
Tien Hsu, Ph.D.

Institute of Biochemistry and Molecular Biology
China Medical University
No. 100, Section 1, Jingmao Road, Beitun District, Taichung City
406040, Taiwan
Phone No.: 04-22053366 ext. 8210
E-mail: hsutie@gmail.com
Web: [http://www.sybbi.ncu.edu.tw/teacher/T_Hsu\(en\).html](http://www.sybbi.ncu.edu.tw/teacher/T_Hsu(en).html)

**Education**

- 1977-1981 Bachelor, Department of Agricultural Chemistry, National Taiwan University, Taiwan
- 1983-1988 Ph.D., Program in Molecular-and Cell Biology and Pathobiology, Medical University of South Carolina, USA

Research and Professional Positions Held in Chronological Sequence

- 1989-1993 Postdoc, Department of Cellular and Developmental Biology, Harvard University, USA
- 1993-1997 Assistant Professor, Department of Experimental Oncology, Medical University of South Carolina, USA
- 1997-1999 Assistant Professor, Department of Cell Biology and Anatomy, Medical University of South Carolina, USA
- 1999-2003 Associate Professor, Department of Cell Biology and Anatomy, Medical University of South Carolina, USA
- 1999-2006 Associate Professor, Department of Pathology and Lab. Medicine, Medical University of South Carolina, USA
- 2006-2009 Professor, Department of Pathology and Lab. Medicine, Medical University of South Carolina, USA
- 2009-2013 Professor, Department of Medicine, Boston University School of Medicine, USA
- 2013-present Professor, Institute of Systems Biology and Bioinformatics, National Central University, Taiwan
- 2014-present Professor, Department of Biomedical Sciences and Engineering, National Central University, Taiwan
Dean, College of Health Sciences and Technology, National Central University, Taiwan

Research Interests

Dr. Tien Hsu was recruited to the National Central University in August 2013. Previously he was Professor of Medicine at the Boston University School of Medicine. The major research interest in Dr. Hsu's laboratory is to understand the origin of cancer and the mechanism of its growth. In the 1990s, Dr. Hsu pioneered the study using multiple model organisms, including fruit fly, mouse, and human cells, for functional comparison of tumor-related genes in embryonic development. He has contributed greatly in the understanding of tumor suppressor genes VHL

and anti-metastasis gene Nm23. He serves on the advisory board of the International VHL Disease Alliance. He was elected in 2012 as the Chair of International Congress of NDPK/Nm23/awd Gene Family. He also served as grant review panel members of NIH (USA), and government agencies of other countries such as Italy, Israel, United Kingdom, Canada, Holland, etc.

Traditionally, cancer research has been focused on killing cancer cells. Such strategy has shown only limited success in the over 40 years of “War on Cancer”. Dr. Hsu believes that we need to rethink our strategy, and should focus on the role of stromal cells, which promote inflammatory reaction and support stem cell survival. It is now discovered that tumor growth and stem cell maintenance are dependent on the surrounding tissues and cells (the stroma). Controlling organ pathology by modulating the stromal function should present a gentler and more effective containment of many diseases including cancer. The concept is to contain the cancer tissue and prevent malignancy, but not necessarily to kill cancer cells. Such new direction requires a systems biology view of the interaction between the diseased tissue and the entire body. Dr. Hsu’s current research is focused on stromal biology, characterizing the function and therapeutic potential of the tumor microenvironment. He recently established that metabolic abnormality in VHL mutant cells can lead to ER stress and tissue inflammation, eventually resulting in clear-cell renal cell carcinoma formation.in clear-cell renal cell carcinoma,

More recently he initiated an integrated program project to analyze immune cell populations that mark the transition from inflammation to renal cell carcinoma at the single cell level.

Major Honors and Awards

1981	Fukian Association Scholarship
1983-1987	MUSC Graduate Fellowship
1987	-First Prize, Ph.D. Poster Section, MUSC Student Research Day -Grand Prize for Best Science, MUSC Student Research Day -Grand Prize for Best Presentation and Delivery, MUSC Student Research Day
1989	NIH Postdoctoral Research Fellowship
2007	Best Presentation, 7th International Congress of the NDP Kinase/NM23/awd Family, Dundee, UK
2008-present	Member, International VHL Alliance Research Council
2012-2013	President of International Congress of the NDP Kinase/NM23/awd Gene Family
2012-2017	Led an NCU team that won the second prize (total 255 teams) in International Qualcomm Tricorder XPrize
2013	Distinguished Researcher, NCU
2014-present	-University Chair Professor in Biomedicine, NCU -Taiwan Bio-development Foundation (TBF) Chair in Biotechnology