Curriculum Vitae

Mingjun Wei

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Education:

Ph.D.	Theor. and Applied Mechanics	**Univ. of Illinois at Urbana-Champaign**	2004
M.S.	Mechanical Engineering	**Univ. of California, Los Angeles**	2001
M.Engr.	Modern Mechanics	**Univ. of Science and Technology of China**	1998
B.S.	Modern Mechanics	**Univ. of Science and Technology of China**	1996

PhD Thesis:

Jet Noise Control by Adjoint-Based Optimization (2004)
Thesis Advisor: Jonathan B. Freund, University of Illinois at Urbana-Champaign

Research Areas:

Computational Fluid Dynamics; Model Order Reduction; Control and Optimization; Fluid-Structure Interaction; Computational Aeroacoustics

Professional Experience:

2016 – present: Associate Professor, MNE Dept., Kansas State University

2012 – 2016: Associate Professor, MAE Dept., New Mexico State University

2006 – 2012: Assistant Professor, MAE Dept., New Mexico State University

2006: Invited Researcher, 2nd European Forum on Flow Control, Poitiers, France, April–June, 2006

2005 – 2006: Postdoctoral Research Associate (Supervisor: Clarence W. Rowley), MAE Dept., Princeton University

Courses Taught:

KSU, ME820, " Computational Fluid Dynamics", graduate level

KSU, ME571, "Fluid Mechanics", undergraduate junior/senior level

NMSU, ME338, "Fluid Mechanics", undergraduate junior/senior level

NMSU, AE339, "Aerodynamics I", undergraduate junior/senior level

NMSU, ME533, "Computational and Theoretical Fluid Mechanics", graduate level

NMSU, ME534, "Advanced Computational Fluid Dynamics", graduate level

Graduate Student Advising:

1. Mehdi Tabandeh, PhD (2016), *Thesis: "Symmetrization in POD-Galerkin ROMs"*

2. Elnaz Rezaianzadeh, MS (2016), *Thesis: "Galerkin ROM Stability Assessment in Flows with Unsteady Shock Deformations"*
3. Min Xu, PhD (2014), *Thesis: "Understanding flapping-wing aerodynamics through adjoint-based approach"*
4. Tao Yang, PhD (2012), Postdoc (2012-2013), *Thesis: "Numerical study of flexible flapping wings"*
5. Bashar R. Qawasmeh, MS (2008), PhD (2012), *Thesis: "Extreme model reduction of shear layers"*
6. Lin Zhou, PhD (2012, Co-advising with Prof. Dejun Sun of USTC), *Thesis: "The stability and sound generation of compressible free shear layers"*
7. Jared D. Hooser, MS (2009), *Thesis: "A high-pressure driven compressible gas flow study inside a two-dimensional uniform microchannel"*
8. (current) Haotian Gao, PhD student (5th year, passed PhD Qualify exam)
9. (current) Wei Zhang, PhD student (3rd year, passed PhD Qualify exam)
10. (current) Kun Jia, PhD student (2nd year)
11. (current) Elnaz Rezaianzadeh, PhD student (1st year)

Journal Publications:

1. M. Hassanalian, A. Abdelkefi, **M. Wei**, and S. Ziaei-Rad, "A novel methodology for wing sizing of bio-inspired flapping wing micro air vehicles: theory and prototype", *Acta Mechanica* (in press), first online 2016, doi:10.1007/s00707-016-1757-4
2. M. Xu, and **M. Wei**, "Using adjoint-based optimization to study kinematics and deformation of flapping wings", *Journal of Fluid Mechanics*, Vol 799, pp. 56–99, 2016
3. M. Xu, **M. Wei**, T. Yang, and Y. S. Lee, "An embedded boundary approach for the simulation of a flexible flapping wing at different density ratio", *European Journal of Mechanics - B/Fluids* Vol. 55, pp. 146–156, 2016
4. M. Xu, **M. Wei**, C. Li, and H. Dong, "Adjoint-based optimization of flapping plates hinged with a trailing-edge flap", *Theoretical and Applied Mechanics Letters*, Vol. 5, pp. 1–4, 2015
5. B. R. Qawasmeh, and **M. Wei**, "Low-dimensional models for compressible temporally developing shear layers", *Journal of Fluid Mechanics*, Vol. 731, pp. 364–393, 2013
6. L. Zhou, **M. Wei**, and D. J. Sun, "A simple model for mechanism study of sound generation in mixing layers", *International Journal of Aeroacoustics*, Vol. 11, No. 3–4, pp. 447–458, 2012
7. L. Zhou, Z. Wan, D. Sun, and **M. Wei**, "The effects of initial perturbation to mixing-layer noise", *Theoretical and Applied Mechanics Letters*, Vol. 2, No. 032003, 2012
8. M. Schlegel, B. R. Noack, P. Jordan, A. Dillmann, E. Grschel, W. Schrder, **M. Wei**, J. B. Freund, O. Lehmann, and G. Tadmor, "On least-order flow representations for aerodynamics and aeroacoustics", *Journal of Fluid Mechanics*, Vol. 697, pp. 367–398, 2012
9. **M. Wei**, B. R. Qawasmeh, M. Barone, B. G. van Bloemen Waanders, and L. Zhou, "Low-dimensional model of spatial shear layers", *Physics of Fluids*, Vol. 24, No. 014108, 2012

10. A. V. G. Cavalieri, P. Jordan, Y. Gervais, **M. Wei**, and J. B. Freund, "Intermittent sound generation and its control in a free-shear flow", *Physics of Fluids*, Vol. 22, No. 115113, 2010
11. T. Yang, **M. Wei**, and H. Zhao, "Numerical study of flexible flapping wing propulsion", *AIAA Journal*, Vol. 48, No. 12, pp. 2909–2915, 2010
12. B. N. Shashikanth, A. Sheshmani, S. Kelly, and **M. Wei**, "Hamiltonian structure and dynamics of a neutrally buoyant rigid sphere interacting with thin vortex rings", *Journal of Mathematical Fluid Mechanics*, Vol. 12, pp. 335–353, 2010
13. **M. Wei**, and C. W. Rowley, "Low-dimensional models of a temporally evolving free shear layer", *Journal of Fluid Mechanics*, Vol. 618, pp. 113–134, 2009
14. C. Cai, K. R. Khasawneh, H. Liu, and **M. Wei**, "Collisionless gas flows over a cylindrical or a spherical object", *Journal of Spacecraft and Rockets*, Vol. 46, No. 6, Nov.-Dec., 2009
15. J. D. Hooser, **M. Wei**, B. E. Newton, and G. J. A. Chiffoleau, "An approach to understanding flow friction ignition: a computational fluid dynamics (CFD) study on temperature development of high-pressure oxygen flow inside micron-scale seal cracks", *Journal of ASTM International*, Vol. 6, No. 10, Nov. 2009
16. A. Samanta, J. B. Freund, **M. Wei**, and S. K. Lele, "Robustness of acoustic analogies for predicting mixing-layer noise", *AIAA Journal*, Vol 44, No. 11, pp. 2780–2786, 2006
17. **M. Wei**, and J. B. Freund, "A noise-controlled free shear flow", *Journal of Fluid Mechanics*, Vol. 546, pp. 123–152, 2006
18. X. Y. Yin, D. J. Sun, **M. J. Wei**, and J. Z. Wu, "Absolute and convective instability character of slender viscous vortices", *Physics of Fluids*, Vol. 12, No. 5, 2000
19. **M. Wei**, D. Sun, X. Yin, and J. Wu, "Stability analysis on supersonic trailing-line vortex", *Acta Mechanica Sinica*, Vol. 31, No. 6, 1999

Peer-Reviewed Conference Papers:

1. E. Rezaian, and **M. Wei**, "Obtaining a stable Galerkin ROM in presence of shock-vortex interactions", *AIAA* paper 2017-1008, Grapevine, TX, 2017
2. H. Gao, and **M. Wei**, "Domain decomposition in POD-Galerkin projection for flows with moving boundary", *AIAA* paper 2016-1102, San Diego, CA, 2016
3. M. Tabandeh, **M. Wei**, and J. P. Collins, "On the symmetrization in POD-Galerkin model for linearized compressible flows", *AIAA* paper 2016-1106, San Diego, CA, 2016
4. M. Hassanalian, A. Abdelkefi, **M. Wei**, and S. Ziaei-Rad, "Theoretical analysis and experimental verification for sizing of flapping wing micro air vehicles", *AIAA* paper 2016-1746, San Diego, CA, 2016
5. J. Tran, J. Sirohi, H. Gao, and **M. Wei**, "Reduced order modeling of loads and deformation of a flexible flapping wing", *AIAA* paper 2015-0177, Kissimmee, FL, 2015
6. M. Xu, and **M. Wei**, "A continuous adjoint-based approach for the optimization of wing flapping", *AIAA* paper 2014-2048, Atlanta, GA, 2014
7. H. Gao, and **M. Wei**, "Global model reduction for flows with moving boundary", *AIAA* paper 2014-0222, National Harbor, MD, 2014

8. M. Xu, and **M. Wei**, "Using adjoint-based approach to study flapping wings", *AIAA* paper 2013-0839, Grapevine, TX, 2013
9. M. Xu, **M. Wei**, T. Yang, J. C. Riddick, and A. J. Hall, "Numerical investigation for optimal sensor placement on flapping-wing MAVs", *AIAA* paper 2013-0360, Grapevine, TX, 2013
10. T. Yang, and **M. Wei**, "A fully-coupled approach to simulate three-dimensional flexible flapping wings", *AIAA* paper 2013-0864, Grapevine, TX, 2013
11. L. Zhou, Z. Wan, D. Sun, and **M. Wei**, "Sound generation by different vortex interactions in mixing layers", *AIAA* paper 2012-1173, Nashville, TN, 2012
12. M. Xu, **M. Wei**, T. Yang, Y. S. Lee, and T. D. Burton, "Nonlinear structural response in flexible flapping wings with different density ratio", *AIAA* paper 2011-376, Orlando, FL, 2011
13. **M. Wei**, and T. Yang, "A global approach for reduced-order models of flapping flexible wings", *AIAA* paper 2010-5085, Chicago, IL, 2010
14. A. V. G. Cavalieri, P. Jordan, Y. Gervais, **M. Wei**, and J. B. Freund, "Intermittent sound generation in a free-shear flow", *AIAA* paper 2010-3963, Stockholm, 2010
15. T. Yang, **M. Wei**, and H. Zhao, "Numerical study of flexible flapping wing propulsion", *AIAA* paper 2010-553, Orlando, FL, 2010
16. Z. Liang, H. Dong, H. Wan, P. Beran, and **M. Wei**, Wing-wake interaction and its proper orthogonal decomposition, *AIAA* paper 2010-5084, Chicago, IL, 2010
17. Z. Liang, H. Dong, and **M. Wei**, "Computational analysis of hovering hummingbird flight", *AIAA* paper 2010–555, Orlando, FL, 2010
18. K. Khasawneh, C. Cai, **M. Wei**, and Yang, S., "Rarefied jet plume flows", *AIAA* Paper 2010-0986, Orlando, FL, 2010
19. C. Cai, K. Khasawneh, H. Liu, and **M. Wei**, "Collisionless gas flows over a cylinder and sphere", *AIAA* paper 2009-3603, 41st AIAA Thermophysics Conference, San Antonio, 22-25 June, 2009
20. **M. Wei**, B. R. Qawasmeh, M. Barone, and B. G. van Bloemen Waanders, "Low-dimensional modeling for spatially developing free shear layers", AIAA paper 2009–363, Orlando, FL, 2009
21. B. N. Shashikanth, A. Sheshmani, S. Kelly, and **M. Wei**, "Hamiltonian structure and dynamics of a neutrally buoyant rigid sphere interacting with thin vortex rings", ITP-07-26, Proceedings of ITP-07, 2007 Interdisciplinary Transport Phenomena V, Bansko, Bulgaria, October, 2007
22. **M. Wei**, and P. Jordan, "An optimally defined sound source in mixing layers", *AIAA* paper 2007-3869, Miami, FL, 2007
23. D. Eschricht, P. Jordan, **M. Wei**, J. Freund, and F. Thiele, "Analysis of noise-controlled shear-layers", *AIAA* paper 2007-3660, Rome, Italy, 2007
24. S. Ahuja, C. W. Rowley, I. G. Kevrekidis, **M. Wei**, T. Colonius, and G. Tadmor, "Low-dimensional models for control of leading-edge vortices: equilibria and linearized models", *AIAA* paper 2007-709, Reno, NV, 2007
25. **M. Wei**, and C. W. Rowley, "Low-dimensional models of a temporally evolving free shear layer", *AIAA* paper 2006-3228, San Francisco, CA, 2006
26. J. Freund, A. Samanta, **M. Wei**, and S. Lele, "The robustness of acoustic analogies", *AIAA* paper 2005-2940, Monterey, CA, 2005

27. J. B. Freund, and **M. Wei**, "Some small changes that make a mixing layer very quiet", *AIAA* paper 2005-0997, Reno, NV, 2005
28. J. B. Freund, and **M. Wei**, "An emperical 'lower bound' on free-shear-flow noise", *XXI ICTAM*, Warsaw, Poland, 2004
29. J. B. Freund, and **M. Wei**, "Adjoint-based control of free shear flow noise", *AIAA* paper 2003-3570, Orlando, FL, 2003
30. **M. Wei**, and J. B. Freund, "Noise control using adjoint-based optimization", *AIAA* paper 2002-2524, Breckenridge, CO, 2002
31. **M. Wei**, and J. B. Freund, "Optimal control of free shear flow noise", *AIAA* paper 2002-0665, Reno, NV, 2002
32. X. Y. Yin, D. J. Sun, **M. J. Wei**, and J. Z. Wu, "Absolute/convective instability of incompressible and compressible swirling vortex", *AIAA* paper 99-0140, Reno, NV, 1999

Other Conference Presentations:

1. H. Gao, and **M. Wei**, "Model order reduction for fluid dynamics with moving solid boundary", *the 69th APS-DFD annual meeting*, Portland, OR, 2016
2. W. Zhang, and **M. Wei**, "A low-order Galerkin model based on DMD and adjoint-DMD modes", *the 69th APS-DFD annual meeting*, Portland, OR, 2016
3. **M. Wei**, and M. Xu, "Adjoint-based optimization for the understanding of the aerodynamics of a flapping plate", *the 68th APS-DFD annual meeting*, Boston, MA, 2015
4. **M. Wei**, M. Xu, and H. Dong, "Using adjoint-based optimization to study wing flexibility in flapping flight", *the 67th APS-DFD annual meeting*, San Francisco, CA, 2014
5. M. Xu, T. Yang, and **M. Wei**, "Implementation of immersed boundary method in WENO scheme to simulate blast-structure interaction", *the 67th APS-DFD annual meeting*, San Francisco, CA, 2014
6. H. Gao, and **M. Wei**, "Global model reduction for the aerodynamics of coupled fluid-structure systems", *the 67th APS-DFD annual meeting*, San Francisco, CA, 2014
7. M. Xu, and **M. Wei**, "Using adjoint-based approach to understand flapping-wing aerodynamics", *the 66th APS-DFD annual meeting*, Pittsburgh, PA, 2013
8. H. Gao, and **M. Wei**, "Model order reduction for the coupled system of flow and moving structure", *the 66th APS-DFD annual meeting*, Pittsburgh, PA, 2013
9. **M. Wei**, and M. Xu, "An adjoint-based approach for the understanding of flapping wings", in mini-symposium "Stochastic Analysis, Control and Computation of Fluid Dynamics and other Physical Phenomena" (invited), *SIAM* Annual Meeting, San Diego, CA, July, 2013
10. **M. Wei**, M. Xu, and T. Yang, "Global model reduction for fluid-structure system", *the 65th APS-DFD annual meeting*, San Diego, CA, 2012
11. M. Xu, and **M. Wei**, "Adjoint-based optimization for flapping wings", *the 65th APS-DFD annual meeting*, San Diego, CA, 2012
12. T. Yang, and **M. Wei**, "Effects of wing flexibility on aerodynamic performance in hovering flight", *the 65th APS-DFD annual meeting*, San Diego, CA, 2012

13. **M. Wei**, "A computational framework for adjoint-based study of flapping wings", *the 64th APS-DFD annual meeting*, Baltimore, MD, 2011
14. T. Yang, L. Martin-Alarcon, **M. Wei**, and F. Shu, "Numerical simulation of a plunging flexible hydrofoil and its experimental validation", *the 64th APS-DFD annual meeting*, Baltimore, MD, 2011
15. L. Martin-Alarcon, T. Yang, F. Shu, and **M. Wei**, "Experimental study of flow field around a plunging flexible hydrofoil", *the 64th APS-DFD annual meeting*, Baltimore, MD, 2011
16. M. Xu, and **M. Wei**, "Fluid-Structure Interaction for Flapping Flexible Wings with Large Mass Ratio", *the 64th APS-DFD annual meeting*, Baltimore, MD, 2011
17. L. Zhou, **M. Wei**, and D. Sun, "A simple sound source for temporally-developing mixing layers", *the 64th APS-DFD annual meeting*, Baltimore, MD, 2011
18. **M. Wei**, "Reduced-order modeling for fully-coupled fluid and structural dynamics of flexible flapping wings", in mini-symposium "Advances in Control of Fluid Dynamics and Challenges facing the US Defense Department's thrust on Unmanned Autonomous Systems" (invited), *SIAM* Conference on Control & Its Applications, Baltimore, MD, July, 2011
19. M. Xu, **M. Wei**, T. Yang, Y. Lee, and T. D. Burton, "Effects of mass ratio to flexible flapping-wing propulsion", *the 63rd APS-DFD annual meeting*, Long Beach, CA, 2010
20. T. Yang, and **M. Wei**, "A fully-coupled approach to simulate three-dimensional flexible flapping wings", *the 63rd APS-DFD annual meeting*, Long Beach, CA, 2010
21. B. R. Qawasmeh, and **M. Wei**, "A least order model for temporally-developing compressible shear layers", *the 63rd APS-DFD annual meeting*, Long Beach, CA, 2010
22. **M. Wei**, and T. Yang, "Global model reduction for fluid-structure interaction in flapping flexible wings", *the 62nd APS-DFD annual meeting*, Minneapolis, MN, 2009
23. B. R. Qawasmeh, and **M. Wei**, "Low-dimensional modeling of shear layers", SIAM conference on Applications of Dynamical Systems, Snowbird, UT, May, 2009
24. **M. Wei**, T. Yang, and H. Zhao, "A strong-coupling approach to simulate flexible flapping wing", *the 61st APS-DFD annual meeting*, San Antonio, TX, 2008
25. B. R. Qawasmeh, and **M. Wei**, "Projection of spatial shear layers in a symmetry-reduced space", *the 61st APS-DFD annual meeting*, San Antonio, TX, 2008
26. **M. Wei**, and C. W. Rowley, "Low-dimensional modeling for both temporally and spatially developing free shear layers", *the 60th APS-DFD annual meeting*, Salt Lake City, Utah, 2007
27. **M. Wei**, and C. W. Rowley, "Low-dimensional models of a temporally evolving free shear layer using template-based methods", *the 59th APS-DFD annual meeting*, Tampa Bay, FL, 2006
28. **M. Wei**, and J. B. Freund, "Jet noise mechanism studied by optimal control", *the 56th APS-DFD annual meeting*, East Rutherford, NJ, 2003
29. **M. Wei**, and J. B. Freund, "Adjoint-based control and analysis of free-shear flow noise", *14th US National Congress of Theoretical and Applied Mechanics*, Blacksburg, VA, 2002
30. **M. Wei**, and J. B. Freund, "Adjoint-based control of noise from two-dimensional mixing layer", *the 54th APS-DFD annual meeting*, San Diego, 2001.

Invited Talks:

1. **M. Wei**, invited seminar talk in Math Department at NMSU, Oct., 2015
2. **M. Wei**, invited talk at Zhejiang University, June, 2015
3. **M. Wei**, "Model order reduction: from high-fidelity simulation to reduced-order models", invited talk at Iowa State University, Oct. 2014
4. **M. Wei**, "Using adjoint-based method for the understanding and optimization in flexible flapping wings", invited talk at University of Science and Technology of China, May, 2014
5. **M. Wei**, "Using adjoint-based method for the understanding and optimization in flexible flapping wings", invited talk at Shanghai University, May, 2014
6. **M. Wei**, "To understand flapping-wing aerodynamics through adjoint-based optimization", invited talk at University of Minnesota – Twin Cities, Sept., 2013
7. **M. Wei**, "Numerical simulation and optimization of flapping wings", invited talk at Arizona State University, Feb., 2013
8. **M. Wei**, and M. Xu, "An adjoint-based approach for the understanding of flapping wings", mini-symposium (invited), *SIAM* Annual Meeting, San Diego, CA, July, 2013
9. **M. Wei**, "Flexible flapping wings: simulation, optimization, and model reduction", invited talk at University of Texas at Austin, Oct., 2012
10. **M. Wei**, "Global model reduction for fluid-structure systems", invited talk at U.S. Army Research Laboratory, Aberdeen, Aug., 2012
11. **M. Wei**, "Numerical simulation for optimization in flapping-wing MAVs", invited talk at U.S. Army Research Laboratory, Aberdeen, Nov., 2011
12. **M. Wei**, "Simulation and optimization for flexible wings", invited talk at Wright Patterson Air Force Base, AFRL/RB, July, 2011
13. **M. Wei**, "A fully-coupled approach to simulate flapping flexible wings", invited talk at U.S. Army Research Laboratory, Aberdeen, July, 2011
14. **M. Wei**, "Reduced-order modeling for fully-coupled fluid and structural dynamics of flexible flapping wings", mini-symposium (invited), *SIAM* Control and Its Applications, Baltimore, MD, 2011
15. **M. Wei**, "To fly like a bird", invited talk at Mesilla Valley Audubon Society, Las Cruces, NM, Feb., 2011
16. **M. Wei**, "Modeling and control in fluid dynamics and aeroacoustics", invited talk at University of Science and Technology of China, Dec., 2009
17. B. R. Qawasmeh, and **M. Wei**, "Low-dimensional modeling of shear layers", mini-symposium (invited), *SIAM* conference on Applications of Dynamical Systems, Snowbird, UT, May, 2009
18. **M. Wei**, "Low-dimensional modeling for temporally developing free shear layers", invited talk at Computer Science Research Institute (CSRI) of Sandia National Laboratories, Albuquerque, NM, Oct., 2007

Funded Projects (total funding: $3,262,108; actual funding/credit for MW: $1,948,759):

1. (current) "Reduced-Order Model and Shaped Sensor for Flapping-Wing Control" (PI), Army Research Lab (ARL) – Micro Autonomous Systems and Technology (MAST) CTA, 2015 – 2017 (total: $360,000; MW: $180,000)

2. (current) "HPC-Enabled Parametric Studies of Under Body Blasts: From High-Fidelity to Reduced-Order Models" (PI), Army Research Lab (ARL) – Army High Performance Computing Research Center (AHPCRC), 2012 – 2017 (MW: $625,000)
3. "Physics-Based Morphology Analysis and Adjoint Optimization of Flexible Flapping Wings" (NMSU-PI), AFOSR, 2012 – 2016 (total: $320k; MW: $159,837)
4. "Comprehensive Reduced-Order Modeling and Validation for Loads and Flight Stability of a Flapping Wing" (PI), Army Research Lab (ARL) – Micro Autonomous Systems and Technology (MAST) CTA, 2013 – 2015 (total: $570,000; MW: $285,000)
5. "Global Model Order Reduction for Fluid-Structure Interaction" (PI), Graduate Research Enhancement Grant (GREG), NMSU-VPR (internal support), 2013 – 2016 (MW: $44,000)
6. "Acquisition of an Integrated System for Laser-Assisted Non-Intrusive Experimentation and Data-Driven Reduced-Order Modeling" (Co-PI), DoD Research and Education Program for HBCU/MI Equipment/Instrumentation, 2014 – 2015 (total: $493,567; MW: $164,522)
7. "Flapping and Twisting Aeroelastic Wings for Propulsion" (PI), Army Research Lab (ARL) – Army High Performance Computing Research Center (AHPCRC), 2007 – 2012 (total: $759,141; MW: about $400k)
8. "Simulation and Modeling of Flexible Flapping Wings" (PI), AFRL/RB Summer R&D Program, 2011 (MW: $10,400)
9. "Effects to Reduced-Order Modeling of Shear Layers: Boundary Conditions, Compressibility, and External Forcing" (PI), Sandia National Laboratories, 2008 – 2009 (MW: $40,000)
10. "Reduced-Order Modeling of Shear Layers" (PI), Sandia National Laboratories, 2007 – 2008 (MW: $40,000)

Awards and Honors:

Associate Fellow of American Institute of Aeronautics and Astronautics (AIAA)
Harold O. and Jane C. Massey Neff Professorship (K-State), 2016 –
MAE Academy Endowed Professorship (NMSU), 2015 – 2016
NMSU Millionaire Researcher Award, 2014

Professional Membership and Committee:

American Institute of Aeronautics and Astronautics (AIAA) Associate Fellow
American Physical Society (APS) member
American Society of Mechanical Engineers (ASME) member
American Physical Society (APS) DFD Acrivos Award Committee (2017 –)
AIAA Fluid Dynamics Technical Committee member (2013 – 2016)
AIAA Aeroacoustics Technical Committee member (2007 – 2011)

Internal Serivces:

University Research Council (URC) member (NMSU, 2013 – 2016)
MAE Department Graduate Program director (NMSU, 2013 – 2016)
Departmental Graduate Committee member, NMSU, (2008 – 2016), chair (2013 – 2016)
Sigma Gamma Tau faculty advisor, (NMSU, 2013 – 2015)

AE Faculty Search Committee member (NMSU, 2014)
MAE DH Search Committee member (NMSU, 2012)
AE Faculty Search Committee member (NMSU, 2010)

Professional Services:

- Conference organizer and session chairs:
  1. session chair, *AIAA SciTech 2016*, San Diego, CA, 2016
  2. session chair, *the 68th APS-DFD annual meeting*, Boston, MA, 2015
  3. associate organizer, *AIAA SciTech 2015*, Kissimmee, FL, 2015
  4. session chair, *52nd AIAA Aerospace Sciences Meeting*, National Harbor, MD, 2014
  5. session chair, *51st AIAA Aerospace Sciences Meeting*, Grapevine, TX, 2013
  6. session chair, *the 65th APS-DFD annual meeting*, San Diego, CA, 2012
  7. session chair, *49th AIAA Aerospace Sciences Meeting*, Orlando, 2011
  8. session chair, *2011 AIAA Southwest Regional Technology Symposium*, Las Cruces, NM
  9. session chair, *2010 AIAA Southwest Regional Technology Symposium*, Las Cruces, NM
  10. session chair, *2009 AIAA Southwest Regional Technology Symposium*, Las Cruces, NM
  11. session chair, *the 61st APS-DFD annual meeting*, San Antonio, TX, 2008
  12. session chair, *46th AIAA Aerospace Sciences meeting and Exhibit*, Reno, 2008
- Paper referee:
  1. Journal of Fluid Mechanics
  2. Physics of Fluids
  3. Physical Review Fluids
  4. Journal of Computational Physics
  5. Journal of Fluid and Structure
  6. Journal of the Royal Society Interface
  7. Computers and Fluids
  8. AIAA Journal
  9. International Journal for Numerical Methods in Engineering
  10. International Journal of Computational Fluid Dynamics
  11. Journal of Aerospace Engineering
  12. Aeronautical Journal
  13. Aerospace Science and Technology
  14. Chinese Physics Letters
  15. Papers for various academic conferences (*AIAA, ASME*).
- Proposal review:
  1. National Science Foundation
  2. Shota Rustaveli National Science Foundation