. (2017). Forensic investigation of a failed connecting rod from a motorcycle engine. *Case Studies in Engineering Failure Analysis*, *9*, 9-16. doi:[10.1016/j.csefa.2017.05.002](http://doi.org/10.1016/j.csefa.2017.05.002)  Lowe, T., Bradley, R. S., Yue, S., Barii, K., Gelb, J., Rohbeck, N., . . . Withers, P. J. (2015). Microstructural analysis of TRISO particles using multi-scale X-ray computed tomography. *Journal of Nuclear Materials*, *461*, 29-36. doi:[10.1016/j.jnucmat.2015.02.034](http://doi.org/10.1016/j.jnucmat.2015.02.034)  Bari, K., Osarinmwian, C., López-Honorato, E., & Abram, T. J. (2013). Characterization of the porosity in TRISO coated fuel particles and its effect on the relative thermal diffusivity. *Nuclear Engineering and Design*, *265*, 668-674. doi:[10.1016/j.nucengdes.2013.08.067](http://doi.org/10.1016/j.nucengdes.2013.08.067)  Bari, K., Khan, S. Z., Lowe, T., & Farooqi, J. K. (2013). Measurement of thermal diffusivity for alumina borosilicate glass bearing TRISO fuel particles: Experiment and modelling correlation. *Journal of Materials Science*, *48*(14), 4866-4875. doi:[10.1007/s10853-013-7265-1](http://doi.org/10.1007/s10853-013-7265-1). | |

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