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Education:

2007: B.S., Engineering Mechanics, Zhejiang University, Hangzhou, China
2010: M.S., Mechanical Engineering, North Carolina State University, NC
2013: Ph.D., Lung Aerosol Dynamics, North Carolina State University, NC
2014: Postdoctoral, Lung Aerosol Dynamics, North Carolina State University, Raleigh, NC

Academic Appointments:
2016-present: Assistant Professor School of Chemical Engineering Oklahoma State University, OK,
2016-present: Center Investigator Oklahoma Center for Respiratory and Infectious Disease (OCRID), OK
2015-2016: Research Scientist II, DoD Biotechnology HPC Software Applications Institute
2014-2015: Research Assistant Professor, MAE Department, North Carolina State University

Awards and Honors:
2008: Chinese Scholarship Council (CSC) Scholarship, Zhejiang Prov., China
2010: The McDonald-Kleinstreuer Fellowship in Biofluid Mechanics, NC
2016: ASME Early Career Technical Conference (ECTC) Presentation Award, AL

Other Experience and Professional Memberships:
2010: Member, American Society of Mechanical Engineers (ASME)
2010: Member, American Physical Society (APS)
2011: Member, Biomedical Engineering Society (BMES)
2014: Member, the Sigma-Xi Scientific Research Society
2014: Member, International Society of Aerosols in Medicine (ISAM)
2014: Member, International Association for Computational Mechanics (IACM)
2016: Member, American Institute of Chemical Engineers (AICHE)
2013: Editorial Board, Research Journal of Environmental Sciences (RJES)
2012: Reviewer, Physics of Fluids (PoF)
2012: Reviewer, Journal of Aerosol Science (JAS)
2012: Reviewer, ASME Journal of Biomechanical Engineering
2012: Reviewer, Powder Technology

Research Support:

Current:

- 09/03/2019-08/30/2022: OCAST, Understanding the Effects of sphero-cylinder drug particle shape to enhance small-airway drug delivery for etter emphysema treatment outcomes, Role: PI
- 11/07/2018-02/15/2019: Exterran corporation Product and Technology Center, CFD Simulations of Heat and Mass Transfer Performance of a Regeneration Process, Role: PI
- 1/30/2018-06/30/2019: CDC/NIOSH/SWCOEH (T42OH008421), A Virtual Human System for Health Risk Assessments in a Representative Whole-lung Configuration Associated with Welding Fume Exposure, Role: PI

Past:

- 07/01/2016 to 06/30/2018: NIH (P20GM103648), Multi-scale Dosimetry Modeling of Influenza Virus-Laden Droplets through the Pulmonary Route, Role: PI
- 11/01/2018-06/03/2016: NIH (P20GM103648), A Precise Scale-up Method from Mice to Men on the Infection of Influenza A Virus, Role: PI

Selected Publications:

Journal Papers

1. Feng. Y., Kleinstreuer, C., Wang, J., Wu, D.H., Lin, J. (2018). An In-Silico Inter-subject Variability Study of the Extrathoracic Morphology Effect on the Transport and Deposition of Inhaled Particles in the Tracheobronchial Tree. *Journal of Aerosol Science*, 123, 34-55.
2. Haghnegahdar, A., Zhao, J., Feng, Y. (2019). Lung aerosol dynamics of airborne influenza A virus-laden droplets and the resultant immune system responses: An in silico study. *Journal of Aerosol Science, 134,* 34-55.
3. Zhao, J., Feng, Y., Bezerra, M., Wang, J., Sperry, T. (2019). Numerical Simulation of Welding Fume Lung Dosimetry. *Journal of Aerosol Science. 135,* 113-129.
4. Haghnegahdar, A., Zhao, J., Kozak, M., Williamson, P., Feng, Y. (2019). Development of a Hybrid CFD-PBPK Model to Predict the Transport of Xenon Gas around a Human Respiratory System to Systemic Regions. *Heliyon, 5*(4), e01461.
5. Yi, H., Feng, Y., Wang, Q. (2019). Computational Fluid Dynamics (CFD) Study of Heat Radiation from Large Liquefied Petroleum Gas (LPG) Pool Fires. *Journal of Loss Prevention in the Process Industries. 61,* 262-274.
6. Amer, M., Ramsey, J., Feng, Y. (2019). Using CFD Simulations and Statistical Analysis to Correlate Oxygen Mass Transfer Coefficient to Both Geometrical Parameters and Operating Conditions in a Stirred-Tank Bioreactor. *Biotechnology Progress. 35(3),* e2785.
7. Chen, X., Feng, Y., Zhong W., Sun, B., Tao, F. (2017). Numerical Investigation of Particle Deposition in a Triple Bifurcation Airway due to Gravitational Sedimentation and Inertial Impaction. *Powder Technology* (under review).
8. Chen, X., Zhong, W., Kleinstreuer, C. Feng, Y., (2017). Numerical investigation of the effect of boundary heat-transfer on the transport and deposition of hygroscopic droplets in a simple mouth-throat model. *Journal of Aerosol Science* (under review).
9. Chen, X., Feng, Y., Zhong, W., Kleinstreuer, C. (2016). Numerical investigation of the interaction, transport and deposition of multicomponent droplets in a simple mouth-throat model, *Journal of Aerosol Science*. 105, 108-127.
10. Feng, Y., Kleinstreuer, C., Nicolas, C., Rostami, A. (2016). Computational transport, phase change and deposition analysis of inhaled multicomponent droplet-vapor mixtures in an idealized human upper lung model, *Journal of Aerosol Science*, 96, 96-123.
11. Chen, X., Zhong, W., Tom, J., Kleinstreuer, C., Feng, Y., He, X. (2016). Experimental-computational study of fibrous particle transport and deposition in a bifurcating lung model, *Partucuology*, 28, 106-116.
12. Feng, Y., Kleinstreuer, C. (2015). Evaporation and condensation of multicomponent electronic cigarette droplets and conventional cigarette smoke particles in a G3-G6 triple bifurcating unit, *Journal of Aerosol Science*, 80, 58-74.
13. Kleinstreuer, C., Feng, Y., Childress, E. M. (2014). Drug-targeting methodologies with applications: a review, *World Journal of Clinical Cases*, 2(12), 745-756.
14. Feng, Y., Kleinstreuer, C. (2014). Micron-particle transport, interactions and deposition in triple lung-airway bifurcations using a novel modeling approach, *Journal of Aerosol Science*, 75, 1-15.
15. Feng, Y., Kleinstreuer, C. (2013). Analysis of non-spherical particle transport in complex internal shear flows, *Physics of Fluids*, 25:091904.
16. Kleinstreuer, C., Feng, Y. (2013). Lung deposition analyses of inhaled toxic aerosols in conventional and less harmful cigarette smoke: a review, *Int. J. Environ. Res. Public Health*, 10(9), 4454-4485.

17. Kleinstreuer, C., Feng, Y. (2013). Computational analysis of non-spherical particle transport and deposition in shear flow with application to lung aerosol dynamics-a review, *Journal of Biomechanical Engineering*,135(2), 021007-1-021007-19.
18. Kleinstreuer, C., Feng, Y. (2012). Thermal nanofluid property model with application to nanofluid flow in a parallel-disk system part I: A new thermal conductivity model for nanofluid flow, *Journal of Heat Transfer*, 134(5), 051002.
19. Feng, Y., Kleinstreuer, C. (2012). Thermal nanofluid property model with application to nanofluid flow in a parallel-disk system part II: nanofluid flow in a parallel-disk system, *Journal of Heat Transfer*, 134(5), 051003.
20. Zhang, Z., Kleinstreuer, C., Feng, Y. (2012). Vapor deposition during cigarette smoke inhalation in subject-specific human airway model, *Journal of Aerosol Science*, 53, 40-60.
21. Feng, Y. (2012). Comments on paper: "Transport and deposition on ellipsoidal fibers in low Reynolds number flows" from L. Tian, G. Ahmadi, Z. Wang, P. K. Hopke, Journal of Aerosol Science, Vol. 45, pp. 1-18, *Journal of Aerosol Science*, 52, 127-128.
22. Wang, S., Ying, J., Chen, Z. C., Feng, Y. (2011). A new fuzzy self-tuning method for controlling packing pressure of a high-accuracy injection molding machine. *Journal of Zhejiang University Engineering Science*, 45(8), 1370-1375.
23. Feng, Y., Kleinstreuer, C. (2010). Nanofluid convective heat transfer in a parallel-disk system, *International Journal of Heat and Mass Transfer*, 53(21-22), 4619-4628.
24. Kleinstreuer, C., Feng, Y. (2010). Experimental and theoretical studies of nanofluid thermal conductivity enhancement: a review, *Nanoscale Research Letters*, 6(229), 1-13.
25. Wang, Y., Lin, J., Feng, Y. (2010). The central oblique collision efficiency of spherical nanoparticles in the brownian coagulation, *Modern Physics Letters B*, 24(14), 1523-1531.
26. Feng, Y., Lin, J. (2008). The collision efficiency of spherical dioctyle phthalate aerosol particles in the brownian coagulation, *Chinese Physics B*, 17(12), 4547-4553.

Book Chapters

1. Feng, Y., Xu, Z., & Haghnegahdar, A. (2016). Computational Fluid-Particle Dynamics Modeling for Unconventional Inhaled Aerosols in Human Respiratory Systems, Aerosols - Science and Case Studies, Dr. Volkov Konstantin (Ed.), InTech, DOI: 10.5772/65361.
2. Kleinstreuer, C., Li, J., & Feng, Y. (2012). Computational analysis of enhanced cooling performance and pressure drop for nanofluid flow in microchannels. Nanoparticle Heat Transfer and Fluid Flow. Series: Computational & Physical Processes in Mechanics & Thermal Science, ISBN: 978-1-4398-6192-9. CRC Press, Edited by W Minkowycz, E Sparrow and J Abraham, 1, 249-276.

Conference Proceedings

1. Feng. Y., Haghnegahdar, A., Chen, X. (2017). A Computational Multiphase Flow Model to Predict the Transport and Deposition of Inhaled Flu Virus-Laden Droplets in Human Respiratory Tracts for Early Infection Diagnosis. AIChE 2017 Annual Meeting, MN
2. Feng. Y., Wang. J., Chen, X. (2017). Noninvasive Diagnostics for the Early Detection of Lower Respiratory Diseases: an In-Silico Study. AIChE 2017 Annual Meeting, MN
3. Feng, Y. (2017). A New Patient-Specific Pulmonary Drug Targeted Delivery Method to Treat Lung Cancer using E-Cigarette Technology. AIChE 2017 Annual Meeting, MN
4. Feng, Y., Wang, J., Haghnegahdar, A., (2017). Numerical Investigation of Occupational-related Metal Aerosol Transmission and Deposition Patterns in a Virtual Human Respiratory System. AAAR 2017, NC
5. Feng, Y., Chen, X., Xu, Z., Haghnegahdar, A. (2017). Intersubject Variability in Pulmonary Drug Delivery Efficiency to Target Lung Tumors at Different Lobes: An In-Silico Study. BMES 2017 Annual Meeting, AZ
6. Feng, Y. (2017). Computational Modeling Work in Targeted Pulmonary Drug Delivery. FY 2017 Generic Drug Research Public Workshop, MD
7. Feng, Y., Haghnegahdar, A. (2017). A New Pulmonary Drug Targeted Delivery Method for Lung Diseases Treatment: An In-Silico Study. The Oklahoma Center for Respiratory and Infectious Diseases 4th Annual Retreat, OK
8. Haghnegahdar, A., Feng, Y. (2017). The translocation of nicotine from human lung to systemic regions due to E-cigarette aerosol inhalation: a numerical study. 5th International Conference on Computational and Mathematical Biomedical Engineering (CMBE), PA
9. Feng, Y., Chen, X., Kleinstreuer, C. (2016). Numerical study of glottis opening effects on drug aerosol delivery efficacy in a subject-specific mouth-to-G8 human upper lung model, ASME 2016 International Mechanical Engineering Congress & Exposition, Arizona
10. Feng, Y., Wong, K., Kleinstreuer, C. (2016). Computational analysis of inhaled aerosol deposition from E-cigarettes for the Assessment of potential health effects, 2016 AAAR Annual Conference, Oregon

11. Rostami, A., Castro, N., Pithawalla, Y., Oldham, M. J., Zhang, J., Li, W., Feng, Y. (2016). Computational modeling of E-vapor aerosol dynamics and deposition in respiratory tract, 70th Tobacco Science Research Conference (TSRC), Florida
12. Feng, Y., Kleinstreuer, C. (2015). A novel computational fluid-particle dynamics (CF-PD) model for nicotine delivery device (electronic cigarette) performance optimization, 2015 Eastern Analytical Symposium & Exposition, NJ
13. Feng, Y., Kleinstreuer, C. (2015). A novel computational fluid-particle dynamics model for the simulation of multicomponent droplet-vapor transport/deposition in an idealized human upper airway configuration, BMES 2015 Annual Meeting, FL
14. Feng, Y. (2015). A high-resolution multi component CFD model for E-cigarette aerosols, Inhalation Asia Pulmonary and Intranasal Drug Delivery Conference (IA15), China
15. Kleinstreuer, C., Feng, Y. (2015). Validated computational fluid-particle dynamics simulations for toxicological considerations and health-effect evaluations of inhaled multicomponent droplet-vapor mixtures from electronic cigarettes, Electronic Cigarettes and the Public Health: Second Public Workshop, MD
16. Feng, Y., Kleinstreuer, C. (2013). DDPM-DEM simulations of particulate flows in human tracheobronchial airways, ASME 2013 International Mechanical Engineering Congress & Exposition, CA
17. Feng, Y., Kleinstreuer, C. (2013). Transport and deposition of non-spherical aerosols in patient-specific lung-airway models, 12th U. S. National Congress on Computational Mechanics (USNCCM12), NC
18. Feng, Y. (2013). Exact and approximate solutions of steady and transient electroosmotic and pressure-drive flows in a microtube, Advances in Microfluidics & Nanofluidics (AMN2013), IN
19. Feng, Y., Kleinstreuer, C. (2012). Transport and deposition of non-spherical nanomaterial in subject-specific lung airways, First Sustainable Nanotechnology Organization Conference, VA
20. Feng, Y., Kleinstreuer, C. (2012). Transport and deposition of ellipsoidal fibers in subject-specific lung airways, ASME 2012 International Mechanical Engineering Congress & Exposition, Texas
21. Kleinstreuer, C., Zhang, Z., Feng, Y. (2012). Deposition of inhaled nano- and micron-material in subject-specific lung airways, Joint US EPA & NCSU Poster Session NC,
22. Feng, Y., Kleinstreuer, C. (2011). Computational analysis of droplet evaporation and deposition in a realistic respiratory tract subject to puff-like inhalation waveforms, 2nd International Conference on Computational & Mathematical Biomedical Engineering (CMBE11), D. C.