INSTITUTE FOR CREATIVITY, ARTS, AND TECHNOLOGY
MAJOR SEAD GRANTS CALL FOR PROPOSALS FY 20-21

Request for Proposals: Major SEAD (Science, Engineering, Art, and Design) Grants
Submission Due Date: February 14, 2020 (5:00pm EST)

SUMMARY:

The Institute for Creativity, Arts, and Technology (ICAT) brings together scientists, engineers, artists, and designers to tackle some of the world’s most complex challenges. Powered by advanced technology and networks of creative people, ICAT brings together and supports teams of faculty and students from across academic disciplines to address particular needs, ranging from large societal problems to industry-specific issues.

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.

We invite proposals for projects that are creative, innovative, and show strong potential to contribute to ICAT’s goals and those of its partners. These grants can be used to pursue a range of transdisciplinary activities, including creative projects, pilot or feasibility studies, and preliminary research. We’re hopeful that projects supported by these resources will ultimately become larger projects, longer term initiatives, or one-time events, performances, or exhibitions that are visible at the national 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 different 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.

SPACE AND SUPPORT:

In some instances, ICAT can provide the digs[1] and peeps[2] 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.

**FUNDING INFORMATION:**

Awarded funds will be available Wednesday, July 15, 2020. 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.

**RESEARCH AREAS:**

Proposals should involve two or more of the following areas represented by the Institute:

- Visual arts
- Architecture
- Life sciences/Agriculture
- Earth sciences
- Physical sciences
- Industrial design
- Performing arts
- Education
- Engineering
- Human sciences
- Humanities
- Social sciences
- Technology
- Computer science

**GRANTS AVAILABLE:**

*Please note that by selecting a grant category on the coversheet and Google drive that it will NOT preclude you from being considered for other categories during the review process. We'll look to 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 - up to $25,000**

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 Wednesday, July 1, 2020. And keep in mind that failure IS an option here, so take a chance on something big... something great. Go ahead, put your peanut butter in the chocolate.

B) **Cube Project – up to $25,000**

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 including:

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

SPECIAL PROJECTS:

C) **Special Project in Support of Affect as a Unifying Theme for Science, Engineering, Art, and Design – up to $25,000:**

ICAT is seeking proposals for projects that engage faculty from across science, Engineering, Art, and Design to explore the role of affect in the generative processes of practitioners in those fields, and in the recipients’ responses to artifacts from those fields. For example, experts in a given field will have an appreciation for elegance within that field that would not be apparent to non-experts; is there a common element of affect that would indicate or explain that appreciation of elegance? Proposals in this category must be integrative and interdisciplinary and exhibit strong potential for long-term impact, including securing secondary/ or external funding from either government
agencies, foundations, or both. Accepted teams will be working closely with the ICAT leadership to formulate a long-term strategy for the role of affect in ICAT’s future initiatives. Examples of “Affect as a Unifying Theme” collaborations may look like: Multidisciplinary Perspectives on Bodily, Affective and Social Perception

- Design of Affective Loop and Affective Dialogue Systems
- Cultural Differences in Affective Design and Interaction
- Affect Recognition from Different Modalities
- Affect Recognition in Everyday Settings
- Affective Text Processing and Sentiment Analysis
- Human-Centered Human-Behaviour-Adaptive Interfaces
- Technological and Biological Bodies in Dialogue: Multidisciplinary Perspectives on Bodily, Affective and Social Perception
- The role of affect in AI and autonomous systems
- Affect and Aesthetic

http://emotion-research.net
http://acii-conf.org/2019

D) Special Project: Smart Ag – Technologies, Data, Interpretation – Advancing Ag Through Technology Innovation – up to $25,000

The College of Agriculture and Life Sciences, in partnership with ICAT, seeks proposals that advance agriculture through the use of innovative technologies, cyberbiosecurity of life science-based data, and/or facilitate the interpretation of large data sets for advancing the use of new technologies in agriculture. We’re interested in new technologies that promote the rapid collection of data or sensing of biological, biochemical, or physical observations with direct relevance to agricultural applications. We’ll consider proposals that integrate advanced technologies to help facilitate the human factor, such as workforce efficiencies or overcoming disabilities to allow continued agricultural engagement. Preference will be given to proposals that focus on new technologies with large data sets relevant to agriculture and life sciences or include CALS faculty as PI or co-PI with a collaborative team to advance data analysis, visualization, and/or protection of data in a meaningful way for research outcomes and translation into potential application. We’re looking for projects that include strong partnerships between CALS faculty and non-CALS faculty, especially those that incorporate aspects of art and design.

SPECIAL PROJECTS FOCUSED ON DESTINATION AREAS WITHIN ICAT:

E) Creativity + Innovation Tech for Humanity Integrated Research and Experiential Learning – up to $25,000

The Creativity + Innovation (C+I) transdisciplinary community explores intentional integration of arts, design, humanities and technology. Using and reflecting upon the technology and its impact on the human condition, C+I is empowered to leverage arts, design, and humanities to design new and reflect upon the existing and/or forthcoming solutions and their societal impact. In the spirit of the Tech for Humanity initiative, C+I seeks opportunities that will inform and inspire rapid integration of
human and machine. A growing group of new and experienced faculty from across campus supports this integration by re-imagining transdisciplinary research models.

We are interested in funding a project to create or improve teaching and learning experiences within the Creativity + Innovation community with particular focus on the Tech for Humanity. Proposals should come from interdisciplinary teams including DA hires, tenure-track/tenured faculty, as well as collegiate faculty, with a plan to engage both faculty and students in practices and scholarship of quality teaching and learning. In particular, this call is looking for two or more faculty who will develop and pilot a collaborative, co-taught, and ideally pathways approved course that integrates core values of C+I, including arts, 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 a potential to scale, be sustainable and responsive to the current curricular goals of C+I (e.g. a capstone within the existing or newly proposed pathways minors). The expectation is that the course pilot will be taught outside the regular academic year, including (and not limited to) wintermester and summer. It will be piloted through C+I and ICAT on the main, Northern Virginia campus, and/or online. The funding may be used for any expenditures necessary for the design and implementation of the proposed course, including (and not limited to) partial academic year course buyout, materials, guest speakers, travel and/or lodging expenses, and promotion. The course needs to be piloted within 1 calendar year since the onset of the award and for which the assigned faculty will be compensated on top of the awarded grant funds. 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 future community members of C+I. Given, this grant is co-sponsored by C+I/ICAT and IIHCC, the awardees are also expected to present at the ICAT Creativity and Innovation Day in spring 2021 regarding research ideas and outcomes.

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 14, 2020.

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://forms.gle/c5cgymrMjkhoki2x8

Complete team information

PI Name, Email, Home Department
Team Member Names, Emails, Home Departments
Bios and expertise of team members unique to the project
Current and pending funding of the PI(s)
Space requests (if needed)
ICAT specialist request (if needed)
Budget and Budget Justification
  Total budget request
  Budget justification and amounts requested for
    Student time
    Faculty salary time
    Equipment
    Materials and supplies

**Step 2: Proposal Document (PDF submission to Holly Williams at hmccall@vt.edu):** Please address each section in your proposal using Times New Roman 12 pt. font. Proposal should be limited to five pages, including images.

**Statement of Need/Project Description**

  - Listing of research areas involved (see first 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 Wednesday, July 1, 2020 and end by Tuesday, June 1, 2021.

**EXPECTATIONS OF FUNDED PROJECTS:**

**Funds:** ICAT will transfer funds to PI’s home department E&G fund upon acceptance of project. Any unspent funds should be returned to ICAT by May 15, 2021. Please have your departmental fiscal representative contact Melissa Wyers at mwyers68@vt.edu.

**Equipment:** ICAT will have first option on the disposition of ownership of all materials, supplies, and
equipment. Equipment not owned or maintained by ICAT will be returned to the project PI with the understanding that ICAT will have access to said equipment, pending request and availability.

**Reporting:** Project updates should be submitted to ICAT once a month during the project’s duration. A final two- to three-page report that describes project outcomes and how the funds were expended will be submitted to ICAT no more than 30 days after project completion. A final report template will be provided by ICAT for completion and will be submitted to Melissa Wyers at mwyers68@vt.edu.

**ICAT Engagement:** Representatives from each project are expected to participate in outreach and engagement, including giving an ICAT Playdate presentation to showcase the project, as well as participation in the upcoming ICAT Creativity and Innovation Day in the year the project is funded. Projects may also be considered for display during ICAT’s Open (at the) Source exhibition each spring, the Virginia Tech Science Festival, the Science Museum of Western Virginia, school tours, and Kindergarten-to-College, as feasible and appropriate.

**Resources:** It is expected that the investigators have all resources (space, equipment, etc.) necessary to complete their project, with the exception of the items and personnel requested in the proposal.

**University policy:** All university policies and procedures must be observed.

**Logo:** The official Virginia Tech/ICAT logo can be provided upon request.

**Sample Credit Lines:** (Title of project) has been made possible in part by a grant from Virginia Tech’s Institute for Creativity, Arts, and Technology.

**Publications:** Please include the following language on any publications or publicity/marketing materials (VT news releases, etc.) stemming from ICAT-funded research: “This work has been partially supported by a grant from Virginia Tech’s Institute for Creativity, Arts, and Technology.”

**Printed Materials:** Printed acknowledgments and publicity materials are expected to carry the Virginia Tech/ICAT logo. The name of the institute in the logo must be legible and no smaller than five points. If the logo is not appropriate for the design, the credit line may be substituted in an appropriate type size. For large posters, etc., the point size should be correspondingly larger.

**Films and Videos:** An acknowledgment of support must be included at the beginning and end of each funded program and in all non-broadcast materials related to the project, including any elements of production repurposed for distribution as digital media. The ICAT credit for film and television programs must be at least 10 seconds long. ICAT is to be acknowledged in videos funded as part of an exhibition or other public programs, as well as in films broadcast on television. If the filmmaker intends to vary the design of the credits, ICAT must approve the new format that is created.

**Audio and Radio Materials:** An acknowledgment of support must be contained at the beginning and end of each program and in all non-broadcast materials related to the project. ICAT should be credited for radio programs and for recorded audio tours of exhibitions.
Exhibitions/Workshops: The acknowledgment of support, Virginia Tech/ICAT logo, and disclaimer language should appear on signage at the entrance to the exhibition or workshop, on brochures and catalogs, and on exhibition or workshop video materials and websites. These requirements apply to the host site for the exhibition or workshop and to all participating venues. It is the grantee’s responsibility to convey this requirement to all venues as part of the contract.

Digital Projects: When possible, hyperlinks must be made between the project and the ICAT website (icat.vt.edu). All digital projects (including games and apps) released via a third party are also expected to include an acknowledgment of ICAT support in the promotional description of the project (for example, in the description section of the Google Play or iTunes stores). Additionally, all digital projects must incorporate the following ICAT-specific keywords: “Virginia Tech;” “Institute for Creativity, Arts, and Technology;” and “ICAT.”

Websites: Hyperlinks must connect the project’s website and that of the ICAT website (icat.vt.edu). Public Events: At programs or public gatherings related to the project, ICAT must be acknowledged orally as a sponsor. Signage at the event must acknowledge ICAT support.

Promotion and Advertising: The design for all print, promotion, and advertising related to the project must be submitted to the director of marketing and communication for approval prior to implementation. All promotion must include the acknowledgment of ICAT support and the ICAT logo and the credit line should be used whenever possible. This includes publicity campaign materials, publications, advertisements, press kits, press releases, wall panels, educational programs, special events, and receptions. Unless there is an agreement with the ICAT director to the contrary, all press releases and media pitching will be carried out by ICAT’s marketing office. The official spokesperson for ICAT is Executive Director Ben Knapp.

Print and Electronic Use: Summaries (along with images, clips, screen shots, or the like) of all ICAT-funded projects must be made available to ICAT for use in its publications and on its website.

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.

Awards will be announced by Friday, April 10, 2020.