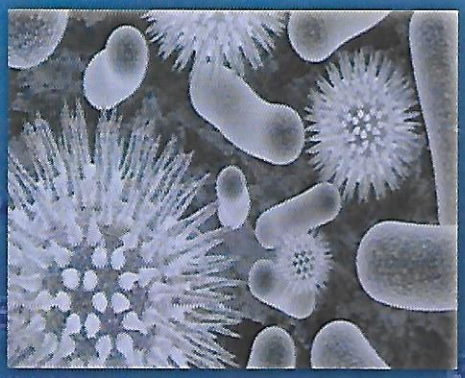
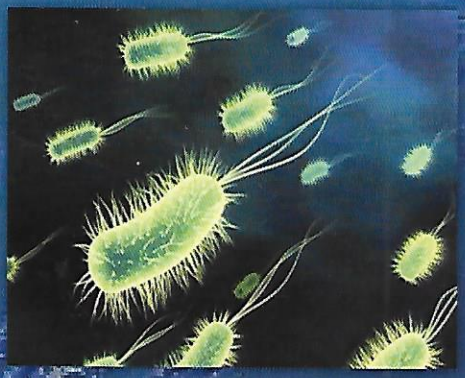
16TH ANNUAL
Biomedical Research Symposium
and 4th Annual Phi-Zeta Research Day

Theme: Infectious Diseases and Health Disparities





September 17, 2015
Kellogg Conference Center

September 18, 2015
Patterson Hall Auditorium

8:00 a.m. – 4:30 p.m.

TUSKEGEE UNIVERSITY

TUSKEGEE
UNIVERSITY

College of Veterinary Medicine, Nursing and Allied Health

Office of the Dean

Welcome to the 16th Annual Biomedical Research Symposium which underscores our commitment to the overall strategy of advancing biomedical research through creative partnerships and collaborations. The Symposium's theme, ***"Infectious Diseases, Health Disparities and Nanotechnology,"*** signifies the importance of disciplines grounded in biomedical science to convene and share expertise about eliminating diseases and health conditions that affect so many people.

Health disparities in our country continue to be an ongoing problem in various populations with limited access to healthcare, special needs, and inequalities associated with economic factors (education and income), environmental and social hazards, and other disparities across different racial, ethnic and socioeconomic groups. The continuation of intensive efforts involving the research community and the public are essential to developing critical interventions that target closing the gap by reducing and eventually eliminating health disparities. This topic continues to be a national goal for developing a healthier nation. The higher prevalence of infectious diseases in some ethnic minorities continues to contribute to health disparities. The use of nanotechnology to transform the way researchers approach disease detection is phenomenal, and will make a significant impact on the early recognition and treatment of illnesses. Thus, the symposium theme is most appropriate for this year's Biomedical Research Symposium.

The two-day symposium will not only be a forum for research collaborations, but also allow participants to learn about the exciting new interventions in biomedical research. We salute the outstanding scientists making presentations beginning with our Keynote speaker, Dr. Shree Singh, Director of Research and Training Nanobiotechnology (Alabama State University), and our other invited speakers, Dr. James W. Lillard, Associate Dean for Research (Morehouse School of Medicine); Captain Charlotte Spires, Executive Director, National Biodefense Science Board; Dr. Annice Yarber-Allen (Auburn University at Montgomery); Dr. Johnny E. Braddy Senior Policy Advisor (S Food and Drug Administration, Office of Food Safety); Dr. Veena Rao (Morehouse School of Medicine); Dr. Sang-Moo Kang (Georgia State University Institute for Biomedical Sciences); Dr Teshome Mebatsion, Senior Director, Vector Vaccine Research (Merial Pharmaceuticals); and Dr. Lane Rolling (University of Pittsburgh School of Medicine). The second day of the symposium culminates with our Fourth Annual Phi Zeta Research Day which will focus on the researchers at Tuskegee University, and our students who will share their research experiences with presentations from their full engagements in various research projects and programs.

I commend the Biomedical Research Symposium Committee under the joint leadership of co-chairs Dr. John Heath and Dr. Ayman Sayegh for working purposefully on another well-planned, successful, and educationally leading-edge program. Also, a special thanks to Dr. Teshome Yehualaeshet for serving as chair of the Phi Zeta Research Day which allows us to showcase our students' research activities.

Together as a community of researchers, promoters, and supporters, we can make a difference in reducing health disparities and this annual Biomedical Research Symposium serves as another forum to promote and foster this mission. Thank you for attending and participating in the 2015 Biomedical Symposium.

Sincerely,

R. L. Perry, DVM, MS DACVR
Dean

1200 Old Montgomery Road
Patterson Hall, Rm #201
Tuskegee, AL 36088

Telephone:
334-724-8174

Fax:
334-727-8177

www.tuskegee.edu

Lane Rolling, M.D.

Lance Rolling is a distinguished faculty lecturer at many universities about tropical pathology and global infectious disease, as well as about his experiences in clinical medicine in Peru, Honduras, Ecuador and the Dominican Republic. Rolling was most recently appointed as Professor of Clinical Medicine and Surgery at the Universidad Particular de Iquitos in 2008. He is also a member of the Curriculum Design and Review Committee for the School of Medicine at Universidad Particular de Iquitos and trains interns and Residents in Trauma and Infectious Diseases. Rolling has conducted research in tropical disease and infectious diseases for approximately eight years in PERU and has worked extensively with native Peruvian Shamans to find new drugs. He has lived and worked in Peru for approximately eight years and continues to teach in Cuzco and Iquitos. His duty as Director of Clinical Education for TPAIDATM is to coordinate clinical education and medical missions for students that organization trains worldwide. Rolling's moto is to "always challenge yourself to be your best". In June 2004, he began Tropical Pathology and Infectious Disease Association™.

ABSTRACT

Global Impact of Infectious and Tropical Diseases in the Clinical Field: A Roundtable Discussion

Death and the consequences of infectious diseases affects human's everyday throughout the world. With simultaneous development of antibiotic drugs, synthetic pesticides and various new parasitic agents, it was believed that the infectious diseases would for all practical purpose disappear from the clinical scene. This obviously has not happened. Bacterial resistance, viral antigenic shifts and modification of resistance have resulted in the appearance of number organism in unfamiliar pathogenic roles. The increased mobility of large segments of the population, and popularity of the tropics and subtropics as vacation areas, expose them to a large undiminished threat of parasitic infection, and the speed of transportation ensures that many return infected. Refugees from war-torn areas and famines have brought with them infectious diseases from their geographic areas and exposing a virgin population. Modification of the environment, as typified by the construction of the Trans Amazon Highway, and the building of the Aswan Dam has brought about major increase in parasitic diseases. Global warming is suggested as another possible reason also. It is important for human to understand the relationship between Clinical Field Infectious diseases and it corresponding affect in humans. To truly understand and treat a disease, you must understand the demographic, pathophysiology and molecular biology of that pathogen and what we see in the Clinical Field Microbiology setting. Understanding the complete relationship of disease effects on human will thereby improving the quality of life of humans and reduces disease burden among developed and third world societies. Both society co-exist and function in the same world.

Friday, September 18, 2015
Patterson Hall Auditorium

8:30 – 9:00 a.m.	**Registration** Continental Breakfast (Coffee and Juice)
	Moderator, Deepa Bedi, Ph.D.
9:05 – 9:45 a.m.	**Invited Speaker: Sang-Moo Kang, Ph.D., Professor, Center for Inflammation, Immunity and Infection, Institute for Biomedical Sciences, Georgia State University** *New Vaccines Against Human Viral Infectious Diseases Utilizing The Concept Of Nanobiotechnology*
9:50 – 10:05 a.m.	**Roberta Troy, Ph.D., Founding Director, Health Disparities Institute for Research and Education (HDIRE), Tuskegee University** *The Microbiome and Breast Cancer*
10:10 – 10:20 a.m.	BREAK
10:25 – 11:10 a.m.	**Invited Speaker – Teshome Mebatsion, DVM, Ph.D.** **Senior Director, Vector Vaccine Research, Merial Pharmaceuticals, Athens, GA** *Merial's Vector Vaccine Experience in Animal Health*
11:15 – 12:25 p.m.	**Invited Speaker – Dr. Lane Rolling, M.D., Founder and Director/Tropical Pathology of Infectious Disease Association, Province, PERU** *Discussion on Infectious Diseases in the Clinical and Field Setting*
12:30 – 1:30 p.m.	LUNCH /POSTER SESSION

Phi Zeta Research Day

	Welcome, Teshome Yehualaeshet, DVM, Ph.D. (Phi Zeta Chair)
1:30 – 2:15 p.m.	**Phi Zeta Keynote Speaker: Gerald P. Schatten, Ph.D. Director, Pittsburgh Development Center, Professor of Ob-Gyn-ReprSci., and Cell Biology, and Bioengineering, University of Pittsburgh School of Medicine** *Regenerative Medicine and Biomedical Reconciliations*
2:20 – 2:30 p.m.	**BREAK**
	Moderator, Nilimini Viswaprakash, DVM, MS, Ph.D.
2:35 – 2:45 p.m.	**Demitrius R. Washington, 2nd Year Veterinary Student** *Platelet Lysate as an Autologous Alternative to FBS in Equine Mesenchymal Stem Cell Culture*
2:50 – 3:05 p.m.	**Patresia Payton, 3rd Year Pre-Veterinary Student** *Effect of Transportation Conditions on the Recovery and Viability of Canine Spermatogonial Stem Cells*
3:10 – 3:25 p.m.	**Kasey E. Mabry, 3rd Year Veterinary Student** *Exogenous GLP-1 reduces meal size and prolongs the intermeal interval through sites supplied by the cranial mesenteric artery*
3:30 – 3:45 p.m.	**Leah T. Myles, 2nd Year Veterinary Student** *New strategy to incorporate nanoparticles within mammalian spermatozoa*
3:50 – 4:00 p.m.	**BREAK**
	Moderator, Gemechu Wirtu, DVM, Ph.D.
4:05 – 4:20 p.m.	**Catherine Wyre, 3rd Year Veterinary Student** *Neuro-Pathological and Behavioral Effects of In-Utero Mercuric Chloride Exposure*
4:25 – 4:40 p.m.	**Toi A. Collins, 2nd Year Veterinary Student** *Immune Response to Subcutaneous and Intranasal Vaccination in Young Beef Calves*
4:45 – 5:00 p.m.	**William M. Willis, Undergraduate Senior, Biology Major, Tuskegee University** *The Effects of Climate Change on Rumen Function and Microbiome in Moose (Alces alces)*
5:05 – 5:20 p.m.	**Corron Freeman, 3rd Year Veterinary Student**