Professor Ian Bond
B.Sc., Ph.D.(Bath)

Dean of Faculty of Engineering

Area of research

Multifunctional Composites

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Summary

Prof. Bond is currently the Dean of Engineering at the University of Bristol.

As the chief executive officer, Prof Bond guides the Faculty towards academic excellence; promotes a culture of research, innovation and scholarship; and represents its students and staff at the university level and beyond.

As the chief academic officer of the Faculty, he oversees appointment of Heads of School, Departments and Research Groups, oversees accreditation, and leads new curricula and programme development efforts.

As the financial and administrative manager for the Faculty, he guides and oversees its annual operating budget, and advocates for investments in new research, teaching and infrastructure initiatives.

He is also charged with all aspects of the Faculty's external engagement, and in providing strategic leadership and management in meeting the University's mission.

His personal research interests are to develop, characterise and optimise a variety of innovative and ingenious approaches which provide functionality to fibre reinforced polymer composite materials and take them beyond their structural role. This includes bio-inspired and biomimetic approaches.

Functionalities such as self-healing, electromagnetic response, and shape change (morphing) within fibre reinforced composites are currently being developed, alongside research into creating novel hierarchical architectures and improving damage tolerance via innovative means.

He also has extensive teaching and PhD supervision experience.

Please see Advanced Composites Centre for Innovation and Science

Postgraduate research student supervisor in the EPSRC Centre for Doctoral Training in Advanced Composites for Innovation and Science (ACCIS CDT)

Biography

Prof. Ian P. Bond, (1995, Ph.D. in Materials Science; 1991, B.Sc. in Materials Science) is a recognised expert on multifunctional composites; including self-healing, adaptive materials, damage tolerance and bioinspiration/biomimetics. Since 1997, he has published more than 150 peer-reviewed papers on these subjects, given over 30 keynote, plenary or invited lectures, and has graduated 30+ Ph.D. and M.Sc. students.

Keywords

- Aerospace

- Materials
- Biomimetics

Memberships

Organisations

Engineering Faculty Office

Research Groups

- Bristol Composites Institute - Core

CDTs

- CDT in Advanced Composites for Innovation and Science - Core

Selected publications

- Mus, RL, Trask, R, Coope, T & Bond, I, 2016, 'Vascular self-healing within carbon fibre reinforced polymer stringer run-out configurations'. *Composites Science and Technology*, vol 136., pp. 67-75
- Heath, C, Neville, R, Scarpa, F, Bond, I & Potter, K, 2016, 'Morphing hybrid honeycomb (MOHYCOMB) with in situ Poisson's ratio modulation'. *Smart Materials and Structures*, vol 25.
- Mus, RL, Trask, R & Bond, I, 2016, 'Oblique plies for steering through-thickness delamination migration in fibre reinforced polymers'. *Journal of Aircraft*, vol 53., pp. 387-395
- Coope, T, Turkenburg, D, Fischer, H, Mus, RL, van Bracht, H & Bond, I, 2016, 'Novel Diels-Alder based self-healing epoxies for aerospace composites'. *Smart Materials and Structures*, vol 25.

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Recent publications

- Mudie, J, Sebastian, W, Norman, J & Bond, I, 2019, 'Experimental study of moment sharing in multi-joist timber-concrete composite floors from zero load up to failure'. *Construction and Building Materials*, vol 225., pp. 956-971
- Cohades, A, Branfoot, C, Rae, S, Bond, I & Michaud, V, 2018, 'Progress in Self-Healing Fiber-Reinforced Polymer Composites'. *Advanced Materials Interfaces*, vol 5.
- Dicker, M, Baker, A, Iredale, RJ, Naficy, S, Bond, I, Faul, CF, Rossiter, J, Spinks, G & Weaver, PM, 2017, 'Light-Triggered Soft Artificial Muscles: Molecular-Level Amplification of Actuation Control Signals'. *Scientific Reports*, vol 7.
- Dicker, M, Baker, A, Bond, I, Faul, CF, Rossiter, J & Weaver, P, 2017, 'Soft photochemical actuation systems: Tuning performance through solvent selection'. in: *ASME 2017 Conference on Smart Materials, Adaptive Structures and Intelligent Systems: Development and Characterization of Multifunctional Materials; Mechanics and Behavior of Active Materials; Bioinspired Smart Materials and Systems; Energy Harvesting; Emerging Technologies, Snowbird, Utah, USA, September 18–20, 2017*. American Society of Mechanical Engineers (ASME), New York City, U.S.
- Heath, C, Bond, I & Potter, K, 2017, 'Interlocking Electro-Bonded Laminates'. *Journal of Intelligent Material Systems and Structures*, vol 28., pp. 1524-1529
- Dicker, M, Weaver, P, Rossiter, J, Bond, I & Faul, CF, 2016, 'Biomimetic photo-actuation: progress and challenges'. in: Raúl Martín-Palma, Akhlesh Lakhtakia, Mato Knez (eds) *Bioinspiration, Biomimetics, and Bioreplication VI 2016*. Society of Photo-Optical Instrumentation Engineers (SPIE)

View complete publications list in the University of Bristol publications system

Courses

Professor Bond currently teaches 1 courses: