

Muhammad Kashif Bangash

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Department of Textile Engineering & Technology
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EDUCATION

- **PhD** Material Science and Technology (Textile) (Nov 2014 – Sept 2018)
Department of Applied Sciences & Engineering, Politecnico di Torino, Italy.
Thesis Title: *Joining of Dissimilar Materials for Automotive and Aerospace Applications.*
- **MSc** Textile Engineering (Oct 2012- Oct 2014)
Department of Applied Sciences & Engineering, Politecnico di Torino, Italy.
Thesis Title: *Vacuum Resin Infusion: Characterization of Composite Sheet Properties Using Different Fibre/ Fabric Types and Orientation.*
- **BSc** Textile Engineering (2006-2010)
Department of Yarn Manufacturing, National Textile University (NTU), Faisalabad, Pakistan.
Thesis Title: *Energy Conservation of Nishat Spinning Mills, Unit # 3, Faisalabad.*
- **FSc** (Pre-Engineering) (2004-2006)
Cadet College Razmak, KPK, Pakistan.
- **SSC** (Science Group) (2002-2004)
Cadet College Razmak, KPK, Pakistan.

CAREER HISTORY

- Assistant Professor, Institute of Chemical Engineering & Technology, (Department of Textile Engineering & Technology), University of the Punjab, Lahore. (Feb 2019 - Present).
- Volunteer Faculty, Department of Textile Engineering & Technology, University of the Punjab, Lahore. (Oct 2018 - Feb 2019).
- Post-Doc Researcher, DISAT, Politecnico di Torino, Italy. (Nov 2017 - Jul 2018).
- Visiting Researcher, Istanbul Technical University, Turkey. (Sept 2017 - Oct 2017).

- Visiting Researcher, IK4-CIDETEC, San Sebastian, Spain. (Sept 2015 - Nov 2015).
- Assistant Quality Manager, Asim Textile Mills, Faisalabad, Pakistan. (Feb 2011 - Mar 2012).
- Internship, Asim Textile Mills, Faisalabad, Pakistan. (Nov 2010 - Jan 2011).

PROFESSIONAL EXPERIENCE

Management Skills

- Experience in managing both internal and external research activities.
- Ability to think creatively and to motivate and lead a team.
- Efficient time management and organizational skills.
- Excellent attention to details and strong decision-making abilities.
- Constantly striving to outperform and lead by example.
- An in-depth understanding of budgetary and fiscal responsibility of research projects.

Technical Skills

- Fabrication of polymer, metal and ceramic composite materials by hand layup, vacuum infusion, resin transfer moulding (RTM), Chemical Vapor Deposition (CVD) and Chemical Vapor Infiltration (CVI) techniques.
- Fabrication and characterisation of metal/metal and polymer/metal sandwich composites.
- Surface modifications techniques for ceramic, polymeric and metallic materials.
- Designing of joining materials and joining of similar and dissimilar materials.
- Investigation techniques for monolithic and Hybrid materials: Scanning Electron Microscopy (SEM), X-ray diffraction (XRD), Optical microscopy (OM), Differential Scanning Calorimetry (DSC), Thermogravimetric Analyser (TGA), Dynamic Mechanical Analysis (DMA) and Hot Stage Microscopy (HSM).
- Mechanical testing and basic Structural Health Monitoring (SHM).
- Yarn and fabric manufacturing techniques, textile dyeing, finishing processes and Textile testing techniques.

RESEARCH WORK

Projects

- “Smart textiles and Composites”, Department of Textile Engineering Department, University of Punjab. (*Applied for Funding*)
 - Responsibility: Project Design, establish collaborations, resource management, projected execution.
- “ADMACOM - Advanced manufacturing routes for metal/Composite components for

Aerospace". (Politecnico di Torino, Italy)

- **Responsibility:** Experimental work – Joining of Titanium to C/SiC composites.
- “J-TECH@POLITO - Advanced Joining technologies at Politecnico di Torino”.
 - **Responsibility:** Experimental work – Joining of Alumina to Steel components
- “GreenFactory4Compo - Piattaforma Fabbrica Intelligente Regione Piemonte”.
 - **Responsibility:** Project proposal write-up and experimental work.
- “Development of ceramic to metal joints for wear-resistant applications (ceramic brakes) - Industrial funded project”.
 - **Responsibility:** Results analysis and technical reports write-up.
- “Designing and development Al/Al-foam Sandwich composites for automotive applications” – Partial funded, Vaber and FIAT Association.
 - **Responsibility:** Idea, experimental work, Finance and research paper write-up.
- “Designing and development of Lightweight hybrid FRP/Al-foam sandwich composites”. - Partial funded, Vaber and FIAT Association.
 - **Responsibility:** Idea, experimental work, setting international collaboration, finance management and joint research paper write-up.
- “Development of impact-resistant Bi-Phase polymer composites” – Funded by KMMVIN.
 - **Responsibility:** Experimental work, setting international collaboration and joint research paper write-up.
- “Development of GFRP composites for marine vehicles” – Industrial funded project
 - **Responsibility:** Experimental work, Finance and technical reports write-up.
- Co-supervised final year projects of two BS and five MS students in Politecnico di Torino.
 - **Responsibility:** Experiment designing, resource management and supervision.

Publications

1. “Joining of Al-6016 to Al-Foam Using Zn-Based Joining Materials”.
<https://doi.org/10.1016/j.compositesa.2017.02.019>, (I.F = 6.83).
2. “Joining of Al-Sheet to Al-Foam Using Metal Glasses”.
<https://doi.org/10.3390/met8080614>, (I.F = 2.26).
3. “Development and Characterisation of Bi-Phase Dynamic Epoxy/PU Composites for Enhanced Impact Resistance”.
<https://doi.org/10.1016/j.compositesb.2018.08.039>, (I.F = 6.86).

Publications Under Review/ In Progress

1. Development and Characterization of Electrospun Curcumin-Loaded Antimicrobial Nanofibrous Membranes, 2019. (*Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, I.F = 2.674)
2. Surface machining of Ti6Al4V by means of Micro-Electrical Discharging to improve adhesive joining, 2019. (*Journal of Materials Processing Technology*, I.F = 4.178).
3. Versatile one-pot green synthesis and characterization of highly concentrated and stable-colloidal dispersion of silver nanoparticles for antimicrobial applications, 2019. (*Journal of Industrial and Engineering Chemistry*, I.F = 4.978)

4. Effect and Comparison of MWCNTs on the Flexural Behaviour of Carbon Fibre Reinforced Polymer (CFRP)/Al-foam and Al-honeycomb Sandwich Composites, 2019. (In Progress)
5. Comparison of Al-foam Core and Al-honeycomb Core Glass-fibre/Epoxy Sandwich Panels, 2019. (In Progress)
6. Brazing Joining of C/SiC to Ti6Al4V and the Joint Strength Improvement by Surface Modification, 2019. (In Progress)

Conferences

1. *"Joining of C/SiC Ceramic Composites to themselves and to Ti-6Al-4V for aerospace applications"*. 23rd AIDAA Conference on Aeronautics and Astronautics, Turin Italy 17-19 November 2015.
2. *"Joining of Al-6016 To Al-foam Using Zn-based Alloys to Obtain Aluminium Foam Sandwich (AFS) For Aerospace Applications"*. 23rd AIDAA Conference on Aeronautics and Astronautics, Turin, Italy 17-19 November 2015.
3. *"Joining of C/SiC Ceramic Composite to Itself and Ti64 For Aerospace Applications"*. 40th International Conference and Expo on Advanced Ceramics and Composites. Ref ID: 2349806, Daytona Beach, Florida, USA, 24 – 29 January 2016.
4. *"Joining of C/SiC to Ti-6Al-4V by Zirconium-Based Brazing Alloys"*. 41st International Conference and Expo on Advanced Ceramics and Composites. Ref: 2586304, ICACC-S1-P082-2017, Daytona Beach, Florida, USA, 22-27 January 2017.
5. *"Joint Strength Improvement of C-SiC/Ti6Al4V System by Surface Modification"*. 42nd International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2018), Daytona Beach, Florida, United States of America (USA) 21-26 January 2018.
6. *"Development and Characterization of Hybrid Epoxy/PU Dynamic Thermoset Composites with Enhanced Impact Resistance"*. European Congress and Exhibition on Advance Materials and Processes, Ref: 1830 EUROMAT. Thessaloniki – Greece, 17-22 September 2017.
7. *"Joining of CFRP and low-CTE glass-ceramics for aerospace applications"*. European Congress and Exhibition on Advance Materials and Processes (EUROMAT, 2017). Thessaloniki, Greece, 17-22 September 2017.
8. *"Brazing Joining Of C/SiC to Ti6Al4V and the Joint Strength Improvement by Surface Modification"*. Ref: CD: HP09. CIMTEC 2018, 14th Ceramics Congress Perugia, Italy. 4-8 June 2018.
9. *"Effect and Comparison of MWCNTs on the Flexural Behaviour of Carbon Fibre Reinforced Polymer (CFRP)/Al-foam and Al-honeycomb Sandwich Composites"*. Ref ID: 3365, 18th world textile conference (Autex 2018). Istanbul, Turkey. 20-22 June 2018.
10. *"Comparison of Al-foam Core and Al-honeycomb Core Glass-fibre/Epoxy Sandwich Panels"*. 1st International Symposium on Mechanics, Glasgow, United Kingdom, 9-12 July 2018.

Research Mobilities

- Istanbul Technical University, Turkey (September 2017-October 2017).
- IK4-CIDETEC, San Sebastian, Spain. (September 2015-November 2015).

Awards and Achievements

- Glance Challenge Award, 2018 (Brembo Srl. Carbon Ceramic Brakes).
- Visiting researchers grant, 2017-2018 (Politecnico di Torino, Italy).
- HEC scholarship for PhD, 2014-2017 (Politecnico di Torino, Italy).
- European Virtual Institute on Knowledge-based Multifunctional Materials (KMM-VIN) research fellowship, 2015. (IK4-CIDETEC, Spain).
- HEC scholarship for MS, 2012-2014 (Politecnico di Torino, Italy).
- Member of American Ceramics Society, 2015-2016.
- Member of AcerS Global Graduate Researcher Network (GGRN), 2017-2018.
- Represented National Textile University, Faisalabad in All Pakistan HEC Annual games 2009 and 2010.
- Political agent FATA scholarship, 2006-2010 (National Textile University, Faisalabad).
- Political agent FATA scholarship, 2004-2006 (Cadet College Razmak, KPK).

PERSONAL INFORMATION

- PEC # **2578**
- CNIC # 21303-6759996-9
- Father Name: Dr. Gul Hussain Bangash
- Date of Birth: 20th Jan 1987
- Domicile: Kurram Agency, KPK, Pakistan
- Marital Status: Unmarried
- Home Address: House 128-B, St 109, Sector G-11/3, Islamabad, Pak.

REFERENCES

1. Professor Monica Ferraris

DISAT-Applied Science Department and Technology, Politecnico di Torino, Italy.
Tel: 0110904687 / 4687, E-mail: monica.ferraris@polito.it

2. Associate Professor Graziano Ubertalli

DISAT-Applied Science Department and Technology, Politecnico di Torino, Italy.
Tel: 0110904634 / 4634, Email: graziano.ubertalli@polito.it

3. Associate Professor Dr Javeed Ashraf Awan

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