

Milwaukee Regional Research Forum

Poster Session of CTSI-supported Research and

Public Policy Forum Viewpoint Luncheon

"The Role of our Colleges and Universities in Building Milwaukee's Future"

Monday, October 24, 2011

Crowne Plaza Milwaukee West Milwaukee Regional Medical Center

Sponsored by:

Clinical and Translational Science Institute (CTSI)
Public Policy Forum
Crowne Plaza Milwaukee West
Milwaukee Journal Sentinel
Whyte Hirschboeck Dudek, S.C.
ASI Signage Innovations
The Boldt Company
Wauwatosa Chamber of Commerce

The MRR Forum acknowledges and appreciates the valuable guidance and assistance of Sara Goetz and Marlene Weber of CTSI; Alisha Denomme and Kathy Schneider of BloodCenter of Wisconsin in planning, preparing, editing and formatting this booklet.

Special thanks to Charles C. Mulcahy for his vision, planning, diligence and thoroughness in guiding the MRR Forum.

Table of Contents

Welcome Message from Dr. Reza Shaker Page 1
Milwaukee Regional Research Forum Page 2
Future Objectives of the MRR Forum Page 2
T. Michael Bolger Award
Public Policy Forum Viewpoint Luncheon Page 5
CTSI Poster Session Page 9
Clinical and Translational Science Institute (CTSI)
Introductory Information Page 14
Partnering Institutions:
Medical College of Wisconsin Page 15
Marquette University Page 16
Milwaukee School of Engineering Page 17
University of Wisconsin-Milwaukee Page 18
Children's Hospital & Health System Page 19
Froedtert Hospital Page 20
Zablocki Veterans Affairs Medical Center Page 21
BloodCenter of Wisconsin Page 22
Milwaukee Regional Medical Center Page 23
Milwaukee County
Milwaukee County Research Park Page 25
Wauwatosa Chamber of Commerce Page 26
City of Wauwatosa Page 26
ASI Signage Innovations Page 27
Crowne Plaza Milwaukee West Page 28
Whyte Hirschboeck Dudek Page 29
Milwaukee Journal Sentinel Page 30
The Boldt Company Page 31
Milwaukee Regional Research Forum – 2010 Resources Page 32



Reza Shaker, MD

Senior Associate Dean and Director

Clinical & Translational Science Institute

On behalf of the Clinical and Translational Science Institute of Southeast Wisconsin (CTSI), we welcome you to the 2nd Annual Milwaukee Regional Research Forum. This forum is a major mechanism for CTSI to reach out to regional and future partners as we implement a borderless, complementary and synergistic biomedical research environment in southeast Wisconsin that will accelerate the translation of discoveries into new and improved treatments.

We are especially pleased to present the T. Michael Bolger award to two outstanding individuals who have shown vision and leadership in improving patient care and advancing strategies to improve health care delivery regionally and nationally.

This year, we have added a poster session to the program before the luncheon. This session is intended to showcase some of the research projects supported by CTSI and the convergence of disciplines such as life sciences, physical sciences, and engineering to address important questions in the continuum of translation. We hope that this session helps foster collaboration with the industry and invite you to view the posters which are arranged throughout the lobby and outside the Grande Ballroom.

We would like to thank our panel participants for joining us today and discussing the important topic of The role of our colleges and universities in building Milwaukee's future, and our poster presenters for their time and effort. We also thank our media sponsors, Milwaukee Journal Sentinel, Whyte Hirschboeck Dudek, Crowne Plaza Hotel, ASI Signage innovations, the Boldt Company, and the Wauwatosa Chamber of Commerce for their roles in successfully continuing this forum. Finally, we thank the Public Policy Forum for organizing the Viewpoint Luncheon of today's program.

Milwaukee Regional Research Forum, Inc.

The Milwaukee Regional Research Forum (MRR Forum) was created to inform this community about the Clinical and Translational Science Institute and to communicate the collaborative research activity taking place involving Medical College of Wisconsin, University of Wisconsin-Milwaukee, Marquette University, Milwaukee School of Engineering (MSOE), Children's Hospital of Wisconsin, Froedtert Hospital, Zablocki Veterans Affairs Medical Center and BloodCenter of Wisconsin. The Public Policy Forum, Whyte Hirschboeck Dudek, Crowne Plaza Milwaukee West, Milwaukee Journal Sentinel, ASI Signage Innovations, The Boldt Company and Wauwatosa Chamber of Commerce continue in their commitment to support the MRR Forum and the CTSI .

The MRR Forum, as a significant community outreach initiative of the CTSI, is committed to identifying and promoting community awareness of the collaborative research activities between CTSI members. The MRR Forum is also serves as a catalyst and resource for research information taking place in CTSI member institutions.

Future Objectives for the MRR Forum

Through this annual event, the MRR Forum will encourage research and technology transfer collaboration through the CTSI and its member organizations. MRR Forum will provide outreach for CTSI to interact with community and business leaders. MRR Forum and CTSI will jointly continue to interact with the business community on a mutually beneficial basis to develop timely and valuable research outcomes to improve patient care.

Additionally, the MRR Forum will annually present the T. Michael Bolger Award to recognize exceptional international, national or regional accomplishments resulting in improved patient care and/or treatment and curing of disease.

The MRR Forum will also continue to encourage and promote collaboration between CTSI members to provide added resources for development of intellectual property protection and the commercialization of research.

Website material on the MRR Forum programs and activities will be available to the general public on the CTSI website: www.ctsi.mcw.edu

MRR Forum, Marquette University and the Crowne Plaza Milwaukee West are jointly developing a history wall in the hotel depicting the origin and evolution of the MRMC and the CTSI. Marquette professor John D. Krugler and student intern Peter Wood, have commenced the research for the project which will be located directly across from the first floor elevators in the Crowne Plaza. The project will take several years and be developed in phases.

For Additional Information:

Sara Goetz:

(414) 955-2537 sgoetz@mcw.edu

Charles Mulcahy

(414) 254-6333

chasmulcahy@wi.rr.com

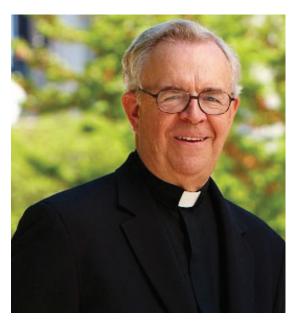


T. Michael Bolger served with distinction and significant accomplishment as the president of the Medical College of Wisconsin from 1990 to 2010. During that period of time, the MCW experienced an extraordinary period of growth in faculty; operating revenues and budget; new facilities; new doctoral and masters programs; and joint programs with CTSI entities.

Bolger encouraged and supported MCW faculty to expand funded research and the successful creation and funding of the Clinical and Translational Science Institute funded through the National Institutes of Health

The T. Michael Bolger Award, in addition to recognizing and preserving the historic accomplishments of Mr. Bolger, also recognizes international, national or regional individuals or organizations based upon exceptional accomplishments resulting in improved patient care and/or treatment and curing of disease.

Robert A. Wild, S.J. and Howard J. Jacob, Ph.D. are the 2011 recipients of the T. Michael Bolger Award. Their unique, valuable and enduring contributions to health care in this community, state and nation are recognized at this time.



Robert Wild, S. J.Retired President
Marquette University

Father Wild served with distinction from 1996 to 2011 as President of Marquette University. Father Wild is recognized with this award for his leadership in guiding the University through dramatic changes in its growth and commitment to academic achievement, scholarly research, campus expansion and community involvement.

As a native of Chicago, Fr. Wild holds a doctoral degree from Harvard University, master's and bachelor's degrees from Loyola of Chicago and a licentiate in theology from the Jesuit School of Theology in Chicago. He served as a faculty member at Marquette from 1975 to 1984.

Father Wild raised the national profile of Marquette in multiple areas but his legacy also includes improving Marquette's health related programs in the School of Dentistry, College of Health Sciences and College of Nursing. These programs have achieved national recognition in research and education while developing a powerful workforce dedicated to improving the health of the people of Milwaukee, Wisconsin and the entire nation.

During his time as President, Marquette became a valuable and trusted member of the Clinical and Translational Science Institute and continued to expand its collaborations with CTSI entities.



Howard Jacob, PhD
Professor, Physiology and Human and
Molecular Genetics
Director, Human and Molecular Genetics
Center
Warren Knowles Chair in Genetics
Medical College of Wisconsin

Since 1996, Dr. Howard J. Jacob has served with distinction on the faculty of the Medical College of Wisconsin. Dr. Jacob is Professor of Physiology and Pediatrics; and Director of the Human and Molecular Genetics Center of MCW. He is the Warren P. Knowles Chair of Genetics at MCW.

Dr. Jacob received the PhD in Pharmacology at the University of Iowa and undertook postdoctoral training at Harvard and MIT. He was mentored, and later guided, by internationally recognized experts in pharmacology, cardiovascular physiology and genetics.

Dr. Jacob is recognized with this award for his extensive work in improving the health of patients and, for more than a decade, leading the development of the Human and Molecular Genetics Center into an internationally recognized research program geared to developing strategies to improve health. Taking advantage of comparative genomics between human, rat and mouse, Dr. Jacob has significantly advanced the understanding of the genetic determinants of renal disease and heart disease in humans.

Dr. Jacob has also experienced success in utilizing his research in developing technology transfer applications in various business settings intended to achieve positive health improvement results and resulting economic development. Last but not least, Dr. Jacob was instrumental in the development of the grant proposal that ultimately resulted in the federally funded CTSI of Southeast Wisconsin.

Public Policy Forum Viewpoint Luncheon



The nonpartisan Public Policy Forum, established in 1913 as a good government watchdog, currently focuses its policy research on a broad range of issues affecting southeastern Wisconsin, the state and the nation. This research includes government finance and economic development policy, education, transportation, public safety, health, public infrastructure and other quality of life concerns.

The Forum serves the public, businesses, government and other interested constituencies by spotlighting trends, defining emerging issues and facilitating productive interaction among local governments and the private sector to promote sound and innovative policy solutions. Fiercely independent and widely respected for its unbiased research, the Forum is a source of accurate information for local, state and national leaders seeking effective answers to public policy issues. In addition to publishing annual research reports, Research Briefs, and Regional Reports, the Forum hosts discussions and programs on issues of local and regional interest.

Today's Milwaukee Regional Research Forum and Public Policy Forum Viewpoint Luncheon, "The Role of our Colleges and Universities in Building Milwaukee's future", is a continuation of PPF programs on public policy issues.

For more information concerning PPF: Rob Henken

President Public Policy Forum (414) 276-8240 rhenken@publicpolicyforum.org www.publicpolicyforum.com

"Technology Transfer in Southeast Wisconsin: Maximizing Local Economic Impacts"

Earlier this year, the MRR Forum and CTSI jointly commissioned and funded a national study by the Public Policy Forum on "Technology Transfer Collaboration". This study has focused on identifying and evaluating technology transfer innovation best practices on a national basis. Public Policy Forum Research Director Anneliese Dickman is the Research Director of the project and will present her findings in a brief report at the 2011 MRR Forum.

EXECUTIVE SUMMARY

For more than four decades, America's economists, management consultants, investors, and futurists have discussed the need to transition from a manufacturing economy, based on skills, to a "knowledge economy," based on ideas and innovation.

One specific facet of a thriving 21st century knowledge economy is the existence of an infrastructure that is adept at transferring technologies developed in research laboratories to those who will use them to create businesses and jobs in the local economy. Does southeast Wisconsin possess such an infrastructure? If not, how might we create one?

Through a series of interviews with local academic researchers, technology transfer practitioners, and entrepreneurs, as well as extensive research into national technology transfer collaborative approaches and models, the Public Policy Forum's white paper on technology transfer in southeast Wisconsin seeks to answer those questions. A primary focal point is the role that might be played by the recently established Clinical and Translational Science Institute of Southeast Wisconsin (CTSI), a collaborative dedicated to using research to inform and improve medical practice that includes the region's prominent research and academic institutions (BloodCenter of Wisconsin, Medical College of Wisconsin, University of Wisconsin-Milwaukee, Marquette University and Milwaukee School of Engineering).

Formal technology transfer – the legal process in which new discoveries are patented, marketed, and licensed to commercial manufacturers – can be very expensive and time-consuming, and is often quite risky in terms of return on investment. On the whole, many more dollars are spent on research and development than are recouped in licensing royalties or equity positions in new companies. Nevertheless, each of the CTSI research institutions actively conduct technology transfer and seeks to maximize its outcomes.

Our analysis finds that there are three models that might be considered by academic leaders to enhance collaboration in technology transfer and potentially augment the effectiveness of existing efforts:

Joint Office of Technology Transfer

A joint office of technology transfer could potentially result in greater expertise in economic development practice for the participating institutions, as well as economies of scale. However, a joint office may stretch the resources of technology transfer officers to the point that some institutions may experience reduced levels of service. Equitably funding a joint office to serve public and private institutions also would be challenging.

Joint Infrastructure for Informal Technology Transfer Activities

Currently, much of the technology transfer work performed by CTSI institutions is of the informal variety—building awareness of academic research projects by industrial researchers and investors through networking and partnering. At the federal level, this work is performed by a permanent consortium of the federal research labs. A similar consortium of the CTSI institutions could be created and charged with raising the profile of translational research for local industry. Each participating institution would have to trust, however, that its financial contributions to the consortium would eventually result in benefits for its researchers.

Joint Economic Development Entity

We found four different types of collaborative economic development agency models aimed at increasing the local economic impact of academic research. Each of the four models has specific strengths and weaknesses and particular applicability to southeast Wisconsin. All are aimed at encouraging and supporting the transfer of technology to local industry and start-ups, but each does so a little differently. The biggest hurdle for this model is Sustainability—a previous, state-funded, southeast Wisconsin economic development effort, TechStar, proved unsustainable.

In addition to considering the creation of a new full-fledged collaborative infrastructure based on one of the three models above, the CTSI research institutions could consider collaborating on more targeted strategies to ensure that their research positively impacts the local economy:

- 1. **Expand the UWM-MCW First Look Forum to all CTSI organizations:** Offer all researchers the opportunity to participate in these events designed to connect academic researchers to investors and industry.
- 2. Jointly offer start-up support or an entrepreneur-in-residence program: Collaborate to ensure all researchers at the CTSI partner institutions have the opportunity to be educated about commercializing technology through company formation, mentored through the technology development and venture formation process, and connected with outside resources that can provide services, advice, funding, and management expertise.
- 3. **Jointly raise funds for pre-seed grants**: Expand the UWM Catalyst Grant program to all CTSI institutions by working together to raise additional funds from foundations and industry.
- 4. **Utilize a joint tech transfer advisory committee:** Maximize local resources by forming a joint advisory committee of investors and industry leaders to advise on patenting decisions, particularly those arising from research projects conducted collaboratively by two or more CTSI institutions.
- 5. **Create a local industry database:** Provide researchers at all CTSI institutions with data about industry needs and interests, as well as contacts, by jointly creating and managing a local industry database.
- 6. **Host clinician informant panels:** Increase awareness among researchers who are not also clinicians by jointly hosting opportunities for discussion of clinical problems in need of solutions.

It is clear that the region's academic research institutions have yet to capture the full economic development potential of their research. By collaborating more closely to identify local discoveries that fill gaps in the global market, and by working together to help create or grow local players in that market, academic leaders could take better advantage of their rapidly emerging research prowess.

PANEL DISCUSSION

"The Role of our Colleges and Universities in Building Milwaukee's Future"

Greater Milwaukee is home to several colleges and universities, including four that collectively spend more than \$200 million annually on research and development. How are those institutions transferring new discoveries to the commercial sector for public benefit? Would enhanced collaboration among the four produce greater dividends for our regional economy? What is the appropriate role of our colleges and universities in fostering economic growth and tackling the difficult issues facing our region?

This Public Policy Forum Viewpoint Luncheon will discuss how our colleges and universities view their role in addressing Greater Milwaukee's economic and social challenges.

Panel Discussion:

John R. Raymond, MD

President & CEO, Medical College of Wisconsin

Hermann Viets, PhD

President, Milwaukee School of Engineering

Jeanne M. Hossenlopp, PhD

Vice Provost for Research and Dean of the Graduate School, Marquette University

Brian D. Thompson

President, University of Wisconsin – Milwaukee Research Foundation

Moderated by:

Rob Henken President, Public Policy Forum

Sponsored by:

Whyte Hirschboeck Dudek S.C.



Poster Session on CTSI Supported Research

From 11:00am – noon, CTSI is pleased to present a poster session on research and training supported by the following CTSI mechanisms:

CTSI Pilot and Collaborative Research Grants Program

The CTSI Pilot and Collaborative Clinical and Translational Research Grants Program, supported by the Advancing a Healthier Wisconsin program and the NIH, is intended to stimulate inter- and trans-disciplinary translational and clinical research within and among the CTSI partnering institutions. These grants provide: 1) support to new and promising clinical and translational projects; 2) a mechanism for young investigators to focus efforts in clinical and translational research; and 3) a stimulus for collaborative research between bench and clinical investigators within similar thematic areas.

These themes are supported by workshops and are allocated designated funds, this year targeting rehabilitation research such as motor rehabilitation, assistive technology, psychosocial and behavioral aspects, addiction and disabilities, and wellness and quality of life.

The funding opportunities include pilot projects that explore multidisciplinary and/or clinical potential of promising mechanistic findings; translational opportunity grants to attract industrial partners that would support exploration of novel discoveries for clinical use; and traineeships to support and facilitate the education and training of individuals in programs leading to advanced degrees in Clinical and Translational Research.

CTSI Mentored Clinical and Translational Research Career Development Award (K12)

The goal of the CTSI Mentored Clinical and Translational Research Career Development Award (K12) is to provide training opportunities for investigators working in clinical and translational research to become competitive, independent investigators. The mentored activities for the K12 scholar are designed around core themes and each clinical-translational research scholar works closely with a mentoring team to apply these themes to his/her own research and career, making each scholar's research the major vehicle for learning. Curriculum design for each trainee is a joint undertaking involving the trainee, his/her mentors, and the K12 program director. The individually tailored curriculum is based on an assessment of the unique needs and the articulated learning goals and objectives of the scholar, and a performance and evaluation plan for the scholar. Each K12 scholar selects existing MCW and partnering institutional resources in order to create a training program, tailored to individual training needs. The expectation is that the K12 curriculum will provide each scholar with sufficient background and experience to eventually lead a multidisciplinary research team.

CTSI Clinical Research Scholars Program (CRSP)

The Clinical Research Scholars Program is tailored for individuals already possessing an MD, PhD, DO or PharmD degree. Our scholars are junior faculty members at the Medical College of Wisconsin and our partnering institutions. The goal of the program is to enable each Clinical Research Scholar to successfully compete for clinical research funding. Our program is made up of two-year cohorts with the aim to:

- Provide Scholars with an enriched academic environment that will enhance the development of their clinical research.
- Provide instruction to Clinical Research Scholars in practical research skills.
- Assist Scholars in identifying and accessing research-related resources.
- Ensure the development of a research proposal which is submitted to an appropriate funding agency.

Many of our alumni have gone on to successful academic careers in a variety of disciplines, garnering funding, publishing, and teaching the methods of clinical research.

CTSI Master's Degree in Clinical and Translational Sciences

The new Masters of Science degree in Clinical and Translational Sciences Program offers a broad curriculum that will meet the diverse needs of the trainees. The Program is built on seven core courses which emphasize approaches to research design and analysis, provide opportunities for networking and collaboration, and introduce translational research concepts. The three official concentrations within the program are (i) Clinical Epidemiology & Outcomes Research, (ii) Commercial Development, and (iii) Translational Research.

The following posters are on display:

Mechanisms of Sensorimotor Impairment in Multiple Sclerosis

Investigators: Chua, Matthew, PhD (MU), Hyngstrom, Allison, PT, PhD (MU), Ng, Alexander, PhD (MU), Woo, Douglas MD (MCW), Schmit, Brian D., PhD (MU)

Objective: To develop a better understanding of neuromuscular defects and hence improve function in patients with multiple sclerosis.

Impairments in Sensorimotor Control And Their Contribution To Tremor & Dysmetria in Persons With MS

Investigators: Beardsley, Scott, PhD (MU), Scheidt, Robert, PhD (MU), Woo, Douglas, MD (MCW) and Bobholz, Julie, PhD (MCW)

Objective: To develop a model, using a systems identification approach, to characterize the functional sources of upper limb tremor and dysmetria in patients with multiple sclerosis.

A Novel High-Resolution Reduced Field-Of-View Diffusion r Imaging Method

Investigators: Gaggl, Wolfgang, MSEE (MCW) and Prost, Robert W., PhD (MCW)

Objective: To develop a sensitive and efficient non-invasive imaging method to identify the extent of surgically resectable lesions in patients with brain tumors.

Mechanisms of Neuromuscular Fatigue and Leg Function Post Stroke

Investigators: Hyngstrom, Allison, PhD (MU), Keenan, Keith, PhD (UWM), Nelson, Philip A. MD (MCW), Hunter, Sandra, PhD (MU), and Schmit, Brian, PhD (MU)

Objective: To examine the neural pathways responsible for "neuromuscular fatigue" and their relationship to ambulation in post-stroke patients.

$Supraspinal\ Contributions\ to\ Upper\ and\ Lower\ Limb\ Motor\ Control\ and\ Recovery\ after\ Stroke-an\ fMRI\ Study$

Investigators: Schindler-Ivens, Sheila, PT, PhD (MU), Johnson, Michelle J. PhD (MCW), Kamara, Sheku (MSOE), Wang, Jinsung, PhD (UWM), Bao, Shancheng (MU)

Objective: To enhance the understanding of how the brain controls movements in people with and without stroke, with the long term objective of providing a scientific rationale for the development of more effective interventions.

Alterations of endocannabinoid signaling, synaptic plasticity, learning and memory in Monoacylglycerol lipase knockout mice

Investigators: Pan, Bin, MD (MCW), Wang, Wei (MCW), Zhong, Peng (MCW), Blankman, Jacqueline L. (Scripps Research Institute), Cravatt, Benjamin F., PhD (Scripps Research Institute) and Liu, Qing-song, PhD (MCW)

Objective: To evaluate a genetically regulated molecular mechanism affecting learning behavior and memory in a mouse model.

Functional characterization of a region deleted in a patient with congenital glaucoma

Investigators: Schilter, Kala F. (MCW), Reis, Linda M. (MCW) and Semina, Elena V., PhD (MCW

Objective: To identify the genetic mechanism of congenital glaucoma in a patient with a novel genetic mutation.

Mapping the Effects of the KIAA0319 Dyslexia Susceptibility Gene on the Neural Substrates of Reading

Investigators: Conant, Lisa L., PhD (MCW), Graves, William W., PhD (MCW), Osmon, David C., PhD (UWM), Binder, Jeffrey R., MD (MCW)

Objective: To evaluate the neural and behavioral correlates of a specific genetic mutation that may be associated with dyslexia.

A Novel Approach to the Identification of Candidate Genes in Patients with Lymphatic Malformations

Investigators: Duffy, Kelly, PhD (MCW), Johnson, Craig, DO (MCW), Samant, Ganesh, PhD (MCW), Santoro, Jennifer (MCW), Ramchandran, Ramani, PhD (MCW)

Objective: To develop a novel model for isolating lymphatic endothelial cells from patients with lymphatic malformations to enable future identification of genes contributing to these malformations.

Phenothiazines as New Antibiotics

Investigators: Sohnle, Peter G., MD, (MCW) and Hahn, Beth L. (MCW)

Objective: To evaluate the effectiveness of phenothiazines (anti-psychotic drugs) in a mouse model of infections caused by methicillin resistant staphylococcus aureus.

Receptor of Advanced Glycation End Products (RAGE) Expression and Activation in Endothelium Derived Microparticle (EMP)-Induced Acute Lung Injury

Investigators: Jeziorczak, Paul M., MD (MCW), Kaul, Sushma, MSc, MS (MCW), Pritchard, Jr., Kirkwood A., PhD (MCW), Oldham, Keith T., MD (MCW), Jacobs, Elizabeth R., MD (MCW), and Densmore, John C., MD (CHW)

Objective: To develop specific therapeutic targets, based on the pathophysiology of lung injury, in patients with acute lung injury.

Noninvasive detection and assessment of two common lung injuries

Investigators: Clough, Ann V., PhD (MU), Audi, Said, PhD (MU), Roerig, David L., PhD (MCW), Haworth, Steven T., PhD (MCW) and Jacobs, Elizabeth R., MD (MCW)

Objective: To develop the use of single-photon emission computed tomography (SPECT) imaging agents as non-invasive biomarkers of cell death and changes in redox status in early lung disease/injury.

In Vivo MicroRNA Profiling of Celecoxib Toxicity in Squamous Cell Carcinoma of the Head and Neck

Investigators: Bock, Jonathan M., MD (MCW) and You, Ming, MD, PhD (MCW)

Objective: To investigate the molecular mechanisms of the synergistic in-vivo toxicity of radiotherapy and celecoxib, a non-steroidal anti-inflammatory drug, as applied in the treatment of patients with squamous cell carcinoma of the head and neck, a very high-mortality cancer.

Psychosocial Factors and Hematopoietic Stem Cell Transplantation

Investigators: Knight, Jennifer M., MD (MCW), Moynihan, Jan A., PhD (University of Rochester), Lyness, Jeffrey M., MD (University of Rochester), Xia, Yinglin, PhD (University of Rochester), Tu, Xin, PhD (University of Rochester), Hunter, Bryan C. PhD, LCAT, MT-BC (Nazareth College), Huang, Li-Shan PhD (University of Rochester), Obi, Rosemary O. MS, LCAT, MT-BC (University of Rochester), Gaisser, D'Arcy MS, APRN, (University of Rochester), Liesveld, Jane L. MD (University of Rochester)

Objective: To evaluate the relationship between psychosocial factors and clinical outcomes in bone marrow transplant recipients.

Interstitial fibrosis in the renal inner medulla in humans is associated with up-regulation of miR-382 and down-regulation of kallikrein 5

Investigators: Kriegel, Alison, PhD (MCW), Mladinov, Domagoj (MCW), Kelly, Holly (MCW), Langenstroer, Peter, MD (MCW), See, William, MD (MCW), Liang, Mingyu, PhD (MCW)

Objective: To understand the genetic basis of one form of chronic renal injury (interstitial fibrosis) in the human kidney.

Loss of Activator of G Protein Signaling 3 Impairs Renal Tubular Regeneration Following Acute Kidney Injury in Rodents

Investigators: Regner, Kevin R., MD (MCW), Nozu, Kandai, PhD (MCW), Lainier, Stephen M., PhD (Medical University of SC, Charleston), Blumer, Joe B. PhD (Medical University of SC, Charleston), and Avner, Ellis D.MD (MCW)

Objective: To study intracellular mechanisms underlying renal tubular epithelial cell proliferation and tubular repair following ischemia-reperfusion injury.

Human Induced Pluripotent Stem Cells as a novel model to study dystrophic cardiomyopathy

Investigators: Strande, Jennifer L. MD, PhD (MCW) and Bosnjak, Zeljko J. PhD (MCW)

Objective: To develop a human model of dystrophic cardiomyopathy in order to study the underlying mechanisms responsible for cardiomyocyte failure and to validate this model as a tool for drug discovery.

NT-proBNP as an Early Predictor of LV Dysfunction in Children Receiving Anthracycline Chemotherapy

Investigators: Gudausky, Todd M., MD (MCW) and Tower II, Richard L., MD, MS (MCW)

Objective: To evaluate a hormonal marker that would predict the development of left ventricular dysfunction in children receiving anthracycline chemotherapy.

Obesity does not predict insulin resistance among African American women

Investigators: Kidambi, Srividya, MD (MCW), Coly, Gerard, MD (MCW), Widlansky, Michael, MD (MCW)

Objective: To compare the associations of different gender-based adiposity distributions on cardiovascular disease risk factors in African American women and men.

Targeting of Epoxyeicosanoids for Renal and Cardiovascular Diseases

Investigators: Walsh, Katherine M. (MCW), Imig, John D., PhD (MCW)

Objective: To determine if genetic manipulation of vascular epoxyeicosanoids (EETs) improves vascular function in insulin resistant and obese mice.

Mitochondrial Redox Studies by Optical Spectroscopy and CryoImaging in Pulmonary Oxidative Stress

Investigators: Ranji, Mahsa, PhD (UWM), Jacobs, Elizabeth, MD (MCW), Audi, Said, PhD (MU)

Objective: Investigating Near Infra Red Spectroscopy (NIRS) for assessing tissue oxygenation in patients with acute respiratory distress syndrome following a life-threatening injury.

Mitochondrial oxidative stress in lung injury from sepsis

Investigators: Konduri, Girija Ganesh, MD (MCW), Jacobs, Elizabeth, MD (MCW), Pritchard, Jr., Kirkwood A., PhD (MCW), Ranji Mahsa, PhD (UWM), Audi, Said, PhD (MU)

Objective: Novel chemical probes and synthetic peptides are applied to investigate the role of reactive oxygen species produced in rat lungs as a result of infection and high oxygen concentration.

CTSI Pilot Fuzzy Logic Application for T2DM

Investigators: Urbain, Jay, PhD (MSOE), Burns, Edith, MD (MCW), Knudson, Paul, MD (MCW), Fedders, Megan, MS (MCW), Wessel, Bambi, MA (MCW), Strath, Scott, PhD (UWM), and Swartz, Ann, PhD (UWM)

Objective: To develop a "smart phone" to assist diabetic patients with self-monitoring of blood glucose.

Introducing Students to the Process of Science through Modeling

Investigators: Colton, Shannon, PhD (MSOE), Franzen, Margaret, PhD (MSOE), Hoelzer, Mark (MSOE) and Herman, Tim, PhD (MSOE)

Objective: To introduce high school students to the process of science through the creation of physical models of proteins by rapid prototyping technology.

Developing CTSI-Second World and Testing its Efficacy

Investigators: Zahedi, F.Mariam, DBA (UWM), Shaker, Reza, MD (MCW), Jain, Hemant, PhD (UWM), Walia, Nitin, PhD (UWM)

Objective: To investigate the efficacy of delivering healthcare services in the 3D virtual world called Second Life that simulates the real world in order to increase access to and reduce the cost of healthcare.

Developing a Combined Research and QI Database from Community Based Practices with Different IT Systems

Investigators: Eldredge, Christina, MD (MCW), Slawson, James, MD (MCW), Granados, Rodolfo (MCW), Payne, Judy (MCW)

Objective: To develop a centralized database to better understand the high prevalence of poor birth outcomes in southeastern Wisconsin.

What Happens When a Nurse Pain Protocol is Discontinued in the Emergency Department?

Investigators: Kelly, Brian T., MD (MCW), Friend, Tiama, MD (MCW) and Drendel, Amy L., DO, MS (MCW)

Objective: To determine if discontinuation of a nurse protocol in the Emergency Department changes (1) the proportion of children receiving an analgesic and (2) the timeliness of analgesic administration.

Health-Related Quality of Life in Pediatric Minor Injury:Reliability, validity, and responsiveness of the Pediatric Quality of Life Inventory in the emergency department

Investigators: Stevens, Martha W., MD (MCW), Hainsworth, Keri R., PhD (MCW), Weisman, Steven J, MD (MCW) and Layde, Peter M., MD, MPH (MCW)

Objective: To evaluate the feasibility, reliability, validity, and responsiveness of the acute version of the Pediatric Quality of Life Inventory scales after Emergency Department care of minor injury.

Community Perspectives of a CTSI Website: A process for change and application

Investigators: Nelson, David, PhD, MS (MCW), Opel, Shannon, MPH (MCW), Kissack, Anne, MPH, RD (MCW), Granados, Ody, BA (MCW) and Ahmed, Syed, MD, MPH, Dr.PH (MCW)

Objective: To improve the effectiveness of the internet as a vehicle for communication between community and academic partner.

Master of Science Program in Clinical & Translational Science

Authors: Kusch, Jennifer, PhD (MCW), Kotchen, Jane, MD, MPH (MCW), Hefti, Arthur, DDS, PhD (Marquette University), Chelius, Tom, MS (MCW), Erby, Chaunté (MCW)

Objective: To showcase the new M.S. Program in Clinical & Translational Science that offers both education and application opportunities in two broad areas of emphasis, i.e., Translational Research, and Commercial Development of Drugs, Biologics, Devices, and Diagnostics.

The Clinical and Translational Science Institute (CTSI)

Who We Are

The CTSI of Southeast Wisconsin represents a unique and transformative collaboration among:

- Medical College of Wisconsin
- Marquette University
- University of Wisconsin-Milwaukee
- Milwaukee School of Engineering
- Froedtert Hospital (Froedtert & Community Health)
- Children's Hospital Health System of Wisconsin
- Zablocki Veterans Affairs Medical Center
- BloodCenter of Wisconsin

The 8 member organizations are creating a borderless synergistic biomedical research enterprise in a collaborative environment that will accelerate the translation of research discoveries into new and improved medical treatments.

What We Do

The CTSI is dedicated to transforming the biomedical research enterprise in southeast Wisconsin to advance patient care and education through facilitating research from the bench to the bedside, the clinical practices, and into the community. We offer expertise in medicine, nursing, dentistry, engineering, social sciences, and allied health disciplines for both research and education/career development. We provide opportunities for talented trainees and faculty at all levels to evolve into active investigators able to participate in inter- and trans-disciplinary team research.

The CTSI:

- Serves as a nexus for services that support research
- Supports and promotes efforts to enhance multidisciplinary collaborations within our institution and with others
- Funds innovative, multidisciplinary programs that advance clinical and translational research
- Provides training opportunities that will prepare individuals to function effectively on multidisciplinary research teams

Our Principles

Collaboration: Leveraging institutional strengths and resources to enhance trans-disciplinary Clinical and

Translational Research.

Transformation: Creating a culture that fosters interdisciplinary innovation within and among institutions

and contributes to the new discipline of Clinical and Translational Science.

Facilitation: Providing core resources to assist investigators in the development,

implementation, analysis, and dissemination of Clinical and Translational Research.

Education: Training clinicians and basic scientists in the emerging discipline of Clinical and

Translational Science.

CTSI Partnering Institutions



The Medical College of Wisconsin

The Medical College of Wisconsin, founded in 1893, is a national, private, academic institution dedicated to leadership and excellence in its fourfold mission: Education, Discovery, Patient Care and Community Engagement. Its core competency is medical knowledge, which underpins every aspect of its mission. As a major national research center, the Medical College faculty receive approximately \$142 million annually in external support for research. It is home to nine national research centers and is recognized as a world leader in research in such areas including heart disease, genetics, obesity, medical imaging and bone marrow transplantation. The Medical College of Wisconsin is at the forefront of discovering the genetic influences of complex diseases such as hypertension, renal failure and cancer. The Medical College's almost 1,200 faculty physicians, along with its physician assistants, nurse practitioners and psychologists, provide care to more than 390,000 patients annually.

The Medical College of Wisconsin is represented by the CTSI Board of Directors Member: **Joseph Kerschner, MD**, Interim Dean and Executive Vice President (414) 456-8213 jkerschner@mcw.edu

www.mcw.edu



Marquette University

Marquette University, Wisconsin's largest private higher education institution, is a nationally ranked Jesuit university located in the downtown Milwaukee area. Founded in 1881, the university has more than 110,000 alumni around the world, creating a powerful global professional network. The university's current enrollment of more than 11,500 students includes approximately 3,500 graduate and professional students from throughout the United States and 53 countries.

Marquette is a research university with nationally ranked graduate programs in biomedical engineering, business, law, nursing, physical therapy, and physician assistant studies. It is ranked 82nd among America's Best Colleges and a top 50 among the Best Value Schools. Federal, state, foundation and corporation-sponsored research continues to increase, along with technology commercialization efforts that include two recent spin-off companies, Promentis Pharmaceuticals and AviMed Pharmaeuticals. In addition, Marquette University's GasDay Laboratory is a business and educational venture that has been developing and refining natural gas demand forecasting models since 1993. The project forecasts about 20% of the nation's natural gas usage and has helped utilities save millions of dollars by helping customers better manage their natural gas transactions.

Research and educational activities in biomedical sciences span the spectrum from basic science to clinical and translational work, including providing health services to the community, and are housed in the Colleges of Arts and Sciences, Engineering, Health Sciences, and Nursing, as well as the School of Dentistry. As a member of the CTSI, Marquette's research activities include exploration of novel methodologies such as implantable vascular stents for pediatric applications, development of novel imaging methodologies for cancer detection, rehabilitation robotics and devices, magnetic resonance compatible technologies for evaluating sensory-motor function in stroke and spinal cord injuries and for imaging the blood vessels in the lungs, landmark studies of muscle wasting in astronauts, and the development of hardware/software for stimulus presentation and image analysis for functional imaging. Other researchers investigate the molecular mechanisms that form the basis of tooth movement, hopefully leading to faster and less painful orthodontic treatments. In addition, a collaboration under Marquette's leadership investigates the consequences of racial and socioeconomic disparities on oral health outcomes at the State and national level.

In collaboration with other area institutions and industries, Marquette is a partner in a number of regional research initiatives, including the CTSI, the Wisconsin Energy Research Consortium, the National Science Foundation funded Industry/University Cooperative Research Center (I/UCRC) on water technology, the Southeast Wisconsin High Performance Computing Consortium, and the recently announced regional consortium on Health Care Economics and Innovation.

Marquette University is represented by the CTSI Board of Directors Member:

John J. Pauly, PhD, Provost (414) 288-7511 john.pauly@marquette.edu www.marquette.edu



Milwaukee School of Engineering

Milwaukee School of Engineering is an independent university offering 17 bachelor's degrees and 10 master's degrees in the engineering, engineering technology, computer, business, nursing, health-related, architectural engineering and building construction fields. MSOE has a national academic reputation and is best known for its applications-oriented curriculum and longstanding ties to business and industry.

Through the university's Applied Technology CenterTM (ATC), faculty and students focus on applied research, bringing engineering technology and principles to scientific, biomedicine, government and medical applications. There are several nationally-recognized centers of excellence in the ATC, including the Rapid Prototyping Center, Center for BioMolecular Modeling and Fluid Power InstituteTM.

MSOE and its ATC contribute critical capability to the CTSI by:

- Transferring knowledge from the research laboratory to the patient bedside
- Producing unique, individualized orthotics
- Producing MRI-compatible devices and mechanisms
- Supplying engineering and physics capabilities to the EPR Center at the Medical College, especially in microwave and digital signal processing
- Contributing engineering, rehabilitation and automation to provide a wide variety of automated systems and unique devices benefitting war victims, aging populations and hospitalized patients
- Providing several community outreach programs including: SMART Teams and biotechnology programs for high school students, and Science Cafés for the general public
- Offering a Master of Science degree in Medical Informatics (joint offering with the Medical College)
- Offering a Bachelor of Science degree in BioMolecular Engineering (the only such program in the state of Wisconsin)

The Milwaukee School of Engineering is represented by the CTSI Board of Directors Member:

Frederick Berry, PhD, Vice President of Academics (414) 277-7324 berry@msoe.edu www.msoe.edu



University of Wisconsin-Milwaukee

University of Wisconsin-Milwaukee is today a very successful urban research university undergirding the development of the communities in southeast Wisconsin. Serving a diverse population of Metropolitan Milwaukee, UWM has experienced tremendous growth today with over 25,000 undergraduate students in 87 programs. The numbers of graduate students has increased to over 5000 students in the fall of 2010. From its first doctoral program in 1963 (mathematics), the number of graduate programs has continued to increase rapidly to 53 masters and 31 doctoral programs today. Last year, UWM awarded 153 doctorates placing it among the top tier of universities.

Today, UWM is building on the strengths of the faculty in research in such disciplines relevant to the CTSI as the following

- Addiction and Behavior Health
- Bioengineering/Imaging
- Drug Discovery
- Children's Environmental Health
- Freshwater Sciences
- Materials/Manufacturing Engineering
- Nursing Research

In fiscal year 2010, research expenditures were about \$70 million. This represents a growth rate of 27% compared to the previous year. UWM's commitment to developing research and educational partnerships is exemplified by its linkages to the CTSI and its component institutions; international alliances/collaborations in Europe, Asia, Africa and Latin America and new university industry centers/consortia in energy, water technology and transportation.

The University of Wisconsin-Milwaukee is represented by the CTSI Board of Directors Member:

Johannes Britz, DPhil, Interim Provost & Vice Chancellor for Academic Affairs (414) 229-4501 britz@uwm.edu www.uwm.edu



Children's Hospital & Health System

Children's Hospital of Wisconsin is one of the nation's top pediatric facilities. It is a Level I Pediatric Trauma Center verified by the American College of Surgeons. The hospital is designated a Magnet® hospital by the American Nurses Credentialing Center, a national honor that recognizes nursing excellence.

Founded in 1894, Children's Hospital serves children with all types of illnesses, injuries, birth defects and other disorders. Private, independent and not-for-profit, Children's Hospital is a major teaching affiliate of The Medical College of Wisconsin and has relationships with more than a dozen schools of nursing.

The 296-bed hospital is one of the busiest pediatric hospitals in the nation, with more than 24,000 inpatient admissions. More than 330,000 visits to the hospital's specialty outpatient and urgent care sites are made annually. In 2010, the Emergency Department/Trauma Center treated more than 61,000 children and nearly 16,000 surgical procedures were performed. In addition, the primary care clinics of Children's Medical Group had more than 232,000 patient visits last year.

More than 70 specialty clinics provide outpatient diagnoses and treatment for a wide variety of pediatric disorders. Children's Hospital is a leader in providing care for critically ill newborns and children with congenital heart disease and blood and marrow transplants, particularly between unrelated donors and recipients.

Children's Research Institute, an affiliate of Children's Hospital, advances state-of-the-art pediatric health care practice through dedicated laboratory and clinical research. Based on the concept of translational research, the institute is designed to take clinical problems from patients' bedsides to study in the laboratory. Laboratory discoveries then are converted into new treatments, preventions, therapies and cures for patients. Last year, there were nearly 1,000 active clinical studies, supported by nearly \$30 million in extramural funding.

Children's Hospital of Wisconsin is represented by the CTSI Board of Directors Member:

Peggy Troy, CEO (414) 266-3032 ptroy@chw.org www.chw.org



Froedtert Hospital

Froedtert Hospital (FH), in collaboration with the Medical College of Wisconsin, is eastern Wisconsin's only adult academic medical center and houses one of only two Level 1 Trauma Centers in Wisconsin. Ranking among the top academic medical centers nationwide and staffed by Medical College faculty, Froedtert Hospital is the Medical College's primary adult hospital affiliate. The enduring collaborative relationship between the two organizations supports a deep commitment to patient care, clinical and translational research, and medical education.

Froedtert & The Medical College of Wisconsin serve as a regional referral center for advanced medical care in nearly 40 specialties and subspecialties, including cancer, heart and vascular diseases, brain and spinal cord injury and disorders, transplant, digestive diseases and urology. FH is a strong supporter of clinical and translational research with a 173,000 square foot cancer center dedicated to patient care and research, including clinical trials support, epidemiology and cancer prevention efforts. It also houses a Patient Care and Outcomes Research Center and the Center for International Blood and Marrow Transplant Research. The Eye Institute at FH also functions as a major research center in addition to providing patient care.

Froedtert Hospital is represented by the CTSI Board of Directors Member:

William Petasnick, CEO (414) 805-2606 wpetasni@fmlh.org www.fmlh.org



Zablocki Veterans Affairs Medical Center

Zablocki Veterans Affairs Medical Center located five miles from the MRMC is one of the busiest comprehensive centers operated by the DVA serving a veteran population of 234,953 in SE Wisconsin. It provides 168 acute care hospital beds, 113 nursing home care beds, and 356 domiciliary beds that are the locus of programs in substance abuse and psychiatric rehabilitation, and care of Post-Traumatic Stress Disorder. A mobile clinic improves access to primary care for veterans. ZVAMC records more than 500,000 outpatient visits annually. Physicians on staff are all full-time MCW faculty. ZVAMC attracts approximately \$15 million annually in research funding; over 50% of these funds support patient oriented research.

The ZVAMC Translational Research Unit (TRU) opened its doors in April, 2009 and occupies 3 large multipurpose rooms and 1200 square feet of space on the 5th floor of the main hospital building. These rooms are fully equipped for multiple purposes and contain exam tables, a hospital bed, infusion chairs, and several computer stations. While the ZVAMC TRU focuses on specialty geriatric and veteran populations, such as injuries/rehabilitation, metabolic syndrome, spinal cord injury, and prostate disease, to date, it has hosted a wide range of protocols. Several studies are actively using the ZVAMC TRU. Some of the ongoing studies at the ZVAMC TRU involve collaborative rehabilitation programs between MCW and MU and involve OEF/OIF veterans, while others involve collaboration with VA hospitals nationwide. With the continuing combat in the Middle East and the increasing prevalence of limb loss, post-traumatic stress disorder, and brain injuries, the ZVAMC TRU will serve a critical need to expand rehabilitation efforts and facilitate translation of basic research to advances in patient care.

Zablocki VA Medical Center is represented by the CTSI Board of Directors Member:

Michael Erdmann, MD (414) 384-2000 x 42600 michael.erdmann@med.va.gov www.milwaukee.va.gov



The BloodCenter of Wisconsin

The BloodCenter of Wisconsin houses the laboratories of 20 Principal Investigators, most holding dual MCW/BRI faculty appointments, with interests in vascular biology, thrombosis and hemostasis mechanisms, transfusion medicine, immunology, and stem cell biology. NIH funding to the BRI in 2008 was approximately \$13.3 million and including 2 Program Project grants and a U19 grant. Total research expenditures in 2008 were \$15.8 million. Research at the BRI is supported by 9 Core Units that are shared with investigators at MCW. The Core Units include a Vector Core, Flow Cytometry Core, Microscopy Core that includes fluorescent and 2-photon confocal capabilities, Hybridoma Core, Molecular Biology Core, Peptide Core, Transgenic Mouse Core, Histology Core, and Biophysics Core. In 2009, BCW created a Medical Sciences Institute (MSI) to organize its clinical and clinical research activities and to facilitate coordination with the CTSI, enabling investigators to link its clinical database and inventory of clinical samples, all under IRB approval, potentially leveraging the records of 4 million blood donors that constitute a 'normal' population, and enhance its clinical activities. BloodCenter's donor registry and its collaborative relationship with Northwestern Mutual Insurance Company (and its 3.2 million person database) presents a large resource of available candidates for clinical trials.

The BloodCenter of Wisconsin is represented by the CTSI Board of Directors Member:

Jacquelyn Fredrick, MBA, President & CEO (414) 937-6390 jackie.fredrick@bcw.edu www.bcw.edu



Milwaukee Regional Medical Center

The Milwaukee Regional Medical Center (MRMC) is a consortium of 6 health care institutions forming Wisconsin's largest academic health center with a Level I Adult Trauma Center and a Level I Pediatric Trauma Center. Its six member entities share a common mission of excellence in patient care, medical education, life science research, and community service. The member organizations are:

- BloodCenter of Wisconsin & Blood Research Institute
- Children's Hospital and Health System
- Curative Care Network
- Froedtert Hospital
- Medical College of Wisconsin
- Milwaukee County Behavioral Health Division

Collectively, these organizations serve more than a million clients/patients, employ more than 15,000 people and have an annual economic impact in excess of \$2.5 billion per year.

Additional information:

William W. Hatcher, Executive Director Milwaukee Regional Medical Center (414) 778-4570 whatcher@mrmcffl.org www.mrmccampus.org



Milwaukee County

Through the vision and wisdom of Milwaukee County officials, going back to the 1920's and 1930's, the County acquired and preserved the land for what is now the Milwaukee Regional Medical Center (MRMC). In the 1970's, county officials, led by John L. Doyne, negotiated with various health care entities, including initially what is now the Medical College of Wisconsin and with what is now Froedtert Hospital. Today, MRMC contains the Medical College of Wisconsin, Froedtert Hospital, Children's Hospital, BloodCenter of Wisconsin with affiliations through the Clinical and Translational Science Institute (CTSI) with Marquette University, University of Wisconsin-Milwaukee, Milwaukee School of Engineering, Zablocki Veterans Affairs Medical Center and Community Based Practice Networks. With approximately 14,000 employees, the MRMC is an exemplary force in patient care, research to provide care and cure disease; and economic development.

Several key and long term county employees provided distinguished service as the County Institutions grounds went through the transformation to become the MRMC. A significant number of those county employees, now deceased, have been recognized posthumously for their meaningful contributions to the development of the MRMC in the historic medical theme of commemorative plaques recognizing them in the Crowne Plaza Hotel & Conference Center:

John L. Doyne:

Milwaukee County Executive from 1960-1976

William F. O'Donnell:

Milwaukee County Executive from 1976 to 1988

William L. Coffey, MD:

Director of the Milwaukee County Institutions for 31 years

Joseph King, MD:

Director of Surgery, Milwaukee County General Hospital for 34 years

John R. Petersen, MD:

Milwaukee County Director of Medical Services, 1967 to 1993

These county officials symbolize the extraordinary contributions of hundreds of Milwaukee County employees who, working together, planned and staffed significant portions of the MRMC and provided one standard of care for all residents in the region. Milwaukee County provided the land and supportive leadership to bring MRMC to fruition.

Additional Information:

Chris Abele, County Executive

(414) 278-4211, countyexec@milwcnty.com

Lee Holloway, County Board Chairman

(414) 278-4261, lholloway@milwcnty.com

www.milwaukeecounty.org



Milwaukee County Research Park

The Milwaukee County Research Park Corporation (MCRPC) is a non-profit organization created to manage the development of a university-related research park on 175 acres of Milwaukee County owned land in Wauwatosa, Wisconsin. The Research Park nurtures technology based companies, strengthens Milwaukee County's business base, creates new employment opportunities and facilitates technology commercialization. MCRPC accomplishes this by bringing together the substantial academic, intellectual, business and entrepreneurial resources of the metropolitan Milwaukee area in a physical environment conducive to such activities.

The Research Park is located in the City of Wauwatosa, the geographic center of the metropolitan Milwaukee area and all of southeastern Wisconsin. The 175 acre Research Park lies within a larger, 1100 acre expanse called the Milwaukee Regional Medical Center which is also called the Milwaukee County Grounds.

The Research Park is affiliated with four universities: Marquette University, Medical College of Wisconsin, Milwaukee School of Engineering and University of Wisconsin-Milwaukee. Tenants of the Research Park have access to these universities and their faculties, students, laboratories, libraries and specialized equipment. Several Technology Innovation Center tenants have commercialized innovative technology developed in university laboratories. Additional resources are available from the Milwaukee Area Technical College (MATC).

Additional Information:

Guy T. Mascari, MCRP Director of Development (414) 778-1400

gtm@mcrpc.org

www.mcrpc.org



City of Wauwatosa

The City of Wauwatosa is a suburban city with a charming and historic village area at its heart. Wauwatosa is a diverse community of approximately 47,000 residents who enjoy friendly, tree-lined neighborhoods; a respected school system and local government; and many fine restaurants, hotels, and thriving businesses that serve people from throughout the metropolitan area. The city is home to a major regional medical center, an expanding technology and research park, and a premier regional mall. Its convenience to the Milwaukee metropolitan area offers easy access to major league sports, nationally recognized zoo, and abundant cultural and social activities.

Additional Information:

Jill Didier, Mayor
(414) 479-8915
jdidier@wauwatosa.net

www.wauwatosa.net

Wauwatosa Chamber of Commerce

The City of Wauwatosa is a suburban city with a charming and historic village area at its heart. Wauwatosa is a diverse community of approximately 47,000 residents who enjoy friendly, tree-lined neighborhoods; a respected school system and local government; and many fine restaurants, hotels, and thriving businesses that serve people from throughout the metropolitan area.

Wauwatosa is home to the Milwaukee Regional Medical Center, Milwaukee County Research Park, convenient shopping areas and Mayfair Mall. Wauwatosa offers easy access to home games of the Milwaukee Brewers at Miller Park, the Milwaukee Bucks, Milwaukee Admirals and Marquette University men's basketball in the Bradley Center. Wauwatosa is also adjacent to the nationally recognized Milwaukee County Zoo. The City of Milwaukee Theater District is a 12-15 minute drive from Wauwatosa. Lake Michigan, located 15 minutes away, has beautiful beach areas, the Milwaukee County War Memorial, the Milwaukee Art Museum and the Discovery World Museum.

Additional Information:

Meg McKenna Executive Director (414) 453-2330 meg@tosachamber.org

www.tosachamber.org

John L. Doyne

Served as the first elected County Executive of Milwaukee County - 1960-76

The Milwaukee Regional Medical Center (MRMC) was created through the vision, planning, commitment and funding provided by Milwaukee County officials and private non-profit organizations. One of the key people involved in planning, approving and implementing MRMC was John L. Doyne.

John L. Doyne was elected as the first Milwaukee County Executive in 1960. He spent sixteen years as County Executive and left an imprint on virtually every facet of Milwaukee County government. From the time of his initial election to the Milwaukee County Board, as County Board Chairman and thereafter as County Executive, John L. Doyne pursued his life-long interest in creating the MRMC. He successfully worked with government officials, non-profit medical organizations and the community in developing, funding and spearheading the approval of MRMC. He brought the people together to make MRMC happen.

County Executive Doyne also distinguished himself by restructuring, improving and implementing the cabinet form of government for Milwaukee County, which made the county more accountable to the people. He took particular interest in the budget process and developed the first County Executive Budget. County Executive Doyne interacted openly, fairly, warmly and positively with the County Board, the media and this community.

John L. Doyne was interested in all facets of county government that he touched through the budget process. He supported the expansion and modernization of Milwaukee County's General Mitchell International Airport, health and human services, public safety, courts and judiciary, and transportation

and public works. He also had a strong interest in the Milwaukee County Parks System and the Milwaukee County War Memorial including the Performing Arts Center, Villa Terrace, Charles Allis and the War Memorial Complex.

The highlight of Doyne's interest in the county parks system and of his efforts to keep regular contact with the voting public was his series of "Treks with the County Exec." These were Saturday morning walks through various county parks, with Doyne, Irish walking stick in hand, marching at the head of the group of interested citizens and describing outstanding features of each facility. He documented the history available about each park through Harry Anderson, Executive Director of the Milwaukee County Historical Society.

Doyne had a keen sense of history and a strong interest in not only the development of county government but also in the community that it served. After choosing not to run for re-election in 1976, Doyne arranged for all of his official papers and office files to be transferred to the research collections of the Milwaukee County Historical Society.

John L. Doyne was proud of his Irish heritage and of being a graduate of Marquette University. He was known and admired for his genial personality, pleasant and cooperative attitude and determination to make Milwaukee County better serve this community.

The Crowne Plaza is pleased to recognize County Executive John L. Doyne who planned, guided and secured approval for development of the Milwaukee County Regional Medical Center.



Presented this 17th day of March, 2008 by the Milwaukee County Historical Society.

ASI Signage Innovations

ASI is pleased to continue its partnership with the MRR Forum in planning and developing the historic medical theme in the Crowne Plaza Milwaukee West in the MRMC, with plaques in the eight conference rooms as well as the History Wall of the Milwaukee Regional Medical Center (MRMC) and the Clinical & Translational Science Institute (CTSI). Incorporating the historic medical theme, the conference rooms and history wall provide the perfect setting for the annual MRR Forum.

We recognize that the Crowne Plaza is the only hotel in a regional medical center in the world which has an historic medical theme. ASI is committed to continuing its work with MRR Forum and the Crowne Plaza in further developing the historic medical theme of the hotel.

ASI is proud to be an integral part of this project and wishes the MRR Forum and the Crown Plaza Milwaukee West great success as they move ahead with their initiatives.

Additional Information:

Wendy R. Pajor, President & CEO (612) 332-1223 wendy.pajor@asisignage.com www.asisignage.com



Crowne Plaza Milwaukee West

The Crowne Plaza Milwaukee West is the geographic host of the First Annual Milwaukee Regional Research Forum (MRR Forum). The Crowne Plaza, with its historic medical theme documented in eight conference rooms, is the ideal setting for this event in the Milwaukee Regional Medical Center (MRMC).

The eight Crowne Plaza conference rooms honor the MRMC contributions of Curtis Froedtert (Froedtert Hospital), John L. Doyne (Milwaukee County), Governor Warren P. Knowles (State of Wisconsin), Emelie Nunnemacher (Children's Hospital), Virginia Brooks Jefferson (BloodCenter of Wisconsin), Joseph Heil (Greater Milwaukee Committee), Dr. William Coffey (Milwaukee County) and Dr. Joseph King (Milwaukee County) and Dr. Martin Luther King Jr. (who inspired African American county supervisors Calvin Moody, Isaac Coggs, Terrence Pitts, Clinton Rose and Bernice Rose).

Additional plaques honoring Dr. John R. Petersen (longtime Milwaukee County Medical Director), William O'Donnell (County Executive who followed John L. Doyne) and former Greater Milwaukee Committee Executive Director, Rudolph A. Schoenecker, were added to the collection effective July 4, 2010.

The Crowne Plaza, as the gathering place for meetings involving the MRR Forum, is committed to making a continuing contribution to the MRR Forum now and in the future.

Additional Information:

Patrick J. Palmer, Crowne Plaza Director of Sales & Marketing (414) 389-8562

ppalmer@crowneplazamilwaukee.com

www.CrownePlaza.com



Whyte Hirschboeck Dudek

Whyte Hirschboeck Dudek (WHD) provided the initial funding for the creation of the Milwaukee Regional Research Forum fund which is the financial backbone of the MRR Forum. For over 40 years, WHD attorneys have played an active role from the planning to the development of the Milwaukee Regional Medical Center.

WHD's Emerging & Entrepreneurial Companies Team is a dedicated group of experienced professionals serving growth companies and investors. We represent companies at all stages of development and in a wide range of industries, including biotechnology, health care services, information technology, medical device, pharmaceutical, software, stem cell, and nanotechnology, as well as more "traditional" markets with rapid growth potential. WHD enables companies to navigate the legal challenges of regional, national and global growth.

Entrepreneurs understand the passion, energy, sacrifice, and dedication needed to foster a growing business. They want lawyers who will invest the same kind of commitment in them and their future, who are entrepreneurs themselves. They want an entrepreneurial law firm like WHD.

What is an "entrepreneurial" law firm? It means that WHD approaches the practice of law and client service in the same way as an entrepreneur, with energy, excitement, and a strong drive to succeed. The WHD entrepreneurial approach to the practice of law provides meaningful and practical advice for the unique challenges of growth companies. Whether the current needs of the company are corporate counseling, finance, intellectual property, mergers & acquisitions, human resources, or government affairs, the WHD entrepreneurial spirit is uniquely suited to growth companies.

Additional Information:

Michael J. Klinker (414) 978-5421

mklinker@whdlaw.com

Philip R. Koutnik (414) 978-5310

pkoutnik@whdlaw.com

www.whdlaw.com



Milwaukee Journal Sentinel

One of the most important roles of any newspaper is to be the eyes, ears and voice of the public at large. By asking questions, analyzing data, and verifying information, the newspaper is responsible for pursuing knowledge that advances the community it represents.

Our greatest priority is serving our readers with the news and information that is important, useful and relevant to them. It's a commitment that has led our reporters to decipher complex chemical equations, study the biology of invasive lake species and unravel the complicated systems surrounding county pension scams and childcare fraud. The quality of that work merited national recognition including the 2008 and 2010 Pulitzer Prize for Local Reporting; led to significant changes at local, regional and national regulatory agencies; and, in the case of our "Chemical Fallout" series, exposed the dangers of common household chemicals like Bisphenol A and brought about changes to help protect consumers in the U.S. and Canada.

We know only too well how research can shape the future of our community. It's what leads to new ways of thinking and new ways of doing, and it's why we're proud to be the media sponsor of this year's Milwaukee Regional Research Forum.

Additional Information:

David Wise, Marketing Director Milwaukee Journal Sentinel (414) 224-2460 dwise@journalsentinel.com **www.JSOnline.com**



The Boldt Company

The Boldt Company has a long history of successful medical research and health care facilities including projects for the Wisconsin Institutes for Medical Research, Children's Hospital of Wisconsin and St. Olaf College's Interdisciplinary Science Complex. Boldt's science and technology professionals are committed to delivering innovations that promote exploration and support environments of discovery and understanding. Aware of the movement towards interdisciplinary research, Boldt designs and builds facilities of great flexibility and adaptability—all with a focus on maximizing value for the owner.

Headquartered in Wisconsin, Boldt has 12 offices throughout the United States. It is one of the leading sustainable construction services firms in the country. Recognized as one of the safest companies in America, the firm provides professional construction services to a variety of power, industrial, healthcare and medical research, education, commercial and renewable energy markets.

The MRR Forum recognizes and appreciates the leadership, vision and support of Boldt in planning the development of this annual event. CEO Tom Boldt continues to be a valuable advisor to the MRR Forum including its initiatives to develop and implement successful technology for increasing collaboration among and between the CTSI entities.

Thomas J. Boldt (920) 225-6101 tboldt@boldt.com www.theboldtcompany.com

Milwaukee Regional Research Forum – 2011 Resources

CTSI Executive Committee Members

Reza Shaker, MD rshaker@mcw.edu (414) 955-6732

Thomas Bray, MS bray@msoe.edu (414) 277-7416

Jeanne Hossenlopp, PhD jeanne.hossenlopp@mu.edu; (414) 288-1532

Cheryl Maurana, PhD cmaurana@mcw.edu (414) 955-8800

Rachel Schiffman, PhD schiffma@uwm.edu (414) 229-3991

Gilbert White, MD gwhite@bcw.edu (414) 937-3899

Michael Dunn, MD mdunn@mcw.edu (414) 955-2524

John Routes, MD jroutes@mcw.edu (414) 456-4802

Milwaukee Regional Research Forum, Inc.

Reza Shaker, MD rshaker@mcw.edu (414) 955-6732

Charles C. Mulcahy chasmulcahy@wi.rr.com (414) 254-6333

Michael J. Klinker mklinker@whdlaw.com (414) 978-5421

CTSI Administration

Carlos De la Pena, MBA, MHA cdelapena@mcw.edu (414) 955-2965

Sara Goetz, MS sgoetz@mcw.edu (414) 955-2537

Marlene Weber maweber@mcw.edu (414) 955-2524

Cathy Wenzel cawenzel@mcw.edu (414) 955-6840

Public Policy Forum

Rob Henken rhenken@publicpolicyforum.org (414) 276-8240

Anneliese Dickman adickman@publicpolicyforum.org (414) 276-8240

Pam Matthews pmatthews@publicpolicyforum.org (414) 276-8240

Viewpoint Luncheon Panel:

Rob Henken, Moderator John Raymond, MD Hermann Viets, PhD Jeanne Hossenlopp, PhD Brian Thompson

Medical College of Wisconsin

John R. Raymond, MD jraymond@mcw.edu (414) 955-8225

Joseph Kerschner, MD jkerschner@mcw.edu (414) 955-8213

Joseph O. Hill, PhD jhill@mcw.edu (414) 955-4381

Kalpa Vithalani, PhD kvithalani@mcw.edu (414) 456-4884

Andrew Greene, PhD agreene@mcw.edu (414) 955-8671

Theodore A. Kotchen, MD tkotchen@mcw.edu (414) 805-8696

Richard Katschke rkatschk@mcw.edu (414) 955-4748

David Gutterman, MD dgutterm@mcw.edu (414) 955-8495

Kathy Kuhn kkuhn@mcw.edu (414) 955-8217

UW-Milwaukee

Michael Lovell, PhD mlovell@uwm.edu (414) 229-4331

Johannes Britz, DPhil britz@uwm.edu (414) 229-4501

Michael Gordon, PhD mgordon@uwm.edu (414) 229-4314

Brian Thompson briant@uwm.edu (414) 229-3397

Milwaukee School of Engineering

Hermann Viets, PhD viets@msoe.edu (414) 277-7100

Dean Tom Bray bray@msoe.edu (414) 277-7416

Frederick Berry, PhD berry@msoe.edu (414) 277-7324

Miranda Ruffin ruffin@msoe.edu (414) 277-7195

Marquette University

John J. Pauly, PhD john.pauly@marquette.edu (414) 288-7511

Jeanne Hossenlopp, PhD jeanne.hossenlopp@marquette.edu (414) 288-3537

Arthur F. Hefti, PhD, DDS arthur.hefti@marquette.edu (414) 288-8441

Robert Fitts, PhD robert.fitts@marquette.edu (414) 288-1748

Timothy J. Keane tim.keane@marquette.edu (414) 288-3643

Kristina M. Ropella, PhD kristina.ropella@marquette.edu (414) 288-3375

James Marten, PhD james.marten@marquette.edu (414) 288-7901

Froedtert Hospital

William Petasnick wpetasni@fmlh.org (414) 805-2606

Carolyn Bellin cbellin@fmlh.edu (414) 805-2057 Kathy Sieja ksieja@fmlh.edu (414) 805-2618

Children's Hospital and Health System

Peggy Troy ptroy@chw.org (414) 266-3032

Julie Pedretti jpedretti@chw.org (414) 266-5427

BloodCenter of Wisconsin

Jacquelyn Fredrick, MBA jackie.fredrick@bcw.edu (414) 937-6390

Gilbert White, MD gcwhite@bcw.edu (414) 937-3899

Thomas C. Abshire, MD thomas.abshire@bcw.edu (414) 937-6334

Robert Montgomery, MD rmontgom@mcw.edu (414) 937-3802

Richard Aster, MD richard.aster@bcw.edu (414) 937-6338

Kathy Krueger kathryn.krueger@bcw.edu (414) 937-6294

Alisha Denomme alisha.denomme@bcw.edu (414) 937-6137

Zablocki VA Medical Center

Michael Erdmann, MD michael.erdmann@med.va.gov (414) 384-2000 x 42600

Ann K. Rosenthal, MD akrose@mcw.edu (414) 384-2000 x. 41913

Joan Banks, RN joan.banks@va.gov: (414) 384-2000 x 45732

Wisconsin Technology Innovation Council

Tom Still tstill@wisconsintechnologycouncil.com (608) 442-7557; ext. 24

Milwaukee County Research Park

Guy T. Mascari gtm@mcrpc.org (414) 778-1400 William Ryan Drew wrd@mcrpc.org (414) 778-1400

Milwaukee Journal Sentinel

David Wise dwise@journalsentinel.com (414) 224-2460

Susan Noruk snoruk@journalsentinel.com (414) 224-2419

Hannah Jozwiak hjozwiak@journalsentinel.com (414) 647-4728

Kathleen Gallagher kgallagher@journalsentinel.com (414) 224-2168

ASI Signage Innovations

Wendy R. Pajor wendy.pajor@asisignage.com (612) 332-1223

Milwaukee Regional Medical Center

William W. Hatcher whatcher@mrmcffl.org (414) 778-4570

Milwaukee County

Chris Abele countyexec@milwcnty.com (414) 278-4211

Lee Holloway lholloway@milwcnty.com (414) 278-4261

Greater Milwaukee Committee

Julia Taylor jtaylor@gmconline.org (414) 272-0588

Brian S. Schupper bschupper@gmconline.org (414) 905-0118

Wauwatosa West Chamber of Commerce

Meg McKenna meg@tosachamber.org (414) 453-2330

Kari Miller kari@tosachamber.org (414) 453-2330

Crowne Plaza Milwaukee West

Russ A. Kaloti rkaloti@aol.com (262) 641-2060; Ext.225 John J. Marko jmarko@lanehospitality.com (847) 291-5714

Patrick J. Palmer ppalmer@crowneplazamilwaukee.com (414) 389-8562

Linda Oleson loleson@crowneplazamilwaukee.com (414) 389-8568

Robert T. Teske teskebusterz@aol.com (414) 339-1441

Whyte Hirschboeck Dudek

Paul Eberle peberle@whdlaw.com (414) 978-5550

Michael J. Klinker mklinker@whdlaw.com (414) 978-5421

Gary Plotecher gplotecher@whdlaw.com (414) 978-5530

Kristine Strodthoff kstrodthoff@whdlaw.com (414) 978-5531

Philip R. Koutnik pkoutnik@whdlaw.com (414) 978-5310

The Boldt Company

Thomas J. Boldt tboldt@boldt.com (920) 225-6101

Metropolitan Milwaukee Chamber of Commerce

Timothy R. Sheehy tsheehy@mmac.org (414) 287-4129

City of Wauwatosa

Mayor Jill Didier jdidier@wauwatosa.net (414) 479-8915

Pete Hahn, Mayoral Intern mayoralintern@wauwatosa.net (414) 479-8916

