

Model Program: American University Center for Innovation

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The American University Center for Innovation (AUCI) is a campus-wide entrepreneurship program which was recently spotlighted (April 2017) by the AACSB (Association to Advance Collegiate Schools of Business) as one of the top twenty entrepreneurship centers and selected (October 2017) by ACTA (American Council of Trustees and Alumni) as an “Oasis of Excellence”—one of only 65 university-based centers across the United States to have this designation. Internally on campus, American University recently designated Innovation and Entrepreneurship as one of the AU2030 priorities for long-term investment and cross-disciplinary faculty and programs. This short chapter highlights a few of AUCI’s key features: mission and components, experiential learning and curriculum, interdisciplinary broad tent, incubator, research, strategic partnerships, advisory board, and connection to local, national, and global communities. Information about AUCI’s current programs can be found on: www.american.edu/kogod/research/innovation; www.au-entrepreneurs.com; and www.facebook.com/AUCenterforInnovation/.

AUCI mission and four key components: curriculum, incubator, research, and programs

AUCI’s mission is to help American University (AU) students and alumni from all across campus to gain a full understanding of the real world of business and markets by confronting, embracing, and creating opportunities—with the goal of achieving the highest levels of human flourishing and self-actualization. AUCI brings together prospective student entrepreneurs, educators, and experienced entrepreneurs to develop entrepreneurial mindsets, identify opportunities, refine business models, and launch new ventures.

AUCI comprises three components: curriculum, incubator, and research.

Curriculum: At the undergraduate level, AU offers an entrepreneurship minor for non-business students who complete 18 credit hours, an entrepreneurship specialization for any business student (12 credit hours), and at the graduate level a specialization (11 credit-hours) and a certificate (15 credit hours). Additionally, AUCI core and affiliated faculty offer a number of entrepreneurship classes in the general education curriculum, for example on design thinking.

Incubator: The AUCI Incubator helps students and recently graduated alumni develop and stabilize early stage ventures as sustainable business models ready to advance to the next level of their evolution. To achieve this, the AUCI Incubator provide faculty coaching and mentors, shared workspace, programming and networking opportunities, student resources, skills training,

and services to ventures selected for participation in the incubator. AUCI offers \$1,500 internal funding to ventures with introductions to local angel networks for subsequent funding. American University was the second liberal arts college (Dartmouth was the first) to be awarded a NSF I-Corps site from January 2018. AUCI hosts the NSF I-Corps site which offers \$2,250 to student-led technology-based ventures.

Research: AUCI provides impactful research and thought leadership in the areas of entrepreneurship theory, practice, and pedagogy. American University undergraduate and graduate students are actively engaged in entrepreneurship research with faculty mentors on a variety of topics.

AUCI's Experiential Learning and Curriculum

AUCI emphasizes experiential learning in its programs (incubator, pitch competitions, venture fund, etc.), curricula (for all AU students, to teach a range of creative problem-solving skills, as well as skills to create business, nonprofit, and social ventures that address significant world problems), and other outreach across the university and the local DC community, and is based out of the Kogod School of Business. AUCI faculty teach entrepreneurship courses which are open to any AU student; in total, there are more than ten AU faculty teaching approximately 20 entrepreneurship courses at the university. At the undergraduate level, the entrepreneurship minor for non-business students requires 18 credit hours, while business students can acquire an entrepreneurship concentration with 12 credit hours. The graduate level specialization is 11 credit hours and a certificate is 15 credit hours. From Fall 2018, the first year required general education options include a class on social entrepreneurship open to eighteen freshmen who will live in an entrepreneurship living and learning community on campus.

Each year AUCI also offers unique courses, e.g., in both 2017 and 2018, AUCI partnered with the Norwegian School of Economics (NHH) in Bergen, Norway, to offer 41 AU students the option to follow MGMT396 Corporate Entrepreneurship or MGMT396 Nonprofit and Social Entrepreneurship which include a travel stay in Bergen, Norway (fully funded by the Norwegian government and private foundation donors; 20 NHH students also completed a short stay at AU), working closely with corporate partners Marine Harvest (NYSE/OTC-listed fishery), Evry (Bergen-based software company), Deloitte (global consulting firm) and ImpactHub (Bergen-based social venture).

Another popular course offering is the independent study FedTech Commercialization, which pairs highly qualified entrepreneurs with cutting-edge inventions from the US federal lab system to conduct customer discovery and build business models around emerging technologies. The FedTech program leverages lean startup techniques while also focusing on the unique aspects of turning a federally funded technology into a startup, enabling students to learn and experience tech entrepreneurship, ethnographic market research, technology transition, and early-stage tech investing. The independent study focuses heavily on interviewing stakeholders and pitching results to a panel of entrepreneurs. In addition to working with the technology developer, students interact regularly with local entrepreneurs, investors and tech firms. Exceptional students have the option to collaborate with their federal lab at the end of class to use the technology to start a new commercial company.

AU students can also enroll in independent study one-on-one research with faculty on topics such as student debt and entrepreneurship, blockchain and cryptocurrency start-ups, corporate governance of entrepreneurial firms, start-up immigration visas to allow foreigners to emigrate to another country to start a venture, and digital banking ventures. External grants enable undergraduates to present research at academic conferences.

AUCI's Interdisciplinary Broad Tent for Entrepreneurship

One of the pillars of AUCI's success is the interdisciplinary "broad tent" for entrepreneurship which builds on the core team of AUCI Director Siri Terjesen, AUCI Incubator Co-Directors Bill Bellows and Tommy White, Visiting PhD student Hezun Li, and Post-doc Richard Devine, by including faculty from across the university. As of 2018, there are more than 50 AUCI-affiliated faculty from across all seven of American University's schools and colleges: (http://www.american.edu/kogod/auci/affiliated_faculty.cfm). These faculty engage in various AUCI activities of their own choosing. For example, three AUCI faculty (Kathryn Walters-Conte: lead PI, John Bracht: Co-PI, and Siri Terjesen: Co-PI) led the NSF I-Corps grant; some faculty (such as Bill Bellows, Brett Gilbert, and Derrick Cogburn) serve as business or technical mentors to the students' NSF I-Corps venture teams; David Bartlett and Randy Nordby led the AU-NHH exchange to Norway; and others conduct entrepreneurship-related research in domains such as public administration, government, and finance. AUCI is not prescriptive about these interactions—rather, the emphasis is to maintain an open and broad tent such that faculty can choose to engage in a manner that is "right" for them, and host a "get to know you" luncheon for all AUCI-affiliated faculty each semester. AUCI is a 2,000 square foot space in the new Myers Technology and Innovation Building, co-located with a physics makerspace, gaming lab, computer science programmers, and other technology-based activities. The geographic proximity to the science faculty and students helps to facilitate interactions.

AUCI Incubator

The AUCI Incubator helps AU students and alumni to build successful profit or nonprofit/social entrepreneurial ventures that are sustainable and scalable, via mentors, networking opportunities, educational opportunities, access to resources, and space to guide them through early stages of product, service, and business development. AUCI offers \$1,500 internal funding to ventures with many introductions to local angel networks for subsequent funding. The genesis of AU's NSF I-Corps site was an AUCI incubator firm Microinvestigate, a biotechnology venture founded by then-Masters student Megan Nelson. Three AU faculty guided Megan's firm through the NSF I-Corps national site program, enabling her to interview more than 100 potential customers and refine her business model in order to determine the prospects for commercialization and explore further funding such as SBIR and STTR. During this student-led collaborative process, the NSF saw that AU has the faculty, programs, and processes to launch tech-based student-led ventures. AUCI's Incubator delivers on five goals: 1. Support the development of AU student and recent alumni ventures toward developing sustainable businesses; 2. Respond to faculty and administrative needs for knowledge sharing and presentation of incubator programs and resources; 3. Facilitate visibility for ventures across campus, among alumni and within targeted local, regional and national audiences; 4. Contribute to the consensus and coalition building of the importance of entrepreneurship to the campus,

community and economy; and 5. Strengthen the engagement of students, AU schools, faculty, administrators and targeted geographic, market and investment communities. As of 2018 (approximately three years since establishment), more than 45 student-led ventures have been accepted to the AUCI Incubator (approximately 25-30% acceptance rate), and these ventures earned more than \$1.45 million in revenues. These student-led ventures have raised an additional \$800,000 in start-up funding.

AUCI Research: Rigorous and Relevant

AUCI fosters a research culture through tenure-line faculty as well as hosting a variety of visiting scholars and PhD students. In 2017 and 2018, AUCI faculty published entrepreneurship research in leading journals including *Academy of Management Review*, *Entrepreneurship Theory & Practice*, *Small Business Economics*, and *IZA World of Labor*. Additionally, AUCI faculty conducted research commissioned by the World Bank, Small Business Administration, and Kauffman Foundation. AUCI is not prescriptive about the type of research, although core and visiting faculty have built a strong competence in entrepreneurship related to corporate governance, international institutions, public-private partnerships, and education. One example is the Fall 2018 conference with the National Academy of Sciences for a special issue symposium on public and private entrepreneurship (co-edited by AUCI Director Siri Terjesen) in *Public Administration Review*. Another AU2030 I&E member Derrick Cogburn leads an AU collaboration with the United Nations to explore the impact of innovative virtual collaboration tools and mobile remote presence devices (robots) on participation in international conferences, with long-term support from The Nippon Foundation. Visiting scholars in 2017-8 included: Philip Yang (U Tuebingen, Germany), Hezun Li (Central University of Finance & Economics, China), Polina Trusova (Heinrich-Heine University, Germany) Ricardo Gimeno (Bank of Spain and NYU Madrid, Spain), Ruth Mateos de Cabo (CEU Madrid, Spain), Manuel Lopez (CEU San Pablo, Spain), Stine Øyna (University of Agder, Norway), Sudip Tiwari (Nord U, Norway) and Isil Yavuz (Özyeğin University, Turkey).

AUCI Programs

Through participation in competitions and conferences, AUCI is building a reputation regionally and nationally as an emerging voice in innovation and entrepreneurship. AUCI has created rich opportunities for students to become more entrepreneurial. Designated as National Science Foundation ICorps Site, AUCI provides financial resources to help student ventures take advantage of growth opportunities. Through the FedTech Program, AUCI provides entrepreneurship students a chance to commercialize Federal Lab Intellectual Property. Moreover, AUCI is committed to enhancing regional and national by participating in Venture Capital Investment Competition (VCIC). AUCI also plays an important role in AU RiSE Program and is actively involved in campus-wide innovation initiatives for design thinking. In addition to running the pillar programs, AUCI faculty manage related opportunities to engage students, alumni and local business leaders such as:

- Complex Problems Social Entrepreneurship Living and Learning Community: Starting in Fall 2018, nineteen first year students will enroll in a 3-credit general education “Complex Problems” course on Social Entrepreneurship and live in an on-campus residence. This unique program combines residence and exposure to academic and extra-curricular

programming to develop entrepreneurial mindsets to creatively and effectively solve problems.

- Global Entrepreneurship Week (GEW.co): as part of the Kauffman Foundation global celebration of entrepreneurship each November, AUCI holds a series of panel discussions on topics ranging from women and minorities in entrepreneurship to entrepreneurship in sports and entertainment, most recently hosting serial entrepreneur Sheila Johnson.
- The AU Entrepreneurship Venture Fund: the \$1,500-\$5,000 grants are provided to select incubator ventures based on faculty review of applications for additional startup funds.
- Big Idea Competition: The Big Idea, AU's only pitch competition, is an annual campus-wide video-pitch, judged by alumni across the world and local business leaders.
- Demo Days: The Incubator team has originated two demo days (one each semester) for ventures to show their work and interact with the campus and community. The fall event is held in AU's Mary Graydon student union. The spring event is held on campus, in conjunction with a local angel capital group, New Dominion Angels, who meet student ventures. AUCI students then sit in on the New Dominion Angels' evaluations of potential funding opportunities.
- Collegiate Entrepreneurs Organization (www.c-e-o.org/): AU hosts a chapter of this national association of college entrepreneurs who participate in national networking events, competitions, and conferences to help start businesses.
- Venture Capital Investment Competition (VCIC.org): AU participates in this annual global competition for graduate business students to learn and experience the intricacies of venture funding.

Strategic Partnerships

AUCI develops and maintains a range of strategic partnerships with local, national, and foreign governments, public and private corporations, non-profits, and think tanks to help us deliver the mission. With each partnership, AUCI seeks mutually beneficial outcomes and complementary skillsets, as well as complete academic freedom. Here are some examples:

- Private corporation: Tampa-based Home Shopping Network (HSN filmed a three-day TV show at American University- the "American Dreams Academy" for more than 120 individuals, including some of AU students, on campus in November 2017. Daymond John (Fubu founder and one of the Sharks from Shark Tank) keynoted the Academy which included many other highly successful entrepreneurs and inventors on the panels such as Stacey Schieffelin, founder and CEO of ybf cosmetics and her Women Leadership Live co-founders Debbie Saviano and Linda McMahon (Administrator, Small Business Administration). Other private corporate partnerships include AU-NHH exchange partners Marine Harvest, Evry, and Deloitte.
- Foreign government: Through the SIU (Senter for Internasjonalsisering av Utdanning: Norwegian Centre for International Cooperation in Education), the Norwegian government sponsored three grants in 2017 and 2018 which enabled 41 AU students to take entrepreneurship courses with all-expense-paid travel and hotel to Norway. Additionally Norwegian Ambassador to the U.S. Kåre Aas lectured in classes and hosted two events at the Embassy for AU students and faculty. AUCI also regularly hosts members from the Norwegian Embassy and other foreign embassies to discuss present and future collaboration opportunities. As another example, the Chinese government provided a generous China

Scholarship Council (CSC) grant to enable Hezun Li, a PhD student from the Central University of Finance and Economics (CUFE) in Beijing to conduct entrepreneurship-related research at AUCI for 2017-18. Other governments funding research scholars to spend a short stay at AUCI include Spain, Germany, and Norway.

- Private foundation: The Oslo-based Tyrili Foundation hosted three AU students to intern in the social venture Tyrili Klatring (a climbing gym in Lillehammer, Norway which successfully rehabilitates drug convicts) in summer 2017. A grant from the Charles Koch Foundation enabled undergraduates to present their research at academic conferences and attend entrepreneurship conferences, host a post-doc, visiting scholars, and visiting PhD students, and bring together the editors of the top academic journals in management and business. The Richard Schulze Family Foundation provided seed funding for AUCI students to prepare pitches for the annual e-Fest at St. Thomas University in Minnesota.
- Think tank: Washington, D.C.-based American Enterprise Institute (AEI) hosts many AUCI-affiliated students for events, summer schools, and internships.

Advisory board

AUCI's Entrepreneurship Advisory Council (EAC) consists of approximately twelve alumni entrepreneurs who are passionate about helping current students and alumni to pursue entrepreneurship. The EAC meets twice a year to review the AUCI's progress, provide long range guidance on major directions and strategies, contribute to and promote the financial viability of the Center, mentor students, and connect AUCI research to industry. As of 2018, EAC is comprised of: George Assimakopoulos, Jesse Berger, Mitch Berliner, Mark Bucher, Andy Einhorn, Tim Gentry, Yong Kim, Jason Kra, Debra Moser, Don Nelson, Michael Rosenberg, Lisa Rosenthal, and Richard Ross.

AUCI's historical roots

There is a rich history of entrepreneurship and innovation at American University. The Kogod School of Business offered its first entrepreneurship course in 1987, and was the home of Barbara Bird, one of the co-founders of the Entrepreneurship initiative (later division) of the Academy of Management and an early contributor to psychological theories in entrepreneurship. Student enthusiasm grew rapidly as entrepreneurship and innovation courses expanded and soon were packaged into Kogod undergraduate and graduate entrepreneurship majors and a graduate entrepreneurship certificate, and later an entrepreneurship minor for non-Kogod students. In 2012 Kogod launched the Sustainable Entrepreneurship Initiative with Professor (and former Kogod Interim Dean) Stevan Holmberg as Founding Director. The first on-campus entrepreneurship incubator co-working space opened in Fall 2014 with two seasoned entrepreneurs Tommy White and Bill Billows as co-Directors and Executives-in-Residence. In 2014, AU participated an entrepreneurship advisory council was formed and over \$200,000 was raised for a student entrepreneurship venture fund. This foundation enables students from across American University to access \$1500 in start-up funds for their ventures, and have new opportunities to challenge themselves, to think differently, to actively participate in their own real-world experiential learning, and to create new opportunities and innovative ventures that can make a difference. Additional expansions during this period included participation in Global Entrepreneurship Week (over 400 students in 2014) as well as the VCIC. In 2016, Siri Terjesen joined American University, and served as Interim Director and then Director of the re-named

American University Center for Innovation. Program expansions in 2016 and 2017 included the NSF I-Corps site, FedTech commercialization, designation as an AU2030 priority, nationalization of the student entrepreneurship club to a Collegiate Entrepreneurs Organization (CEO) chapter, NHH exchanges, and other initiatives.

Connection to local, regional, and global communities

AUCI is extremely devoted to the local, regional, and global communities. At the local level, AU biology faculty Kathryn Walters-Conte and other science faculty lead an initiative to bring at-risk Washington, D.C.-area high school students into AUCI to learn more about entrepreneurship. At the local and national level, one example of AUCI impact is pre-med Maria Rose Belding who while volunteering at a food pantry in 2015, saw piles of food going to waste and co-founded non-profit MEANS database which now connects thousands of food pantries across 42 states in the US. Maria's venture has been featured in the Washington Post, CNN, and other media, and has inspired students at AU and other universities to pursue social ventures. At the national level, AUCI research funded by the Kauffman Foundation enables local communities to determine the most critical aspects of their entrepreneurship ecosystems, and particularly to involve business school students in these ecosystems. At the global level, AUCI research includes the Global Entrepreneurship Monitor (GEM) Social Entrepreneurship report (launched 2016) which uses a harmonized method to determine the level of social entrepreneurship activity across 58 states and has been used by the OECD, EU, and other organizations to shape policy. As another illustration of the global level, AUCI research commissioned by the World Bank surveys rigorous research on which behavioral incentives will encourage more women to enter the labor market as entrepreneurs.