



# WARF

Wisconsin Alumni Research Foundation

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**Four WARF technologies in the spotlight at this week's  
University Research & Entrepreneurship Symposium in Massachusetts**

MADISON, Wis. – Four technologies developed in University of Wisconsin–Madison labs are being honored this week at an invitation-only conference designed to showcase world-class inventions that are ready for commercialization before a group of New England's top entrepreneurs and venture capitalists.

The event, the University Research & Entrepreneurship Symposium, is being held Thursday, March 31 in Cambridge, Mass., and will focus on information technology, life sciences and clean energy. Universities participating in the symposium are known for their history of producing breakthrough technologies that lead to the formation of new businesses and, in some cases, entirely new industries.

The four UW–Madison technologies were developed by faculty members and patented by the Wisconsin Alumni Research Foundation. The technologies are in various stages of commercial development with one currently under license to a Wisconsin startup company and another subject to growing industry interest. The other two are part of the WARF Accelerator Program, which helps technologies with significant commercial potential achieve technical milestones or undergo additional development to speed the transition out of the lab.

The technologies include:

- **Improved infection detection.** Now under license to Madison startup company Isomark, this technology relies on exhaled breath samples to detect the onset of bacterial infections, including serious hospital-related infections such as sepsis. The technology is powerful enough to detect an infection within two hours—some eight to 12 hours sooner than traditional indicators—and is based on the carbon isotope ratio in a patient's breath. The technology was developed in the laboratories of UW–Madison scientists Mark Cook, Warren Porter and Isabel Treichel. The company will be represented by David Kruse, its chief operating officer.
- **Reactivity controlled compression ignition.** Designed to increase fuel efficiency and reduce toxic emissions, this new clean compression diesel engine technology uses two fuels of different reactivity as well as multiple injections to optimize combustion. Developed by Rolf Reitz, a UW–Madison mechanical engineering professor, and graduate students Reed Hanson, Derek Splitter and Sage Kokjohn, the technology has gained the interest of several potential commercial licensing partners for use in the transportation industry. The technology offers a number of potential applications both as a retrofit to improve the performance of existing

engines in vehicles such as buses and garbage trucks as well as in a variety of future engines. Hanson and Splitter will present their concepts at the symposium.

- **Modular peptide growth factor.** This new product works as a coating for orthopedic implants and spinal fusion procedures to enhance bone growth at the implant site. William Murphy, a UW–Madison biomedical engineering professor, has completed initial testing and is now working with support from the WARF Accelerator Program to gather additional data needed to enable successful transfer to a commercial entity. Murphy is presenting at the symposium.
- **Pipelined Look-Up Grid (PLUG).** This component helps high-end network routers identify and steer data by improving the speed, storage capacity, flexibility and energy consumption needed to transmit data over the Internet. Its smart software and adaptable high-performance architecture makes this technology an attractive replacement for the inflexible and power-hungry hardware used today to process information packets. Developed by Karu Sankaralingam, a UW–Madison computer science professor, and former colleague Cristian Estan, the component is undergoing further testing with support from the WARF Accelerator Program. Sankaralingam is presenting at the symposium.

This week's University Research & Entrepreneurship Symposium is being presented by three leading venture capital firms, Flybridge Capital Partners, Atlas Venture and General Catalyst Partners, and is sponsored by Goodwin Procter. In addition to the UW–Madison technologies, presentations on some two dozen other inventions will be made on behalf of universities including Harvard, Massachusetts Institute of Technology, Columbia University, Johns Hopkins University and more. For additional information, visit: [www.universitiesymposium.com](http://www.universitiesymposium.com).

#### **About WARF**

Since its founding in 1925 to manage a UW–Madison discovery that eventually eliminated the childhood disease rickets, WARF has worked with industry to transform university research into products that benefit society. As a private, nonprofit organization, WARF accomplishes its mission of supporting scientific research by patenting and licensing inventions arising from university discoveries. Since making its first grant of \$1,200 in 1928, WARF has contributed more than \$1 billion to UW–Madison through annual "margin of excellence" grants and other funding.