



Published Works - Last 5 years

— 2017 —

Lee, H., S. C. Chen, D. Segets, S. Süß, W. Peukert and D. Y. H. Pui, (2017) "Liquid filtration of nanoparticles through track-etched membrane filters under unfavorable and different ionic strength conditions: Experiments and modeling," *J. Membrane Sci.*, 524, 682-690, doi: 10.1016/j.memsci.2016.11.023, PTL#1631.

Chen, S., Q. Wang and D. R. Chen, (2017) "Effect of Pleat Shape on Reverse Pulsed-jet Cleaning of Filter Cartridges," *Powder Technology*, 305, 1-11, doi:10.1016/j.powtec.2016.09.013, PTL#1629.

Chen, S. and D. R. Chen, (2017) "Annular-Slit Nozzle for Reverse Flow Cleaning of Pleated Filter Cartridges," *Separation and Purification Technology*, 177, 182-191, doi:10.1016/j.seppur.2016.10.050, PTL#1628.

— 2016 —

Chen, S. and D. R. Chen, (2016) "Numerical Study of Reverse Multi-Pulsing Jet Cleaning for Pleated Cartridge Filters," *Aerosol and Air Quality Research*, 16, 1991-2002, doi: 10.4209/aaqr.2015.11.0645, PTL#1617.

Chen, S.C., Hu, Y., Pui, D.Y.H. and Wang, J. (2016) "Explicit expressions for the minimum efficiency and most penetrating particle size of Nuclepore filters," *J. Aerosol Sci.*, 100:108-117, doi: 10.1016/j.jaerosci.2016.07.008. PTL#1627

Chen, S. C., D. Q. Chang, C. Pei, C. J. Tsai and D. Y. H. Pui, (2016) "Removal Efficiency of Bimodal PM2.5 and PM10 by Electret Respirators and Mechanical Engine Intake Filters," *Aerosol and Air Quality Research*, 16, 1722-1729, doi: 10.4209/aaqr.2015.08.0494, PTL#1621.

Chen, S. C., D. Segets, T. Y. Ling, W. Peukert and D. Y. H. Pui, (2016) "An Experimental Study of Ultrafiltration for Sub-10 nm Quantum Dots and Sub-150 Nanoparticles through PTFE membrane and Nuclepore Filters," *J. Membrane Sci.*, 497, 153-161, doi: 10.1016/j.memsci.2015.09.022, PTL#1622.

Kim, C. H., Y. T. Sul and D. Y. H. Pui, (2016) "Real-time and Online Screening Method for Materials Emitting Volatile Organic Compounds," *J. Nanopart. Res.*, 18, 282, DOI: 10.1007/s11051-016-3598-4, PTL#1623.

Pui, D.Y.H., Chen, S.C., Hu, S.C., R., Vijayakumar, and T.H. Kuehn (2016) "Cleanroom Design Guide: Section 1. Cleanroom Fundamentals," *ASHRAE Handbook*, PTL#1626.

Pui, D. Y. H., J. Cao and J. Mandell, et al., (2016) "2nd UMN-CAS Bilateral Seminar on PM2.5 Science, Health Effects and Control Technologies, October 7-8, 2015 at 3M Innovation Center, Maplewood, MN, USA," *Particuology*, 27, 141-143, doi: 10.1016/j.partic.2016.05.001, PTL#1625.

Wang, Q., L. Golshahi and D. R. Chen, (2016) "Advanced Testing Method to Evaluate the Performance of Respirator Filter Media," *J. Occup. Environ. Hyg.*, 13:10, 750-758, doi: 10.1080/15459624.2016.1177647, PTL#1618.

Wang, Q., X. Lin and D. R. Chen, (2016) "Effect of Dust Loading Rate on the Loading Characteristics of High Efficiency Filter Media," *Powder Technology*, 287, 20-28, doi: 10.1016/j.powtec.2015.09.032, PTL#1619.

2015 Publications

- Cao, L. N. Y., J. Wang, H. Fissan, S. E. Pratsinis, M. L. Eggersdorfer and D. Y. H. Pui, (2015) "The Capacitance and Charge of Agglomerated Nanoparticles during Sintering," *J. Aerosol Sci.*, 83, 1-11, DOI:10.1016/j.jaerosci.2015.01.002, PTL#1602.
- Cao, Q., D. Y. H. Pui and W. Lipinski, (2015) "A Concept of a Novel Solar-Assisted Large-Scale Cleaning System (SALSCS) for Urban Air Remediation," *Aerosol and Air Quality Research*, 15, 1-10, doi: 10.4209/aaqr.2014.10.0246, PTL#1603.
- Chang, D. Q., S. C. Chen, A. R. Fox, A. S. Viner and D. Y. H. Pui, (2015) "Penetration of Sub-50 nm Nanoparticles Through Electret HVAC Filters Used in Residence," *Aerosol Sci. Technol.*, 49, 966-976, DOI: 10.1080/02786826.2015.1086723, PTL#1608.
- Chen, R., X. F. Shi, R. Bai, W. Q. Rang, L. L. Huo, L. Zhao, D. X. Long and D. Y. H. C. Pui, C.Y., (2015) "Airborne Nanoparticle Pollution in a Wired Electrical Discharge Machining Workshop and Potential Health Risks," *Aerosol and Air Quality Research*, 15, 284-194, doi: 10.4209/aaqr.2014.09.0219, PTL#1609.
- Chen, S. C., J. Wang, H. Fissan and D. Y. H. Pui, (2015) "Optimizing Filtration Experiments for Length and Fractal Dimension Characterization of Non-Spherical Particles," *Aerosol Sci. Technol.*, 49:8, 547-555, doi: 10.1080/02786826.2015.1052038, PTL#1610.
- Kim, C. H. and D. Y. H. Pui, (2015) "Experimental Study on the Filtration Efficiency of Activated Carbons for 3-30 nm Particles," *Carbon*, 93, 226-229, doi: 10.1016/j.carbon.2015.05.048, PTL#1611.
- Kim, C. H., Z. Zuo, H. Finger, S. Haep, C. Asbach, H. Fissan and D. Y. H. Pui, (2015) "Soft-X-ray-Assisted Detection Method for Airborne Molecular Contaminations (AMCs)," *J. Nanopart. Res.*, 17, 126-138, DOI: 10.1007/s11051-015-2936-2, PTL#1612.
- Shi, X., R. Chen, L. L. Huo, L. Zhao, R. Bai, D. X. Long, D. Y. H. Pui, W. Q. Rang and C. Y. Chen, (2015) "Evaluation of Nanoparticles Emitted from Printers in a Clean Chamber, a Copy Center and Office Rooms: Health Risks of Indoor Air Quality," *J. Nanosci. Nanotechnol.*, 15:12, 9554-9564, DOI: 10.1166/jnn.2015.10314, PTL#1613.
- Thompson, D., S. C. Chen, J. Wang and D. Y. H. Pui, (2015) "Aerosol Emission Monitoring and Assessment of Potential Exposure to Multi-walled Carbon Nanotubes in the Manufacture of Polymer Nanocomposites," *Ann. Occup. Hyg.*, 59:9, 1135-1151, doi: 10.1093/annhyg/mev044, PTL#1614.
- Wang, J., Y. K. Bahk, S. C. Chen and D. Y. H. Pui, (2015) "Characteristics of Airborne Fractal-Like Agglomerates of Carbon Nanotubes," *Carbon*, 93, 441-450, doi: 10.1016/j.carbon.2015.05.079, PTL#1615.
- Zuo, Z., T. H. Kuehn and D. Y. H. Pui, (2015) "Respirator Testing Using Virus Aerosol: Comparison between Viability Penetration and Physical Penetration," *Ann. Occup. Hyg.*, 59:6, 812-816, doi:10.1093/annhyg/mev019, PTL#1616.

2014 Publications

- Cao, J., Pui, D. Y. H., Kuehn, T. K., Tie, X., Ramachandran, G., Zhu, T., Wang, J. and Tao, W. (2014) "1st UMN-CAS Bilateral Seminar on PM2.5 Science, Health Effects and Control Technology Xi'an, China, May 27-28, 2014," *Particuology*, 16, 227-229, doi:10.1016/j.partic.2014.08.001, PTL#1593.
- Chen, D. R. and Pui, D. Y. H. (2014) "Aerosol Instrumentation," *Aerosol Science: Technology and Applications*, 1st edition, Eds., Colbeck and Lazaridis, John Wiley & Sons, Ltd., 61-88, ISBN 978-1-119-97792-6, PTL#1582.
- Chen, S.-C., Wang, J., Bahk, Y. K., Fissan, H. and Pui, D. Y. H. (2014) "Carbon Nanotube Penetration through Fiberglass and Electret Respirator Filter Media and Nuclepore Filter: Experiments and Models," *Aerosol Sci. Technol.*, 48(10), 997-1008, DOI: 10.1080/02786826.2014.954028, PTL#1589.
- Kim, K., Xiao, K., Kittelson, D. B. and Pui, D. Y. H. (2014) "Pressure Drop Hysteresis Effect on Biodiesel Filtration," *Fuel*, 115, 629-635, 635. doi:10.1016/j.fuel.2013.07.079, PTL#1592.
- Lin, G. Y., Liao, B. X., Tzeng, N. J., Chen, C. W., Uang, S. N., Chen, S. C., Pui, D. Y. H. and Tsai, C. J. (2014) "The Effect of Nanoparticle Convection-Diffusion Loss on the Transfer Function of an Aerosol Particle Mass Analyzer," *Aerosol Sci. Technol.*, 48(6), 583-592, doi: 10.1080/02786826.2014.902027, PTL#1595.
- Lindquist, G. J., Pui, D. Y. H. and Hogan, C. J. (2014) "Porous Particulate Film Deposition in the Transition Regime," *J. Aerosol Sci.*, 74, 42-51, doi:10.1016/j.jaerosci.2014.03.007, PTL#1591.

Pui, D. Y. H., Cao, J., An, Z. and Wang, J. (2014) "Great wall of solar panels to mitigate yellow dust storm," *Particuology*, 13, 146-150, doi:10.1016/j.partic.2014.03.002, PTL#1590.

Pui, D. Y. H., Chen, S.-C. and Zuo, Z. (2014) "PM_{2.5} in China: Measurements, sources, visibility and health effects, and mitigation," *Particuology*, 13, 1-26, DOI: 10.1016/j.partic.2013.11.001, PTL#1583.

Zuo, Z., Kuehn, T. H., Bekele, A. Z., Mor., S. K., Verma, H., Goyal, S. M., Raynor, P. C. and Pui, D. H. Y. (2014) "Survival of Airborne MS2 Bacteriophage Generated from Human Saliva, Artificial Saliva, and Cell Culture Medium," *Appl. Environ. Microbiology*, 80(9), 2796-2803, doi:10.1128/AEM.00056-14, PTL#1584.

Wang, J., Tronville, P. (2014) "Toward standardized test methods to determine the effectiveness of filtration media against airborne nanoparticles" *J Nanopart Res*, 16: 2417, DOI 10.1007/s11051-014-2417-z, PTL #1578.

2013 Publications

Chen, S.-C., Hsu, S.-C., Tsai, C.-J., Chou, C. C.-K., Lin, N.-H., Lee, C.-T., Roam, G.-D. and Pui, D. Y. H. (2013) "Dynamic variations of ultrafine, fine and coarse particles at the Lu-Lin background site in East Asia," *Atmospheric Environment*, 78, 154-162, doi:10.1016/j.atmosenv.2012.05.029, PTL#1580.

Chen, S.-C., Wang, J., Fissan, H. and Pui, D. Y. H. (2013) "Exposure assessment of nanosized engineered agglomerates and aggregates using Nuclepore filter," *J. Nanopart. Res.*, 15, 1955, DOI 10.1007/s11051-013-1955-0, PTL#1581.

Chen, S.C., J. Wang, H. Fissan, D.Y.H. Pui (2013) "Use of Nuclepore Filters for Ambient and Workplace Nanoparticle Exposure Assessment – Spherical Particles," *Atmospheric Environment* 77:385-393, DOI:10.1016/j.atmosenv.2013.05.007, PTL#1572.

Jung, H., K. Han, G.W. Mulholland, D.Y.H. Pui, J.H. Kim (2013) "Effect of the Surface Energy of Particle Materials on the Accommodation of Gas Molecules to the Particle Surface," *J. Aerosol Sci.* 65:42-48, PTL#1571.

Ling, T.Y. and David Y.H. Pui (2013) "Characterization of Nanoparticles from Abrasive Waterjet Machining and Electrical Discharge Machining Processes", *Environ. Sci. Technol.* 2013, 47(22), 12721–12727, doi: 10.1021/es402593y, PTL# 1570.

Liu, J., Swanson, J., Kittelson, D.B., Pui, D.Y.H., and J. Wang (2013) "Microstructural and Loading Characteristics of Diesel Aggregate Cakes," *Powder Technology*, 244-251, <http://dx.doi.org/10.1016/j.powtec.2013.03.028>, PTL#1574.

Wang, J. and Pui, D. Y. H. (2013) "Dispersion and Filtration of Carbon Nanotubes (CNTs) and Measurement of Nanoparticle Agglomerates in Diesel Exhaust," *Chem. Engin. Sci.*, 85, 69-76, doi:10.1016/j.ces.2011.12.045, PTL#1566.

Wang, J., Thompson, D. and Pui, D. Y. H. (2013) "Integrative filtration research and sustainable nanotechnology," *J. Particuology* 11, 5-13, <http://dx.doi.org/10.1016/j.partic.2012.06.004>, PTL#1567.

Xiao, K., Pei, C., Swanson, J., Kittelson, D., Pui, D.Y.H. (2013) "An Aerosolization Method for Characterizing Particle Contaminants in Diesel Fuel," *SAE Int. J. Fuels Lubr.* 6(3):2013, doi:10.4271/2013-01-2668, PTL#1569.

Zuo, Z., Kuehn, T. H. and Pui, D. Y. H. (2013) "Performance evaluation of filtering facepiece respirators using virus aerosols," *Am. J. Infect. Control*, 41, 80-82, DOI:10.1016/j.ajic.2012.01.010, PTL#1545.

Zuo, Z., Kuehn, T. H., Goyal, S. M. and Pui, D. Y. H. (2013) "Comparison of Spike and Aerosol Challenge Tests for the Recovery of viable influenza virus from non-woven fabrics," *Influenza and Other Respiratory Viruses*, 8pp, doi:10.1111/irv.12095, PTL#1568.

Zuo, Z., T.H. Kuehn, H. Verma, S. Kumar, S.M. Goyal, J. Appert, P.C. Raynor, S. Ge and D.Y.H. Pui (2013) "Association of Airborne Virus Infectivity and Survivability with its Carrier Particle Size," *Aerosol Sci. Technol.* 47:373-382, DOI: 10.1080/02786826.2012.754841, PTL#1573.