

Thursday, Feb 23, 2017

Take 5 with Jickssa Gemechu

As a way to learn more about the diverse educators who share their expertise with our medical school students, OUWB presents a special interview series called "Take 5." Let us know what you think.

Dr. Jickssa Gemechu, teaches anatomy and Embryology to M1-M2 students at Oakland University William Beaumont School of Medicine.

He joined OUWB in March 2016 from Wayne State University where he was a postdoctoral fellow at the department of Pharmaceutical Sciences. He taught while also running a research project that examined whether ubiquitin E3 ligase, parkin, and the proteasome can promote survival and recovery from methamphetamine-induced neurotoxicity. His research interests include neuroinflammation and brain aging focusing on microglia polarization towards potentially detrimental or beneficial states. In the future, Dr. Gemechu hopes to be engaged into medical education research. Dr. Gemechu is a member of several professional organizations including International Brain Research Organization (IBRO), Society for Neuroscience (SfN), American Association of Anatomists (AAA), and International Association of Medical Science Educators (IAMSE).



Did you have a defining moment that made you go into the medical education field?

My father, who was a teacher and an administrator, had asthma, which is really life threatening when it blocks the respiratory airway and I wouldn't be able to breathe. At that time, I was thinking about becoming a doctor and being in the medical field to be able to help my father and people suffering like him. That kind of childhood interest directed me toward medicine. Unfortunately, I joined the biology department and not medicine and during that time my father actually died because of his asthma. The other defining moment is the opportunity that students with good academic standings could become graduate assistants, and I joined Gonder University as a graduate assistant and was teaching general anatomy courses to paramedical students. Then I had the opportunity to join Addis Ababa University for postgraduate studies in Anatomy. My mentor and I were discussing how to develop a master's project and he proposed the study and I started reading about neuroscience and I just loved it. If he provided me a different kind of area I might have studied something else. The neuroscience concept was fascinating to me and I fell in love with it and continued my Ph.D. with neuroscience.

Can you tell us something about the brain that might surprise people?

This is a small organ (2% of total body weight) that controls activities of the whole body. In general terms, it is really amazing to understand how the brain functions as an information-processing organ forming a network; the sense of how we think our brain works and how it actually does is surprising. We still know very little about it, and the struggle to understand how the brain works and how it affects our personality is still ongoing. When it comes to the functional units, neurons are surprising due to their post-mitotic nature – no longer undergoing mitosis which makes the majority of our neurons as old as we are and once we lose one we don't get it back. That is why age-dependent decline in sensory processing, motor performance, and cognitive functions are observed due to the progressive damage to the neurons in the brain. I hope in the future multidisciplinary researchers will solve the puzzle through understanding the mechanisms of neurogenesis and also the mechanisms to maintain and prevent the unnecessary loss of irreplaceable neurons as we age.

When you worked with high school students last summer as part of their anatomy rotation, did you notice anything in particular about teaching younger students?

The high school students were amazing, and I had a great time with them. The mixed feeling (excitement and being frightened) I saw on their face when I asked them to hold the brain in their own hand was amazing. They were so interested when I explained the functional organization of the brain and spinal cord and how the different parts are interconnected through network and function in harmony. They were listening with surprise when I told them how delicate an organ it is, how really important it is and how well protected in the body. It's covered by the blood membranes, and then fluid to absorb shock or any sort of trauma. A few of the students afterward told me they're interested not only in studying medicine but in neuroscience itself and that was really nice. You see a different excitement from them.

Have you had a particularly meaningful moment in teaching and research you can share?

The opportunity to work closely with medical students at the Anatomy dissection lab, where students are working in a small group. So we rotate along the tables and that's really the ideal environment where faculty can help students learn Anatomy with the dissection, identification of the structure, and answering different questions. It is interesting to see students learning Anatomy highly engaged by touching and seeing the real structure on the donor, and through intensive discussion among the group. I love spending time with the students on these occasions helping them understand the anatomy and its clinical importance which is going to be useful for their future career as a physician. The other

medical students on human body dissection involving medical students from Ethiopia, Lebanon and OUWB. The study will help us to understand the factors affecting student's emotion and perception during dissection and try to take measures that improve the learning outcomes.

What was it about OUWB appealed to you?

At OUWB the faculty and the administrative bodies are so perfect. The administrative bodies are so helpful, hospitable, and encouraging. collaboration and teamwork spirit among OUWB faculty is exemplary. All of this creates a very ideal working environment. The other thing there are a bunch of faculty development programs going on here throughout the year. So within one year I've had different training which so helpful for my career development in teaching and research. Currently, I'm attending two faculty development programs (MEC and FM) It's really helpful.

What is one thing people probably don't know about you?

I was born in a city with nature's praiseworthy gift: hot spring water. So I love swimming and started swimming from my early childhood. The hot spring water in Ambo — about 117 kilometers from the capital Addis Ababa — is considered to have therapeutic benefits because the waters have many minerals. I swim now at the fitness center.