From Grid Fins to Gremlins: Mark Miller and Tim Keeter Honored with Oberth and Toftoy Awards

By Joe Majdalani

On the evening of May 8, 2026, the Huntsville Botanical Garden once again became a gathering place for aerospace excellence, professional fellowship, and grateful remembrance as the American Institute of Aeronautics and Astronautics (AIAA) Greater Huntsville Section hosted its 72nd Annual Awards Banquet. In a year already distinguished by remarkable Auburn representation, two of the Section's most prestigious recognitions were bestowed upon two individuals who are former Dynetics colleagues, Auburn aerospace engineering alumni, and deeply consequential leaders in the aerospace enterprise: Mark Miller and Tim Keeter.

Miller, an AIAA Fellow and pioneering aerospace engineer whose career helped define Dynetics' rise as a national aerospace innovator, received the Hermann Oberth Award, *for his outstanding individual scientific achievement in astronautics or for the promotion and advancement of the aeronautical sciences*. Keeter, a highly-accomplished technical leader in autonomous airborne systems, artificial intelligence, and advanced flight demonstrations, received the Holger Toftoy Award, *for his outstanding technical management in the fields of aeronautics and astronautics*.

That both men received these honors in the same year was nothing short of extraordinary. That both are Auburn graduates was profoundly fitting. That Keeter began his Dynetics career under Miller's supervision and mentorship made the moment even more moving. And that both men helped shape technologies associated with grid fins, autonomous flight systems, rapid fielding, and advanced national aerospace capabilities gave the evening the quality of a full-circle celebration, almost providential in its timing, and unmistakably powerful in its symbolism.

The Greater Huntsville Section and Auburn University's Samuel Ginn College of Engineering proudly celebrate this dual recognition, not merely as a pair of individual awards, but as a testament to an indomitable spirit rooted in technical excellence, mentorship, innovation, and service.

Miller's recognition with the Hermann Oberth Award honors a career that has repeatedly converted bold technical ideas into fielded capabilities. A two-time Auburn aerospace engineering graduate, Miller began his remarkable 35-year career at Dynetics as the company's first aerospace engineer. In that role, he did far more than join an engineering company; he helped build one. From the foundation he laid in 1990, the Missile and Aviation Systems Division grew into a formidable engine of rapid development, integration, testing, and fielding for specialized aerospace systems growing annual revenue close to $200M prior to the acquisition of Dynetics by Leidos in 2020.

Miller's technical path began in aerodynamic technology research and development. Following the breakup of the Soviet Union, he supported the evaluation, testing, and analysis of foreign air-defense and ballistic missile systems while serving as a U.S. technical representative on multiple international working groups. These experiences exposed him to unusual and innovative design concepts, including grid fin aerodynamic control surfaces. These represent compact, lattice-like control devices that would later become central to some of his most influential contributions.



Mark Miller receiving the Hermann Oberth Award from Dr. Bob Tramel (GHS Section Chair) and Dr. Joe Majdalani (GHS Honors & Awards Director), May 8, 2026, Botanical Garden, Huntsville, AL. Miller's pioneering career successfully bridged the gap between theoretical aerodynamics and physical hardware, introducing grid-fin technology into advanced flight systems recoverable flight architectures.

His early aerodynamic R&D experience coupled with his exposure to foreign missile designs created a pathway to one of the most consequential airborne vehicle design and development careers in modern applied aerodynamics. Miller conducted extensive research and published seminal work on grid fins in the early 1990s, and later adapted the technology across multiple flight applications. His work helped move grid fins from a novel aerodynamic concept into increasingly prominent roles in advanced flight systems including recoverable launch architectures. His 2026 Hermann Oberth citation recognized him "for pioneering grid-fin technology across various flight applications."

Miller's career did not stop at grid fins. Under Miller's vision and direction, Dynetics capabilities grew from modeling and analysis into providing fully integrated flight systems. Responding to a special forces capability gap, he initiated development of the GBU-69 Small Glide Munition using Dynetics capital funds. Upon completion of testing, Dynetics received a major production contract, integrated the system on multiple aircraft, and incorporated advanced capabilities for the U.S Special Operations Command. Building on that success, Miller led the design and development of the AGM-190 Small Cruise Missile.

Miller's honors reflect the national significance of this work. He is a Fellow of AIAA and was also a Leidos Technical Fellow prior to his departure. In 2024, he received the Reed Aeronautics Award, the Institute's highest honor in the field of aeronautics, *"in recognition of contributions to engineering advancement of grid fin aerodynamic control technology from seminal research through pervasive technology adoption into flight systems including reusable launch vehicles."* He has also been recognized through programs associated with national honors including the National Defense Industrial Association William J. Perry Award, an Aviation Week Laureate Award, and two Office of Secretary of Defense David Packard Acquisition Excellence Awards.

Following his distinguished 40-year career in the private sector, with most of it spent at Dynetics and then Leidos, Miller departed the company in 2025 to accept a Senior Executive Service position as a senior advisor within the Department of War, continuing his lifelong commitment to national security and aerospace advancement.

Still, one of the most enduring parts of Miller's legacy may be found in the exceptional engineers that he hired, supervised, challenged, and mentored. Among them was Tim Keeter.

Keeter, the 2026 Holger Toftoy Award recipient, represents the next wave in that legacy. A 1991 Auburn aerospace engineering graduate, Keeter was awarded the President's Award for the College of Engineering before completing his Master of Science in Aeronautical and Astronautical Engineering at Purdue University in 1994. That same year, he was hired into Dynetics by Mark Miller when his group was still less than 10 engineers in total. What followed was a 32-year aerospace industry career marked by technical breadth and managerial leadership in some of the most ambitious autonomous flight programs of the modern era.

Early in his career, Keeter cut his teeth in physics-based modeling and simulation for a wide variety of flight systems. That foundation prepared him for later work in flight system development, serving in line management and technical leadership roles within the Aviation Systems Division, eventually managing a department of aerospace engineers and software development professionals. In these roles, he played key roles in some of Miller's programs and led complex research and development programs that accomplished novel advancements in autonomy; precision navigation, guidance, and control; modeling and simulation; flight safety; mission planning and execution software; and human-AI collaboration for large-scale operations.



Tim Keeter receiving the Holger Toftoy Award from Dr. Bob Tramel (GHS Section Chair) and Dr. Joe Majdalani (GHS Honors & Awards Director), May 8, 2026, Botanical Garden, Huntsville, AL. Keeter's distinguished career helped to translate autonomous airborne systems and human-AI collaboration from early concepts into practice.

Keeter's Holger Toftoy Award recognized more than three decades of industry leadership in high-profile autonomous airborne systems and artificial intelligence research programs. His nomination cited his service as chief engineer and program manager for the DARPA Gremlins program, program manager for DARPA's Air Combat Evolution program, Collaborative Autonomy Lead for Leidos, Integrated Product Team Lead for national priority programs, and Faculty Liaison for the Auburn University Applied Research Institute.

The Gremlins program stands as one of Keeter's signature achievements. Designed to demonstrate the ability to launch and recover reusable unmanned air vehicles from a manned aircraft, Gremlins required not only advanced air vehicle design, but also extraordinary integration of autonomy, navigation, formation flight, docking mechanics, flight test discipline, and systems engineering judgment. Keeter served as chief engineer through the competitive design phases and later as program manager during flight demonstration. Under his leadership, the Dynetics team achieved a historic autonomous airborne capture of the X-61A Gremlin Air Vehicle by a C-130 in October 2021. Note that implementing airborne vehicle recovery requires balancing highly dynamic aerodynamic forces with split-second AI control loop adjustments. Autonomy developers must watch out for control-surface lag during turbulent wake interactions.

That achievement represented far more than a successful test. It demonstrated the feasibility of recovering an autonomous air vehicle in flight and returning it to a mothership aircraft, a capability with profound implications for distributed air operations, reusable unmanned systems, and future fleet architectures. The program became a finalist for the Collier Trophy, one of aviation's most respected recognitions, and the X-61A and its capture device were later installed in the National Museum of the United States Air Force in Dayton, Ohio. Keeter also co-authored the AIAA SciTech paper "Airborne Recovery of the X-61A Gremlin Unmanned Aircraft," which received a Best Paper Award.

Keeter's leadership continued through DARPA's Air Combat Evolution program, one of the agency's major efforts to accelerate trusted, collaborative, human-AI flight autonomy. As program manager, Keeter led a team through a competitive down-select and helped develop approaches intended to expand the role of AI-enabled autonomy in future civil and national air operations. The program ultimately transitioned to active operational testing, showcasing Keeter's ability to translate advanced research into practical operations.

Following the acquisition of Dynetics by Leidos, Keeter continued to serve in executive and technology leadership roles, including as Chief of Staff for the Dynetics Group and as Collaborative Autonomy Lead in the Leidos Office of Technology. After retirement from Leidos in 2026, he proudly continues his service to Auburn as Faculty Liaison for the Auburn University Applied Research Institute, helping to connect fundamental research with industry needs and strengthening the bridge between academic discovery and national aerospace applications.

In celebrating Keeter, one also celebrates the mentoring chain that shaped him. His professional journey began with Miller. From those early days at Dynetics, where Miller had established the aerospace foundation on which a major aviation enterprise would be built, Keeter grew into a leader capable of managing complex teams, winning competitive programs, guiding autonomous flight demonstrations, and helping define the future of collaborative autonomy. The simultaneous conferral of the 2026 Hermann Oberth and Holger Toftoy Awards therefore carries a very special meaning. The Oberth Award honors Miller's individual scientific achievement and his advancement of aeronautical and astronautical technologies. The Toftoy Award honors Keeter's outstanding technical management and leadership in the development of autonomous airborne systems and AI research programs. One award celebrates the pioneering aerodynamicist and enterprise-builder; the other

celebrates the systems leader and autonomy architect. Together, they recognize a relationship that began as supervisor and young engineer, matured into collegial achievement, and culminated in two of the Greater Huntsville Section's most competitive recognitions in the same year.

For Auburn University, the moment was especially meaningful. Miller earned both his bachelor's and master's degrees in aerospace engineering at Auburn and later returned his expertise through advisory boards and class instruction. Keeter earned his bachelor's degree in aerospace engineering at Auburn, distinguished himself as a College of Engineering President's Award recipient, and now serves through the Auburn University Applied Research Institute as well as the AE Advisory board effective fall 2026.

For the Greater Huntsville Section, the 72nd Annual Awards Banquet provided an opportunity to recognize two careers that helped shape the aerospace identity of North Alabama. Huntsville has long been a place where ideas become hardware, where national needs become engineering programs, and where teams move with urgency, from analysis to flight testing, to fielded capability. Miller and Keeter embody that spirit. Their work reflects the best of the region's aerospace culture: technically rigorous, mission-focused, collaborative, inventive, and unafraid of difficult problems.

In the end, the 2026 honors to Mark Miller and Tim Keeter are not merely awards given to two accomplished aerospace professionals. They are a celebration of continuity. They celebrate the continuity between Auburn education and Huntsville aerospace leadership; between mentoring and achievement; between grid fins and Gremlins; between rapid fielding and future autonomy; between the engineer who built a division and the engineer he hired who helped lead it into new domains.

What are the odds that Miller and Keeter would receive the Hermann Oberth and Holger Toftoy Awards in the same year? Perhaps very small. But in retrospect, the pairing seems almost inevitable. Their careers were linked by Auburn, Dynetics, mentorship, flight systems, and national service. Their honors, conferred together on May 8, 2026, simply made visible what had long been true: that great aerospace legacies are not built in isolation. They are built through ideas, through teams, through courage, through mentorship, and through the steady passing of excellence from one generation of engineers to the next.

Nevertheless, through all of these amazing accomplishments, the two men remain grounded. Both of them will quickly point to the fact that people rarely accomplish anything meaningful in a vacuum. Many of the key engineers in the long list of accomplishments above were made by extraordinary engineers who were educated and trained at Auburn University. Keeter reflects, "Auburn is where it all started for me, and Mark and Dynetics brought it all together. I have more amazing memories than I could ever expect from a fulfilling engineering career. But it's the people who are part of those memories that really make them special." They remain close friends even though they don't see each other every day as they often did for over 30 years.

Through Mark Miller, the Greater Huntsville Section honors a pioneer whose technical vision has helped to reshape flight control and contributed to more affordable access to space. Through Tim Keeter, it honors a leader whose management and engineering judgment have helped to advance autonomous air vehicles and trusted human-AI systems. As their careers transition away from corporate life, with Keeter being semi-retired and working part time for the Auburn Research Institute and Miller serving as a senior advisor for the Department of War, one might expect to see them on Auburn's campus more and more in the coming years, perhaps even sharing their collective experience with the next generation of "Millers and Keeters" in the classroom.