Neil Armstrong and Tom Sanzone '68 EE began his NASA career in that same division. Assigned to The Johnson Space Center in Houston, Sanzone worked for Hamilton Sundstrand (now United Technologies Corp. Aerospace Systems) and trained Neil Armstrong and other Apollo astronauts in the use of the company's Portable Life Support System backpack worn on the moon. Sanzone became engineering manager for the company's spacesuit, after which he served as general manager of the Houston office for 22 years until retiring in 2011. During his 43-year career, Sanzone was awarded NASA's Exceptional Public Service Medal. Today, he is a member of the Villanova University Alumni Association Board of Directors and has been instrumental in connecting current and recent Villanova engineers with opportunities in the aerospace industry.

In 1977, Villanova’s College of Engineering graduated its first future astronaut, Mechanical Engineering major Andrew “Andy” Allen. Allen spent 10 years at NASA; during which time he conducted three space flights, logging 930 hours on the space shuttles Atlantis and Columbia. Allen also served as director of the International Space Station (ISS) Program in Washington, D.C. Today, he is CEO of Aerodyne Industries LLC, and the project manager for the Test and Operations Support Contract at Kennedy Space Center.

Leading Today’s Flights

Following in the footsteps of the College's first NASA pioneers, dozens of Villanova Engineers have interned, conducted research and held a variety of positions with the agency. Brian T. Smith '93 EE began his career as a flight controller at The Johnson Space Center in 1998. In 2005, he was selected as one of nine new mission control flight directors, and by 2008, he was leading his first flight. Smith led a variety of missions over the next six years for which he earned NASA medals for leadership, service and achievement.

Smith's current mission is the Bigelow Aerospace Expandable Module (BEAM), and he has spent most of his time working on the module’s deployment, a first for the ISS.

André Allen '77 ME met with intern Samantha Testa '16 ME. She recalls, “Despite his busy schedule, he found time to meet with me; what was scheduled as a 30-minute meeting quickly turned into two hours of astronaut advice and chit chat.” He recognizes this will be no easy feat. In 2015, NASA received a record 18,000-plus applications from which they will select 14 for the coveted position.

Another student who feels NASA’s pull is John Paul Naughton ’18 ME who has held two summer internships at Ames Research Center. In December 2015, Naughton connected with a family friend who works on the research center’s lunar plant project. The need to test a project-related irrigation system’s feasibility for use on the moon led to Naughton’s experience on the so-called “Vomit Comet.”

As part of the Ames team, Naughton took a 2.5-hour parabolic flight on which he helped test the pump’s effectiveness in the moon’s gravity.

Future engineers eager to do the same will select 14 for the coveted position. They will attend the final selection event in mid-February, where the 14 students will be selected by 14 NASA lead flight directors for another internship at the Ames Research Center.

“Working for NASA”
by Brian T. Smith '93 EE, NASA lead flight director

First, and most importantly, find something you really enjoy doing. Look into NASA field centers to learn what they specialize in and decide which areas match most closely what you enjoy doing. Explore opportunities with both NASA and NASA contractors. There are pros and cons to both. Work hard in school, and participate in extra-curricular and volunteer activities. NASA attracts the best and brightest. Prepare for the competition by excelling in all you do at Villanova and be confident that Villanova has prepared you to stand among the best in the country.