

Curriculum Vitae

YUNN-LIN HWANG, Ph.D.

PERSONAL INFORMATION

Work Address:

National Formosa University
Department of Mechanical Design Engineering
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Yunlin 63201, Taiwan, R. O. C.
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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, U.S.A.
Dissertation: Recursive Projection Methods in Flexible Multibody Dynamics
Advisor: Professor Ahmed A. Shabana

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

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

HONORS/AWARDS

1. Outstanding Students Award, Tamkang University, 1984
2. Excellent Young Investigator Award, Yunlin County, 1993
3. National Yunlin Polytechnic Institute Travel Award (1995)
4. Excellence in Engineering teaching Award, National Formosa University (2000)
5. Excellent Paper Award of the 5th Precision Manufacturing Congress of the Society of
6. Manufacturing Engineers (2006)
7. Graduate-School 2nd prize on 2011 Intelligent Machine-tools topic competitions (2011)
8. Excellence Award on 1st Xutai Science and Technology Paper Award and High Speed Spindle Innovation Application Implementation Contest (2015)
9. Excellence Award on 2nd Xutai Science and Technology Paper Award and High Speed Spindle Innovation Application Implementation Contest (2016)

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, R.O.C., 2008-now

PROFESSIONAL PERMANENT MEMBERSHIPS AND SOCIETIES

1. American Society of Mechanical Engineers
2. Chinese Society of Mechanical Engineers
3. Taiwan Society of Tribology Technology
4. Taiwan Association of Engineering and Technology Innovation
5. Society of Theoretical and Applied Mechanics of the Republic of China
6. Chinese Society of Sound and Vibration

EDUCATIONAL ACTIVITIES

Courses Taught at National Formosa University

Graduate courses:

Mechanical Vibrations, Dynamics of Multibody Systems, Nonlinear System Analysis, Dynamics of Machinery Systems, Design and Analysis of Mechanical 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, Mechanical Engineering Experiment (I): Solid Mechanics, Materials of Mechanical Engineering, Machine Tools, Analysis and Experiment of Dynamic Systems

Research Trainees at National Formosa University

Ph.D. Students:

1. Van-Thuan Truong, Ph.D. (2015): *The Dynamic Analysis and Control of Multibody Systems*
2. Thi-Na Ta, Ph.D. (Candidate): *The influence of the friction force on the sliding stability of controlled multibody systems*
3. Jung-Kuang Cheng, Ph.D. (Candidate): *The dynamic behavior and modal analysis of automatic vehicle*

Master Students:

1. Zhen-You Wei, MS (2008): *Inverse dynamics analysis and control for deformable robotic manipulators*
2. Hsin-Hua Chen, MS (2009): *The Vibration Analysis and Research of Rotor Dynamic Systems*
3. Tzu-Shi Yang, MS (2009): *The gait analysis and simulation of biped robot*
4. Chih-Wei Liao, MS (2010): *Computer aided engineering in the structural design and flexible mechanism analysis of the door-type machine tools*
5. Guan-Lun Hwang, MS (2010): *Dynamic Analysis and Application in Beam and Plate Structure Products with CAE Technology*
6. Wen-Chen Chiang, MS (2011): *Dynamic Analysis and Study of Machine Center Structure Effected by Cutting Processing*
7. Chi-Wei Chou, MS (2011): *The investigation of simulating spectrum analysis instrument by using NI hardware and software*
8. Zhao-Yu Liu, MS (2011): *The Dynamic Control Simulation and Research of the Human Motion Systems*
9. Yu-Chang Chang, MS (2011): *The investigation in the dynamic stiffness of the structures and mechanisms of double column machining center*
10. Guang-Yi Fan, MS (2012): *Dynamic structural characteristic analysis, testing and improved design of the CNC machine tool*
11. Cheng-Yu Yang, MS (2012): *CAE Technology Used in the Dynamic Analysis of Wind Turbine*
12. Yan-Hau Hwang, MS (2012): *LS-DYNA Simulation, Analysis and Application*
13. Duc Nhat Chu, MS (2012): *Using Nonlinear Recursive Formulation on Dynamic Analysis of Multi-body Systems*
14. Shi-Hua Zhuang, MS (2012): *Dynamic simulation and structural analysis of the CD-ROM drive*
15. Xuan Mai Nguyen, MS (2013): *The dynamic control analysis of biomimetic humanoid robot system*
16. Pei-Hsuan Lai, MS (2013): *The Dynamic Characteristic Analysis of Rigid-Flexible Coupling Structures of Virtual Machine-Tool*
17. Chun-Wei Chang, MS (2013): *The Dynamic Contact Analysis and Simulation of*

Virtual Machine-Tool

18. Cheng-Yang Song, MS (2013): *The Application of CAE Fluid-Solid Coupling Analysis on Large-Scale Wind Turbine*
19. Thanh-Dat Pham, MS (2014): *The Dynamic Analysis and Control of Industrial Robotic Manipulators*
20. Hong-Jhih Ke, MS (2014): *The Computer-Aided Design and Analysis of Mechanical Energy Transform Machine*
21. Xian-Ming Xu, MS (2014): *The Computer-Aided Design and Dynamic Analysis of CNC Machine Tools*
22. Tei-Wei Chen, MS (2014): *The computer-aided design and analysis of precision carbide CNC band saw*
23. Guan-Lin Lai, MS (2014): *The Human Multi-Body Dynamic Analysis and Research*
24. Thi-Na Ta, MS (2014): *The walking gait simulation and control of biomimetic humanoid robot system*
25. Bo-Ming Lin, MS (2015): *The Computer-Aided Design and Analysis of High Efficiency CNC Type Steel Manufacturing Process Plant Export Band Saw Machine*
26. Sin-Hao Liao, MS (2015): *The Computer-Aided Design and Dynamic Analysis of Large Door-Type CNC Machine Tools*
27. Yu-Xuan Liu, MS (2015): *The Multibody Dynamic Analysis of 3-axis CNC Machine Tools*
28. Cao-Sang Tran, MS (2016): *Dynamic Analysis and Control of Hydraulic Machine System and Industrial Robotic Manipulator*
29. Van-Minh Dang, MS (2016): *The Modal and Dynamic Analysis of CNC Machine Tools System*
30. Jian-Fu Lai, MS (2016): *The Computer-Aided Design and Dynamic Analysis of Vertical CNC Machine Tools*
31. Wei-Sin Lin, MS (2017): *The Computer-Aided Design, Analysis and Research of Power Chuck and Mechanical Particle Systems*
32. Jie-Cih Peng, MS (2017): *The Rigid-body and Flexible-body Dynamic Analysis of Vertical CNC Machine Tools*
33. Yi-Ling Liu, MS (2017): *The Rigid-Body and Flexible-Body Dynamic Analysis of CNC Double Column Machining Centers*
34. Siang-Syun Lai, MS (2017): *The Computer-Aided Design and Vibration Modal Analysis of Ultra-High-Speed Cutting Intelligent CNC Band Saw and Double-Stroke Mechanism*

Book Editor

1. Area Editor for *Dynamics of Multibody Systems*, John Wiley & Sons, New York, 1st ed., 1992.
2. *The Applications of RecurDyn Software in Multibody Dynamics*, Wu-Nan Publication Company, 1st edition, 2009.
3. *The General Introduction and Practical Training of Mechanical Vibrations*, Wu-Nan Publication Company, 1st edition, 2009.

Invited Reviewer for Scientific Journals

ASME Journal of Vibration and Acoustics, ASME Journal of Mechanical Design, 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, Int. Journal of Vibroengineering, Int. Journal of Advances in Mechanical Engineering

Editor for Scientific Journals

Guest editor - ["Microtribology, Adhesion and Surface Engineering 2018" in Journal of Micromachines \(SCI\)](#)

Guest editor - ["Tribology of Materials and Analysis" in Journal of Materials \(SCI\)](#)

Lead guest editor - [Special Collection on "Advances in Multibody Dynamics and Vibrations" in Journal of Advances in Mechanical Engineering \(SCI\)](#)

Guest editor - [Special Issue "Microtribology, Adhesion and Surface Engineering" in Journal of Micromachines \(SCI\)](#)

Lead guest editor - [Special Issue on "Advances in Engineering Tribology Technology" in Journal of Advances in Mechanical Engineering \(SCI\)](#)

Lead editor - [Journal of Applied Mechanics and Materials - Engineering Tribology and Applied Technology 2017 \(EI\)](#)

Lead editor - [Journal of Applied Mechanics and Materials - Applied Technology and Tribology \(EI\)](#)

Lead editor - [Journal of Key Engineering Materials - Engineering Tribology and Applied Technology 2016 \(EI\)](#)

Lead editor - [Journal of Key Engineering Materials - Tribology Engineering 2014 \(EI\)](#)

Grant Reviewer

National Science Council of Taiwan, Solid Mechanics, Ministry of Economic of Taiwan, Technology Development Program, Ministry of Economic of Taiwan, Small Business Innovation Research

National and International Service

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

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

Technical Chairman, The First International Conference on Engineering and Technology Innovation 2011, Kenting, Taiwan, November 11-15, 2011.

Technical Chairman, The Second International Conference on Engineering and Technology Innovation 2012, Kaoshiung, Taiwan, November 2-6, 2012.

Technical Chairman, The International Applied Science and Precision Engineering Conference 2013, Sun Moon Lake, Natou, Taiwan, October 18-22, 2013.

RESEARCH INTERESTS

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

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.
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.
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.
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.
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.
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.
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.
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.
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.
 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.
 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.
 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.
 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.
 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*, Vol. 24, No. 11, pp. 1553-1566.
 22. Hwang Yunn-Lin, 2008, “Solid deformable multibody dynamic problems in precision manufacturing systems,” *Key Engineering Materials*, Vols. 364-366, pp. 873-878.
 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*, Vol. 29, No. 2, pp. 121-127.
 24. Hwang Yunn-Lin, 2008, “Solid deformable multibody dynamic problems in precision manufacturing systems,” *Journal of Key Engineering Materials*, Vols. 364-366, pp. 873-878.
 25. 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*, Vol. 24, No. 11, pp. 1553-1566.
 26. Hwang Yunn-Lin, Hwang Shen-Jenn, Huang Zi-Gui, Lin Ming-Tzong, Mao Yen-Chien, Wang Pei-Yu, 2010, “Computational analysis of multibody dynamic systems using nonlinear recursive formulation,” *Journal of Key Engineering Materials*, Vols. 419-420, pp. 289-292.
 27. Hwang Yunn-Lin, Hwang Shen-Jenn, 2010, “Solving for dynamic problems in flexible manufacturing systems,” *Journal of Advanced Materials Research*, Vols. 156-157, pp. 1501-1504.

28. Tsai Yi-Hung, Hwang Shen-Jenn, **Hwang Yunn-Lin**, 2011, "Circular and noncircular conjugate tooth profiles generated by a novel rack-cutter," *Journal of Applied Mechanics and Materials*, Vols. 63-64, pp. 948-951.
29. **Hwang Yunn-Lin** and Hwang Shen-Jenn, 2011, "Dynamic analysis and control of multibody systems using nonlinear combination methods," *International Journal for Numerical Methods in Biomedical Engineering*, Vol. 27, Issue 10, pp. 1583-1610.
30. **Hwang Yunn-Lin**, Gau Wei-Hsin, Lin Wen-Huang, Hwang Shen-Jenn, Chen Chien-Hsin, 2012, "Using nonlinear recursive formulation for the kinematic analysis of human biomechanical systems," *Journal of Advanced Materials Research*, Vols. 482-484, pp. 938-941.
31. Gau Wei-Hsin, Chen Kun-Nan, **Hwang Yunn-Lin**, 2012, "Finite element model updating of micromachined torsion structures using experimental eigendata," *Journal of Vibro-Engineering*, Vol. 14, Issue 3, pp. 994-1001.
32. Chen Chien-Hsin, **Hwang Yunn-Lin**, Hwang Shen-Jenn, 2013, "Non-Newtonian Fluid Flow and Heat Transfer in Microchannels," *Journal of Applied Mechanics and Materials*, Vols. 275-277, pp. 462-465.
33. Tsai Yi-Hung, Hwang Shen-Jenn, **Hwang Yunn-Lin**, 2013, "Dynamic Characteristics of New Tooth Profiles Gear Generated By a Novel Rack-Cutter," *Journal of Applied Mechanics and Materials*, Vols. 284-287, pp. 723-726.
34. Gau Wei-Hsin, Chen Kun-Nan, **Hwang Yunn-Lin**, 2013, "Dynamic Characteristics and Finite Element Model Updating of Micromachined Torsion Structures," *Journal of Applied Mechanics and Materials*, Vols. 284-287, pp. 1831-1835.
35. Chen Chien-Hsin, Hwang Shen-Jenn, **Hwang Yunn-Lin**, 2013, "Electroosmotic Flow and Heat Transfer in Microchannels: A Closed Form Solution," **Journal of Applied Mechanics and Materials**, Vol. 319, pp. 462-467.
36. Hwang Shen-Jenn, Li Shin-Tang, **Hwang Yunn-Lin**, Chen Chien-Hsin, 2013, "Study on Scroll Profile Design Using Involute of Elliptic for Scroll Compressor," *Journal of Applied Mechanics and Materials*, Vol. 319, pp. 622-628.
37. **Hwang Yunn-Lin**, Chien-Hsin Chen, Hwang Shen-Jenn, Lin Wen-Huang, Nguyen Xuan Mai, 2013, "The dynamic analysis of humanoid robot system," *Journal of Applied Mechanics and Materials*, Vols. 373-375, pp. 242-245.
38. Gau Wei-Hsin, Chen Kun-Nan, Hwang Yunn-Lin, 2014, "Optimization of Circular Diamond Saw Blades with Annular Slots," *Journal of Applied Mechanics and Materials*, Vols. 479-480, pp. 289-293.
39. **Hwang Yunn-Lin**, Cheng Jung-Kuang, 2014, "The Dynamic Analysis and Simulation of Electric Scooter," *Journal of Applied Mechanics and Materials*, Vols. 479-480, pp. 365-368.
40. **Hwang Yunn-Lin**, Cheng Jung-Kuang, 2014, "The dynamic behavior and modal analysis of electric scooter," *Journal of Vibro-Engineering*, Vol. 16, Issue 2, pp. 689-696.

41. Gau Wei-Hsin, Chen Kun-Nan, **Hwang Yunn-Lin**, 2014, "Model Updating and Structural Optimization of Circular Saw Blades with Internal Slots," *Journal of Advances in Mechanical Engineering*, Volume 2014, Article ID 546496. (SCI)
42. **Hwang Yunn-Lin**, Van-Thuan Truong, 2015, "DYNAMIC ANALYSIS AND CONTROL OF MULTI-BODY MANUFACTURING SYSTEMS BASED ON NEWTON-EULER FORMULATION," *International Journal of Computational Methods*, March 2015, Vol. 12, No. 02, 18 pages.
43. **Hwang Yunn-Lin**, Cheng Jung-Kuang, Truong Van-Thuan, 2014, "Computer-Aided Dynamic Analysis and Simulation of Multibody Manufacturing Systems," *Journal of Applied Mechanics and Materials*, Vols. 764-785, pp. 757-761.
44. Chen Kun-Nan, Ueng Wen-Der, **Hwang Yunn-Lin**, 2015, "A New Procedure for Structural Fault Estimation Using a Prescribed Eigen-structure," *Journal of Applied Mechanics and Materials*, Vols. 764-765, pp. 1015-1019.
45. **Hwang Yunn-Lin**, Truong Van-Thuan, 2015, "A Synchronous Approach for Numerical Simulation of Machine Tools," *Key Engineering Materials*, Vol. 642, pp. 317-322.
46. Chen Kun-Nan, Ueng Wen-Der, **Hwang Yunn-Lin**, 2015, "Sequential eigen-assignment technique for structural damage identification," *Journal of Vibro-Engineering*, Vol. 17, Issue 3, pp. 1232-1241.
47. **Hwang Yunn-Lin**, Ta Thi-Na, Cheng Jung-Kuang, 2016, "The Friction Effects for Contact Force Analysis of Three Axes CNC Machine Tool," *Key Engineering Materials*, Vol. 739, pp. 12-17.
48. **Hwang Yunn-Lin**, Ta Thi-Na, Tran Cao-Sang, 2018, "[The Kinematic and Dynamic Analysis of Hydraulic Control System Based on the Lagrangian Force Method](#)," *International Journal of Computational Methods*, January 2018, Vol. 15, No. 1, 18 pages.

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.
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.
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.
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.
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.
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.
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.
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.

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.
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