UC Davis STAIR Proof-of-Concept Grant Program (2022-23)
Executive Summary

The 2022-23 STAIR Grant cycle opened on January 18, 2023. The Innovation & Technology Commercialization team proactively contacted and engaged directly with more than 90 PIs, offered in-person information and Q&A sessions, and organized outreach through several campus partners, including the Office of Diversity, Equity, and Inclusion. At the close of the application period, 45 eligible STAIR applications were submitted from PIs across 30 different departments.

This cycle, in addition to the $300,000 of funding made available through the Office of Research, one external partner and five campus partners committed a total of up to $225,000 in supplemental funding and in-kind consultancy services for awards aligned with specific areas of interest.

UC Davis Health and specifically the Chief Ventures Officer, Dr. Don Taylor, have recognized the remarkable work that the Office of Research has put into developing the STAIR Grant program, the historical impact, the value the program offers, and innovator support that is offered. They have additionally funded three quality proposals related to the School of Medicine.

In alignment with best practices such as those used for federal SBIR/STTR merit review panels, Venture Catalyst assembled external review committees for five panels of the STAIR grant program, consisting of investors, industry professionals, and experienced entrepreneurs with subject matter expertise across a wide range of disciplines. The STAIR Review Committee consisted of 56 members.

The proposal evaluation process focused on four main areas: 1. program fit; 2. technical merit; 3. budget, timelines, & milestones and 4. commercial potential. The first step in the review process involved an online scoring system with Review Committee members broken up into panels based on discipline. Proposals were classified under five panels – Human Health, Animal Health, Environmental Health and Sustainability, Computing, Electronics and Information Systems, Food, Agricultural Systems and Nutrition. The online process was used to identify a group of 30 finalists, which were further evaluated through virtual review sessions using the Zoom video conference platform. The STAIR virtual review session took place on May 10, 2023 for the Human Health (12 reviewers), Computing, Electronics and Information Systems (4 reviewers) panels and on May 11, 2023 for the Environmental Health (4 reviewers), Animal Health (4 reviewers) and Food, Ag Systems and Nutrition (11 reviewers) panels. The virtual group review process utilized one round of forced ranking followed by robust discussion before a final round of forced ranking was employed to determine the proposals recommended for funding.

Recommended Awardees

PI	Proposal Title	Amount Requested	Supplemental Funding Available
Zeki, Amir (*Human Health*)	*Inhaled ZEK007 as a Novel Bronchodilator for the Treatment of Asthma*	$50,000	SOM – $25,000
Cummings, Bethany (*Human Health*)	*Targeting alpha-cell GLP-1 production for diabetes treatment*	$50,000	SOM – $25,000
Angelos, John (*Animal Health*)	*Novel vaccine to prevent and control bovine pinkeye*	$28,474	SVM – $25,000

Pandey, Pramod (*Environmental Health*)	*Microwave Powered Method for Producing Manure Based Innovative Products*	$50,000	SVM - $25,000
Moule, Adam (*Computing, Electronics and Info Systems*)	*A tool for photopatterning organic electronic polymers*	$50,000	COE - None
Boundy-Mills, Kyria (*Food, Ag Systems & Nutrition*)	*Yeast-based renewable, sustainable alternatives to meat fats and tropical oils*	$50,000	CAES – $25,000

All STAIR **applicants** will receive a summary of anonymized reviewer comments to help guide technology commercialization for their projects. In addition, all **finalists** have been assigned one or more mentors from the Review Committee to advise on their projects. All **awardees** will be required to engage with their mentors on a quarterly basis and receive final approval of their scope of work and budget before funds will be disbursed. Further, to build relevant skills among innovative PIs, all **awardees will be required to complete a structured entrepreneurial training program** such as an Entrepreneurship Academy organized by the UC Davis Institute for Innovation & Entrepreneurship or the NSF I-Corps Immersive Short Course offered by Venture Catalyst in collaboration with the Bay Area Node.

STAIR side-car award from Triple Ring Technologies: With the support of the Interim AVC of ITC, Venture Catalyst has opted to use $22,000 of the $25,000 set aside for possible STAIR prizes in the FY23 budget to engage the consulting firm Triple Ring Technologies to support select innovators with strategic trouble-shooting. This relationship grows out of a pro-bono engagement with Triple Ring Technologies last year in which, according to the innovators served, "their advice saved me years of R&D." The intention of the paid engagement this year is to enhance the value of the STAIR funding by helping innovators to design experiments or plan for prototypes that will have maximum likelihood of meeting their proposed STAIR milestones (in essence, "protect our investment"). This year, Triple Ring Technologies will provide 95 person-hours of consulting services in the aggregate over a 3-6 month period to 3-6 recipients jointly chosen by Triple Ring and UC Davis Innovation and Technology Commercialization (ITC). From the 45 STAIR applications received, 10 were selected as finalists to pitch to the Triple Ring team. The pitching event is to be held on June 9, 2023.

UC Davis STAIR Proof-of-Concept Grant Program
## 2022-23 Cycle Introduction

The **Science Translation and Innovative Research (STAIR)** grant program, managed by Venture Catalyst, is designed to provide funding to support translational science and innovative research performed by UC Davis researchers. The goal of the program is to demonstrate early proof-of-concept and commercial potential or feasibility for technologies being developed with the intent of commercial translation. Examples of outcomes that might be realized from research results enabled by this funding include development of research or early commercial prototypes, generation of translational data from experiments typically not fundable by traditional research grants, enablement of patent claims, promotion of more competitive licensing opportunities or SBIR/STTR grant applications by subsequent startups benefiting from license rights to the underlying technologies.

The program is designed to stimulate translational research and facilitate early engagement by entrepreneurial researchers with campus programs that support technology commercialization and provide resources needed to successfully form and grow new ventures.

The objectives of the STAIR program align with major goals of the University to foster a vibrant community of learning and scholarship, drive innovation at the frontiers of knowledge, and nurture a sustainable future and development of an innovative and entrepreneurial culture that extends the benefits of our research activities beyond the boundaries of the university.

The STAIR Grant application period for the 2022-23 cycle opened on Wednesday, January 18, 2023 through the solicitation of a completed application form and submission of a four-page research proposal (not including biographical sketches, budget justification, milestones, citations and references). The Innovation and Technology Commercialization team conducted several virtual outreach sessions to raise awareness of the programs and answer questions regarding objectives, eligibility, and process. Applications were due on March 16, 2023. A total of 45 eligible applications were received by the application deadline.

A total of $525,000 was allocated to the STAIR grant program this cycle: up to $300,000 was provided by the Office of Research and up to $225,000 of supplemental funding committed by campus and external partners. The funding period for the grant is one year commencing around July 2023. A total of $2.197 million was requested through the Grant Programs by principal investigators from over 30 departments, representing a broad range of schools and colleges, reflected in the pie chart below. Although the total number of applications received were 45, some of these applications were reviewed in more than one category. Therefore, number of applications reviewed in each category were as follows – 27 in Human Health, 10 in Animal Health, 7 in Environmental Health & Sustainability, 10 in Computing, Electronics and Information Systems and 10 in Food, Ag Systems and Nutrition.

PROPOSALS BY SCHOOL AND COLLEGE

■ SOM ■ COE ■ SVM ■ CAES ■ CLS ■ CBS ■ OR-ORU
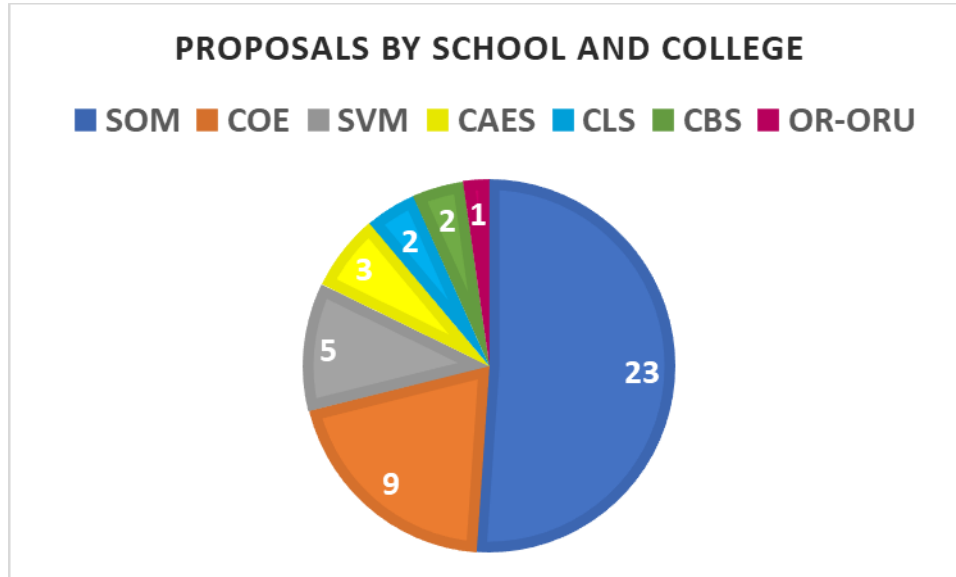
Following a rigorous online review process involving external reviewers (investors, industry professionals and experienced entrepreneurs), a **total of 30 proposals were selected as finalists** and moved to the next phase of their review process in each panel (**12 in Human Health, 4 in Animal Health, 4 in Environmental Health and Sustainability, 5 in Computing, Electronics and Info Systems panel and 5 in Food, Ag systems and Nutrition**). Of these, after further reviewer deliberation through a virtual session, evaluation and ranking, **6 grants were recommended for award** based on their potential for future high-impact discoveries and innovation, as judged by their technical merit, commercial potential, and alignment of budget and milestones with translational enablement.

A proactive mentor engagement plan has been developed, which involves assignment of industry mentors to each of the STAIR panel finalists (which includes mentoring award recipients on commercialization milestones and timelines), and follow-up with all applicants to provide summarized reviewer comments and facilitate access to innovation resources. The mentor engagement process will be facilitated by Venture Catalyst, in collaboration with Innovation*Access*. Additionally, the UC Davis Institute for Innovation and Entrepreneurship is providing support for STAIR Grant award recipients through its Entrepreneurship Academies, applicants and awardees will also have access to the NSF I-Corps Immersive Short Course taught by the Bay Area Node and provided through Venture Catalyst.

Internal and External Funding Partners

Venture Catalyst engaged several campus and industry partners to make up to $225,000 of additional potential supplemental funding and in-kind services in the form of consultancy available to projects through the STAIR Grant Program.

External Partner

STAIR SIDE-CAR AWARD WITH TRIPLE RING TECHNOLOGIES CONSULTING

As a side-car award, Triple Ring Technologies Consulting will provide 95 person-hours of consulting services in the aggregate over a 3-6 month period to 3-6 recipients jointly chosen by Triple Ring and UC Davis Innovation and Technology Commercialization (ITC).

Campus Partners

PIs from partner Colleges / Schools are eligible for additional support if their proposal is selected for an award through the regular review process.

Supplements will be 50% of the awarded budget and can be used for graduate student, post-docs, or staff salary support or other expenses.

Colleges / Schools will work with awardees and assigned STAIR Grant mentors to create modified budgets that best support projects.

College of Letters and Science, College of Biological Sciences, School of Medicine and School of Veterinary Medicine have each made up to $50,000 of supplemental funding available. College of Agricultural and Environmental Sciences has made up to $25,000 for one awardee:

UCDAVIS
COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

UCDAVIS
COLLEGE OF LETTERS AND SCIENCE

UCDAVIS
COLLEGE OF BIOLOGICAL SCIENCES

UCDAVIS
VETERINARY MEDICINE

UCDAVIS
SCHOOL OF MEDICINE

Campus partner funding is targeted to provide supplemental salary support equating to up to half of the awarded grant amount.