GOALS AND OBJECTIVES ACHIEVED FOR FY 2012

Primary efforts during 2011-2012 focused on building the organization infrastructure of the institute, collaborative relationships across a range of department within the university and organizations outside of the university and developing research projects that challenge the creative process.

Goal accomplishment: ICAT has hired an operations coordinator to coordinate institute projects; coordinate project teams comprised of faculty from multiple departments and other universities worldwide, graduate students, and individuals from business, industry, and community organizations; and to conduct day-to-day administrative and fiscal operations including sponsored research. ICAT has created five studios to structure organizational projects and initiatives. The studio heads meet weekly to discuss the direction of the institute.

Goal achievement:

Initiate proof-of-concept projects.

Goal accomplishment: ICAT has developed five studios that promote critical thinking and demand teams composed of researchers from the arts, design, engineering, and science. From imagination to innovation, the ICAT studios promote a range of proof-of-concept projects. The studios include:

- IDEAS. We are exploring art and the creative process in STEM education for K-12 and university level settings. We are focused on the intersection of pedagogy, the arts, creativity and the creative process, and physical learning environments.

- IMAGE. The studio is interested in creating more immersive, engaging, and data-rich experiences within the virtual worlds.

- IMPACT. We seek seamless integration of artistic creativity into everyday living and explore its quantifiable impact on the society’s overall quality of life through the exploration of emerging interactive technologies, creativity, integrative health, and their synergistic impact on human well-being.

- IMPLEMENT. Incorporating new materials, objects, and environments for creative work, this studio will explore everything from interactive surfaces to nanomaterials for creativity.

- INHABIT. We explore how the arts and culture contribute to community change. Projects include storytelling, maker workshops, and the community calendar hub. We are looking for community-generated projects.

Goal achievement:

Build organizational infrastructure.

Build strong collaborative efforts.

Goal achievement: In this inaugural year, each studio has submitted proposals for external funding, with two already being accepted for funding. ICAT is currently partnering with Stanford University, University of Wasseda (Tokyo) and five universities in Europe to create a network exploring non-verbal communication. ICAT is an inaugural member of the ArtsEngine initiative, a collection of R1 universities looking at Arts and Research. ICAT has identified several corporate relationships with one already in the memorandum-of-understanding stage. ICAT has invited eight renowned artist-scholars and their associated organizations to interactively present at the newly instituted ArtsFusion Creative Sessions. These sessions are focused on research and exhibits situated at the intersection of science, engineering, art, and design. As part of a Virginia Tech memorandum of understanding, ICAT has begun working directly with the Science Museum of Roanoke on educational initiatives. And the laptop orchestra was one of only five in the world invited to perform in at an international symposium at LSU.
GOALS AND OBJECTIVES for FY 2013

Learning: Prepare PK-12 and university students to work and succeed in a world where the individual disciplines of STEM must collaborate and where working as part of a team with diverse skills is mandatory.

Discovery: Promote new trans-disciplinary research domains that transcend institutionalized boundaries between art, design, engineering, and science and that are needed to fuel future innovation within local, state, and national industrial partners.

Engagement: Encourage participation from people of all ages in the process of co-creation, where new ideas can come from anywhere – most often from those with a lifetime of personal experience.

During ICAT’s MakeR workshop, thirty-two students from grades 7 through 12 worked with faculty members from computer science, music, the School of Visual Arts, and the School of Education to create new musical instruments. The students learned how to “make” these instruments using computers, software, electronics, 3D printing, and even paper and scissors.

Background

ICAT exists to transform K-12 and university-level education in the local community, across the commonwealth, and across the U.S. to prepare students to be part of a new type of transdisciplinary workforce necessary to succeed in this era of rapid innovation; drive economic development in the commonwealth by creating a long-needed environment for spinning off and partnering with companies that can adapt and succeed in response to the transdisciplinary driving forces of today’s economy; and engage the general public at the intersections of science, engineering, art, and design.

More than just a “Media Lab,” ICAT is a “transdisciplinary living lab” tightly integrated with educational, commercial, and arts communities.

Virginia Tech and the surrounding community is a culture that is rich in diversity, technology, the arts, and many other components that contribute to a vibrant palette for creativity and innovation. By supporting work at the intersection of the arts, technology, and creativity, the Institute for Creativity, Arts, and Technology is perfectly situated to be a critical component in the preparation of employees for the modern workforce. The name of the institute reflects its focus on form, function, process, product, and people. Creativity, when applied as a process through collaboration, results in innovation. The arts, being the form, and technology, being the function, combine in the products of innovation.

Educational and Community Initiatives

ICAT’s research on the creative process in education focuses on the critical need to integrate the STEM disciplines and to create project-based learning environments that have been proven to increase learning and retention.

Projects include:

- Learning By and Through Design at Glenvar Middle School
- Virtual ICAT, a program to make ICAT available to the community
- Participation at “Second Saturday” events at the Science Museum of Roanoke
- The institution of an Honor’s Colloquium
- The first MakeR Workshop at Virginia Tech
- Formation of the ArtsFusion workshop series

Educational and Community Initiatives

ICAT’s research on the creative process in education focuses on the critical need to integrate the STEM disciplines and to create project-based learning environments that have been proven to increase learning and retention.

Projects include:

- Learning By and Through Design at Glenvar Middle School
- Virtual ICAT, a program to make ICAT available to the community
- Participation at “Second Saturday” events at the Science Museum of Roanoke
- The institution of an Honor’s Colloquium
- The first MakeR Workshop at Virginia Tech
- Formation of the ArtsFusion workshop series