

## Ching-Long Lin

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### A. Education

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
National Taiwan University	B.S.	1986	Mechanical Engineering
Stanford University	M.S.	1989	Mechanical Engineering
Stanford University	Ph.D.	1994	Mechanical Engineering

### B. Positions and Honors

#### Positions and Employment

2018-pres.	Departmental Executive Officer, Department of Mechanical Engineering, The University of Iowa, Iowa City, Iowa. (The new ME department is formed due to the reorganization of the MIE.)
2015-2018	Departmental Executive Officer, Department of Mechanical and Industrial Engineering, The University of Iowa, Iowa City, Iowa.
2007-pres.	Professor, Department of Mechanical and Industrial Engineering, The University of Iowa, Iowa City, Iowa.
2003-2007	Associate Professor, Department of Mechanical and Industrial Engineering, The University of Iowa, Iowa City, Iowa.
1997-2003	Assistant Professor, Department of Mechanical and Industrial Engineering, The University of Iowa, Iowa City, Iowa.
1996-1996	Research Coordinator, Colorado State University, Fort Collins, Colorado
1994-1996	Visiting Scientist, National Center for Atmospheric Research, Boulder, Colorado

#### Honors

2016	Keynote Lecture, "Pulmonary Drug Delivery: Computational Fluid Particle Dynamics and Emerging Functional Imaging Technologies" Workshop, Prague, Czech Republic
2016	Edward M. Mielnik and Samuel R. Harding Professor of Mechanical and Industrial Engineering
2015	Faculty Recognition by the Mechanical Engineering Graduating Class of December 2015 for Excellence in Teaching and Dedication to Student Success, The University of Iowa
2015	Faculty Excellence Award for Research, College of Engineering, The University of Iowa.
2014	Fellow, American Physical Society (APS)
2014	Fellow, American Society of Mechanical Engineering (ASME)
2013	Fellow, American Institute for Medical and Biological Engineering (AIMBE)
2011	Keynote Lecture, European ECCOMAS Conference on Simulation and Modeling of Biological Flows (SIMBIO), Brussels, Belgium
2011	Invited Speaker, 18 <sup>th</sup> Computational Fluid Dynamics Conference, Taiwan, R.O.C.
2010	Invited Chapter Author, Comprehensive Physiology, Handbook of Physiology, Wiley-Blackwell
2008	Keynote Lecture, 1st Symposium on Natural and Artificial Respiration, Aachen, Germany
2008	Featured Speaker, American Thoracic Society, May 16-21, Toronto, Canada.
1999	National Science Foundation CAREER Award
1997	Old Gold Summer Fellowship, The University of Iowa
1988	Rotary International Scholarship

1986 Phi Tau Phi Scholastic Honor Society  
1982-1986 Four-time Recipient of Book Coupon Award, National Taiwan University, for being in top five percent of about 137 students (ranked first twice)

### **Professional Experience and Memberships**

Associate Editor, Journal of Biomechanical Engineering, 2016-present  
Guest Editor, Journal of Computational Physics: Special Issue on Multi-scale Modeling and Simulation of Biological Systems, 2011-2013  
Review Editor of Frontiers in Computational Physiology and Medicine, 2010-present  
APS Fellowship Committee, American Physical Society Division of Fluid Dynamics, 2017-2018  
Acrivos Award Committee (Chair, 2016), American Physical Society Division of Fluid Dynamics, 2015-2016  
Frenkiel Award Committee, American Physical Society Division of Fluid Dynamics, 2011-2012  
Co-Lead: Working Group "Cell-to-Macroscale", Interagency Modeling and Analysis Group (IMAG) & the Multi-scale Modeling (MSM) Consortium, 2010-2017  
Lead Author and Organizer: "Cell Scale to Macroscale Integration" white paper and working group discussion, Annual Multi-scale Modeling (MSM) Consortium meeting, Rockville, Maryland, 2010  
Session Chair and Organizer for American Physical Society (APS) Division of Fluid Dynamics (DFD), Biomedical Engineering Society (BMES) Annual Meeting, US National Congress of Theoretical & Applied Mechanics.  
Reviewer for the National Institutes of Health, National Science Foundation, United Kingdom Medical Research Council, Ireland Health Research Board, Israel Science Foundation, Research Grants Council of Hong Kong, Army Research Office, and more than 30 journals.  
Member of American Society of Mechanical Engineering, American Physiological Society, American Physical Society, Biomedical Engineering Society, American Society for Engineering Education  
Research Engineer, IIHR-Hydrosience & Engineering, The University of Iowa, Iowa City  
Affiliated Faculty, Applied Mathematical and Computational Sciences, Environmental Modeling and Assessment Facility, Environmental Health Sciences Research Center, The University of Iowa, Iowa City

### **C. Selected Peer-reviewed Publications**

1. Smith BM, Traboulsi H, Austin, JHM, Manichaikul A, Hoffman EA, Bleecker ER, Cardoso WV, Cooper C, Couper, D, Dashnaw SM, Guo J, Han MK, Hansel NN, Hughes EW, Jacobs DR Jr, Kanner R, Kaufman JD, Kleerup E, **Lin CL**, Liu K, Lo Cascio CM, Martinez FJ, Prince MR, Rennard S, Rich SS, Simon L, Sun Y, Watson KE, Woodruff PG, Baglole CJ, Barr RG. Human airway branch variation and chronic obstructive pulmonary disease. *Proc Nat Acad Sci (USA)*; epub, **2018**.
  2. Choi, S., E.A. Hoffman, S.E. Wenzel, M. Castro, S.B. Fain, N. Jarjour, M.L. Schiebler, K. Chen, **C.-L. Lin**, for the National Heart, Lung and Blood Institute's Severe Asthma Research Program. Quantitative computed tomography imaging-based clustering differentiates asthmatic subgroups with distinctive clinical phenotypes. *Journal of Allergy and Clinical Immunology*, <http://dx.doi.org/10.1016/j.jaci.2016.11.053>, **2017**.
  3. Miyawaki, S., E.A. Hoffman, **C.-L. Lin**, "Effect of static vs. dynamic imaging on particle transport in CT-based numerical models of human central airways," *Journal of Aerosol Science*, 100:129-139, **2016**.
  4. Jahani, N., S. Choi, J. Choi, K. Lyer, E.A. Hoffman, and **C.-L. Lin**, "Assessment of Regional Ventilation and Deformation Using 4D-CT Imaging for Healthy Human Lungs during Tidal Breathing," *J. Appl. Physiol*, 119(10):1064-74, **2015**.
  5. Wu, D., S. Miyawaki, M. H. Tawhai, E. A. Hoffman, and **C.-L. Lin**, "A numerical study of water loss rate distribution in MDCT-based human airway models," *Ann. Biomed. Eng.*, 43(11):2708-21, **2015**.
  6. Choi, S., E.A. Hoffman, S.E. Wenzel, M. Castro, S. Fain, N.N. Jarjour, M. L. Schiebler, K. Chen, and **C.-L. Lin**, "Quantitative Assessment of Multiscale Structural and Functional Alterations in Asthmatic Populations," *J. Appl. Physiol.*, 118(10):1286-98, **2015**.
  7. **Lin, C.-L.**, M.H. Tawhai, and E.A. Hoffman, "Multiscale image-based modeling and simulation of gas flow and particle transport in the human lungs," *WIREs Systems Biology and Medicine*, 5(5): 643-655, **2013**.
  8. Choi, S., E.A. Hoffman, S.E. Wenzel, M.H. Tawhai, Y. Yin, M. Castro, **C.-L. Lin**, "Registration-based Assessment of Regional Lung Function via Volumetric CT Images of Normals vs. Severe Asthmatics," *J. Applied Physiol.*, 115:730-742, **2013**.
  9. Yin, Y., J. Choi, E. A. Hoffman, M. H. Tawhai, and **C.-L. Lin**, "Simulation of pulmonary air flow with a subject-specific boundary condition," *J. Biomechanics*, 43(11):2159-2163, **2010**.
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