

Curriculum Vitae

YUNN-LIN HWANG, Ph.D.

PERSONAL INFORMATION

Work Address:

National Formosa University
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PRESENT ACADEMIC RANK AND POSITION

Professor, National Formosa University, Department of Mechanical Design Engineering

EDUCATION

Ph.D., Mechanical Engineering; 1992
University of Illinois at Chicago, Chicago, Illinois
Dissertation: Recursive Projection Methods in Flexible Multibody Dynamics
Advisor: Professor Ahmed A. Shabana

MS., Mechanical Engineering; 1987
University of Colorado at Boulder, Boulder, Colorado

B.Sc., Mechanical Engineering; 1984
Tamkang University, Tamsui, Taipei, Taiwan, R.O.C.

HONORS/AWARDS

Outstanding Students Award, Tamkang University, 1984
Excellent Young Investigator Award, Yunlin County, 1993
National Yunlin Polytechnic Institute Travel Award (1995)
Excellence in Engineering teaching Award, National Formosa University (2000)
Excellent Paper Award of the 5th Precision Manufacturing Congress of the Society of Manufacturing Engineers (2006)

PREVIOUS PROFESSIONAL POSITIONS AND APPOINTMENTS

Graduate Teaching Assistant

Department of Mechanical Engineering, The University of Colorado at Boulder, Boulder, Colorado, 1986-1987

Department of Mechanical Engineering, The University of Illinois at Chicago, Chicago, Illinois, 1988-1992

Graduate Research Assistant

Department of Mechanical Engineering, The University of Illinois at Chicago, Chicago, Illinois, 1990-1992

Associate Professor

National Yunlin Polytechnic Institute, Department of Mechanical Design Engineering, Yunlin, Taiwan, 1992-1998

Department Chairman

National Yunlin Polytechnic Institute, Department of Mechanical Design Engineering, Yunlin, Taiwan, 1994-1997

Associate Professor

National Huwei Institute of Technology, Department of Mechanical Design Engineering, Yunlin, Taiwan, 1998-2003

Associate Professor

National Formosa University, Department of Mechanical Design Engineering, Yunlin, Taiwan, 2003-2008

Visiting Professor

University of Oregon, Department of Human Physiology, Eugene, Oregon, U. S. A., 2008/7/1-2008/12/31

Professor

National Formosa University, Department of Mechanical Design Engineering, Yunlin, Taiwan, 2008-now

PROFESSIONAL MEMBERSHIPS AND SOCIETIES

American Society of Mechanical Engineers

Chinese Society of Mechanical Engineers

EDUCATIONAL ACTIVITIES

Courses Taught at National Formosa University

Graduate courses: Mechanical Vibrations, Dynamics of Multibody Systems

Undergraduate courses: Statics, Dynamics, Kinematics and Dynamics of Machinery, Theory of Mechanisms, Homepage Design and Image Processing, Mechanical Vibration Measurement and Analysis, Computer Network, Engineering Program Design, 3D Dynamic Graphing, Computer Graphic Application, Introduction of Finite Element Analysis, Mechanism Design, Theory of Robotics, Computer-Aided Sketch, Gear Design, Mechanical Design, Mechanics of Materials, Thermodynamics, Mathematics of Engineering, Experiments of Solid Mechanics, Materials of Mechanical Engineering

Research Trainees at National Formosa University

Master Students:

1. Zhen-You Wei, MS (2007): *Inverse dynamics analysis and control for deformable robotic manipulators*
2. Hsin-Hua Chen, MS (2008): *The research on the external force response of automatic vehicle*
3. Ge-Shi Yang, MS (2008): *Transverse vibration effects of dynamic forces on beam structures*

Book Editor

Area Editor for *Dynamics of Multibody Systems*, John Wiley & Sons, New York, 1st ed., 1992

Invited Reviewer for Scientific Journals

ASME Journal of Vibration and Acoustics
Int. Journal of Mechanism and Machines Theory
Int. Journal of Computer-Aided Design
Journal of Material Science Forum
Journal of Nonlinear Mechanics
Int. Journal of Communications in Numerical Methods in Engineering
Journal of the Chinese Society of Mechanical Engineers
Int. Journal for Numerical Methods in Engineering

Grant Reviewer

National Science Council of Taiwan, Solid Mechanics (2001)

National and International Service

Section Co-chair, the Fourth Symposium on Multibody Dynamics and Vibration, ASME 2003 Conference, Chicago, USA, September 2-6, 2003.

Conference abstract reviewer, the second Asian Conference on Multibody Dynamics, Seoul, Korea, 2004

Member of Scientific Advisory Committee and Section co-Chair, 2005 International Conference on Advanced Manufacture, Taipei, Taiwan, December 2-5, 2005.

Section Co-chair, International Conference on Science & Technology: Application in Industry & Education, Pulau Pinang, Malaysia, December 8-10, 2006.

Member of International Scientific Advisory Committee and Section co-Chair, the Ninth International Conference on Automation Technology, Taipei, Taiwan, June 13- 15, 2007.

Section Co-chair, Asia Pacific Conference on Optics Manufacture 2007, Hong Kong, China, January 11-13, 2007

RESEARCH INTERESTS

Dynamics of Multibody Systems, Mechanical Vibrations and Modal Analysis, Computer-Aided Design, Computer-Aided Engineering, Biomechanics, Walking Robot

RESEARCH GRANT AWARDS**Awarded Extramural Research Grants**

“Dynamic decoupling methods for the analysis of closed-loop flexible multibody systems”, National Science Council of Taiwan, NSC 83-0117-C-150-063-E, 8/1/1993-7/31/1994, NT\$168,000.

Role: Principal Investigator

“Computer-aided design and manufacture of rotor mechanism utilizing the geometric differential formulation”, National Science Council of Taiwan, NSC 84-2212-E-150-020 & NSC 85-2212-E-150-002 , 8/1/1994-7/31/1996, NT\$430,700.

Role: Principal Investigator

“Recursive mapping method using in the computer-aided dynamic analysis of rigid and deformable multibody systems”, National Science Council of Taiwan, NSC 86-2212-E-150-002 , 8/1/1996-7/31/1997, NT\$215,000.

Role: Principal Investigator

“Dynamic analysis of spatial linkages mechanism”, National Science Council of Taiwan, NSC 84-2212-E-150-020 & NSC 87-2212-E-150-011 , 8/1/1997-7/31/1998, NT\$384,700.

Role: Principal Investigator

“Dynamic modeling and analysis of closed-loop flexible mechanisms”, National Science Council of Taiwan, NSC 90-2212-E-150-012 , 8/1/2001-7/31/2002, NT\$164,100.

Role: Principal Investigator

“Dynamic and modal analysis of vegetable food machine”, National Science Council of Taiwan, NSC 92-2622-E-150-008-CC3 , 6/1/2003-5/31/2004, NT\$529,600.

Role: Principal Investigator

“Dynamic and modal analysis of vegetable food machine”, National Science Council of Taiwan, NSC 92-2622-E-150-008-CC3 , 6/1/2003-5/31/2004, NT\$529,600.

Role: Principal Investigator

“Structure dynamic measurement and analysis of food machine”, National Science Council of Taiwan, NSC 93-2622-E-150-005-CC3 , 5/1/2004-4/30/2005, NT\$714,100.

Role: Principal Investigator

“The dynamic simulation and cycle life test of electric scooter and power wheelchair”, National Science Council of Taiwan, NSC 94-2622-E-150-003-CC3 , 5/1/2005-4/30/2006, NT\$664,000.

Role: Principal Investigator

“Nonlinear recursive approach for dynamic analysis of flexible mechanical systems”, National Science Council of Taiwan, NSC 94-2212-E-150-020 , 8/1/2005-7/31/2006, NT\$478,100.

Role: Principal Investigator

“Dynamic simulation and vibration modal analysis of multi-function auto-filled machine”, National Science Council of Taiwan, NSC 95-2622-E-150-012-CC3 , 5/1/2006-4/30/2007, NT\$672,000.

Role: Principal Investigator

“CAD, CAM and CAE of multi-function roaster machine”, Ministry of Education of Taiwan, 5/1/2006-12/31/2006, NT\$360,500.

Role: Principal Investigator

“Nonlinear recursive method for the inverse dynamic analysis and control of flexible mechanical systems”, National Science Council of Taiwan, NSC 95-2221-E-150-018, 8/1/2006-7/31/2007, NT\$542,000.

Role: Principal Investigator

“The CAD, CAM and CAE of LCD skew-angle control mechanism with supported structure”, National Science Council of Taiwan, NSC 96-2622-E-150-014-CC3 , 5/1/2007-4/30/2008, NT\$537,000.

Role: Principal Investigator

Pending Extramural Research Grants

“The dynamic analysis, control and application of multi-DOF industrial robotic manipulators”, submitted to the National Science Council of Taiwan, 8/1/2008-7/30/2010

Role: Principal Investigator

“The dynamic analysis and research of human motion systems”, submitted to the National Science Council of Taiwan, 8/1/2008-7/30/2009

Role: Principal Investigator

Awarded Intramural Research Grants

1. National Formosa University Research Award 2004

“Dynamic analysis and vibration control of flexible structures: Beam structure products”

2. National Formosa University Research Award 2007

“New formulations, applications and experiments in multibody dynamics”

BIBLIOGRAPHY**Full Length, Peer-Reviewed, Original Articles (published & in press)**

1. Shabana A. A., **Hwang Y. L.**, and Wehage R. A., 1992, "Projection Methods in Flexible Multibody Dynamics. Part I: Kinematics," *International Journal for Numerical Methods in Engineering*, Vol. 35, pp. 1927-1939.
2. Wehage R. A., Shabana A. A., and **Hwang Y. L.**, 1992, "Projection Methods in Flexible Multibody Dynamics. Part II: Dynamics and Recursive Projection Methods," *International Journal for Numerical Methods in Engineering*, Vol. 35, pp. 1941-1966.
3. **Hwang Y. L.**, and Shabana A. A., 1992, "Dynamic of Flexible Multibody Space Cranes Using Recursive Projection Methods," *Computers & Structures*, Vol. 43, No. 3, pp. 549-563.
4. Shabana A. A., and *Hwang, Y. L.*, 1993, "Dynamic Coupling Between the Joint and Elastic Coordinates in Flexible Mechanism Systems," *International Journal of Robotics Research*, Vol. 12, No. 3, 1993, June, pp. 299-306.
5. **Hwang, Y. L.**, and Shabana A. A., 1994, "Decoupled Joint-Elastic Coordinate Formulation for the Analysis of Closed-Chain Flexible Multibody Systems," *ASME Journal of Mechanical Design*, Vol. 16, pp. 961-963.
6. **Hwang, Y. L.**, 1996, "Dynamic decoupling methods for the analysis of closed-loop flexible multibody systems", *Journal of Technology*, Vol. 11, No. 3, pp. 355-364. (NSC 83-0117-C150-063-E)
7. **Hwang, Yunn-Lin** and Wang, Yueh-Chen, 2002, "Recursive method for the analysis of open-loop flexible multibody systems", *Journal of National Huwei Institute of Technology*, Vol. 5, pp. 97-106. (NSC 86-2212-E150-002)
8. **Hwang, Yunn-Lin**, 2003, "Kinematic analysis of spatial deformable mechanisms using Newton-Euler iteration method", *Journal of National Huwei Institute of Technology*, Vol. 6, pp. 89-98. (NSC 87-2212-E150-011)
9. **Hwang, Yunn-Lin**, 2003, "The vibration measurement and modal analysis of spatial open-loop deformable mechanisms", *MM Mechanical Technology Magazine*, 2003, October, No. 224, pp. 148-155. (NSC 90-2815-C-150-017-E)
10. **Hwang, Yunn-Lin**, 2004, "The validation of transverse vibration modal properties for cantilever beam", *Journal of National Formosa University*, Vol. 1, pp. 147-154.
11. **Hwang, Yunn-Lin**, 2005, "The vibration modal test and analysis of beam structure products", *Mechatronics Magazine*, 2005, May, No. 81, pp. 136-140. (NSC 92-2622-E-150-008-CC3)
12. **Hwang, Yunn-Lin**, 2005, "A new approach for dynamic analysis of flexible manipulator systems," *Journal of Nonlinear Mechanics*, Vol. 40, No. 6, pp. 925-938. (NSC 90-2212-E-150-012)

13. **Hwang, Yunn-Lin**, 2006, "Nonlinear recursive formulation for kinematic and dynamic analysis of robotic manufacturing systems," *Journal of Material Science Forum*, Vols. 505-507, pp. 553-558. (NSC 93-2622-E-150-005-CC3)
14. **Hwang, Yunn-Lin**, and Huang, Shen-Jenn, 2006, "Kinematic and Dynamic Analysis for Closed-Loop Flexible Manufacturing Systems Using Nonlinear Recursive Method," *Journal of Material Science Forum*, Vols. 505-507, pp. 1015-1020. (NSC 94-2212-E150-020)
15. Hwang, S. J., **Hwang, Y. L.**, and Lee, B. Y., 2006, "Using the Taguchi-Grey approach to optimize high speed end milling with multiple performance characteristics," *Journal of Material Science Forum*, Vols. 505-507, pp. 835-840.
16. **Hwang, Yunn-Lin**, 2006, "Recursive Newton-Euler formulation for dynamic manufacturing analysis of open-loop robotic systems," *International Journal of Advanced Manufacturing Technology*, Vol. 29, No. 5, pp. 598-604. (NSC 87-2212-E150-011 & NSC 92-2622-E-150-008-CC3)
17. **Hwang, Yunn-Lin**, 2006, "Nonlinear recursive method to solid deformable structure dynamic problems," *International Journal of Communications in Numerical Methods in Engineering*, Vol. 22, No. 9, pp. 975-1002. (NSC 94-2212-E-150-020)
18. **Hwang, Yunn-Lin**, 2006, "Kinematic and dynamic analysis of open-loop mechanical systems using nonlinear recursive formulation," *International Journal of Communications in Numerical Methods in Engineering*, Vol. 22, No. 12, pp. 1129-1153. (NSC 93-2622-E-150-005-CC3 & NSC 94-2212-E-150-020)
19. **Hwang, Yunn-Lin**, 2006, "Dynamic recursive decoupling method for closed-loop flexible mechanical systems," *Journal of Nonlinear Mechanics*, Vol. 41, No. 10, pp. 1181-1190. (NSC 94-2212-E-150-020)
20. **Hwang, Yunn-Lin**, 2008, "Decoupling joint and elastic accelerations in deformable mechanical systems using nonlinear recursive formulations," *International Journal for Numerical Methods in Engineering*, Vol. 73, Issue 2, pp. 273-295. (NSC 94-2212-E-150-020)
21. **Hwang, Yunn-Lin**, 2008, "Analysis of mechanical vibrations and forces using amalgamated decoupling method in multibody mechanical systems," *International Journal of Communications in Numerical Methods in Engineering*, accepted to appear. (NSC 95-2221-E-150-018)
22. **Hwang Yunn-Lin**, 2008, "Solid deformable multibody dynamic problems in precision manufacturing systems," *Key Engineering Materials*, Vols. 364-366, pp. 873-878. (NSC 95-2221-E-150-018)
23. **Hwang, Yunn-Lin** and Wei, Zhen-You, 2008, "Dynamic analysis and control of 3D flexible mechanisms using nonlinear recursive method in multibody automation systems," *Journal of the Chinese Society of Mechanical Engineers*, accepted to appear.

Peer-reviewed Conference Papers & Abstracts

1. **Hwang, Y. L.**, and Shabana, A. A., 1992, "Decoupling Joint and Elastic Accelerations in Flexible Multibody Vehicle Dynamics", *Proceedings of CSME (Canadian Society of Mechanical Engineer) FORUM 1992*, Montreal, Canada, June 1-4, 1992.
2. **Hwang, Yunn-Lin**, 1993, "Dynamic Decoupling Methods Between the Joint and Elastic Coordinates in Flexible Mechanical Systems," *Proceedings of 10th Chinese Mechanical Engineering Conference*, pp. 345-354, Taiwan.
3. **Hwang, Yunn-Lin**, 1993, "Decoupling Methods in Flexible Multibody Dynamics", *Proceedings of 1993 ASME International Computers in Engineering Conference*, San Diego, California, USA, August 8-12, 1993, pp. 93-96, Taiwan.
4. **Hwang, Yunn-Lin**, 1994, "Computer-aided design and manufacture of rotor mechanism utilizing the geometric differential formulation", *Proceedings of National Science Council of Taiwan*, Hsin-Ju, Taiwan. (NSC 84-2212-E-150-020 & NSC 85-2212-E-150-002)
5. **Hwang, Y. L.**, 2002, "Dynamic Analysis of Open-Loop Flexible Mechanical Systems", *Proceedings of the 26th Mechanics Conference of Chinese Society of Mechanics*, Paper No. L006, Taiwan. (NSC 87-2212-E-150-011)
6. **Hwang, Y. L.**, 2003, "Recursive Method for the Dynamic Analysis of Open-Loop Flexible Multibody Systems", *Proceedings of the Fourth Symposium on Multibody Dynamics and Vibration, ASME2003 Conference*, Paper No. 48368, Chicago, U.S.A., September 2-6, 2003. (NSC 90-2212-E-150-012)
7. **Hwang, Y. L.** and Lin, Y. H., 2004, "The Validation of Vibration Modal Properties for Beam Structure Products", *Proceedings of the 2nd Conference on Precision Machinery and Manufacturing Technology*, Paper No. 9321, pp. 316-321. (NSC 92-2622-E-150-008-CC3)
8. **Hwang, Yunn-Lin**, Gau Wei-Hsin, 2004, "DYNAMIC RECURSIVE METHOD FOR THE FLEXIBLE MULTIBODY SYSTEMS", *Proceedings of the second Asian Conference on Multibody Dynamics (ACMD 2004)*, Paper No. 100022, pp. 104-111, Olympic Parktel, Seoul, Korea, August 2-4, 2004. (NSC 90-2212-E-150-012)
9. **Hwang, Y. L.**, Lin, Y. H., Lee, J. H., Ye, C. K., 2004, "Dynamic Analysis of Closed-Loop Flexible Mechanical Systems", *Proceedings of the 21th National Conference of Chinese Society of Mechanical Engineers*, Paper No. C0501094, pp. 2695-2700, Taiwan. (NSC 92-2622-E-150-008-CC3)
10. **Hwang, Yunn-Lin**, 2005, "Nonlinear recursive formulation for kinematic and dynamic analysis of robotic manufacturing systems", *Proceedings of 2005 International Conference on Advanced Manufacture*, Paper No. H002, Taipei, Taiwan. (NSC 90-2212-E-150-012)

11. **Hwang, Yunn-Lin** and Huang, Shen-Jenn, 2005, “Kinematic and Dynamic Analysis for Closed-Loop Flexible Manufacturing Systems Using Nonlinear Recursive Method”, *Proceedings of 2005 International Conference on Advanced Manufacture*, Paper No. P034, Taipei, Taiwan. (NSC 94-2212-E-150-020)
12. S. J. Hwang, **Y. L. Hwang**, B. Y. Lee, 2005, “Using the Taguchi-Grey approach to optimize high speed end milling with multiple performance characteristics”, *Proceedings of 2005 International Conference on Advanced Manufacture*, Paper No. L021, Taipei, Taiwan.
13. **Hwang, Y. L.**, and Lin, Y. H., 2005, “The vibration analysis of simple supported Beam Structure Products”, *Proceedings of the 2005 Conference of Chinese Society of vibration and acoustics*, Paper No. C8, Taiwan. (NSC 93-2815-C-150-012-E)
14. **Hwang, Y. L.**, Ye, C. K., Lin, Y. H., 2005, “The vibration and modal analysis of food machine”, *Proceedings of the 2005 Conference of Chinese Society of vibration and acoustics*, Paper No. B11, Taiwan. (NSC 93-2622-E-150-005-CC3)
15. **Hwang, Y. L.** Chou, S. Y., Chiu, C. C., 2005, “The vibration modal analysis of fixed-fixed supported Beam Structure Products”, *Proceedings of the 22th National Conference of Chinese Society of Mechanical Engineers*, Paper No. C3-010, Taiwan. (NSC 93-2622-E-150-005-CC3)
16. **Hwang, Y. L.**, Lin, C. W., Chiu, C. C., 2005, “The dynamic analysis and simulation of food machinery”, *Proceedings of the 8th National Conference of Chinese Society of Mechanism and Machine Design*, Paper No. C06009, pp. 520-527, Taiwan. (NSC 93-2622-E-150-005-CC3)
17. **Hwang, Y. L.**, Liu, C. J., Chiu, C. C., 2006, “The computer-aided engineering analysis of electric scooters”, *Proceedings of the 14th National Conference of Chinese Society of Automation Technology*, Paper No. K03, Taiwan. (NSC 94-2622-E-150-003-CC3)
18. Liu, C. J., **Hwang, Y. L.**, Hsu, C. Y., 2006, “Development of the accelerated injection mold by using CAD/CAE/CAM”, *Proceedings of the 14th National Conference of Chinese Society of Automation Technology*, Paper No. K04, Taiwan.
19. **Hwang, Y. L.**, Chen, C. S., Chiu, C. C., 2006, “The dynamic stress simulation and vibration modal analysis of electric scooters”, *Proceedings of the 14th National Conference of Chinese Society of Vibration and Acoustics*, Paper No. C10_44, pp. C60-C69, Taiwan. (NSC 94-2622-E-150-003-CC3)
20. **Hwang, Y. L.**, Wang, H. C., Wu, B. Y., 2006, “The vibration modal analysis of cantilever Plate Structure Products”, *Proceedings of the 14th National Conference of Chinese Society of Vibration and Acoustics*, Paper No. D8_54, pp. D52-D59, Taiwan. (NSC 94-2212-E-150-020)

21. **Hwang Yunn-Lin**, 2006, "Nonlinear recursive approach for the dynamic analysis and simulation of flexible automation mechanical systems", Paper No. 0021a, pp. 359-366, *Proceedings of 2006 ISFA, 2006 International Symposium on Flexible Automation*, Osaka, Japan, July 10-12, 2006. (NSC 94-2212-E-150-020)
22. Wei, Z. Y., **Hwang, Y. L.**, Chiu, C. C., 2006, "Dynamic simulation and vibration modal analysis of the mechanisms and structures of electric scooters", *Proceedings of the 5th Conference on Precision Machinery and Manufacturing Technology*, Paper No. B3_000009, pp. 951-957, Taiwan. (NSC 94-2622-E-150-003-CC3)
23. **Hwang, Y. L.**, Lin, C. P., Ko, C. C., 2006, "The dynamic analysis of the structural properties of vertical CNC machine tools", *Proceedings of the 23th National Conference of Chinese Society of Mechanical Engineers*, Paper No. C3-040, Taiwan. (NSC 95-2622-E-150-012-CC3)
24. **Hwang, Y. L.** and Tong, G. R., 2006, "The dynamic analysis and simulation of IC surface speedy packing injection machine", *Proceedings of the 23th National Conference of Chinese Society of Mechanical Engineers*, Paper No. C5-005, Taiwan. (NSC 95-2815-C-150-006-E)
25. Hsieh, W. H., **Hwang, Y. L.**, Pong, C. C., 2006, "Flexible motion simulation of jet propulsion mechanism for bionic jellyfishes", *Proceedings of the 23th National Conference of Chinese Society of Mechanical Engineers*, Paper No. C1-003, Taiwan. (NSC 93-2212-E-150-028)
26. Liu, C. C., **Hwang, Y. L.** Yang, H. C., Chang, G. D., 2006, "A study of slenderness ratio of boring bar", *Proceedings of the 23th National Conference of Chinese Society of Mechanical Engineers*, D.III, Paper No. D10-005, Taiwan.
27. **Hwang Yunn-Lin**, 2006, "DYNAMIC ANALYSIS METHOD FOR THE FLEXIBLE MULTIBODY SYSTEMS IN ENGINEERING EDUCATION", Paper No. 91, *Proceedings of 2006 International Conference on Science & Technology: Application in Industry & Education*, Pulau Pinang, Malaysia, December 8-10, 2006. (NSC 95-2221-E-150-018)
28. **Hwang Yunn-Lin**, 2007, "Solid deformable multibody dynamic problems in precision manufacturing systems," Paper No. 216TW, *Proceedings of Asia Pacific Conference on Optics Manufacture 2007*, Hong Kong, China, January 11-13, 2007. (NSC 95-2221-E-150-018)
29. **Hwang Yunn-Lin**, Wei Zhen-You, 2007, "Analysis of mechanical vibrations and forces using amalgamated decoupling method in multibody automation systems," Paper No. CAMD 15, *Proceedings of the Ninth International Conference on Automation Technology*, June 13-15, Taipei, Taiwan. (NSC 95-2221-E-150-018)

30. Wei, Z. Y. and **Hwang, Y. L.**, 2007, “The light lifted mechanisms design and analysis of large vehicles under wind pressure”, *Proceedings of the 2007 ANSYS/Fluent Symposium*, Paper No. 10, Taiwan.
31. **Hwang, Y. L.** and Wei, Z. Y., 2007, “The inverse dynamic analysis and control of flexible robotic manipulators”, *Proceedings of the 24th National Conference of Chinese Society of Mechanical Engineers*, Paper No. B10-0016, Taiwan. (NSC 95-2221-E-150-018)
32. **Hwang, Y. L.**, Lin, P. W., Ko, Y. H., 2007, “The vibration measurement and modal analysis of cantilever Plate Structure Products”, *Proceedings of the 24th National Conference of Chinese Society of Mechanical Engineers*, Paper No. B11-0017, Taiwan. (NSC 95-2622-E-150-012-CC3)
33. **Hwang, Y. L.**, and Wei, Z. Y., 2007, “The inverse dynamic analysis and control of 3D flexible robots using recursive method”, *Proceedings of the 10th National Conference of Chinese Society of Mechanism and Machine Design*, Paper No. I03, , Taiwan.
34. **Hwang, Y. L.**, Lin, L. C., Wei, S. H., 2007, “The vibration measurement and modal analysis of the tensile machine platform”, *Proceedings of the 10th National Conference of Chinese Society of Mechanism and Machine Design*, Paper No. F06, , Taiwan.
35. **Hwang, Y. L.** and Chen, H. H., 2007, “The external force responses on the exhaust system of extractor vehicle”, *Proceedings of the 31th Mechanics Conference of Chinese Society of Mechanics*, Paper No. H15, Taiwan. (NSC 95-2622-E-150-012-CC3)