



Short Course on Electric VTOL Design

Forum 76, Montreal, Ottawa

Monday, May 18 @ 8 am - 5 pm

\$295/pp

Description

In conjunction with the Vertical Flight Society's 76th Annual Forum being held May 19-21, 2020, at the Palais des Congrès de Montréal, VFS is pleased to provide a 1-day short course on man-rated electric vertical take-off and landing (eVTOL) aircraft design. This course will provide an introduction to electric VTOL technology and design by renowned designer, Dr. James Wang, the developer of one of the world's first electric VTOL aircraft, the AgustaWestland Project Zero, which first flew in 2011.

This course will provide an overview of the unique design challenges and opportunities of this new class of vehicles. Both electric and hybrid-electric passenger-carrying vertical flight aircraft will be covered for a variety of missions ranging from personal/private use to urban air taxis to regional electric VTOL bizjets.

Students will be given insights from an industry expert on developing eVTOL aircraft from the beginning to the end of the project: from how to conduct a conceptual study, configuration trade, preliminary design and detail design, to finding partners, manufacturing, assembling, bench testing, flight testing, and certification, to conducting scheduling & cost estimation. The course will also cover the state of the art in several technology areas, such as batteries, motors and hybridization.

Who should take the course

Aerospace engineers interested in understanding the opportunities and constraints of designing VTOL aircraft using electric power. Electrical / mechanical engineers interested in better understanding VTOL aircraft design. Business and marketing people interested in eVTOL and UAM.

About the Instructor

Dr. James Wang has held several executive leadership positions, and has more than 30 years of experience in aerospace, helicopters, defense and high-tech industries. He founded Vtolwerke LLC in 2018 and offers private consulting services in aerospace technology strategy, marketing & business strategy, engineering advising, and eVTOL problem solving. He is an expert in helicopter and eVTOL aircraft design. He is currently also a full professor teaching aircraft and VTOL design.

He received his bachelor degrees in Aeronautical Engineering and in Electrical Engineering from M.I.T., and a Masters and a PhD in Aerospace Engineering from the University of Maryland. After completing his PhD, Dr. Wang started his career at Sikorsky Aircraft, where he was known as one of the most energetic and prolific engineers and managers; he contributed greatly to the Comanche, Black Hawk, S-92 and the Variable Diameter Tiltrotor programs.

Dr. Wang has the rare talent to combine technical knowledge with business thinking, and bringing people to collaborate to achieve a common goal. At Sikorsky Aircraft, Dr. Wang transitioned to leading strategic business campaigns. His commitment and astute leadership led to the successful winning of two of the largest international helicopter sales contracts in history, each worth over one billion dollars. Dr. Wang has a Masters from the M.I.T. Sloan Business School, and an Executive Business Training Diploma from the London Imperial College Business School.

In 2007, Dr. Wang joined AgustaWestland as the Vice President of Research & Development, reporting directly to the CEO. Dr. Wang created a comprehensive technology roadmap and initiated many pioneering research. He established three University Research Centers in Europe and one Think Tank in Japan. In 2015, Dr. Wang was promoted to become the Senior Vice President of Marketing, responsible for the global marketing strategy of all AgustaWestland helicopter products at Leonardo Helicopters. He served 7 years as a board member on the EU-sponsored 2 billion Euros CleanSky programs.

Dr. Wang was invited to teach courses and give lectures in US, Europe, Australia and Asia, and he has written over 40 technical papers. He holds seven patents and major international awards, including Fellow of the Royal Aeronautical Society, UTC Gold Mead Award, AHS Fellow, AHS Grover Bell Award, M.I.T. Luis de Florez Award, NASA Research Award, Italian National Innovation Grand Prize, and the Royal Aeronautical Society Gold Team Award. In 2013, WIRED Magazine named Dr. Wang “the Steve Jobs of Rotorcraft” for his ability to think “outside the box” and pushing the transportation technology boundaries by inventing and designing the AgustaWestland Project Zero, the world’s first all-electric VTOL technology demonstrator aircraft.

Additional Information

This course is being held in conjunction with Forum 76 in Montreal, at the Palais des Congrès de Montréal. Registrations for each event will be made at www.vtol.org/Forum. Be sure to book a room at the Forum 76 official hotel block, which helps to defray the expenses of the event.