



The Art of Investigation:

Jim Greipp

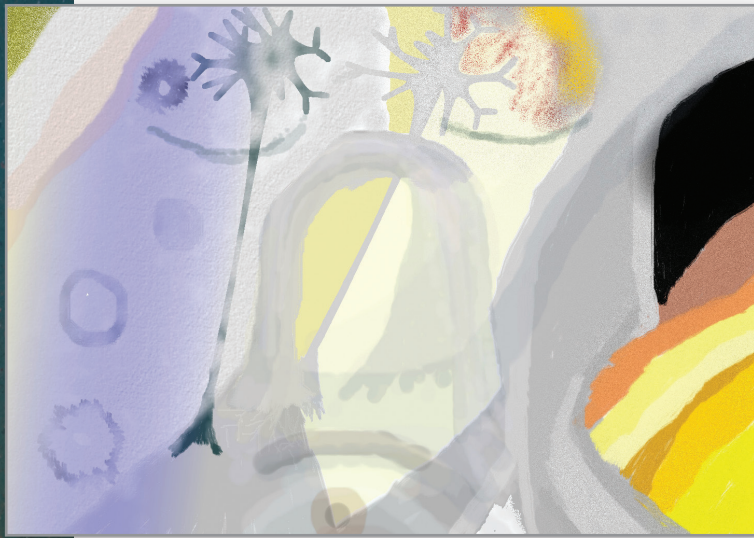
BOTROS SHENODA MD, MSC

By Catherine McCorkle

Describing his creation Rheumatoid, Botros Shenoda says, "Red pain is everywhere." Understanding mechanisms and pathways in clinical states of pain is the goal of his lab work.

One has to wonder if doctoral candidate Botros Benjamin Kostandy Shenoda, MD, MSc, is a physician dabbling in art, or an artist who happened to pursue a medical career. Shenoda, a second-year student in the College of Medicine's Pharmacology and Physiology Department, sees the world differently from most. "In order to be an investigator, you have to see what others can't see," he asserts. A globe-trotting scholar, Shenoda has found a home at Drexel from which to continue his quest for knowledge and his pursuit of medical secrets.

Shenoda was born in Assiut, Egypt, the middle of three children, to a physician mother and engineer father. Even in high school, Shenoda was interested in solving big problems. When it came time to choose among Egypt's elite universities, he selected one in which he could pursue a medical career. Although he didn't realize it then, he says, "the reason I joined medicine [was there are] problems that need somebody to solve them."



Shenoda explains We Are Born Old: "All that we have will end in gray — vessels, hair, eyes, brain. Or it may be gray from the start, and what we have right now is just a temporary discoloration. This is why I think that we might be born old. Are we? We don't know (closed eyes), but we may realize this late in life (open eye on the bottom)."

“Artists can see what others can't see. I don't see a difference between the doctor, the researcher, and the artist. The three are investigators. The three can see what others cannot see.”

Once in medical school at Assiut University, Shenoda became fascinated with the nervous system as well as its reactions to various drugs. He thought, “Maybe one day I can find a drug that can play on the stage of the nervous system and help us with something we can't treat.” He became particularly interested in the behavioral and pharmacological aspects of pain. Always thinking like an investigator, he can say, “Pain is my friend.”

After he earned his medical degree, Shenoda pursued his master of science in pharmacology, focusing on analgesics. He juggled his coursework with teaching at his medical alma mater and completed a five-year residency in an intensive care unit. By this time, he also had a wife and young son. But Shenoda was not satisfied. “This was not the end,” he says of his accomplishments. “If you want to do strong research, you have to come to the U.S.”

Encouraged to apply for a Fulbright Scholarship, Shenoda won the prestigious award in 2012. The Fulbright committee instructed him to research American universities and decide where to pursue his education. He chose Drexel University College of Medicine.

From his first Skype interview with the pharmacology faculty, Shenoda says, he was impressed with the College, and felt he could be very happy in the department. The College has been welcoming to him and his family, helping greatly with their international transition.

The culture overall is very open to diversity, Shenoda says, and several nationalities are represented in his department. “American society, American culture allows us to work in harmony,” Shenoda explains. “It's like an orchestra — [different instruments] all are playing the same theme, although everybody has their own sound.”

In the laboratory of Seena Ajit, where Shenoda works, the theme is pain, or more accurately, the study of pain and pain relief at the molecular level.

Shenoda's goal in the lab is to “understand mechanisms and pathways in clinical states of pain” by studying complex regional pain syndrome. If the lab can create a hypothesis about CRPS, he says, then the scientists “can think about therapy. When you know what is going on, you know where you're going to attack the disease — you can build your drug. You can't attack something you don't know.”

Ways of Knowing

Shenoda's hobbies speak to this desire to know more, to fully explore the many facets in which a disease or problem may reveal itself. One of his main interests is putting his thoughts “into colors.” He explains, “I'm not an artist, and I can't claim to be an artist. I just know how to put my ideas in colors.”

Using his computer, Shenoda represents diseases such as rheumatoid arthritis or Alzheimer's disease. The “problems” assume a color and intensity as well as shape. At the end of the process, he has a stunning visual representation of the mysterious disease or knotty problem. Shenoda sees his professional calling as interwoven with his art. “Artists can see what others can't see. I don't see a difference between the doctor, the researcher, and the artist. The three are investigators. The three can see what others cannot see.”

As for his long-term goals, Shenoda laughs. “My long-term goals have no end,” he says. “My main goal is to know more. I know that I won't get everything, but I'd like to know as much as I can, investigate as much as I can. When I stop dreaming, then I am done.”