

## CURRICULUM VITAE

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### Education:

2005-2011 Ph.D. Graduate Program in Biophysics.  
University of Wisconsin-Madison.  
Advisor: Steenbock Prof. John L. Markley  
2002-2004 M.S. Institute of Bioinformatics and Structural Biology, College of Life Sciences,  
National Tsing Hua University, Hsinchu, Taiwan  
Advisor: Prof. Wen-guey Wu  
1995-1999 B.S. Department of Physics,  
National Tsing Hua University, Hsinchu, Taiwan  
Advisor: Prof. Ya-chang Chou

### Working experience:

2004-2005 Research assistant Institute of Biomedical Sciences, Academia Sinica,  
Taipei, Taiwan R.O.C.  
P.I. of the Lab: Dr. Tai-huang Huang  
Project: Telomere repeat binding protein and DNA complex structure  
determination. (AtTRP560+dsDNA complex)  
2000-2002 2<sup>nd</sup> Lieutenant (Compulsory) Chinese Army, Taiwan, R.O.C.  
1999-2000 Physics Teacher Ching Chyuan Junior High School, Taichung County, Taiwan

### Publications:

NMR investigations of the Rieske protein from *Thermus thermophilus* support a coupled proton and electron transfer mechanism. [Free full text](#). (2010) Hsueh KL, Westler WM, Markley JL. *Journal of the American Chemistry Society*. **132**(23):7908-18.

Solution structure of the *Arabidopsis thaliana* telomeric repeat-binding protein DNA binding domain: a new fold with an additional C-terminal helix. (2006). Sue SC, Hsiao HH, Chung BC, Cheng YH, Hsueh KL, Chen CM, Ho CH, Huang TH. *Journal of Molecular Biology*. **356**(1):72-85.

### Manuscript:

NMR investigations of the Rieske protein from *Thermus thermophilus* support a diffusion model. Hsueh KL, Tonelli M, Westler WM, Markley JL. (in preparation).

### PhD Thesis:

NMR Investigations of the Rieske protein from *Thermus thermophilus* support a coupled electron and proton transfer mechanism and a diffusion model.

### Master Thesis:

NMR Studies on the Interactions of Heparin Derived Disaccharide with Cobra Cardiotoxin V (CTXA5)

### **Scientific experience:**

- **Biochemistry**
  - Protein expression and purification
  - Handling of redox proteins
  - Residue-type-selective labeling, reverse selective labeling, and double selective labeling
  - Heparin oligo-saccharide purification
- **NMR Spectra Acquisition and Analysis**
  - 1D, 2D, and 3D ordinary spectra; paramagnetic optimized pulse sequences
  - 1D-selective excitation spectra, direct detection, superWEFT, and difference decoupling
  - 2D-diffusion ordered spectrum (DOSY)
- **NMR Software/programs**
  - CYANA (NOESY auto-assignment and structure determination)
  - PINE Server (Automated backbone and sidechain assignment)
  - Sparky (Spectral visualization)
  - Chimera (Structure refinement)

### **References:**

John L. Markley

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