

STEPHEN KERN ROBINSON

Curriculum Vitae – October 2019

Current:

Professor, Dept. of Mechanical and Aerospace Engineering, University of California at Davis
Director, UC Davis Center for Spaceflight Research
Director, NASA HOME Space Technology Research Institute
Principal Investigator, UC Davis Human/Robotics/Vehicle Integration and Performance laboratory

Research Activities:

Spacecraft design, CubeSat design, space radiation shielding, human life-support systems, operational space medicine
EVA (spacewalk) suit/glove design, spacesuit exoskeletons, spacewalk dynamics and human energetics
Enhancement of human/machine performance in hazardous environments
Cockpit human factors, applied cognitive psychology, cockpit resource management
Optimized learning/training for aerospace operations, complex-simulation psychology
Immersive virtual and augmented reality environments
Physiological and perceptual/adaptive responses to microgravity; Neuro-vestibular adaptation to environmental changes
Human eyeball dynamics
Safety engineering, risk management, failure science
Fundamental and applied fluid physics, especially: boundary layers, turbulence, transition, and vortex-dynamics
Turbulence physics and numerical/phenomenological modeling
Applied aerodynamics: drag reduction, high-lift, separation control, stall/spin, vortex-generation/control/modeling
Computational Fluid Dynamics (CFD), Large-Eddy Simulation (LES), Direct Navier-Stokes Simulation (DNS)
Applications of stereo-vision for characterization, measurement, and manual control, and photogrammetry

Education:

Stanford University:	Ph.D. Mechanical and Aero/Astro Engineering	1991
Stanford University:	M.S. Mechanical Engineering	1986
University of California, Davis:	B.S. (dual) Mechanical and Aeronautical Engineering	1978

Professional Experience:

University of California, Davis:	Director, UC Davis Center for Spaceflight Engineering	2019 - present
NASA/UC Davis	Director, NASA HOME Space Technology Research Institute	2019 - present
University of California, Davis:	Chair, Dept. of Mechanical and Aerospace Engineering	2016 - 2019
University of California, Davis:	Professor (tenured), Mechanical and Aerospace Engineering	2012 - present
NASA Johnson Space Center:	Director, NASA JSC Virtual Reality Laboratory	2012
NASA Johnson Space Center:	NASA Astronaut (4 shuttle missions, 3 spacewalks)	1995 – 2012
NASA Langley Research Center:	Director, Aerodynamics Element, General Aviation Research; concurrent: Research Scientist, Multi-Disciplinary Design Optimization Branch	1994 - 1995
Massachusetts Inst of Technology:	MIT Man-Vehicle Lab, visiting neuro-vestibular scientist	1993 – 1994
U.S. Dept. of Transportation:	DOT Volpe Research Center, advanced flight simulation	1993 – 1994
NASA Langley Research Center:	Chief, Experimental Flow Physics Branch	1990 – 1994
Princeton University:	Visiting Scholar, experimental turbulence physics	1986
R/T Imagery, Mtn. View, CA:	Founder and CEO, engineering/graphics software firm	1982 – 1986
Stanford University	Graduate student (MS and PhD)	1981 – 1989
NASA Ames Research Center:	Research Scientist, fluid physics and turbulence modeling	1979 – 1990
NASA Ames Research Center:	Co-op intern, 3 periods; machinist, mechanic, and technician	1974 – 1978

Recognition:

UC Davis College of Engineering Outstanding Faculty Teaching Award	2019
AIAA Associate Fellow	2019
UC Davis Excellence in Education Award – College of Engineering	2014
NASA Distinguished Service Medal (<i>NASA's highest honor</i>)	2011
NASA Spaceflight Medal	1997, 1998, 2005, 2010
American Astronautical Society Neil Armstrong Space Flight Achievement Award	2006
University of California at Davis Medal (<i>UC Davis' highest honor</i>)	2005
NASA Outstanding Leadership Medal	2000
University of California at Davis Distinguished Engineering Alumni Medal	1998
NASA/Space Club G.M. Low Fellowship	1993
AIAA Outstanding Technical Paper Award for Applied Aerodynamics (co-author)	1992
NASA Ames Honor Award: Scientist of the Year	1989

Personal:

Born:	1955, Sacramento, California; dual citizen US/Canada
Enjoy:	Flying (3500+ hours), playing music, painting, literature, stereo photography, exploring, kayaking, farming
Languages	English, Russian (once fluent), French (understanding)