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About

Dr. Islam Shyha is an honarary research fellow in the School of Mechanical Engineering. He is currently working a KTP research associate in the School of Metallurgy and Materials. He received his PhD in manufacturing and mechanical, University of Birmingham (2010), BSc (honours) and MSc degrees from Alexandria University, Egypt, in production engineering.

Following his PhD, Dr. Shyha worked as an assistant professor at Alexandria University (currently on-leave). His research portfolio over the past 10 years has been focused on studying the machining of various metallic and composite materials including copper, titanium, aluminum alloys, carbon and glass fibre reinforced plastic (CFRP and GFRP).

His PhD was industrially collaborated by GKN Aerospace, Unimerco Ltd and Element Six while he is Rolls-Royce sponsored for his KTP research project. He has published several papers in academic journals and international refereed conferences (the majority as a lead author).

Qualifications

- PhD in Manufacturing & Mechanical Engineering, University of Birmingham, 2010
- MSc in Production Engineering, Alexandria University, 2006
- BSc (Hons) in Production Engineering, Alexandria University, 2000

Research

Research themes

- Machinability/surface integrity analysis of advanced workpiece materials (titanium alloys, superalloys, composites etc.)
- Conventional and non-conventional machining technologies (EDM, ultrasonic etc.)
- Laser cutting of CFRP and GFRP
- Electrical resistance joining

Other activities

- Assistant Professor, Production Engineering Department, Faculty of Engineering, Alexandria University, Egypt (on-leave)
- Research Affiliate of The International Academy for Production Engineering (CIRP), 2011
- CMI Diploma (*currently on-going*), Ashorne Hill Management College, UK

Publications

Selected publications

Sein Leung Soo, **Islam S. Shyha**, Tom Barnetta, David K. Aspinwall, Wei-Ming Sim; Grinding performance and workpiece integrity when superabrasive edge routing carbon fibre reinforced plastic (CFRP) composites; CIRP Annals - Manufacturing Technology, Accepted in press, Available online April 2012.

Islam Shyha, Sein Leung Soo, David K. Aspinwall, Sam Bradley; Effect of peel ply when drilling small holes in CFRP; Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture 2011 225: 1217

Islam Shyha, Sein Leung Soo, David K. Aspinwall, Sam Bradley, Stuart Dawson, Cornelius J. Pretorius
Hole quality assessment when drilling metallic/composite stacks using diamond coated drills; International Journal of Machine Tools and Manufacture, Vol. 51, Issues 7-8, July-August 2011, Pages 569-578

Islam Shyha, Sein Leung Soo, David K. Aspinwall, Sam Bradley, Stuart Dawson, Cornelius J. Pretorius
Drilling of Titanium/CFRP/Aluminium Stacks; Key Engineering Materials Vols. 447-448 (2010) pp 624-633

Islam Shyha, Sein Leung Soo, David Aspinwall, Sam Bradley; Effect of laminate configuration and feed rate on cutting performance when drilling holes in carbon fibre reinforced plastic composites; Journal of Materials Processing Technology, Volume 210, Issue 8, 1 June 2010, Pages 1023-1034

I.S. Shyha, D.K. Aspinwall, S.L. Soo, S. Bradley; Drill geometry and operating effects when cutting small diameter holes in CFRP; International Journal of Machine Tools and Manufacture, Volume 49, Issues 12-13, October 2009, Pages 1008-1014

Conference papers/presentations

Islam Shyha, Sein Leung Soo, David K. Aspinwall, Sam Bradley, Stuart Dawson, Cornelius J. Pretorius; Drilling of Titanium/CFRP/Aluminium Stacks. The ICoPE2010 & 13th ICPE International Conference on Precision Engineering, Singapore, 28 – 30 July 2010)

Islam Shyha: On-going experimental work when twist drilling of CFRP and titanium/CFRP/aluminium stacks used in the aerospace industry; Talk in CIRP January Meeting 2010 – STC C, January 20-22nd Paris, France

Islam Shyha, Sein Leung Soo, David Aspinwall, Sam Bradley; Small hole drilling of carbon fibre composites using diamond coated drills Energy Efficient & Low Carbon Manufacturing, Proceedings of the 26th International Manufacturing Conference (IMC26), Trinity College Dublin, Ireland, 02-04 September 2009, pp. 87-94

Islam Shyha, Sein Leung Soo, David Aspinwall, Sam Bradley Experimental study of small hole drilling in diverse CFRP laminate configurations; Proceedings of the 9th International Conference on Production Engineering, Design and Control (PEDAC 2009), Alexandria, Egypt, 10-12 February 2009

H. Youssef, M. Al-Makky, R. Al-Kadeem, **I. Shyha**
Burr Formation in Drilling of Miniature Holes in Brass; Proceedings of the 8th International Conference on Production Engineering, Design, and Control (PEDAC 2004), Alexandria, Egypt, December 2004