UW-Milwaukee Research Agenda:

Partnerships Advancing Academics and Economic Development

Carlos E. Santiago, Chancellor

Board of Regents Meeting
June 10, 2005
Milwaukee: A Key Pillar of the IQ Corridor

Milwaukee Region’s Biomedical Strengths

Institutional Strengths
- Public Health
- Medical Informatics
- Rehabilitation
- Biomechanics
- Imaging
- Cardiopulmonary
- Genetics
- Proteomics
- Bioinformatics
- Biochemistry

Health Issues Addressed
- Aging, Disability
- Disability
- Amputees
- Spine, Walking, Falling
- Stroke, Heart Disease
- CNS Disorders
- Pain, Addiction
- Cancer
- Infectious Disease
- Drug Discovery
- Personalized Medicine
UWM Research Goal

$100 Million
Annual research expenditures in 10 years
UWM Research Trajectory

UWM Research Funding

Fiscal Year

Dollars

UWM Research Funding

Can It Be Done?

Research Expenditure Growth
1993 - 2002
For Institutions Starting at $20M - $35M per Year

Univ. of Louisville
What Does It Take?

"Non-Fed. $" for each $ of Fed. Research
University of Louisville

$0,00
$1,00
$2,00
$3,00

Year

Dollars per Fed. $
Growth from Within the Institution

**UWM Chancellor’s Scientist Award**

Previously the Greater Milwaukee Foundation Shaw Scientist Award

Faculty member awarded a total of **$200,000** ($40,000/year for 5 years)

Provides financial support for faculty member’s research activities

UWM Assistant Professor of Immunology **Douglas Steeber** received the 2005 Award
Biomedical Technology Alliance

Fostering collaboration in biomedical technology with academic institutions and industry by creating awareness, incentives and infrastructure
Initial Areas of Scientific Focus

- Biomedical Imaging
- Medical Informatics
- Biomechanics/Rehabilitation
Research Collaborations

Biomedical Imaging

- Alzheimer's
- Parkinson's
- ADHD
- MS
- Pain
- Cancer
- Cardiopulmonary
- Renal
- Osteoporosis
- Addiction

MCW

Marquette

UWM

TeraMedica

Camtronics

Aurora

Columbia St. Mary's

Froedtert

VA

GE

St. Luke’s

Children’s

Biochemistry

Keck Functional Imaging Center

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VA

GE

St. Luke’s
Research Collaborations

**Medical Informatics**

- Electronic Medical Records
- Standards
- Education
- Patient Safety

- Marquette University
  - Biomedical Engineering
  - Computer Science
- UWM
  - Medical Informatics
  - Computer Science
  - Engineering
  - Nursing
- MCW
  - Medical Informatics
- VA
- Froedtert
- Children’s
- MSOE
  - Medical Informatics
- GE
  - GE Medical Systems IT
- MSOE
  - Medical Informatics
- UWM
  - Medical Informatics
- Wisconsin Institute for Biomedical and Health Technology
- TeraMedica
- Epic Systems
- EMSSystems
- Infinity Healthcare
- Cerner
- WI Health Information Exchange
- Carrol College
- Concordia
- Cardinal Stritch University
- Wisconsin Institute for Biomedical and Health Technology
- GE
  - GE Medical Systems IT
- Cerner
- WI Health Information Exchange
Research Collaborations

Biomechanics/Rehabilitation

- Stroke
- Spinal Injury
- Aging
- Disability, access
- Assistive Technology
- Spasticity
- Amputee rehabilitation
- Walking & gait analysis
- Neurorehabilitation
- Cerebral Palsy
- ALS

MCW

Children's

Froedtert

Physical Medicine & Rehabilitation

Functional Imaging

Biomechanics Neurosurgery

Orthopedic Research Engineering Center

Rehabilitation Engineering Research Center

Extrication Inc.

Biomechanics

Occupational Therapy

Mechanical Engineering

Industrial Engineering

Clinical Engineering

Children's Hospital

VA

Carroll College

Physical Therapy

Rapid Prototyping Center

Zerrecon

Biomedical Engineering

Extrication Inc.

Biomechanics/Rehab Research Design & Disability Center

Orthopedic Research Engineering Center

Children's Hospital

Falk Neurorehabilitation Center

UWM

Cardinal Stritch University

Nursing

Cardinal Stritch University

Nursing

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Strategic Research Development Program

To Develop World-class Interdisciplinary Research Teams:

• Across UWM’s schools and colleges, and regional academic institutions
• In partnership with industry
• To build nationally recognized research programs in strategic areas of research strength
Strategic Research Development Program

Selection Criteria

✓ Compatibility with UWM research strengths
✓ Researchers and grants that would be part of team
✓ Potential to attract federal or industrial funding

✓ Potential to enhance interdisciplinary research at UWM
✓ Potential for inter-institutional research in SE Wisconsin
✓ Potential for inter-institutional research with national or international labs, centers, institutes and institutions of higher education

✓ Support of related industrial and foundation partners
✓ Potential to impact ongoing regional economic development
Proposals

Center on Biotechnology
Children’s Environmental Health

**Wisconsin Institute for Biomedical and Health Technologies (WIBHT)**
Enhance Surface and Nano Studies
Geospatial Information Science
Neuroscience: Milwaukee Center for Neural Plasticity
Center for Improving Manufacturing Competitiveness through Automation and Integration
Center on Age and Community
Wisconsin Institute for Biomedical and Health Technologies

A world-class research institute linking Wisconsin academic institutions with industry and healthcare systems to generate new knowledge at the frontiers of the theoretical sciences, engineering, health sciences, health care management and practice disciplines to be translated efficiently and effectively to industry, health providers and consumers.
Wisconsin Institute for Biomedical and Health Technologies

**UWM Colleges and Schools**

College of Engineering and Applied Science
College of Health Sciences
College of Nursing
College of Letters and Science
School of Business Administration
Wisconsin Institute for Biomedical and Health Technologies

Partners – Initial Commitments $15 Million
Wisconsin Institute for Biomedical and Health Technologies

*Broad-based Support*

“I am eager to begin detailed discussions with the University and the Medical College to develop joint programs that are in the mutual interests of GE Healthcare Technologies, UWM and the Medical College. It is exciting to see the possibilities.”

–Robert H. Armstrong
General Manager Global Functional and CT Engineering
GE Healthcare - Technologies
Wisconsin Institute for Biomedical and Health Technologies

**Broad-based Support**

“Southeast Wisconsin...can benefit from centers of excellence that expedite technology transfer, professional training and business start-up. We congratulate the University of Wisconsin-Milwaukee on leading regional economic development and technology transfer.”

–Mary P. Burke
Secretary
Wisconsin Department of Commerce
Wisconsin Institute for Biomedical and Health Technologies

Broad-based Support

“The next segment of the economy that will be booming is health care – and we’ve got a chance to do something pretty dramatic in this area if we work at it.”

–G. Edwin Howe
President
Aurora Health Care
Wisconsin Institute for Biomedical and Health Technologies

Broad-based Support

“I know of no other location in the United States with the potential to create such an enterprise. You can count on me to do whatever I can to make this potential a reality.”

–William R. Hendee, Ph.D.
President
MCW Research Foundation
Dean
Graduate School of Biomedical Sciences,
Medical College of Wisconsin
Wisconsin Institute for Biomedical and Health Technologies

*William R. Hendee, Ph.D.*

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