National Collegiate Inventors and innovators Alliance: Resources for Building Entrepreneurial Programs

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Executive Director
Hadley, MA 01035
The NCIIA supports invention, innovation, and entrepreneurship education at U.S. colleges and universities by providing faculty and students from our member institutions with grants and resources to encourage the formation and work of E-Teams (the “E” is for excellence and entrepreneurship).
**E-Teams** are multidisciplinary teams of students, faculty, and industry advisors who work together to develop a product or technology with potential for commercial success. The NCIIA is increasingly interested in supporting E-Teams whose work is environmentally sustainable and socially beneficial. E-Teams bring learning beyond the classroom and into the real-life experience of commercial development.
Grants

Each year the NCIIA provides approximately $1 million in grants to its members in a semi-annual review cycle (deadlines: May 15 and December 15). Proposals for Course and Program and Advanced E-Team grants are reviewed by panels of business and engineering faculty, industry representatives, and venture capitalists.
Course and Program Grants

The NCIIA awards course and program grants to faculty and staff from our member institutions who propose to create a new course or program or enhance one already in place through the addition of interdisciplinary elements or new approaches that will lead to the formation of E-Teams. Course and program grants are designed to create institutional change, and to foster an entrepreneurial approach to technological education.
Funded Courses and Programs

Undergraduate

Wireless Entrepreneurs Program, Rose-Hulman Institute of Technology
Rose-Hulman Institute of Technology received an NCIIA grant for $28,000 for a joint program with the Florida Institute of Technology to develop entrepreneurial undergraduate programs in the area of wireless communication and radio-related fields.

Technology Venture Sequence; Technology Venture Academy, University of Florida
The University of Florida received a grant for $24,000 for these two interrelated programs, designed to provide students in technical and business disciplines with the opportunity to create new technology ventures based on technology developed at the University of Florida.

UCSB Curriculum in Innovation, Entrepreneurship, University of California Santa Barbara
UCSB received a grant for $23,500 to create a three-course series in Innovation, Entrepreneurship, and Business Fundamentals, leading to a permanent set of courses on 1) Business Fundamentals; 2) Innovation and New Venture Creation; and 3) Business Planning for Value Creation.
Funded Courses and Programs

Graduate

Caltech Entrepreneurial Fellows Program, California Institute of Technology
Caltech received a $10,000 grant for dissemination of the results of a program jointly funded with NSF to enable students previously trained in science, engineering, or design to adapt their skills to the development of commercial products in a start-up environment.

An Integrated Approach to Technological Innovation, Georgia Institute of Technology
Georgia Tech received a $30,000 grant to support a team-based program encouraging students from science, engineering, management, law, and economics to explore technology transfer from every angle. The program places interest-matched Ph.D. students in S&E and professional students in MLE on entrepreneurial teams (E-teams) that focus on the commercial potential of the Ph.D. students’ research.

Master of Science in Physics - Entrepreneurship Track, Case Western University
Case Western received a grant for $22,500 to partially fund implementation of a new Master’s in Physics-Entrepreneurship Program.
Funded Courses and Programs

Biomedical

Technical Entrepreneurship, University of Miami
The University of Miami received an NCIIA grant for $21,800 over three years to strengthen its Technical Entrepreneurship program by reaching out to business students, providing continuity for E-Teams, and establishing a Design and Entrepreneurship Center at the university.

Assistive Technology Devices, University of Rhode Island
The University of Rhode Island received a grant for $26,800 to establish a 2-semester course sequence preparing students in the design, development, and marketing of assistive technology devices.

Biomedical Technology Innovation Program, Stanford University
The Stanford University School of Medicine, in cooperation with Stanford’s Medical Device Network, the School of Engineering and the Graduate School of Business, received a $22,000 grant to support the distance education component of a new postgraduate training program in Biomedical Technology Innovation.
Breast augmentation is the second most common cosmetic surgery procedure in the U.S. Meeting a demand for a device that would provide a minimally invasive approach, an E-Team at the University of Miami devised a trans-axillary breast implant placement instrument, with support from an NCIIA grant.

About 1.4 million lower extremity fractures occur annually in the US. While only portions of these cases require surgery, most require physical therapy. A Johns Hopkins University E-Team developed a foot sensor that helps patients gauge how much pressure they bear on their injury.

A Stanford University E-Team developed the MarrowMiner, a bone marrow aspiration device which through a single bone puncture of the iliac crest, enables harvest of the majority of the bone marrow contained within. This device shortens the procedure from an hour-long $15,000 harvest done with a team in the operating room to 15 minutes performed by one physician in the outpatient setting.

An E-Team from the University of Pittsburgh has developed an Oxygen Flow Indicator for Hospital Transport. This device monitors the flow of oxygen through patients’ tubes, preventing decompensation caused by a kink in tubing or depletion of oxygen supply. In the event of supply failure, an inline impeller provides a visual alert to the attendant.
Advanced E-Team Grants

The NCIIA awards advanced E-Team grants to E-Teams from our member institutions that have an idea ripe for commercial development. Advanced E-Team grant proposals are evaluated based on the product or technology’s potential for sustainability and commercialization, its potential to bring about social or environmental benefits, and the professional and demographic diversity of the team.
The Purdue University Matrix NMR E-Team is developing a new technology for the Nuclear Magnetic Resonance industry. The new NMR probe design significantly reduces the cost and time required to perform NMR analysis.

The University of Georgia’s Aqua Vitae Enterprises E-Team plans to manufacture, market, and distribute a patented new protease inhibitor that reduces the mortality rate of ornamental and edible fish from over 50% to under 5% during the process of handling and shipping, by temporarily boosting the fish’s immune system. The E-Team is working to determine the optimal performance and packaging characteristics the ornamental and edible fish industries would seek in such a drug, and developing a plan for bringing it to market.

A Sampling of Funded Advanced E-Team Projects

The Glow-Bike E-Team from the University of Florida is developing a novel method to illuminate bicycles, improving nighttime riding safety. The bike uses electroluminescent (EL) panels, commonly found in watches, night-lights, and other electronic products. The panels are attached to a bicycle frame and wheels, providing a distinct light signature in the shape of a bicycle, making drivers aware that a bicyclist is sharing the road.

The Cooper Cooler, created by an E-Team at the Cooper Union, spins a can or bottle at high speed under a stream of ice water, cooling it to just above freezing in about a minute.
Other Resources

In an effort to foster mentoring, help build infrastructure, and support and encourage the institutionalization of technological entrepreneurship programs, the NCIIA offers a variety of resources, from online and printed materials to technical and commercialization expertise, advice, and services.
NCIIA Member Resources

On our website:

• Curricular models for faculty reference
• Brief descriptions of funded projects, courses and programs
• Online student guides: *Getting Started as an Entrepreneur*, and *The Entreclub Handbook* (also available in print)
• Intellectual Property Policies database
• (Coming soon) E-Team Assessment instruments and data

Resource partners:

• N2TEC: The National Network for Technology Entrepreneurship and Commercialization
• RAPID: Network of Rapid Prototyping Service Providers
• National Instruments Equipment Grants
• EDS Product Lifecycle Software Grants
• WISC: Wisconsin Innovation Service Center
• Kauffman Entrepreneurship Workshops
NCIIA 7th Annual Meeting
Big Ideas in a Small World
Boston, MA: March 20-22, 2003
Royal Sonesta Hotel
Cambridge, MA
Information ◆ Inspiration ◆ Action

Contact us:
Phil Weilerstein, Executive Director
pweilerstein@nciia.org

NCIIA
100 Venture Way
Hadley, MA 01035
Tel. (413) 587-2172 Fax. (413) 587-2175
www.nciia.org info@nciia.org