Successful Program Continues

2015 KL2 Scholars Announced

The UW Institute for Clinical and Translational Research (ICTR) has named four additional scholars to the KL2 training program. This program is funded by the NIH through the ICTR Clinical and Translational Science Award (CTSA) and currently includes 14 KL2 Scholars.

All CTSA institutions have a KL2 program, which offers a research training experience to scholars who already have an MD, PhD, or equivalent doctoral degree. The program provides promising young clinical and translational investigators training, mentoring, and protected time to develop an independent research program. At ICTR, scholars also attend a monthly career development seminar, which has focused on team science and interdisciplinary research approaches for the 2014-2015 academic year.

NIH Awards to Scholars

“As in previous years, new appointment slots for scholars have become available with the award of individual NIH R01 and K awards to existing scholars,” says Marc Drezner, MD, ICTR Executive Director. “Filling these slots allows ICTR to extend support to additional individuals.”

To date, eight scholars have received individual K08 or K23 awards, and 12 have received R01 awards. Overall, since inception of the program, scholars have received in excess of $70 million in grant awards, of which approximately three fourths was from federal sources. Success in competing for extramural funding is only one of the ways ICTR is able to document success in the KL2 program (see sidebar).

Drezner continues, “UW ICTR has one of the most successful KL2 programs in the CTSA consortium, both by the number of individuals we train and by their success in conducting research, publishing their research, and competitive acquisition of extramural funding to support their research programs.”

Application Process

The 2016 RFA is available for scholar openings that start June 1, 2016. Applicants must be nominated by the chair/dean of their individual departments or programs. The Scholars program includes individuals from all five ICTR partner schools and college, Marshfield Clinic, and other UW departments with junior faculty engaged in clinical and translational research.

For more information contact Pam Asquith, ICTR Research Education and Career Development administrator, psasquith@wisc.edu, (608) 263-8337, or check the career development page on the ICTR web portal (ictr.wisc.edu/KL2RFA).
UW Madison ICTR Report

By Marc Drezner, MD, ICTR Executive Director
Senior Associate Dean, UW SMPH

Midwinter finds us at UW ICTR engaged in preparing our annual progress report to the NIH. Offered through the National Center for Advancing Translational Sciences, our Clinical and Translational Science Award is a key support for the ICTR goal of transforming the research environment at the UW and Marshfield Clinic into a continuum extending from investigation to discovery to translation into practice.

While the career development program can involve some of the most complex reporting requirements, assembling the report provides a welcome opportunity to reflect on the impressive academic achievements of our KL2 Scholars, as well as our TL1 pre-doctoral trainees and students in the Clinical Investigation certificate and graduate programs. Their training is one of our most rewarding activities!

So it is with pleasure that I bring your notice to our four newest KL2 Scholars announced in this issue. Each year’s group or cohort represents new opportunities for UW ICTR to make a difference in the careers and research accomplishments of highly promising junior investigators. Our yearly tracking and reporting helps us demonstrate that our programs make a difference. KL2 scholars are both successful while in the mentored career development program and continue their record of accomplishment upon completion.

Such individuals are essential to the national mission of NIH to improve health in the US in part by increasing, strengthening, and diversifying the biomedical workforce. Locally, we have ample evidence that our alumni are playing an important role in advancing local health outcomes, thereby helping to fulfill the "Wisconsin Idea," a concept linking University efforts to the well-being of the residents of Wisconsin.

ICTR Jobs: See Online Listings

If you are interested in new positions in clinical and translational research, remember the employment section of the ICTR web portal (ictr.wisc.edu/ jobs), where the Institute posts faculty, academic staff, and classified positions. ICTR anticipates recruiting new program staff this spring, so check back frequently.

The Marshfield Report

By Robert Steiner, MD, Executive Director, MCRF
ICTR Associate Executive Director

We at MCRF are delighted to be chosen to participate in the collaborative Rare Diseases Clinical Research Network (RDCRN), a National Center for Advancing Translational Sciences (NCATS) initiative. In October 2014, NIH announced awards to expand the RDCRN, which facilitates the work of physician scientists at more than 20 consortia in partnership with almost 100 patient advocacy groups.

The goal of these collaborations is to advance clinical research and investigate new treatments for rare diseases. NIH awarded $30 million to the RDCRN for fiscal year 2014 via awards from NCATS and ten other NIH Institutes and Offices.

Marshfield participation is through the Sterol and Isoprenoid Disorders Research (STAIR) consortium, led by Robert Steiner, MD, from 2009 to 2014. STAIR incorporates studies on rare sterol and isoprenoid disorders including Smith-Lemli-Opitz syndrome (SLOS), cerebrotendinous xanthomatosis, sitosterolemia, hyperimmunoglobulinemia D with Periodic Fever Syndrome (HIDS), and others.

The current principal investigator of STAIR is Bill Rizzo (University of Nebraska Medical Center). Co-investigators include Steiner (Marshfield Clinic and UW), Jim Heubi (Cincinnati Children’s), Jerry Vockley (Children’s Hospital of Pittsburgh), Bill Gahl and Lynne Wolfe (NIH), Peter Jones (University of Manitoba), and Administrative Director Jean-Baptiste Roullet (Oregon Health and Science University). CTSA sites, such as UW ICTR, have been major contributors to STAIR and most other consortia.

Upcoming plans for STAIR include finishing a clinical research and investigate new treatments for rare diseases. NIH awarded $30 million to the RDCRN, which facilitates the work of physician scientists at more than 20 consortia in partnership with almost 100 patient advocacy groups.

For more information: contact (608) 263-1018 or info@uwictr.wisc.edu

Editor: Laura Hogan
Design and Photography: Media Solutions, media.med.wisc.edu
On January 30, 2015, Murray Brilliant, PhD, director of the Marshfield Clinic Research Foundation (MCRF) Center for Human Genetics and ICTR assistant director for the Translational Technologies and Resources core, was a guest of the White House at President Barack Obama’s announcement of the new Precision Medicine Initiative. He was also an invited participant at the first NIH planning meeting for this new initiative.

Brilliant oversees the Marshfield Clinic Personalized Medicine Research Project (PMRP), created in 2001, that currently has a database of more than 20,000 volunteers. PMRP is one of the largest population-based, genetic research projects in the US tied to long-term, nearly complete electronic health records. The ultimate goal of the PMRP is to allow providers to tailor health care to an individual’s precise genetic profile. PMRP is an ICTR resource, available to ICTR researchers.

This cutting edge approach to personalized medicine is at the heart of the White House initiative. Objectives of the Precision Medicine Initiative include accelerating biomedical discoveries, investing in the design and testing of effective, tailored treatments for cancer, and creating a voluntary national research cohort of 1 million people. Although the details of who will be included in this million-member Precision Medicine cohort is yet to be determined, participants are expected to be drawn from existing cohorts like PMRP.

Extension of the invitation to Brilliant is only the most recent news from UW ICTR partner MCRF as precision medicine research comes of age. UW ICTR members interested in using data from the PMRP can submit a request for a consultation online (ictr.wisc.edu/pmr_project).

Growing List of Precision Medicine Studies at MCRF

The MCRF Center for Human Genetics has seen a remarkable growth in precision medicine-based research in recent years. More links to information about the following and other research studies are available online (ictr.wisc.edu/NewsletterExtra).

Brilliant and co-investigator Zhan Ye, PhD, biostatistician with the MCRF Biomedical Informatics Research Center, were part of an international study of next generation sequencing coordinated by the FDA. Results from the study were published last fall in *Nature Biotechnology* and demonstrated the reproducibility of technologies for measuring gene activity across various laboratories. The reliability and accuracy of genome analysis is essential for the development of new drugs and therapies customized to the individual.

Scott Hebrbing, PhD, a research scientist in MCRF Center for Human Genetics, and Brilliant were co-authors of an NIH-supported multi-site study that characterized gene-specific effects on heart attack risk. Researchers estimated that about 20% of the population carries a protective gene combination. This study was published this winter in the journal *Circulation Research*.

Hebbring was also recently awarded a $400,000 federal grant for a study titled, Development and Application of Phenome-wide Scan of Heritability (PheSH). This project will apply statistical methods to calculate heritability for thousands of diseases simultaneously using data from Marshfield Clinic electronic health records and the PMRP.

Precision Medicine has Deep Roots at UW

While the current “big picture” for precision medicine focuses on genome sequencing, gene activity screening, and electronic health records, physicians have long striven to improve standard of care by identifying diagnostic markers allowing application of personalized medicine approaches.

As an example, newborn screening for cystic fibrosis (CF) and other diseases makes a significant difference in survival rates and all 50 states mandate newborn screening for CF. UW SMPH was a pioneer in this research beginning in the mid 1980s.

Likewise, one of the promises of stem cell and regenerative medicine research is that an individual patient’s cells can be manipulated to produce genetically identical cell lines for personalized therapies. UW–Madison has been a leader in this field since embryonic stem cells from non-human primates were first successfully cultured here.
Save the Date: 2015 Land O’Lakes Short Course and Conference

57TH ANNUAL INTERNATIONAL INDUSTRIAL PHARMACEUTICAL RESEARCH & DEVELOPMENT CONFERENCE

Biopharmaceutical Considerations in Drug Development: From Candidate Selection to Enabling Drug Delivery Technologies for Optimal Clinical Performance

When: June 1-4, 2015
Where: Fluno Center, Madison, WI
Pre-Registration Deadline: May 4, 2015

More information about the conference and registration instructions can be found online (ce.pharmacy.wisc.edu/mod/coursepage/view.php?id=4771#info). The conference is accompanied by an optional short course which requires a separate registration (below).

RESEARCH & DEVELOPMENT LAND O’LAKES PRE-CONFERENCE SHORT COURSE

An Evolving Paradigm for Drug Development: Biopharmaceutical Considerations for In/Out-Licensing

When: June 1, 2015, 1-5 pm
Where: Fluno Center, Madison, WI
Pre-Registration Deadline: May 4, 2015

More information about the conference and registration instructions can be found online (ce.pharmacy.wisc.edu/mod/coursepage/view.php?id=5264). The short course precedes the conference which requires a separate registration (above).

Faculty include:
- **Ed Elder, PhD, Director**
  Lenor Zeeh Pharmaceutical Experiment Station
  UW-Madison School of Pharmacy

- **Mark Sacchetti, PhD, Scientific Director**
  Lenor Zeeh Pharmaceutical Experiment Station
  UW-Madison School of Pharmacy

- **Rob Hagan, PhD, Project Manager**
  Office for Therapeutics Discovery and Development
  UW Institute for Clinical & Translational Research

**Don B (DB) Sanders, MD**

Assistant Professor, SMPH
Department of Pediatrics

*Risk factors in early life leading to progression of cystic fibrosis lung disease; Developing sensitive measures to detect early lung disease*

Mentors:
James Gern, MD, SMPH
(Department of Pediatrics)

Philip Farrell, MD, PhD, SMPH
(Departments of Pediatrics and Population Health Sciences)

Stephanie Davis, MD, Indiana University School of Medicine
(Department of Pediatrics)

**Meghan Brennan, MD**

Assistant Professor (effective 6-1-15), SMPH
Department of Medicine

*Adapting the healthcare system to improve outcomes of patients with diabetic foot ulcers*

Mentors:
Christopher Crnich, MD, PhD, SMPH
(Department of Medicine)

Maureen Smith, MD, PhD, SMPH
(Department of Population Health Sciences)

Min-Woong Sohn, PhD, University of Virginia School of Medicine
(Department of Public Health Sciences)

**Elisa Torres, PhD**

Assistant Professor
School of Nursing

*Identify areas of the brain implicated in depression that are associated with and affected by physical activity, thereby decreasing the risk for Alzheimer’s disease*

Mentors:
Andrew Alexander, PhD, SMPH
(Departments of Medical Physics and Psychiatry)

Bruce Barrett, MD, PhD, SMPH (Department of Family Medicine)

Diane Lauver, PhD (School of Nursing)

**David McCulley, MD**

Assistant Professor, SMPH
Department of Pediatrics

*Genetic causes of congenital diaphragmatic hernia and the relationship of gene mutations that affect diaphragm formation to abnormal pulmonary vascular development*

Mentors:
Xin Sun, PhD, SMPH (Laboratory of Genetics)

Marlowe Eldridge, MD, SMPH (Department of Pediatrics)

Naomi Chesler, PhD, College of Engineering
(Department of Biomedical Engineering)
2015 Dissemination and Implementation Short Course

ICTR Dissemination and Implementation staff will host a short course April 15, 16, and 17 at the UW School of Nursing. Consisting of a pre-conference workshop and two days of programming, participants can register for one, two, or all three days. The short course builds on the previous event in 2013 and will provide health research investigators with an opportunity to learn and work with national and local experts in this emerging science field.

Please contact Melody Bockenfeld (bockenfeld@wisc.edu) with questions. The ICTR web portal contains registration instructions, a complete agenda including speaker list, and details about content for each of the three days (ictr.wisc.edu/DnlEvents).

Second Round of Dissemination Supplements Awarded in November

UW ICTR offers dissemination supplements to address the gap between university-based research discoveries and the translation of this knowledge into programs and policies to improve the health of the public. This award supports the dissemination of evidence-based strategies where the research was largely conducted at UW-Madison or Marshfield Clinic.

Supplements are offered in three funding tiers (up to $5,000, up to $10,000, up to $15,000) for a 12-month period. For more information contact Melody Bockenfeld, D&I program manager in the ICTR Community-Academic Partnerships core, bockenfeld@wisc.edu. Information about this and previous RFAs is found on the ICTR web portal (ictr.wisc.edu/DissSuplmt).

Proposals funded in the second round included:

Training and Support for the Implementation of the Transitioning Together Program for Adolescents with Autism Spectrum Disorders and their Families

Leann Smith, PhD, Waisman Center

This project will train clinicians to implement the research-based Transitioning Together intervention for adolescents with autism spectrum disorders and their families during their transition to adulthood.

Dissemination of Zoonotic Disease Research Findings to Key Government Organizations to Facilitate the Identification and Adoption of Prevention Priorities

Tony Goldberg, DVM, PhD, School of Veterinary Medicine

Findings from the Kibale EcoHealth Project will be disseminated to the Uganda Wildlife Authority and the District Health Office to improve conservation outcomes and protect public health. The focus of the Kibale EcoHealth Project is to translate scientific research focused on human/animal health and zoonotic disease in Uganda into effective, targeted policy and management recommendations.

Register Now: 2015 ICTR Clinical Research Study Design Workshop

This workshop series is intended to provide postdoctoral clinical fellows with hands-on experiences that will prepare them to design a clinical research protocol. It is taught by an experienced biostatistician who works with fellows to clarify their research questions and develop their study designs. Participants must be nominated by their clinical fellowship director.

Ideal participants include fellows who have completed at least one year of postdoctoral fellowship training and are preparing an individual K award or a poster presentation for a professional conference, or who are in the early stages of designing a study to meet their fellowship requirements.

Sessions will consist of short lectures, small and large group discussions, and hands-on exercises. Additionally, participants are expected to complete homework assignments between class sessions.

When: Wednesdays, April 29, May 6, May 13, 4-6 pm
Where: 5001 WIMR
Nomination Deadline: March 13, 2015
Registration Deadline: March 20, 2015

More information about prerequisites, workshop goals, and the nomination procedure is available online (ictr.wisc.edu/crs15).

GPCI Graduate: Amal Alhefdhi

Amal Alhefdhi, MD, MS, a former endocrine surgery fellow at UW SMPH, began her UW-Madison academic career by earning the Capstone Certificate in the Fundamentals of Clinical Research beginning in 2010. She entered the MS in Clinical Investigation program in summer 2014 and, despite a punishing workload, finished her MS coursework and thesis in fall 2014. Currently, Alhefdhi is a practicing physician and clinical research specialist at King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia. Her MS thesis title was Optimizing the Surgical Treatment of Primary Hyperparathyroidism: The Role of Intraoperative Parathyroid Hormone Testing in Mild Disease; the Role of Intraoperative Parathyroid Hormone After Four-Parathyroid Gland Exploration; and Persistent and Recurrent Disease After Surgery. Herb Chen, MD, professor and chair of surgery, was her primary faculty advisor. David H. Schneider, MD, MS, assistant professor of surgery, and Ricardo V. Lloyd, MD, PhD, professor of pathology and laboratory medicine, also mentored her as members of her degree committee.
The ICTR Translational Technologies and Resources Core (TTRC) named five recipients of its fourth round of voucher awards – short-term, low-dollar awards (up to $5,000 for three months) to advance the translation of discovery into therapy. Applicants must document an urgent need for services based upon recent extramural grant review, or milestones for therapeutic development. Requests are redeemable only at one of the ICTR TTRC resource areas.

John Kao, PhD, ICTR TTRC director, notes, “It has been very gratifying to hear from our investigators that the Voucher Program has been successful in providing them with the immediate resources they require to generate data needed for follow-on funding and drug discovery activities.”

Round 4 Awards were made in January 2015 and another round of awards is anticipated for spring 2015. More information about voucher awards can be found on the ICTR web portal (ictr.wisc.edu/TTRCVoucherPilot).

• Screening the NIH library for Candidate Drugs to Treat Rett Syndrome Qiang Chang, PhD, SMPH Small Molecule Screening and Synthesis Facility
• Stop Multiple Sclerosis by Blocking Mitochondria Anchoring Shing-Yan (Bill) Chiu, PhD, SMPH Small Molecule Screening and Synthesis Facility
• Topical Phenylephrine to Prevent Mucositis in Bone Marrow Transplant Margo Hoover-Regan, MD, SMPH UWCCC 3PLab
• PcG Protein YY1 Function in Hematopoietic Stem Cell Development Xuan Pan, VMD, PhD School of Veterinary Medicine UWCCC Flow Cytometry Lab
• The Marmoset as a Model for Ovarian Doxorubicin Toxicity and Protection Sana Salih, MD, SMPH UWCCC Experimental Pathology Laboratory

Erik Brodt, MD, director of the UW Native American Center for Health Professions (NACHP), has been awarded a Diversity Award from the UW System Board of Regents. NACHP is nested within the UW ICTR Collaborative Center for Health Equity (CCHE).

Brodt, an assistant professor of family medicine, was honored for his work to increase the recruitment, support, and retention of Native health professional students. In addition to founding NACHP in 2012, he helped develop the Association of Native American Medical Students chapter at UW-Madison and has collaborated on pipeline initiatives such as the Health Equity Leadership Institute offered yearly by CCHE.

Brodt secured and serves as Principal Investigator on a $1 million Indians into Medicine five-year grant to NACHP from the Department of Health and Human Services (DHHS) Indian Health Service and is currently developing a series of films, We Are Healers, which highlight the career paths and practices of Native physicians.

More links to information about NACHP are available online (ictr.wisc.edu/2015Symposium).