

## Chin-Yi Wei, Director of the School of Academic Studies

### ▶ EDUCATION BACKGROUND :

Ph.D., Engineering (Fluid Mechanics), Institute of Aeronautics and Astronautics, National Cheng Kung University (NCKU), April 1992.

B.S., Department of Aeronautics and Astronautics, NCKU, June 1986.



### ▶ PROFESSIONAL EXPERIENCES :

Associate professor

Chairman of Department of Aeronautical and Astronautical Engineering, R.O.C. Air Force Academy

Director of the School of Academic Studies, ROC Air Force Academy

### ▶ RESEARCH INTERESTS :

- Experimental fluid dynamics
- Vortex stretching and instability
- Wake flow
- Wind/water tunnel design and testing
- Aerodynamic heating in hypersonic flow
- Micro aerial vehicle(MAV)
- Flux and pressure control in pipes
- Flow meter

### ▶ COURSES TAUGHT IN DAAE/CAFA :

- Fluid Mechanics
- Aerodynamics
- Applied Aerodynamics
- Experiments of Aerodynamics
- Gas Dynamics
- Flight Dynamics
- Viscous Fluid Flows
- Aircraft Design
- Potential Flow

- Application of Aeronautical Engineering

#### ▶ AWARD :

- Excellent work of Research and Development Report for Education and Training, **General Headquarters of the Republic of China Air Force (GHROCAF)**, 1994.
- Award of excellent teacher of GHROCAF, 1995.
- Good work of the 2<sup>nd</sup> Competition of the Design and Testing of Unmanned Aerial Vehicle, Dec. 1999, R.O.C. (major consulting advisor).
- Good work of the 3<sup>rd</sup> Competition of the Design and Testing of Unmanned Aerial Vehicle, Dec. 2000, R.O.C. (major consulting advisor).
- The third winner of the 4<sup>th</sup> Competition of the Design and Testing of Unmanned Aerial Vehicle, Dec. 2001, R.O.C. (consulting advisor).
- Excellent research award on “*How to Elevate the Researching and Teaching Level of Military Academy*” by **National Defense Ministry (NDM)**, Dec. 2001.
- Award of excellent teacher of GHROCAF, 2003.
- *Who’sWho in Science and Engineering*, 2005, Marquis Who’s Who LLC, USA.
- Award of excellent teacher of National Defense Ministry of the Republic of China, 2005.
- *Leading Educator of the world*, 2005, International Biographic Centre, Cambridge, England.
- *Who’sWho in the World*, 2006, Marquis Who’s Who LLC, USA.
- *2000 Outstanding Scientists of the 21<sup>st</sup> Century*, 2006, International Biographic Centre, Cambridge, England.
- *The Research Board of Advisors*, 2006, the American Biographical Institute, USA.
- *Great Minds of the 21<sup>st</sup> Century*, 2005/2006 Edition, American Biographical Institute, Inc.
- *Who’sWho in Science and Engineering*, 2007, Marquis Who’s Who LLC, USA.
- The 2<sup>nd</sup> winner of 2007 Taiwan Unmanned Aerial Vehicle Design Competition, advanced group, 2007, R.O.C. (consulting advisor).
- *Who’sWho in Asia*, 2007, Marquis Who’s Who LLC, USA.
- *Who’sWho in the World*, 2007, Marquis Who’s Who LLC, USA.
- The 2<sup>nd</sup> winner of 2008 Taiwan Unmanned Aerial Vehicle Design Competition, advanced group, 2008, R.O.C. (consulting advisor).
- *Great Minds of the 21<sup>st</sup> Century*, 2008 Edition, American Biographical Institute, Inc.
- *Who’sWho in the World*, 2009, Marquis Who’s Who LLC, USA.
- The 4<sup>th</sup> winner of the 2009 Taiwan Robot Aircraft Design Competition, advanced group, 2009, R.O.C. (consulting advisor).
- Award of excellent teacher of Republic of China Air Force Academy, 2009.
- The 2<sup>nd</sup> winner of the 2010 Taiwan Robot Aircraft Design Competition, basic engine group, 2009,

R.O.C. (consulting advisor).

- The BEST REPORT AWARD of the 2010 Taiwan Robot Aircraft Design Competition, 2009, R.O.C. (consulting advisor).

#### ▶ INVITED LECTURE :

- “*Vortex Stretching and Hypersonic Ablation in Stagnation Region*,” The Fluid Dynamic Workshop in National Cheng-Kung University, 4 July, 2001 (*in English*).
- “*Applied Aerodynamics*,” The Second Flight Troop of the Navy, Kaohsiung, Taiwan, R.O.C., 2 Aug., 2001.
- “*Applications of Fluid Dynamics in Technology and in Daily Life*,” The Department of Mechanical Engineering, I-SHOU University, Kaohsiung, Taiwan, R.O.C., 13 Mar., 2002.
- “*Some Researches of Flow around Bluff Bodies*,” Department of Civil Engineering, National Chung Hsing University, Taichung, Taiwan, R.O.C., 19 Dec., 2002.
- “*Some Researches of Flow In Stagnation Region of Bluff Bodies*,” Department of Aeronautical Engineering, Feng Chia University, Taichung, Taiwan, R.O.C., 26 Dec., 2002.
- “*Evaluation of the Measurement Uncertainty on the Testing of Flowmeters*,” Sixth Division, Taiwan Water Cooperation, July, 2004.
- “*Flowmeters and the Management on Sewage*,” Industrial Development Bureau, Ministry of Economic Affairs, Environmental Center of Industrial Parks, 23 Feb., 2006.
- “*Introduction on Flowmeters*,” Southern Taiwan Science Park, 18 Jan., 2007.
- “*The Operation Principle and Standard on Vortex Flowmeter*,” Department of Mechanical Engineering, National Taipei University of Technology, 31 Jan., 2007.
- “*Investigation on the Testing-Quality of Flowmeters*,” The Department of Mechanical Engineering, I-SHOU University, Kaohsiung, Taiwan, R.O.C., 2 Apr., 2008.
- “*A Long-Distance Journey of Boeing 747*,” The Department of Mechanical Engineering, Yung Ta Institute of Technology, Pingtung, Taiwan, R.O.C., 25 Mar., 2009.
- “*Aircraft Design, Manufacture and Travel*,” The Department of Mechanical Engineering, I-SHOU University, Kaohsiung, Taiwan, R.O.C., 15 Apr., 2009.
- “*Evaluation of the Measurement Uncertainty on the Calibration of Flowmeters*,” David & Huang Contromatic Technology Co. LTD, Feb., 2011.
- “*A Cross-Oscean Journey of Boeing 747*,” The Department of Mechanical Engineering, Chang Jung Christian University, Tainan, Taiwan, R.O.C., 8 Mar., 2011.
- “*Evaluation of the Measurement Uncertainty on the Calibration of Flowmeters*,” Energy Management System Co. LTD, July, 2011.

#### ▶ PATENTS :

1. New-Pattern Patent "*The Structure of a Flowmeter*," China, ZL 03 2 51491.3, 2004/04/21.
2. New-Pattern Patent "*Flowmeter*," China, ZL 03 2 61285.0, 2004/07/28.
3. Invention Patent "*Multi-Directions Force Measurement Mechanism*," R.O.C. Taiwan, Invention No. 202026, 2004/05/01 ~ 2022/11/28.
4. New-Pattern Patent "*Improvement on the Structure of a Flowmeter*," R.O.C. Taiwan, New-Pattern 224129, 2004/06/01.
5. New-Pattern Patent "*Flow Rate Regulator*," R.O.C. Taiwan, New-Pattern M261606, 2005/04/11 ~ 2014/09/05.
6. New-Pattern Patent "*Multi-Turbines Flowmeter*," R.O.C. Taiwan, New-Pattern M258280, 2005/03/01 ~ 2014/05/24.
7. New-Pattern Patent "*Multi-Turbines Flowmeter*," China, ZL2004 2 0066911.6, 2004/06/10 ~ 2014/06/09.
8. New-Pattern Patent "*Flowmeter*," R.O.C. Taiwan, New-Pattern M276990, 2005/10/01 ~ 2015/05/01.
9. New-Pattern Patent "*A Type of Flowmeter*," China, ZL2005 2 0018244.9, 2005/05/12 ~ 2015/05/11.
10. New-Pattern Patent "*The Downstream Flow Regulator of a Flowmeter*," R.O.C. Taiwan, New-Pattern M315330, 2007/07/11 ~ 2017/01/29.

## ▶ REPRESENTATIVE RESEARCH WORKS :

### A. *Published/Accepted Journal Papers*

1. Wei, C. Y. and Miao, J. J., 1991, "Influences of Freestream Turbulence and Wake on Flow near the Stagnation Region," *Journal of the Chinese Society of Mechanical Engineers*, Vol. 12, No. 6, pp. 555-562. 【EI; NSC 78-0401-E006-33 & NSC 80-0401-E006-35】
2. Miao, J. J., Wei, C. Y., Chou, J. H. and Lin, C. K., 1992, "Influences of Inlet Conditions on Flow Distortion in a Circular-to-Rectangular Transition Duct," *International Journal of Turbo and Jet Engines*, Vol. 9, pp. 67-83. 【SCI; EI】
3. Wei, C. Y. and Miao, J. J., 1992, "Stretching of Freestream Turbulence in Stagnation Region," *AIAA Journal*, Vol. 30, No. 9, pp. 2196-2203. 【SCI; EI; NSC 80-0401-E006-35】
4. Wei, C. Y. and Miao, J. J., 1993, "Characteristics of Stretched Vortical Structures in Two-Dimensional Stagnation Region," *AIAA Journal*, Vol. 31, No. 11, pp. 2075-2082. 【SCI; EI; NSC 80-0401-E006-35】
5. Wei, C. Y. and Miao, J. J., 1994, "Measurement of Counter-Rotating Vortical Structure in Stagnation Region," *Journal of the Chinese Society of Mechanical Engineers*, Vol. 15, No. 6, pp. 615-624. 【EI; NSC 80-0401-E006-35】

6. Wei, C. Y. and Miao, J. J., 1994, "Flow Pattern Visualization of an Axisymmetric Stagnation Flow," Transactions of the Aeronautical and Astronautical Society, R.O.C., Vol. 26, No. 4, pp. 311-318. 【NSC 78-0401-E006-33 & NSC 80-0401-E006-35】
7. Wei, C. Y., 1998, "Development of Shed Vorticities in Three-Dimensional Stagnation Regions," Transactions of the Aeronautical and Astronautical Society, R.O.C., Vol. 30, No. 2, pp. 119-129. 【NSC 83-0424-E013-007 及 NSC 84-2212-E013-006】
8. Wei, C. Y., Chang, J. R., and Kuan, Y. W., 1998, "Influence of Shear Flow and End Effects on the Wake Downstream of a Circular Cylinder," Journal of Chien-Chiao, R.O.C., Vol. 5, pp. 55-76. 【NSC 86-2612-E013-001】
9. Zien, T. F. and Wei, C. Y., 1999, "Heat Transfer in the Melt Layer of a Simple Ablation Model," AIAA Journal of Thermophysics and Heat Transfer, Vol. 13, No. 4, pp. 450-459. 【SCI; EI; NSC 89-2212-E-013-003】
10. Miao, J. J., Wang, J. T., Chou, J. H., and Wei, C. Y., 1999, "Characteristics of Low-Frequency Variations Embedded in Vortex Shedding Process," Journal of Fluids and Structures, Vol. 13, pp. 339-359. 【SCI; EI; NSC 85-2622-E-006-018】
11. Wei, C. Y. and Zien, T. F., 2001, "Integral Calculations of Melt-Layer Heat Transfer in Aerodynamic Ablation," AIAA Journal of Thermophysics and Heat Transfer, Vol. 15, No. 1, pp. 116-124. 【SCI; EI; NSC 89-2212-E-013-003】
12. Hu, C. C., Miao, J. J., Wei, C. Y. and Chou, J. H., 2002, "On the Scale of Stretched Vortical Structures in the Forward Stagnation Region of a Bluff Body," Journal of the Chinese Society of Mechanical Engineering, Vol. 23, No.1, pp. 21-28. 【EI】
13. Wei, C. Y. and Chang, J. R., 2002, "Wake and Base-Bleed Flow Downstream of Bluff Bodies with Different Geometry," Experimental Thermal and Fluid Science, Vol. 26, Issue 1, pp. 39-52. 【SCI; EI; NSC 89-2612-E-013-001】
14. Shiah, Y. C., Fang, Jiunn, Wei, C. Y., and Liang, Y. C., 2002, "In-Plane Bending Fracture of a Large Beam Containing a Circular-Arc Crack," The Chinese Journal of Mechanics-Series A, Vol. 18, No. 3, pp. 145-151. 【EI】
15. Miao, J. J., Wang, J. T., Chou, J. H. and Wei, C. Y., 2003, "Low-Frequency Fluctuations in the Near-Wake Region of a Trapezoidal Cylinder with Low Aspect Ratio," Journal of Fluids and Structures, Vol. 17, pp. 701-715. 【SCI; EI】
16. Wei, C. Y., 2007, "Aerodynamic Analysis and Manufacturing a Micro Aerial Vehicle," Engineering Science & Technology Bulletin, Vol. 91, pp. 78-83.
17. Lin, J. L., Wei, C. Y. and C. Y. Lin, 2007, "Aerodynamic Performance of Thin Wings at Low Reynolds Numbers," International Journal of Aircraft Engineering and Aerospace Technology, Vol. 79, No. 3, pp. 245-253. 【SCI; EI】
18. Lin, J. L., Wei, C. Y. and C. Y. Lin, 2007, "Design and Testing of Fixed-Wing MAVs,"

International Journal of Aircraft Engineering and Aerospace Technology, Vol. 79, No. 4, pp. 345-351. 【SCI; EI】

19. Lin, J. L., Wei, C. Y. and C. Y. Lin, 2009, "Aerodynamic Performance of Thin Wings at Low Reynolds Numbers," Aircraft Engineering and Aerospace Technology: An International Journal, Vol. 81, No. 1, pp. 51-58. 【SCI; EI】

### ***B. Conference Papers***

1. Miao, J. J., Lin, S. A., Chou, J. H., Wei, C. Y. and Lin, C. K., 1988, "An Experimental Study of Flow in a Circular-Rectangular Transition Duct," AIAA/ASME/SAE/ASEE 24<sup>th</sup> Joint Propulsion Conf., AIAA paper no. 88-3029.
2. Miao, J. J. and Wei, C. Y., 1990, "Influences of Freestream Turbulence and Wake on Flow near the Upstream Faces of Two-Dimensional and Axisymmetric Bluff Bodies," Proceedings of the 7<sup>th</sup> National Conf. of Chinese Society of Mechanical Engineers, R.O.C., pp. 607-614.
3. Wei, C. Y. and Miao, J. J., Nov. 1993, "A Study on the Vortex Stretching of an Axisymmetric Stagnation Flow," The 35<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp. 159-166.
4. Wei, C. Y. and Miao, J. J., Dec. 1993, "Measurement of the Length Scale of Unsteady Nonperiodic Vortical Structures," Proceedings of the 10<sup>th</sup> National Conf. of Chinese Society of Mechanical Engineers, R.O.C., pp. 107-115.
5. Wei, C. Y. and Miao, J. J., June 1994, "Comparison of Flow Behavior in Two-Dimensional and Axisymmetric Stagnation Flows," The 1<sup>st</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 243-252.
6. Wei, C. Y. and Miao, J. J., Sep. 1994, "Measurement of the Length Scale of Unsteady Nonperiodic Vortical Structure," Proceedings of the 1<sup>st</sup> International Conf. on Flow Interaction, Hong Kong, pp. 378-381.
7. Wei, C. Y., May 1995, "Influence of Dividing Fence on the Flow Field of Delta Wing," The 2<sup>nd</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 173-183.
8. Wei, C. Y. and Chang, U, 1995, "Development of Streamwise Upstream Vorticity in Three-Dimensional Stagnation Region," Proceedings of the 12<sup>th</sup> National Conf. of Chinese Society of Mechanic Engineers, R.O.C., pp. 69-78.
9. Wei, C. Y., May 1996, "Influence of Leading-Edge Geometry and Dividing Fence on the Flow Field of Delta Wing with Fuselage Attached," The 3<sup>rd</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 243-248.
10. Wei, C. Y., 1996, "Stretching of Uni-Directional Upstream Vorticity in Three-Dimensional Stagnation Regions," The 38<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp. 95-102.
11. Chu, S. S., and Wei, C. Y., 1996, "Study of the Jet-Plate Interaction Using the Method of Hodograph Transformation," The 38<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp.

191-197.

12. Wei, C. Y., 1997, "Detecting the Thickness of Stagnation Boundary Layer by Surface-Pressure Measurement," The 4<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 763-770.
13. Wei, C. Y., Kuan, Y. W., and Chang, J. R., 1997, "Investigation on the Generation of Shear Flow with Trapezoidal Honeycomb," The 4<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 771-779.
14. Wei, C. Y., Chang, J. R., and Kuan, Y. W., Dec. 1997, "Influence of Shear Flow and Boundary Effect on the Wake Downstream of Circular Cylinder," The 39<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp. 427-434.
15. Miao, J. J., Wang, J. T., Chou, J. H., and Wei, C. Y., Dec. 1997, "Experimental Investigation on the Low-Frequency Fluctuations in the Wakes of Bluff Bodies," The 39<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp. 523-529.
16. Wei, C. Y., Mar. 1998, "Vortex Stretching Behavior of Shed Vortices in Three-Dimensional Stagnation Region," The 8<sup>th</sup> Conf. on Applying Combustion Technology (The Competition of Heat and Fluid Flow Photographic Contest), R.O.C., pp. 493-498.
17. Wei, C. Y., Kuan, Y. W., and Chang, J. R., May 1998, "Influence of the Width of Base-Bleed on the Wake Downstream of Two Circular Cylinders Arranged Side by Side," The Chinese Military Academy Symposium on Fundamental Science of Mechanics, R.O.C., pp. 1-7.
18. Wei, C. Y., Chang, J. R., and Kuan, Y. W., May 1998, "Investigation of Shear Flow on the Wake of Two Circular Cylinders Arranged Side by Side," The 5<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 3.04-1~3.04-6.
19. Miao, J. J., Wang, J. T., Chou, J. H., and Wei, C. Y., Jun. 1998, "Side-Wall Effect on the Low-Frequency Variations Embedded in the Vortex Shedding Process," ASME Fluids Engineering Division Summer Meeting, Washington, D.C.
20. Wei, C. Y. and Chang, J. R., Dec. 1998, "Investigation on the Wake Downstream of Two Flat Plates Arranged Side by Side," The 40<sup>th</sup> Conf. on Aeronautics and Astronautics, R.O.C., pp. 57-62.
21. Zien, T. F. and Wei, C. Y., Jan. 1999, "Heat Transfer in the Melt Layer of a Simple Ablation Model," The 37<sup>th</sup> AIAA Aerospace Science Meeting, Reno, NV, AIAA paper 99-0470.
22. Gwo-Bin Lee, Yu-Cheng Lin, Jung-Hua Chou, Jiun-Jih Miao, Chin-Yi Wei, Yuan-Feng Gai and Hsiang-Chieh Wu, Apr. 1999, "Investigation on the Turbulence Characteristics of Stagnation Region with MEMS Pressure Sensors," The 5<sup>th</sup> Annual MEMS Conference, Tainan, Taiwan, R.O.C..
23. Wei, C. Y. and Chang, J. R., May 1999, "Investigation on the Wake and Vortex Shedding Behaviors Downstream of Two-Dimensional Cylinders Arranged Side by Side," The 6<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 469~476.

24. Wang, J. T., Miao, J. J., Chou, J. H., and Wei, C. Y., May 1999, "Investigation on the Low-Frequency Fluctuations of Vortex Shedding Process," The 6<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C., pp. 493~500.
25. Gwo-Bin Lee, Yuan-Feng Gai, Hsiang-Chieh Wu, Yu-Cheng Lin, Jung-Hua Chou, Jiun-Jih Miao and Chin-Yi Wei, May 1999, "Development of a Surface-Micromachined Pressure Sensor on a Flexible Substrate," The 3<sup>rd</sup> Nano Engineering and Micro System Technology Workshop.
26. Chang, J. R. and Wei, C. Y., Dec. 1999, "Investigation on the Wake and Base-Bleed Flows Downstream of Two Trapezoidal Flat Plates Arranged Side by Side," AASRC/CIROC/CSCA Aerospace Joint Conference, R.O.C., pp. 55-60.
27. Wang, J. T., Miao, J. J., Chou, J. H., and Wei, C. Y., Dec. 1999, "Quantitative Investigation on the Low-Frequency Fluctuations of Vortex Shedding Process," AASRC/CIROC/CSCA Aerospace Joint Conference, R.O.C., pp. 77-84.
28. Wei, C. Y. and Zien, T. F., Jan. 2000, "Integral Calculations of Melt-Layer Heat Transfer in Aerodynamic Ablation," The 38<sup>th</sup> AIAA Aerospace Science Meeting, Reno, NV, AIAA paper 00-0205.
29. Wei, C. Y. and Chang, J. R., Oct. 2000, "Investigation on the Wake and Base-Bleed Flows Downstream of Cylinders with Different Geometries Arranged Side by Side," The Conference of Aeronautical and Mechanical Engineering Applications, Kaohsiung, R.O.C..
30. Wei, C. Y. and Chang J. R., Mar. 2001, "Wake and Base-Bleed Flow Downstream of Bluff Bodies with Different Geometry," 2001 CIROC/CSCA/AASRC Joint Conference, AA59-AA66.
31. Wei, C. Y., Oct. 2001, "Reconsideration on Vortex Stretching Mechanism in Stagnation Region," The CAFA Conference of Aviation Safety and Management.
32. Hu, C. C., Miao, J. J., Wei, C. Y., and Chou, J. H., Dec. 2001, "On the Scale of Stretched Vortical Structures in the Forward Stagnation Region of a Bluff Body," Proceedings of the 25<sup>th</sup> Conf. of Mechanics, Feng-Chia University.
33. Wei, C. Y., et. al., Dec. 2001, "How to Elevate the Teaching and Research Level of Military Academy," Conference of Military Education.
34. Shiah, Y. C., Fang, Jiunn, Wei, C. Y., and Liang, Y. C., Jun. 2002, "Fracture of a Circular-Arc Crack Containing Large Beam Subjected to In-Plane Bending," The 9<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C..
35. Shiah, Y. C., Fang, Jiunn, Wei, C. Y., and Liang, Y. C., Jun. 2002, "A Large Beam/Truss Weakened by a Slightly Curved Crack," The 9<sup>th</sup> Military Academy Symposium on Fundamental Science, R.O.C..
36. Wei, C. Y., Lin, J. L., and Tong, D. W., Oct. 18, 2002, "Investigation on the Vortex Shedding of Wake Downstream of Two-dimensional Airfoil at Low Reynolds Numbers," The CAFA Conference of Aeronautical and Astronautical Engineering, pp. 27-36.



37. Wei, C. Y. and Lin, J. L., Oct. 18, 2002, "Modeling on Heat Transfer Effect of Melt-Layer in Hypersonic Aerodynamic Ablation," The CAFA Conference of Aeronautical and Astronautical Engineering, pp. 167-176.
38. Wei, C. Y., "Automatic Tracing and Controlling System on the Pressure of Pipe Flow," 2003 AASRC/CSCA Joint Conference.
39. Lin, J. L. and Wei, C. Y., Oct. 15, 2004, "Numerical Simulation on the Aerodynamic Heating of Charring-Ablation," 2004 Conference on Aeronautical and Mechanical Engineering, pp. A2-07 ~A2-14.
40. Hsiao, F. B., Lin, C. Y., Wei, C. Y., and Chiang, C. H., Dec. 03, 2004, "Investigation of Aerodynamic Performance on Low-Aspect-Ratio Wings at Low Reynolds Numbers," Proceedings of the 28<sup>th</sup> Conf. of Mechanics.
41. Wei, C. Y., Lin, C. Y., and Hsiao, F. B., Dec. 12, 2004, "Aerodynamic Investigation on Thin Airfoils at Low Reynolds Number," 2004 AASRC/CCAS Joint Conference.
42. Wei, C. Y., Huang, David and Yang, Y. Y., Nov. 17, 2005, "Investigation on the Measurement Uncertainty of Water Meter," The 22<sup>th</sup> Conference of Water Research, Chinese Taiwan Water Works Association.
43. Chen, J. L., Mar, G. S., Wei, C. Y., and Sun, C. W., "Experimental Analysis and Measurement on the Drag and Thrust of a Micro Underwater Vehicle," The 29<sup>th</sup> National Conference on Theoretical and Applied Mechanics, Dec. 16-17, 2005, NTHU, Hsinchu, Taiwan, R.O.C.
44. Lin, C. Y., Wei, C. Y., and Chiang, C. H., Hsiao, F. B., Dec. 10, 2005, "Investigation on the Aerodynamic Performance on Thin-wing Micro Air Vehicle," 2005 AASRC/CCAS Joint Conference.
45. Fei-Bin Hsiao, Chi-Yu Lin, Yi-Chung Liu, Di-Bao Wang, Chin-Yi Wei, Chih-Huang Chiang and Cheng-Chian Hsu, "Investigation of Aerodynamic Performance on Low-Aspect-Ratio Wings at Low-Reynolds Number," 44<sup>th</sup> Aerospace Sciences Meeting and Exhibit, Jan., 1-12, 2006, Reno, Nevada, USA.
46. Wei, C. Y., and Huang, D., Nov. 17, 2006, "Development of a Watermeter with Multiple Measuring Mechanisms," The 23<sup>th</sup> Conference of Water Research, Chinese Taiwan Water Works Association.
47. Lo, D. W., Chen, J. L., Wei, C. Y., and Huang, D., Oct. 12, 2007, "Numerical Simulation and Experimental Validation on Vortex Flowmeter in Circular Pipes," The CAFA Conference of Aeronautical and Astronautical Engineering.
48. Wei, C. Y., Chen, J. L. and Huang, David, July 31, 2009, "Uncertainty Measurement Analysis and Experimental Validation on Watermeter" , The 18<sup>th</sup> Hydraulic Engineering Conference.
49. Chen, J. L. and Wei, C. Y., Sep. 18, 2009, "Numerical Analysis and Simulation on the Flow Field of a Vortex Flowmeter with Various Upstream Conditions" , 2009 The CAFA Conference of

Aeronautical and Mechanical Engineering.

50. Chen, J. L., Lin, J. W., Chen, P., Wei, C. Y., and Huang, Y. C., Oct. 13-15, 2010, "Numerical Simulation on the Flow Field of a Vortex Flowmeter with Various Upstream Conditions", 15<sup>th</sup> Flow Measurement Conference (FLOMEKO), Taipei, Taiwan, R.O.C.
51. Chen, J. L., Wei, C. Y., Huang, David, and Lin, J. W., "A Numerical Study on the Accuracy of a Vortex Meter due to the Flow Quality Downstream of Piping Configurations", The 10<sup>th</sup> Asian International Conference on Fluid Machinery, 21–23 Oct., Kuala Lumpur Malaysia.
52. Chen, J. L., Fang, K. W., Lin, J. W., and Wei, C. Y., Nov. 19-20, 2010, "Numerical Simulation on the Vortex Shedding Downstream of Tapered Circular Cylinders in Square Duct", The 34<sup>th</sup> National Conference on Theoretical and Applied Mechanics .
53. Chen, J. L., Lin, J. W., and Wei, C. Y., Nov. 10-11, 2010, "Flow Quality Analysis on a Vortex Flowmeter Combining 90 Degree Elbows by Numerical Simulations", The 19<sup>th</sup> Hydraulic Engineering Conference.
54. Jiann-Lin Chen, Guan-Sian Li, and Chin-Yi Wei, Nov. 18-19, 2011, "Numerical Grid Effect on the Simulation for Staircase-like Vortex Shedding Frequency Downstream of a Tapered Cylinder," The 35<sup>th</sup> National Conference on Theoretical and Applied Mechanics.

### **C. Books**

1. Wei, C. Y., Mar. 1997, "Aerodynamic Experiments," published by GHROCAF.
2. Wei, C. Y., June 2001, "Aerodynamic Experiments (extended edition)," published by GHROCAF.
3. Wei, C. Y., Sep. 2006, "Aerodynamic Experiments (2<sup>nd</sup> extended edition)," published by GHROCAF.
4. Wei, C. Y., Oct. 2009, "Aerodynamic Experiments (3<sup>rd</sup> extended edition)," published by GHROCAF.

### **D. Other Publications**

1. Hsiao, K. L., Wei, C. Y., Liu, K. M., and Kim, P. L., "Investigation and Design on Low-Speed Wind Tunnel," Chinese Institute of Engineers, Good Work of the Student Dissertation Contest, 1986. (Also appeared on Bulletin of DAE/NCKU, pp. 96-111, 1986.)
2. "Mechanism of Vorticity Stretching in Stagnation Region," Ph.D. Thesis, IAA/NCKU, R.O.C., 1992.
3. Wei, C. Y., 1993, "Introduction on Stall Control," Chinese Air Force Officer Monthly, Vol. 48, pp. 11-19.
4. Wei, C. Y., "Influence of Dividing Fence on Upper Flow Field of a Delta Wing," NSC Research Report, NSC 83-0424-E013-006T.
5. Wei, C. Y., "Proposal to Implement the Teaching of Aerodynamic Experiments," Championship,

Contest of the Report on the Improvement of Education and Training, GHROCAF, 1994.

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32. Wei, C. Y. (advisor), May 25-26, 2007, “UAV Design,” The 2<sup>nd</sup> winner of the 2007 Taiwan Robot Aircraft Design Competition, advanced group.
33. Wei, C. Y. (advisor), Mar. 2008, “Dr. Fly UAV Design,” the 2<sup>nd</sup> winner of the 2008 Taiwan Unmanned Aerial Vehicle Design Competition, advanced group.
34. Wei, C. Y. (advisor), Mar. 14-15, 2009, “CAFA Robot Aircraft Design,” The 4<sup>th</sup> winner of the 2009 Taiwan Robot Aircraft Design Competition, advanced group.
35. Wei, C. Y., 2009, “To Look Ahead of the School of Academic Studies on 80 Anniversary of ROCAFA”, Chinese Air Force Academic Bimonthly, Vol. 147, pp. 80-82.
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### ***E. Research Projects***

1. “Investigation of the Inlet Flow Conditions on the Flow Field of Circular-Rectangular Transition

- Duct,” Research Assistant, Mar. 1987 ~ Feb. 1988, National Defense Industrial Development Foundation, CS-76-0210-D006-13.
2. “Investigation on the Initial Flow Instability in Axisymmetric Stagnation Region,” Research Assistant, Feb. 1989 ~ Jan. 1990, NSC 78-0401-E006-33.
  3. “Mechanism of Vortex Stretching in Stagnation Region,” Research Assistant, Feb. 1991 ~ Jan. 1992, NSC 80-0401-E006-35.
  4. “Influence of Boundary-Layer Fence on Vortex Transition Process of Delta Wing,” Chairperson, Feb. 1993 ~ Jan. 1994, NSC 83-0424-E013-006T.
  5. “Influence of Three-Dimensional Upstream Conditions on the Vortex Structure in Stagnation Region,” Chairperson, Feb. 1994 ~ July 1995, NSC 83-0424-E013-007 及 NSC 84-2212-E013-006.
  6. “Influence of Leading-Edge Geometry and Dividing Fence on the Flow Field of Thick Delta with Fuselage Attached,” Chairperson, Aug. 1994 ~ July 1995, NSC 84-2212-E013-001.
  7. “Influences of Shear Flow on the Flow around Two-Dimensional Circular Cylinders with Different Arrangements,” Chairperson, Aug. 1996 ~ July 1997, NSC 86-2612-E013-001.
  8. “Influences of Shear Flow on the Flow Interaction around Two-Dimensional Cylinders,” Chairperson, Aug. 1997 ~ July 1998, NSC 87-2212-E-013-003.
  9. “Interaction of Wakes and Base-Bleed Flow Downstream of Trapezoidal Plates Arranged Side-by-Side,” Chairperson, Aug. 1998 ~ July 1999, NSC 88-2212-E-013-002.
  10. “Study of Wakes and Base-Bleed Flows Downstream of Tapered Bluff Bodies with Different Cross-Sectional Geometries,” Chairperson, Aug. 1999 ~ July 2000, NSC 89-2612-E-013-001.
  11. “A Study on the Characteristics in the Stagnation Region by MEMS Pressure Sensors (II),” Co-Researcher, Aug. 1999 ~ July 2000, NSC 89-2612-E-006-020.
  12. “Numerical Analysis on Heat Transfer Effects of Melt Layer on Aerodynamic Ablation in Hypersonic Flow,” Chairperson, Aug. 2000 ~ July 2001, NSC 89-2212-E-013-003.
  13. “A Study on the Characteristics in the Stagnation Region by MEMS Pressure Sensors (III),” Co-Researcher, Aug. 2000~July 2001, NSC 89-2218-E-006-070.
  14. “How to Elevate the Teaching and Research Level of Military School,” Chairperson, Apr. 2001 ~ Jul. 2001, NDM 2001 Military Education Research Project, B26 -- 02.
  15. “Modeling on Heat Transfer Effect of Melt-Layer in Hypersonic Aerodynamic Ablation,” Chairperson, Aug. 2001 ~ Jul. 2002, NSC 90-2212-E-013-002.
  16. “Automatic Tracing and Controlling System on the Pressure of Pipe Flow,” Chairperson, Jun. 2002 ~ May 2003, NSC 91-2622-E-013-001-CC3.
  17. “Aerodynamic Analysis and Manufacture on Micro Aerial Vehicle (1/3),” Chairperson, Aug.

2002~Jul. 2003, NSC 91-2212-E-013-001.

18. "Aerodynamic Analysis and Manufacture on Micro Aerial Vehicle (2/3)," Chairperson, Aug. 2003~Jul. 2004, NSC 92-2212-E-013-001.
19. "Numerical Simulation on the Aerodynamic Heating of Charring-Ablation," Co-Chairperson, Jan. 2003 ~ Dec. 2004, National Defense Industrial Development Foundation, NSC 92-2623-7-013-002.
20. "Aerodynamic Analysis and Manufacture on Micro Aerial Vehicle (3/3)," Chairperson, Aug. 2004 ~ Jul. 2005, NSC 93-2212-E-013-001.
21. "Dynamic Simulation Experiment on Flying Ship," Co-Chairperson, 2005/8/1 ~ 2006/7/31, NSC 94-2212-E-344-005-.
22. "Experimental Research on Senior Students of ROCAFA to Elevate Student's Learning Efficiency," Co-Chairperson, 2006, 2006 Military Education Research Project, NDM.
23. "Design of Vortex Flowmeter with the Aid of CFD to Conform the Flow-rate Criterion of National Standard," Co-Researcher, May 2007 ~ Apr. 2008, NSC 96-2622-E-214-005-CC3.
24. "Improving the Design of a Woltmann Flowmeter by Using the CFD Technique," Co-Chairperson, Aug. 2008 ~ Jul. 2009, NSC 97-2622-E-214-005-CC3.
25. "Flow Rate Evaluation and Research on Large Piping with Numerical Simulation and Electro-magnetic Flowmeter," Co-Chairperson, Jun. 2010 ~ May 2011, 99-2622-E-214-005-CC3.
26. "Numerical Study on Staircase-like Vortex Shedding Frequencies Downstream of a Tapered Circular Cylinder Inside a Square Duct" Co-Chairperson, Aug. 2011 ~ Jul. 2012, NSC 100-2221-E-214-039 .
27. "Numerical Simulation on the Influence of Upstream Flow Quality on Measurement Accuracy of Vortex Flowmeter," Co-Chairperson, Jun. 2011 ~ May 2012, NSC 100-2622-E-214-005-CC3.