

# Curriculum Vitae

## Hsi-Ming Chen

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### Education

B.S. Industrial Education, National Taiwan Normal University, 1998-2002.

M.S. Vehicle Engineering, National Taipei University of Technology, 2002-2004.

Ph.D. Mechanical Engineering, National Taiwan University, 2004-present.

### Fields of Interest

Precision Metrology, Precision Machining, Machine Tool Technology, Opto-Mechatronic

### Conference Presentation

1. Cheng-Chi Yu 、Hsi-Ming Chen(2004.11) ," Analysis of Vehicle's Wheel-Alignment Angularity during Chassis Roll,"7th Conf. of CSMMT, Taiwan.
2. Cheng-Chi Yu 、Hsi-Ming Chen(2004.11) ," Analysis of Vehicle's Wheel-Alignment Angularity,"21th Conf. of CSME, Taiwan.
3. Kuang-Chao Fan, Hsi-Ming Chen, Tyzz-Hsin Kuo(2008.11)," Analysis and Prediction of Slideway Wear,"25th Conf. of CSME, Taiwan.
4. Kuang-Chao Fan, Hsi-Ming Chen, Tyzz-Hsin Kuo(2009.11),"Analysis and Prediction of Machine Tool Slideway Wear,"3th Int. Conf. of ASPEN, Japan.
5. Kuang-Chao Fan, Hsi-Ming Chen, SHENG-Y Lin(2010.7) ," Development of a Small 3-axis Angular Sensor for Real-time Abbé Error Compensation on Numerically Controlled Machine Tools,"36th Int. Conf. of MATADOR, U.K..

### Research Experiences

1. VEHICLE CONTROL SYSTEM LAB (Prof. Cheng-Chi Yu), Dep. of Vehicle Engineering, National Taipei University of Technology, Taiwan, ROC, 2002-2004
  - Wheel-Alignment angularities variation of front independent suspension with steering system is discussed in this research. Short Long Arm suspension and MacPherson suspension are explored in plane and three-dimensional space. By using homogeneous

transformation matrix, the mathematics model of suspension with steering system relative to chassis will be obtained. The variety of camber, toe, scrub radius, caster moment arm caused by wheel steering and wheel jumping can be deduced by using the Matlab, Mathematica of mathematical software, then the results are contrasted through ADAMS-CAR software. Finally, chassis roll motion is analyzed with steering system and also without steering system. The Wheel-Alignment angularities variation with roll center migration is discussed.

2. PRECISION METROLOGY LAB (Prof. Kuang-Chao Fan), Dep. of Mechanical Engineering, National Taiwan University, Taiwan, ROC, 2004-Present

- Development of a angle sensor based on a DVD pick-up head
- Development of chatter suppression system for machining system of machine tools.
- Analysis and Prediction of Slideway Wear on the machine tools.