

Chien-Kai Wang

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Objective

To complete a Ph.D. associated with computational solid mechanics for nanotechnology and biotechnology, particularly for multiphysics and multiscales.

Education

- Sep. 2008 ~ Present **Ph.D. student, Solid Mechanics Program, Division of Engineering, Brown University**
- Sep. 2003 ~ Jun. 2005 **Master of Science, Structural Engineering Division, Civil Engineering, NTU, Taipei, Taiwan**
Overall GPA: **3.85 (88.10/100)**; **31** credits Thesis: **91.3/100**
- Sep. 1999 ~ Jun. 2003 **Bachelor of Science, Civil Engineering, National Taiwan University (NTU), Taipei, Taiwan**
Overall GPA: **3.91 (87.36/100)**; **160** credits => Rank = **2/83**
Last 60 credits GPA: **4; 62** credits Last two year GPA: **4; 65** credits
Major GPA: **3.93; 138** credits Thesis: **86/100**

Position and Experience

- Feb. 2007 ~ Jul. 2008 **Professor Chuin-Shan Chen's Research Assistant in Computer-Aided Engineering Division, Dept. of CE, NTU** --- use computer simulation to study in multiscale mechanics & materials
- May 2007 ~ Jul. 2008 **EASEC-11 (The Eleventh East Asia-Pacific Conference on Structural Engineering and Construction) Project Assistant** --- work for Professor Yeong-Bin Yang, Liang-Jenq Leu, and Chuin-Shan Chen to organize the conference
- Oct. 2007 ~ Jul. 2008 **ACMT (Association of Computational Mechanics Taiwan) Project Assistant** --- work for Professor Yeong-Bin Yang, Liang-Jenq Leu, and Chuin-Shan Chen to organize the website
- Oct. 2005 ~ Jan. 2007 **Squad Leader and Assistant Staff, G3, Corporal in Army Engineer Corps** --- Military Service
- Sep. 2004 ~ Jun. 2005 **Professor Liang-Jenq Leu's Teaching Assistant in three courses** --- Advanced Structural Theory, Method of Finite Elements, and Introduction to Structural Dynamics
- Sep. 2003 ~ Jun. 2005 **Professor Liang-Jenq Leu's Part-time Research Assistant in Dept. of CE, NTU**
- Apr. 2005, Nov. 2004 **Assist Ambient Vibration Measurement** of Taipei Guandu Bridge, Taiwan Power Company in Luchu Substation, Office of the President, and Far Eastern Plaza Hotel in Taipei
- Oct. 2004, Jul. 2004 **Assistant Engineer in TH Tsai and Associates, Consulting Engineers**
- Jun. ~ Sep. 2004 & Jun. ~ Sep. 2003 --- oversee the Tuned Mass Damper in the Taipei 101 (Taipei Financial Center)
- Jun. 1999 ~ Jul. 2005 **Tutor** --- teach high school students mathematics, physics, and chemistry
- Jul. 2002 ~ Sep. 2002 **The Volunteer Teacher** for the Summer Camp in Guanyin Township, Taoyuan County
- Feb. 2002 ~ Jul. 2002 **Temporary Teacher** in a cram school, Jung-Li City, Taoyuan County

Academic Honors and Awards

- Nov. 17 ~ 19, 2004 **Achievement in ABAQUS Basic Training Course** --- held by Alpha Precision Instrumentation Corp. (APIC), Taipei, Taiwan
- Sep. 2003 ~ Jun. 2005 **The Ministry of Education Graduate Fellowship**
- Sep. 1999 ~ Jun. 2003 **Five-time Recipients of the Presidential Award** --- held by National Taiwan University and given each semester to students ranking within the top 5% of their class.
- Academic Years of 2004, 2002, & 2001 **Three-time Recipients of Scholars for Policyholders' Children** --- held by Cathay Life Insurance Co., Ltd, Taipei, Taiwan
- Dec. 2003 **Enrolled in Master Program by the First Grade (*summa cum laude*)**
- 2003 **Lu Kung Junior High School Scholarship**
- 2003 **The Chinese Institute of Civil and Hydraulic Engineering Scholarship**
- 2002 **Ting Ching-San Memorial Scholarship**
- 2001 **Ho Nai-Cheng Scholarship**

Publications

- 2008 Chen, C.-S., Wang, C.-K., Chang, S.-W. (2008), "Atomistic Simulation and Investigation of Nanoindentation, Contact Pressure and Nanohardness," *Interaction and Multiscale Mechanics, An International Journal*, Vol. 1, Issue 4, 411-422.
- Dec. 15, 2007 Chen, C.-S., Chang, S.-W., Wang, C.-K. (2007), "Quasicontinuum Method: Novel Theories and Implementation." *The 8th World Congress on Computational Mechanics and the 5th European Congress on Computational Methods in Applied Sciences and Engineering (WCCM8)*, Lido Island, Venice, Italy.
- Dec. 07~08, 2007 Chen, C.-S., Chang, S.-W., Wang, C.-K., Liao, Y.-P. (2007), "Probing Nanohardness through Atomistic Simulation of Nanoindentation," *Taiwan-Tohoku Joint International Symposium for Mechanical Science Based on Nanotechnology*, Taipei, Taiwan.
- Dec. 03~06, 2007 Chen, C.-S., Chang, S.-W., Wang, C.-K., Liao, Y.-P., and Huang, C.-W. (2007), "Force Transition between Atoms and Finite Elements in Quasicontinuum Method and Its Computational Implications." *Third Asian-Pacific Congress on Computational Mechanics (APCOM'07) and the Eleventh International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XI)*, Kyoto, Japan.
- Oct. 04 ~ 06, 2007 Wang, C.-K., Leu, L.-J., and Wu, H.-M. (2007), "Application of FE package ABAQUS for evolutionary structural optimization." *The Twentieth KKCNN Symposium on Civil Engineering*, Jeju, Korea.
- Jul. 30, 2007 Chen, C.-S., Chang, S.-W., Liao, Y.-P., Wang, C.-K., and Huang, C.-W. (2007), "Coupling Atoms and Finite Elements: Novel Quasicontinuum Theory and Computational Method." *International Symposium on Computational Mechanics 2007 (ISCM)*, Beijing, China.
- Jul. 25, 2007 Chen, C.-S., Chang, S.-W., Wang, C.-K., Lai, J.-W., Liao, Y.-P., and Huang, C.-W. (2007), "Atomistic Simulation of Nanoindentation" presents in *ninth U.S. National Congress on Computational Mechanics (UNNCM)*, San Francisco, U.S.A.
- Jul. 2005 Master Thesis: Wang, C.-K. (2005), *Application of Finite Element Package ABAQUS for Evolutionary Structural Optimization*, NTU, Taiwan. --- Supervisor: Leu, Liang-Jenq.
- Jun. 2003 Bachelor Thesis: Wang, C.-K., Peng, H.-W., and Ren, C.-W. (2003), *Software Development for Interactive Structural Dynamics Analysis*, NTU, Taiwan. --- Supervisor: Leu, Liang-Jenq.

Computer Skills

Implement **C and C++** --- object-oriented programming and parallel and distributed computing
 Expert at **ABAQUS** --- achievement to the ABAQUS Basic Training Course
 Proficient at **FORTRAN 95** --- by self-learning during the course "Method of Finite Elements"
 Executing **LAMMPS** --- by self-learning this related Molecular Dynamics software packages
 Exercising **MATLAB** --- by self-learning during course "Signal Processing & Spectral Analysis"
 Knowing **ANSYS, SAP, ETABS, and PISA** --- analysis program
 Using **DreamWeaver** to write the homepages (EASEC-11's official website)
Windows NT/XP, LINUX system administration

Extracurricular Activities

- Sep. 2001 ~ Jul. 2005 **The Secretary to Badminton Club of NTU CE**
- Apr. 2005 **The Quarterfinalist in the Men's Double Badminton Game** - held annually for all NTU students
- May 2001 & 2002 **Badminton Team of NTU CE Student Association**
 fight in quarterfinals at Great Civil Cup - held annually between all CE dep. of Taiwan's colleges
- Jun. 2001~ Mar. 2002 **Academic Section, NTU CE student association**
- Oct. 1999 **The Quarterfinalist in the Men's Single Badminton Game** - held annually for NTU freshmen