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Abstract— Index Terms—???

## References



Damian J. Crosby is a PhD student in the school of Mechanical, Aerospace and Civil Engineering, University of Manchester, Manchester, U.K. He received a B.Sc. in Special Effects Development from The University of Bolton, U.K., in 2010, and a M.Res. in Robotics from The University of Plymouth, U.K., in 2012. He worked as a Research Technician at The University of Manchester from 2013 to 2017, before commencing his PhD.



Dr. Andrew Weightman graduated in 2006 with a PhD in Mechanical Engineering form the University of Leeds. Whilst at the University of Leeds he developed rehabilitation robotic technology for improving upper limb function in adults and children with neurological impairment which was successfully utilised in homes, schools and clinical settings. In 2013 he moved to the University of Manchester, School of Mechanical, Aerospace and Civil Engineering as a Lecturer in Medical Mechanical Mechanical and the Mechanical of the Mechanical Mechanical of the Mechanical Mechanical of the Mechanical of Mechanical Mechanical Mechanical of Mechanical of Mechanical Mechanical Mechanical of Mechanical Mechanical Mechanical of Mechanical of Mechanical

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tronics. Dr Weightman has research interests in biomimetic mobile robotics, rehabilitation robotics, robotics for nuclear decommissioning and collaborative robotics.



Joaquin Carrasco is a Lecturer at the School of Electrical and Electronic Engineering, University of Manchester, UK. He was born in Abarn, Spain, in 1978. He received the B.Sc. degree in physics and the Ph.D. degree in control engineering from the University of Murcia, Murcia, Spain, in 2004 and 2009, respectively. From 2009 to 2010, he was with the Institute of Measurement and Automatic Control, Leibniz Universitt Hannover, Hannover, Germany. From 2010 to 2011, he was a research associate

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