

姓名：牛仰堯 職稱：教授 (2001- the present)

服務單位：淡江大學航太系

學歷；Phd, Department of Aerospace Engineering

The Ohio-State University (1995)

一、近五年國內外之成就與榮譽(請註明名稱及日期)：例如 1. 獲得國內外重要獎項及其他榮譽，2. 國際研討會邀請專題演講或規劃委員，3. 國際重要委員會之委員。

- Associate editor of Journal of Aeronautics, Astronautics and Aviation, 2018-2020
- 第 26 屆全國計算流體力學會議最佳論文獎, 2019
- 第 24 屆全國計算流體力學會議最佳論文獎, 2017
- 第 24 屆全國計算流體力學會議流體之力與美最佳短片佳作, 2017
- 入選科技部補助特殊優秀人才, 2008-2012, 2015-2020
- Co-organizer of MS “Advances in High-fidelity Numerical Methods for Computational Fluid Dynamics, 13th World Congress on Computational Mechanics, New York, USA, July 2018
- Organizer of 2nd International Conference of Mechanics, I-land, Taiwan, 2018.
- International Scientific Advisory Committee of ICCM9-International Conference on Computational Methods, Rome, 2018
- Advisory committee, 海峽兩岸激波與複雜流學術研討會, 2014-2018
- Organizer of MS in ICCM9-Int Conf on Computational Methods, Rome, 2018
- Invited speaker, International Conference on Flow Physics and its Simulation, Taipei, December, 2016, Center for Advanced Study in Theoretical Sciences.
- Invited speaker, 2016 Spring Special Program in Applied Mathematics and Applied Mechanics, April, 臺灣大學理論科學研究中心
- Invited speaker, International Conference on Flow Physics and its Simulation, Taipei, December, 2016
- Invited Speaker, International Forum on Fluid Dynamics of Complex Flows, Hangzhou, China, May, 2015
- Co-organizer, MS07: Algorithms and Computations of Complex Fluids, The Second Computational Mechanics Conference in Taiwan, Taipei, Oct., 2016
- Invited Speaker, International Forum on Fluid Dynamics of Complex Flows, Hangzhou, China, May, 2015
- 第 22 屆全國計算流體力學會議最佳論文獎, Aug, 2015
- 第 22 屆全國計算流體力學會議流體之力與美短片佳作 Aug, 2015
- Organizer, The 6th International Conference on Computational Methods (ICCM2015), International Scientific Committee, July, New Zeland.

- (Organizer, Mini-Symposium of Multi-phase flows )
- Advisory committee, Cross-Strait Conference of Shock Wave and Complex Fluid, Hong Kong, 2016
  - Co-organizer, (MS101) Advances in High-fidelity Numerical Methods for Computational Fluid Dynamics, 12th World Congress on Computational Mechanics, Seoul, Korea, 24 - 29 July 2016
  - Selected as Excellent Research Program of Ministry of Science and Technology, 2010, 2011, 2015, 2016
  - Invited Speaker, International Forum on Fluid Dynamics of Complex Flows, Hangzhou, China, May, 2015
  - The 6th International Conference on Computational Methods (ICCM2015), International Scientific Committee, July, New Zealand. (Organizer, Mini-Symposium of Multi-phase flows )
  - Organizer, The Seventh Cross-Strait Conference of the Interaction of Shock Wave and Vortex, New Taipei City, 2014
  - The 5th International Conference on Computational Methods (ICCM2014), International Scientific Committee, July, 2014, England. (Organizer, Mini-Symposium of Multi-phase flows)
  - Scientific Committee, The Asian Symposium on Computational Heat Transfer; International Advisory Committee, June, Hong Kong, 2013

二、近五年在人才培育、研究團隊建立及服務方面的重要貢獻及成就：

- Reviewer, Journal of Computational Physics, Computers and Fluids, Journal of Fluid Mechanics, Shock Waves
- 指導學生榮獲第 26 屆全國計算流體力學會議論文獎, 2019
- Phd thesis review and oral committee, 香港科技大學(August), 香港理工大學, January, 2017
- 指導學生榮獲第 24 屆全國計算流體力學會議論文佳作獎, 2017
- 指導學生榮獲第 24 屆全國計算流體力學會議流體之力與美最佳短片, 2017
- 指導學生榮獲第 22 屆全國計算流體力學會議最佳論文獎, Aug, 2015
- 指導學生榮獲第 22 屆全國計算流體力學會議流體之力與美短片佳作 Aug, 2015
- 中華民國航太學會理監事會 理事(2014-2016, 2016-2019)
- 科技部工程司專題計畫複審委員(2012-2015)及初審委員(2012-2018)
- 榮獲中國機械工程學會理事會通過發給正會員資格 證號:16873, 4/27, 2005

**Selected Papers:**

1. Yang-Yao Niu, P. J. Shih and S. C. Kong, "A NOTE ON THE DECOMPOSITION OF AERODYNAMIC FORCES INDUCED BY A WIND TURBINE FLAPS", **Journal of Mechanics**, Volume 36, Issue 4, 2020 (SCI).
2. Chen-Yen Hung, Yang-Yao Niu, Yi-Ju Chou," Numerical study of double-diffusive sedimentation in thermally stratified fluid", **Journal of Fluid Mechanics**, Volume 893, A27 ,June 2020
3. Chih-Yu Yang, Ming-Chia Li, Chien-Wen Lan, Wang-Jiun Lee, Chen-Ju Lee, Cheng-Hsueh Wu, Jing-Min Tang, **Yang-Yao Niu**, Yao-Ping Lin, Yan-Ting Shiu, Alfred K Cheung, Yan-Hwa Wu Lee, Oscar Kuang-Sheng Lee, Shu Chien, Der-Cherng Tarnng, "The Anastomotic Angle of Hemodialysis Arteriovenous Fistula Is Associated With Flow Disturbance at the Venous Stenosis Location on Angiography", **Frontiers in Bioengineering and Biotechnology**, Volume 8, pp846, 2020 (SCI)
4. Yang -Yao Niu, Chia-HungWeng," A development of a sharp interface AUSMD scheme for an incompressible preconditioning multi-fluid model", **Computers & Fluids**, Volume 192, 15 October 2019, 104269 (SCI)
5. Yang -Yao Niu, Yu -Chieh Chen, Tsung-Yu Yang and Feng Xiao, "Development of A Less-dissipative Hybrid AUSMD Scheme for Multi-Component Flow Simulations. Shock Waves", **Shock Waves**, Volume 29, Issue 5, pp 691–704691-704 (SCI)
6. YY Niu, HW Wang," Simulations of the shock waves and cavitation bubbles during a three-dimensional high-speed droplet impingement based on a two-fluid model", **Computers & Fluids** 134, 2016, Aug.,196-214 (SCI)
7. Yang-Yao Niu," Computations of two-fluid models based on a simple and robust hybrid primitive variable Riemann solver with AUSMD", **Journal of Computational Physics**, Volume 308, March 2016, Pages 389–410 (2016)(SCI)
8. Yang-Yao Niu," A Simulation of the Liquid Shock and Cavitation based on a Multi-Equation Model", *International Journal of Computational Methods* 13(4), 1641010(15 pages) , 2016 (SCI)
9. Yang-Yao Niu and Che-Cheng Chang, "How Do Aerodynamic Forces of the Pitching Rigid and Flexible Airfoils Evolve?" **AIAA Journal**, 2013, vol. 51, issue 12, pp 2946-2952 (SCI)
10. Yang-Yao Niu, Shin-Han Liu, Che-Cheng Chang and T.I. Tseng, "A Preliminary Study of the Three-dimensional Aerodynamics of Flapping Wings", *Journal of Applied Science and Engineering*, Oct. 2012 (EI) (invited paper)
11. Yang-Yao Niu and Jack Edwards, " A Simple Incompressible Flux Splitting For Sharp Free Surface Capturing", *International Journal for Numerical Methods in Fluids*, Volume 69, Issue 10, pages 1661–1678, 10 August 2012 (SCI)

12. Yang-Yao Niu, “Towards a Three-Dimensional Moving body Incompressible Flow Solver with a Linear Deformable Model”, *Computers & Fluids*, Volume 45, Issue 1, June 2011, Pages 268-275 (SCI)
13. Yang-Yao Niu, Han-Wei Tang, Lung-Cheng Lee, T.I. Tseng,” Simulation of flowfields induced by wind blades based on a parallelized low-speed flow solver,”, *Computers & Fluids*, Volume 45, Issue 1, June 2011, Pages 249-253. (SCI).
14. Niu, YY Hsu TS, Hsieh CT, Chang CC & Chu CC, “How does a Gurney flap enhance the aerodynamic forces”, *AIAA Journal*, Vol. 48, No. 11, November 2010, pp2710-2714. (SCI)
15. Benjamin Braconnier, Jeu-Jiun Hu, Yang-Yao Niu, Boniface Nkonga and Keh-Ming Shyue” Numerical simulations of low Mach compressible two-phase flows: Preliminary assessment of some basic solution techniques”, *ESAIM: Proc.*, 2009, Vol. 28, pp. 117-134. (SCI)
16. Yang-Yao Niu, Yi-Hsun Lin, W. H. Hui, Chien C. Chang “Development of a Moving Artificial Compressibility Solver on Unified Coordinates”, *International Journal for Numerical Methods in Fluids*, Published Online, 20, Jan, 2009 (SCI).
17. Yang-Yao Niu, Chih-Hung Chang, Wen-Yih I. Tseng and Hsu-Hsia Pen , “A Transient HLLC type Incompressible Riemann Solver and Application on Aortic Flows Simulation “, *Communications in Computational Physics*, vol. 5, No. 1, pp. 142-16, 2009 (SCI)
18. Yang-Yao Niu and Yu-Chin Lin and Chih-Hao Chang “A Further work on Multi-phase Two-Fluid Approach for Compressible Multiphase Flows”, *International Journal for Numerical Methods in Fluids*, Volume 58, Issue 8, Date: 20 November 2008, Pages: 879-896. (SCI)
19. Yang-Yao Niu, “Numerical Approximations of a Compressible Two Fluid Model by the Advection Upwind Splitting Method”, *International Journal for Numerical Methods in Fluids*, Vol. 36: 351-371, June 2001.(SCI)
20. Yang-Yao Niu and Wei-Yuan Hsu, “A Preliminary Calculation of Three-Dimensional Unsteady Underwater Cavitating Flows near Incompressible Limit “, *Communications in Computational Physics 4*, pp. 894-910,2008 (SCI)
21. Yang-Yao Niu, Pang-Chung Wu, Wen-Yih I. Tseng and Hsi-Yu Yu, “Simulation of Vessel Stress and Secondary Flows for Blood Flows through a Realistic Aorta with Three Branches””, *Journal of Biomedical Engineering Application, Basis and Communications*, Vol. 19, No. 4, pp 215-223, 2007 (SCI)
22. Yang-Yao Niu and Ding-Yu Chang,” Simulation of Shear stress and Secondary Flows Using a Simplified Lower Urinary Model”, *Journal of Biomedical Engineering Application, Basis and Communications*, Vol. 19, No. 2, pp117-127, 2007 (SCI)

23. Yang-Yao Niu ,Yee-Ming Lin and Yu-Chin Lin and Yee-Ming Lin,”A Simple and Robust Advection Upwind Flux Splitting to Simulate Transient Cavitated Water-Vapor Flows”, *Numerical Heat Transfer*, Vol. 51(7), pp. 679-696, 2007 (SCI)
24. Yang-Yao Niu and Yee-Ming Lin,” A Multi-scale Approach to Predict Slurry-Erosion in Cavitated Ducts Flows, *Numerical Heat Transfer, Part A*, 50: 241–256, 2006 (SCI)
25. Yang-Yao Niu and Kan Nang Ping,” A Simple Mechanical Measurement (I): Pressure distributions and Flow Rates of Thoracic Aorta”, accepted to *Journal of Biomedical Engineering Application, Basis and Communications*,Vol. 17, No.5, pp.38-43, 2005 ( SCI)
26. Yang-Yao Niu,” Towards a Simple and Robust Two-Phase Flow Algorithm”, *TRANSACTIONS OF THE AERONAUTICAL AND ASTRONAUTICAL SOCIETY OF THE REPUBLIC OF CHINA*, Vol. 37, No.3, pp. 373-285, 2005(ESCI)
27. Yang-Yao Niu and Hong-Ming Wu ,”CFD Simulation of Vessel Wall Stress Distributions by Normal and Dissected Aortic Models” ,*Journal of the Chinese Society of Mechanical Engineers*, Vol.25, No.3, pp. 141~151 (2004)(EI)
28. Yang-Yao Niu, Wei-Kuang Chu, Yang-Yao Niu and Wei-Kuang Chu, “Numerical Prediction of Shear Stress Distributions for a Dissected Aorta”, *Journal of Biomedical Engineering Application, Basis and Communications*, Vol. 16, No. 3, pp143-150 ( 2004)(SCI)
29. Yang-Yao Niu and Shou-Cheng Tcheng,” Computations of Pulsatile Aortic Blood Flow Problems on Parallel Computers”, *Journal of Biomedical Engineering Application, Basis and Communications*, Vol. 15, No. 3, pp 109-114, 2003 (SCI)
30. Yang-Yao Niu , Wei-Kuang Chu, Lung-Cheng Lee and Hsi-Yu Yu “Numerical Evaluation of Curvature Effects on Shear Stresses across Arterial Stenoses”, *Journal of Biomedical Engineering Application, Basis and Communications*, Vol. 14, No. 4, pp 164-170, 2002. (SCI)
31. Yang-Yao Niu and Jia-Chih Tsao, “Numerical Evaluation of Erosion in Curved Ducts”, *Numerical Heat Transfer*, Vol. 41:341-356, March, 2002. (SCI)
32. Yang-Yao Niu, “Evaluation of Erosion in a Two-Way Coupled Fluid-Particle System”, *International Journal for Numerical Methods in Fluids*, Vol. 36:711-742, July 2001 (SCI)
33. Yang-Yao Niu, “An Investigation of High-Resolution Schemes for the Euler Equations”, *Journal of Chinese Society of Mechanical Engineers*, Vol. 22, No3, pp. 225-234, 2001 (EI)
34. Jiann-Liang Yeh 、 Yang-Yao Niu and Song-Charng Kong, “Numerical

Simulation of Intake and In-Cylinder Flow of the Pancake Type Engines”, *Journal of Technology*, No.3, pp.423-430, 2001 (EI)

35. Yang-Yao Niu, “Simple Conservative Flux Splitting for Multi-component Flow Calculations”, *Numerical Heat Transfer*, Part B, Vol.38 No. 2, pp.203-222, September, 2000 (SCI)
36. Yang-Yao Niu and Chih-Shung Tsai, “Simulation of Erosion by the Dilute Particulate Jet Flow Impacts”, *Numerical Heat Transfer*, Part A, 37:167-187, , January, 2000. (SCI)
37. H. Y. Hu, Yang-Yao Niu and S. C. Kong, “The Composition and Performance Test of the Gasoline Engine with TurboCharger”, *Journal of Chinese Mechanics*, part B, vol. 16, pp 11-20, 2000.(EI)
38. Yang-Yao Niu and M. S. Liou, “Numerical Simulation of Dynamics Stall Using Upwind Schemes and Dual Time Stepping”, *AIAA Journal*, Vol. 37, No.11, pp 1386-1392, Nov. 1999. (SCI)
39. Yang-Yao Niu “Navier-Stokes Analysis of Gaseous Slip Flow in Long Grooves” *Numerical Heat Transfer*, Part A, Vol. 36, pp. 75-93,1999 (SCI)
40. Yang-Yao Niu, “Evaluation of the Renormalization Group Turbulence Models for the Dynamic Stall Simulation”, *AIAA Journal*, Vol. 37, No. 6, pp. 70-71, June, 1999 (SCI)
41. Yang-Yao Niu, “Numerical Evaluation of the Gurney Flap on High-Lift Airfoils”, *Journal of Chinese Society of Mechanical Engineers*, Vol. 20, No.3, pp.267-275, 1999 (EI)
42. Yang-Yao Niu and Chih-Shung Tsai, “Numerical Modeling of Erosion on the Metallic Plate by the Dilute Particulate Jet Flow Impact”, *Journal of Chinese Society of Mechanical Engineers*, Vol. 20, No5, pp. 491-499,1999 (EI)