MAJOR SEAD GRANTS
CALL FOR PROPOSALS FY 21-22

Submission Due Date
February 12, 2021 (5:00pm EST)

Awards Announced
Friday, April 9, 2021

SUMMARY

ICAT brings together scientists, engineers, artists, and designers to work on some of the world's most complex and emergent challenges. Powered by creative people and advanced technology, ICAT gathers and supports diverse teams of faculty and students to engage with issues in industry and society.

We invite proposals for projects that are creative, innovative, and show strong potential to advance the goals of ICAT and its partners. You know that "back-of-the-mind", risky idea you can't get out of your head – the one that may change the world? That's what we're looking for.

Grants can be used for transdisciplinary activities, including creative projects, feasibility studies, and preliminary research. We hope that projects will grow into larger initiatives, performances, exhibitions, or events that are visible at a national or international level.

ELIGIBLE INVESTIGATORS

All faculty members at Virginia Tech are invited to submit an application and lead a project team.

We're looking for teams comprised of faculty from at least two diff erent fields, with preference given to projects that include PIs from two or more colleges.

ICAT celebrates the critical importance of diverse teams of scholars. We want to encourage the diversity of our research teams as much as we can. ICAT is dedicated to InclusiveVT — serving in the spirit of community, diversity, and excellence to create a community that nurtures learning and growth for all of its members. See Virginia Tech's Principles of Community (inclusive.vt.edu) for more information.

SUPPORT AND SPACE

In some instances, ICAT can provide access to staff and space to support of SEAD projects for the duration of the project award year.

As part of your proposal please highlight if you are requesting:

Assistance from ICAT staff

ICAT specialists can become project team members for approved projects. ICAT specialists can support projects using various facets of the Cube, including spatialized sound, immersive environments, visualization, and motion capture.

ICAT Studios

ICAT is also home to a number of unique spaces and studios on campus that may be utilized for ICAT SEAD grant projects. This will be somewhere within the Creativity and Innovation District as needed and when available. For information about ICAT studios, please visit icat.vt.edu/studios. Please include requests for these spaces as part of your proposal document.

RESEARCH AREAS

Proposals should involve two or more departments, preferably in different colleges, and address at least one of the following areas represented by the institute:

Amplifying the Arts

Art and technology continually define and redefine our world. The collision of art, technology, and experimentation drive innovation in all directions. These projects demonstrate how technology can advance artistic practice and how art and design can elevate and improve scientific discovery and output.

Making Big Discoveries with Immersive Technologies

Immersive technologies are changing the research landscape. These projects use visual design, 3D modeling, animation, programming, motion capture integration, and true 360-degree sound to open up entire new worlds of exploration and discovery.

Empowering Data

Pioneering new possibilities with data. Projects explore and present data in some unexpected and surprising ways, introducing new perspectives that can pave the way for lifechanging discoveries.

Bridging Physical Distance

With the propagation of the COVID-19 pandemic, what was once a matter of convenience is now a requirement. These projects go far beyond videoconferencing software and include the use of augmented and virtual reality technologies to bring people from around the world together in shared immersive digital spaces to connect, learn, and experience.

Engaging Community

Science should be available to everyone. Research shouldn't be hidden in labs and buried on computer hard drives. Interactive technology brings data to life and tells the stories of researchers and their work, while sculptures and other works of art show data and computational processes in unexpected, captivating, and often very accessible ways.

Reimagining Education

These projects create educational environments that prepare students to confidently enter a world requiring creativity, adaptability, and collaboration. This work is changing where students learn, what students learn, and how students learn.

Designing a More Sustainable World

Creativity that spurs change. This work supports our ecological and cultural resilience.

Creating the Future of Work

Advances in technology are changing the ways we work. From the aesthetics, functionality, and even physical locations of our workplaces to the ways we collaborate with our co-workers and communicate with our clients, these projects focus on efficiency, productivity, and value.

GRANTS AVAILABLE - up to $25,000 each

Across the research areas noted above, the following categories of grants are available. For example, projects that will be primarily in the Cube, regardless of research topic area, would fall into the Cube category below. Please note that by selecting a grant category on the cover sheet and Google drive that it will NOT preclude you from being considered for other categories during the review process. We'll see if your proposal would be a better fit in another category, but please pick one as your first choice.

GENERAL

A Open Call for SEAD Projects

ICAT will fund several transdisciplinary projects, pilot/feasibility studies, and preliminary research. We're looking for project teams that involve two or more of the research areas listed in this document. Project duration should be set for one year, beginning July 2021. And keep in mind that failure IS an option here, so take a chance on something big... something great.

B Cube Project

ICAT is seeking proposals for transdisciplinary projects of any sort that will use and push the boundaries of the Cube (not literally, though). The Cube is a four-story-high, state-of-the-art theatre and high- tech laboratory that serves multiple platforms of creative practice by faculty, students, and national and international guest artists and researchers. The Cube is a highly adaptable space for research and experimentation in big data exploration, immersive environments, intimate performances, audio and visual installations, and experiential investigations of all types. Projects may include, but are not limited to, simulation, data visualization or sonification, architectural visualization or sonification, visual and performing arts, user studies, and more. Features of the Cube include:

Motion capture	Tetherless, multi-user virtual and augmented reality with head -mounted displays
Immersive 360-degree projection	Spatial audio

Project development support in the creation of immersive environments and the use of the facilities, including technological support, is available through ICAT staff. Significant development support may be built into the grant, substituting some portion of the grant for staff support. Preference will be given to projects with teams that include at least one affiliated faculty from the Center for Human Computer Interaction.

In addition to the open category, we have partnered with other unit with particular interests within the Research Areas listed above:

SPECIAL PROJECTS:

C Special Project:
Smart Ag – Technologies, Data, Interpretation – Advancing Ag Through Technology Innovation

The College of Agriculture and Life Sciences Center for Advanced Innovation in Agriculture (CALS CAIA), in partnership with ICAT, seeks creative proposals that advance the agriculture and food system through the use of innovative technologies, advancing cyberbiosecurity, and/or facilitate the interpretation of large data sets for advancing the use of new technologies for agriculture and/ or food applications. We also consider proposals that integrate advanced technologies to help facilitate the human factor, such as workforce efficiencies or overcoming disabilities or limitations to allow continued agricultural engagement. We're looking for projects that develop strong partnerships between CALS CAIA faculty and non-CALS faculty, especially those that incorporate aspects of art and design.

D Special Project:
Virginia Tech Sesquicentennial Celebration and ICAT 10 Year Celebration

The context of creativity and innovation:

1) what are the origins of the process?
2) what is the contemporary landscape?
3) and what are future possibilities?

are critical aspects in understanding the 10-year journey of ICAT within the 150-year history of Virginia Tech. This special SEAD grant seeks to fund a project that will engage the public in understanding the role that arts and technology have had in the history of the university and where further exploration might take us into the future. Successful proposals could range from contextualizing a particular research area (e.g., the past, present, and future of immersive experiences) or synthesizing the broad range of research in arts and technology across Virginia Tech into a larger work.

E Special Project:
Creativity + Innovation Tech for Humanity Integrated Research and Experiential Learning

We invite proposals involving two or more faculty who will develop a new or combine two or more existing courses to create and pilot a new collaborative and a co-taught special topics curricular experience that integrates core values of C+I, including arts, business, design, humanities, and technology, and their use to reflect upon the human condition, focus on the experiential learning with a balance of hands-on and theoretical elements, and interdisciplinarity. Such a course should have the potential to scale and be sustainable and responsive, and be pathways-eligible.The awarded team will be expected to publish their design process online and to pilot the new course through C+I and ICAT on the main, Northern Virginia campus, and/or online outside the regular academic year and within 1 year since the onset of the award. Awarded faculty will receive supplemental compensation for teaching the course. The funding may be used for appropriate expenditures necessary for the design and implementation of the proposed course. In addition to funding, the Center for Educational Networks and Impacts (CENI) will help awardees construct research-based evaluation activities that support their ideas for teaching and learning that is interesting and impactful for the C+I community.

SUBMISSION PROCESS

After you have entered your team data in the Google form, email a PDF copy of your submission, including cover page with all necessary signatures, to Melissa Wyers at mwyers68@vt.edu by 5:00 p.m. EST on Friday, February 12, 2021.

Please address each section in your proposal using Times New Roman 12 point font. Proposals should be limited to five pages, including images. Proposals received without cover sheet signatures will not be considered.

SUBMISSION GUIDELINES

Step 1   Google Form   https://icat.vt.edu/links/major-sead-grant-21-22.html

Complete team information
- Principle Investigator name, email, and home department
- Team member names, emails, and home departments
- Bios and expertise of team members unique to the project
- Current and pending funding of the PI(s)
- Space requests (if applicable)
- ICAT specialist request (if applicable)
- Budget and budget justification
  - Total budget request (up to $25,000)
  - Budget justification and amounts requested for
    1. Student time
    2. Faculty salary time
    3. Equipment, including software requests
    4. Materials and supplies

Step 2   Proposal Document
(PDF submission to Melissa Wyers at mwyers68@vt.edu)

Please address each section in your proposal using Times New Roman 12 point font. Proposal should be limited to five pages, including images.

T   Times New Roman 12 pt   limited to 5 pages (including images)

Statement of Need/ Project Description	- Listing of research areas involved (see second page) - Description of the challenge the team is looking to explore - Linkage to ICAT mission and goals - Vision of project impact - Where project work will happen and whether technical resources from ICAT are needed
Methods and Strategies	- Describe the activities that will be conducted as part of your project
Goals and Objectives	- Describe the overall outcome your project aims to achieve - Describe project outputs - Describe plans for future funding, exhibition, etc.

Plan for Evaluating Project Success	- Describe how you will determine if your project has been successful - Describe anticipated outcomes and deliverables
Timeline	- Timeline should begin after July 1, 2021 and end by June 1, 2022.

FUNDING INFORMATION

- Awarded funds will be available Wednesday, July 15, 2021. All project expenses must be posted to Banner within 30 days of the project's end date.
- Unspent funds must be transferred back to ICAT within 45 days of the project's end date.
- Funds will not be awarded for conference travel or food.
- Funds can be used to buy out faculty time during the academic year or summer, pending home department approval.

REVIEW CRITERIA

The proposals will be reviewed by the institute director, associate director, and ICAT senior fellows, and then evaluated based on the following criteria:

1 Intellectual merit and innovation

2 Interdisciplinary nature of the team

3 Correlation to the mission of ICAT and its studios

4 Broader impact of the project

5 Potential channels to advance the proposed research

6 Timeline

7 Clear outcome and deliverables

8 Alignment with project categories and/or themes

After the proposals are reviewed, a member of the proposal team may be asked to make a brief presentation to the review committee.

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