

CHIA-FEN CHI (Christine)

Department of Industrial Management,
National Taiwan University of Science & Technology
43, Keelung Road Section 4, Taipei, Taiwan 106
Tele: 886-2-2737-6338; **Fax:** 886-2-2737-6344;
E-mail: Chris@mail.ntust.edu.tw



Education

State Univ. of New York at Buffalo	Ph.D, Human Factors in Industrial Eng.	1990
State Univ. of New York at Buffalo	M.S., Industrial Eng	1987
Tunghai Univ.,Taiwan	B.S., Industrial Eng	1985

Postgraduate Seminars and Training Programs

Harvard Business School	Case Method and Participant-Center Learning	2006 Jan
Babson University	Teaching entrepreneurial thought and action	2013 Mar

Research Interests

- Accident analysis and prevention
- Aging and disabled workers
- Job analysis and job accommodation
- Visual Performance
- Safety Management
- Human-Machine Interface

Academic Positions

Since 2016 **Vice Chairman** Aviation Safety Council
2016 **Visiting Professor** Hong Kong University of Science & Technology
Since 2012 **Distinguished Professor** National Taiwan University of Science & Technology (NTUST)
2013 -2016 **Director of center for teaching & learning, NTUST**
2011 –2013 **Dean of International Affairs, NTUST**
2010 -2011 **Associate Dean, NTUST**
2008 -2010 **Dept chair of Industrial Management, NTUST**
2006 **Visiting Professor** Iowa State University
1998- 2012 **Professor, NTUST**
1990 –1998 **Associate Professor, NTUST**

Professional Service

Since 2015 **Editor Board** for Applied Ergonomics (SCI Journal)
Since 2009 **Editor Board** for International Journal of Industrial Ergonomics (SCI Journal)
Since 2016 **Associate Editor** for Journal of Labor, Occupational Safety and Health
2007-2008 **Review Panelist** for Robert W. Campbell Award Review Panel
2005-2008 **Senior Editor** for Journal of the Chinese Institute of Industrial Engineer (EI)
2003 –2005 **President** for Ergonomics Society of Taiwan

Honor

2016 Fellow, Ergonomic Society of Taiwan
2006 Excellence in Teaching Award in (1% out of all faculties)
2012 and 2008 Research awards of NTUST (5% out of all faculties)

Journal Publications

Accident analysis

1. Chi, C.-F., Lin, S.-Z. (2018) Classification Scheme and Prevention Measures for Caught-in Between Occupational Fatal Accidents. *Applied Ergonomics*. 68, 338-348. (SCI)
2. Chi, C.-F., Chen, P.-L.; Saleh, W.; Tsai, S.-H., Pai, C.-W. (2018) Helmet non-use by users of bikeshare programs, electric bicycles, racing bicycles, and personal bicycles: An observational study in Taipei, Taiwan. *International Journal of Sustainable Transportation*. (Accepted) (SSCI)
3. Chi, C.-F., Lin, S.-Z., Dewi, R. S. (2014) Graphical fault tree analysis for fatal falls in the construction industry *Accident Analysis and Prevention* 72 (2014) 359–369.(SSCI)
4. Chi, C.-F. (2016) Chapter 26 Accident Causes and Prevention Measures for Fatal Occupational Falls in the Construction Industry in *Fall Prevention and Protection: Principles, Guidelines, and Practices*. Hsiao, H. (Ed) CRC Press ISBN 9781482217148
5. Chi, C.-F., Lin, Y.-Y., & Ikhwan, M. (2012) Flow Diagram Analysis of Electrical Fatalities in the Construction Industry, *Safety Science*. 50, 1205-1214. (SCI)
6. Chi, C. F., Yang, C.-C. and Chen, Z.-L. (2009) In-Depth Accident Analysis of Electrical Fatalities in the Construction Industry. *International Journal of Industrial Ergonomics*, (39) 635–644. (SCI)
7. Chi, C. F., Chang, T. C. and Tsou, C. L. (2006) In-Depth Investigation of Escalator Riding Accidents in Heavy Capacity MRT Stations, *Accident Analysis & Prevention*, 38, 662-670. .(SSCI)
8. Chi, C. F., Chang, T. C. and Ting, H. I. (2005) Accident Patterns and Prevention Measures for Fatal Occupational Falls in the Construction Industry, *Applied Ergonomics*.36, 391-400. (SCI)
9. Chi, C. F., Chang, T. C. and Hung, K. H. (2004) Significant industry-source of injury-accident type for occupational fatalities in Taiwan, *International Journal of Industrial Ergonomics*, 34, 77-91.(SCI)
10. Chi, C. F., and Chen, C. L. (2003)"Reanalyzing occupational fatality injuries in Taiwan with a model free approach", *Safety Science*, 41, 681-700.(SCI)
11. Chi, C. F., Chen, C. L., Lin, T. Y. (2001) Risk for occupational injury of handicapped workers in Taiwan, *Perceptual & Motor Skills*, 93, 89-94.(SSCI)
12. Chi, C. F., and Wu, M. L. (1997) Fatal occupational injuries in Taiwan –relationship between fatality rate and age, *Safety Science*. 27, 1-17.(SCI)

Human computer interaction

13. Chi, C.-F., Dewi, R. S., Surbakti, Y. Y., Hsieh, D.Y. (2017) The Perceived Quality of In-vehicle Auditory Signals: A Structural Equation Modeling Approach. *Ergonomics*. 60(11):1471-1484. (SCI)
14. Chi, C.-F., Dewi, R. S., Huang, M. H.(2017) Psychophysical Evaluation of Auditory Signals in Passenger Vehicles. *Applied Ergonomics*. 45, 904-916. (SCI)
15. Chi, C.-F., Dewi, R. S. (2014)" Matching performance of vehicle icons in graphical and textual formats", *Applied Ergonomics*, 45, 904-916. .(SCI)

16. Chi, C.-F., Tseng, L.-K., Jang, Y. (2012) Prune a decision tree of selecting computer-related assistive devices for the disable user, *IEEE Transactions on Neural Systems & Rehabilitation Engineering* 20(4):564-573 (SCI)
17. Chi, C. F., Cai, D. and You, M. (2003) Applying Image Descriptors to the Assessment of Legibility in Chinese Characters, *Ergonomics*, 46(8), 825-841.(SCI)
18. Hung, S.M. Shieh, K. K. Chi,C. F. (2002) Factors affecting the design of computer icons. *International Journal of Industrial Ergonomics*, 29, 211-218.(SCI)
19. Chi, C. F., Lan, W. S. and Tsai, J. R. (2000) Deriving And Analyzing Performance Strategy In A Two-Dimensional Drawing Task. *International Journal of Industrial Ergonomics*, 25, 393-404.(SCI)
20. Cai, D. , Chi, C. F., and You, M. (2000) The Legibility Threshold of Chinese Characters in Three Type Styles, *International Journal of Industrial Ergonomics*, 27, 9-17. (SCI)
21. Huang, S. M.; Shieh, K.-K.; Chi, C. F., (2002) Factors affecting the design of computer icons. *International Journal of Industrial Ergonomics* 29, 211-218.(SCI)
22. Cai, D. , Chi, C. F., and You, M. (2008) The assessment of english letter legibility with image descriptors. *Perceptual & Motor Skills*, 107, 618-628 (SCI)
23. Chi, C. F., and Chung, K. L.,(1996) "Task analysis for computer- aided design at a keystroke level". *Applied Ergonomics*, 27, 255-265. (SCI)

Defect analysis

24. Chi, C. F., Lin, C.-H., Yang, H. S. (2008) The causal analysis of requested alterations for pressure garments, *Journal of Burn Care and Research*. **29, 965-974 (SCI)**

Job Analysis and Job Accommodation

25. Chi, C. F., and Lin, Y. H. (2008) An Ergonomic Evaluation of a Call Center Performed by Disabled Agents, *Perceptual & Motor Skills*, **107, 55-64 (SSCI)**
26. Chi, C. F., , Chang, T.-C., Song, J.-C. (2007) Job compensable factors and factor weights derived using job analysis data, *Perceptual & Motor Skills*, 104, 1193-1204.(SSCI)
27. Jang, Y., Chi, C. F., Jau-Yih Tsauo, Jung-Der Wang (2006) Prevalence and Risk Factors of Work-Related Musculoskeletal Disorders in Massage Practitioners., *Journal of Occupational Rehabilitation*. 16, 425-438. (SSCI)
28. Chi, C. F., Pan, J. S., Liu, T. H., Jang, Y. (2004) The Development Of A Hierarchical Coding Scheme And Database Of Job Accommodation For Disabled Workers, *International Journal of Industrial Ergonomics*, 33, 429-447.(SCI)
29. Chi, C. F., (1999) A study on job placement for handicapped workers using job analysis data. *International Journal of Industrial Ergonomics*, 24, 337-351 (SCI)
30. Chi, C. F., & Lin, Y. T. (1998) Ratings of 830 jobs on 45 characteristics: factor & cluster analysis into Age-enhanced, Age-neutral & Age-counteracted & Age-impaired categories, *Perceptual & Motor Skills*, 87,803-816. (SSCI)

Visual fatigue & Visual load

31. Chi, C. F., and Lin, Y. H. (2009) Effects of using a screen filter on call center worker's visual fatigue measurement, *Perceptual & Motor Skills*, 108, 229-238.(SSCI)
32. Chi, C. F., and Lin, Y. H.& Lan, W.-S. (2003) Measurement of information processing load and visual load on a dynamic information processing task, *Behavior & Information Technology*, 22, 365-374. (SCI)
32. Chi, C. F., & Lin, F.-T. (1998) A comparison of seven visual fatigue assessment techniques using three data-acquisition VDT tasks, *Human Factors*, 40, 577-590. (SCI)
33. Chi, C. F., and Lin, F.-T. (1997) "A new method for describing search patterns and quantifying visual load using eye movement data", *International Journal of Industrial Ergonomics*, 19, 249-257. (SCI)

Visual inspection

34. Chi, C. F. and Drury, C. G (2001) Limits to human optimization in inspection performance. *International Journal of Systems Science*, 32, 689-701. (SCI)
35. Drury, C. G. and Chi, C.-F. (1995) A test of economic models of stopping policy in visual search. *IIE Transactions*, 27, 382-393. (SCI)
36. Chi, C. F. and Drury, C. G (1998) Do people choose an optimal response criterion in an inspection task ? *IIE Transactions*, 30.3, 257-266. (SCI)
37. Chi, C. F. (1994) Does windowing or magnification enhance inspection ? *Journal of the Chinese Institute of Industrial Engineers*, 11, 223-229 (EI)

Hand Performance

38. Cheng, C.-C., Shih, Y.-C., Tsai, Yue-Jin, Chi, C.-F. (2014) ;The Influence of Cooling Forearm/Hand and Gender on Estimation of Hand Grip Strength, *Ergonomics*. 2014 Jul 17:1-13 (SCI)
39. Chi, C. F., Shih, Y.-C., Chen, W.-L. (2012) Effect of Cold Immersion on Grip Force, EMG, and Thermal Discomfort, *International Journal of Industrial Ergonomics*, 42, 113-121. (SCI)
40. Chi, C. F. and Drury, D. G.(1988), Cross Validation of Measures of Handle/Human Fit. *Applied Ergonomics*, 19.4, 309-314. (SCI)
41. Chi, C. F. and Drury, C. G. (1988), A Further Note on Psychophysical Testing of Handles. *Applied Ergonomics*, 19.4, 315-318. (SCI)
42. Chen, W.-L. Shih, Y.-C. and Chi, C. F. (2010) Hand/Finger Dexterity as a Function of Skin Temperature, EMG, and Ambient Condition, *Human Factors*, 52(3), 2010. 426-440. (SCI)

Other Publications

43. Chi, C. F. and Lin, C.-L. (1997) "Speed and accuracy in eye-gaze pointing", *Perceptual & Motor Skills*, 85, 705-718. (SSCI)
44. Chi, C. F. & Chen, C.-L. (1997) Differential threshold of length and response criterion for inspecting irregular objects. *Perceptual & Motor Skills*, 85, 723-735. (SSCI)

45. Chi, C. F. & Lin, C.-L. (1997) Aiming accuracy of the line of sight and redesign of the eye-gaze pointing device, *Perceptual & Motor Skills*, 1111-1120, (SSCI)

Journal Publications In Chinese

46. Chi, C. F. & Chen, C.-L. (1999) Job redesign and workplace improvement for aging workers , *Journal Of Ergonomic Study* , 1 , 95-102.
47. Chi, C. F. & Lin, M.-L. (1995) A study on correlation between embedded figure test, eye movement parameters, visual lobe and peripheral visual acuity. *Journal of the Chinese Institute of Industrial Engineer*, 12, 127-133.
48. Chi, C. F. (1994) "Does windowing or magnification enhance inspection ?" *Journal of the Chinese Institute of Industrial Engineers*, 11, 223-229 .
49. Chi, C. F., Chen, C.-L., Ho, J.-J. & Du, D. (1994) Occupational Safety and Health For Aging Workers, *Journal of Occupational Safety & Health*, 3, 83-95.
50. Lin, R. Chi, C. F., & Chang, S. P. (1993) "The Creation of An Anthropometric Data Base Using AutoCAD" , *Journal of the Chinese Institute of Industrial Engineers*, 10, 195-202.
51. Chi, C. F., Lin, F.-T. & Lee, Y.-H. (1993) "The location of high-mounted brake light on sedan driver's visual tracking behavior", *Journal of the Chinese Institute of Industrial Engineers*, 10, 251-256.
52. Chi, C. F., Jang, Y., Liu , X.-L., Chen, J.-T., Yeh, W.-Y. (2002) Occupational safety, health evaluation and job accommodation for handicapped workers, *Journal of Occupational Safety & Health*, 185-197.
53. Chi, C. F., Yang, H.-S., Chen, W.-S., Liu, K.C., Chang, T.-C., Ting, H. I. In-Depth Analysis and Prevention of Fatal Falls in Construction Industry, *Journal of Occupational Safety & Health*, Vol 16, 383-400 .

Invited Lectures

- Keynote speaker for Hong Kong Ergonomics Society “Icons for Automobiles” Hong Kong, 27 May 2016
- Guest speaker for Hong Kong Ergonomics Society “Fatal occupational injuries in construction industry” Hong Kong, 27 Mar 2015
- Guest speaker for 2011 12th International Conference on Quality in Research (QiR) “The Use of Archival Data: Finding Accident Patterns of Work-Related Fatalities” Indonesia, 4-7 July 2011
- Plenary speaker for 2010 International Industrial Engineering Conference: Research, Applications & Practice, to deliver “Accident Analysis and Human Error” in AUGUST, 2010
- Guest speaker for the 10th annual meeting of Society of Occupational Safety Health and Ergonomics to deliver “Accident analysis of work-related injuries in Taiwan” in Japan in Oct, 2005
- Guest speaker for Hong Kong Ergonomics Society to deliver “Ergonomic Studies on Disabled Workers” at The Hong Kong Polytechnic University in May, 2004

Projects (PI)

- Human Factors Design Guideline and Evaluation for Vehicles supported by Hua-chuang Automobile Information Technical Center Co., Ltd

- Situational Analysis and Preventive Measures of Fatal Falls supported by Institute of Occupational Safety & Health
- Change in perception of occupational risk and working behavior following an occupational injury supported by Dept of Labor, Taipei City Government
- Human Factors Training Guide for Aviation Safety supported by Civil Aeronautics Administration
- The development of a checklist for the prevention of fatal falls in construction industry supported by Institute of Occupational Safety & Health (Taiwan)
- In-depth analysis of caught in between work-related fatalities supported by Bureau of Labor Insurance
- An Epidemiological Study of Occupational Injury in Taiwan supported by Bureau of Labor Insurance
- An ergonomics study of the workplace for disabled Workers supported by Institute of Occupational Safety & Health
- Occupational disease and injury of Aging Workers supported by Institute of Occupational Safety & Health
- Ergonomic Design Guidelines for High Speed Rail System in Taiwan supported by Preparation Office of High Speed Rail System, Bureau of Transportation & Communication
- Assistive Devices for Disabled Workers supported by Bureau of Labor Insurance
- The Creation of a Database System of Computer-Related Assistive Devices for Disabled Workers supported by Institute of Occupational Safety & Health of Taiwan.
- The Development of a Coding Scheme and Database of Job Accommodation For Disabled Workers supported by Employment and Vocational Training Administration of Taiwan
- The Guide To Job Accommodation For Disabled Workers supported by Employment and Vocational Training Administration of Taiwan
- Job Placement For Handicapped Workers Using Job Analysis Data supported by Employment and Vocational Training Administration of Taiwan