



MTNCSfN

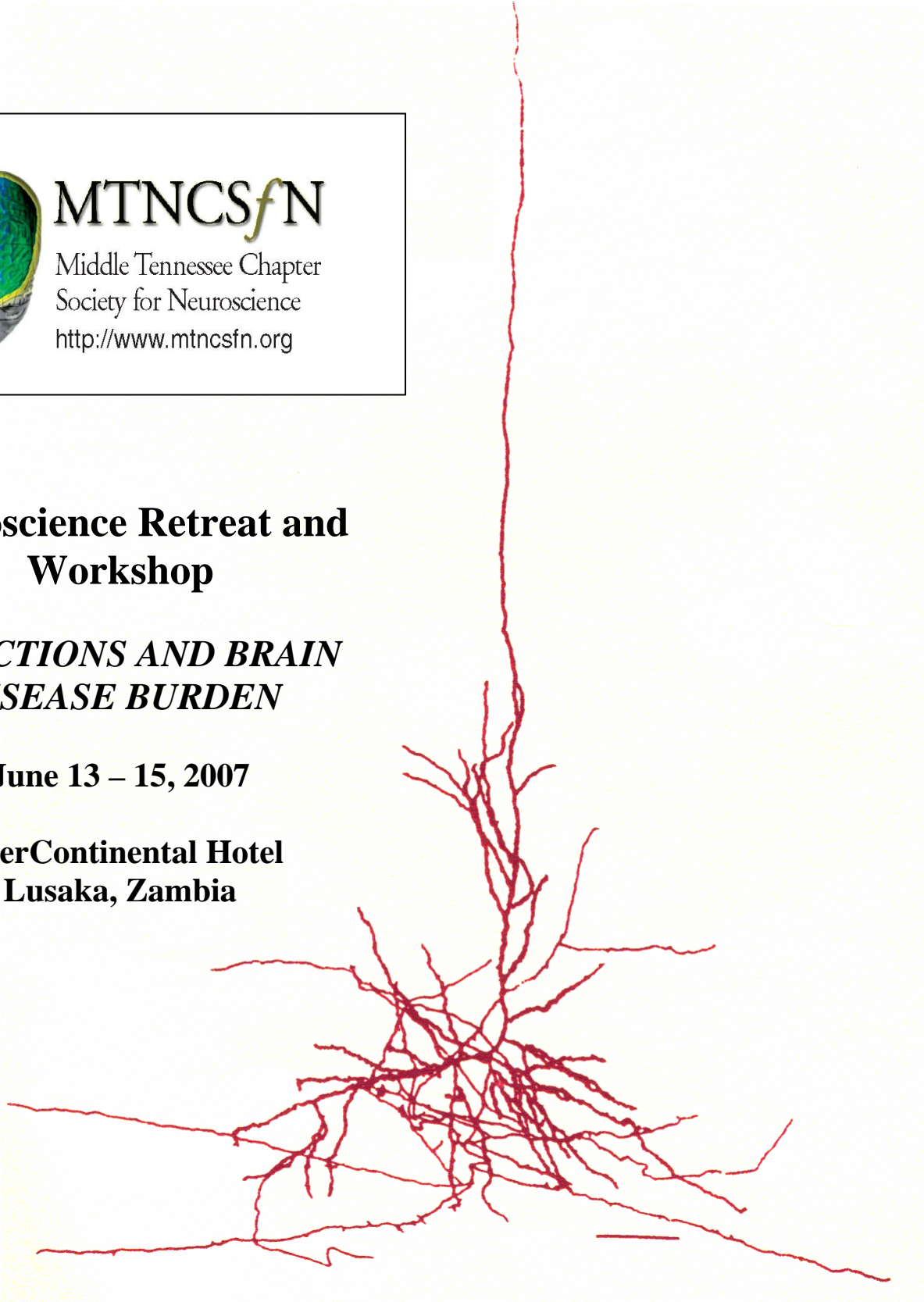
Middle Tennessee Chapter
Society for Neuroscience
<http://www.mtncsfn.org>

Neuroscience Retreat and Workshop

INFECTIONS AND BRAIN DISEASE BURDEN

June 13 – 15, 2007

**InterContinental Hotel
Lusaka, Zambia**



NEED FOR THE NEUROSCIENCE MEETING IN ZAMBIA

As a way to contribute to the combat of global brain disease burden, the Middle Tennessee Chapter of the Society for Neuroscience (MTNCSfN) has a unique opportunity to conduct a neuroscience retreat and workshop in Zambia, Africa. MTNCSfN is an umbrella organization that serves to unite neuroscientists primarily from Meharry Medical College, Vanderbilt University, and Tennessee State University in Nashville, USA. Briefly, the global health impact of brain disease is staggering! According to a new United Nations report, **nearly one in six of the world's population suffer from neurological disorders**. Here are some additional facts:

- Between 700,000 and 2.7 million people die annually from malaria, over 75% of them African children! Of all the manifestations of malaria, those impacting cognition and behavior are the subtlest, least defined, and have the most profound implications for children, families, and societies.
- In developed countries, complications such as HIV-associated dementia can occur in 20% of symptomatic individuals. Some 50% of patients with HIV/AIDS develop extrapyramidal dysfunctions. It is a certainty HIV/AIDS dementia and related brain disorders are rampant in areas where HIV/AIDS is endemic, i.e. sub-Sahara Africa.
- About 80% of individuals with epilepsy live in resource-poor countries. Epilepsy commonly affects young adults in the most productive years of their lives and frequently leads to their being unemployed.
- Chronic depression is the leading cause of disability as measured by “Years Lived with a Disability” and the 4th leading contributor to the global burden of disease. By the year 2020, depression is projected to reach 2nd place of the ranking of “Disability-Adjusted Life Years” for all ages and sexes.

Knowledge of basic neuroscience is imperative for understanding the causes of neurological diseases and their treatment. However in resource-poor nations few institutions have the personnel to offer basic neuroscience courses that include an explanation of the experiments from which the principles are derived, which is essential for developing a career in neuroscience research or medical practice. One innovative way to combat this disparity is to establish partnerships with academic institutions in resource-poor countries by sending visiting faculty to teach the principles of neuroscience. To this end, MTNCSfN working in conjunction with their counterparts at the University of Zambia School of Medicine and the Epilepsy Association of Zambia announce the first “Infections and Brain Disease Burden” Neuroscience Workshop and Retreat that will be held June 13th-15th, 2007 in Lusaka, Zambia. The main themes for the meeting will be (a) HIV/AIDS dementia, (b) cerebral malaria, (c) epilepsy, and (d) chronic depressive disorders. The meeting will be followed by an intensive 2-week course in neuroscience open to medical trainees and scientists. This inaugural class will set the stage for the implementation of neuroscience at the University of Zambia.

Dr. Sanika Chirwa, Meeting Organizer, Email: schirwa@mmc.edu

Dr. Betty Munalula, Co-Organizer, Email: bettymunalula@yahoo.co.uk.

INFECTIONS AND BRAIN DISEASE BURDEN

PROGRAM

WEDNESDAY, JUNE 13, 2007

- 8:00 a.m. REGISTRATION
- 8:30 a.m. Opening Session, Dr. Betty Munalula, presiding.
- Welcome and Introductions*
Prof. Y. Mulla
Dean, School of Medicine, University of Zambia
- Guest of Honor*
Honorable Dr. Brian Chituwo
Minister of Health, Republic of Zambia
- Mental Health and Neurological Disorders*
Dr. Stella Nyangwe, W.H.O. Representative
- Bench to Bedside Research: Role for International Collaboration*
Dr. Valerie Montgomery-Rice, Dean, School of Medicine
Meharry Medical College, USA
- Retreat Plenary Sessions**
Session Chair: Dr. Betty Munalula, University of Zambia
- 9:30 a.m. BREAK
- 9:45 a.m. *Global Brain Disease Burden*
Dr. Sanika Chirwa, Meharry Medical College, USA
- 10:30 a.m. *Status of Mental Health in Zambia.*
Dr. Mwanza Banda, Head, Psychiatry, University of Zambia
- 11:15 a.m. *Neuroscience Training: Challenges and Solutions*
Dr. Betty Munalula
Head, Physiological Sciences, University of Zambia
- 12:00 p.m. LUNCH

WEDNESDAY, JUNE 13, 2007

Workshop – HIV/AIDS Dementia

Session Chair: Prof. Nkandu Luo, HIV/AIDS Consultant

- 1:00 p.m. *HIV/AIDS: Diagnosis, Staging and Management*
Dr. Peter Mwaba, Acting U.T.H. Executive Director, Zambia
- 1:45 p.m. *HIV/AIDS Dementia: Where Are We?*
Dr. Susan DeRiemer, Meharry Medical College, USA
- 2:30 p.m. *The Interaction Between Affect and Immune Response: Implications for HIV Infection.*
Michael Siuta, Vanderbilt University, USA
- 3:15 p.m. BREAK
- 3:30 p.m. *Novel Strategy for Combating HIV/AIDS*
Dr. James Hildreth, Meharry Medical College, USA
- 4:15 p.m. *Question and Answer Period*
- 5:00 p.m. END OF SESSION

THURSDAY, JUNE 14, 2007

7:30 a.m. REGISTRATION

Workshop – Cerebral Malaria

Session Chair: Dr. F. Goma, University of Zambia

- 8:00 a.m. *Malaria: Diagnosis, Staging and Management*
Speaker – Dr. Mukuka/Dr. Chipeta, Malaria Research Center, Zambia
- 8:45 a.m. *Cerebral Malaria Pathophysiology*
Speaker – Dr. C. Shinondo, University of Zambia
- 9:30 a.m. *Molecular Determinants of Cerebral Malaria*
Dr. Josiah Ochieng, Meharry Medical College, USA
- 10:15 a.m. BREAK

THURSDAY, JUNE 14, 2007

10.30 a.m. *Parasitic Infections of the Brain*
Speaker – Dr. C. Shinondo, University of Zambia

11:15 a.m. *Question and Answer Period*

12:00 p.m. LUNCH

Workshop – Chronic Depressive Disorders
Session Chair: Dr. Mwanza Banda

1:00 p.m. *Causes and Prognosis of Depression.*
Dr. Simenda, Chainama College of Health Sciences

1:45 p.m. *Inflammation and Depression*
Dr. Knut Hestad, Norwegian University Science & Technology, Norway

2:30 a.m. *Experimental Approaches for the Treatment of Depression*
Dr. Efrain Garcia, Vanderbilt University, USA

3:15 pm BREAK

3:30 p.m. *Sleep Disorders and Depression*
Dr. Sanika Chirwa – Meharry Medical College, USA

4:15 p.m. *Question and Answer Period*

5:00 p.m. END OF SESSION

FRIDAY, JUNE 15, 2007

7:30 a.m. REGISTRATION

Workshop – Epilepsy and Seizures
Session Chair: Anthony Zimba, Epilepsy Association of Zambia

8:00 a.m. *Epilepsy: Diagnosis, Staging and Management*
Speaker – Dr. (Brig. General) J.B. Simpungwe, Ministry of Health, Zambia

8:45 a.m. *Global Campaign Against Epilepsy: Zambia Program*
Speaker – Mr. Anthony Zimba, Chair, Epilepsy Association of Zambia

9:30 a.m. *The Neuron Specific K-Cl Cotransporter, KCC2, and Epilepsy*
Nicole Garbarini, Vanderbilt University, USA

10:15 a.m. BREAK

FRIDAY, JUNE 15, 2007

10.30 a.m. *Autism: Genetics and Underlying Neuropathology*
Dr. Sarah E. Owens, Vanderbilt University, USA

11:15 a.m. *Question and Answer Period*

12:00 p.m. LUNCH

Zambian INDABA – Round-Table Group Discussions
Session Chairs: Dr. Betty Munalula & Dr. Sanika Chirwa

- 1:00 p.m. • *Setting Priorities for Capacity Building to Manage Brain Disease Burden*
• *Optimizing International Collaborations and Equal Participation*
• *Challenges for Training the Next Generation of African Neuroscientists*
• *Removing Barriers to Publishing in High-Impact Scientific Journals*
• *Funding African Neuroscience Research*

3:15 p.m. BREAK

3:30 p.m. Group Reports and Evaluations

Special Presentation

4:00 p.m. *Manganese Neurotoxicity: Transport, Mechanisms, and Speciation*
Dr. Michael Aschner, Vanderbilt University, USA

5:00 p.m. END OF SESSION

7:00 p.m. BANQUET

NEUROSCIENCE COURSE: JUNE 19 – 30, 2007

SCHOOL OF MEDICINE, UNIVERSITY OF ZAMBIA

Neuroscience advances the understanding of human thought, emotion, and behavior. Neuroscientists use tools ranging from computers to special dyes to examine molecules, nerve cells, networks, brain systems, and behavior. From these studies, they learn how the nervous system develops and functions normally and what goes wrong in neurological disorders. This course will integrate the diverse knowledge derived from the various levels of analysis into a coherent understanding of brain structure and function. Many of the topics that will be discussed will explore how the principal cells of the nervous system – neurons and glia – perform their basic functions in anatomical, electrophysiological, neurochemical and and molecular terms.

Lecture Hr	Lecture Topic	Faculty
1	Introduction to Neuroscience & Pre-Test	Chirwa
2	Basic Organization of the Nervous System	TBA
3 – 5	Cranial Nerves	
6 – 7	Meninges	
8 – 9	Ventricles and Cerebral Fluid	
10	Blood Supply of the Brain	
11	Imaging the Living Brain	TBA
12 – 16	Neural Signaling (Electrical, Chemical, Molecular)	Chirwa
17	Somatic Sensory System	DeRiemer
18	The Eye	
19 – 20	Central Visual Pathways	
21 – 22	The Auditory System	
23 – 24	The Vestibular System	
25 – 26	Chemical Senses	
27	Overview of the Motor System	
28	Spinal Control of Movement	Chirwa
29	Lower Motor Neuron	
30	Excitation-Contraction Coupling	
31	Motor Units	
32	Brain Control of Movement	DeRiemer
33	Descending Spinal Tracts	
34 – 35	Motor Cortex	
36 – 37	Basal Ganglia	
38 – 40	Cerebellum	
41	Overview of Brain and Behavior	Chirwa
42 – 43	Hypothalamus	
44 – 45	Autonomic Nervous System	
46 – 48	Diffuse Modulatory Systems of the Brain	
49	Overview of Complex Brain Functions	Chirwa
51	Association Cortices	
52	Language and Speech	
53	Sleep and Wakefulness	
54	Emotions	
55	Sex and the Brain	
56	Memory	
57 – 59	Overview of Neurologic and Psychiatric Disorders	Banda
60	Course Wrap-Up & Post-Test	Chirwa

NEUROSCIENCE RETREAT AND WORKSHOP PLANNING COMMITTEE

Dr. Sanika CHIRWA, Chair
Dr. Efrain GARCIA
Dr. Betty MUNALULA, Co-Chair
Dr. Sarah E. OWENS
Anthony ZIMBA

SPONSORS

Middle Tennessee Chapter Society for Neuroscience
University of Zambia School of Medicine
Society for Neuroscience
International Brain Research Organization
Meharry Medical College
Vanderbilt Brain Institute
Epilepsy Association of Zambia