A Note from the Director

I am honored and quite humbled to address you as the 3rd Director of the Center for Tropical and Emerging Global Diseases. I am excited about the opportunity to work alongside what I consider to be the premier faculty of scientists in the country that are focused on the study of parasites and parasitic diseases. As outlined in the highlights of this newsletter, our faculty, staff, and students continue to excel in the discovery of important new data that help us understand the most neglected diseases of man and to make strides for better control and even elimination of tropical diseases. I also want to thank Dan Colley for his outstanding efforts to lead CTEGD for the last 15 years and am thankful he will continue to be a major contributor to the success of the center. Finally as I write to you on World Malaria Day 2017, what better way to celebrate this event than to welcome Dr. Rick Fairhurst to speak at our symposium. Rick is an international expert on malaria drug resistance and has been at the forefront of discovering novel mechanisms the parasite uses to evade our best drugs. I look forward to seeing you at the 27th Symposium in Athens this week!

27th Annual Molecular Parasitology & Vector Biology Symposium

Thursday, April 27
UGA’s Special Collections Library
https://ctegd.uga.edu/events/symposium/

The day-long conference on parasites and host/parasite interactions will feature poster and oral presentations, a full catered lunch and a keynote address. We have 165 people registered with 12 talks and 55 posters being presented.

This year’s keynote speaker is Dr. Rick Fairhurst from the Malaria Pathogenesis and Human Immunity Unit, NIAID, DIR. His research focuses on elucidating the mechanisms of human resistance to malaria in Mali, and parasite resistance to antimalarial drugs in Cambodia.

CTEGD Welcomes New Faculty

Christopher West, department head for the Department of Biochemistry and Molecular Biology, joins the faculty. Dr. West’s research focuses on the evolution and function of parasite glycosyltransferase, utilizing biochemistry in conjunction with gene editing and glycomic profiling to elucidate enzymatic and cellular roles.

Faculty Receive Top Honors

Roberto Docampo was selected as the recipient of UGA’s Southeastern Conference (SEC) Faculty Achievement Award for 2017. The criteria for selection include being a professor with an extraordinary record of both teaching and scholarship and a reputation that extends nationally and internationally. Read more.

Rick Tarleton has been named Regents’ Professor. Regents’ Professorships are bestowed by the University System of Georgia’s Board of Regents on faculty members whose scholarship is recognized nationally and internationally as innovative and pace-setting. Read more.

In the News

Michelle Evans and Courtney Murdock, along with their collaborators have identified additional mosquitoes that may spread Zika. Their findings, which was published in eLife, were reported by a number of media outlets. Read more.

Dennis Kyle joins CTEGD as UGA’s 17th GRA Eminent Scholar. Read more.

Don Harn and his collaborators had an editorial published in the International Journal of Infectious Diseases in which they discuss the practical issues related to the global strategy for the elimination of schistosomiasis.

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Financial contributions from alumni and friends are vital to accomplishing CTEGD’s mission to pursue cutting edge research in emerging global diseases and train students in this field.

The CTEGD Fund is an unrestricted fund that allows us to support various initiatives of students and faculty. A large portion of this fund goes towards the annual Molecular Parasitology & Vector Biology Symposium and the Voices from the Vanguard lecture series. Your gift also provides travel opportunities to trainees and seed grants for new projects.

Regardless of the size, your gift can have an impact on global health. Give online today!
New Projects Funded

Belen Cassera, with her collaborators at Virginia Tech Center for Drug Discovery, is working to make an improved version of a compound that shows great promise as a new antimalarial drug. This compound was first identified by Belen and her colleague at Virginia Tech prior to her recent move to UGA. Read more.

Steve Hajduk and Rick Tarleton are collaborating on a new 5 year $1.8 million NIH project looking at the role of African trypanosome extracellular vesicles in infection and pathogenesis. They anticipate the study will lead to the development of new diagnostic tools and offer novel strategies to combat anemia in human sleeping sickness and Nagana, which occurs in livestock.

Vasant Muralidharan is studying the role of Clp proteins in the biogenesis of the malaria parasite plastid. The apicoplast is a unique target that is more plant-like than animal, thus making this a target for drugs that would not be toxic to people or animals. The aims of this project are to uncover the novel biology of the apicoplast and identify parasite-specific essential proteins that can be targets for antimalarial drug development.

Courtney Murdock with her collaborator at the Ross University School of Veterinary Medicine, is studying the role of African Green monkey on the epidemiology of dengue and chikungunya on St. Kitts, West Indies. Their research on the Caribbean island will enable them to determine the roles played by monkeys and their mosquitoes in chikungunya and dengue in people on the island and also in people who live in close association with other non-human primates elsewhere in the world - mainly Africa, Asia, and South America. This better understanding of the roles of non-human primates play in chikungunya and dengue will lead to improved surveillance and control strategies for the diseases.

Dennis Kyle received funding for 3 projects with the Medicines for Malaria Venture. These include the first ever screen of new drugs that target the dormant stages of malaria in the liver that cause relapsing malaria, a project to adapt a non-human primate malaria Plasmodium cynomolgi to develop new models for drug discovery, and a project to evaluate prophylactic activity of antimalarial compounds.

Jessica Ramadhin, a graduate student in Don Harn’s laboratory, received an American Heart Association grant to study the natural human milk sugar, LNFIPIII, as a therapeutic for obesity and metabolic syndrome.

Recent Findings Published

Adrian Wolstenholme and his collaborators reported that human leukocytes kill a larval stage called microfilariae of Brugia malayi, the parasite that causes lymphatic filariasis. If microfilariae can be eliminated from the person, then transmission to mosquitoes is stopped and thus preventing future infections in humans. Read more. Their article was selected for the cover of PLoS Neglected Tropical Diseases.

Mark Brown and Mike Strand, as a continuation of their studies on mosquito gut bacteria, found that mosquito larvae lacking gut bacteria do not acquire or assimilate nutrients required for growth. These interesting results have potential impact for understanding how to better control these important vectors of diseases. Their findings were published in PLoS Neglected Tropical Diseases.

Dan Colley, along with his collaborators in Kenya, published the results of his study on the effect of Schistosoma mansoni infection on Hepatitis B and Tetanus immunizations in PLoS Neglected Tropical Diseases. They found that individuals with schistosomiasis at the start of the immunizations were capable of responding appropriately to the vaccine as measured by antibody responses. However, they may be at risk of a more rapid decline in antibody levels over time. It may be beneficial to treat the schistosome infections with praziquantel before immunizations, but further research is required to determine the best timing of treatment.

Dan and his collaborators with SCORE reported on their findings from a reassessment of the national Schistosomiasis control program in Burundi to determine the feasibility of moving toward elimination. The reassessment, which used a urine-circulation cathodic antigen rapid test, indicated that Schistosoma infection is still wide-spread in Burundi; however, its average intensity is probably low. The findings were published in the American Journal of Tropical Medicine and Hygiene.

Kojo Mensa-Wilmot, along with his graduate student Catherine Sullenberger and a collaborator at the Fred Hutchinson Cancer Research Center in Seattle, reported on a promising compound for human African trypanosomiasis drug therapy in Molecular Pharmacology.

Belen Cassera and her collaborators showed for the first time that T. cruzi espimastigotes transitioning from the exponential to stationary phase exhibit a finely tuned adaptive metabolic mechanism that enables switching from glucose to amino acids consumption, which are more abundant in the stationary phase. Journal of Biological Chemistry.

Missed the Voices from the Vanguard Lectures this semester? The lectures are recorded and posted online approximately 6 - 8 weeks following the presentation. Watch the past 10 years now.