



◀ *P. falciparum* sporozoite in a mosquito midgut



Infectious Diseases

Washington University in St. Louis
SCHOOL OF MEDICINE

DIVISION NEWSLETTER December 31, 2013 • Volume 8, Issue 4

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ID NEWS & NOTES

Infectious Diseases Society of St. Louis presents:
Challenging Infectious Diseases Clinical Case Presentations
Thursday, March 6, 2014
Engineers' Club of St. Louis
6:00 p.m. Hors d'oeuvres Reception
7:00 p.m. Dinner/Program Commences
http://actu.im.wustl.edu/ResourcesProfessionals/STL_IDSociety.html

2nd Annual Global Health & Infectious Diseases Conference
Friday, March 28, 2014
8:00 am – 5:15 p.m.
Eric P. Neumann Education Center
http://cghid.wustl.edu/?page_id=207

We are interested in your achievements, clinical and/or research activities, and other personal news since leaving Washington University School of Medicine. Please contact Dr. Gerald Medoff at gmedoff@dom.wustl.edu with any information you would like to share. All division newsletters can be found at: ID Division Newsletters

ID Faculty Member Helps First Responders, Flood Victims in Colorado



Stephen Liang, MD, (left), instructor of medicine, spent nine days in Colorado treating fellow crew members from Missouri Task Force 1 and those impacted by the 2013 Colorado flood.

Founded after the Oklahoma City bombings, Missouri Task Force 1 (MO-TF1) is one of 28 FEMA urban search and rescue task forces in the country. Sponsored by Boone County Fire Protection District in Columbia, the task force includes rescue workers from across the state. It has carried out missions at Ground Zero, Hurricane Katrina and other disaster sites nationwide.

On Sept. 16, the unit deployed to Colorado, where catastrophic flooding has resulted in eight deaths, affected 20 counties and damaged or destroyed nearly 20,000 homes, 200 miles of highways and 50 bridges.

About 80 specially trained first responders from Missouri traveled to the Rocky Mountain foothills, establishing a base of operations at Larimer County Fairgrounds. Covering treacherous terrain, the unit searched for victims, made thousands of rescues and provided aid.

Stephen Liang served as one of two physician medical team managers and oversaw a group of paramedics. While there, he treated MO-TF1 team members suffering from dehydration, musculo-skeletal injuries, bee stings and other aches and pains sustained in the field. He also worked in an evacuee medical evaluation and treatment tent as residents were airlifted from mountain towns cut off by the flood.

Search and rescue

Colorado marked the first disaster experience for Liang, who joined MO-TF1 in 2011. As part of the relief effort, Liang participated in helicopter evacuations at Storm Mountain, went door to door searching for missing persons around Estes Park, and combed debris piles for human remains and other hazards.

Along the flood zone, he encountered swift water and quicksand-like mud. "One of our members sank almost waist-deep into mud and was a challenge to extricate," Liang said. "Other unexpected scenarios included mountain communities where people didn't necessarily want contact with the

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Above image (*P. Falciparum*): CDC/Dr. Mae Melvin (PHIL #2704), 1973. == Licensin). Masthead image: Ute Frevert; false color by Margaret Shear; Copyright: © 2005 Frevert et al.

FEATURED COLLEAGUE



Jason Sanchez, M.D.

I spent three years as an infectious diseases fellow at Washington University School of Medicine from 1998 to 2001 and had the good fortune of working along side Danny Paul, David Warren and Jim Galbraith as co-fellows. My years in St. Louis were happy ones, filled with equal parts hard work and fun as we delved into the mysteries of the immune system and its interaction with the infectious environment. Well...ok, more hard work than fun but both were there in abundance. I owe much to all the physicians that helped shape my experience there at Barnes-Jewish but want to recognize Jerry Medoff and Bill Powderly who guided me on the wards, as well as in clinic, and to Greg Storch, who's lab became a home for me in more ways than one. My work on CMV with Greg taught me much about that particular virus, about how to mentor with patience and about how to approach life.

Following fellowship, I moved to sunny Minneapolis, Minnesota and began private practice in Infectious Diseases at Abbott Northwestern Hospital. Abbott is the largest private hospital in the Twin Cities and has its own Medical Residency program as well as serving as a teaching hospital for the University of Minnesota. In 2006 I founded my own practice in Infectious Diseases (Infectious Disease Associates) working primarily at Abbott Northwestern still and now have 2 partners that bring our group to three. Abbott includes active bone marrow, renal and

continued next column

honoring Gerald Medoff, M.D.



**Join us in celebrating
the legacy of
Dr. Gerald Medoff
Saturday
April 5, 2014**



Festschrift

Clopton Auditorium

Washington University School
of Medicine

9:00 a.m. – 12:30 p.m.

<http://en.wikipedia.org/wiki/Festschrift>

Dinner

Monarch Restaurant

7401 Manchester Road
St. Louis, MO 63143

(314)644-3995

6:00 p.m.

Please RSVP to Alicia Cicerelli at acicerel@wustl.edu

Jason Sanchez, M.D. continued

heart transplant programs and I enjoy the variety that includes working with these immune compromised patients as well as with the general medicine patients, wound clinic, HIV and travel medicine. I have an adjunct assistant professor appointment at the University of Minnesota and very much enjoy working with the medical students, residents and fellows that work at our hospital. I am starting to become more involved in clinic research projects that include HIV patient populations in conjunction with Dr. Frank Rhame and am planning to expand this in the near future as Abbott (as part of Allina Hospitals and clinics)

is now encouraging and, more importantly, supporting clinical research ventures.

I am married to my beautiful wife, Nila Suntharam, who also practices infectious diseases here in Minneapolis and we have 4 children that occupy nearly all our time outside of the hospital. Justin (15) loves history and is an avid Nordic skier on the high school team. Arason (11) is my mathematician who swims and plays soccer. Sofia is the artist of the group, which includes painting, piano and cello. And Nirai (almost 8) is the big personality, loved by all, who recently cannot keep her nose out of a book. I run on nearly a daily basis and love to down hill ski when I can.

I truly love my work and feel a great debt of gratitude to those at Washington University's infectious diseases department who trained me well for a life of continued questioning and learning. We enjoy visitors to Minnesota, rare though they may be in the winter, and encourage any who come our way to look us up and stay a while.



The Sanchez Family
Justin, Arason, Jason, Nila, Nirai, and Sofia

awards & announcements

RECENT AWARDS		
PRINCIPAL INVESTIGATOR(S)	AWARD	PROJECT TITLE
Jeffrey J. Atkinson, MD & Rachel M. Presti, MD, PhD	National Institute of Health/National Heart, Lung, and Blood Institute (NHLBI)	Molecular Mechanism of Chronic Airway Disease and Inflammation. This grant will study lung disease in HIV infected patients.
Thomas Bailey, MD, Marin H. Kollef, MD, FACP, FCCP, and Chenyang Lu, PhD (Computer Science and Engineering) are co-principal investigators with PI, Dr. Yixin Chen, School of Engineering, University of Mississippi	Smart and Connected Health Program Division of Information & Intelligent Systems Computer Science and Engineering Directorate National Science Foundation	Integrated Real-Time Clinical Deterioration Prediction for Hospitalized Patients and Outpatients
David Clifford, MD, principal investigator and Rachel Presti, MD, PhD, co-investigator	National Institutes of Health, National Institute of Allergy and Infectious Diseases	AIDS Clinical Trials Site - continuing efforts to investigate cure for HIV infection, long-term effects of HIV infection and treatments and complications of AIDS http://actu.im.wustl.edu

special recognition

Nigar Kirmani, M.D., the Course Master for the third year of the Infectious Diseases Course, is the recipient of a 2013 Distinguished Service Teaching Award (DSTA) from the Washington University School of Medicine. The DSTAs are presented by Washington University medical students to faculty and house staff in appreciation of exemplary service in medical student education. Dr. Kirmani has been the recipient of the DTSA 7 times in the past 9 years.

Victoria J. Fraser, M.D. received, on behalf of the Department of Medicine, the Clinical Department of the Year Award given by Washington University Medical Students

congratulations.....

Dr. Gary Weil is honored with the Donald Mackay Award

The American Society of Tropical Medicine and Hygiene honored Gary J. Weil, M.D. with the Donald Mackay Award on November 13 during the opening of the 62nd annual meeting. The award recognizes outstanding work in tropical health, especially relating to improvements in the health of rural or urban workers in the tropics. The award honors Donald Mackay who was renowned for his outstanding work in tropical occupational health, especially on the tea plantations of South Asia. The award is given annually with the Royal Society of Tropical Medicine and Hygiene.



Gary Weil, M.D., FASTMH
Professor of Medicine



Bradley Stoner, M.D., Ph.D.
Associate Professor of Anthropology
& Medicine

Dr. Bradley Stoner Selected as Nominee for the Association of American Medical Colleges Annual Humanism in Medicine Award

Dr. Bradley Stoner was selected by medical students of Washington University as the school's 2014 nominee for the Association of American Medical Colleges (AAMC) annual Humanism in Medicine Award (HIM). Humanism nominations recognize the important qualities of community service, positive mentoring skills, compassion and sensitivity, ethics, and collaboration, which are vital and diverse qualities in a physician.

flood victims in Colorado continued from page 1

federal government. We traveled with Larimer County sheriffs because some of these individuals had met other visitors on their property with firearms.”

By and large, however, most people expressed sincere gratitude as the unit’s 17-vehicle convoy pulled into rest stops along the way. “These residents who had lost so much during the floods thanked us for taking time away from our own families to help theirs. It was humbling.”

Back at home, Liang’s family watched footage of the Colorado floods on the news and worried about his safety. His wife, Philana, who also works in the Division of Infectious Diseases as a physician assistant, and his four children, including a new baby girl, stayed in touch through email, phone and Skype.

The impact of 9/11

Liang’s interest in disaster relief began with 9/11. At the time, he was a second-year medical student at the University of Maryland; his brother lived five blocks from the World Trade Center. Two weeks following the attacks, Liang walked through Ground Zero. From the other side of the fence, he watched as emergency crews worked around the clock to find survivors. Years later, he learned that many of the men and women assisting the effort were volunteers from various urban search and rescue teams, including MO-TF1. “I would see the same teams deployed to disasters such as Hurricane Katrina,” Liang said. “I wanted to contribute to their work, so when I became a board-certified emergency physician, I volunteered.”



Out of the comfort zone

Although Liang served as an emergency medical technician through college and enjoys hands-on work in the pre-hospital setting, he admits that joining MO-TF1 took him out of his comfort zone. All MO-TF1 members, regardless of specialty, go through structural collapse technician training. There, they learn about rigging, rappelling, shoring and busting through concrete with heavy machinery. They also train in self-contained breathing apparatus, chemical/biological/radiological/nuclear threats, hazardous materials operations and water rescue. MO-TF1 annually stages an operational readiness exercise, which sometimes includes mass casualty scenarios and time spent in the “pile” (a training facility of concrete rubble, smashed cars and narrow underground tunnels simulating a collapsed building).

Despite the risks he faced in Colorado, Liang insists he played a small role. “The focus really should be on the firefighters, paramedics, search/rescue specialists, K-9 specialists, engineers and logistics coordinators. I was there so that they could do their jobs and know that medical help was close by if they needed it.”



S. Liang with children Ethan, Naomi, Hannah and Daniel

The support of colleagues

Liang also credits his division chiefs — William Powderly, MD, Brent Ruoff, MD, and Victoria Fraser, MD — for enabling him to train and serve with MO-TF1. On less than 24 hours notice, Jeffrey Henderson, MD, PhD, agreed to cover Liang’s clinical commitments at Barnes-Jewish Hospital. Many of the faculty in infectious diseases and emergency medicine are engaged in international outreach and disaster efforts.

Liang, now back in his “routine,” shares his biggest takeaway: “You can always make a difference. Be open, be prepared and be willing to step up when the call arises, whether it is in your daily work in the hospital, hearing the overhead page for a physician on a plane, coming across a wreck on the highway, or in the midst of a disaster,” said Liang, who, at age 10, lost his own father in a car crash. “It is a privilege and an honor to serve others through the medical profession. Don’t forget that and don’t ever take it for granted. If I was hurt, lost, or entrapped, I’d hope someone else would step up and come to my aid.”

Parts of this article are reprinted with permission from Washington University in St. Louis Outlook Magazine Oct 2013, author, Deb Parker.

funding aids new test for ‘river blindness’

Scientists at Washington University School of Medicine in St. Louis have received nearly \$2 million from the Bill & Melinda Gates Foundation to develop a new diagnostic test for “river blindness,” a neglected tropical disease.

Known formally as onchocerciasis, the disease afflicts some 37 million people in more than 30 countries, mostly in sub-Saharan Africa. River blindness is caused by a parasitic worm, *Onchocerca volvulus*, and is spread by the bites of black flies that breed in fast-flowing rivers, hence the name river blindness. While the disease can lead to blindness, it more commonly causes less severe visual impairment, disfiguring skin lesions and severe itching.

“River blindness remains a devastating illness for millions of people, most of whom live in poverty in Africa and Latin America,” said project leader Gary Weil, MD, an infectious diseases specialist at the School of Medicine. “We have most of the tools we need to eliminate this disease, but improved diagnostic methods are necessary to help steer the program.”

In recent years, the World Health Organization (WHO) has led a massive public health program to control onchocerciasis. Each year, medication to treat the infection and prevent new cases is distributed to more than 100 million people living in areas where the infection is endemic. Mass treatment with ivermectin (Mectizan, made and donated by Merck & Co.) sterilizes the adult worms for several months and kills the microscopic larvae that migrate to the skin and eyes.



“One challenge we face as we work to eradicate this disease is to accurately determine whether mass distribution of the medication has succeeded to the point where there is no risk that transmission of new cases will resume,” said Weil, who specializes in parasitology and immunology.

The current diagnostic test for onchocerciasis looks for parasite larvae in small skin biopsies, but is not a reliable marker for ongoing infection with adult worms. Weil’s research group will search for biological “markers” that indicate the presence of living adult female worms in humans. They will look for excretion products or snippets of genetic material from the worms in blood and urine samples.

Weil will work with Reid Townsend, MD, PhD, professor of medicine, and Makedonka Mitreva, PhD, assistant professor of medicine and of genetics, to identify markers that are found exclusively in people infected with onchocerciasis, but not in those who are healthy or in people with infections caused by other parasitic worms.

Townsend brings to the project extensive expertise in proteomics (the identification of proteins in biological samples), and Mitreva is an authority on the analysis of DNA and genomes of nematode worms, including the parasitic worm that causes river blindness.

The first year of the project will focus on identifying the biomarkers. In the second year, the researchers will work toward developing a test that can easily and accurately detect the presence of onchocerciasis.

“We’re using a multidisciplinary approach to develop a new tool that will help the international effort to eradicate river blindness,” Weil said. “With recent advances in genomics and proteomics, we’re optimistic that we can accomplish this task.”



A young girl is screened for river blindness in Africa. Washington University scientists have received funding from the Bill & Melinda Gates Foundation to develop a new diagnostic test that can be used to guide health efforts to eradicate the disease.



*River blindness is caused by the parasitic worm *O. volvulus*, pictured, and is spread by the bites of black flies that breed in fast-flowing rivers. Adult worms can live in nodules under the skin for years and can be difficult to detect with current diagnostic tests.*

Reprinted with permission, Caroline Arbanas, “Washington University Record”, Funding aids new test for ‘river blindness’, October 2, 2013.

continuing education symposia

Infectious Diseases Society of St. Louis invites you to a CME accredited educational meeting

Challenging Infectious Diseases Clinical Case Presentations

presented by Infectious Diseases Fellows

Thursday, March 6, 2014

Engineer's Club of St. Louis | 4359 Lindell Blvd. St. Louis, MO

6:00 p.m. Reception

7:00 p.m. Dinner/Program Commences

[click here for more information](#) or call 314.454.8275

Second Annual Global Health and Infectious Disease Conference

*Maternal and Child Health and
Zoonotic Diseases*

March 28, 2014

Check-in: 7:30 am | Conference: 8:00 am to 5:15 pm

Eric P. Newman Education Center, Medical Campus

Free and open to all. PRE-REGISTRATION by March 14 is required.



Center for Global Health and Infectious Disease

Additional information on the Global Health and Infectious Diseases conference can be found at the following link:
http://cghid.wustl.edu/?page_id=207

Global Health Center's Visiting Speaker Series Co-sponsored with the Department of Anthropology

Strategies to Enhance Faculty Development and Diversity

Laura P. Svetkey, MD, MHS, Professor and Vice Chair for Faculty Development and Diversity in the Department of Medicine at Duke University

Thursday, February 6, noon-1 pm | Holden Auditorium, Farrell Learning & Teaching Center | Medical Campus

When Civil Disobedience by a Physician is Necessary: The Power of Direct Action

Charles van der Horst, MD

Professor, Division of Infectious Diseases University of North Carolina at Chapel Hill

Thursday, February 6, 4 pm | Louderman Hall, Rm. 458, Danforth Campus

Preventing Mother to Child Transmission of HIV: From Clinical Trials to Implementation in Malawi

Charles van der Horst, MD | Pediatric Grand Rounds, Friday, February 7, 9:15 am | Wohl Clinical Building, Clopton Auditorium, Medical Campus

Making Community/Academic Partnerships in Public Health Interventions Work

Wednesday, February 26, 11:30 am to 1 pm | Taylor Avenue Building, Rm. 2131, Medical Campus

This STL PREP session "Making Community/Academic Partnerships in Public Health Interventions Work" will include a panel discussion with faculty, staff, and community partners engaged in innovative public health interventions like the SPOT (Supporting Positive Opportunities with Teens) and PECaD (Program for the Elimination of Cancer Disparities).

Research and Control of Emerging Viruses: How Do We Stay Ahead?

Dan Bausch, MD, Tulane University

March 18, 2014, 12 pm | McDonnell Sciences Building, Cori Auditorium | Medical Campus

This talk is part of the Visiting Speakers Series in Global Health & Infectious Disease, and co-sponsored by the Molecular Microbiology and Microbial Pathogenesis Seminar Series

supporting the ID Division

The Infectious Diseases Fund

Dr. Gerald Medoff has been among the most influential leaders in the School of Medicine in the past half century, and the contributions of Dr. Medoff to the field of medicine are clearly reflected in the quality of the School and in the extraordinary individuals he has mentored.

We believe that you share our sense of pride in what we have been able to build, much of which is due to the leadership of Dr. Medoff. This year, unrestricted gifts directed to the Division will be used to honor Dr. Medoff with a lecture in his honor. Please consider a gift toward this effort.



Gerald Medoff, M.D.
Emeritus Professor of Medicine

Thank You to Our 2013 Supporters

Infectious Diseases Division

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Thomas H. Steinberg, M.D.

In Memoriam

The Infectious Diseases Division is establishing a student prize in Tom Steinberg's honor that will be awarded annually. Contributions can be made to this Memorial Award by donating to the

Thomas H. Steinberg Memorial Trainee Award

To support the research, education and activities of the Infectious Diseases Division, please contact
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