



CURRICULUM VITAE
HONGLU (LOUISE) ZHANG

EDUCATION

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| 2001 | PHD | UNIVERSITY OF MISSOURI, ROLLA
Mechanical Engineering |
| 1998 | MS | ZHEJIANG UNIVERSITY, ZHEJIANG, CHINA
Chemical Machinery Engineering |
| 1996 | BS | ZHEJIANG UNIVERSITY, ZHEJIANG, CHINA
Chemical Machinery Engineering |

PROFESSIONAL EXPERIENCE

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| 2009 to Date | VECTOR SCIENTIFIC, INC.-GOLDEN, COLORADO
<i>Senior Engineer</i>
Forensic engineering, vehicle and occupant dynamics analyses including vehicle and occupant simulation in both forensic and research applications. |
| 2008 to 2009 | DELPHI CORPORATION-EXPATRIATE IN SHANGHAI, CHINA
<i>Technical Leader / Project Manager</i>
Established Delphi China local Computer Aided Engineering (CAE) capabilities; led safety system integration team; mentored and trained local CAE engineers; managed scope, schedule, finance, and risks of a multi-million dollar automotive safety system integration project; led project team and interfaced with customers and global business managers. |
| 2000 to 2007 | DELPHI CORPORATION-TROY, MICHIGAN
<i>Senior Systems Engineer</i>
Led occupant restraint system integration work in multiple vehicle programs; assisted Asian customers with comprehension and compliance with US safety regulations; responsible for CAE support to side impact restraint system development for multiple vehicle programs; trained and mentored engineers in Delphi China, India and Korea Technical Centers; led multiple engineering consulting projects with vendors. |
| 1998 to 2000 | UNIVERSITY OF MISSOURI - ROLLA
<i>Research Assistant</i>
Conducted Finite Element Analysis (FEA) for large deformation and nonlinear structures. |

PUBLICATIONS

Farhoodmanesh S, Chen J, Tao Z, Mead J, Zhang H, “Base Fabrics and Their Interaction in Coated Fabrics” in *Smart Textile Coatings and Laminates*, ed. Dodds F, Chap 3, Woodhead Publishing, In Press.

Zhang H, MA D. Application of CAE in Occupant Restraint Systems Integration Process Tailored for China Markets, *Proceedings of Shanghai Conference of Automotive Safety Technology*, Shanghai, China, 2008.

Trammell T, Zhang H. Evaluation of the MADYMO Full FE Human Model in a Rear Impact Simulation of an IndyCar, *Society of Automotive Engineers Motorsports Engineering Conference*, Dearborn, MI, *SAE Technical Paper Series 2006-01-3659*, Warrendale, PA, 2006.

Ma D, Zhang H, Evaluation of Frontal Occupant Protection System Responses to Crash Pulse Variations, *International Journal of Crashworthiness*, 11(3): 243-250, 2006.

Gai E, Zhang H. Finite Point Method: A New Approach to Model the Inflation of Side Curtain Airbags, *International Journal of Crashworthiness*, 10(5): 445-450, 2005.

Zhang H, Ma D. A Systems Engineering Approach to Occupant Protection System Design and Optimization through Modeling and Simulation, *Systems Engineering Journal*, 8(1), 2005.

Zhang H, Raman SV, Gopal MM, Han T. Evaluation and Comparison of CFD Integrated Airbag Models in LS-DYNA, MADYMO and PAM-CRASH, *Society of Automotive Engineers World Congress*, Detroit, MI, *SAE Technical Paper Series 2004-01-1627*, Warrendale, PA, 2004.

Zhang H, Ma D, Raman SV. CAE Based Side Curtain Airbag Design, SAE Transactions, *Journal of Passenger Cars - Mechanical Systems*, 113(6): 2004-01-0841.

Ma D, Matlack J, Zhang H, Sparkman J. Correlation Grading methodology for Occupant Protection System Models, *Society of Automotive Engineers World Congress*, Detroit, MI, *SAE Technical Paper Series 2004-01-1631*, Warrendale, PA, 2004.

Zhang H, Gopal MM, Saxena R, Avila XJ. An Integrated Optimization System for Airbag Design and Modeling by Finite Element Analysis, SAE Transactions, *Journal of Passenger Cars - Mechanical Systems*, 112(6): 2003-01-0506.

Zhang H, Parenteau C, Katta D, Raman SV. Applications of Human Body Model in a Vehicle Environment, *Proceedings of the 9th International MADYMO User's Conference*, Como, Italy, October 2002.

Lihua Y, Zhang H. Design and Application of an Intellectual Field Whole-machine Balancing Device Used in Dual-shaft System with Little Rotating Speed Difference, *Journal of Vibration Engineering*, 9: 394-399, 1998.

INVITED PRESENTATIONS

Zhang H. Keynote Speech-The Road to Airbag Safety in China and CAE's Roles and Challenges, *China MADYMO User's Conference*, Sanya, China, October 2008.

Trammell T, Zhang H. Evaluation of the MADYMO Full FE Human Model in a Rear Impact Simulation of an IndyCar, *Society of Automotive Engineers Motorsports Engineering Conference*, Dearborn, MI, November 6-8, 2006.

Zhang H, Ault M, Fratermna E. Advanced Seat Belt System Modeling Technologies in MADYMO 6.3. *MADYMO International User's Meeting*, Detroit, MI, November 2006.

Zhang H, Raman SV, Gopal MM, Han T. Evaluation and Comparison of CFD Integrated Airbag Models in LS-DYNA, MADYMO and PAM-CRASH, *Society of Automotive Engineers World Congress*, Detroit, MI, March 8-11, 2004.

Zhang H, Ma H, Raman SV. CAE Based Side Curtain Airbag Design, *Society of Automotive Engineers World Congress*, Detroit, MI, March 8-11, 2004.

Raman SV, Zhang H, Katta D, Parenteau C. Innovative Applications of MADYMO in Restraint System Design and Development, *2003 American MADYMO User's Conference*, October 2003.

Zhang H, Gopal MM, Saxena R, Avila XJ. An Integrated Optimization System for Airbag Design and Modeling by Finite Element Analysis, *Society of Automotive Engineers World Congress*, Detroit, MI, March 3-6, 2003.

SEMINARS AND SHORT COURSES

2009 Stapp Car Crash Conference - Savannah, GA
2008 Full-scale Professional Project Management Training
2004 Systems Engineering Certificate
2004 Six Sigma Green Belt
2001 AAAM Injury Scale Training

AWARDS AND HONORS

Trade Secret in Delphi Corporation: "A New Side Curtain Airbag Math Modeling Methodology"
Trade Secret in Delphi Corporation "An Integrated Optimization System to Model and Optimize Airbag Systems by FEA"
Top honor of the Zhejiang University – Zhu Kezhen Fellowship

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

Reviewer	ASME MSEC (International Conference on Manufacturing Science and Engineering), 2006
Reviewer	SAE World Congress, 2005
Reviewer	SAE World Congress, 2004
Member	Society of Automotive Engineers (SAE)

