

MILWAUKEE REGIONAL RESEARCH FORUM

Public Policy Forum Viewpoint Luncheon
&
Poster Session of CTSI Supported Research

Excessive Use of Alcohol in Wisconsin: Are There Legislative and Regulatory Remedies?

Thursday, October 24, 2013

**Crowne Plaza Milwaukee West
Milwaukee Regional Medical Center**

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The MRR Forum acknowledges and appreciates the valuable guidance and assistance of Scott Belanger of CTSI and Aldo Tase of MRR Forum 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.

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Welcome Message from Dr. Reza Shaker



Reza Shaker, MD

Senior Associate Dean and Director,
Clinical & Translational Science Institute
Joseph E. Geenen Professor and Chief,
Division of Gastroenterology &
Hepatology
Medical College of Wisconsin

On behalf of the Clinical and Translational Science Institute of Southeast Wisconsin (CTSI), I welcome you to the 4th Annual Milwaukee Regional Research Forum and Public Policy Forum Viewpoint Luncheon. This event is an important mechanism for CTSI to reach out to future partners as we implement a borderless, complementary, and synergistic biomedical research environment in southeast Wisconsin.

We are pleased to present this year's T. Michael Bolger award to two outstanding recipients who have contributed significantly to the process of translating scientific discoveries to better patient care. They have achieved this by following different paths: one through leadership in medical education and clinical research and discovery, and the other through the development of medical devices that have changed the way we diagnose and treat disease. Because of their efforts our community has progressed further on the path of translation.

This year we also continue with a poster session prior to the luncheon. The poster session is intended to showcase some of the research projects supported by CTSI as well as how these projects demonstrate collaborative efforts across disciplines and institutions. I invite you to view the posters arranged throughout the lobby and also ask questions of our researchers.

I would like to thank our panel members for joining us today and for discussing the important topic of *Excessive Use of Alcohol in Wisconsin: Are There Legislative and Regulatory Remedies?* I would also like to thank media sponsors, the Milwaukee Journal Sentinel as well as Whyte Hirschboeck Dudek, the Crowne Plaza Milwaukee West Hotel, ASI Signage Innovations, the Boldt Company and the Wauwatosa Chamber of Commerce. Finally, I would like to 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 our community about the Clinical and Translational Science Institute and to promote the collaborative research activity taking place at the 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 the BloodCenter of Wisconsin. The MRR Forum and the CTSI are grateful for the continued commitment and support of The Public Policy Forum, Whyte Hirschboeck Dudek, Crowne Plaza Milwaukee West, Milwaukee Journal Sentinel, ASI Signage Innovations, The Boldt Company and the Wauwatosa Chamber of Commerce.

The MRR Forum, as a significant community outreach initiative of the CTSI, is committed to identifying the collaborative research activities of CTSI members and promoting these efforts to the citizens in southeast Wisconsin.

Future objectives of the MRR Forum, Inc.

Through this important annual event, the MRR Forum will:

- continue to encourage research collaboration and technology transfer through the CTSI and its partnering institutions;
- provide outreach for the CTSI with community and business leaders;
- jointly continue to interact with the business community on a mutually beneficial basis to develop timely and valuable research outcomes to improve patient care;
- 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; and
- promote and encourage collaboration between CTSI partnering institutions to provide added resources for development of intellectual property protection and the commercialization of research.

Website material on the MRR Forum programs and activities is available to the general public on the CTSI website: <https://ctsi.mcw.edu/community/mrrf/>

In addition, 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 Milwaukee Regional Medical Center (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 will be developed in phases.

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T. Michael Bolger Award



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.

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

2013 Bolger Award Recipients

Michael J. Dunn, MD and GE Healthcare are the 2013 recipients of the T. Michael Bolger Award. These awards recognize the unique, valuable and enduring contributions to the improvement of our community's health.

Michael J. Dunn, MD

In 2008 Michael J. Dunn, M.D. completed his extraordinary, 13-year tenure as Dean and Executive Vice President of the Medical College. He continues his service to the College as Dean Emeritus and Distinguished Professor of Medicine and Physiology.

Since Dr. Dunn was named Dean in January 1995, the Medical College has become a major national research center with new initiatives in genetics, imaging, and biotechnology. Under his leadership, new facilities, including the College's Health Research Center and Translational and Biomedical



Research Center, were constructed to support expanded research and medical education programs.

Dr. Dunn appointed all of the College's senior associate deans and center directors as well as 22 academic department chairmen. The College also established five new departments – Biophysics, Plastic Surgery, Population Health, Otolaryngology and Communication Sciences, and Urology. The stature of Public and Community Health was elevated as one of the College's four missions under Dr. Dunn. In 2005, the Medical College received the Association for American Medical College's Outstanding Community Service Award for implementing innovative public and community health programs to meet the needs of underserved urban and rural populations

During most of his tenure, Dr. Dunn was one of the nation's only medical school deans to hold NIH research grants and actively conduct research. He held continuous funding from the NIH from 1970-2005. A Past President of the American Society of Nephrology, he is nationally recognized for his research in nephrology and hypertension. He has published more than 200 scientific papers and authored or co-authored 50 chapters and textbooks in his field.

Dr. Dunn received his M.D. in 1962 from the Medical College's predecessor institution, Marquette University School of Medicine. He served an internship and residency in internal medicine at Johns Hopkins Hospital. He then took a nephrology fellowship at the University of North Carolina and spent three years of military duty as a research internist at the Walter Reed Army Institute of Research. He came to the Medical College from Case Western Reserve University School of Medicine, where he was the Hanna Payne Professor of Medicine. He previously served on the faculty of the University of Vermont College of Medicine.

GE Healthcare

GE Healthcare is a \$19 billion business unit of General Electric (NYSE: GE) that employs more than 53,000 people worldwide and invests more than one billion dollars annually in R&D. Active in more than 100 countries worldwide, GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery,

biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.



GE Healthcare's continuing commitment to and impact on Wisconsin: with 6,500 employees across the Badger State, and an economic impact on Wisconsin of \$3.8 billion annually according to a recent third party analysis, GE Healthcare alone generates \$10.4 million in economic activity in-state, on average, every day, and helps support more than 21,400 jobs at both GE businesses and at 1,100 supplier sites across Wisconsin.

"Wisconsin has been GE Healthcare's home since 1947, and for 65 years, we have been reaching toward the future, finding solutions to tough problems, creating new jobs and programs that improve people's lives, and making a difference in our communities," said Marcelo Mosci, president and CEO for GE Healthcare, US and Canada. "We recognize that none of this would be possible without the dedication and talents of our thousands of local employees, a strong statewide network of exceptional local suppliers, committed local research and educational partners like the Medical College of Wisconsin and others, and the teams of civic and government leaders who also recognize Wisconsin's growth potential. We are indebted to each and every person, institution and business that makes this state a great place to live and do business."

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: Excessive Use of Alcohol in Wisconsin – Are There Legislative and Regulatory Remedies? is a continuation of PPF programs on public policy issues.

For more information contact:

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Today's Viewpoint Luncheon Program

Excessive Use of Alcohol in Wisconsin: Are There Legislative and Regulatory Remedies?

Earlier this year, a University of Wisconsin report quantified the impacts of excessive alcohol use in Wisconsin, finding that binge drinking costs state taxpayers:

- \$6.8 billion and results in more than 1,500 deaths, 48,000 hospitalizations, and 5,700 motor vehicle crashes annually.

While few would disagree with the severity of these impacts, there is less agreement about how to combat them:

- Are tougher drunk driving laws or increased alcohol taxes the answer?
- What about sobriety checkpoints or penalties on taverns who serve excessive drinkers?
- If tougher laws and law enforcement tactics are the solution, then what is the cost and how will we afford the bill?

Join the Public Policy Forum at a Viewpoint Luncheon that will explore the effects of Wisconsin's alcohol culture and what we should do to address them.

Our panel of legislative, law enforcement, academic and industry leaders includes:

Alberta Darling, Wisconsin State Senator
Edward Flynn, Police Chief, City of Milwaukee
Dr. Mallory O'Brien, College of Nursing, Marquette University
Scott Strenger, Director of Governmental Affairs, Tavern League of Wisconsin

Moderated by:

James Causey, Columnist and Editorial Page Writer, Milwaukee Journal Sentinel

Sponsored by:

Whyte Hirschboeck Dudek, SC





Clinical and Translational Science Institute (CTSI)

Who We Are

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

- 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 by advancing patient care and education through the facilitation of research from the laboratory 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-institutional and interdisciplinary 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 interdisciplinary 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 Pilot and Collaborative Research Grants Program

The CTSI Pilot and Collaborative Clinical and Translational Research Grants Program, which is supported by the Advancing a Healthier Wisconsin program and the NIH, is intended to stimulate inter-institutional and interdisciplinary clinical and translational research amongst 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 their efforts in clinical and translational research; and 3) a stimulus for collaborative research between basic and clinical investigators within similar thematic areas.

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 (KL2)

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 (CRS)

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, obtaining funding, publishing research, 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 (1) Clinical Epidemiology & Outcomes Research, (2) Commercial Development, and (3) Translational Research.

CTSI Master's and PhD Degree in Clinical and Translational Rehabilitation Health Science

Rehabilitation science is a multidisciplinary field that encompasses many facets of health care aimed at understanding movement disorders and improving function. The “translational” mission of our program is to equip students with the ability to more efficiently “translate” research from the laboratory to the real world. In conjunction with Marquette University, the new graduate program in Clinical and Translational Rehabilitation Health Science develops clinical and translational leaders in this emerging field, giving them the knowledge and experience to better the lives of those who suffer from human function disabilities.

The doctoral program builds upon a student's clinical degree and expertise with rigorous training in translational research, while the master's program gives students a wide knowledge base in rehabilitation sciences. Both programs place a unique emphasis on various rehabilitation disciplines, including pathokinesiology, neuroscience, motor control, exercise physiology, sports medicine and community wellness.

CTSI PhD in Basic and Translational Science

The PhD in Basic and Translational Science offers in depth training in basic science plus courses in translational science. It builds on our previous basic research successes in the areas of biochemistry, biophysics, cell biology, genetics, microbiology, neurosciences, pharmacology and physiology and toxicity to develop translational research training. This program prepares students to carry out research that narrows the gap between current basic science knowledge and clinical practice and to carry out basic science research that answers questions generated at the bedside.

The program's goals are to:

- To produce a new class of investigators rigorously trained in basic science and credentialed in translational research who think broadly and logically about clinical problems
- To promote research that bridges the gap between basic science knowledge and clinical practice
- To build a team of collaborators that will translate basic science research findings into patient care.

Poster Session on CTSI Supported Research

This year's forum continues with a poster session from 11:00am to noon. The poster session showcases research projects supported by CTSI as well as how these projects demonstrate collaborative efforts across disciplines and institutions. The following posters are on display:

Poster Title: In Vivo Detection of Hyperoxia-Induced Pulmonary Endothelial Cell Death Using ^{99m}Tc-Duramycin

Objective: To investigate the potential of imaging with DU to quantify capillary endothelial cells (ECs) death in rat lung injury resulting from 100% O₂ exposure.

Investigators: S. H. Audi (Marquette), E. R. Jacobs (MCW, VA), M. Zhao (Northwestern), S. T. Haworth (MCW), D. L. Roerig (MCW, VA), A. V. Clough (Marquette)

Poster Title: A Smartphone-Based Sociotechnical Support System for Improving Veterans' Mental Health

Objective: Introduce a smartphone-based peer mentoring system with complete representation of complex calculative dashboard view and emergency alert system for mentors to quickly identify risky veteran behavior. Also establish the basic framework for remotely monitoring veterans and evaluate the functionalities with real people.

Investigators: Mohammad Arif Ul Alam (Marquette), Casey J O'Brien (Marquette), Golam M Tanimul Ahsan, Zeno Franco, PhD (MCW), Christina Eldredge, MD (MCW), Jeffrey Whittle, MD, Mark Flower (Dry Hootch), Robert Curry (Dry Hootch)

Poster Title: Quality Improvement for Vestibular Disorders: Leveraging Research Toolkits to Improve Patient Access, Satisfaction, and Outcomes

Objective: To develop an innovative evidence-based vestibular disorders program that provides maximal patient and healthcare system quality and value through efficient and expeditious clinical care.

Investigators: David R. Friedland, MD, PhD (MCW), Christy Erbe, MA (MCW), Sergey Tarima, PhD (MCW), Michael Stadler, MD (MCW)

Poster Title: Potential Use of a Retroviral-Derived Microbicides for Prevention of HIV-1 Transmission

Objective: Tax2-derived peptides have the ability to modulate innate antiviral immunity against HIV-1. The next step in our research is to synthesize purified Tax2-derived oligopeptides which will be tested for their functionality and stability in soluble vehicles. The induction of mucosal immunity against HIV-1 infection could be an alternative strategy to reduce sexual transmission of HIV-1.

Investigators: Barrios CS (MCW, VA), Castillo L (MCW, VA), Huijun Z (Uniformed Services School of Health Sciences), Giam C-Z (Uniformed Services School of Health Sciences), Feix JB (MCW), Beilke MA (MCW, VA)

Poster Title: In Vitro Effects of Blue Light on Human Cell Viability

Objective: To examine the effects of various doses of 470 nm blue light on human cell viability in vitro. Previous studies we demonstrated the bactericidal effect of blue light on methicillin resistant Staphylococcus aureus (MRSA) in vitro, however the effect of blue light on cutaneous and subcutaneous cells at the site of infection remains unclear. Understanding the effects of blue light on fibroblasts and white blood cells could help clear the way for clinical utilization of blue light for patient care.

Investigators: Bumah VV (UW-Milwaukee), Masson-Meyers DS (UW-Milwaukee), Awosika O (Marquette), Zacharias S (Homestead Highschool), Whelan H (MCW) & Enwemeka CS (UW-Milwaukee)

Poster Title: A Novel Epoxyeicosatrienoic Acid Analog Ameliorated Renal Injury in a Rat Model of Radiation Nephropathy

Objective: This study investigated the role of a novel EET analog, EET-A in mitigating experimental radiation nephropathy. Radiation nephropathy occurs during clinical treatments, such as total-body irradiation (TBI) for bone marrow transplants, during radiotherapy and also during accidental or combative exposure to radiation.

Investigators: Md Abdul Hye Khan (MCW), Geneva Wahl (MCW), Brian Fish (MCW), Eric P. Cohen (MCW, VA), John D. Imig (MCW)

Poster Title: Inhibition of the Activin Type IIB Receptor as a Therapeutic Strategy for Nemaline Myopathy

Objective: To evaluate the efficacy of inhibiting activin type 2b receptor signaling as a treatment for nemaline myopathy (NM). NM is a congenital myopathy that can cause a range of clinical symptoms, including perinatal death due to respiratory insufficiency in severe cases.

Investigators: Tinklenberg J (MCW), Meng H (MCW), Fitts RH (Marquette), Lawlor MW (MCW)

Poster Title: Hyperoxia Affects Tetrahydrobiopterin (BH4) Synthesis in Rat Pup Lungs

Objective: To determine if caffeine may benefit developing lungs to cope with prolonged oxygen treatment. Our observation may help to explain why early use of caffeine in premature infants decreases the incidence of bronchopulmonary dysplasia

Investigators: Ru-Jeng Teng (MCW), Xigang Jin, Yang Shi, Girija Ganesh Konduri (MCW)

Poster Title: Cyclophosphamide in Combination with Tumor Lysate and TLR9 Ligand Regresses Murine Neuroblastoma

Objective: Neuroblastoma is a pediatric cancer of neural crest origin that accounts for 12% of all pediatric cancer deaths. Based on the anti-tumor efficacy of our previously tested whole-cell immune-based therapy, we designed and tested a more clinically translatable protocol for the treatment of established neuroblastoma.

Investigators: Jill Gershan (MCW), Kristen Barr (MCW), James Weber (MCW), Bryon Johnson (MCW)

Poster Title: CTSI Collaboration: Optogenetics + Functional MRI

Objective: The potential applications of combined optogenetic/fMRI technology are very broad. The initial focus of this project is to develop and explore its use in clinically motivated applications, ultimately laying the ground work for a new clinical modality that combines diagnosis and targeting of brain pathology with delivery of therapeutic brain stimulation.

Investigators: E. A. DeYoe (MCW), R. Pashaie (UW-Milwaukee), C. Pawela (MCW)

Poster Title: DNA Interstrand Cross-Links Induced by Nitroimidazole Analogues Upon Photo-Irradiation

Objective: To develop novel DNA cross-linking agents. DNA interstrand cross-links (ICL) form when alkylating agents react with two different strands in the DNA. This effectively causes the inhibition of DNA replication and gene expression thus leading to cell death. The reagents that can induce DNA damages under hypoxic conditions are particularly important as tumor cells are very often hypoxic (oxygen-starved). Tumor hypoxia is a major factor contributing to the failure of radiotherapy.

Investigators: Yanyan Han (UW-Milwaukee), Wenbing Chen (UW-Milwaukee), Yunyan Kuang (UW-Milwaukee), Xiaohua Peng (UW-Milwaukee)

Poster Title: Institute for Urban Agriculture and Nutrition

Objective: The purpose of the Institute for Urban Agriculture and Nutrition (IUAN) is to facilitate collaborations among academic, governmental and community agencies to pursue solutions to the obstacles to healthy food access and consumption in Milwaukee. The IUAN is pursuing funding from public and private sources to support projects aimed at increasing urban food production, processing and consumption.

Investigators: Robert Topp, RN, PhD (Marquette), Tim McCollow, MS (City of Milwaukee), Michael Carriere, PhD (MSOE), Zeno Franco, PhD (MCW), Eloisa Gomez, MS (UW Extension), Bonnie Halvorsen, MA (UW-Milwaukee), Greg Lawless, MS (UW Extension), Gretchen Mead, MSW (Victory Gardens Initiative), Michael Schlappi, PhD (Marquette), Steve Ventura, PhD (UW-Madison), Sandy Williams, JD (Growing Power), Stan Stojkovic, PhD (UW-Milwaukee)

Poster Title: Investigation of Spinal Motoneuron Excitability During Grip Relaxation in Healthy Young Adults

Objective: To examine spinal motor excitability for the flexor digitorum superficialis (FDS) muscle during grip relaxation in the right and left hands in right-handed healthy individuals.

Investigators: Binal Motawar, MS, PT (UW-Milwaukee), Na Jin Seo, PhD (UW-Milwaukee)

Poster Title: Assessment of coupling between mass neural activity and the hemodynamic response in humans

Objective: Noninvasive neuroimaging modalities such as functional magnetic resonance imaging (fMRI), electroencephalography (EEG), and magnetoencephalography (MEG) provide either the high spatial or temporal resolution needed to fully characterize neural dynamics and their disruption by disease, but not both. This research aims to characterize the normative relationship between mass neural activity (measured with EEG and MEG) and the hemodynamic BOLD response (measured with fMRI) in a network of brain regions engaged in auditory and speech perception.

Investigators: N. J. Heugel (MCW), E. Liebenthal (MCW), S. A. Beardsley (MU, Boston University)

CTSI Partnering Institutions



The Medical College of Wisconsin

The Medical College of Wisconsin is the state's only private medical school and health sciences graduate school. Founded in 1893, it is dedicated to leadership and excellence in education, patient care, research and service. More than 1,200 students are enrolled in MCW's medical school and graduate school programs.

A major national research center, it is the largest research institution in the Milwaukee metro area and second largest in Wisconsin. In FY 2011 – 12, faculty received more than \$166 million in external support for research, teaching, training and related purposes, of which more than \$152 million is for research. This total includes highly competitive research and training awards from the National Institutes of Health (NIH). Annually, MCW faculty direct or collaborate on more than 2,000 research studies, including clinical trials. The Medical College of Wisconsin houses specialized research centers, including eight federally designated centers focusing on injury research, pediatric nephrology, genomics science, crash injury research and engineering, AIDS intervention, and electron paramagnetic resonance.

Additionally, more than 1,350 physicians provide care in virtually every specialty of medicine for more than 425,000 patients annually.

As a member of the CTSI of Southeast Wisconsin, MCW's research activities have included investigation of novel treatments and technologies, such as biomarkers for early identification of heart failure, the capacity of stem cells to heal traumatic brain injury, the brain's response to transcranial magnetic stimulation, new therapies for cyclical vomiting syndrome, and personalized therapy for the treatment of aggressive brain tumors. Collaborative teams have researched the causes of drug-induced platelet loss, the link between the gut's microbiome and obesity, and acute kidney injury in children who have had cardiopulmonary bypass. CTSI investigators have developed novel technologies to improve access to care and address physician shortages and maldistribution.

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

Joseph Kerschner, MD, Dean and Executive Vice President
(414) 456-8213
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Marquette University

Marquette University, Wisconsin's largest private higher education institution is a nationally ranked Catholic, 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 nearly 12,000 students includes approximately 3,500 graduate and professional students from throughout the United States and 69 countries.

Marquette is a research university with nationally-ranked graduate programs in biomedical engineering, business, education, law, nursing, physical therapy, physician assistant studies, speech pathology and audiology. It is ranked 83rd among America's Best Colleges and is one of only 50 universities recognized in the "Best Value Schools" category released by *U.S. News & World Report*. Federal, state, foundation and corporation-sponsored research continues to increase; Marquette recorded its record high of \$29.4 million in grants, contracts and other sponsored agreements in FY 2013. 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 of Southeast Wisconsin, Marquette's research activities have included exploration of novel methodologies such as implantable vascular stents for pediatric applications, the role of brain signaling mechanisms involved in the pathophysiology of schizophrenia, development of 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 led by Marquette 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, and the Southeast Wisconsin High Performance Computing Consortium. Marquette University is represented by the CTSI Board of Directors Member:

Margaret Callahan, PhD, C.R.N.A., F.N.A.P., F.A.A.N, Interim Provost
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Milwaukee School of Engineering

The Milwaukee School of Engineering is an independent university offering 18 bachelor's degrees and nine master's degrees in the engineering, engineering technology, health-related engineering, nursing, computer, building and infrastructure engineering and business 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 Center™ (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 Institute™.

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, D.E., Vice President of Academics
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University of Wisconsin-Milwaukee

As Wisconsin's premier public urban institution, the University of Wisconsin-Milwaukee enjoys a growing national reputation for excellence in research, teaching and community engagement. UWM educates nearly 30,000 students and is an engine of innovation for Southeastern Wisconsin. The university's recent expansion includes new academic and research facilities, and the creation of the only School of Freshwater Sciences in the United States and the Joseph J. Zilber School of Public Health, serving the state's urban population.

From its first doctoral program in 1963 (mathematics), the number of graduate programs has continued to increase rapidly to 56 master's and 32 doctoral programs today. These compliment more than 100 undergraduate degree programs. Similar growth is apparent in the amount of governmental and private support, with research expenditures reaching \$59 million in FY 2012.

As a member of the CTSI of Southeast Wisconsin, UWM's research projects have included creation of a virtual doctor's office to link patients and physicians, development of anti-cancer drugs that are selective to tumor cells, a parent-delivered treadmill activity for stimulating the development of children with Down syndrome, identifying the mechanism of the bactericidal effect of blue light on MRSA infections, integration of functional MRI with optogenetics technology to both read and manipulate brain activity, thermo-acoustic imaging for detection of prostate cancer and a treatment for Post-Traumatic Stress Disorder based on factors that foster resilience.

UWM is building on research strengths in such disciplines relevant to the CTSI as Bioengineering/Imaging, Children's Environmental Health, Drug Discovery, Freshwater Sciences, Nursing and Public Health. In addition to CTSI, UWM is a partner in a number of research and educational initiatives, such as the Wisconsin Energy Research Consortium, the National Science Foundation-funded Industry/University Cooperative Research Center (I/UCRC) on water technology, and new industry-sponsored on-campus centers in energy storage, freshwater genomics and computational imaging.

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

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Children's Hospital & Health System

Children's Hospital of Wisconsin in Milwaukee is one of the nation's top pediatric facilities. It is a Level I Pediatric Trauma Center verified by the American College of Surgeons. Children's 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 annually. Nearly 332,000 visits to Children's Hospital's specialty care and urgent care clinics are made each year. In 2012, the Emergency Department/Trauma Center treated more than 61,000 children and nearly 16,000 surgical procedures were performed. In addition, Children's Hospital primary care clinics had more than 241,000 patient visits last year.

More than 70 specialty care 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, blood and marrow transplants (particularly between unrelated donors and recipients) and services for children and adults with concerns about genetic disorders, birth defects and related issues.

Children's Hospital of Wisconsin Research Institute strives to prevent and cure disease while improving the health outcomes of children and their families. Through translational research, the Research Institute takes discoveries from the laboratory and converts them to new therapies at patients' bedsides. Our researchers collaborate with experts and organizations regionally and nationally to provide the most advanced care available and enhance the health care possibilities for children everywhere.

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

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Froedtert & The Medical College of Wisconsin

Froedtert & The Medical College of Wisconsin Froedtert Hospital, the primary adult teaching affiliate for the Medical College of Wisconsin, is a 500-bed academic medical center that delivers advanced medical care. Froedtert Hospital is nationally recognized for exceptional physicians, research leadership, specialty expertise and state-of-the-art treatments and technology. It serves as an eastern Wisconsin referral center for advanced medical practice care in 37 specialties and is a major training and research facility with more than 1,000 medical, nursing, and health technical students in training and over 2,000 active clinical trials each year.

In addition, we provide all the advantages of an academic medical center — one of only two in Wisconsin. We also house the only adult Level I Trauma Center in eastern Wisconsin — prepared to deal with any critical care need 24 hours, 365 days per year. And because Medical College of Wisconsin physicians participate in significant national research, we help bring about scientific discoveries that result in new and better treatments each year.

Froedtert & The Medical College's Cancer Center is a destination for cancer care. Serving more patients than any other cancer center in eastern Wisconsin and on pace to become the state's largest cancer program, we treated more than 4,000 new patients in 2012, and managed more than 196,000 visits from continuing patients, a 12 percent increase over the previous year. Research that advances cancer treatment and prevention is a constant here. With approximately 130 clinical trials under way at any given time, we are helping to define the future of cancer care. In 2013, in collaboration with The Medical College of Wisconsin, we will expand our trial offerings in a new translational research unit focusing on early phase trials. Access to such trials is not currently available elsewhere in the community and there are only about a dozen translational research units nationwide.

Froedtert and The Medical College of Wisconsin will continue to be a destination for care when we open the Center for Advanced Care in 2015. The Center for Advanced Care's development will enhance our ability to advance innovation technologies and offerings in surgical/interventional, heart and vascular, and transplant services. Treatment and technology are continually advancing in these areas. As an academic medical center, we are well-known and respected for our role in creating and offering the newest and best in health care.

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

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Zablocki Veterans Affairs Medical Center

The Zablocki VA Medical Center is located five miles from the Milwaukee Regional Medical Center and is one of the busiest comprehensive centers operated by the Department of Veteran's Affairs 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 multi-purpose 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:

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The BloodCenter of Wisconsin's Blood Research Institute

The BloodCenter of Wisconsin's Blood Research Institute is one of only four blood research programs in the U.S. connected to a blood center. The BRI's reputation and achievements help attract the best medical minds and practitioners from around the world. BRI houses the laboratories of 22 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. The NIH recognized BloodCenter with \$13.5 million in funding in 2011 which included 2 program project grants and two federal contracts. Total research expenditure in 2011 was \$18.5 million.

Research at the BRI is supported by several core laboratories that are shared with investigators at MCW. The core laboratories focus on Vector production, Flow Cytometry, Microscopy that includes fluorescent and 2-photon confocal capabilities, Hybridoma production, Molecular Biology, Peptide Synthesis, Transgenic Mouse production and Histology.

BCW also has a Medical Sciences Institute (MSI) which team with the BRI and performs clinical research and collaborates with investigators to link its clinical database and inventory of clinical samples. BloodCenter's 4 million plus donor registry and its collaborative relationships with hospitals, healthcare systems, and sponsor organizations provides a large number of individuals who may be available for clinical trials, and for helping to enhance and save patient lives.

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

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Regional Institutions

Milwaukee Regional Medical Center

The Milwaukee Regional Medical Center (MRMC) is a consortium of 6 health care institutions whose faculty, staff, and patient care givers provide a full range of health care services to the residents of Wisconsin. Through its member organizations, MRMC forms SE Wisconsin's largest academic health center, a Level I Adult and Pediatric Trauma Center, a nationally recognized Children's Hospital, provides continuum of care rehabilitation services and offers new discoveries and cures to patients throughout the world.

Our goal is to add value to our member organizations through increased collaboration, by sharing information and experiences and by exploring opportunities to streamline financial and service delivery structures. Its 6 member entities share a common mission of excellence in patient care, medical education, life science research, regional economic development, 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

The MRMC institutions are rooted on the County Grounds in Wauwatosa, WI and continue to invest in physical improvements on their campus. As Wauwatosa's largest employer, the MRMC accounts for one of every three jobs located in the City. Collectively, our member organizations serve more than a million clients/patients, employ more than 15,000 people and have an annual economic impact in excess of \$3 billion per year. Together, these institutions continue to advance both the physical and economic health of the region.



In addition, the Milwaukee Regional Medical Center oversees operations for the Flight For Life air transport program. Celebrating 30 years of service to the community in 2013, Flight For Life has flown more than 30,000 missions from its three base locations – Waukesha, Fond du Lac and McHenry, IL. When lives depend on the resources of specialty care facilities and when rapid transfer is a priority,

Flight For Life is ready to respond. Whether the need is for inter-hospital transport or a pre-hospital scene request, Flight For Life will provide the expertise necessary for optimal patient care. With a fleet of four helicopters, the Flight For Life Transport System helps augment health care delivery systems on a local and regional level.

Milwaukee Regional Medical Center - a destination for quality adult and pediatric care, life-saving research, and world-class education for tomorrow's doctors.

Additional information:

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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 what is now the Medical College of Wisconsin and 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:

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Marina Dimitrijevic, County Board Chairwoman
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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:

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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:

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Additional Sponsors

Wauwatosa Chamber of Commerce

Serving the Wauwatosa area since 1939, the Wauwatosa Chamber of Commerce is an association of businesses and organizations allied to assist each other and provide a supportive community. We assist businesses in building necessary network relationships, offer business education, advocate on behalf of our membership, and extend our members' marketing reach.

We offer over 60 networking opportunities every year, from our A.B.L.E. program (Active Business Leads Exchange) – now in its 17th year – to After Hours Networking, Ribbon Cuttings, 10 Days in Tosa, a Golf Outing and our Annual Community Showcase & Social, and more.

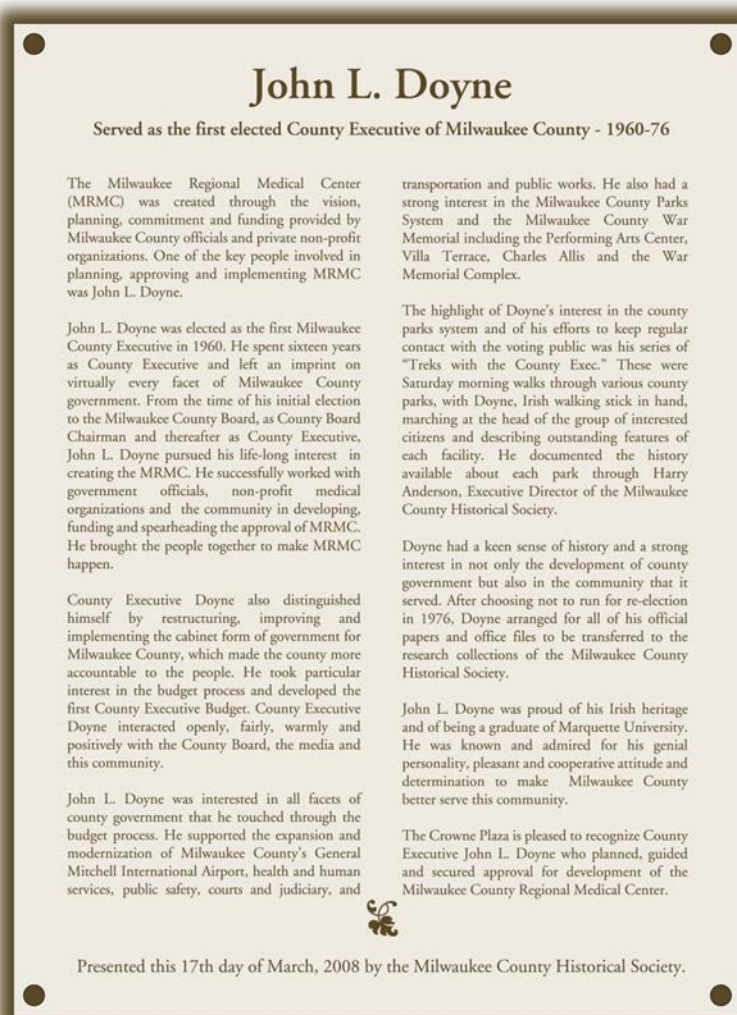
We bring the best experts to educate our members on topical subjects such as the Affordable Health Care Act, the Zoo Interchange Reconstruction and Workplace Safety. We offer educational seminars through our partners UWM-Small Business Development Center, WWBIC, and SCORE.

We proudly align ourselves with other business associations and institutions, such as the Village of Wauwatosa BID, East Tosa, YP Impact, the MMAC, Visit Milwaukee, the Wauwatosa School District and the City of Wauwatosa, to name a few.

Wauwatosa is a close community. Its citizens are actively engaged in all manner of service in order to make our community a better place to live, work, play and do business. The Chamber prides itself on being a bridge between business and community for the betterment of all.

Additional Information:

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ASI Signage Innovations

By providing 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), ASI Signage Innovations is pleased to continue its partnership with the MRR Forum in planning and developing the historic medical theme in the Crowne Plaza Milwaukee West Hotel. By incorporating a historic medical theme the conference rooms and history wall provide the perfect setting for the annual MRR Forum.

We recognize that the Crowne Plaza Milwaukee West Hotel stands out with its unique historic medical theme. ASI is committed to continuing its work with MRR Forum and the Crowne Plaza Milwaukee West 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 Crowne Plaza Milwaukee West great success as they move ahead with their initiatives.

Additional Information:

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Crowne Plaza Milwaukee West

The Crowne Plaza Milwaukee West, 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 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 on 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:

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Whyte Hirschboeck Dudek, S.C.

Whyte Hirschboeck Dudek (WHD) provided the initial funding for the creation of the Milwaukee Regional Research Forum fund which is the 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. Often, these companies arise out of innovation and the creation of intellectual property. 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.

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Milwaukee Journal Sentinel

The medical community is continually uncovering new data. Collaborating on new ideas. Discovering breakthroughs.

And the Milwaukee Journal Sentinel is there, to communicate stories of hope, like our Pulitzer Prize-winning series, *One in a Billion*, that propel us forward with the excitement of state-of-the-art diagnoses and treatments that hold great promise. But our role doesn't end there.

We also have the responsibility of investigating issues that affect the health of our community, particularly when they hurt the most vulnerable among us. *Empty Cradles*, our series on Milwaukee's infant mortality crisis, is just one of many vital topics that the Journal Sentinel has brought out of the shadows. By exploring the science and economics of such issues and pointing toward solutions, the Milwaukee Journal Sentinel contributes to making our community a safer, healthier place.



We have some of the finest medical minds here in Milwaukee, impacting the lives of people around the world. We are proud to share their groundbreaking work with our readers and to point attention toward potential new areas for research.

Additional Information:

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Milwaukee Journal Sentinel
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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.



2013 MRR Forum, Inc. Resources

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