

Rep. K. Miles

Request Name: Center for Advanced Materials

Description: This proposal is based on consistent demand from industry to better equip our engineers in composite material analysis design, and fabrication due to the growing aerospace industry associated with Hill Air Force Base and industries such as Boeing, L3, Northrop Grumman, Lockheed, Stadler Rail, ENVE, Edwards LifeSciences, ACT, Hexcel and KIHOMAC, among others.

This Center will be developed at USU in association with Weber State University to provide a Professional Master of Science degree program for practicing engineers through online and broadcast technologies. Using state-of-the-art distance education tools, working engineers can enroll in this program without work disruptions, and their costs may be funded by their employers given the industry support.

Agency: Utah State University

Funding Amount: Education Fund - \$300,000 – 2021 (One-time) and \$700,000 (Ongoing)

Proposal for the Creation of a Center for Advanced Composite Materials and Structures

Prepared by

Utah Advanced Materials & Manufacturing Initiative (UAMMI)

Utah State University (USU)

Weber State University (WSU)

January 2020

The purpose of this proposal is to seek legislative funding to setup a Center for Advanced Composite Materials and Structures to provide state-of-the-art knowledge to practicing engineers in aerospace, transportation, and structural industries to be globally competitive while enhancing Utah's economy. Presently, composite materials driven economy in Utah is in excess of 650 million dollars while skilled engineers typically draw at least 10 to 15% more than the median salary of Utah. This proposal is based on consistent demand from industry to better equip our engineers in composite material analysis, design, and fabrication due to the growing aerospace industry associated with Hill Air Force Base and industries such as Boeing, L3, Northrop Grumman, Lockheed, Stadler Rail, ENVE, Edwards LifeSciences, ACT, Hexcel and KIHOMAC among many others. While composite materials are heavily used in the aerospace industry, their use has grown dramatically in new applications in transportation, energy, sports, construction and biomedical production facilities. As an outcome of this funding request from UAMMI, this Center will be developed at USU in association with Weber State University to provide a professional Master's of Science degree program for practicing engineers through online and broadcast technologies. Using state-of-the-art distance education tools, working engineers can enroll in this program without work disruptions and their costs may be funded by their employers given the strong industry support. This proposed program is unique in many different ways: it is mostly geared towards practicing engineers, it uses distance education tools combined with a strong hands-on component using facilities already available at WSU while USU will provide the analysis and design strengths to the program. There is no similar program available in the intermountain region.

This proposal seeks \$300,000 of one-time and \$700,000 on-going funding. One-time funding will be used to upgrade the laboratory facilities to meet the state-of-the-art standards, and on-going funding will be used to hire specialized composite materials instructors at both institutions. Assuming the funding is available FY21, we will use the first year to develop the program, obtain Regent's approval, hire faculty and program advertising. We propose to launch the program in FY22. Program performance indicators will include actual launch of the program, numbers of on-campus students and practicing engineers enrolled, number of students completing the degree program, and feedback from students and industry partners.

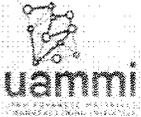
Lead Contact

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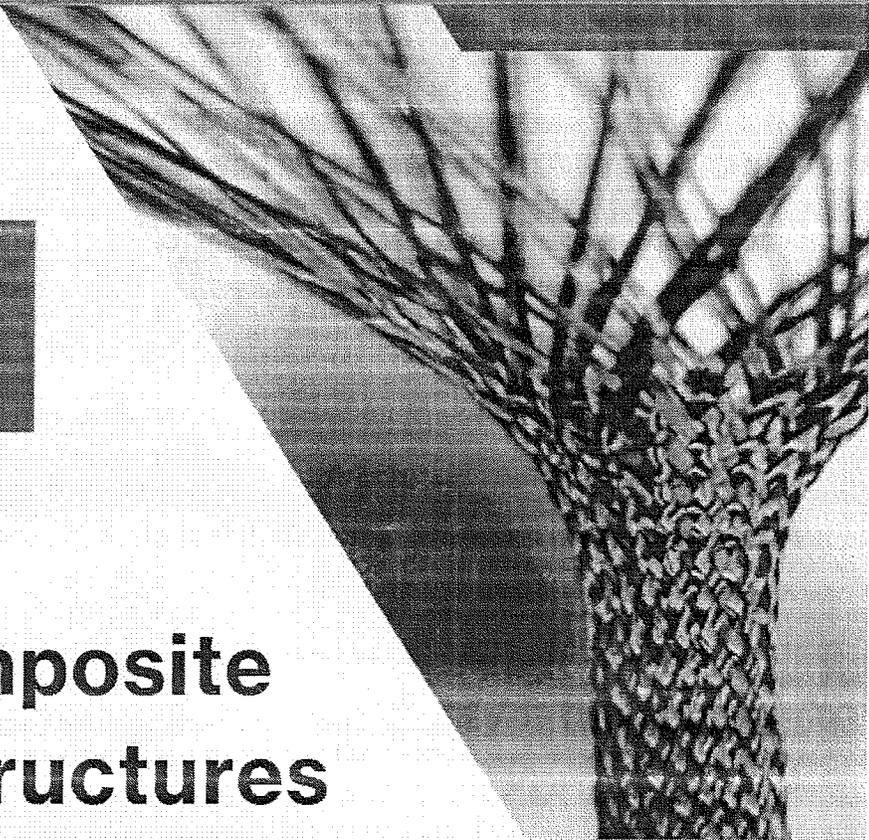
Technical Leads

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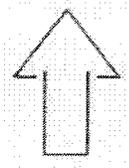
UAMMI-Led Initiative to Provide
Advanced Knowledge & Training to
Utah's Practicing Engineers in
Composite Materials & Structures



The Center for Advanced Composite Materials & Structures



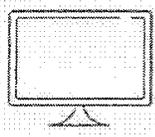
Utah's composites
economy exceeds
\$650 million



Qualified engineers earn
on average 15% above
Utah's median salary



Our engineering
workforce needs
state-of-the-art
education with rapidly
evolving technologies



With modern online &
broadcast tools, a
master's degree provides
learning & enhanced skills
to practicing engineers

An online
master's degree
for practicing
engineers without
work disruption

Develop Utah's
advanced materials
engineering
workforce

Support the region's
aerospace, energy,
biomedical, and
transportation
industries

A first for the
Intermountain West

“ Having the ability to offer an employee a career enhancing opportunity to pursue a Masters Program in Composites is a huge advantage for elevating our technical workforce and keeping our talent in Utah.”

Jerome Berg, Technology Manager
Northrup Grumman

“ While we are in a better position than other states, the shortage of trained engineers and scientists puts Utah's competitive advantage in composites at risk. I'm excited to hear about this program and know it will make a big difference.”

Karl Hawes, CEO
Aegis Innovations

“ Janicki fully supports this proposal. The education provided by a composite focused curriculum will provide our engineers the tools they need to be on the cutting edge of aerospace manufacturing.”

Tye Reid, Director of Program Management & Engineering
Janicki Industries

“ EKOMATTER earnestly supports Jeff Edwards and UAMMI's efforts to develop an innovative master's degree program in composites here in Utah.”

Kevin Smith, President
EKOMATTER

“ Our 50 years of leadership in space systems depends on advanced materials. We must have a supply of skilled engineers and scientists in Utah that really know how to use these materials to keep our competitive advantage.”

H. Scott Hinton, President
Space Dynamics Laboratory

Wide Industry Support

Boeing Commercial Airplanes
Salt Lake City

Lockheed Martin
Layton

Rock West Composites
West Jordan

ACT Aerospace, Christensen
Arms, Freedom Innovation
Gunnison

EKOMATTER
Draper

Kihomac Industries
Layton

TCR Composites
Ogden

Aegis Innovations
Salt Lake City

Northrup Grumman, Aeronautical
Systems/Aerospace Structures
Clearfield

Space Dynamics Laboratory
Logan

Janicki Industries
Layton

