David Woods

Professor, Integrated Systems Engineering | College of Engineering at The Ohio State University

Columbus, OH, US

Releasing the adaptive power of human systems & innovating at the intersections of people, technology and work

Biography

David Woods has worked to improve systems safety in high risk, complex settings for over 38 years. These include studies of human coordination with automated and intelligent systems and accident investigations in aviation, nuclear power, critical care medicine, crisis response, military operations, outages of critical digital services, and space operations (he was an advisor to the Columbia Accident Investigation Board). His studies have focused on human-computer systems in time pressured situations. He designs new systems to help people find meaning in large data fields when they are under pressure to diagnose anomalies and re-plan activities. The results of his work on how complex systems succeed and sometimes fail can be found in the book Behind Human Error (1994; 2nd Edition 2010). He began developing Resilience Engineering in 2000-2003 as part of the response to several NASA accidents and is Past-President of the Resilience Engineering Association. His results on resilience in action and the dangers of brittle systems can be found in the books Resilience Engineering: Concepts and Precepts (2006), Resilience Engineering in Practice (2011) and over 20 publications on resilience in socio-technical systems. His research publications on people, safety, and complexity have been cited over 25,000 times (H-index=80). He has received many awards such as a Laurels Award from Aviation Week and Space Technology (1995), the Jimmy Doolittle Fellow Award from the Air Force Association, and served on many national advisory committees such as National Research Council committees on Dependable Software (2006), and on Autonomy in Civil Aviation (2014), the FAA Human Factors and Cockpit Automation Team (1996; and its reprise in 2013), the Defense Science Board Task Force on Autonomy (2012). He is also Past-President of the Human Factors an Ergonomics Society.

Industry Expertise

Research, Education/Learning, Writing and Editing, Electrical Engineering, Energy, Mechanical/Industrial Engineering, Computer Hardware, Computer Software

Areas of Expertise

Intelligent Decision Support & Visualizations, Patient Safety, Control Room Design, Emergency Response, Intelligence Analysis, Accident Investigations, Business - Critical Digital Infrastructure, Integrated Systems Engineering, Cognitive Systems Engineering , Aviation Safety, Cockpit Automation and UAVs, Space Operations, Military Command and Control, Nuclear Power Safety, Human Centered Autonomy, Critical Care Medicine

Affiliations

Resilience Engineering Association - past president, Human Factors and Ergonomics Society - past president

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Education

Purdue University
Ph.D. Cognitive Psychology

Purdue University
M.S. Experimental Psychology

Canisius College
B.A. Psychology
