

Chih-Hsing Chu, Ph.D.

Professor, Department of Industrial Engineering and Engineering Management

National Tsing Hua University (NTHU), Hsinchu, Taiwan

Phone: (886) 3-5742698, E-mail: chchu@ie.nthu.edu.tw

URL: <http://prl.ie.nthu.edu.tw>

Education

- Ph.D. Mechanical Engineering, University of California, Berkeley, USA (advisor: Dr. David Dornfeld), 2000
- M.S. Mechanical Engineering, National Taiwan University, Taipei, Taiwan, 1992
- B.S. Mechanical Engineering, National Taiwan University, Taipei, Taiwan, 1990

Professional Experience

- Since 2010/8 Professor, Department of Industrial Engineering and Engineering Management, NTHU
- Since 2025/11 Associate Director, Pioneer Material Precision Tech Research Center, NTHU
- 2024/8~2024/12 Visiting Professor, Department of Mechanical Engineering (host: Dr. Sangkee Min), University of Wisconsin-Madison, USA
- 2017/10~2018/9 Adjunct Researcher, National Center for High-Performance Computing, Hsinchu, Taiwan
- 2017/8~2018/7 Visiting Professor, Department of Mechanical and Aerospace Engineering (host: Dr. Barbara Linke), University of California, Davis, USA
- 2015/2~2017/7 Honorable Visiting Professor, School of Engineering University of Liverpool, UK
- 2014/6~2014/8 Visiting Professor, Department of Mechanical Engineering (host: Dr. David Dornfeld) University of California, Berkeley, USA
- 2009/8~2012/7 Director of International Affairs, College of Engineering, NTHU
- 2006/8~2010/7 Associate Professor, Department of Industrial Engineering and Engineering Management NTHU
- 2002/8~2006/7 Assistant Professor, Department of Industrial Engineering and Engineering Management NTHU
- 2005/8~2005/9 Invited Professor, CREDITS, Sungkunkwan University, Suwon, Korea
- 2002/12~2010/7 Senior Consultant, StandFord Corp., Taoyuan, Taiwan
- 2001/12~2002/7 Assistant Professor, Department of Industrial and Systems Engineering, Virginia Tech, Blacksburg, USA
- 2000/6~2001/11 Web Applications Engineer, RedSpark-Autodesk, San Francisco, USA
- 1996/8~2000/5 Research Assistant, Laboratory for Manufacturing Automation, University of California, Berkeley, USA
- 1994/10~1995/6 Research Assistant, National Taiwan University, Taipei, Taiwan
- 1993/9~1994/10 Visiting Scholar, WZL (Laboratory for Machine Tools and Production Engineering), RWTH Aachen, Germany

Scholarly and Professional Honors

- Best Paper Award, 2026 ASME International Design Engineering Technical Conferences, Houston, USA
- Excellent Teaching Award (2026), College of Engineering, NTHU
- Excellent Industrial Collaboration Award (2026), NTHU
- ASME 2024 Outstanding Associate Editor of the Year

- Best Paper Award, 2022 ASME International Design Engineering Technical Conferences, St Louis, USA
- Excellent Industrial Collaboration Award (2021), NTHU
- Outstanding Research Award (2018), Minister of Science and Technology, Taiwan
- Excellent Teaching Award (2017), College of Engineering, NTHU
- Most Cited Article Award (2016), International Journal of Precision Engineering and Manufacturing
- Honorable Mentioned Paper Award, IEEE International Conference on Industrial Engineering and Engineering Management 2015, Singapore
- Most Cited Article Award (2015), International Journal of Precision Engineering and Manufacturing
- Best Paper Award, IEEE International Conference on Industrial Engineering and Engineering Management 2014, Malaysia.
- Research Award, Sayling Wen Foundation, 2012.
- Best Paper Award, 2012 ISPC: Interdisciplinary Design in Asia, Hsinchu, Taiwan.
- Excellent Industrial Collaboration Award (2012), College of Engineering, NTHU
- Excellent Teaching Award (2011), College of Engineering, NTHU
- Ta-You Wu Memorial Award (2007), National Science Council, Taiwan (equivalent to NSF CAREER Award)
- Highly Recommended Paper Award, International Conference on Manufacturing Automation 2007, Singapore
- Young Faculty Research Award (2005), NTHU
- Ph.D. Student Fellowship, Department of Mechanical Engineering, UC Berkeley, 1996-1997
- Member of the Phi-Tau-Phi Scholastic Honor Society, 1992

Professional Society Memberships

- Fellow, CIIE (Chinese Institute of Industrial Engineers)
- Member, ASME (Society of the American Society of Mechanical Engineers), since 2001
- Senior Member, IEEE (Institute of Electrical and Electronics Engineers), since 2006
- Member, SME (Society of the Society of Manufacturing Engineers), since 2002

Journal Editorial Activities:

- Associate Editor, Human Machine Interaction, since 2026/1.
- Associate Editor, Journal of Engineering Design, since 2022/7.
- Associate Editor, Journal of Computing and Information Science in Engineering, since 2021/1.
- Editorial Board Member, International Journal of Precision Engineering and Manufacturing-Green Technology, since 2014/1.
- Editor in Chief, Journal of Industrial and Production Engineering, 2011/1~2020/7.
- Editor, International Journal of Precision Engineering and Manufacturing, 2011/1~2018/12.
- Editorial Board Member, International Journal of Computer Integrated Manufacturing, since 2014/1.
- Associate Editor, IEEE Transactions on Automation Science and Engineering, 2009/1~2013/12.
- Editor, Cogent Engineering, since 2015/1.
- Editorial Board Member, International Journal of Manufacturing Research, since 2013/1.
- Editorial Board Member, Journal of Integrated Design & Process Science, since 2012/1.
- Senior Editor, Journal of the Chinese Institute of Industrial Engineers, 2008/1~2010/12.
- Guest Editor, Journal of Intelligent Manufacturing, Special Issue "Design Chain Management," (2009), "Mass Customization and Personalization for Product and Service" (2010).
- Guest Editor, Journal of Manufacturing Systems, Special Issue "Depth Cameras Based Techniques and

Applications in Design, Manufacturing and Services,” (2013).

- Guest Editor, Computers in Industry, Special Issue “Computer Techniques in Design and Manufacturing of Soft Products,” 2008.

Refereed Journal Papers

- J1. Chu, C. H.*, & Huang, S. Y. (2026). Image content control for augmented reality head mounted display-based remote collaboration in manufacturing. *Robotics and Computer-Integrated Manufacturing (SCI)*, 101, 103306.
- J2. Chu, C. H.*, & Chen, S. M. (2026). Collaborative industrial product customization in real use environments through augmented reality: A case study of machine tool coolers. *Robotics and Computer-Integrated Manufacturing (SCI)*, 99, 103216.
- J3. Chen, K. J., & Chu, C. H.* (2026). An Experimental Study on the Effects of Control Frame and View in Robot Teleoperation. *International Journal of Human-Computer Interaction (SCI)*, 1-23.
- J4. Chu, C. H., Lai, C. Y., & Shih, C. H. (2026). Computer-aided manufacturing in reality: augmented reality-enabled precision motion planning for robotic repair of complex shapes. *Journal of Manufacturing Systems (SCI)*, 85, 193-206.
- J5. Yi, J., Shou, H., Li, X., Zhou, W., & Chu, C. H.* (2025). Benchmarking state-of-the-art large-scale global optimization algorithms for tool path planning in five-axis flank milling: A comparative performance analysis. *Computers & Industrial Engineering (SCI)*, 111780.
- J6. Chen, K. J., Chung, W. Y., Lin, Y. R., Sung, C. Y., Huang, Y. Y., Lee, Y. J., & Chu, C. H.* (2025). Evaluating touchscreen interface design for information Analysis: A comparative study of juxtaposition and overlay display modes. *Displays (SCI)*, 103277.
- J7. Tien, K. W., & Chu, C. H.* (2025). Distributed design optimisation in collaborative product development by integrating analytical target cascading with kriging. *Advanced Engineering Informatics (SCI)*, 68, 103708.
- J8. Chu, C. H.*, & Chang, W. (2025). Artificial Intelligence-Assisted Manual Inspection in Industrial Sites for Anomaly Detection in Connector Joints. *International Journal of Precision Engineering and Manufacturing-Green Technology (SCI)*, 1-15.
- J9. Tien, K. W., Lu, Y. J., & Chu, C. H.* (2025). Task allocation based on single-limb actions for augmented reality-assisted human-robot collaboration. *Journal of Manufacturing Systems (SCI)*, 82, 1000-1019.
- J10. Chu, C. H.*, & Lee, I. Y. (2025). An Experimental Study on the Design of Interaction Modalities in Augmented Reality for Industrial Robot Programming. *Journal of Computing and Information Science in Engineering (SCI)*, 1-30.
- J11. Chu, C. H.*, Zhang, Y., Zheng, P., Ferrise, F., & Chang, Q. C. (2025). From Human-Robot to Human-Machine Collaboration. *Journal of Computing and Information Science in Engineering (SCI)*, 1-7.
- J12. Cao, J., Chu, H. L., Chen, Y. L., Chu, C. H., Huang, Y. Y., & Lee, Y. J.* (2025). Enhancing in-car interface efficiency: The influence of menu configuration on cognitive load and visuospatial memory. *Ergonomics (SCI)*, 1-17.
- J13. Chen, K. J., Shin, J. J., Chu, H. L., Chen, Y. L., Chu, C. H., Huang, Y. Y., & Lee, Y. J.* (2025). Training and dashboard design: Impact on operator performance and mental workload for flight safety. *Safety Science (SCI)*, 181, 106700.
- J14. Chu, C. H.*, Pan, J. K., & Chen, Y. W. (2025). Ergonomic workplace design based on real-time integration between virtual and augmented realities. *Robotics and Computer-Integrated Manufacturing (SCI)*, 92, 102859.
- J15. Yi, J., Kuo, C. L., Tien, K. W., & Chu, C. H.* (2025). Optimal Tool Path Planning in Five-Axis Flank Milling for Cylindrical Cutters using Surrogate Models and Multi-Level Space Reduction Techniques. *Advances in Engineering Software (SCI)*, 201, 103854.
- J16. Chu, C. H.*, Weng, C. Y., & Chen, Y. T. (2024). Enhancing manual inspection in semiconductor manufacturing with integrated augmented reality solutions. *Journal of Manufacturing Systems (SCI)*, 77, 933-945.
- J17. Chu, C. H.*, Chen, Y. R., & Chen, S. M. (2024). Identification of flange specification in real industrial settings with human reasoning assisted by augmented reality. *Advanced Engineering Informatics (SCI)*, 62, 102882.
- J18. Chu, C. H.*, & Baroroh, D. K. (2024). Production planning and simulation in mixed reality for human work

- performance variations. *Computers & Industrial Engineering (SCI)*, 193, 110327.
- J19. Chu, C. H.*, & Weng, C. Y. (2024). Experimental analysis of augmented reality interfaces for robot programming by demonstration in manufacturing. *Journal of Manufacturing Systems (SCI)*, 74, 463-476.
- J20. Chu, C. H., & Pan, J. K. (2024). A Systematic review on extended reality applications for sustainable manufacturing across the product lifecycle. *International Journal of Precision Engineering and Manufacturing-Green Technology (SCI)*, 11(3), 1017-1028.
- J21. Chu, C. H.*, Bernstein, W., Zhang, Y. W., Krishnamurthy, V. R., & Ma, J. (2024). Extended Reality in Design and Manufacturing. *Journal of Computing and Information Science in Engineering (SCI)*, 24(3), 030301.
- J22. Wang, I. J.*, Yeh, L., Chu, C. H., & Huang, Y. T. (2024). Assistive Sensory Feedback for Trajectory Tracking in Augmented Reality. *Journal of Computing and Information Science in Engineering (SCI)*, 24, 031001-1.
- J23. Chou, T., Chu, C. H.*, & Liu, S. (2024). Virtual Footwear Try-On in Augmented Reality Using Deep Learning Models. *Journal of Computing and Information Science in Engineering (SCI)*, 24(3), 031002.
- J24. Chu, C. H.*, & Liu, Y. L. (2023). Augmented reality user interface design and experimental evaluation for human-robot collaborative assembly. *Journal of Manufacturing Systems (SCI)*, 68, 313-324.
- J25. Chu, C. H.*, Zhou, Y., Zhang, J. H., & Tang, J. (2023). Computational approaches for improving machining precision in five-axis flank milling of spiral bevel gears. *Computers & Industrial Engineering (SCI)*, 177, 108984.
- J26. Runji, J. M., Lee, Y. J., & Chu, C. H.* (2023). Systematic literature review on augmented reality-based maintenance applications in manufacturing centered on operator needs. *International Journal of Precision Engineering and Manufacturing-Green Technology (SCI)*, 10(2), 567-585.
- J27. Chu, C. H.*, Baroroh, D. K., Pan, J. K., & Chen, S. M. (2023). An exemplary case of industrial metaverse: Engineering product demonstration using extended reality technologies. *Int. J. Precis. Eng. Manuf. Smart Technol*, 1, 243-250.
- J28. Chu, C. H.*, Zhou, Y., Liu, E. M., & Tang, J. (2022). Optimal tool path generation and cutter geometry design for five-axis CNC flank milling of spiral bevel gears. *Journal of Computational Design and Engineering (SCI)*, 9(5), 2024-2039.
- J29. Baroroh, D. K., & Chu, C. H.* (2022). Human-centric production system simulation in mixed reality: An exemplary case of logistic facility design. *Journal of Manufacturing Systems (SCI)*, 65, 146-157.
- J30. Esfahani, E. T.*, He, B., Chu, C. H., Liu, Y., Rai, R., & Ameta, G. (2022). Symbiotic Human-Artificial Intelligence Partnership for Next-Generation Factories. *Journal of Computing and Information Science in Engineering (SCI)*, 22(5), 050301.
- J31. Runji, J. M., Lee, Y. J., & Chu, C. H.* (2022). User requirements analysis on augmented reality-based maintenance in manufacturing. *Journal of Computing and Information Science in Engineering (SCI)*, 22(5), 050901.
- J32. Wang, S., Zhou, Y., Chu, C. H.*, & Tang, J. (2022). Novel kinematic and geometric views for improving tooth contact analysis of spatial gears. *Journal of Computational Design and Engineering (SCI)*, 9(3), 1076-1096.
- J33. Chu, C. H.*, Chen, Y. A., Huang, Y. Y., & Lee, Y. J. (2022). A comparative study of virtual footwear try-on applications in virtual and augmented reality. *Journal of Computing and Information Science in Engineering (SCI)*, 22(4), 041004.
- J34. Chu, C. H., Wang, I. J., Sun, J. R., & Liu, C. H.* (2022). Customized designs of short thumb orthoses using 3D hand parametric models. *Assistive Technology (SCI)*, 34(1), 104-111.
- J35. Chu, C. H.*, & Ko, C. H. (2021). An experimental study on augmented reality assisted manual assembly with occluded components. *Journal of Manufacturing Systems (SCI)*, 61, 685-695.
- J36. Baroroh, D. K., Chu, C. H.*, & Wang, L. (2021). Systematic literature review on augmented reality in smart manufacturing: Collaboration between human and computational intelligence. *Journal of Manufacturing Systems (SCI)*, 61, 696-711.
- J37. Chu, C. H.*, Wang, L., Liu, S., Zhang, Y., & Menozzi, M. (2021). Augmented reality in smart manufacturing: Enabling collaboration between humans and artificial intelligence. *Journal of manufacturing systems (SCI)*, 61, 658-659.

- J38. Chu, C. H.* , Chang, W. C., & Lin, Y. I. (2020). An exploratory study on computer-aided affective product design based on crowdsourcing. *Journal of Ambient Intelligence and Humanized Computing (SCI)*, 11, 5115-5127.
- J39. Chu, C. H.* , Liu, Y. W., Li, P. C., Huang, L. C., & Luh, Y. P. (2020). Programming by demonstration in augmented reality for the motion planning of a three-axis CNC dispenser. *International Journal of Precision Engineering and Manufacturing-Green Technology (SCI)*, 7, 987-995.
- J40. Chu, C. H.* , & Kao, E. T. (2020). A comparative study of design evaluation with virtual prototypes versus a physical product. *Applied Sciences (SCI)*, 10(14), 4723.
- J41. Luh, Y. P., Huang, L. C., Lu, H. J., & Chu, C. H.* (2020). A smart manufacturing solution for multi-axis dispenser motion planning in mixed production of shoe soles. *International Journal of Precision Engineering and Manufacturing-Green Technology (SCI)*, 7, 769-779.
- J42. Chu, C. H.* , Liao, C. J., & Lin, S. C. (2020). Comparing augmented reality-assisted assembly functions- a case study on Dougong structure. *Applied Sciences (SCI)*, 10(10), 3383.
- J43. Chu, C. H.* , Chen, H. Y., & Chang, C. H. (2020). Continuity-preserving tool path generation for minimizing machining errors in five-axis CNC flank milling of ruled surfaces. *Journal of Manufacturing Systems (SCI)*, 55, 171-178.
- J44. Kamath, A. K., Linke, B. S.* , & Chu, C. H. (2020). Enabling advanced process control for manual grinding operations. *Smart and Sustainable Manufacturing Systems (E-SCI)*, 4(2), 210-230.
- J45. Chu, C. H.* , Cheng, C. H., Wu, H. S., & Kuo, C. C. (2019). A cloud service framework for virtual try-on of footwear in augmented reality. *Journal of Computing and Information Science in Engineering (SCI)*, 19(2), 021002.
- J46. Yi, J., Li, X.* , Chu, C. H., & Gao, L. (2019). Parallel chaotic local search enhanced harmony search algorithm for engineering design optimization (SCI). *Journal of Intelligent Manufacturing (SCI)*, 30, 405-428.
- J47. Hong, I., Su, C.P.* , Chu, C.H., and Yen, C.Y. (2018) "Decentralized decision framework to coordinate product design and supply chain decisions: Evaluating tradeoffs between cost and carbon emission," *Journal of Cleaner Production (SCI)*, Vol. 204, pp. 107-116.
- J48. Yi, J., Chu, C.H.* , Kuo, C.L., Li, X., and Gao, L. (2018) "Optimized tool path planning for five-axis flank milling of ruled surfaces using geometric decomposition strategy and multi-population harmony search algorithm," *Applied Soft Computing (SCI)*, Vol. 73, pp. 547-561.
- J49. Chu, C.H.* and Wang, I.J. (2018) "Mass Customized Design of Cosmetic Masks Using Three-Dimensional Parametric Human Face Models Constructed from Anthropometric Data," *ASME Journal of Computing and Information Science in Engineering (SCI)*, Vol. 18, No. 3, pp. 34501-34512.
- J50. Chu, C.H.* , Wang, I.J., Wang, J.B., and Luh, Y.P. (2017) "3D Parametric Human Face Modeling for Personalized Product Design: Eyeglasses Frame Design Case," *Advanced Engineering Informatics (SCI)*, Vol. 32, pp. 202-223.
- J51. Xu, K., Wang, J., Chu, C.H., and Tang, K.* (2017) "Cutting Force and Machine Kinematics Constrained Cutter Location Planning for Five-axis Flank Milling of Ruled Surfaces," *Journal of Computational Design and Engineering (SCI)*, Vol. 4, No. 3, pp. 203-217.
- J52. Jiao, J.* , Zhou, F., and Chu, C.H. (2017) "Decision Theoretic Modelling of Affective and Cognitive Needs for Product Experience Engineering: Key Research Issues and a Conceptual Framework," *Journal of Intelligent Manufacturing (SCI)*, Vol. 28, No. 7, pp. 1755-1767.
- J53. Chu, C.H.* , Lo, C.H. and Cheng, H.C. (2017) "Cognitive Shape Similarity Assessment for 3D Part Search," *Journal of Intelligent Manufacturing (SCI)*, Vol. 28, No. 7, pp. 1679-1694.
- J54. Lo, C.H., Chu, C.H.* , Yanagisawa, H., and Jiao, J. (2017) "Scientific Advances in Product Experience Engineering," *Journal of Intelligent Manufacturing (SCI)*, Vol. 28, No. 7, pp 1581-1584.
- J55. Yi, J., Li, X.* , Chu, C.H., and Gao, L. (2016) "Parallel Chaotic Local Search Enhanced Harmony Search Algorithm for Engineering Design Optimization," *Journal of Intelligent Manufacturing (SCI)*, pp. 1-24.
- J56. Chu, C.H.* and Kuo, C.L. (2016) "Iterative Optimization of Tool Path Planning in Five-Axis Flank Milling of Ruled Surfaces by Integrating Sampling Techniques," *International Journal of Advanced Manufacturing Technology (SCI)*, Vol. 87, No. 5, pp. 2363-2374.

- J57. Lin, S.C., Persada, S.F., Nadlifatin, R., Tsai, H.Y., and Chu, C.H.* (2015) "Exploring the Influential Factors of Manufacturers' Initial Intention in Applying for the Green Mark Eco-Label in Taiwan," *International Journal of Precision Engineering and Manufacturing: Green Technology (SCI)*, Vol. 2, No. 4, pp. 359-364.
- J58. Yang, L., Chu, C.H.* , Fu, Y.C., Xu, J.H., and Liu, Y.T. (2015) "CFRP Grinding Wheels for High Speed and Ultra-High Speed Grinding: A Review of Current Technologies and Research Strategies," *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 16, No. 12, pp. 2599-2606.
- J59. Chu, C.H.* , Hsieh, H.T., Lee, C.H., and Yan, C. (2015) "Spline Constrained Tool Path Planning in Five-Axis Flank Machining of Ruled Surface," *International Journal of Advanced Manufacturing Technology (SCI)*, Vol. 80, No. 9, pp. 2097-2104.
- J60. Chu, C.H.* , Kuo, C.L., Gao, L., and Li, Y. (2015) "Electromagnetism-Like Algorithms for Optimized Tool Path Planning in 5-Axis Flank Machining," *Computers and Industrial Engineering (SCI)*, Vol. 84, pp. 70-78.
- J61. Huang, S.H., Yang, C.K., Tseng, C.Y., and Chu, C.H.* (2015) "Design Customization of Respiratory Mask based on 3D Face Anthropometric Data," *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 16, No. 3, pp. 1-8.
- J62. Kuo, T.C.* , Huang, M.L., Hsu, C.W., Lin, C.J., Hsieh, C.C., and Chu, C.H. (2015) "Application of data quality indicator of carbon footprint and water footprint," *International Journal of Precision Engineering and Manufacturing: Green Technology (SCI)*, Vol. 2, No. 1, pp. 43-50.
- J63. Lo, C.H., Chu, C.H.* , and Huang, S.H. (2015) "Evaluating the Effect of Interactions between Appearance-Related Product Designs and Facial Characteristics on Social Affectivity," *International Journal of Industrial Ergonomics (SCI)*, Vol. 45, pp. 35-47.
- J64. Wang, C.C.L., Chu, C.H., Wang, L.* , and Ramani, K. (2014) "Depth Cameras based Techniques and Applications in Design, Manufacturing and Services," *Journal of Manufacturing Systems (SCI)*, Vol. 33, No. 4, pp. 675-676.
- J65. Yang, Y.I., Yang, C.K., and Chu, C.H.* (2014) "A Virtual Try-on System in Augmented Reality Using RGB-D Cameras for Footwear Personalization," *Journal of Manufacturing Systems (SCI)*, Vol. 33, No. 4, pp. 690-698.
- J66. Kuo, C.L., Su, C.P., Chu, C.H.* , and Miao, H.Y. (2014) "A Statistical Framework to Characterize Nanotube Buckypaper Manufacturing Process," *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 15, No. 8, pp. 1-8.
- J67. Lin, Y.I., Tien, K.W., and Chu, C.H.* (2014) "A Multi-Target Hierarchical Negotiation Mechanism for Distributed Design," *IEEE Transactions on Automation Science and Engineering (SCI)*, Vol. 11, No. 3, pp. 881-890.
- J68. Lo, C.H. and Chu, C.H.* (2014) "An Investigation of the Social-Affective Effects Invoked by Appearance-Related Products," *Human Factors and Ergonomics in Manufacturing & Service Industries (SCI)*, Vol. 24, No. 1, pp. 71-85.
- J69. Wu, P.H. and Chu, C.H.* (2013) "Improved Curve Morphing Based on Discrete Dynamic Programming," accepted (2012/6), *International Journal of Innovative Computing Information and Control (SCI)*.
- J70. Hsieh, S.T., Tsai, Y.C., and Chu, C.H.* (2013) "Multi-Pass Progressive Tool Path Planning in Five-Axis Flank Milling by Particle Swarm Optimization," *International Journal of Computer Integrated Manufacturing (SCI)*, Vol. 26, No. 10, pp. 977-987.
- J71. Smith, S.* , G. Smith, Jiao, J., and Chu, C.H. (2013) "Mass Customization in the Product Life Cycle," *Journal of Intelligent Manufacturing (SCI)*, Vol. 24, No. 5, pp. 877-885.
- J72. Luh, Y.P., Wang, J.B., Chang, J.W., Chang, Y.Y., Chu, C.H.* (2013) "Augmented Reality based Mass Customization of Shoe Design," *Journal of Intelligent Manufacturing (SCI)*, Vol. 24, No. 5, pp. 905-917.
- J73. Chu, C.H.* and Cheng, K.C. (2013) "Precise 5-Axis Grooving of Tire Mold by Optimization of Surface Developability," *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 14, No. 10, pp. 1-6.
- J74. Chen, J.T. and Chu, C.H.* (2013) "Geometric Design of Uniform Developable B-Spline Surfaces: Constraints and Degrees of Freedom," *Journal of Industrial and Production Engineering (E-SCI)*, Vol. 30, No. 4, pp. 216-222.
- J75. Kuo, T.C.* and Chu, C.H. (2013) "Risk Management of Hazardous Substances in the Green Supply Chain," *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 14, No. 6, pp. 1057-1064.
- J76. Lin, Y.I., Chou, Y.W., Shiau, J.Y., and Chu, C.H.* (2013) "Multi-Agent Negotiation based on Price Schedules

- Algorithm for Distributed Collaborative Design,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 24, No. 3, pp. 545-557.
- J77. Chu, C.H.*, Su, C.P., Li, W.D., and Jiao, J. (2013) “Design Chain Management: Bridging the Gap,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 24, No. 3, pp. 541-544.
- J78. Hsieh, S.T. and Chu, C.H.* (2013) “Improving Tool Path Planning in 5-Axis Flank Milling of Ruled Surfaces using Advanced PSO Algorithms,” *Robotics & Computer Integrated Manufacturing (SCI)*, Vol. 29, No. 3, pp. 3-11.
- J79. Lin, C.W. and Chu, C.H.* (2013) “Dynamic Models and Design of Spindle-Bearing Systems of Machine Tools: A Review,” *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 14, No. 3, pp. 513-521.
- J80. Chan, Y.H., Wu, P.H., and Chu, C.H.* (2012) “Optimized Product Data Transmission in LOD-based Collaborative Design using P2P CAD Streaming,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 23, No. 5, pp. 1559-1571.
- J81. Chu, C.H.* and Hsieh, S.T. (2012) “Generation of Reciprocating Tool Motion in 5-Axis Flank Milling based on PSO,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 23, No. 5, pp. 1501-1509.
- J82. Chu, C.H.*, Su, C.P., and Chen, Y.T. (2012) “A Concurrent Approach to Reducing Environmental Impact of Product Development in the System Design Stage,” *IEEE Transactions on Automation Science and Engineering (SCI)*, Vol. 9, No. 3, pp. 482-495.
- J83. Lin, Y.I., Tien, K.W., and Chu, C.H.* (2012) “Multi-Agent Negotiation based on Multi-Resource Price Schedules Decomposition for Distributed Design,” *Computers in Industry (SCI)*, Vol. 63, No. 6, pp. 597-609.
- J84. Su, C.P.* and Chu, C.H. (2012) “A Decision Support System to Estimate the Carbon Emission and Cost of Product Designs,” *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 13, No. 7, pp. 1037-1045.
- J85. Chiu, M.C. and Chu, C.H.* (2012) “A Review on Integrated Sustainable Product Design from Life Cycle Perspectives,” *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 13, No. 7, pp. 1-14.
- J86. Chu, C.H.*, Huang, W.N., and Li, Y.W. (2012) “An integrated framework of Tool Path Planning in 5-Axis Machining of Centrifugal Impeller with Split Blades,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 23, pp. 687-698.
- J87. Chu, C.H.*, Wu, P.H., and Lei, W.T. (2012) “Tool Path Planning for 5-Axis Flank Milling of Ruled Surfaces Considering CNC Linear Interpolation,” *Journal of Intelligent Manufacturing (SCI)*, Vol. 23, pp. 471-480.
- J88. Wu, P.H., Hsieh, S.T., and Chu, C.H.* (2012) “Reducing Machining Error in 5-Axis Flank Milling with Simultaneous Perturbation Stochastic Approximation Method,” *International Journal of Innovative Computing Information and Control (SCI)*, Vol. 8, No. 5, pp. 1-11.
- J89. Huang, S.H., Yang, Y.I., and Chu, C.H.* (2012) “Human-Centric Design Personalization of 3D Glasses Frame in Markerless Augmented Reality,” *Advanced Engineering Informatics (SCI)*, Vol. 16, pp. 35-45.
- J90. Hsieh, S.T. and Chu, C.H.* (2012) “Reducing Machining Error in 5-Axis Flank Milling of Ruled Surfaces with Improved PSO,” *International Journal of Precision Engineering and Manufacturing (SCI)*, Vol. 13, No. 1, pp. 1-8.
- J91. Hsieh, S.T. and Chu, C.H.* (2011) “PSO-based Tool Path Planning for 5-Axis Flank Milling Accelerated by GPU,” *International Journal of Computer Integrated Manufacturing (SCI)*, Vol. 24, No. 7, pp. 676-687.
- J92. Luh, Y.P., Pan, C.C., and Chu, C.H.* (2011) “Deployment of Distributed PLM System in Collaborative Product Development,” *International Journal of Computer Integrated Manufacturing (SCI)*, Vol. 24, No. 5, pp. 471-483.
- J93. Cheng, H.C., Lo, C.H., Chu, C.H.*, and Kim, Y.S. (2011) “Similarity Assessment based on Integration of D2 Shape Distribution and Negative Feature Decomposition for 3D Mechanical Parts,” *Computers in Industry (SCI)*, Vol. 62, pp. 269-280.
- J94. Chu, C.H.*, Wang, C.C.L., Tsai, C.R., and Li, Y.W., (2011) “Strip Approximation with Bézier Patches in Conical Form for Design and Manufacturing of Developable Materials,” *International Journal of Computer Integrated Manufacturing (SCI)*, Vol. 24, No. 3, pp. 269-284.
- J95. Chu, C.H.*, Tien, K.W., Lee, C.T., and Ting, C.J. (2011) “Efficient Tool Path Planning in 5-Axis Milling of Ruled Surfaces using Ant Colony System Algorithms,” *International Journal of Production Research (SCI)*, Vol. 49, No. 6, pp. 1557-1574.
- J96. Lo, C.H., Tseng, K.C., and Chu, C.H.* (2010) “One Step QFD Based 3D Morphological Charts for Concept Generation of Product Variant Design,” *Expert System with Applications (SCI)*, Vol. 37, pp. 7351-7363.

- J97. Wang, C.C.L.* and Chu, C.H. (2010) "Soft Products Development," *Computers in Industry (SCI)*, Vol. 61, pp. 511-512.
- J98. Lo, C.H.*, Chu, C.H., Debattista, K., and Chalmers, A. (2010) "An Investigation of Efficient Rendering of Ray Traced Stereoscopic Images," *The Visual Computer (SCI)*, Vol. 26, pp. 97-107.
- J99. Chu, C.H., Tsai, Y.T., Wang, C.C.L.*, and Kwok, T.H. (2010) "Exemplar-Based Statistical Model for Semantic Parametric Design of Human Body," *Computers in Industry (SCI)*, Vol. 61, No. 5, pp. 541-549.
- J100. Luh, Y.P., Chu, C.H.*, and Pan, C.C. (2010) "Management of Green Product Design using Generic Modularized Product Architecture in PDM," *Computers in Industry (SCI)*, Vol. 61, pp. 223-234. (SCI)
- J101. Cheng, H.C. and Chu, C.H.* (2010) "3D Similar Part Search through CAD/PDM Integration," *Journal of Advanced Engineering*, Vol. 5, No. 1, pp. 15-20.
- J102. Chu, C.H.*, Wu, P.H., and Yuan, G.X. (2009) "Online Parametric Configuration of 3D Product based on Triangulation Model," *Journal of Engineering Manufacture (SCI)*, Vol. 223, No. 3, pp. 231-246.
- J103. Chu, C.H.*, Wu, P.H., Hsu, Y.C., and Sung, M.C., (2009) "Multi-Agent Collaborative 3D Design with Multiple Levels of Detail," *Robotics & Computer Integrated Manufacturing (SCI)*, Vol. 25, pp. 334-347.
- J104. Tsai, W.L., Lo, C.H., and Chu, C.H.* (2009) "Designing Developable Surface with Haptic Force Feedback," *Journal of Engineering Manufacture (SCI)*, Vol. 223, No. 2, pp. 163-168.
- J105. Lo, C.H. and Chu, C.H.* (2009) "Experimental Study for Computer Aided Affective Product Styling," *Computer-Aided Design and Applications (EI)*, Vol. 6, No. 4, pp. 471-482.
- J106. Chu, C.H.*, Cheng, H.C., Wang, E., and Kim, Y.S., (2009) "ANN-based 3D Part Search with Different LOD in Negative Feature Decomposition," *Expert Systems with Applications (SCI)*, Vol. 36, pp. 10905-10913.
- J107. Chu, C.H.*, Luh, Y.P., Li, T.C. and Chen, H. (2009) "Economical Green Product Design based on Computer-Aided Product Structure Variation," *Computers in Industry (SCI)*, Vol. 60, No. 7, pp. 485-500.
- J108. Lo, C.H. and Chu, C.H.* (2009) "Affective Modelling: Profiling Geometrical Models with Human Emotional Responses," *Computer Graphics Forum (SCI)*, Vol. 28, No. 7, pp. 1811-1820.
- J109. Chu, C.H.*, Wang, C.C.L., and Tsai, C.R., (2008), "Computer Aided Geometric Design of Strip using Developable Bézier Patches," *Computers in Industry (SCI)*, Vol. 59, pp. 601-610.
- J110. Chu, C.H.*, Huang, W.N., and Hsu, Y.Y. (2008) "Machining Accuracy Control in Five-Axis Flank Milling of Ruled Surface," *International Journal of Machine Tools and Manufacture (SCI)*, Vol. 48, pp. 914-921.
- J111. Wu, P.H. and Chu, C.H.* (2008) "Optimized Tool Path Generation in 5-Axis Flank Milling using Dynamic Programming," *International Journal of Machine Tools and Manufacture (SCI)*, Vol. 48, pp. 914-921.
- J112. Tsai, W.L., Wang, C.C.L.*, Chu, C.H., and Tang, K. (2008) "Optimal Quadrangulation for Flank Milling of Strip," *Computer-Aided Design and Applications (EI)*, Vol. 5, No. 1-4, pp. 307-315.
- J113. Wu, P.H., Li, Y.W., and Chu, C.H.* (2008) "Tool Path Planning for 5-Axis Flank Milling Based on Dynamic Programming Techniques," *Lecture Notes in Computer Science*, Vol. 4975, pp. 570-577.
- J114. Chu, C.H.*, Chan, Y.H., and Wu, P.H. (2008) "3D Streaming based on Multi-LOD Models for Networked Collaborative Design," *Computers in Industry (SCI)*, Vol. 59, pp. 863-872.
- J115. Chu, C.H.*, Wang, C.C.L., and Tsai, C.R., (2007) "Strip Approximation Using Developable Bézier Patches," *Computer-Aided Design and Applications (EI)*, Vol. 4, No. 6, pp. 807-816.
- J116. Chu, C.H.* and Chen, J.T. (2007) "Characterizing Design DOF for Composite Developable Bézier Surfaces and Their Applications in Design and Manufacturing," *Robotics & CIM (SCI)*, Vol. 23, No. 1, 116-125.
- J117. Cheng, H.C., Chu, C.H.*, Wang, E., and Kim, Y.S. (2007) "3D Part Similarity Comparison based on Levels of Detail in Negative Feature Decomposition Using Artificial Neural Network," *Computer-Aided Design and Applications (EI)*, Vol. 4, No. 5, pp. 619-628.
- J118. Chu, C.H.*, Song, M.C., and Luo, V.C. (2006), "Computer Aided Parametric Design for 3D Tire Mold Production," *Computers in Industry (SCI)*, Vol. 57, No. 1, pp. 11-25.
- J119. Chu, C.H.* and Hsu, Y.C. (2006), "Similarity Assessment of 3D Mechanical Components for Design Reuse,"

- Robotics & CIM (SCI), Vol. 22, No. 4, pp. 332-341.
- J120. Chu, C.H.*, Wu, P.H., and Hsu, Y.C., (2006) "Collaborative 3D Product Development with Multiple LOD in Visualization of Design Features," *Computer-Aided Design and Applications* (EI), Vol. 3, No. 6, pp. 789-802.
- J121. Chu, C.H.*, Chang, C.J., and Cheng, H.C. (2006), "Empirical Studies on Inter-Organizational Collaborative Product Development," *ASME Journal of Computing & Information Science in Engineering* (SCI), Vol. 6, No. 2, pp. 179-187.
- J122. Chu, C.H.* and Chen, J.T. (2006), "Automatic Tool Path Generation for 5-axis Flank Milling based on Developable Surface Approximation," *International Journal of Advanced Manufacturing Technology* (SCI), Vol. 29, No. 7-8, pp. 707-713.
- J123. Chu, C.H.*, Cheng, C.Y., and Wu, C.W. (2006), "Applications of the Web-Based Collaborative Visualization in Distributed Product Development," *Computers in Industry* (SCI), Vol. 57, No. 3, pp. 272-282.
- J124. Kuo, C.F. and Chu, C.H.* (2005), "An Online Ergonomic Evaluator for Product Design using 3D Visualization Technology," *Computers in Industry* (SCI), Vol. 56, No. 5, pp. 479-492.
- J125. Chu, C.H.* (2005), "Tool Path Planning for Edge Quality Enhancement in Planar Milling of Free Form Contours," *Material Science Forum* (SCI), Vol. 505-507, pp. 583-588.
- J126. Chu, C.H.* and Chen, J.T. (2005), "Geometric Approach to Optimising Edge Quality in Planar Milling," *International Journal of Production Research* (SCI), Vol. 43, pp. 773-791.
- J127. Chu, C.H.* and Hsu Y.C. (2005), "An Integrated Approach for 3D Part Search with Multiple Shape Signatures," *Computer Aided Design and Applications* (EI), Vol. 2, No. 1-4, pp. 183-192.
- J128. Chu, C.H.* and Dornfeld, D.A. (2005), "Reducing Burr Formation in Planar Milling by Avoiding Tool Exits," *Journal of Manufacturing Processes* (SCI), Vol. 7, No. 2, pp. 182-195.
- J129. Chu, C.H.* and Cheng, H.C., (2005) "Business Model Innovation based on Collaborative Product Development," Vol. 3, No. 4, pp. 257-269, *International Journal of Electronic Business Management*.
- J130. Chu, C.H.* and Chen, J.T. (2004), "Geometric Design of Developable Composite Bézier Surfaces," *Computer Aided Design and Applications* (EI), Vol. 1, No. 3, pp. 531-540.
- J131. Chang, J.R. and Chu, C.H.* (2004), "Collaborative Product Development in PCB Industry," *International Journal of Electronic Business Management*, Vol. 2, No. 2, pp. 108-116.
- J132. Chu, C.H.* and Dornfeld, D.A. (2004), "Linking Tool Paths Generated with Different Offset Distances for Edge Quality Enhancement," *Journal of Engineering Manufacture* (SCI), Vol. 128, pp. 721-730.
- J133. Chu, C.H.* and Chen, J.T. (2004), "Developable Bézier Surface Design with Continuities," *Journal of Computers*, Vol. 16, No. 2, pp. 9-15.
- J134. Chu, C.H.* and Séquin, C.H. (2002), "Developable Bézier Patches: Properties and Design," *Computer Aided Design* (SCI), Vol. 34, No. 7, pp. 511-527.
- J135. Wright, P.K.*, Dornfeld, D.A., Wang, F.C., and Chu, C.H. (2000), "Multiple-Criterion Decision Making in an Agent-Based Process Planning System," *Transactions of NAMRI/SME* (EI), Vol. XXVIII, pp. 293-298.
- J136. Chu, C.H.* and Dornfeld, D.A. (2000), "Tool Path Planning for Avoiding Exit Burr," *Journal of Manufacturing Processes* (SCI), Vol. 2, No. 2, pp. 116-123.
- J137. Dornfeld, D.A.*, Wright, P.K., Wang, F.C., Sheng, P.S., Stori, J.A., Sundararajan, V., Krishnan, N., and Chu, C.H. (1999), "Multi-Agent Process Planning for a Networked Machining Service," *Transactions of NAMRI/SME* (EI), Vol. XXVII, pp. 191-196.
- J138. You, C.F.* and Chu, C.H. (1997), "Tool Path Verification in Five-Axis Machining of Sculptured Surfaces," *International Journal of Advanced Manufacturing Technology* (SCI), Vol. 13, No. 4, pp. 248-255.
- J139. You, C.F.* and Chu, C.H. (1996), "Automatic Correction of Tool Interference in Five-Axis NC Machining of Multiple Surfaces," *Journal of the Chinese Society of Mechanical Engineers* (SCI), Vol. 17, pp. 435-442.
- J140. You, C.F.* and Chu, C.H. (1995), "An Automatic Path Generation Method of NC Rough Cut Machining from Solid Models," *Computers in Industry* (SCI), Vol. 26, pp. 161-173.

Patents

- P1. 「基于增强现实的人为疏失预警方法」, 瞿志行、邱靖哲、孫正、翁晨毓, 中國專利 (ZL-2021 10157849.X, 2025)
- P2. "METHOD OF IDENTIFYING FLANGE SPECIFICATION BASED ON AUGMENTED REALITY INTERFACE," Chu, C.H., Lee, M.H., Chen, Y.R., Chen, S.M. (US Patent 17/218,838, 2022)
- P3. 「基於擴增實境的人為疏失預警方法」, 瞿志行、邱靖哲、孫正、翁晨毓, 台灣專利 (I766491, 2022)
- P4. 「基於擴增實境介面的智能化軸連結器辨識方法」, 瞿志行、李慕瑄、陳彥如、陳劭旻, 台灣專利 (I758998, 2022)
- P5. 「具有弧狀溝槽的湯匙」, 瞿志行、潘劭克、王思雯, 台灣專利 (M645819, 2022)
- P6. 「鞋底混线生产的多轴智能喷胶系统」, 瞿志行、陸浩然、黃廖全、陸元平, 中國專利 (CN 112869304 B, 2021)
- P7. "HUMAN NEGLIGENCE WARNING METHOD BASED ON AUGMENTED REALITY," Chu, C.H., Chiu, C.C., Soon, C., Wong, C.Y. (US Patent 11/226,679, 2021)
- P8. "METHOD AND SYSTEM OF VIRTUAL FOOTWEAR TRY-ON WITH IMPROVED OCCLUSION," Chu, C.H., WU, H.S., Kuo, C.C. (US Patent 10/943,365, 2021)
- P9. "METHOD FOR OPTIMIZING OCCLUSION IN AUGMENTED REALITY BASED ON DEPTH CAMERA," Chu, C.H. and Huang, P.Y. (US Patent 14/957,373, 2017).
- P10. 「鞋品虛擬試穿之遮蔽改善的方法與系統」, 瞿志行、吳翰昇、郭嘉真, 台灣專利 (I682658, 2018)
- P11. 「手部三維參數化模型之製程及使用此模型製作之輔具」, 瞿志行、劉倩秀、王怡然、孫淨如, 台灣專利 (I685817, 2019)
- P12. 「基於擴充實境的加工規劃設備」, 瞿志行、黎百加、劉宇望、黃廖全、陸元平, 台灣專利 (I659279, 2019)
- P13. 「扩充实境中基于深度摄影机的遮蔽效果优化方法」, 瞿志行、黃柏源, 中國專利 (CN105809667A, 2018/7)
- P14. "METHOD FOR IMPROVING OCCLUDED EDGE QUALITY IN AUGMENTED REALITY BASED ON DEPTH CAMERA," Chu, C.H. and Chen, W.H. (US Patent 10,339,702, 2019).
- P15. "Five-axis flank milling system for machining curved surface and a toolpath planning method thereof," Chu, C.H. and Hsieh, H.T. (US-9785137, 2017).
- P16. 「擴充實境中基於深度攝影機之遮蔽邊緣品質改善方法」, 瞿志行、陳瑋萱, 台灣專利 (I595446, 2017/8)
- P17. 「可調式地震求生桌」, 瞿志行、林庭安、黃敏雯、沈政緯, 台灣專利 (105205519, 2016/06)
- P18. 「擴充實境中基於深度攝影機之遮蔽效果優化方法」, 瞿志行、黃柏源, 台灣專利 (I526992, 2016/3)
- P19. 「一種五軸曲面側銑加工系統及其路徑規劃方法」, 瞿志行、謝欣達, 台灣專利 (I412418, 2015/12)
- P20. 「一種五軸曲面側銑加工系統及其刀具路徑規劃方法」, 瞿志行、謝欣達, 台灣專利 (I453078, 2014/09)
- P21. 「一種五軸曲面側銑加工系統及其路徑規劃方法」, 瞿志行、謝欣達, 台灣專利 (I414376, 2013/11)
- P22. 「基於全域最佳化方式之曲面切削加工刀具路徑規劃方法」, 瞿志行、吳秉函、劉奕志, 台灣專利 (I362575, 2012/04)
- P23. 「輪胎模具切削之加工方法」, 台灣專利, 瞿志行、劉湘怡, (I330773, 2010/09)