



HLC Accreditation 2016-2017

Evidence Document

Research and Technology Transfer

WSU Ventures

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Additional information:

WSU Ventures

What is WSU Ventures?

WSU Ventures is an enterprise at Wichita State University, within the Office of the Vice President for Research and Technology Transfer that engages in three primary activities; protecting and licensing of WSU inventions, connecting industry with WSU researchers, and linking WSU researchers and technologies with start-up potential with investors and entrepreneurs. As an innovator at WSU, WSU Ventures can help you protect your invention or intellectual property, and license it to industry for commercialization. And if you are interested in starting your own company, WSU Ventures can provide connections, advice, and assistance to help you be successful. And if you are a company, investor or entrepreneur, we can connect you with researchers, facilities and technologies.

WSU Ventures serves the Wichita State University faculty, staff and students, industry, investors, and entrepreneurs.

Serving the WSU Community

We provide services for all Wichita State University faculty, staff and students who create intellectual property with the support of University funds or other assets. You may be a “traditional scientist” in engineering or the natural sciences, with a novel invention. Or you may be faculty or staff in education or social sciences or business and have developed software or training materials that would have value if made available to the market. If you believe that you have developed a novel invention or other intellectual property, we welcome the opportunity to discuss it with you.

There are certain legal requirements that universities must meet regarding intellectual property. The foundation for university technology transfer was laid by the Bayh-Dole Act of 1980, which also dictates the procedures for determining rights to those inventions. You can learn more about the Bayh-Dole Act [here](#). It is important that all inventions developed by WSU employees be reported to the University. As such, even inventions created on weekends, on leave (including sabbaticals), at home or during consulting work must be reported.

Since the public disclosure of inventions prior to filing for patent protection may limit patent rights, if you are planning on publishing or presenting the details of your invention (including thesis work), please contact us in advance and provide us with a completed invention disclosure form as soon as possible prior to the disclosure.

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Moving Ahead

You're proud of your innovation. You've worked hard, and arrived at this new technology on the forefront of your industry. You can't wait to apply it to real life situations, watch it grow and take shapes you never thought possible. It's time to take it to the next level.

It's time to tell the world what your technology can offer. Let us help you share your work with others who will further the research, continue the development, or even help fund your startup. It all starts here, at WSU Ventures.

Leading WSU Innovation

Your inventions and ideas become most valuable when they can be perfected and made available to society for the benefit of many. Commercializing your ideas and inventions is the process of innovation, and WSU Ventures exists to assist you, WSU and our partners be successful in accomplishing this. We believe that great connectivity, communication and teamwork is vital to our success.

We'll help you complete and submit your initial invention disclosure, file for a patent application as may be appropriate, find licensees, negotiate license agreements, and help you find the right partners for further development and commercialization.

For Industry

Creating Solutions & Opportunities

WSU Ventures is a gateway to the university, connecting industry and other partners with university resources. We provide connectivity and transparency that makes it easy to collaborate with Wichita State University. Brilliant minds at Wichita State invent and create solutions to problems that ultimately may provide benefits to society. We seek partners from industry, government and other entities to help us move WSU technologies, solutions, and ideas to the market and realize these benefits.

Technology Licensing Opportunities:

Simple method to fabricate flexible microfluidic interfaces

By using Poly(dimethylsiloxane), or PDMS, Wichita State University researchers developed a simple method to fabricate interfaces for connecting microfluidic modules: capillary to capillary, capillary to needle, multiple-way mixers, and flow gates. Our interfaces can be applied to capillary electrophoresis systems, microfluidic systems, and other capillary-connection involved systems.

Method for analysis of machining

Industrial and manufacturing research at Wichita State University has produced a new method for analysis of machining. This new idea makes it possible to analyze the thermo- mechanical deformation, fracture and wear processes that occur in the machining of materials, so that the analysis can be used to minimize processing costs, while satisfying constraints on part quality, machine capability requirements, and process robustness. With the primary focus on being able to analyze and track any deformations occurring on the material that is subject to very high stress which would cause them to deform and/or fracture permanently.

Comprehensive electronic data reporting system

The Comprehensive Electronic Data Reporting System (CEDRS) offers enhanced efficiency and productivity for Colleges of Education, significant decrease in staff time required in preparing reports for accreditation, simultaneous collection of data related to the individual teaching candidate, the program/s, and the entire teacher education unit (college) and much more.

Magnetic nanocomposite drug delivery

Researchers at Wichita State University are developing a novel nano-composite drug delivery system to potentially treat inflammation, such as arthritis, and cancer through targeted delivery of slowly released therapeutic agents to the affected region.

Novel anthrax antitoxin and vaccine

Research at Wichita State University has developed a novel compound that is potentially useful as both an antitoxin and vaccine, providing epitopes for the production of antibodies against *Bacillus anthracis*, but preventing key steps in pathogenesis (pore formation and translocation of lethal factor into cells).

High performance, fast-setting composite article for improved stabilization

The Center of Innovation for Biomaterials and Orthopaedic Research (CIBOR) has developed a novel moldable rapid setting field splint that consists of a multilayer body comprising a variety of combinations of fiber-reinforced composite, encapsulating film, insulating barriers, and/or a resin distribution system in order to produce the desired results.

An accessory to expand the field of view for wearable devices and its applications

Researchers and practitioners hope to use wearable devices, such as Google Glass, for their observational research, training, and communication. However, the built-in cameras in these wearable devices often have a limited field of view. For example, the Google Glass camera can only capture about 70 degrees, which restricts the application of these wearable devices.

Simple method to fabricate flexible microfluidic interfaces

Interfaces play vital roles in the integration of microfluidic systems. Miniaturization of microfluidic systems offers numerous benefits including reduced consumption of reagents, accelerated analysis speed and simplified automation.

Biodegradable metallic implants

There exists a critical need to develop biodegradable metallic implants; specifically, stents and orthopedic fracture management devices. The developed proprietary magnesium (Mg) alloy coatings could serve as a lightweight, degradable, implant material that maintains its mechanical integrity while the tissue heals.

Assembly line design application

The Assembly Line Design Application (ALDA) by Dr. S. Abdinnour, WSU professor for the W. Frank Barton School of Business, is web-based software that allows operation managers, directors, project managers and supervisors to design an efficient manufacturing assembly line.

Falling less in Kansas toolkit

The Falling LinKS Toolkit is a spiral-bound 56-page color booklet, designed to address a major deficit in fall risk reduction programming: the lack of materials for older adults who live in rural areas with a shortage in healthcare professionals.

Separating sequence design for multi-relay networks under multipath fading

In collaboration with Kirtland Air Force Base, Wichita State University researchers have developed a novel design for multi-relay networks. Multipath fading can degrade the performance of a wireless communication system when the data rate is higher than long-term evolution advanced systems.

Hexaferrite slant and slot MIMO antenna element for mobile devices

In a MIMO system, low mutual coupling and high isolation between antennas are important for obtaining antenna diversity and high radiation efficiency.

High g energy absorbing seat mechanism for vertical loading conditions

The development of crashworthy seating is a continual area of interest for industry as manufacturers look for more effective ways to limit occupant injury during emergency landing conditions. With this in mind, researchers at Wichita State University have developed a novel seat mechanism which provides for a cost effective means of minimizing occupant lumbar load due to high vertical load conditions.

Teaching encounters

Teaching Encounters is an instructional DVD for those new to teaching at the university level. It includes 10 scenarios that can be used as a dialogue-starter for how to handle situations unique to the university setting, especially those arising between student and instructor.

WSU Ventures Research & Development Capabilities:

Collaborations

WSU has a long history of collaborating with a wide range of government and industry partners. In fact, WSU's National Institute for Aviation Research attracts more research funding from industry partners than any other similar university research center. Its list of aviation and aerospace industry partners is extensive.

We also have a range of unique facilities and capabilities that are accessible to partnering organizations. Feel free to call us for help in learning more about WSU or capabilities of interest, or find more information by browsing the [WSU Research and Research Centers sites](#).

Student Internships

We believe that real world experience is valuable for students at all levels; giving them practical situations in which to apply their learnings. We encourage student involvement in all collaborations with external partners. Such experiences transform and prepare students for a rapid and efficient transition to the workforce, and increases their value to employers.

Research and development conducted at Wichita State University is rich in its diversity of areas and collaborators, is particularly strong in areas such as:

- **Aviation & Aerospace**

National Institute for Aviation Research
Aerospace Engineering

- **Composites and Advanced Materials**

Center for Innovation for Biomaterials in Orthopedic Research
Composites and Advanced Materials Lab

- **Emerging Technologies and Market Solutions**

- **Exercise Science**

- **Human Performance**

- **Applied Psychology**

For Investors

This is Your Chance

Entrepreneurship drives another process through which WSU innovations reach the market. It takes hard work, research, development, motivation, persistence and patience. WSU Ventures works closely with faculty entrepreneurs as well as outside investors and entrepreneurs to facilitate and promote new ventures. We have several technologies available for license around which new start-ups can be created.

Startups at Wichita State University

WSU Ventures not only facilitates the process of technology transfer, but we also assist WSU innovators with the creation of new start-ups around WSU innovations. We also appreciate that experienced guidance and executive leadership can make the critical difference between success and sustainability of a start-up, or its failure. The Wichita and Kansas business communities can bring much needed value to these emerging enterprises.

We can help with:

- **Angel and venture capital investment**
- **Executive management**
- **Scientific advisement**
- **Accounting and human resources management**

For Entrepreneurs

Resources for Entrepreneurs

[Kansas Small Business Development Center at Wichita State University](#) offers free consultation services and affordable training to grow Kansas entrepreneurs. It also makes available an excellent guide to additional resources available to assist entrepreneurs wishing to [start a business in south central Kansas](#).

[Wichita State University Center for Entrepreneurship](#) fosters and promotes entrepreneurial thinking through a wide range of academic and community programs.

[WSU Center for Innovation and Enterprise Engagement](#) works to escalate the development and predominance of the south central Kansas advanced manufacturing cluster in the global economy.

[WSU Center for Economic Development and Business Research](#) provides research to governments, businesses, and non-profit agencies throughout Kansas.

WSU Ventures provides guidance and to entrepreneurs wishing to launch their for-profit ventures, and is a connecting gateway to a wide range of helpful resources.

If you are looking for technology or intellectual property to form a new venture around, please review our [Available Technologies list](#), and feel free to give [Becky Hundley](#) a call for more information.

Innovation Campus Partnerships

To learn more about WSU's Innovation University concept [visit the website](#).

To talk with us about becoming an Innovation Campus partner, contact [Cindy Claycomb](#).