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Dr. Jena named fellow of Society for Experimental Biology and Medicine

Bhanu Jena, Ph.D., the George E. Palade University Professor and distinguished professor of the Wayne State University School of Medicine, has been selected as a fellow of the Society for Experimental Biology and Medicine, the oldest scientific society of the United States.

Election to SEBM fellow status is in recognition of outstanding achievements in science and service to the society.

“I am very honored to be included in such a group of distinguished scientists,” Dr. Jena said.

Professor of Physiology, of Physics and Astronomy, and of Chemical Engineering and Material Sciences, Dr. Jena is a pioneer in modern cell biology who has made seminal and landmark scientific contributions. He is known for his discovery of a cellular structure called the porosome, the universal secretory machinery in cells, and the elucidation of its structure, chemistry, function and reconstitution into live cells. The porosome, discovered by Dr. Jena nearly 22 years ago when he was a professor at Yale University School of Medicine, is textbook material, and is included in the Boron and Boulpaep Medical Physiology textbook used at the School of Medicine.

Cell secretion is a fundamental life process involved in a wide range of physiological processes, such as neurotransmission and the release of hormones and digestive enzymes. Defects in cell secretion result in numerous debilitating diseases, including growth defects, diabetes, neurological, immune and digestive disorders to name a few.

In recent years, Dr. Jena's laboratory has developed Differential Expansion Microscopy, and new approaches to understand the energetics of single biological molecules as they interact with other molecules, including ions, capable of revealing the structure-function of proteins at the single molecular level and its use in detection of pathogens, disease and therapy.

In 2017, Dr. Jena, director of WSU’s NanoBioScience Institute, led a team that developed a nano thermometer for measuring muscle efficiency that could detect metabolic diseases such as cancer, multiple sclerosis and muscular dystrophy earlier than previously thought possible.

The thermometer, dubbed the world’s tiniest and most sensitive, is made of metal alloy nanoparticles that can detect temperatures less than 1/1000th of a centigrade, or 1 mK. As many as 50,000 of the nano thermometers can fit on one strand of human hair.

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