

NC STATE

Engineering

The Department of Mechanical and Aerospace Engineering
presents the

2019 MAE ALUMNI HALL OF FAME

"Celebrating the Accomplishments of our
Extraordinary Alumni"

Friday, November 8, 2019

Fusion Ballroom | The Stateview Hotel
2451 Alumni Drive | Raleigh, NC | 27606

HALL OF FAME

November 8, 2019

The Department of Mechanical and Aerospace Engineering at NC State is proud to honor the accomplishments of our outstanding alumni through the MAE Alumni Hall of Fame. The MAE Alumni Hall of Fame was established to inspire our current students and to celebrate accomplishments of those extraordinary graduates who have used their education to excel in a profession, career or service. The nomination is based on professional and service achievement, entrepreneurship and contributions to professional societies. With over 12,000 MAE alumni, only 142, including this year's class, have been inducted into the MAE Alumni Hall of Fame. The MAE Department is honored to celebrate this prestigious ceremony with the 2019 class.

Agenda

9:00 a.m.	Coffee Meet & Greet
10:00 a.m.	Inductions Ceremony
Welcome	Dr. Srinath Ekkad, Department Head
Awards	Dr. Jeffrey Eischen, Director of Undergraduate Student Affairs

Inductees

Charles Arvey	page 3	Dr. David Glass	page 8
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INDUCTEES

Charles Arvey

1967 BSAE



After graduating from NC State, Charles Arvey accepted a position as a flight design engineer at NASA's Manned Spacecraft Center in Houston, Texas. There, he helped develop Apollo abort mission designs and Mars mission designs. He then transferred to the Naval Research Laboratory in Washington, D.C. where he worked as a design and development engineer on the Timation project — later renamed the Global Positioning System (GPS). In 1975 he returned to Houston to work for McDonnell Douglas. He earned an MBA at the University of Houston in 1980. Positions

he held at McDonnell Douglas include manager of the Space Shuttle ground and onboard navigation software development group, lead engineer on the ascent and entry ground navigation console in the mission control center, and senior management engineer in the Space Station systems integration office. Over the last 15 years of Arvey's career, he worked as a subcontractor to Lockheed Martin and Jacobs. Positions held include design interface engineer during the development of a Space Shuttle tile repair capability and the lead engineer of the Orion Pad Abort 1 parachute integration and recovery team.

Bruce Baldwin

1992 BSME

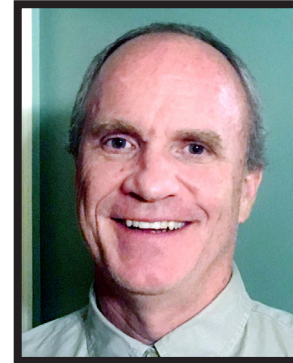


Bruce Baldwin is currently an Information Systems Architect with HP Inc.'s World-Wide Enterprise Managed Print Services and Strategic Engagements Consulting Team. After earning his mechanical engineering degree in 1992 from NC State, Baldwin started his career by working in the nuclear services industry with BWNT (now Areva). Then he moved into information technology (IT), supporting mostly U.S. Federal Government clients, working with Booz Allen Hamilton and Deloitte Consulting. In his years of Federal government support, Baldwin delivered IT solutions to numerous agencies

including the Department of State, Defense Health Agency, Department of the Treasury, Office of Foreign Assets Control, Department of Homeland Security, Food and Drug Administration, and White House/Executive Office of the President. He is a member of the American Society of Mechanical Engineers and a certified Project Management Professional. He has remained engaged with NC State since graduation. He currently serves on the NC State Engineering Foundation Board and MAE Advisory Board (Chair '15-'16). He is a lifetime member of the Alumni Association and football season ticket holder. Outside of work, Baldwin enjoys volunteering and serves as the Committee Chair for his son's Boy Scout Troop 472, Saint Mary's Church, Rockville, Maryland.

Dr. Robert Baurle

1990 BSAE, 1992 MSAE, 1995 PhD AE

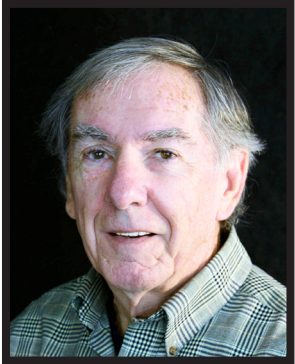


Dr. Robert Baurle is an aerospace engineer with 29 years of experience in the areas of CFD model/code development and analyses focused on high speed propulsion systems. Over this time span, Baurle has authored 76 technical papers and 21 journal articles. Baurle is currently the technical lead for CFD development activities within the Hypersonic Air-breathing Propulsion Branch at the NASA Langley Research Center and is the primary developer of the VULCAN-CFD package. As a senior member of the branch, Baurle also provides subject matter expertise to DoD sponsored scramjet development programs.

Prior to his position at NASA, Baurle was employed at Taitech, Inc., located at Wright-Patterson Air Force Base, where he was the Principal or Co-Investigator on numerous high-speed propulsion projects ranging from liquid fueled ducted rockets to scramjet engines. Baurle currently chairs the JANNAF Simulation Credibility Panel, JANNAF Component Modeling and Simulation Panel, and has received five "Best Paper" awards at AIAA and JANNAF conferences along with two awards related to software development at NASA. He earned his B.S. (1990), M.S. (1992) and Ph.D. (1995) in aerospace engineering from NC State.

Dr. Robert Cassanova

1964 BSME



Dr. Robert Cassanova has a B.S. in mechanical and aerospace engineering (1964) from NC State, M.S. in aerospace engineering (1967) from the University of Tennessee Space Institute and Ph.D. in aerospace engineering (1975) from the Georgia Institute of Technology. Cassanova was founder and Director of the NASA Institute for Advanced Concepts (NIAC) from February 1998 through August 2007. NIAC was focused on the development of revolutionary, advanced systems and architectures in the fields of aeronautics and space. Cassanova coordinated the operation

of NIAC at the highest levels of NASA HQ and the NASA Centers. He is the recipient of the NASA Public Service Medal for exceptional contributions to the Mission of NASA and the NASA Group Achievement Award. Prior to becoming the Director of NIAC, Cassanova was Director of the Aerospace and Transportation Laboratory in the Georgia Tech Research Institute (GTRI). After graduating from NC State in 1964, he performed research in rarefied gasdynamics at the Arnold Engineering Development Center. Cassanova has a serious passion for photography and integrates the visualization process for science and art into his lectures on revolutionary creativity. His photographs have been exhibited in the Southeastern U.S. and in the U.S. Embassy in Lima, Peru.

Dr. Neil Cheatwood

1983 BSAE, 1987 MSAE, 1991 PhD AE



Dr. F. McNeil (Neil) Cheatwood has played key roles in NASA's planetary atmospheric flight programs and is currently the Senior Engineer, Planetary Entry, Descent, and Landing (EDL) at NASA Langley Research Center. He leads research, establishes long-term requirements, and develops critical enabling technologies and systems for advanced planetary EDL in support of NASA's robotic and human exploration missions. Cheatwood identifies and assists in the coordination of EDL technology planning and development efforts across research and flight system directorates. He is a nationally recognized expert in aerosciences and

atmospheric flight mechanics for planetary entry systems. From 2007-09, he served as the Hypersonics Project Scientist for NASA's Aeronautics Research Mission Directorate where he defined an investment portfolio that featured inflatable aerodynamic decelerator, supersonic retro-propulsion, and advanced ablative thermal protection system (TPS) technologies. He served a similar function from 2010-12 as NASA Space Technology Mission Directorate's EDL Principle Investigator (PI). He served as the PI for the Mars Science Laboratory (MSL) Entry, Descent, and Landing Instrumentation (MEDLI) project, which flew on MSL in 2012. He leads NASA LaRC efforts to develop Hypersonic Inflatable Aerodynamic Decelerator (HIAD) technology. He served as the PI for NASA LaRC's Inflatable Reentry Vehicle Experiment (IRVE), the follow-on Program to Advance Inflatable Decelerators for Atmospheric Entry (PAI-DAE), IRVE-II which flew in August 2009, HIAD Project, and IRVE-3 which flew in July 2012. He currently serves as PI for the Low earth Orbit Flight Test of an Inflatable Decelerator (LOFTID) which will fly in 2022. Cheatwood was responsible for the entry aerodynamic databases for the Stardust, Mars Microprobe, Genesis, and Mars Exploration Rovers missions. Cheatwood is an AIAA Associate Fellow and the principle author or co-author of more than 60 technical publications in the fields of fluid dynamics, atmospheric entry, and systems engineering.

Dr. David Glass

MSME 1982, PhD ME 1986



Dr. David E. Glass has an undergraduate degree in math and physics from Wake Forest University, a master's degree from the University of North Carolina, and a master's and Ph.D. in mechanical engineering from NC State. He began his career at NASA Langley Research Center in 1988, and is focused on high-temperature structures and materials, with an emphasis on hot structures for hypersonic vehicles. He led the NASA team overseeing the development of the carbon/carbon leading edges for the Hyper-X Mach 10 flight vehicle. Those leading edges helped enable a successful

flight in November 2004, setting a world record for the fastest airbreathing airplane. He also led a "Tiger Team" for the development and testing of a small area repair for the Space Shuttle Return To Flight after the Columbia accident. He led a multi-disciplinary effort for two NASA programs with a focus on airframe technology development for reusable launch vehicles. He is internationally recognized for his research on hot structures for hypersonic vehicles, and has been an invited lecturer on the topic both domestically and internationally. In addition, he has mentored over 40 undergraduate and graduate student interns at NASA Langley.

Dr. Arthur Grantz

1989 PhD AE



Dr. Arthur C. Grantz is the Director of the Boeing Experimental Systems Group which designs, builds, and supports the operation of proprietary spacecraft, autonomous systems, and associated unique technologies used across the Boeing Company. For example, his team developed and supports the X-37B for the US Air Force. Grantz has been developing reusable spacecraft concepts for over 23 years. As the Flight Sciences Lead and later the Chief Engineer, he led the configuration development of the X-40A prototype, the X-37 Approach and Landing Test Vehicle, and the X-37B Orbital Test

Vehicle. Past work includes aerodynamics, aerothermodynamics, scramjet propulsion integration, and configuration development for a variety of hypersonic vehicles. Grantz was awarded Engineer of the Year for Space and Intelligence Systems in 2010, the 1992 Rockwell Engineer of the Year for advancing hypersonic aerodynamic technology, and received the 1990 Gene Zara Award for outstanding contributions to the National Aero Space Plane. Grantz earned a Ph.D. (1989) in aerospace engineering from the NC State specializing in hypersonic aerothermodynamics. He holds B.S. (1982) and M.S. (1984) aerospace engineering degrees from Virginia Tech. He holds one U.S. patent and has published 10 technical articles. He is an instrument rated private pilot with power and glider ratings.

Dr. Jim Keenan

1994 PhD AE



Dr. Jim Keenan came to NC State after completing his B.S. in aerospace engineering and M.S. in aerospace engineering at West Virginia University. He completed his Ph.D. in August of 1994. Since leaving NC State, he has worked as an aerospace engineer at the USAF Arnold Engineering Development Center (Tullahoma, TN), CFD Research Corporation (Huntsville, AL), Sandia National Laboratories (Albuquerque, NM), and the U.S. Army Aviation and Missile Center (Huntsville, AL). His area of technical expertise has focused on compressible and hypersonic aerodynamics. Keenan has also been actively engaged in the

AIAA during his college days and professional career.

John Privette

1981 BSME



NC State's Mechanical and Aerospace Engineering Department taught John Privette to embrace challenges and never stop learning. He is 20+ years into his third career as a Captain for Southwest Airlines. Privette worked as a developmental engineer for Union Carbide in Oak Ridge, TN on the Gaseous Centrifuge Uranium Enrichment project after graduating from NC State in 1981. A desire for more hands-on engineering resulted in his two-year stint at Hackney Brothers Body Company as a design engineer. A lifelong dream of flying and national service led Colonel Privette to a 23-year career in the USAF and USAF Reserve,

where he held his dream job as a F-16 squadron commander.

Steve Rea

1980 BSME, 1987 MSME



Steve Rea is the Senior Vice President for Nuclear Special Projects for Heyward Incorporated in Charlotte, NC. Throughout his 32 years at Heyward Incorporated, Rea has brought state of the art large capital equipment solutions to the local power industry with projects including the first coal power plant all membrane based raw water/demin water treatment system, the largest in the U.S. at the time custom gas turbine power plant inlet air chilling system, the only nuclear plant project response to the Fukushima event using the industry's only true zero leakage metal seated ball valves for isolation, the first CEDI based

high purity water treatment system for the latest U.S. Nuclear Plant being built, the first automation of a nuclear safety system with the latest generation nuclear safety qualified motor operators, and the first new coal fired power plant built with smart technology motor operators. During much of the time (10 years), Rea served as the Chairman of the Siemens Water Technology Representative Council. Rea gained valuable nuclear plant engineering experience working for Duke's Brunswick and Harris Nuclear sites. At Harris, he was the Senior Engineer leading the development of the industry's first cloud-based site-wide configuration control system. He was the first officer in his family with the NC Army National Guard. Rea completed his B.S. in mechanical engineering in 1980 and his master's in mechanical engineering in 1986, both at NC State. While at NC State, he chaired the ASME student section, held the position of student body chairman, lettered in men's soccer for three seasons, and was one of the two co-founders of the now well known Wolfline. Rea established the Stephen G. Rea and Phyllis Y. Rea Endowment for NC State Hunt Power and the Coach Larry Gross Leadership Award and Scholarship. He serves on NC State Libraries FOL Board and on the Chancellor's Cabinet. Over the years, Rea has been recognized for his work in North Carolina, including the Oz Pflingst Leadership Award, Outstanding NCSU Grad Student Teacher Award, and the Order of the Long Leaf Pine by Governor Jim Hunt, recognized by the Levine Museum of the New South, and recognized by the NC State House.

