

Richard J. Ranaudo is a private aerospace consultant who provides flight test support, test piloting, flight training, and university sponsored short course services. He has extensive operational and flight test experience in military, government, and civil aviation. He has flown over 35 different aircraft types, including high performance fighter, transport, and propeller driven aircraft, and has logged more than 13,000 hours primarily as Pilot-in-Command. Mr. Ranaudo received his initial flight training from the U.S. Air Force in 1967 and served as a fighter pilot and advanced jet instructor pilot while on active duty both in Southeast Asia and the CONUS. In 1973, he became a NASA research pilot, and over the next 25 years, performed a variety of aero-propulsion, aircraft performance, flying qualities, aircraft icing, auditory and microgravity flight research programs. As project pilot for NASA's Tailplane Icing Program, Mr. Ranaudo flew numerous hazardous research flights to investigate the tailplane stall upset phenomenon. He was also the project pilot for the initial 3-D auditory flight test experiments, which were jointly conducted by the USAF and NASA. Mr. Ranaudo also conducted several test pilot simulator evaluations of highly advanced aircraft flight control systems and stealth technology, which at the time were forerunners to contemporary fighter aircraft designs. In 1994, Mr. Ranaudo was appointed the head of the Aircraft Operations Branch at the NASA Glenn Research Center, and served in that capacity for over four years. In 1998 he retired from NASA and joined the Bombardier Flight Test Center, Wichita, Kansas as Manager and Senior Experimental Test pilot for Canadair Flight Test Programs. In that capacity he led a large group of test pilots and flight test engineers through three development and certification programs, which included testing and development of the Global Express and CRJ series regional jets. Mr. Ranaudo left Bombardier Aerospace in 2002 and joined the faculty at the University of Tennessee Space Institute (UTSI) as an Assistant Research Professor in the Aviation Systems Program. He developed and taught graduate courses in Human Factors Engineering, Systems Flight Testing, and Airport Systems, and was the major advisor for numerous student theses focusing on human factors issues. Mr. Ranaudo also flew University aircraft in support of flight research and flight test short courses. He was also the Principal Investigator for a 3 year NASA grant where he and his team developed and extensively tested and evaluated a real time state assessment system that mitigated the hazardous effects of icing on aircraft flying characteristics. The evaluation involved a rigorous statistically driven experiment using 30 pilot subjects in a NASA flight simulator at the Embry Riddle Aeronautical University. In 2010, Mr. Ranaudo retired from full time teaching, but continues to direct the UTSI sponsored *Human Engineering Principles for Flight Deck Evaluation* short course at various civil and government venues. In addition, he is also a lecturer and flight/simulator instructor for the *Aircraft Icing and its Effects on Aircraft Handling* short course offered by the Embry Riddle Aeronautical University. Mr. Ranaudo has a B.S. Degree in Civil Engineering from the University of Connecticut, and a M.S. Degree in Aeronautical and Astronautical Engineering from the Ohio State University. He has authored over 20 technical publications, 10 of which as first author primarily addressing aircraft performance and handling issues due to aircraft icing. Mr. Ranaudo has an FAA Airline Transport Pilot (ATP) license and several type ratings in large jet, turbo-propeller, and reciprocating engine transport aircraft.