



Medical Innovators 2009

A look at the cutting edge medical research,
advanced treatments and clinical trials
taking place within the
Mid-Illinois Medical District

Advancing the Center of Medical Excellence within the Mid-Illinois Medical District

Welcome to the second edition of the Sangamon County Medical Society's (SCMS) "Medical Innovators recognition program." This is an inside look at the top tier, medical treatment and research underway in the recently expanded Mid-Illinois Medical District (MIMD). This publication provides a review of some of the cutting-edge and advanced medical treatments, research and clinical trials taking place within our immediate community. These all have far-reaching national and international effects on the future of medicine as we know it.

We are once again honored to join in this collaborative effort with The Greater Springfield Chamber of Commerce (The Chamber), and their Quantum Growth Partnership – all in support of advancing the center of medical excellence located in the Mid-Illinois Medical District. This partnership between academia and business continues to create a strong sense of empowerment between the medical and business communities. Through such efforts, we can help the Mid-Illinois Medical District continue to evolve as a national center for medical excellence.

This edition was released at a special exhibition in support of MIMD on March 30, 2009. SCMS convened a Peer Review Panel of five member physicians and researchers who reviewed submissions from the leading innovators who practice medicine and conduct research here, and who contribute to our stature as a preeminent regional health care center. We thank the panel for their time and commitment to maintaining a fair and objective review process that remained circumspect in its endeavor. They practiced due diligence each and every step along the way:

Gayle E. Woodson, M.D. – Otolaryngology, SIU School of Medicine, Chair of the Panel
Donald R. Graham, M.D. – Infectious Diseases, Springfield Clinic
Marc Shelton, M.D. – Cardiology, Prairie Cardiovascular Consultants
Sumanta Mitra, M.D. – Nephrology, SCMS Past President
Morris Cooper, Ph.D. – Medical Microbiology, SIU School of Medicine

The State of Illinois, through Public Act 95-693, created MIMD whose purposes include maintaining the proper surroundings for a medical center and a related technology center in order to attract, stabilize, and retain within the District hospitals, clinics, research facilities, education facilities, or other facilities permitted. Supporting "Medical Innovators" is one example of the Commission's efforts to fulfill its given responsibilities.

This collaboration is just one example of the efforts in place throughout the community to promote the medical industry in the Greater Springfield area and the region encompassed by MIMD. Our community relies heavily on the medical industry as an employer, direct care provider and economic engine. It is with great humility that we recognize the achievements of these individuals for going above and beyond the call of duty for the good of our community.

We also extend our appreciation to the Public Affairs staff at SIU School of Medicine for their contribution to this project – Nancy Zimmers, Director, Ruth Slottag and Merle Shiffman – and Jennie Collings, Director, Medical Development, The Greater Springfield Chamber of Commerce, and Isabel Manker, SCMS Executive Director.

Sincerely,

Dennis Q. McManus, M.D.
President
Sangamon County
Medical Society

Gayle E. Woodson, M.D.
Chair
SCMS Education/Program Committee
SCMS Board of Directors

Michael Boer
President
Mid-Illinois Medical District

Established in 1899, the Sangamon County Medical Society is a non-profit professional organization of more than 1,100 physician, resident and medical student members from Sangamon County whose mission is to provide leadership in health care through service, education and advocacy for our members, patients and the community in central Illinois.



Medical Innovators

Tom Ala, M.D.

Southern Illinois University School of Medicine, Department of Neurology

Ala is associate professor of neurology and interim director of SIU's Center for Alzheimer Disease and Related Disorders. He has participated in many studies

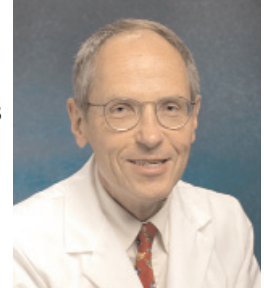
of new drugs to treat Alzheimer's disease and has published a number of papers reporting clinical and neuropathological findings in Alzheimer's disease.

Research areas: Clinical differentiation of the different causes of dementia

Current focus: A multi-center, clinical ICARA study (Investigational Clinical Amyloid Research in Alzheimer's), commonly referred to as the "Bapi" study, evaluating the safety and effectiveness of an investigational drug, bapineuzumab, aimed at slowing down the progression of Alzheimer's disease

Key concept: Using the monoclonal antibody bapineuzumab to remove beta-amyloid protein, the purported cause of Alzheimer's disease

In search of: A way to stop the progression of Alzheimer's disease



Tom Ala, M.D.

Kathleen C.M. Campbell, Ph.D.

Southern Illinois University School of Medicine, Department of Surgery

Campbell is professor of surgery and director of audiology research in SIU's otolaryngology division. She has been awarded more than \$5 million in grants, industry contracts and patent income. Her current funding from the National Institutes of Health is more than \$2 million. In addition to her full-time research efforts, she has published two textbooks and served on the national board of directors for the American Academy of Audiology. Campbell has 4 U.S. patents and 35 foreign patents with others in process. All her patents are licensed.

Research areas: Discovery and development of new drugs to prevent noise-induced hearing loss and the side effects, particularly ototoxicity, of aminoglycoside antibiotics and cisplatin chemotherapy

Current focus: To take the protective agent D-methionine that she has patented through the Food and Drug Administration (FDA) approval process, including clinical trials

Key concept: Protective agents reducing side effects of drug and radiation treatments without reducing therapeutic efficacy and lessening or reducing noise induced hearing loss and radiation induced oral mucositis by oral administration of a simple amino acid

In search of: FDA approval for the protective agents she has developed to reduce the side effects of cancer and antibiotic treatments in patients as well as to reduce or prevent noise induced hearing loss



Kathleen C.M. Campbell, Ph.D.

John E. Godwin, M.D.

Southern Illinois University School of Medicine, Department of Internal Medicine, and SimmonsCooper Cancer Institute at SIU

Godwin is professor of medicine, chief of oncology and associate director of the SimmonsCooper Cancer Institute at SIU. He currently is the national principal investigator for two cancer research trials for leukemia. He has previously received funding for 14 research grants. He is a former member of a National Institutes of Health (NIH) study section on the epidemiology of cancer (EPIC) and has participated in various project reviews of research proposals for the NIH.

Research areas: Leukemia, lymphoma and blood coagulation; biology of cancer and the treatment of lung and head and neck cancer

Current focus: Leukemia in older patients, including new insight into the biology of acute myeloid leukemia (AML) in the elderly and the difference in the leukemia phenotype seen in the older patient (working in collaboration with Cheryl Willman, M.D.)

Key concept: A new therapy using a combination of chemotherapy and a gene modifying drug to improve treatment in elderly leukemia patients, one of the most difficult areas of AML treatment (working in collaboration with Sucha Nand, M.D.)

In search of: Improved leukemia treatment in older patients and an understanding of the biology of leukemia and other cancers at a fundamental level



John E. Godwin, M.D.



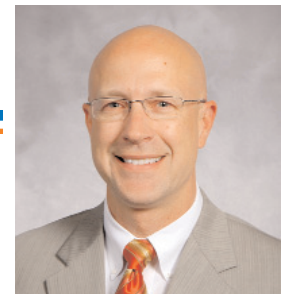
Ziad F. Issa, M.D.



Richard E. Katholi, M.D.



John E. Kwedar, M.D.



Robert B. McLafferty, M.D.

Ziad F. Issa, M.D.

Prairie Cardiovascular Consultants, Ltd.

Issa is a cardiac electrophysiologist at Prairie Cardiovascular Consultants and clinical assistant professor on the volunteer faculty at Southern Illinois University School of Medicine. He is the leading author/editor of a new textbook in cardiac electrophysiology, *Clinical Arrhythmology and Electrophysiology: A Companion to Braunwald's Heart Disease*.

Research areas: Medical and invasive management of atrial fibrillation, including catheter ablation and pulmonary vein electrical isolation

Current focus: Implantation of a medical device to help early detection and prevention of acute myocardial infarction in high risk patients

Key concept: Introduction of advanced cardiac electrophysiology therapeutic procedures to central Illinois, including ablation of atrial fibrillation and laser extraction of pacemaker and defibrillator leads

In search of: Advanced diagnostic and therapeutic modalities of cardiac arrhythmias

Richard E. Katholi, M.D.

Prairie Cardiovascular Consultants, Ltd.

Katholi is a consultant with Prairie Cardiovascular Consultants and clinical professor of pharmacology and internal medicine on the volunteer faculty at Southern Illinois University School of Medicine.

Research areas: Prevention of contrast nephropathy and role of the renal nerves in hypertension and congestive heart failure (CHF)

Current focus: Reduction of resistant hypertension with renal denervation and of cardiorenal syndrome in heart failure by renal denervation; percutaneous minimally invasive renal denervation via radio waves by placing a probe in the renal arteries as a therapeutic strategy

Key concept: Renal efferent nerves facilitate hypertension by causing renin release, sodium retention and renal vasoconstriction; renal afferent nerves activate sympathetic nervous system activity via central integration in the hypothalamic region

In search of: Confirmation that renal denervation lessens resistant hypertension in humans similar to that found in experimental animals; lessening of cardiorenal syndrome by renal denervation in CHF patients

John E. Kwedar, M.D.

Springfield Clinic, LLP

Kwedar is an ophthalmologist at the Springfield Clinic Department of Ophthalmology and assistant professor of clinical surgery on the volunteer faculty at Southern Illinois University School of Medicine. He has been involved in clinical trials for the past 15 years and is one of only two physicians in Illinois participating in a national study of the compassionate use device for an artificial iris lens, leading to an additional treatment option in central Illinois.

Research areas: Glaucoma, ocular hypertension, diabetic peripheral neuropathy, diabetic retinopathy, non-insulin and insulin dependent diabetes mellitus (NIDDM and IDDM)

Current focus: Development of alternative treatment for congenital or traumatic iris lens defects

Key concept: Implantation of new artificial iris lens device to treat congenital or traumatic iris lens defects which have a significant impact on quality of life

In search of: Ongoing evaluation of existing and newly proposed treatment therapies via participation in clinical trials locally and nationally

Robert B. McLafferty, M.D.

Southern Illinois University School of Medicine, Department of Surgery, and St. John's Hospital, Regional Wound Care Center

McLafferty is professor of surgery in the vascular surgery division and vice chair of clinical affairs for the surgery department at SIU and medical director for the Regional Wound Care Center at St. John's Hospital. He is working with other U.S. leaders on the National Venous Screening Program, including awareness of the problems associated with chronic venous insufficiency, deep venous thrombosis and pulmonary embolism.

Research areas: Epidemiology of venous disease, analysis of complications and outcomes in vascular surgical procedures, improvement in hemodialysis access for patients with renal failure

Current focus: Clinical trials to evaluate prevention and treatment modalities for venous disease and vascular surgical outcomes; a new study allowing patients with venous stasis ulcers the opportunity to have an artificial "spray on skin" with human fibroblasts that may release growth factors to help stimulate chronic venous stasis ulcers to heal

In search of: Improved care for patients with vascular disease, allowing them to participate in their care process and have access to medical innovation



H. Dennis Mollman, M.D., Ph.D.



Krishna A. Rao, M.D., Ph.D.



Thomas G. Shanahan, M.D.

H. Dennis Mollman, M.D., Ph.D.

Southern Illinois University School of Medicine, Department of Surgery

Mollman is associate professor of surgery and chair of the neurosurgery division. He also is serving as the director of neurosciences for the 13-member Hospital Sisters Health System.

Research areas: Intraoperative image guided neurosurgery of the spine, image guided and stereotactic cranial surgery, minimally invasive spinal surgery, stereotactic radiosurgery and cranial surgery

Current focus: Intraoperative image guided neurosurgery of the spine

Key concept: Minimally invasive spine surgery utilizing intra-operative 3D-imaging combined with computer 3D image guidance

In search of: Surgical techniques to decrease the morbidity associated with major spinal surgery, allowing treatment of patients who could not be treated with conventional surgical techniques

Krishna A. Rao, M.D., Ph.D.

Southern Illinois University School of Medicine, Department of Internal Medicine, and SimmonsCooper Cancer Institute at SIU

Rao is assistant professor of internal medicine and a member of the research team at the SimmonsCooper Cancer Institute at SIU. As a physician scientist, he is working on several trials, including a Phase II study of an experimental drug used in conjunction with intra-arterial chemotherapy and radiation. He also is preparing an innovative new trial to assess the role of triple induction chemotherapy followed by surgery alone (eliminating the harmful effects of radiation) in patients who have had a complete response after induction chemotherapy.

Research areas: Breast cancer, head and neck cancer

Current focus: Etiology and pathogenesis of breast cancer; use of high dose of intra-arterial chemotherapy to locally advanced head and neck squamous cell carcinoma; assessment of the role of triple induction chemotherapy followed by surgery alone in patients who have achieved a complete response after induction chemotherapy

Key concept: Head and neck cancer may be treated with novel biologic agents; a protein, Rab 25, may act as a tumor suppressor in hormonally insensitive breast cancer

In search of: Better treatments for breast and head and neck cancer through identification of novel biochemical pathways and taking advantage of existing drugs to effect cures while reducing long-term treatment related morbidity

Thomas G. Shanahan, M.D.

University Radiologists, S.C.

Shanahan is a radiation oncologist at Memorial Medical Center and a clinical associate professor of radiation oncology and urology on the volunteer faculty at Southern Illinois University School of Medicine. Shanahan helped to develop the hybrid interactive Mick applicator technique in prostate brachytherapy.

Research areas: Prostate cancer treatment

Current focus: Reducing side effects while increasing cure rates for men receiving prostate brachytherapy and imaged guided radiation therapy (IGRT)

Key concept: Improving prostate brachytherapy efficiency and accuracy of seed placement by using adhesive to better maintain seed position after placement

In search of: Improved success rates and reduced side effects in men diagnosed with prostate cancer





Mid-Illinois Medical District

130 W. Mason St. • Springfield, Illinois 62702 • 217-527-3908

www.MidIllinoisMedicalDistrict.org

Basics About the District...

The Mid-Illinois Medical District at Springfield was created to foster development and expansion of high-quality patient care and treatments and medical research opportunities for central Illinois and beyond.

- Established: Jan. 3, 2003, by the Illinois General Assembly
- Size: Approximately one square mile
- People employed in the District: 12,000
- Physicians: 725
- Leadership: Publicly appointed eleven-member commission
- Boundaries: 11th Street on the east, Madison Street on the south, Walnut Street on the west and North Grand Avenue on the north. In addition, the District's medical occupations training program area includes Cass, Christian, Logan, Macoupin, Mason, Menard, Montgomery, Morgan, Sangamon and Scott counties.

A Catalyst for Development

The District acts as a mechanism for development to expand patient care and integrate the discoveries of local researchers into the marketplace.

The Board of Commissioners:

- Articulates the vision of economic growth and the development of health care and medically related industries within the District
- Leads the implementation of a city-approved Master Plan outlining land use and development
- Seeks and accepts grants and appropriations
- Issues revenue bonds
- Collects fees from tenants for common projects

A Foundation for New Discoveries

The District's anchor institutions support a number of nationally acclaimed research activities.

- More than 750 open reviews for clinical studies
- More than \$22 million in active research funding at Southern Illinois University (SIU) School of Medicine alone
- Two institutional review boards: Springfield Committee for Research Involving Human Subjects and Fox Commercial Institutional Review Board, Ltd.
- Proven qualified subject pool

The Power of Collaboration

Existing medical institutions and diverse health care offerings provide opportunities for collaborative partnerships and comprehensive patient care.

- Southern Illinois University School of Medicine - Nationally renowned for its medical education with approximately 280 residents/fellows and 288 medical students; recognized for primary and specialty care, including cancer, surgery, memory/aging, neurosciences, pediatrics, surgery and women's health with 513,000 patient visits annually; research expertise includes cancer, geriatrics, hearing, and neurosciences; established in 1970, it now has more than 1,300 employees and 225 physicians
- St. John's Hospital - Established in 1878, is an affiliate of Hospital Sisters Health System; its Prairie Heart Institute is a national leader in cardiac services and home to Illinois' largest heart program which consistently ranks as a top heart hospital nationwide; St. John's Children's Hospital is a joint endeavor with SIU School of Medicine, combining SIU's faculty resources with the hospital's pediatric facilities and services including a pediatric critical care center and Level III Perinatal Center
- Memorial Medical Center - The flagship hospital of Memorial Health System; employs more than 3,900 people; each year provides approximately 24,000 inpatient visits, more than 470,000 outpatient visits and more than 65,000 emergency department visits; other health system affiliates that operate within the medical district include Memorial Physician Services, Memorial Home Services and Mental Health Center of Central Illinois

- Springfield Clinic, LLP - Illinois' second largest private multi-specialty clinic with more than 20 locations throughout central Illinois, including eight in Springfield; employs 195 physicians, 75 mid-level providers and 1,500 employees providing more than 800,000 patient encounters annually; has fully integrated electronic health records, state-of-the-art ambulatory surgery center, digital diagnostic imaging center, comprehensive laboratory and audiology/hearing aid services, and clinical research department
- Prairie Cardiovascular Consultants, Ltd., The Doctors of Prairie - Largest cardiology specialty group in Illinois with 43 specialists serving 35 clinics throughout central and southern Illinois
- The Clinical Research Site at Memorial Medical Center - More than 500 clinical trials approved; major categories of research include oncology, cardiac, vascular, orthopaedic, infectious disease and neurology
- Prairie Education & Research Cooperative (PERC) - Nationally recognized research program on cardiovascular medicine and related technology; clinical trial management with approximately 70 active clinical trials
- Southern Illinois Trauma Center (SITC) - a partnership of Memorial Medical Center, St. John's Hospital and SIU School of Medicine, SITC is designated a Level I trauma center by the Illinois Department of Public Health and provides trauma care for west central and southern Illinois

Commitment from Within

Major institutions are making significant investments within the District.

- The SimmonsCooper Cancer Institute at SIU School of Medicine - \$21.1 million complex for cancer research focusing the School's efforts in physician and public education, and treatment for patients from across central and southern Illinois, projected to open in summer 2009, creating initially 50 new jobs
- Prairie Diagnostic Center - opened in 2006; a unique partnership between the two major hospitals and Prairie Cardiovascular Consultants; fully accredited free standing ambulatory catheterization lab and 64 slice CT reside on first floor; since opening, more than 4,000 cardiac catheterizations have been performed; outpatient facility specializes in diagnostic cardiac imaging and is home to the Prairie Vascular Institute and Vein Clinic
- Noll Medical Pavilion - opened in 2008; provides services to more than 7,000 children with developmental disabilities, mental illness and autism each year; home to the Children's Health Care Partnership comprised of The Hope Institute for Children and Families; Mental Health Center of Central Illinois; Autism Program of Illinois; SIU School of Medicine Division of Child and Adolescent Psychiatry; and the Central Illinois Developmental Disability Dental Advisory Commission
- Lincoln Prairie Behavioral Health Center - opened in 2008 to serve children, adolescents and their families in central and southern Illinois; offers 80 inpatient psychiatric beds for youth ages 3-17, 40 residential beds for long-term placement and many outpatient programs that complement and supplement the community needs of Springfield to help physicians monitor medications and treat childhood behavioral and mental health needs
- Springfield Clinic 1st - Memorial Medical Center's new \$27 million office building, opened in 2006; houses 70 physicians and 400 employees

Living and Working in the Greater Springfield Area

As the Illinois State Capital, Springfield is centrally located to serve a sweeping region of downstate Illinois and portions of neighboring states.

- Illinois State Capital: 15,500 government employees
- Springfield population: 117,090
- Population of eight surrounding counties: 525,974
- Median household income: \$44,403
- Proximity to metropolitan areas: Chicago - 202 miles; Indianapolis - 206 miles; St. Louis - 102 miles
- Transportation: Abraham Lincoln Capital Airport, servicing daily flights to major cities via commercial carriers; adjacent to major interstate routes I-55 and I-72; Greyhound and Amtrak service
- Major Attractions: Abraham Lincoln Presidential Library and Museum; Abraham Lincoln Home National Historic Site; Abraham Lincoln Tomb and Monument; Lincoln's New Salem State Historic Site; Old State Capitol; the Lincoln Memorial Gardens; the Illinois State Capitol Building; Executive Mansion; and the Illinois State Fair
- Arts and Entertainment: Hoogland Center for the Arts; the Illinois Symphony Orchestra; the Springfield Ballet Company; the Springfield Muni Opera; Sangamon Auditorium at the University of Illinois at Springfield; Old Capitol Art Fair; Route 66 Fall Festival; New Salem Country Opry; Springfield Theatre Center; Springfield Choral Society; Theatre in the Park at New Salem; and Springfield's Summer Serenades
- Recreation: Lake Springfield; Springfield Park District; 12 area golf courses; Panther Creek State Fish & Wildlife Area; Adams Wildlife Sanctuary; Henson Robinson Zoo; Madigan State Park; Sangchris Lake State Park; and the Springfield Jr. Blues Hockey Team
- Higher Education: University of Illinois at Springfield; Springfield College in Illinois/Benedictine University; Lincoln Land Community College; Southern Illinois University School of Medicine; Robert Morris College; St. John's College of Nursing; and Midwest Technical Institute



Sangamon County Medical Society

230 W. Carpenter St.
Springfield, IL 62702
217-525-0765
217-525-0334 fax
www.scmsdocs.org