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## **Associate Professor Tzu-Fun Fu**

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Tzu-Fun Fu received her doctoral degree in Biochemistry in May 2000 and continued her post-doctoral training in Dr. Verne Schirch's laboratory / Virginia Commonwealth University from 2000 to 2002. After which she assumed her first teaching job in Yuan-Pei Institute of Science and Technology and transferred to Chung-Shan Medical University one year later. She

joined the department of medical laboratory science and biotechnology at NCKU in the summer of 2004 and continued her research in folate-mediated one-carbon metabolism using zebrafish as animal model.

## **Education**

Ph.D., Biochemistry and Molecular Biophysics, Virginia Commonwealth University/Medical college of Virginia, USA

M. Sc., Clinical laboratory Science, Virginia Commonwealth University/Medical College of Virginia, USA

B. Sc., Medical Technology, Chung-Shan Medical University

## **Research**

Research in our laboratory centers around the folate- and vitamin B6-required one-carbon metabolism. One-carbon metabolism is a very important but complicated biological pathway in cells. Numerous enzymes and cofactors are involved in this metabolic pathway. Our interests are mainly focused on three categories: (1) Structural and functional analysis of enzymes involved in one-carbon metabolic pathway 10-formyltetrahydrofolate dehydrogenase (FDH), dihydrofolate reductase (DHFR) and gamma-glutamyl hydrolase (GGH). (2) The Role of folate and folate-requiring enzymes in cellular functions and embryonic development. (3) Correlation between impairment of folate-requiring one-carbon metabolism and pathogenesis including neural tube defect and cancer. (4) Development of diseases models with zebrafish for folate research and drug screening.