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Perseverance and propulsion: Illinois Grainger entrepreneurs fueled by innovation

9/3/2025 Jeni Bushman 5 min read

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Imagine a world without Walmart grocery pickup, NFL Sunday night football, or Disney vacations. A world absent of YouTube tutorials for every DIY project; Papa Del's pizza for curing late-night cravings; or iClickers for enabling active participation in early morning lectures.

Regardless of these companies' successes — or their varied popularity among groggy college students — they all began with a shared desire: to do something different. Many of these companies' founders also share an alma mater: The Grainger College of Engineering at the University of Illinois Urbana-Champaign, whose renowned culture of innovation is a natural home for budding entrepreneurs.

"Entrepreneurship is something I see in a lot of students," said [Phil Ansell](#), an associate professor of aerospace engineering and director of the Center for Sustainable Aviation. "Working at a legacy firm is not for everyone, and there's a time and place where breaking the mold is beneficial. We want to stoke that flame when we see it."



Phil Ansell

Ansell counts himself as the type to break the mold. After obtaining two Grainger Engineering graduate degrees, he was brought on as a member to serve as Director of Aerodynamics by Champaign-Urbana Aerospace (CUA), a local LLC that develops and produces aerospace technologies such as space propulsion systems, advanced aerospace materials, simulation tools and plasma technology.

Founded in 1998 by six current and former Grainger Engineering faculty members, CUA was ideated as an aerospace company with multiple specializations that would allow it to adapt to periodic trends in aerospace technology. In 2011, leadership of the company transitioned from its original president Wayne Solomon, professor emeritus of aerospace engineering and current CUA chairman, to fellow founding member David Carroll, a three-degree Illinois alumnus and adjunct faculty member. Under Carroll's guidance, CUA has shifted its focus to scaled systems and technologies that can be built and sold directly on its northwest Champaign headquarters.

Carroll's own foray into entrepreneurship began with a classic childhood dream: to be an astronaut. He got close, even making a cut of 300 applicants.



David Carroll

"There's an old adage that if you can't go to space, then the next best thing is to send something successful into space," Carroll said. "That's what still drives me — putting our propulsion systems into space."

Ansell's exploration into university research as a means for technology development began during his Ph.D. studies, where he participated in STTR-like programs, which pair small businesses with universities and other non-profits to promote scientific excellence and technological innovation.

"I did programs with CUA on active flow control and propeller design for quiet aircraft," Ansell said. "My specialty is aeronautics, so they brought me on as a company member a few years ago as kind of an X factor to cover a different domain."

STTR partnerships like those that supported Ansell's graduate work can be pivotal opportunities for Grainger Engineering students seeking to make an early-career impact.

"Most engineering curriculums are very theoretical — design this system, simulate this thing," Ansell said. "But at CUA, we're bringing things into reality. Our students love rolling up their sleeves and making meaningful contributions to the future of aerospace technology."

Ansell and Carroll believe these partnerships are mutually beneficial for the students and business owners who participate.

"Companies like CUA recognize the value that Grainger Engineering has in terms of bringing a wealth of talent into the future workforce," Ansell said. "And CUA is uniquely poised to make meaningful partnerships with the university, especially as a locally placed outlet. Many aerospace jobs require relocating outside of the Midwest — but we're right here."

Successful entrepreneurs are often typed as resilient visionaries who value creativity and innovation, and Ansell believes Grainger is a natural home for such ambitions.

"Innovation is in the DNA of this college," he said. "My graduate work was supported under a technological development program that allowed me to work early on in areas like electric and hybrid electric aircraft technologies, which are now finding their prime time in the research community. We were pathfinders in a lot of the electric aircraft technologies that dominate the current aeronautics landscape, and I attribute that to Grainger Engineering's spirit of innovation."

For Carroll, nearly four decades in the industry is merely a start. With over 20 patents, 200 published papers and a company that generates \$5 million in annual revenue, he never stops looking forward. His advice for current students feeling the itch for enterprise?

"Perseverance," Carroll said. "This has been the most exhilarating, frustrating, exciting, and terrifying journey of my life. In entrepreneurship there are big highs and big lows — the thrill of victory and the agony of defeat. You have to get used to 'no' as an answer. But when you get that 'yes'... it's a rush."

Editor's Note:

CU Aerospace is a graduate of EnterpriseWorks, an incubator for early-stage tech startups located in the U. of I. Research Park.

Illinois Grainger Engineering Affiliations

[Phillip Ansell](#) is an Illinois Grainger Engineering associate professor of aerospace engineering in the [Department of Aerospace Engineering](#) and is the director of [Center for Sustainable Aviation](#).

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