Smarter Skies, More Resilient Systems: The Future of Commercial Aviation

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John Paul Clarke

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John-Paul Clarke is a professor of Aerospace Engineering and Engineering Mechanics at The University of Texas at Austin, where he holds the Ernest Cockrell Jr. Memorial Chair in Engineering. Prior to joining the faculty at UT Austin, he was a faculty member at Georgia Tech, the Vice President of Strategic Technologies at United Technologies Corporation (now Raytheon), a faculty member at MIT, and a researcher at Boeing and NASA JPL. He has also co-founded multiple companies, most recently Universal Hydrogen – a company dedicated to the development of a comprehensive carbon-free solution for aviation.

Clarke is a leading expert in aircraft trajectory prediction and optimization, especially as it pertains to the development of flight procedures that reduce the environmental impact of aviation, and in the development and use of stochastic models and optimization algorithms to improve the efficiency and robustness of aircraft, airline, airport, and air traffic operations.

As indicated in his 2018 testimony to the Science Committee of the U.S. House of Representatives, he is particularly interested in leveraging his expertise to enable increasingly autonomous aircraft-enabled mobility, especially in urban and regional settings.

His contributions to aerospace extend well beyond his research. Clarke is the founding chair of the AIAA Human-Machine Teaming Technical Committee, was co-chair of the National Academies Committee that developed the US National Agenda for Autonomy Research related to Civil Aviation, and has chaired or served on advisory and technical committees chartered by the AIAA, EU, FAA, ICAO, NASA, the National Academies, the US Army, and the US DOT.

Clarke received S.B. (1991), S.M. (1992), and Sc.D. (1997) degrees in aeronautics and astronautics from MIT. His research and contributions to aerospace earned him many honors, including the 1999 AIAA/AAAE/ACC Jay Hollingsworth Speas Airport Award, the 2003 FAA Excellence in Aviation Award, the 2006 National Academy of Engineering Gilbreth Lectureship, and the 2012 AIAA/SAE William Littlewood Lectureship. He is a Fellow of the AIAA, and is a member of AGIFORS, INFORMS, and Sigma Xi.

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