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Scripps Research Appoints Noted Chemist to Florida Faculty

By Eric Sauter

The Scripps Research Institute has appointed Ben Shen as a professor on its Jupiter, Florida campus.

Prior to his appointment to the Scripps Research Department of Chemistry and Department of Molecular Therapeutics, Shen was the Charles M. Johnson Distinguished Chair and Professor of Pharmaceutical Sciences and Chemistry at the University of Wisconsin, Madison.

"Ben is one of the finest chemists in the country and will be a formidable member of the Scripps Research faculty," said K.C. Nicolaou, who chairs the Scripps Research Department of Chemistry. "His work in natural product drug development, particularly creating potential anti-cancer and antibiotic compounds, is outstanding and at the cutting edge of science. We want to extend our warmest welcome to Ben and his laboratory colleagues."

"Ben's multidisciplinary approach is a perfect fit for Scripps Florida," said Patrick R. Griffin, chair of the Scripps Research Department of Molecular Therapeutics and director of the Translational Research Institute at Scripps Florida. "We look forward to his contributions, and to working with him to exploit the enormous potential of the natural products he is interested in."

Shen received a bachelor's degree in chemistry from Hangzhou University in 1982, and a master's degree in chemistry from the Chinese Academy of Sciences in 1984. He received his doctorate in organic chemistry/biochemistry from Oregon State University 1991 and held a postdoctoral appointment at the University of Wisconsin, Madison from 1991 to 1995.

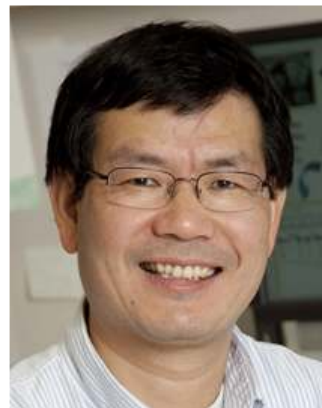
Before joining the University of Wisconsin, Madison faculty in 2001, he was a member of the faculty at the University of California, Davis. He arrived at Scripps Research this month and is now living with his family in Jupiter.

The focus of Shen's research is to identify and produce natural products, especially those produced by bacteria, and to genetically engineer these bacteria to produce novel natural product analogues for use in anti-cancer and antibiotic drug discovery. Some recent highlights from his work include manipulating a South African soil microbe to overproduce two novel antibacterial antibiotics, setting the stage for the manufacture of large amounts of drugs for future clinical studies, and engineering a Chinese soil microbe to synthesize designer enediynes, a bacterial product that could potentially treat tumors.

Shen and his colleagues use a wide variety of disciplines, including organic chemistry, biochemistry, enzymology, microbiology, structural biology, and genomics, to delve more deeply into these natural products, defining their structures and biological profiles as well as the biosynthetic machineries that control their production. By understanding, and thereby rationally manipulating these biosynthetic machineries, the Shen group looks for new ways to redesign these existing natural products to create something new and more effective in terms of therapeutic potential.

"In some ways, it's like creating something from Lego® parts," he said. "Once you learn the parts and their connections to constitute functional biosynthetic machineries, you can take them apart and put them back together to make something completely new and different."

Shen points out that natural products remain the best sources of drugs and drug leads.



"Highly collaborative translational research is very much a way of life at Scripps Florida, and I look forward to becoming part of it," says Professor Ben Shen.

"Natural products have a fantastic track record," Shen said. "In the anti-cancer area, almost three-quarters of anti-cancer drugs in current clinical use are from natural products or inspired by them. The same is true for antibiotics. To speed up the discovery process, you need libraries of natural products and their analogs, but to produce them is a daunting challenge. It is sobering to note that only one percent of the 2010 Molecular Libraries Small Molecule Repository collection at the National Institutes of Health is annotated as natural products and bioactives, highlighting the urgent need to discover, produce, and diversify natural products to enrich the chemical space available for drug discovery."

Shen will also launch the Natural Products Library initiative at Scripps Research to expand the natural products in the institute's current small molecule libraries. "Highly collaborative translational research is very much a way of life at Scripps Florida," he said, "and I look forward to becoming part of it."

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