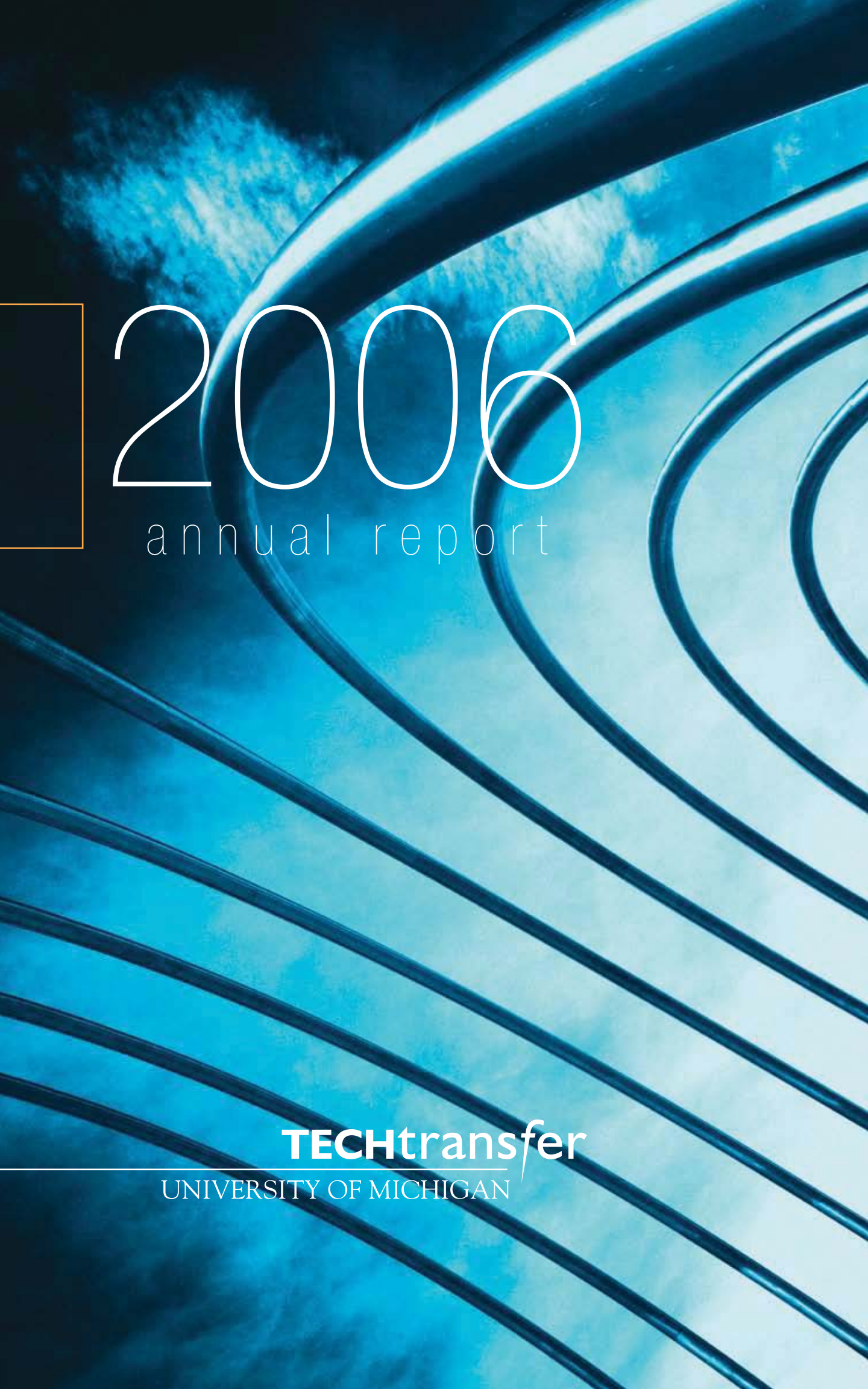

2006

annual report

TECHtransfer

UNIVERSITY OF MICHIGAN

leading innovation.
fueling economic development.
improving our quality of life.

YEAR ENDING JUNE 30, 2006

2 about tech transfer
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6 invention disclosures
8 success stories
12 fueling the future
14 tech transfer in the community

contributing to “the michigan difference”

MESSAGE FROM THE EXECUTIVE DIRECTOR | Now more than ever, the University of Michigan is making a difference in the quality of life and economic progress for people in and beyond the state of Michigan. With its tradition of research and academic excellence, the University has the resources to build a culture of innovation, creativity and entrepreneurship. And U-M Tech Transfer is part of this great story, assisting inventors and business partners in bringing the benefits of research to our communities.

In FY06, U-M Tech Transfer achieved a record 97 technology agreements, linking innovations to the marketplace. This included nine new business startups based on U-M technology, eight of which are located in Michigan. During the past six years, U-M has spun out 55 new business startups, creating jobs and economic opportunity. In FY06, our equity position in startups contributed significantly to a record $20.4 million in license revenues. Much of these revenues are reinvested in research and education, fueling further innovation.

We take pride in our contribution to regional economic development. Working with community partners such as Ann Arbor SPARK, we are supporting development efforts to grow new and existing businesses, assisting educational programs to nurture our talent, and creating programs and events to build our entrepreneurial ecosystem. In collaboration with business, government, and community partners, we are enhancing the vitality of our region and state, developing opportunities for growth, and improving the quality of life within our communities.

We have accomplished a great deal. But there is so much more to do. We are proud that the people, technologies and resources of the University of Michigan are contributing as never before. And we invite you to join us in realizing the potential that lies within “The Michigan Difference.”

Ken Nisbet

KENNETH NISBET
EXECUTIVE DIRECTOR
U-M TECH TRANSFER

THE MISSION of U-M Tech Transfer is to effectively transfer University technologies to the market so as to generate benefits for the University, the community, and the general public.

U-M TechTransfer

ABOUT | The pursuit of excellence in research at the University of Michigan often yields exciting discoveries that bring significant value to society, addressing issues of health, productivity and quality of life. The process of tech transfer is focused on transferring these discoveries, often immature but full of promise, to capable commercial partners with resources and expertise.

This process requires creativity, skill and perseverance. It is not easy to evaluate early stage discoveries for technical and market potential, to construct a commercial strategy around emerging applications, to invest scarce dollars to protect those ideas, and to link them with a committed and capable licensee. But these challenges and the ultimate rewards drive our pursuit of excellence. Tech Transfer assists inventors in the pursuit of their vision: fostering long-term relationships with business partners and bringing the fruits of research to bear on the needs of society.

"Tech Transfer assists inventors in the pursuit of their vision..."

The goal of U-M Tech Transfer is to provide our faculty researchers with a wide range of professional and responsive services. Our staff provides efficient mechanisms to assess, protect, market and license technologies, delivered with highly tailored plans to best serve our technologies and our inventors. We provide business formation consulting for promising new business startup concepts, with staff members providing hands-on assistance and links to market and funding specialists. We invest in "gap funding" opportunities, often leveraging State of Michigan and other 3rd party matching funds, to answer critical commercialization questions. And we engage our student community through hands-on learning opportunities. We take great pride in our U-M TechStart intern program, in which graduate students from business, engineering, medicine, law, public health and other schools work in small teams on tech transfer projects. This results in valuable learning experiences, assistance for our projects and encouragement for local employment after graduation. We are also focused on building and using social networks, linking opportunities to capable business partners who can help us achieve success.

"Public universities play a critical role in vitalizing our economy, providing the state of Michigan with life-changing technology, talent and expertise. Each year our state universities create thousands of graduates, countless innovations fueled by over $1 billion in research, and a vast array of public cultural events. At the University of Michigan, technology transfer is an essential component of our mission and reflects the commitment we feel to the people of our great state and beyond."

MARY SUE COLEMAN, President, University of Michigan

components of the tech transfer process

RESEARCH
PRE-DISCLOSURE
INVENTION DISCLOSURE
ASSESSMENT
PROTECTION
MARKETING TO FIND OR FORM A LICENSEE
EXISTING BUSINESS {OR} FORM START-UP BUSINESS
LICENSING
COMMERCIALIZATION
REVENUE
REINVEST IN RESEARCH + EDUCATION

why do tech transfer?

- increase the likelihood that new discoveries and innovations will lead to useful products, processes and services that benefit society
- facilitate new research collaborations and resource exchanges with industry, thereby providing unique opportunities for faculty and students
- increase the flow of research dollars and resources to the academic community
- provide incentives for faculty to broaden and deepen the scope of their research
- help to attract and retain highly qualified faculty and students
- enrich the educational experience through student internships and work-study opportunities
- leverage business partnerships to stimulate local and regional economic development
- enhance the reputation and stature of the University

"The University of Michigan is one of the largest and most successful research organizations in the world. We are located in a region that has made many of the significant contributions to the prosperity of our nation during the last century. Currently, the economic underpinnings of our region are undergoing significant change as the emphasis on a knowledge-based economy becomes increasingly important. The University, through its spin-offs, licenses and multitude of industrial interactions, is an enormously important resource to the region and the nation. In the years ahead, technology transfer will play an essential role in the transformation of our regional economic base."

STEPHEN R. FORREST, Vice President for Research, University of Michigan

2006 fiscal year

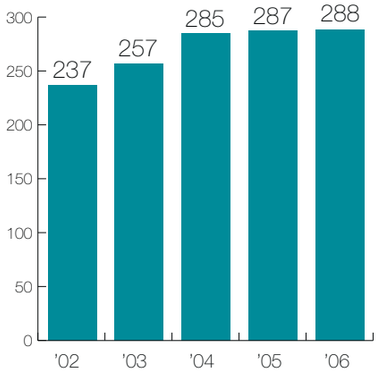
RESULTS | Fueled by the remarkable innovations of our research community, we continued our strong progress in invention disclosures, licenses, startups and revenues. More importantly, new products and services are reaching the marketplace along with new and strengthened relationships to accelerate innovation. All are tangible proof that the University of Michigan is contributing greatly to economic vitality and our quality of life.

"A 12% increase in agreements is only part of the story.... We are also very excited about the terrific potential of our FY06 agreements given the expertise, resources and motivation of our licensing partners and the quality of the technologies being licensed."

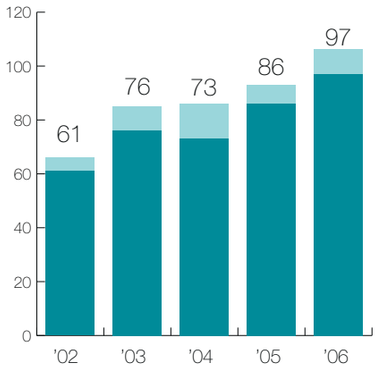
Robin Rasor | Director of Licensing
U-M Tech Transfer

the year in review

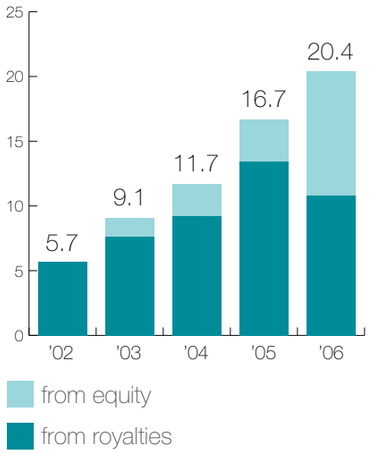
INVENTION DISCLOSURES

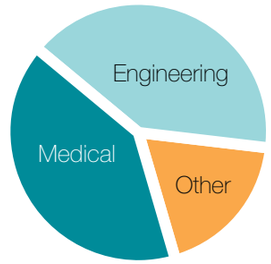


LICENSE AGREEMENTS



LICENSE REVENUE (in millions of dollars)





2006 INVENTION DISCLOSURES

Medical

Anesthesiology	4
Biological Chemistry	4
Cancer Center	2
Cell Devel Biology	2
Dermatology	2
Human Genetics	1
Internal Med	33
Med School Admin	1
Mich Nanotechnology Inst.	2
Microbiology & Immunology	1
Molecular Physiology	5
Neurology	1
Obstetrics & Gyn	1
Ophthalmology	1
Orthopaedic Surgery	2
Otolaryngology	5
Pathology	10
Pediatrics & Comm Diseases	4
Pharmacology	2
Psychiatry	5
Radiology	12
Surgery	16
Total	116

Engineering

Aerospace Engineering	1
Atm Oceanic Space Sci	3
Biomedical Engineering	14
Chemical Engineering	19
Civil & Environ Engr	5
Electrical Engineering and Computer Science	46
Mechanical Engineering	22
Materials Sci Engr	4
Nuclear Radiological Science	3
Total	117

Other

Bus Admin	2
UM Dearborn	1
Dentistry	9
Kinesiology	1
College of Literature, Science and the Arts	25
Nursing	2
Office of the President	1
Pharmacy	6
Public Health	4
University of Michigan Hospital	2
Information Technology Central Services	2
Total	55

THE START-UP CLASS OF 2006

MedSpoke
organ transplant information system

Cielo MedSolutions
software and IT services for primary care health providers

SensiGen
diagnostic to detect early kidney disease

Compendia Bioscience
molecular oncology tools, data, and analysis software

Zattoo
global virtual cable network bringing live TV to the Internet

NanoMag
grain refinement technology for magnesium and other metals

CastAnalysis
fly casting training aid using MEMS gyros and software

Pipex
developing treatments for neurologic, fibrotic and inflammatory disease

Cyclos Semiconductor
ultra-low-power semiconductor chips

fiscal year 2006 disclosures

BUSINESS ADMINISTRATION

- Reflective Best Self Program
- American Customer Satisfaction Index

DENTISTRY

- Methods of Inhibition of Tumor Angiogenesis
- Surface Modification by Templating Materials
- Three-component Polyanhydrides
- Synthetic Niches for Transplanted Cells
- Combined Implant Impression Coping and Metal Structure
- Periodontal Bone Level Assessment Using Computed Tomography
- Image-based Scaffolds for Alveolar Bone Repair
- Methods and Compositions for Orthodontic Anchorage

AEROSPACE ENGINEERING

- Gas-fed Hollow Cathode Keeper

ATMOSPHERIC, OCEANIC & SPACE SCIENCE

- Space Weather Modeling Framework Software
- Vehicle Tracking, Monitoring and Data Distribution System
- Drouge Balloon Envelope

BIOMEDICAL ENGINEERING

- Dilution Array for ELISA or Multiplexed Separation
- High-Resolution Mapping of Bio-Electric Fields
- Method and Apparatus for 3-D Endoscopic Photoacoustic Imaging
- Ultrasound Assisted Drug Delivery Using Histotripsy Pulse Sequences to Initiate and maintain Enabling Bubble Clouds
- Handheld Recirculation System and Customized Media for Microfluidic Cell Culture
- Polymer-based Neural Probes for Extended Recording Lifetime
- Integrated Microfluidic Immunoassay
- Designed Degradable Cage For Spine Interbody Fusion
- Engineered Scaffolds for Intervertebral Disc Repair and Regeneration
- Virus Immobilization on Biomaterials for Controllable Gene Delivery
- In Situ Gelling of Alginate and Dural Replacement Patch
- Microfluidic Embryo Culture System with Deformation Based Microfluidic Actuation
- Braille Microfluidic Immunoassay System
- Inducement of Mechanical Lung Injury in Microfluidic Airway Systems

CHEMICAL ENGINEERING

- Layer-by-Layer Assembly with Preferential Alignment of Deposited Axially Anisotropic Species and Optically Active Materials Based on Them

- Nanostructured Films for Interfacing and Optical Excitation of Electroactive Cells
- Bridge-building for Hydrogen Storage
- Preparation and Utilization of Nanoscale Colloids for Initiation of Immune Response
- Preparation and Utilization of Ca/Mg-containing Nanoparticles
- Thermal Integration Strategy for Hydrocarbon Fuel Processor
- Microstencils for Patterning Non-traditional Materials
- Self Contained Actuation of Phase Change Pistons in Microchannels
- Multifunctionl CVD Coatings
- Reactive Coating for Regioselective Surface Modification
- Multi-phasic Colorants as Functional Elements in Paints, Coatings, Plastics or Displays
- Fabrication of Inverted Colloidal Crystal Scaffolds for 3D Cell Cultures in a Standard Cell Culture Well-plate and the Use Thereof in Biological Assays

- Novel Barrier Isolator System for Medical Manufacturing
- A Method for Producing Peptide Libraries from Oligonucleotides by Parallel DNA Synthesis
- Carbon 14 Isotope Labeled Single-walled Carbon Nanotubes
- A Light Writable Microactuator Array - Microfludic "Flash Memory"
- Dry Adhesive Bonding by CVD Coatings
- Size-Tunable Synthesis and Immobilization of Zero Valent Iron Nanoparticles for Environmental Applications
- Multi-phasic Bioadhesive Nano-objects as Biofunctional Elements in Drug Delivery Systems

CIVIL & ENVIRONMENTAL ENGINEERING

- Biosynthetic Genes For Methanobactin
- Method and Composition for Production Of Gold Nanoparticles
- Physical and Media Access Control Protocol Stack for Wireless Sensors
- DNAzyme-Based Nanosensors For Hg2+ And As5+ Detection
- Buckling Inhibiting Wraps for Steel Braces

ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

- Integrated Truth Determination for Relative Location Tracking Systems
- A Compact Dual Polarized Multibeam Phased Array
- Host Multicast
- Control Algorithm Entities in VHDL-AMS
- Kinetic Plasma Solver (KiPS-1D and KiPS2D)
- Vibrating Micro-mechanical Resonators
- Method of Patterning Conductive Polymer with Application for Organic Electronic Device and Circuit Fabrication
- Polymer Micro-ring Resonator Device and Fabrication Method
- Transfer of Structures by a Solder Transfer Technique
- Siloxane Copolymers for Nanoimprint Lithography
- A Fast Thermal-curable Resist System for Nanoimprint Lithography
- A Green Function-based Parasitic Extraction Method for Inhomogeneous Substrate Layers
- Micromachined Tissue-contrast Sensor and Method for Integrating Sensors in Biopsy Tools
- A Self-aligned Fabrication Process for RF MEMS Components
- Micro-brush Press-on Connector for Chip Attachment
- L-Band and S-Band RF MEMS Components Fabricated Using PCB Techniques
- A Framework For Mobile Malware Detection And Containment
- Coherent Network-Chirped Pulse Amplifier
- Integrated Shock Protection Technologies and Shock Stops for Micro Device an MEMS
- Apparatus and Methods for Performing Non-invasive Vasectomies
- SEU Tolerant Flip-flop
- A Distributed Control Path Architecture for VLIW Processors
- Modular Assembly and Packaging of Multi-substrate Microsystems Using Passive Integrated Cables
- Distributed Method for Mapping Sensor Data and Location from High Dimensional Data and Pairwise Measurement
- A Low Loss Rotman Lens for Multibeam Phased Arrays
- Apparatus for Preventing Digital Piracy
- Selective Coating of Gas Chromatography Columns and Preconcentrators
- A Thermally Isolated Low Mass Preconcentrator for a Micro Gas Chromatograph
- Wire-grid Polarizers Fabricated by Web-based Imprinting
- Semi-transparent Electrodes Fabricated by Web-based Imprinint and Metal Coating
- Thin Film Heaters for Wafer Bonding & Differential Heating for Low Temperature Device Encapsulation
- Novel Photonic Crystal Sensor
- Tower Based Subsurface Imaging Radar and Inversion Algorithms

- Silcon-on-Silicon MEMS Process
- Iterative Reconstruction Approaches to CT Cardiac Imaging
- Marangoni Convection Driven by Micro-scale Thermal Sources and its Application to Single Molecule Detection
- Dynamic Perspective Aware Unused and Unreachable Address Discovery for Detecting Internet Attacks
- System and Method for Making Designer Schemas with Colors
- Organic Laser
- Register Value Cache for Soft Error Detection and Correction
- Active Decoupling Capacitance Circuit For Inductive Noise Suppression In Power Supply Networks
- Millimeter and Submillimeter-Wave RF Front End Using Ceramic Sterolithography
- Materials and Architectures for Efficient Harvesting of Singlet and Triplet Excitation for White Light Emitting OLEDS
- Pt-porphyrin Derivatives for Use in Near Infrared Organic Light Emitting Diodes
- Register Value Cache for Soft Error Detection and Correction
- Using Image Compression to Evaluate Image Similarities and Match New Images Against Existing Image Databases
- Quantum Dot Solar Cells Employing Energy Forces
- Teach for Tomorrow Software
- GoObserve Software

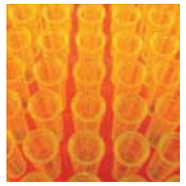
MECHANICAL ENGINEERING

- A Method for Determining the Flexible Body Motion of Sports Equipment
- Modification of Clutch Surface to Reduce Disengaged Drag Torque
- Haptic Operator Console for Actuated Mechanisms with Multiple Degrees of Freedom
- Method for Manufacturing Fuel-cell Components
- Handheld Inertial Platform Stabilizer
- Trapped-Fluid Micromachined Capacitive Acoustic Sensor
- Microengineered Cochlear Analog Transducer

- Ball-Grid-Array Dimple Design and Fabrication for Lifetime Extension and Power Handling Enhancement of RF MEMS Switches
- Robust Heat Exchanger Under Condensate and Frosting Conditions
- Two-Stage Hydraulic Regenerative Braking For A Bicycle
- Ignition And Combustion Chamber Design For IC Micro Engine
- External Humidifier for Temperature and Humidity Control of Fuel Cell Reactants
- Hybrid Vehicle Power Management Methodology
- A Method for Automotive Interior Configuration, Personalization and Reconfiguration
- Chemiluminescence Monitor for Flame Retardant Effectiveness
- Smart Material Knitted Actuation Architectures
- Micro Rotational Actuator
- A Portable Realtime Feedback System for Quantifying and Guiding Short and Long term Resistance Weight Training and Other Exercise
- Trocar Improvements - Anchoring System, Adjustability, Improved Seal Design
- Method and Apparatus to Determine Magnitude of Combustion Chamber Deposits
- A Method of Waste Heat Recovery from High Temperature Furnace Exhaust Gases
- Robust Online Vehicle Mass Estimation Using Recursive Least Squares with Multilevel Supervisory Data Extraction

MATERIALS SCIENCE & ENGINEERING

- Weaving Electronic Textiles Using Active Fibers
- Femtosecond Pulsed Laser Direct-Write Processing of Silicon Substrates with Thermal Oxide Thin Films for Lithographic and Fluidic Network Applications
- Conducting Polymer Nanotubes for Precisely Controlled Drug Release



- Dry Powder Deposition and Compaction Method for Creating Functionally Graded Materials

NUCLEAR ENGINEERING & RADIOLOGICAL SCIENCE

- Magnetron for Radiation Generation from GHz Through THz
- Damping of Vibrational Noise in High Pressure Xenon Detectors
- Photonic Thruster

KINESIOLOGY

- Infant Treadmill

APPLIED PHYSICS

- H4: HCCI, Hydraulic, Hydrogen Hybrid
- GEM-H2: Gasoline Electric Motor Hydrogen Hybrid
- Thin-Film Neutron Detector and Detector Arrays

CHEMISTRY

- Enzyme Amplified Optical DNA Detection
- New Heterocyclic Analogues of Bz-423
- Nitric Oxide Generating Biomedical Coatings
- In Situ Generation of Nitric Oxide at Substrate/Blood Interface and Detection of S-Nitrosothiol
- Novel Inhibitors of a certain ATPase with Therapeutic Properties
- Metal-organic Frameworks with Exceptionally High Capacity for Storage of Carbon Dioxide
- Biomarker of Extracellular Matrix Turnover
- Novel Cytotoxic Benzodiones With Therapeutic Potential
- Method for Preparing Highly Active Alkyne Metathesis Catalysts
- Novel Soluble 1,4 Benzodiazepine Compounds
- Polymeric Nitric Oxide Release Additives for Hemodialysis
- Novel Compounds with Therapeutic Properites
- Methods for Synthesizing and Using Tungsten-Based Triple-Bond Metathesis Catalysts
- New Organic Branched and Hyperbranched Systems for Novel High Dielectric and Capacitance Applications
- Mechanistic Basis for Therapeutic Targeting of a Mitochondrial Enzyme
- Remotely Driven Micro/Nanoparticle Slipping
- Therapeutic Properties Related to Regulation of Cell Surface Enzymes
- Invention of a New Class of Chiral N-heterocyclic Carbenes

PALEONTOLOGY

- Mastodon Bones

PHYSICS

- E-Commerce Method and System

PSYCHOLOGY

- Total Parenteral Nutrition Calculator/Prescription Template
- A New In Vivo Screening Method for Drugs Acting as Cognition Enhancers

ANESTHESIOLOGY

- Configuration of Centricity Perioperative Anesthesia Information System
- MyCARE: Provider Specific Feedback for the Quality of Anesthesia Care
- Awareness Monitor
- Analgesia-Sedation Anesthesia Machine (ASA-Machine)

BIOLOGICAL CHEMISTRY

- Structures of Inactivated Enzyme and Methods of Use
- Diagnostic Test for Exposure to Pesticides and Chemical Warfare Agents
- Methods for Preventing High-Fat Diet-Induced Diabetes
- Regulation of the Unfolded Protein Response
- Process for Improving Factor VIII Production

CELLULAR & DEVELOPMENTAL BIOLOGY

- Screening Methods and Transgenic Animals for Treatment of ß-Globin Related Diseases and Conditions
- A Method and Reagents for Generating Transgenic Animals and Utilities

DERMATOLOGY

- Infrared Irradiation for Treatment of Fibrotic Skin Conditions

- Identification of Compounds that Treat and Prevent Skin Aging

HUMAN GENETICS

- Compositions with Anticancer and Anti-inflammatory Effects

INTERNAL MEDICINE

- Bacterial Fusion Protein Containing Extracellular Domain of Erythropoeitin Receptor
- Catheter for Measuring Simultaneous Aortic and Left Ventricular Pressures
- Method of Treating and Preventing Obesity, Diabetes and Metabolic Syndrome
- Inhibition Of Angiogenesis And Tumor Growth In Disease Characterized By Female Preponderance
- Method for the Evaluation and Treatment of Pre-hypertensive and Hypertensive Subjects with or without Insulin Resistance
- Methods and Compositions for Regulating Blood Brain Barrier
- Methods and Compositions for Altering Lipid Metabolism
- Methods and Compositions of Drug Delivery Enhancers for Systemic and Local Therapy
- An Angioplasty Balloon Catheter
- Generation of PPAR-gamma GST Fusion Protein
- Self-renewal of Human Mammary Stem Cells
- Targeting the Notch Signaling Pathway in Breast Cancer Stem Cells
- Encapsulation of Crystals into Polymer Capsules for Biological Applications
- Methods and Compositions for Specific Targeting of Cancers
- Chromosome Dropper
- A Software Package to Analyze Genomic SNP Chip Data
- Treatment for Autoimmune Disease and Cancer
- Methods for Treating and Diagnosing Head and Neck Cancer
- Methods for Treating and Diagnosing Cancer: Array Analysis of Colon and Head and Neck Cancer Stem Cells
- Methods for Identifying Mouse Breast Cancer Stem Cells
- Implantable Bioartificial Hemofilter
- Method for Treating Prostate Cancer and Breast Cancer

- Conformationally Constrained, Bivalent Small-Molecule Smac Mimetic
- Production of Gossypol Co-crystals
- Method of Determining Blood Pressure Response to Calcium Channel Blockers
- Nanoemulsion Vaccines
- Targeted Delivery of Imaging Agents/Drugs to Cancer Cells
- Targeted Intracellular FRET-based Detector
- Log-on Triggered, Self-directed Computer-based Learning and Knowledge Assessment System
- Methods and Compositions for Regulation of the Rate of Aging
- Antigen Presenting Cells for Antitumor Responses of Allogenic Bone Marrow Transplant (BMT)
- Non-peptide Small-Molecule Inhibitors
- Analysis of Regulatory Proteins in Prostate Cancer
- HERV Group II Viruses Identified in HIV and HIV Lymphoma
- MTI-MMP as a Novel Target for Obesity
- Alpha Integrin Blocking Peptide for Fibroproliferative Disorders

MICROBIOLOGY & IMMUNOLOGY

- Use of Francisella Tularensis Pht Mutants as Live Attenuated Vaccine

MOLECULAR PHYSIOLOGY

- Kinase as a Novel Drug Target for Diabetes and Diabetic Complications
- Method for Treating Sepsis and Septic Shock
- Methods and Compositions to Induce Selective Brain Cooling in Humans
- Regulation of C/EBP beta Function

NEUROLOGY

- Automated Polysomnographic Assessment for Rapid Eye Movement (REM) Sleep Behavior Disorder

OBSTETRICS & GYNECOLOGY

- Precision Thermal Management In Surgery

OPHTHALMOLOGY

- Custom OCR - Specification Software Program

ORTHOPAEDIC SURGERY

- Distractor for Opening Wedge Osteotomy
- Noninvasive Measurement of Leg Kinematics for Surgical Navigation in Total Knee Arthroplasty

OTOLARYNGOLOGY

- Methods and Compositions to Reduce Age-Related Hearing Loss
- Rigid and Flexible Endoscope Holder
- Intra-Neural Stimulation of the Auditory Nerve for Auditory Prosthesis
- Methods and Compositions for Treatment of Noise Induced Hearing Loss
- DAPT Treatment for Regeneration of Hair Cells and Hearing

PATHOLOGY

- Synthesis and Application of Novel Nod1-stimulatory Compounds which Strongly Regulate Immunity
- Anti-TCF4 Antibodies
- Identification of recurrent Gene Fusions in Prostate Cancer
- Treatment of Chronic Fibrotic Diseases
- Methods and Compounds for Mediation of Immune Responses and Adjuvant Activity
- Immunotherapeutic Treatment for Chronic Fibrosing Diseases
- HiMAP (Human Interactome Map) Database and Web Application
- MCM (Molecular Concept Map) Database and Web Application
- Methods and Reagents for Activating Heat Shock Protein 70
- Oncomine 3.0

PEDIATRICS & COMMUNICABLE DISEASES

- Improving Analysis and Purification of DNA-protein and Protein-Protein Complexes
- The Electronic Medical Record Search Engine (EMERSE)
- A Novel Centrosomal Protein is Mutated in Joubert Syndrome
- Registry Case Finding Engine (CaFE)

PHARMACOLOGY

- Method and Apparatus for Regimental Dosage and Delivery of Vitamin D and Vitamin D Analogs
- Identification and Characterization of a Unique Variant of the Vitamin D Receptor (VDR) in Adult Rat Cardiomyocytes

PSYCHIATRY

- MicroRNA Target Prediction
- Therapeutic Transdermal Smart Platform for Responsive Release of Medicines, Nutrients, Countermeasures
- GeoCat Figures
- Remote Small Animal Decapitation Device
- Compositions Associated with an Anxiolytic-like Behavioral Profile in Rats

RADIOLOGY

- Method for High Countrate Scintillation Cameras and Implementation

- Improved Magnetic Confinement of Positron Range for High Resolution PET
- PET Imaging Device and Methods for the Prostate
- Spectoscopic Photoacoustic Tomography Technique and Device
- Photoacoustic Multimodality System
- Technique And Device For Photoacoustic Imaging And Sensing Of Laser Therapy
- Technique and Device for Photoacoustic Tomography of Joints
- PET Imaging of Vesicular Monoamine Transporter 2 in the Brain
- Diffusion Tensor Phantom
- Delivery of Therapeutic and Imaging Agents to Tumor Vasculature
- Specific Ultrasound Pulse Sequences for Safe Gas Body Destruction During Perfusion Imaging with Ultrasound Contrast Agents
- Perfusion Estimation Using 3D Ultrasound

SURGERY

- Vascularized, Neurotized, Contractile, in vivo, Tissue Engineered Skeletal Muscle
- Mechanical Extension Implants for Short Bowel Syndrome
- Methods and Compositions for Reducing the Severity of Colitis
- Monolithic Column HPLC Separation of Intact Proteins Analyzed by LC-MALDL Using On-plate Digestion
- Protein Marker of Pancreatic Cancer in Human Serum
- The Virtual Operating Room
- Artificial Lung
- Liquid Fractionated Glycoprotein Microarrays for High-throughput Screening of Glycan Structures
- Treatment of Burn Injuries
- Michigan Hand Outcomes Questionnaire (MHQ)
- Universal Non-ischemic Soft Tissue and Tubal Clamp Devices
- Feedback Methods and Systems for Determining Therapy Beam Positioning and Therapeutic Efficacy Before, During and After Ultrasound Cavitational Therapy
- Targeting the Wnt Pathway for Skeletal Metastases
- Signaling Pathways Involved in Prostate Cancer
- Sensor to Detect IV Fluid Levels Based on Weight
- Therapeutic Treatment for Prostate Cancer

NURSING

- Film and Education Project, Entitled Evan Mayday's "Good" Death: Teaching Health Professionals Collaborative Care"
- Girls on the Move

PHARMACY

- Reaction Cocrystallization of Molecular Complexes or Cocrystals
- CASA
- The Reckoning - 340b Inventory Management System
- Tailoring pH-dependent Dissolution of Active Pharmaceutical Ingredients with Crystalline Molecular Complexes or Cocrystals

BIOSTATISTICS

- Statistical Nonparametric Mapping (SnPM)

ENVIRONMENTAL HEALTH

- Universal, Wireless Nano-optical Voltmeters
- Nanostructured Biosensor Containing Neuropathy Target Esterase Activity

EPIDEMIOLOGY

- Chromoscan

ORTHOTICS & PROSTHETICS

- Dynamic Foot Orthotic for Aiding in Rehabilitation of Posterior Tibial Tendonitis or Rupture

"Right now, our prototypes are performing comparably to cytometers that cost five times as much." Jennifer Baird, president and CEO of Accuri Cytometers, Inc.

advancing research with high-performance tools

ACCURI CYTOMETERS | Flow cytometry is a laser-based technology that makes it possible to screen thousands of cells for multiple characteristics in a matter of seconds. The information can be used to study, diagnose and monitor a wide array of diseases—from AIDS to cancer. But with an average price tag of $100,000, cytometers have been out of reach for most research scientists.

"Our goal is to make flow cytometers ubiquitous and to expand the number of researchers who use them on a daily basis," says Jennifer Baird, president and CEO of Accuri Cytometers, Inc. In late 2004, along with partner Collin Rich, Baird licensed flow cytometer technology developed by U-M Associate Professor of Engineering Steven Skerlos. The company began operation with $800,000 from angel investors. Since then, Accuri has been working to optimize the design of their product.

"Every system—fluidics, electronics, optics—has been redesigned with an eye to high performance, robustness and value," Baird notes. "We've overcome every barrier in terms of cost and complexity." The result is a new-generation cytometer that weighs 30 pounds as opposed to 300, can be up and running within one hour rather than requiring five days of training, and outperforms competitive instruments that cost five times as much.

According to Baird, Accuri has benefited tremendously from local resources ranging from software development firms and technical advisors to electrical engineers. "The role of Tech Transfer has also been critical to our success," Baird says. "They shared their technology portfolio, secured gap funds to accelerate commercialization readiness, and introduced us to someone who is now a valued member of our executive staff. And they continue to make us aware of new funding opportunities, such as the state of Michigan's 21st Century Job Fund."

"The New Business Development team in U-M Tech Transfer brings the right people together with the technology and inventor, and provides resources and guidance to create viable product and business concepts."

Karen Studer-Rabeler | Associate Director
New Business Development | U-M Tech Transfer

The Zattoo technology promises to change the paradigm for video on the internet. It allows anyone the ability to stream live video at very low cost by leveraging unused bandwidth at the edges of the network.

scoping out the future of internet television

ZATTOO: TV TO GO | During the months of June and July, with the World Cup Soccer Championship underway, millions of fans were glued to their television sets. But in Switzerland, soccer aficionados could tune in to the games almost anytime and anywhere from their laptop computers.

"Our immediate goal is to create a global virtual cable company. We want to make it possible for almost anyone to put up streams on the Internet."

This real-time "mobile" viewing technology, currently being offered in Europe through a University of Michigan start-up called Zattoo, was created by U-M Associate Professor of Computer Science Sugih Jamin (above right), his research assistant Wenjie Wang, and several U-M undergraduate students. Known as peer-to-peer Internet protocol television—or P2P IPTV—the live video streaming protocol represents a vast improvement over file downloading or existing methods of presenting video content. The technology behind Zattoo is designed to provide high-quality video, and to do so with minimal skipping and broken streams. In addition, the peer-to-peer technology allows for improved audience targeting while at the same time helping to insure against piracy, since no part of the encrypted video is stored on the network.

"The Zattoo technology actually began seven or eight years ago as a research project," Jamin explains. "Initially, it was used to broadcast university conferences."

In March of 2005, Jamin and longtime friend Beat Knecht (above left) decided to bring the technology to market. The team won a business plan competition in Switzerland and connected with angel funders.

In June of this year, the company began offering its Internet TV service in Switzerland. Through a carefully phased strategy, the team plans to add channels, expand throughout Europe and attract venture capital funds, with the assistance of U-M Tech Transfer. Currently, Zattoo is based in Ann Arbor, with corporate offices in San Francisco and Zurich, Switzerland.

"This technology is revolutionary," Jamin says. "Our immediate goal is to create a global virtual cable company. Eventually, we want to make it possible for almost anyone to put up streams on the Internet."

Visitors to the University of Michigan's Exhibit Museum are drawn to the Buesching Mastodon. "This mastodon's stance," explains Fisher, "is considerably more dynamic than is seen in most previous mounts. Recent research has highlighted just how active, even aggressive, these animals were." The new mount of the Buesching Mastodon reanimates the roughly 270 highly-detailed bones of the original skeleton, each molded and cast by Fisher and the students, staff, and volunteers working with him over a period of two years.

bringing mastodons to life

DANIEL FISHER | Approximately 12,000 years ago, in what is now northern Indiana, a 33-year-old mastodon died from wounds sustained in mortal combat with another male. Buried in a peat bog, the creature's bones remained undisturbed until 1998, when farmer and businessman Dan Buesching accidentally unearthed part of the skull. Today, thanks to the work of U-M Professor Daniel Fisher and other paleontologists, the skeleton—remarkably preserved and almost nearly complete—is making important contributions to our understanding of life on this planet.

At the request of the Buesching family and colleagues from Indiana University-Purdue at Fort Wayne, Fisher helped supervise the excavation and worked on preserving the remains—particularly the tusks. As he explains, "These incisors, which grow throughout the life of the animal, are an incredible source of information. They can tell us everything from the mean annual temperature to the animal's age, gender, changing health status, reproductive history, and season of death."

"By studying skeletal remains like the Buesching Mastodon, we hope to discover the causes for that mass extinction."

Fisher adds that excavations such as this one can also contribute to solving an important mystery. "Roughly 10,000 years ago, North America lost about three-quarters of its large mammals," he says. "By studying skeletal remains like the Buesching Mastodon, we hope to discover the causes for that mass extinction."

In cooperation with Tech Transfer, the Buesching family entered into a unique agreement with the University of Michigan. Under the terms of the agreement, the University is creating research-quality molds of the skeleton. The resulting casts will be used for scientific and educational purposes and the Buesching family will receive royalty payments for any cast sold to outside organizations. As Fisher points out, "It's an excellent way to secure a rare and important scientific record for the public."

safeguarding municipal water supplies

SENSICORE | In the late 1990s, U-M Professor of Engineering Richard Brown and post-doctoral students Geun Sig Cha and Hakhyun Nam developed a hand-held chemical analyzer. Their goal was to replace the time-consuming wet chemistry used for blood analysis with lab-on-a-chip technology capable of yielding real-time measurements. In early 2000, with the help of U-M Tech Transfer, Brown teamed up with Ann Arbor-based Ardesta LLC, a leader in commercializing small-tech products.

With $1 million in seed money, Brown and Rick Snyder, Ardesta board chair and former President and COO of Gateway Inc., launched Sensicore to explore commercial applications and to market the technology. At the recommendation of consultant Malcolm Kahn, who became CEO of Sensicore in 2004, the company shifted to environmental applications and discovered that its analyzer was ideal for water sampling.

"With our products, municipalities and commercial water testing firms can profile any water system in a matter of minutes."

As Kahn explains, "Monitoring municipal water supplies has always been a huge challenge. Contamination can occur virtually anywhere along a vast network that runs from reservoirs and treatment plants to distribution channels. Manual water sampling—which has been the norm for decades—can take as long as 45 minutes for a single site. That's why most cities have tended to focus on problem solving rather than safeguarding and troubleshooting. With our products, municipalities and commercial water testing firms can profile any water system in a matter of minutes."

Sensicore currently offers two products, both launched in March of 2006 after extensive beta testing in cities nationwide. The WaterPOINT ™ 870 analyzer is a hand-held device that screens for 18 critical measurements—ranging from pH and hardness to ammonia and monochloramine—in about four minutes. (Conventional methods that perform only single tests can take one or two hours.) Customers can then use Sensicore's web-based WaterNOW™ Information Solution to view and monitor the status of their entire water infrastructure in real-time.

"The technologies that researchers are investigating in the labs at the University of Michigan have the potential to change our lives for the better. It's our job to encourage, develop and connect with resources to transform them into commercial successes."

Dan Broderick | Director
Engineering-OTTC | U-M Tech Transfer

improving the flow of diagnostic information

HANDYLAB | Every year in the U.S., as many as four million expectant mothers are tested for Group B Streptococcus (GBS) during their final week of pregnancy. Approximately 20 percent of them carry the pathogen, which is the leading cause of sepsis, pneumonia, and meningitis in newborns. If the bacteria is detected quickly enough, both mother and fetus can be treated with intravenous antibiotics. Unfortunately, traditional lab cultures take anywhere from 36 hours to four days—often making prompt treatment impossible.

But all that will change sometime in 2007, thanks to a diagnostic lab-on-a-chip produced by Ann Arbor-based HandyLab. Using a small disposable cartridge and portable analyzer, health care professionals will be able to test for GBS in less than an hour. Other applications may soon follow—including on-site testing for chlamydia and gonorrhea. In collaboration with DuPont, HandyLab researchers are also developing prototypes for detecting E. coli, listeria, and other food-borne bacteria as well as anthrax and plague.

"Our rapid assay technology has evolved considerably..."

The original platform technology, created in the labs of U-M Professors Dr. Mark Burns (Chemical Engineering) and Dr. David Burke (Human Genetics), was further advanced by former U-M graduate students Kalyan Handique and Sundaresh Brahmasandra. In 1998, their microchip-based device was named one of the top inventions of the year by Science Magazine. HandyLab was launched in 2000, and the product has seen several design revisions since that time.

"Our rapid assay technology has evolved considerably since then," says President and CEO Jeffrey Williams. "The cartridge is slightly larger and now performs 60 separate functions relating to DNA analysis. Tech Transfer has provided us with valuable assistance and encouragement. It's been a very helpful ongoing relationship."

Currently, while awaiting final FDA approval, HandyLab is focusing on its marketing and manufacturing functions. The company recently generated $11.5 million in C-Round Funding and received an additional $5.6 million from Pfizer, one of its strategic investors.

unraveling the mysteries of a deadly disease

DAVID GINSBURG | Approximately one in every million babies is born with a life-threatening blood disorder known as TTP (thrombotic thrombocytopenic purpura). More often, though, the disease strikes otherwise healthy people in their twenties and thirties. As platelets are mysteriously shredded, clots develop in every blood vessel. Major organs fail. Without proper diagnosis and treatment, 90 percent of all victims die in a matter of days. Presently, the only thing that can save those with TTP is ongoing blood plasma transfusions.

For nearly 30 years, Howard Hughes Medical Institute investigator and U-M Medical Professor David Ginsburg has been studying TTP and other blood clotting disorders. In the 1980s, Ginsburg and Washington University School of Medicine research scientist J. Evan Sadler independently cloned the gene for von Willebrand factor (VWF), a protein actively—and often disastrously—involved in hemophilia, TTP, and other blood diseases.

Since then, Ginsburg and his research team, currently based in the U-M Life Sciences Institute, have been analyzing blood samples from families with a history of TTP. Their work led them to the discovery that this disorder is triggered by defects in a single gene that normally controls VWF. Based on that breakthrough, M.D.-Ph.D. student Gallia Levy was able to map the gene with the help of William Nichols, one of Ginsburg's former students. Working with Tech Transfer, Ginsburg and Levy received a patent relating to methods of diagnosing TTP, which involves detecting a mutant gene known as ADAMTS13.

As Ginsburg notes, "The mapping of ADAMTS13 is very satisfying because it means that we can now produce a recombinant protein with real therapeutic potential—something that can be used as the basis for both diagnostic testing and treatment. I'm hopeful that Baxter Pharmaceuticals, which recently licensed the technology, will soon be able to bring new life-saving products to market."

"Our ability to guide and manage the process of appropriately protecting our intellectual property is an essential component of tech transfer. Protecting IP in the correct manner and circumstances can assist in the broad deployment of the benefits of our technology to the general public."

Rick Brandon | Assistant General Counsel | U-M Tech Transfer

VIVACE uses vortex-induced vibrations created by ocean currents to generate electricity. As pictured here, the converter consists of a rigid cylinder, struts and springs, a generator, and a transmission belt. By linking tens or hundreds of these converters together, it becomes possible to create an underwater power plant capable of producing enough inexpensive, environmentally friendly electricity to power a city.

harnessing the ocean's energy

THE VIVACE CONVERTER | In 1504, Leonardo da Vinci observed that ropes suspended between buildings emitted a faint, high-pitched sound—what he called Aeolian Tones. Without realizing it, he had discovered vortex-induced vibrations (VIV). This natural phenomenon, which occurs whenever a flexible cylinder is exposed to a flow of air or water, can cause serious damage to cables, mooring lines, marine pipelines, smoke stacks, nuclear fuel rods, and thousands of other structures.

For 27 years, naval architect and marine engineer and U-M Professor Michael M. Bernitsas has looked for ways to suppress VIV and the damage it inflicted on marine structures, particularly the marine risers of offshore drilling platforms. Then one day, while describing his work to a PhD student, he had a revelation: Why not use VIV to extract energy from bodies of water? Why not try to enhance VIV instead of supress it, and harness it to solve the world's looming energy problem?

"VIVACE doesn't interfere with navigation, nor does it damage marine life in any way. It is modular, flexible, portable, and mechanically simple."

Within one year, Bernitsas had developed the idea and filed for a patent relating to VIVACE (Vortex Induced Vibrations Aquatic Clean Energy), a device capable of harnessing the VIV energy generated by ocean and river currents. Subsequent tests in U-M's Marine Hydrodynamics Lab proved that VIVACE was remarkably efficient at generating usable energy—more efficient than ocean-energy converters currently being used around the world.

"VIVACE satisfies all Department of Energy requirements," Bernitsas says. "It doesn't interfere with navigation, nor does it damage marine life in any way. It is modular, flexible, portable, and mechanically simple. VIVACE is also scalable—and can be used for applications ranging from ten to a million kilowatts."

Last year, Bernitsas founded Vortex Hydro Energy, LLC to develop, prototype and market his invention. As he notes, "Tech Transfer has been immensely helpful at every stage: filing the provisional patent application, finding test sites, locating funding sources, and staffing the company." Most recently, Bernitsas has worked with student-consultants from U-M Tech Transfer's TechStart program to identify potential investors.

scaling up nano entrepreneurship

RICHARD LAINE | "I've always been interested in developing materials from basic nano building blocks," says Professor Richard Laine, director of Macromolecular Science and Engineering at the University of Michigan. "I've also had a strong interest in technology transfer." Over the past 20 years, that dual fascination has resulted in 33 patents, more than 200 publications and 3 start-up companies.

In 1990, Laine and his U-M research team made their first major breakthrough: low-cost inorganic polymers for manufacturing ceramics, produced from beach sand, lye and recycled antifreeze. In 1996, he launched Tal Materials, Inc. to commercialize this discovery. Subsequently, he and his team learned to dissolve these polymers in alcohol, aerosolize and then combust them, producing metal-oxide nanopowder soots. Tal Materials then focused on commercializing the production of multiple types of nanooxide. A group of investors was found to help grow the business, now named Nanocerox.

"The Laine group has developed completely different sets of products including the first nano-sapphire powders. These powders could lead to more efficient street lights and lasers, and stronger hip and knee implants."

As an extension of this technology, the Laine group discovered a way to dissolve the silica in rice hull ash to produce "perfect" molecular silica nano building blocks. As he notes, "These molecules are exactly one nanometer—or one billionth of a meter—in diameter to which can be attached eight organic groups giving novel 3-D molecules that can be assembled nanometer by nanometer for use in an enormous number of applications." Mayaterials was launched in 2003 to market the resulting "cubes" or nano organic/inorganic hybrids.

Laine's newest venture, Nano-Alpha, is an unexpected off-shoot of the original nanopowder combustion technology. By taking the originally produced nanopowders and "reshooting" them in the flame, the Laine group has developed completely different sets of products including the first nano-sapphire powders. These powders could lead to more efficient street lights and lasers, and stronger hip and knee implants.

In addition to the potential for producing synthetic gems, the nanocomposites Laine seeks to bring to market through his most recent venture could be used to increase the incandescence of sodium vapor lights by as much as 30 percent—thus saving billions of kilowatt hours per year.

Today, the demand for energy has never been greater or more competitive. Yet the fossil fuels that have powered our world for centuries are dwindling, and international experts predict that global oil production will peak as soon as 2007. In response, U-M has made energy one of its top research priorities.

fueling the future

THE MICHIGAN MEMORIAL PHOENIX ENERGY INSTITUTE

As a leading research institution, the University of Michigan has both the capability and the responsibility to address the most serious challenges facing humankind. Poverty, environmental degradation, terrorism, disease, overpopulation… the list is long. But few would disagree that one of the largest and most urgent problems is energy: developing alternative fuels to power our planet.

So where will future energy sources and technologies be found? U-M Vice President for Research Stephen R. Forrest is convinced that many of those new and necessary solutions will be generated through the Michigan Memorial Phoenix Energy Institute (MMPEI).

"The University of Michigan is destined to play a leadership role in providing real solutions for our nation's energy problems."

"The University of Michigan is one of the few institutions worldwide that has both the breadth and depth of excellence to make a significant and broad impact on energy science, technology, and policy," Forrest says. "This new institute is galvanizing the entire University community around issues related to energy."

Building on a Solid Foundation

In the Fall of 2003, U-M Emeritus President James Duderstadt and a small group of faculty were asked to explore how Michigan could expand its promising work in hydrogen generation, storage, and use. The size and scope of the committee continued to grow until, 18 months later, it was reconfigured as the Michigan Energy Research Council (MERC).

The mission of this new entity was to study how the University could leverage its expertise and resources in energy-related research activities. In June of 2006, MERC recommended the creation of "a university-wide enabling organization that would facilitate multidisciplinary research, seed the growth of emerging research areas, and advocate for Michigan's energy-related activities, both within and outside the University." This work culminated in the rebirth of the University of Michigan's famed Phoenix Project.

New Life for the Phoenix

Since the 1950's, the University of Michigan has been home to the Memorial Phoenix Project, dedicated to the peaceful use of nuclear energy. The centerpiece of this facility, the Ford Nuclear Reactor, was recently decommissioned. Appropriately, the building will soon become the headquarters of the new Michigan Memorial Phoenix Energy Institute. In addition to offices, meeting and conference facilities, and faculty labs, the third floor of the building will be occupied by the U-M Hydrogen Research Center.

A Far-Reaching Mission

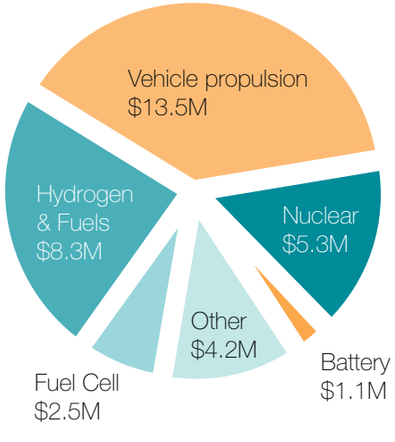
According to Forrest, the Institute will function as "a nucleating agent." He points out that all of the factors necessary for success already exist within the University community.

"Right now, the University of Michigan has clear strengths in a multitude of areas. In terms of science and technology, we're ranked number one nationally in nuclear engineering, and we have tremendous resources in automotive engineering, low-power-consumption electronics and hydrogen. Our faculty are making huge strides in solar energy, energy storage, and room illumination. We also have superb expertise in the social sciences, economics, public policy, and public health. In addition, we have access to industry leaders, including every major automotive manufacturer, as well as considerable experience and success in technology transfer. Once we begin to make linkages and combine existing strengths, the University of Michigan is destined to play a leadership role in providing real solutions for our nation's energy problems."

Although still in early-phase development, MMPEI is making rapid progress. Under the guidance of its newly appointed director, Professor of Nuclear Engineering Gary Was, the Institute will host two symposia during the 2006-07 academic year to encourage seed funding and provide a forum for energy-related issues on campus.

energy research

U-M FUNDING TOTALS
$34.9M IN 2005



"Creating viable new energy sources is one of the most important challenges now facing our nation and our world. The University of Michigan is prepared to lead that effort. In fact, given our unique set of resources, we have a responsibility to transform ideas into reality."

Stephen R. Forrest | Vice President for Research

Former TechStart intern, Linda Sanchez, who now works for U-M startup Cielo MedSolutions, sees opportunity in Ann Arbor. "When I moved here from California to attend graduate school, I didn't imagine I'd find such a vibrant entrepreneurial culture, right here in Ann Arbor. TechStart gave me that opportunity."

innovation relationships

Relationships drive performance. To that end, we are focused on broadening and deepening our relationships with researchers, industry partners, the funding community, alumni, students, university peers and community leaders. We feel our mission must extend beyond the formal duties of technology licensing in order to provide true leadership in innovation and economic growth. A new industry relationship may produce a technology license, but it may also lead to exciting new research collaborations, a student job placement, consulting assistance to ignite business growth or new insights that enhance our ability to teach. We also feel a commitment to give back to our community and our profession, with programs, activities and leadership roles.

ANN ARBOR SPARK

Ann Arbor SPARK has expanded its capabilities in FY06, led by new President Michael Finney. SPARK's mission is to advance the economic development of innovation-based businesses in greater Ann Arbor. U-M President Coleman led its inception and the University continues to play a leadership role on the Board of Directors, Executive Committee, officer positions and by providing hands-on assistance with day-to-day operations. Ann Arbor SPARK activities include a highly-praised Entrepreneur's Bootcamp, assistance to innovation companies, resourcing of talent, and marketing efforts to attract resources to our region and state.

TECHSTART

TechStart is an internship program created and managed by U-M Tech Transfer, partnering with the U-M Zell-Lurie Institute for Entrepreneurial Studies. Each summer, graduate students from engineering, business, medicine, information, law and other schools work on selected tech transfer projects with the active mentoring of our tech transfer staff and community advisors. The result is an impressive learning experience, engaged assistance for our tech transfer efforts, and encouragement for local employment opportunities for these students after graduation.

MENTOR NETWORK

With encouragement from our National Advisory Board, U-M Tech Transfer is forming a mentor network to expand our pipeline of experienced advisors who can assist our projects and businesses. With roles ranging from providing periodic advice to more extensive coaching and hands-on assistance, the Mentor Network provides a great opportunity for engaging alumni, experts and partners to accelerate tech transfer.

innovation partnerships

NATIONAL ADVISORY BOARD

Our U-M Tech Transfer National Advisory Board consists of leading venture capitalists, corporate executives, successful entrepreneurs and university and community leaders who, together, represent a broad range of industries, regions and expertise. The National Advisory Board provides strategic guidance and resource connections to accelerate our progress in technology transfer. Board members play an active role with committee assignments that have included benchmarking the best practices of regions, critiquing and advising our operations and interactions, and providing industry, investment and market trends.

Board members in FY06 include:

Thomas Bumol
Vice President
Biotechnology
Discovery Research
Eli Lilly

Marshall Cohen
Vice President and
General Manager
Sensors Unlimited
Goodrich Corp.

John Denniston
Partner
Kleiner Perkins
Caufield & Byers

Richard Douglas
Senior Vice President
Corp. Development
Genzyme

Michael Finney
CEO and President
Ann Arbor SPARK

Farnam Jahanian
Professor of
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and Computer Science
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Thomas Kinnear
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Jack Turner
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MIT, Technology
Licensing Office

Tom Washing
Sequel Venture Partners

Jeff Williams
President and Chief
Executive Officer
HandyLab

SUPPORTING INNOVATION ORGANIZATIONS

U-M Tech Transfer plays a vital role in many regional, state and national organizations involved in technology transfer and innovation. Our staff members serve on boards and committees of organizations such as:

- Ann Arbor IT Zone
- Ann Arbor SPARK
- Ann Arbor Area Chamber of Commerce
- Association of University Technology Managers
- MichBio
- Michigan Economic Development Corporation
- Midwest Research University Network
- New Enterprise Forum
- Washtenaw Wireless

In furthering the University's mission of outreach, U-M Tech Transfer staff members — individually and collectively — lend their spport to various community groups and organizations. One example is our holiday gift collection for the Ann Arbor Ronald McDonald House, a "home-away-from-home" for the families of seriously ill children. Another is our annual day of service with Habitat for Humanity.

Celebrate Invention is our annual reception honoring our University inventors who have participated in tech transfer activities. Each year U-M TechTransfer hosts over 350 inventors, entrepreneurs, businesses and community leaders who network among 8-10 kiosks illustrating the latest research discoveries and business concepts.

1. Debbie Watkins
2. Kristen McLeod
3. Sally Ingalls
4. Wesley Huffstutter
5. Tina Bissell
6. Carmen Atkins
7. Rakhi Juneja
8. Kris Aalto
9. Robin Rasor
10. Ken Nisbet
11. Rick Brandon
12. Lisa Johnson
13. Teri Grieb
14. Doug Hockstad
15. Mark Maynard
16. Karen Studer-Rabeler
17. Dan Broderick
18. Matt Bell
19. Greg Choiniere
20. Mike Hallman
21. Jim Deane

not pictured:
Linda Hamlin
Dennis Linder
Andrew McColm
David Ritchie

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