

*For release*  
4 May 1999

## **HKUST PROVIDES NEW INSIGHTS INTO BIOLOGICAL PROCESSES**

Dr Mingjie Zhang, Assistant Professor of Biochemistry at the Hong Kong University of Science and Technology, and his research group have successfully solved the three dimensional structures of the neuronal nitric oxide synthase and one of its regulatory proteins. These outstanding fundamental research results have been published in *Nature Structural Biology*, vol 5, number 11, November 1998 and vol 6, number 5, May 1999.

*Nature Structural Biology* is an internationally renowned scientific magazine of top quality devoted to fundamental life science research. Due to the high quality and novelty of Dr Zhang's work, *Nature Structural Biology* dedicated a separate section in the "News and Views" column to emphasize its importance. Furthermore, in its May 1999 press release, the magazine strongly commended the work: "Mingjie Zhang and colleagues, of the Hong Kong University of Science and Technology, have determined the structure of a PDZ domain that includes an extension using NMR spectroscopy." This is the first time research results from Hong Kong are published by this prestigious publication.

Since the 1980's, scientists have found that nitric oxide exists as major signaling molecule in the human body, and is vital in regulating blood vessel pressure, immunity response, and the neuronal function of human beings. Studies relevant to nitric oxide are also helpful for us to battle against a number of diseases, such as stroke, Huntington's diseases and Duchenne muscular dystrophy. For this reason the 1998 Nobel Prize for Medicine and Physiology was awarded to scientists in this field.

Using NMR spectroscopy, combined with molecular biology and biochemistry approaches, Dr Zhang's group not only solved the structures of neuronal nitric oxide synthase and its regulatory protein, but also made major advancement in understanding the functional regulation of this important protein. In addition, their work has revealed a novel mechanism for biological signal transduction. One anonymous referee said in his/her reviewing comments: "The work should definitely be published in *Nature Structural Biology* since the work is of significant interest and provides a number of new insights into the protein interactions underlying specificity in biological processes." Another referee highly appreciated the work, "It is very valuable for the understanding of signaling complexes."

Dr Mingjie Zhang received his PhD degree from the University of Calgary in 1993. Before joining HKUST in 1995, Dr Zhang made a number of outstanding contributions in the area of calcium-binding proteins. In HKUST, Dr Zhang's group is working on the structure and function of proteins and enzymes playing key regulatory roles in biological signal transduction. His research group has published more than 10 research articles in prestigious scientific journals in the past three years.

### Note to Editors:

For enquiries, please contact Ms Jacky Tsang of the Office of University Development and Public Affairs at 2358-6306, or email [pamedia@ust.hk](mailto:pamedia@ust.hk).