

**Utah Centers of Excellence Program**  
*Description of Centers Selected for Funding Fiscal 2004-2005*

**For information on a specific Center  
please contact the respective Technology Transfer Office.**

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**BRIGHAM YOUNG UNIVERSITY**

Technology Transfer Office  
3760 Harold B. Lee Library  
Provo, UT 84602-6844  
801-422-6266  
801-422-0463 fax  
www.byu.edu  
www.techtransfer.byu.edu

**Direct Machining And Control (BYU)**

Developing method that allows a manufacturing machine controller to directly interpret CAD/CAM models, resulting in superior resolution for complex shapes.

**Compliant Mechanisms (BYU)**

Accelerates and streamlines commercial applications of devices that obtain their motion from the deflection of flexible parts rather than from pin joints.

**Miniature Unmanned Air Vehicles (BYU)**

Rapid design of airframes and miniaturized autopilot and guidance systems for tiny UAVs that can be operated by novices have earned the attention of both military and civilian agencies.

**Advanced Communications Technology (BYU)**

Improved wireless communications and data transmission is achieved through the use of MIMO (multiple-input multiple-output) technology with multiple antenna elements.

**Advanced Structural Composites (BYU)**

**Graduated**

Developed manufacturing technology and commercial products based on the IsoTruss structures formed from lightweight composite materials.

**Advanced Joining of Materials (BYU)**

**Graduated**

Now a National Center; developed new friction stir welding tools and materials capable of joining a wide range of metals, now being transferred to industry for aerospace, military and other manufacturing.

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**UNIVERSITY OF UTAH**  
Technology Transfer Office  
615 Arapeen Drive, Suite 310  
Salt Lake City, UT 84108  
801-581-7792  
www.utah.edu  
www.tto.utah.edu

**Global Knowledge Management (U/U)**

Developing Knowledge Fusion and Dynamic Knowledge Refreshing software to enable next-generation data mining technology.

**Homogeneous DNA Analysis (U/U)**

Developing a simple and inexpensive method for genotyping DNA samples from patients or disease organisms right in a doctor's office.

**Petroleum Research (U/U)**

Develops cost-effective solutions for liquid hydrocarbon production, handling and transportation. Optimizes petroleum recovery; process control and production automation in oil and gas fields.

**Therapeutic Biomaterials (U/U)**

Developing applications of biopolymers and hydrogels for clinical use in wound repair, prevention of surgical adhesions, and extending the life of donated organs.

**Alternate Strategies of Parasite Removal (U/U)**

Currently refining a safe, nontoxic and rapid treatment for Pediculosis, a multibillion-dollar, increasingly resistant problem afflicting some 25% of children by the time they're teenagers

**Nanosize Inorganic Material Powders (U/U)**

Commercializing a novel, cost-effective process (molecular decomposition) for the manufacturing of nanosize powders, the building blocks for nanotechnology applications.

**Biomedical Microfluidics (U/U)**

Technology that controls the movement of fluids in channels smaller than a human hair; micropumps that can deliver tiny quantities of drugs are just one product example.

**CROMDI (U/U)**

Developed new visualization technology that facilitates the rapid and accurate analysis of large quantities of complex and continuously changing data, with applications in medicine, finance...

**Smart Sensors (U/U)**

Engaged in the development and commercialization of sensor-based products, such as an application for the detection of faults in aircraft wiring.

**Titanium Boride Surface Hardening (U/U)**

Developing harder, longer-lived components and devices for the aerospace, biomedical and industrial markets.

**Electronic Medical Education (U/U)**

Commercialized tools used to create medical education products, and selling them as a component based medical information management and processing system. Now commercializing distance medical record annotation software.

**Graduated**

**Acoustic Cooling Technology (U/U)****Graduated**

Developing novel miniature acoustic cooling and power conversion devices without moving parts for applications ranging from computers to refrigerators.

**Rapid Prototyping and Manufacturing (U/U)****Graduated**

Has developed the capability of building very large prototypes and techniques for a large number of molded parts from CAD design in a short period of time.

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**UTAH STATE UNIVERSITY****Utah State University Research Foundation**

570 Research Park Way, Suite 101

Logan, UT 84341

435-797-9607

[www.usu.edu](http://www.usu.edu)

[www.usu.edu/techcomm](http://www.usu.edu/techcomm)

**Advanced Imaging LADAR (USU)**

Developing an airborne high-resolution, laser-based 3D color-imaging platform for both military and civilian use.

**High-Speed Information Processing (USU)**

Designing fast algorithms for Application Specific Integrated Circuits, which have value in most military and compact consumer electronic devices.

**Advanced Satellite Manufacturing (USU)**

Leveraging the capabilities of Utah's Space Dynamics Laboratory to develop and commercialize a low cost, modular small satellite platform for research, science and military missions.

**Profitable Uses of Agricultural Byproducts (USU)**

Develops cost-effective technologies to treat animal wastes, generating "biogas" that can be used to produce energy, and nutrients to be used in soil amendments.

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