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#### NATIONAL REPORT PUBLICATIONS

National Academies of Sciences, Engineering, and Medicine. 2022. *The Chemistry of Fires at the Wildland-Urban Interface. Washington*, DC: The National Academies Press. https://doi.org/10.17226/26460.

#### SCIENTIFIC JOURNAL PUBLICATIONS

- Chepaitis, Patrick, Qian Zhang, David Kalafut, Taryn Waddey, Mark Wilson, and Marilyn Black. "The Effect of Moderate Temperature Rise on Emitted Chemicals from Modern Building Materials." *Buildings*, November (2024). https://doi.org/10.3390/buildings14113683.
- Wang, Yixiang, James Schauer, Yinping Zhang, Marilyn Black, Michael Bergin, Junfeng (Jim) Zhang, and Linchen He. "Impacts of Portable Air Purifiers on the Oxidative Potential and Sources of Organic Matter in Indoor PM<sub>2.5</sub>." ACS ES&T Air, October (2024). https://doi.org/10.1021/acsestair.4c00187.
- Zhang, Wenhao, Charles A. Miller, and Mark J. Wilson. "Assessment of the In Vitro Phosphatidylinositol Glycan Class A (PIG-A) Gene Mutation Assay Using Human TK6 and Mouse Hepa1c1c7 Cell Lines." *Journal of Xenobiotics*, September (2024). <a href="https://doi.org/10.3390/jox14030073">https://doi.org/10.3390/jox14030073</a>.
- Jeon, Jennifer, Xiaojia He, Akshada Shinde, Maureen Meister, Lillie Barnett, Qian Zhang, Marilyn Black, Jonathan Shannahan, Christa Wright. "The Role of Puff Volume in Vaping Emissions, Inhalation Risks, and Metabolic Perturbations: A Pilot Study." *Scientific Reports*, August (2024). https://doi.org/10.1038/s41598-024-69985-1.
- Solan, Megan E., and Jin-Ah Park. "Per- and poly-fluoroalkyl substances (PFAS) effects on lung health: a perspective on the current literature and future recommendations." *Frontiers in Toxicology*, July (2024). https://doi.org/10.3389/ftox.2024.1423449.
- Calhoun, Zachary D., Marilyn S. Black, Mike Bergin, and David Carlson. "Refining Citizen Climate Science: Addressing Preferential Sampling for Improved Estimates of Urban Heat." *Environmental Science & Technology Letters*, June (2024). https://doi.org/10.1021/acs.estlett.4c00296.
- He, Linchen, Charles J. Weschler, Glenn Morrison, Feng Li, Yinping Zhang, Michael H. Bergin, Marilyn Black, and Junfeng (Jim) Zhang. "Synergistic Effects of Ozone Reaction Products and Fine Particulate Matter on Respiratory Pathophysiology in Children with Asthma." ACS ES&T Air, June (2024). https://doi.org/10.1021/acsestair.4c00080.
- Barnett, Lillie, Qian Zhang, Shaligram Sharma, Saeed Alqahtani, Jonathan Shannahan, Marilyn Black, and Christa Wright. "3D Printer Emissions Elicit Filament-Specific and Dose-Dependent Metabolic and Genotoxic Effects in Human Airway Epithelial Cells." *Frontiers in Public Health*, July (2024). 10.3389/fpubh.2024.1408842.
- He, Linchen, Christina Norris, Kimberly Palaguachi-Lopez, Karoline Barkjohn, Zhen Li, Feng Li, Yinping Zhang, Marilyn Black, Michael H Bergin, and Junfeng (Jim) Zhang, "Nasal Oxidative Stress Mediating the Effects of Colder Temperature Exposure on Pediatric Asthma Symptoms." *Pediatric Research*, April (2024). https://doi.org/10.1038/s41390-024-03196-2.
- King, Adrienne, Cristi Bell-Huff, Collins Airhihenbuwa, Susan Ogletree, and Christa Wright. "The EMPOWER Program: A History and Guide for Increasing Diversity Using Integrated Research and Education." *Advances in Physiology Education*, February (2024). <a href="https://doi.org/10.1152/advan.00123.2023">https://doi.org/10.1152/advan.00123.2023</a>.
- Lin, Yan, Xiangtian Wang, Ruoxue Chen, Tenley Weil, Yihui Ge, Heather M. Stapleton, Michael H. Bergin, and Junfeng "Jim" Zhang. "Arachidonic Acid Metabolites in Self-Collected Biospecimens following Campfire Exposure: Exploring Non-invasive Biomarkers of Wildfire Health Effects." *Environmental Science & Technology Letters*, February (2024). <a href="https://doi.org/10.1021/acs.estlett.3c00923">https://doi.org/10.1021/acs.estlett.3c00923</a>.
- He Xiaojia, Lillie Barnett, Jennifer Jeon, Qian Zhang, Saeed Alqahtani, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Real-Time Exposure to 3D-Printing Emissions Elicits Metabolic and Pro-Inflammatory Responses in Human Airway Epithelial Cells." *Toxics*, 12, no. 1 (2024). https://doi.org/10.3390%2Ftoxics12010067.
- Zhang, Qian, and Marilyn Black. "Exposure Hazards of Particles and Volatile Organic Compounds Emitted from Material Extrusion 3D Printing: Consolidation of Chamber Study Data." *Environment International*, 182 (2023). https://doi.org/10.1016/j.envint.2023.108316.

- He, Linchen, Shoshana Evans, Christina Norris, Karoline Barkjohn, Xiaoxing Cui, Zhen Li, Feng Li, Yinping Zhang, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Associations Between Personal Apparent Temperature Exposures and Asthma Symptoms in Children with Asthma." PLOS One, 18, no. 11 (2023). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0293603.
- Meister, Maureen L., and Rafaella G. Feresin. "Blackberry Consumption Protects Against E-Cigarette-Induced Vascular Oxidative Stress in Mice." Food & Function, 14 (2023). https://doi.org/10.1039/D3FO02217J.
- Cui, Xiaoxing, Xiaojian Zhou, Zhen Li, Yanbo Teng, Lili Lin, Qian Wang, Jianguo Hong, Yan Lin, Marilyn S. Black, Michael H. Bergin, and Junfeng Zhang. "Association Between Childhood Asthma Control Test Scores and Lung Pathophysiologic Indicators in Longitudinal Measurements." Journal of Thoracic Disease, 15, no. 8 (2023). https://doi.org/10.21037%2Fitd-22-1383.
- He, Xiaojia, Zachery R. Jarrell, Matthew Ryan Smith, ViLinh Thi Ly, Xin Hu, Viranuj Sueblinvong, Yongliang Liang, Michael Orr, Young-Mi Go, and Dean P. Jones. "Low-Dose Vanadium Pentoxide Perturbed Lung Metabolism Associated with Inflammation and Fibrosis Signaling in Male Animal and In Vitro Models." American Journal of Physiology Lung Cellular and Molecular Physiology 35, no. 2 (2023). https://doi.org/10.1152/ajplung.00303.2022.
- Jeon, Jennifer, Qian Zhang, Patrick S. Chepaitis, Roby Greenwald, Marilyn Black, and Christa Wright. "Toxicological Assessment of Particulate and Metal Hazards Associated with Vaping Frequency and Device Age." Toxics, 11, no. 2 (2023): 155. https://doi.org/10.3390/toxics11020155.
- He, Linchen, Charles J. Weschler, Yinping Zhang, Feng Li, Michael H. Bergin, Marilyn Black, and Junfeng (Jim) Zhang. "Ozone Reaction Products Associated with Biomarkers of Cardiorespiratory Pathophysiology." American Journal of Respiratory and Critical Care Medicine 207, no. 9 (2023). https://doi.org/10.1164/rccm.202212-2203LE.
- Zhang, Qian, Jennifer Jeon, Travis Goldsmith, Marilyn Black, Roby Greenwald, and Christa Wright. "Characterization of an Electronic Nicotine Delivery System (ENDS) Aerosol Generation Platform to Determine Exposure Risks." Toxics, 11, no. 2 (2023): 99. https://doi.org/10.3390/toxics11020099.
- Harries, Megan E., David T. Allen, Olorunfemi Adetona, Michelle L. Bell, Marilyn S. Black, Jeffrey L. Burgess, Frederick L. Dryer, Amara L. Holder, Ana Mascareñas, Fernando L. Rosario-Ortiz, Anna A. Stec, Barbara J. Turpin, and Judith T. Zelikoff. "A Research Agenda for the Chemistry of Fires at the Wildland-Urban Interface: A National Academies Consensus Report." Environmental Science & Technology 56 (2022): 15189-91. https://doi.org/10.1021/acs.est.2c07015.
- Zhang, Qian, Rodney J. Weber, Todd P. Luxton, Derek M. Peloquin, Eric J. Baumann, and Marilyn S. Black. "Metal Compositions of Particle Emissions from Material Extrusion 3D Printing: Emission Sources and Indoor Exposure Modeling." Science of the Total Environment, 860 (2022): 160512. https://doi.org/10.1016/j.scitotenv.2022.160512.
- Norris, Christina L., Ross Edwards, Chinmay Ghoroi, James J. Schauer, Marilyn Black, and Michael H. Bergin. "A Pilot Study to Quantify Volatile Organic Compounds and Their Sources Inside and Outside Homes in Urban India in Summer and Winter during Normal Daily Activities." Environments 9 (2022): 75-97. https://doi.org/10.3390/environments9070075.
- Zhang, Qian, Aika Y. Davis, and Marilyn S. Black. "Emissions and Chemical Exposure Potentials from Stereolithography Vat Polymerization 3D Printing and Post-Processing Units." ACS Chemical Health & Safety, 29 (2022): 184-91. https://pubs.acs.org/doi/pdf/10.1021/acs.chas.2c00002.
- Yang, Irene, Jeannie Rodriguez, Christa Young Wright, and Yi-Juan Hu. "Oral Microbiome of Electronic Cigarette Users: A Cross-Sectional Exploration." Oral Diseases 29, no.4 (2022): 1-10. https://doi.org/10.1111/odi.14186.
- He, Linchen, Christina Norris, Xiaoxing Cui, Zhen Li, Karoline K. Barkjohn, Yanbo Teng, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Oral Cavity Response to Air Pollutant Exposure and Association with Pulmonary Inflammation and Symptoms in Asthmatic Children." Environmental Research 206 (2022): https://doi.org/10.1016/j.envres.2021.112275.

- He, Linchen, Christina Norris, Xiaoxing Cui, Zhen Li, Karoline K. Barkjohn, Yanbo Teng, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Role of Endogenous Melatonin in Pathophysiologic and Oxidative Stress Responses to Personal Air Pollutant Exposures in Asthmatic Children." *Science of the Total Environment* 773 (2021): 145709. https://doi.org/10.1016/j.scitotenv.2021.145709.
- He, Linchen, Christina Norris, Xiaoxing Cui, Zhen Li, Karoline K. Barkjohn, Collin Brehmer, Yanbo Teng, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng Jim Zhang. "Personal Exposure to PM<sub>2.5</sub> Oxidative Potential in Association with Pulmonary Pathophysiologic Outcomes in Children with Asthma." *Environmental Science & Technology* 55, no. 5 (2021): 3101–11. https://doi.org/10.1021/acs.est.0c06114.
- Davis, Aika, P. Barry Ryan, Jordan A. Cohen, Debra Harris, and Marilyn Black. "Chemical Exposures from Upholstered Furniture with Various Flame Retardant Technologies." *Indoor Air* 31, no. 5 (2021). https://doi.org/10.1111/ina.12805.
- Harris, Debra, Aika Davis, Peter Barry Ryan, Jordan Cohen, Pravinray Gandhi, David Dubiel, and Marilyn Black. "Chemical Exposure and Flammability Risks of Upholstered Furniture." *Fire and Materials* 45 (2021): 167–80. https://doi.org/10.1002/fam.2907.
- Barkjohn, Karoline K., Christina Norris, Xiaoxing Cui, Lin Fang, Linchen He, James J. Schauer, Yinping Zhang, Marilyn Black, Junfeng Zhang, and Michael H. Bergin. "Children's Microenvironmental Exposure to PM<sub>2.5</sub> and Ozone and the Impact of Indoor Air Filtration." *Journal of Exposure Science & Environmental Epidemiology* 30 (2020): 971–80. https://doi.org/10.1038/s41370-020-00266-5.
- He, Linchen, Xiaoxing Cui, Zhen Li, Yanbo Teng, Karoline K. Barkjohn, Christina Norris, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng Jim Zhang. "Malondialdehyde in Nasal Fluid: A Biomarker for Monitoring Asthma Control in Relation to Air Pollution Exposure." *Environmental Science & Technology* 54, no. 18 (2020): 11405–13. https://doi.org/10.1021/acs.est.0c02558.
- Barkjohn, Karoline K., Christina Norris, Xiaoxing Cui, Lin Fang, Tongshu Zheng, James J. Schauer, Zhen Li, Yinping Zhang, Marilyn Black, Junfeng (Jim) Zhang, and Michael H. Bergin. "Real-Time Measurements of PM<sub>2.5</sub> and Ozone to Assess the Effectiveness of Residential Indoor Air Filtration in Shanghai Homes." *Indoor Air* 31, no. 1 (2021): 74–87. https://doi.org/10.1111/ina.12716.
- Cui, Xiaoxing, Zhen Li, Yanbo Teng, Karoline K. Barkjohn, Christina L. Norris, Lin Fang, Gina N. Daniel, Linchen He, Lili Lin, Qian Wang, Drew B. Day, Xiaojian Zhou, Jianguo Hong, Jicheng Gong, Feng Li, Jinhan Mo, Yinping Zhang, James J. Schauer, Marilyn S. Black, Michael H. Bergin, and Junfeng Zhang. "Association Between Bedroom Particulate Matter Filtration and Changes in Airway Pathophysiology in Children with Asthma." *JAMA Pediatrics* 174, no. 6 (2020): 533–42. https://doi.org/10.1001/jamapediatrics.2020.0140.
- He, Linchen, Zhen Li, Yanbo Teng, Xiaoxing Cui, Karoline K. Barkjohn, Christina Norris, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Associations of Personal Exposure to Air Pollutants with Airway Mechanics in Children with Asthma." *Environment International* 138 (2020): 105647. https://doi.org/10.1016/j.envint.2020.105647.
- Barkjohn, Karoline K., Michael H. Bergin, Christina Norris, James J. Schauer, Yinping Zhang, Marilyn Black, Min Hu, and Junfeng Zhang. "Using Low-Cost Sensors to Quantify the Effects of Air Filtration on Indoor and Personal Exposure Relevant PM<sub>2.5</sub> Concentrations in Beijing, China." *Aerosol and Air Quality Research* 20, no. 2 (2020): 297–313. https://doi.org/10.4209/aagr.2018.11.0394.
- Brehmer, Collin, Christina Norris, Karoline K. Barkjohn, Mike H. Bergin, Junfeng Zhang, Xiaoxing Cui, Yanbo Teng, Yinping Zhang, Marilyn Black, Zhen Li, Martin M. Shafer, and James J. Schauer. "The Impact of Household Air Cleaners on the Oxidative Potential of PM<sub>2.5</sub> and the Role of Metals and Sources Associated with Indoor and Outdoor Exposure." *Environmental Research* 181 (2020): 108919. https://doi.org/10.1016/j.envres.2019.108919.
- Liu, Meichen, Karoline K. Barkjohn, Christina Norris, James J. Schauer, Junfeng Zhang, Yinping Zhang, Min Hu, and Michael Bergin. "Using Low-Cost Sensors to Monitor Indoor, Outdoor, and Personal Ozone Concentrations in

- Beijing, China." Environmental Science: Processes & Impacts 22, no. 1 (2020): 131–43. https://doi.org/10.1039/C9EM00377K.
- Zhang, Qian, Michal Pardo, Yinon Rudich, Ifat Kaplan-Ashiri, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, and Rodney J. Weber. "Chemical Composition and Toxicity of Particles Emitted from a Consumer-Level 3D Printer Using Various Materials." *Environmental Science & Technology* 53, no. 20 (2019): 12054–61. <a href="https://doi.org/10.1021/acs.est.9b04168">https://doi.org/10.1021/acs.est.9b04168</a>.
- Brehmer, Collin, Christina Norris, Karoline K. Barkjohn, Mike H. Bergin, Junfeng Zhang, Xiaoxing Cui, Yinping Zhang, Marilyn Black, Zhen Li, Martin Shafer, and James J. Schauer. "The Impact of Household Air Cleaners on the Chemical Composition and Children's Exposure to PM<sub>2.5</sub> Metal Sources in Suburban Shanghai." *Environmental Pollution* 253 (2019): 190–8. https://doi.org/10.1016/j.envpol.2019.07.003.
- Norris, Christina, Lin Fang, Karoline K. Barkjohn, David Carlson, Yinping Zhang, Jinhan Mo, Zhen Li, Junfeng Zhang, Xiaoxing Cui, James J. Schauer, Aika Davis, Marilyn Black, and Michael H. Bergin. "Sources of Volatile Organic Compounds in Suburban Homes in Shanghai, China, and the Impact of Air Filtration on Compound Concentrations." *Chemosphere* 231 (2019): 256–68. https://doi.org/10.1016/j.chemosphere.2019.05.059.
- Davis, Aika Y., Qian Zhang, Jenny P. S. Wong, Rodney J. Weber, and Marilyn S. Black. "Characterization of Volatile Organic Compound Emissions from Consumer Level Material Extrusion 3D Printers." *Building and Environment* 160 (2019). https://doi.org/10.1016/j.buildenv.2019.106209.
- Fang, Lin, Christina Norris, Karoline Johnson, Xiaoxing Cui, Jiaqi Sun, Yanbo Teng, Enze Tian, Wei Xu, Zhen Li, Jinhan Mo, James Jay Schauer, Marilyn Black, Mike Bergin, Jim Zhang, and Yinping Zhang. "Toxic Volatile Organic Compounds in 20 Homes in Shanghai: Concentrations, Inhalation Health Risks, and the Impacts of Household Air Cleaning." *Building and Environment* 157 (2019): 309–18. https://doi.org/10.1016/j.buildenv.2019.04.047.
- Zhang, Qian, Girish Sharma, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, Pratim Biswas, and Rodney J. Weber. "Investigating Particle Emissions and Aerosol Dynamics from a Consumer Fused Deposition Modeling 3D Printer with a Lognormal Moment Aerosol Model." Aerosol Science and Technology 52, no. 10 (2018): 1099–1111. https://doi.org/10.1080/02786826.2018.1464115.
- Zhan, Ying, Karoline Johnson, Christina Norris, Martin M. Shafer, Mike H. Bergin, Yinping Zhang, Junfeng Zhang, and James J. Schauer. "The Influence of Air Cleaners on Indoor Particulate Matter Components and Oxidative Potential in Residential Households in Beijing." Science of the Total Environment 626 (2018): 507–18. https://doi.org/10.1016/j.scitotenv.2018.01.024.
- Zhang, Qian, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, and Rodney J. Weber. "Characterization of Particle Emissions from Consumer Fused Deposition Modeling 3D Printers." *Aerosol Science and Technology* 51, no. 11 (2017): 1275–86. <a href="https://doi.org/10.1080/02786826.2017.1342029">https://doi.org/10.1080/02786826.2017.1342029</a>.

#### **CONFERENCE PROCEEDINGS**

- Wright, Christa. "The Unknowns of Vaping: Oxidative Stress, Toxicity, and DNA Damage Across the Device Lifetime." In *The Toxicologist: Supplement to Toxicological Sciences*, Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo. San Diego, CA, 2022. https://www.toxicology.org/pubs/docs/Tox/2022Tox.pdf.
- Brehmer, Collin, Christina Norris, Karoline K. Barkjohn, Mike H. Bergin, Junfeng Zhang, Xiaoxing Cui, Yanbo Teng, Yinping Zhang, Marilyn Black, Zhen Li, and James J. Schauer. "The Influence of Indoor Air Cleaners on the Oxidative Potential and Sources of Metals in Indoor, Outdoor, and Personal Exposure of School Aged Children to PM<sub>2.5</sub> in Suburban Shanghai, China." In *Indoor Air 2020 Conference Proceedings*, 16<sup>th</sup> International Conference of Indoor Air Quality and Climate. Virtual, 2020. https://www.isiag.org/conference\_proceedings.php.
- Davis, Aika, Jordan Cohen, P. Barry Ryan, Debra Harris, and Marilyn Black. "An Evaluation of Flame Retardant Exposure Routes from Upholstered Furniture." In *Indoor Air 2020 Conference Proceedings*, 16<sup>th</sup> International Conference of Indoor Air Quality and Climate. Virtual, 2020. <a href="https://www.isiaq.org/conference\_proceedings.php">https://www.isiaq.org/conference\_proceedings.php</a>.

- Norris, Christina, Michael H. Bergin, Yinping Zhang, Ross Edwards, Chinmay Ghoroi, Karoline K. Barkjohn, Junfeng Zhang, Marilyn Black, and James J. Schauer. "Quantifying Volatile Organic Compounds and Their Sources in Residences in Ahmedabad and Gandhinagar, India, and in Suburban Shanghai, China." In *Indoor Air 2020 Conference Proceedings*, 16<sup>th</sup> International Conference of Indoor Air Quality and Climate. Virtual, 2020. <a href="https://www.isiaq.org/conference\_proceedings.php">https://www.isiaq.org/conference\_proceedings.php</a>.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Particle and Volatile Organic Compound Emissions from 3D Printers and Their Potential Exposure Risks." In *Indoor Air 2020 Conference Proceedings*, 16<sup>th</sup> International Conference of Indoor Air Quality and Climate. Virtual, 2020. <a href="https://www.isiaq.org/conference\_proceedings.php">https://www.isiaq.org/conference\_proceedings.php</a>.
- Zhang, Qian. "Emissions from Consumer-Level 3D Printers." In *The Toxicologist: Supplement to Toxicological Sciences*, Society of Toxicology (SOT) 59<sup>th</sup> Annual Meeting and ToxExpo. Virtual, 2020. <a href="https://www.toxicology.org/pubs/docs/Tox/2020Tox.pdf">https://www.toxicology.org/pubs/docs/Tox/2020Tox.pdf</a>.
- Davis, Aika, Debra Harris, and Marilyn Black. "A Study of Chemical Exposure from Consumer Products Used in Residential Environments." In *ASHRAE Transactions*, American Society of Heating, Refrigerating and Air-Conditioning Engineers 2019 Annual Conference. Kansas City, MO, 2019. <a href="https://www.ashrae.org/news/esociety/ashrae-2019-annual-meeting-conference-proceedings-available">https://www.ashrae.org/news/esociety/ashrae-2019-annual-meeting-conference-proceedings-available</a>.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Particle and Chemical Emissions from 3D Printers and Their Potential Health Impacts." In *ASHRAE Transactions*, American Society of Heating, Refrigerating and Air-Conditioning Engineers 2019 Annual Conference. Kansas City, MO, 2019. <a href="https://www.ashrae.org/news/esociety/ashrae-2019-annual-meeting-conference-proceedings-available">https://www.ashrae.org/news/esociety/ashrae-2019-annual-meeting-conference-proceedings-available</a>.
- Fang, Lin. "Characteristics and Inhalation Cancer Risks Assessment of Exposure to VOCs in 20 Asthmatic Children's Homes in Shanghai." In *Indoor Air 2018 Conference Proceedings*, 15<sup>th</sup> International Conference of Indoor Air Quality and Climate. Philadelphia, PA, 2018. https://www.isiaq.org/ia\_2018\_proceedings\_page.php.
- Weber, Rodney, Qian Zhang, Aika Davis, and Marilyn Black. "Emissions from Consumer Fused Deposition Modeling 3D Printers and Their Potential Health Impact." In *Indoor Air 2018 Conference Proceedings*, 15<sup>th</sup> International Conference of Indoor Air Quality and Climate. Philadelphia, PA, 2018. <a href="https://www.isiag.org/ia\_2018\_proceedings\_page.php">https://www.isiag.org/ia\_2018\_proceedings\_page.php</a>.
- Weber, Rodney, Qian Zhang, Jenny Wong, Marilyn Black, and Aika Davis. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." In *Printing for Fabrication 2016*, 32<sup>nd</sup> International Conference on Digital Printing Technologies (NIP). Manchester, UK, 2016. http://toc.proceedings.com/34567webtoc.pdf.
- Davis, Aika, Marilyn Black, Qian Zhang, Jenny P. S. Wong, and Rodney Weber. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." In *Indoor Air 2016 Conference Proceedings*, 14<sup>th</sup> International Conference of Indoor Air Quality and Climate. Ghent, Belgium, 2016. https://www.isiag.org/docs/Proceedings.pdf.
- Davis, Aika, Marilyn Black, Qian Zhang, Jenny P. S. Wong, and Rodney Weber. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." In *ASHRAE Transactions*, American Society of Heating, Refrigerating and Air-Conditioning Engineers 2016 Annual Conference. St. Louis, MO, 2016. <a href="https://www.techstreet.com/ashrae/standards/ashrae-transactions-2016-annual-conference-st-louis-vol-122-part-2?product\_id=1937126">https://www.techstreet.com/ashrae/standards/ashrae-transactions-2016-annual-conference-st-louis-vol-122-part-2?product\_id=1937126</a>.

#### SUMMIT PROCEEDINGS

- Underwriters Laboratories Inc. "Summary Statement: The CIRI + USGBC Building Resilience for Health Summit." Atlanta, GA, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/10/CIRI-Summit-Summary-of-Proceedings-102623-Final.pdf">https://chemicalinsights.org/wp-content/uploads/2023/10/CIRI-Summit-Summary-of-Proceedings-102623-Final.pdf</a>.
- Underwriters Laboratories Inc. "Proceedings of the Future of Fire Safety: Exploring the Intersection of Wildfires and Human Health, a Symposium Presented at the Society of Toxicology (SOT) 62<sup>nd</sup> Annual Meeting and ToxExpo."

- Nashville, TN, 2023. https://chemicalinsights.org/wp-content/uploads/2023/06/Chemical-Insights\_2023-SOT-Symposium-Proceedings\_Fin.pdf.
- Underwriters Laboratories Inc. "A Summary: Managing Fire and Chemical Exposure Risks of Residential Upholstered Furniture." 4th Furniture Flammability and Human Health Summit. Virtual, 2021. https://chemicalinsights.org/wpcontent/uploads/FFHH-Virtual-Summit-Summary-05.06.21-Final.pdf.
- Underwriters Laboratories Inc. "Proceedings of the Furniture Flammability and Human Health Summit." 3rd Furniture Flammability and Human Health Summit, Atlanta, GA, 2017, https://chemicalinsights.org/wpcontent/uploads/2019/02/2017-FF-Summit-Proceedings.pdf.
- Underwriters Laboratories Inc. "Proceedings of the Safety Science of 3D Printing Summit." 1st 3D Printing and Human Health Summit. Atlanta, GA, 2017.https://chemicalinsights.org/wpcontent/uploads/2017/06/3DP\_Proceedings\_Final.pdf.
- Underwriters Laboratories Inc. "Proceedings of the Furniture Flammability and Human Health Summit." 2nd Furniture Flammability and Human Health Summit. Atlanta, GA, 2014. https://chemicalinsights.org/wpcontent/uploads/2017/06/Doc-4-Proceedings-of-the-Furniture-Flammability-and-Human-Health-Summitheld-May-20-22-2014.pdf.
- Underwriters Laboratories Inc. "A Read-Out of Furniture Flammability and Human Health." 1st Furniture Flammability and Human Health Summit. Atlanta, GA, 2013. https://chemicalinsights.org/wpcontent/uploads/2013\_FFHH\_Summit\_Summary.pdf.

#### **KEY TECHNICAL PRESENTATIONS**

- Wright, Christa. "Thermal Runaway Emission Exposures and Adverse Respiratory Outcomes: The Role of Lithium-Ion Battery Chemistry." Presented at ULRI Discoveries in Safety Seminar Series, Virtual, December 12, 2024.
- He, Xiaojia. "Dimensionality Reduction and Network Analysis in OMICS." Presented at the Northwestern University Data Science Seminar, Virtual, December 4, 2024.
- Wilson, Mark, Christa Wright, Annette Stelmack, and Steve Kerber. "The Latest Science on WUI Fires and the Built Environment." Presented at the GreenCE Professional Development Webinar, Virtual, December 2, 2024.
- He, Xiaojia, Maureen Meister, Jennifer Jeon, Akshada Shinde, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Vaping Implications Among African Americans: Oxidative Stress, Innate Immunity, and EMT Activation." Presented at the Society for Redox Biology and Medicine Annual Conference, Savannah, GA, November 23,
- Meister, Maureen, Shaligram Sharma, Xiaojia He, Mark Wilson, Mohammad Parhizi, Vinay Premanth, Judy Jeevarajan, Marilyn Black, and Christa Wright. "The Role of Lithium-Ion Battery Chemistry in Oxidative Stress-Induced" Epithelial Mesenchymal Transition within Small Airway Epithelial Cells." Presented at the Society for Redox Biology and Medicine Annual Conference, Savannah, GA, November 23, 2024.
- Bell-Huff, Cristi, Beth Welmaker, Qian Zhang, Onyekachi Udeka, and Mark Wilson. "Improving Air Quality in Dental School Labs: Insights from a Collaborative Field Study." Presented at the Campus, Safety, and Environmental Health Association (CSHEMA) Annual Webinar, Virtual, November 21, 2024.
- Meister, Maureen. "Lung Health: Mitigating Exposures Effects with Diet." Presented as an Invited Guest Lecture at Georgia State University, Atlanta, GA, November 13, 2024.
- Bell-Huff, Cristi, Mark Wilson, Qian Zhang, and Christa Wright. "An Introduction to ULRI/CIRI and Research Overview with Two Case Studies." Presented at the Georgia Section Meeting of the American Industrial Hygiene Association (AIHA), Marietta, GA, November 8, 2024.
- Wright, Christa, Cristi Bell-Huff, and Marilyn Black. "An Introduction to ULRI/CIRI and Vaping Research." Presented to the U.S. Food and Drug Administration (FDA), Virtual, October 29, 2024.

- Solan, Megan, and Jin-Ah Park. "Perfluorohexanoic acid (PFHxA) Induces Cytochrome P450 Expression and Enzymatic Activity in Well-differentiated Primary Human Bronchial Epithelial Cells (HBEC) in Air-Liquid Interface (ALI) Culture." Presented at the 45th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Fort Worth, TX, October 24, 2024.
- Choo, Cynthia, David Kalafut, Marilyn Black, and Mark Wilson. "Wildfire-Specific Parameters for Multi-Route Human Exposure Risk Models." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 24, 2024.
- Sharma, Shaligram, Maureen Meister, Xiaojia He, Mark Wilson, Mohammad Parhizi, Vinay Premanth, Judy Jeevarajan, Marilyn Black, and Christa Wright. "Assessment of Emission Hazards and Inhalation Risks during Lithium-Ion Battery Thermal Runway Events: Implications for Firefighter Safety." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 24, 2024.
- Meister, Maureen, Shaligram Sharma, Xiaojia He, Mark Wilson, Mohammad Parhizi, Vinay Premanth, Judy Jeevarajan, Marilyn Black, and Christa Wright. "Thermal Runaway Emission Exposures and Adverse Respiratory Outcomes: The Role of Lithium-Ion Battery Chemistry." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 22, 2024.
- He, Xiaojia, Maureen Meister, Qian Zhang, Haylee Young, Patrick Chepaitis, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Vaping, Heavy Metals, and Lung Dysfunction: The Role of Puff Volume." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 22, 2024.
- Zhang, Qian, Mark Wilson, and Marilyn Black. "Exposure Hazards of Particle and Volatile Organic Compound Emissions from Material Extrusion 3D Printing." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 21, 2024.
- Wang, Yixiang, Linchen He, Charles J Weschler, James J Schauer, Michael H Bergin, Marilyn Black, and Junfeng (Jim) Zhang. "The Effects of Portable Indoor Air Purifiers on the Oxidative Potential of Organic Matter and Metal Components in PM<sub>2.5</sub>." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 21, 2024.
- Hess, Joseph, Shaligram Sharma, Maureen Meister, Xiaojia He, Jonathan Shannahan, Marilyn Black, and Christa Wright. "The Chemical Fingerprints of Secondhand Vaping: Human Exposure and Health Risk Evaluations." Presented at the International Society of Exposure Science (ISES) Annual Conference, Montreal, Canada, October 20, 2024.
- Black, Marilyn, Birgitte Messerschmidt, and Melissa Van Hagan. "In the HOT SEAT! What to Do When Fire, Smoke, and Dust Impact Occupant Health." Presented at International Facility Managers Association (IFMA) World Workplace, San Antonio, TX, October 11, 2024.
- Harris, Debra. "Practical Strategies to Deploy Before, During, and After WUI Fires." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 2, 2024.
- Choo, Cynthia. "Field to Lab: Assessing Direct and Indirect Emissions from Wildland Urban Interface Fires." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 2, 2024.
- Nurkiewicz, Tim. "Characterization of WUI Fire Emissions Created in a Novel Combustion Generator." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 2, 2024.
- Chepaitis, Patrick. "Climate Change and Indoor Material Emissions." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 2, 2024.
- Calhoun, Zach. "Matching Heat Maps to Health Outcomes: Urban Heat Stress and Opportunities to Intervene." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 1, 2024.
- Meister, Maureen. "ENDS-Induced Heavy Metal Exposure and Oxidative Injury is Mediated by Vaping Behavior." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 1, 2024.
- Bergin, Michael. "Improving Global Air Quality: Combining Sensors, Satellites, and Data Analytics." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 1, 2024.
- Greenwald, Roby. "Black Carbon and PM<sub>2.5</sub> Personal Exposure Compared to Institutional Settings: Preliminary Results from the Air Pollution Exposure in Child Care Settings (APECCS) Study." Presented at the 2nd Annual ULRI Research Symposium, Atlanta, GA, October 1, 2024.

- Henderson, Holley, and Dawn Haynie. "Resilient Design: How Extreme Weather Affects Building Materials and Human Health." Presented at the GreenCE Professional Development Webinar, Virtual, September 24, 2024.
- Chepaitis, Patrick, Alex Azan, Zach Calhoun, and Marilyn Black. "Exploring the Impact of Extreme Heat on Human Health." Presented at the CIRI Webinar Series, Virtual, September 10, 2024.
- Meister, Maureen, Xiaojia He, Jennifer Jeon, Akshada Shinde, Patrick Chepaitis, Pam Cushenan, Qian Zhang, Scott Weaver, Ruiyan Luo, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Ends-Induced Heavy Metal Exposure and Oxidative Injury Is Mediated by Vaping Behavior." Presented at Tobacco Science Research Conference (TSRC), Atlanta, GA, September 11, 2024.
- Wilson, Mark. "Wildland Urban Interface Fire Emissions and Residues: Methods for Evaluation from the Field to the Laboratory." Presented at ULRI Discoveries in Safety Seminar Series, Virtual, August 29, 2024.
- Bell-Huff, Cristi, and Holley Henderson. "What Schools Need to Know About Emerging Air Pollutants and Their Impact on Student Health." Presented at the GreenCE Professional Development Webinar, Virtual, August 27, 2024.
- Bell-Huff, Cristi. "Forever Chemicals: What Designers Need to Know." Presented at the ASID Design Business Lecture Series, Chicago, IL, August 21, 2024.
- Wilson, Mark. "Wildland Urban Interface (WUI) Fire Emissions and Residues: Short and Long-Term Indoor Air Quality Hazards." Presented at American Chemical Society Fall 2024, Denver, CO, August 20, 2024.
- Zhang, Qian, Lillie Barnett, Saeed Alqahtani, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Impact of 3D Printing Emissions on Indoor Air Quality and Respiratory Health Implications in Educational Settings." Presented at American Chemical Society Fall 2024, Denver, CO, August 20, 2024.
- He, Xiaojia, Jennifer Jeon, Akshada Shinde, Maureen Meister, Lillie Barnett, Qian Zhang, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Secondhand Exposure to Vaping Emissions and Increased Inhalation Risks Linked to Puff Volume." Presented at American Chemical Society Fall 2024, Denver, CO, August 20, 2024.
- Wright, Christa. "Assessing Respiratory and Dermal Exposure Risks of PFAS Containing Textiles and Dust." Presented at American Chemical Society Fall 2024, Denver, CO, August 20, 2024.
- Choo, Cynthia. "Direct Thermal Desorption Analysis of Ash from Lab Scale Wildland Urban Interface Combustion." Presented at American Chemical Society Fall 2024, Denver, CO, August 20, 2024.
- Henderson, Holley, and Dawn Haynie. "Climate, Building Resiliency and Human Health: A Look at the Impacts of Extreme Weather on Interior Design Materials." Presented at American Society of Interior Design GATHER Catalyst, Denver, CO, August 11, 2024.
- Bell-Huff, Cristi, Onyekachi Udeka, Beth Welmaker, Mark Wilson, and Qian Zhang. "A Collaborative Field Study of Air Quality in Dental School Labs." Presented at Campus Safety, Health, and Environment Management National Conference, Tampa, FL, July 30, 2024.
- Bell-Huff, Cristi, and Elizabeth Henry. "What's Your Sign? The Need for Universal Signage in 3D Printing Spaces on Campus." Presented at Campus Safety, Health, and Environment Management National Conference, Tampa, FL, July 29, 2024.
- Henderson, Holley. "How Public Health Professionals Can Collaborate with School Staff to Identify and Address Indoor Air Contaminants." Presented at National Association of County and City Health Officials (NACCHO) 360, Detroit, MI, July 24, 2024.
- Wilson, Mark, and Qian Zhang. "3D Printing Safety, Emissions, and Health Risks on Campus." Presented at The University of California Industrial Hygiene Working Group, Virtual, July 16, 2024.
- He, Linchen, Charles J. Weschler, Glenn Morrison, Marilyn Black, Michael H Bergin, and Junfeng (Jim) Zhang. "Synergistic Effects of Ozone Reaction Products and Fine Particulate Matter on Pulmonary Physiology in Children with Asthma." Presented at Indoor Air 2024, Honolulu, HI, July 8, 2024.

- Chen, Ruoxue, Yihui Ge, Zhenchun Yang, Jiawen Liao, Chenyu Qiu, Wu Chen, Yan Lin, Enrique Trigo, Sulema I Saravia Rodriguez, Vivien Le, Howard N. Hodis, Frank D. Gilliland, Michael H. Bergin, Marilyn Black, Zhanghua Chen, and Junfeng (Jim) Zhang. "Effectiveness of Long-Term HEPA Filtration in Reducing PM<sub>2.5</sub> Levels in Los Angeles Homes: Preliminary Data from a Randomized Crossover Trial." Presented at Indoor Air 2024, Honolulu, HI, July 8, 2024.
- Qiu, Chenyu, Jiawen Liao, Wu Chen, Zhenchun Yang, Yan Lin, Ruoxue Chen, Yihui Ge, Enrique Trigo, Sulema I Saravia Rodriguez, Vivien Le, Michael H. Bergin, Marilyn Black, Howard N. Hodis, Frank D. Gilliland, Junfeng (Jim) Zhang, and Zhanghua Chen. "The Effects of Indoor Air Filtration on Cardiometabolic Outcomes Among Individuals in Urban Los Angeles." Presented at Indoor Air 2024, Honolulu, HI, July 8, 2024.
- Bell-Huff, Cristi, Holley Henderson, and Clayton Wetzel. "What School Nurses Should Know About Emerging Air Pollutants and Their Impact on Student Health." Presented at the National Association of School Nurses Conference, Chicago, IL, June 30, 2024.
- Black, Marilyn, and Birgitte Messerschmidt. "Resiliency for Health: A Holistic Approach to Building Performance." Presented at the NFPA Conference and Expo. Orlando, FL, June 19, 2024.
- Bell-Huff, Cristi, and Christa Wright. "Emerging Threats to Indoor Air Quality (IAQ) and Human Health." Presented at the SOT Webinar Series, Virtual, June 17, 2024.
- Wilson, Mark, Annette Stelmack, Chris Weiss, Brian Metzger, Jennifer Osborne, and Chuck Micolis. "Understanding Wildfires in the Wildland Urban Interface, the Built Environment, and Public Health." Presented at the CIRI Webinar Series, Virtual, June 13, 2024.
- Black, Marilyn, and Holley Henderson. "PFAS and the Built Environment: The Science Behind 'Forever Chemicals." Presented at NeoCon 2024, Chicago, IL, June 10, 2024.
- Black, Marilyn, and Holley Henderson. "CIRI Overview." Presented to the NIH Children's Environmental Health Research & Translation Centers, Virtual, May 28, 2024.
- Henderson, Holley, Mary Ellen Mika, David Cordell, and Karen McCallum. "2024 Sustainability Trends in Interior Design." Presented at the ASID Webinar Series, Virtual, May 23, 2024.
- Meister Maureen, Xiaojia He, Jennifer Jeon, Akshada Shinde, Patrick Chepaitis, Pam Cushenan, Qian Zhang, Scott Weaver, Ruiyan Luo, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Puff Volume Mediates Heavy Metal Exposure Levels and Oxidative Injury in ENDS Users." Presented at the American Thoracic Society International Conference, San Diego, CA, May 22, 2024.
- He, Xiaojia, Maureen Meister, Jennifer Jeon, Akshada Shinde, Qian Zhang, Patrick Chepaitis, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Puff Volume Associated Salivary Proteomic and Metabolomic Perturbations Induced by Heavy Metal Vaping Exposures." Presented at the American Thoracic Society International Conference, San Diego, CA, May 21, 2024.
- Choo, Cynthia, David Kalafut, Marilyn Black, and Mark Wilson. "Direct Thermal Desorption Analysis of Ash from Lab Scale Wildland Urban Interface Combustion." Presented at the 18th International Congress on Combustion By-Products and Their Health Effects, Durham, NC, May 21, 2024.
- Lin, Yan, Xiangtian Wang, Ruoxue Chen, Tenley Weil, Yihui Ge, Heather M. Stapleton, Michael H. Bergin, and Junfeng (Jim) Zhang, "Arachidonic Acid Metabolites in Self-Collected Biospecimens Following Campfire Exposure: Exploring Non-Invasive Biomarkers of Wildfire Health Effects." Presented at the 18th International Congress on Combustion By-Products and Their Health Effects. Durham, NC. May 21, 2024.
- Wang, Xiangtian, Yan Lin, E. Craig, Tenley Weil, Heather M. Stapleton, Michael H. Bergin, and Junfeng (Jim) Zhang. 'Carboxylic Polycyclic Aromatic Hydrocarbons as Wood Fire Biomarkers." Presented at the 18th International Congress on Combustion By-Products and Their Health Effects, Durham, NC, May 21, 2024.
- Wilson, Mark, Cynthia Choo, David Kalafut, Marilyn Black, Travis Goldsmith, Tom Batchelor, Anand Ranpara, and Tim Nurkiewicz. "Volatile Organic Compound (VOC) Profile from Laboratory-Scale Combustion Emissions of

- Regionally Relevant Wood Types and Synthetic Building Materials." Presented at the 18th International Congress on Combustion By-Products and Their Health Effects, Durham, NC, May 20, 2024.
- Barnett, Lillie, Qian Zhang, Saeed Alqahtani, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Metabolic and Toxicological Effects of 3D Printer Particulate Emissions at a High School: Comparing ABS and PLA Filaments." Presented at the American Thoracic Society International Conference, San Diego, CA, May 20, 2024.
- Wilson, Mark, and Qian Zhang. "The Safe Use of 3D Printing in Higher Education." Presented at the American Industrial Hygiene Association (AIHA) Connect Conference, Columbus, OH, May 20, 2024.
- Black, Marilyn, Jaiko Celka, and Sahar Abbaszadeh. "The Science Behind Building Resiliency for Health." Presented at Building Organizational Resilience with WELL, Long Beach, CA, May 7, 2024.
- Henderson, Holley, and Dawn Haynie. "Building Resilience for Health." Presented at Coverings 2024 Tile & Stone Connected & Together, Atlanta, GA, April 24, 2024.
- Henderson, Holley. "Nurturing Well-Being: Exploring What's Next in Healthy Building." Presented at Coverings 2024 Tile & Stone Connected & Together, Atlanta, GA, April 22, 2024.
- Cope, Anne, Marilyn Black, Ben Waterman, and Kelly Watkinson, "Preparing for Natural Disasters Part 2: Wind and Water." Presented at the Land Trust Alliance Webinar Series, Virtual, April 11, 2024.
- Bell-Huff, Cristi, Mark Wilson, and Qian Zhang. "Safe Use of 3DP in Higher Ed." Presented at the American Industrial Hygiene Association (AIHA) Webinar Series, Virtual, April 10, 2024.
- Black, Marilyn, and Holley Henderson. "CIRI Overview." Presented to the President's Task Force on Asthma Disparities, Virtual, April 8, 2024.
- Black, Marilyn, Seema Bhangar, and Jaime Van Mourik. "Protecting Human Health While Adapting to Extreme Climate Conditions." Presented at the CIRI Webinar Series, Virtual, April 3, 2024.
- Black, Marilyn. "Resilience for Health: Research Scientists' Climate Impact Perspectives on Building Environment and Materials." Presented at the BEST6 Conference, Austin, TX, March 20, 2024.
- Wright, Christa. "Connecting Vaping Behavior, Hazardous Chemical and Particle Exposures, and Redox-Mediated Cellular Alterations in the Oral Cavity." Presented at the 2024 IADR/AADOCR/CADR General Session and Exhibition, New Orleans, LA, March 16, 2024.
- Barnett, Lillie, Qian Zhang, Saeed Alqahtani, Jonathan Shannahan, Marilyn Black, and Christa Wright. "High School 3D Printer Emissions Elicit Filament-Specific and Dose-Dependent Metabolic and Genotoxic Effects in Human Airway Epithelial Cells." Presented at the Society of Toxicology (SOT) 63rd Annual Meeting and ToxExpo, Salt Lake City, UT, March 12, 2024.
- He, Xiaojia, Maureen Meister, Jennifer Jeon, Akshada Shinde, Qian Zhang, Patrick Chepaitis, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Puff-Volume Dependent Heavy Metal Exposure from ENDS Aerosols Perturbed Salivary Proteome and Metabolome." Presented at the Society of Toxicology (SOT) 63rd Annual Meeting and ToxExpo, Salt Lake City, UT, March 12, 2024.
- Goldsmith, William T., Anand Ranpara, Thomas P. Batchelor, David Kalafut, Mark Wilson, Jingxin Wang, Robert Burns, Wanhe Hu, Bibek Aryal, Salik Hussain, Austin Alexander, and Timothy R. Nurkiewicz. "A Laboratory Simulation of Combustion Emissions from Wildland Urban Interface Fires." Presented at the Society of Toxicology (SOT) 63rd Annual Meeting and ToxExpo. Salt Lake City. UT. March 12, 2024.
- Meister, Maureen, Xiaojia He, Akshada Shinde, Patrick Chepaitis, Pam Cushenan, Qian Zhang, Scott Weaver, Ruiyan Luo, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Vaping Behavior Dictates Heavy Metal Exposure and Associated Oral Oxidative Stress Response." Presented at the Society of Toxicology (SOT) 63rd Annual Meeting and ToxExpo, Salt Lake City, UT, March 11, 2024.

- Nurkiewicz, Tim. "Complex Combustion Emissions: Generation, Characterization, and Modeling of Open Burn Exposures." Presented at the Society of Toxicology (SOT) 63rd Annual Meeting and ToxExpo, Salt Lake City, UT, March 11, 2024.
- Black, Marilyn. "PFAS and the Built Environment: The Science Behind 'Forever Chemicals." Presented at the GreenCE Professional Development Webinar, Virtual, March 11, 2024.
- Black, Marilyn, and Michael Savarie. "Clean Chemistry's Role in Retail Sustainability and Product Circularity." Presented at the UL Solutions Center of Excellence Grand Opening and Retail Summit, Lowell, AK, February 27, 2024.
- Henderson, Holley. "Top Trends in Interior Design." Presented at the 2024 ASID Trends Report Panel Discussion, Las Vegas, NV, January 30, 2024.
- Bell-Huff, Cristi, and Oian Zhang, "3D Printing Safety, Emissions, and Health Risks on Campus," Presented at the Georgia Tech EHS Department Enrichment Seminar, Atlanta, GA, January 23, 2024.
- Henderson, Holley. "Top Trends in Interior Design." Presented at the 2024 ASID Trends Report Panel Discussion, Atlanta, GA, January 18, 2024.
- Bell-Huff, Cristi. "Vaping on Campus: What the Research Says on Emissions and Potential Health Impacts." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) Webinar Series, Virtual, December 5, 2023.
- Barnett, Lillie, Xiaojia He, Jennifer Jeon, Qian Zhang, Saeed Algahtani, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Real-Time Exposure to 3D Printer Emission Elicits Inflammatory Responses and Metabolic Perturbations in Human Airway Epithelial Cells." Presented at the American College of Toxicology 44th Annual Meeting, Orlando, FL, November 13, 2023.
- Stelmack, Annette, Mark Wilson, Steve Kerber, and Christa Wright. "The Latest Science on WUI Fires and the Built Environment." Presented at the GreenCE Professional Development Webinar, Virtual, November 6, 2023.
- Watt, Alister, and Marilyn Black. "Preparing for Natural Disasters Part One: Fire and Smoke." Presented at the Land Trust Alliance Webinar, Virtual, October 26, 2023.
- Yang, Irene, Xiaojia He, Henry Claussen, Robert Arthur, Jennifer Jeon, Pam Cushenan, Marilyn Black, Jonathan Shannahan, and Christa Wright. "Exploring the Impact of Vaping Behavior on the Subgingival Microbiome of ENDS Users." Presented at the Fall 2023 Tobacco Regulatory Science Meeting (TRSM), Bethesda, MD, October 17, 2023.
- Zhang, Qian, Rodney J. Weber, Todd P. Luxton, Derek M. Peloquin, Eric J. Baumann, and Marilyn S. Black. "Particle Emission and Metal Composition Characterizations for Fused Filament Fabrication 3D Printers Using Emerging Materials." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Portland, OR, October 5, 2023.
- Greenwald, Roby, Yu-Jung (Grace) Lin, Donghai Liang, and Christina H. Fuller. "Introducing the Air Pollution Exposure in Childcare Settings (APECCS) Study: Measuring Indoor/Outdoor Air Quality at Child Care Centers and Residential Environments in the Atlanta Metropolitan Area." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Portland, OR, October 4, 2023.
- Lin, Yu-Jung (Grace), Karl Armstrong, and Roby Greenwald. "Comparison of Low-Cost PM Sensors with a Direct Mass Measurement at Sites Representing Road and Non-Road PM Sources." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Portland, OR, October 3, 2023.
- Wilson, Mark, Christa Wright, Steve Kerber, and Annette Stelmack. "The Latest Science on WUI Fires and the Built Environment: Exploring Atmospheric Emissions from WUI Fires." Presented at the Greenbuild International Conference & Expo, Washington, DC, September 27, 2023.
- Black, Marilyn, Birgitte Messerschmidt, and Elliott Horner. "Resiliency for Health." Presented at the Greenbuild International Conference & Expo, Washington, DC, September 26, 2023.

- Jeon, Jennifer, Qian Zhang, Joseph Hess, Xiaojia He, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Characterization of Potential Exposure and Inhalation Risks During Firsthand and Secondhand Vaping." Presented at the International Society of Exposure Science National Conference, Chicago, IL, August 29, 2023.
- He, Linchen, Shoshana Evans, Christina Norris, Karoline Barkjohn, Xiaoxing Cui, Zhen Li, Feng Li, Yinping Zhang, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Associations Between Personal Apparent Temperature Exposures and Asthma Symptoms in Children with Asthma." Presented at the International Society of Exposure Science National Conference, Chicago, IL, August 29, 2023.
- Zhang, Qian, Rodney J. Weber, Todd P. Luxton, Derek M. Peloquin, Eric J. Baumann, and Marilyn S. Black. "Exposure to Metal-Containing Aerosols Emitted from Material Extrusion 3D Printing with Thermoplastic and Composite Materials." Presented at the International Society of Exposure Science National Conference, Chicago, IL, August 29, 2023.
- He, Xiaojia, Jennifer Jeon, Joseph Hess, Qian Zhang, Jonathan Shannahan, Marilyn Black, and Christa Wright. "Utilizing Cheminformatics to Determine Primary and Secondhand Vaping Exposure and Health Risks." Presented at the American Chemical Society (ACS) National Conference, San Francisco, CA, August 16, 2023.
- Bell-Huff, Cristi. "Forever Chemicals: What Designers Need to Know." Presented at the American Society of Interior Design GATHER Conference, Los Angeles, CA, August 14-15, 2023.
- Henderson, Holley. "Understanding WUI and How to Protect Our Homes." Presented at the American Society of Interior Design GATHER Conference, Los Angeles, CA, August 13–14, 2023.
- Zhang, Qian, and Marilyn Black. "Characterization of Particle Emissions from 3D Printing with Thermoplastics and Their Potential Health Impacts." Presented at the American Chemical Society (ACS) National Conference, San Francisco, CA, August 13, 2023.
- Bell-Huff, Cristi. "Reducing Fire and Chemical Risks to Safeguard Human Health." Presented at the American Society of Interior Design GATHER Conference, Los Angeles, CA, August 13, 2023.
- Wright, Christa, Jeffrey Burgess, Jackie Goodrich, and Michelle Valenti. "Exploring the Intersection of Wildfires and Human Health." Presented at the ULRI Research Symposium, Evanston, IL, August 1, 2023.
- Henderson, Holley, Mike Bergin, Mark Wilson, and Debra Harris. "Climate Impacts on Building Environments." Presented at the ULRI Research Symposium, Evanston, IL, August 1, 2023.
- Bell-Huff, Cristi. "CIRI + CSHEMA = 3D Printer Safety Guidance for Your Campus." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) National Conference, Boston, MA, July 26, 2023.
- Black, Marilyn, Birgitte Messerschmidt, and Elliott Horner. "Research Scientists' Perspectives on Climate Impacts for Building Environment and Materials." Presented at the GreenCE Professional Development Webinar, Virtual, June 23, 2023.
- Jeon, Jennifer, Xiaojia He, Akshada Shinde, Pam Cushenan, Qian Zhang, Irene Yang, Scott Weaver, Ruiyan Luo, Marilyn Black, Jonathan Shannahan, and Christa Wright, "Assessing the Impact of Vaping Behavior on Metabolomic Profiles, Pro-Inflammatory Responses, and Oral Health Outcomes in ENDS Users." Presented at Metabolomics 2023, Niagara Falls, Canada, June 21, 2023.
- Black, Marilyn. "Building Resiliency for Health." Presented at NeoCon 2023, Virtual, June 12, 2023.
- Black, Marilyn, Birgitte Messerschmidt, Elliott Horner, and Holley Henderson. "Research Scientists' Perspectives on Climate Impacts for Building Environment and Materials." Presented at the A'23 American Institute of Architects (AIA) Conference on Architecture 2023, San Francisco, CA, June 9, 2023.
- Zhang, Qian. "Exposure to 3D Printing Emissions and Potential Health Concerns: New Findings from Laboratory and Field Studies." Presented at the Institute of Electrical and Electronics Engineers (IEEE) Product Safety Engineering Society (PSES) Chicago Chapter Meeting, Virtual, May 24, 2023.
- Zhang, Qian. "Secondhand Vape Emissions from Electronic Nicotine Delivery Systems." Presented at the American Índustrial Hygiene Conference & Expo (AIHce 2023), Phoenix, AZ, May 23, 2023.

- Zhang, Qian. "Engineering Control to Reduce 3D Printing Exposure." Presented at the American Industrial Hygiene Conference & Expo (AIHce 2023), Phoenix, AZ, May 22, 2023.
- Black, Marilyn. "PFAS and Human Health Research Brief Overview." Presented at the Fire Council Session of the Convening of the UL Enterprise Councils, Lombard, IL, May 9, 2023.
- Bell-Huff, Cristi. "3D Printing in Institutions of Higher Education." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) Fine Arts Community of Practice Meeting, Virtual, March 15, 2023.
- Black, Marilyn, Clayton Wetzel, and Joni Rix. "Identifying and Addressing Emerging Indoor Air Pollutants: School Health and Facilities Staff Collaborations." Presented at the Center for Green Schools, the National Association of School Nurses, and Chemical Insights Research Institute Joint Webinar, Virtual, April 27, 2023.
- Henderson, Holley, and Cristi Bell-Huff. "From Research to Impact Storytelling Science for a Safer World." Presented at the National Science Teaching Association (NSTA) National Conference, Atlanta, GA, March 23,
- Wright, Christa, Marilyn Black, Miriam Calkins, Jaclyn Goodrich, Alesia Jung, and Jim Zhang. "The Future of Fire Safety: Exploring the Intersection of Wildfires and Human Health." Presented at the Society of Toxicology (SOT) 62<sup>nd</sup> Annual Meeting and ToxExpo, Nashville, TN, March 22, 2023.
- He, Xiaojia, Zachery Jarrell, Matthew Smith, Xin Hu, Sami Teeny, Yongliang Liang, Michael Orr, Young-Mi Go, and Dean P. Jones. "Exposure to Low-Level Vanadium Pentoxide in Drinking Water Triggers Pulmonary Inflammation and Fibrotic Signaling." Presented at the Society of Toxicology (SOT) 62nd Annual Meeting and ToxExpo, Nashville, TN, March 21, 2023.
- Jeon, Jennifer, and Christa Wright. "Variances in Vaping Behavior Contribute to Adverse Periodontal Health Effects." Presented at the Society of Toxicology (SOT) 62<sup>nd</sup> Annual Meeting and ToxExpo, Nashville, TN, March 20, 2023.
- Zhang, Jim. "Modulation of PM<sub>2.5</sub> Mediated Cardiometabolic Indicators in Wildfire-Exposed Individuals Through Residential Air Filtration." Presented at the Society of Toxicology (SOT) 62nd Annual Meeting and ToxExpo, Nashville, TN, March 20, 2023.
- Bell-Huff, Cristi. "3D Printing in Institutions of Higher Education." Presented at the Campus Safety, Health, and Environmental Management Association (ČSHEMA) Fine Arts Community of Practice Meeting, Virtual, March 15, 2023.
- Black, Marilyn, and Cristi Bell-Huff. "Emerging Indoor Air Quality Challenges and Solutions in Our Schools." Presented at the Green Schools Conference, New Orleans, LA, March 1, 2023.
- Black, Marilyn, and Cristi Bell-Huff. "Chemicals of Concern for Building and EHS Managers." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) Webinar Series, Virtual, November 17. 2022.
- Black, Marilyn, and Debra Harris. "Chemistry 101 for Building Professionals." Presented at the GreenCE/Ron Blank Webinar, Virtual, November 14, 2022.
- Black, Marilyn, and Holley Henderson. "Specifying Residential Upholstered Furniture to Safeguard Human Health." Presented at the American Society of Interior Designers (ASID) Virginia Chapter Meeting, Virtual, November 10, 2022.
- Black, Marilyn, Debra Harris, and Birgitte Messerschmidt. "Wildfires + Resilience: Whole Building Approach from Design to Occupancy." Presented at the Greenbuild International Conference & Expo, San Francisco, CA, November 3,
- Black, Marilyn, and Debra Harris. "Chemistry 101 for Building Managers." Presented at the International Facility Managers Association (IFMA) Environmental Stewardship, Utilities and Sustainability (ESUS) Webinar Series, Virtual, October 19, 2022. https://www.youtube.com/watch?v=7wuKZGnMM1o.
- Bell-Huff, Cristi, and Holley Henderson. "From Research to Impact Storytelling Science for a Safer World." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) 2022 Fall Symposium, Princeton, NJ, October 11, 2022.

- Zhang, Qian, Christa Wright, Aika Davis, and Marilyn Black. "Impacts of 3D Printing and Mitigation Strategies on Particle Exposures in School Environments." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Raleigh, NC, October 4, 2022.
- Black, Marilyn, and Debra Harris. "Chemistry 101 for Building Managers." Presented at the 2022 International Facility Management Association (IFMA) Worldwide Workplace, Nashville, TN, September 29, 2022.
- Holley Henderson. "Design It Healthy, Keep It Healthy: Strategies to Support Resilient Interiors." Presented at the American Society of Interior Designers (ASID) National Conference, GATHER 2022, Miami, FL, September 22, 2022.
- Black, Marilyn. "Design It Healthy, Keep It Healthy: Strategies to Support Resilient, Healthy Interiors." Presented at the GreenCE/Ron Blank Webinar, Virtual, September 20, 2022. https://www.greence.com/Webinars/Design-It-Healthy-Keep-It-Healthy-Strategies.
- Wright, Christa. "The Utility of CometChip in Nanogenotoxicological Studies." Presented at the International Conference on Environmental Mutagens (ICEM), 53rd Annual Meeting of the Environmental Mutagenesis and Genomics Society (EGMS), Ottawa, Canada, August 27, 2022.
- Black, Marilyn, and Dwayne Sloan. "Balance Between Human Health and Fire Safety in the Built Environment." Presented at the American Home Furnishings Alliance (AHFA) Summit 2022, Colfax, NC, August 18, 2022.
- Black, Marilyn, Debra Harris, Amara Holder, and Birgitte Messerschmidt. "Resiliency, Urban Wildfires, and Materials." Presented at the A'22 American Institute of Architects (AIA) Conference on Architecture 2022, Virtual, July 28, 2022.
- Wright, Christa, Aika Davis, Qian Zhang, and Marilyn Black. "Investigating and Mitigating the Health Impacts of 3D Printer Emissions." Presented at the 2022 Campus Safety, Health, and Environmental Management Association (CSHEMA) National Conference, Scottsdale, AZ, July 8-13, 2022. https://chemicalinsights.org/wpcontent/uploads/WRIGHT\_CSHEMA\_FINAL\_JULY-Summary-\_07.22.pdf.
- Black, Marilyn. "Design It Healthy, Build It Healthy, Keep It Healthy: Strategies to Support Resilient, Healthy Interiors." Presented at NeoCon 2022, Virtual, June 13, 2022, https://chemicalinsights.org/wp-content/uploads/Summary-NeoCon2022 Presentation.pdf.
- Black, Marilyn, and Duane Sloan, "Balance Between Human Health and Fire Safety in the Built Environment," Presented at the National Fire Protection Association (NFPA) Conference & Expo, Boston, MA, June 7, 2022.
- Davis, Aika, and Qian Zhang. "Pop-Up: 3D Printing in Schools: Exposures and Engineering Controls." Presented at the American Industrial Hygiene Conference & Expo (AIHce 2022), Nashville, TN, May 23, 2022.
- Black, Marilyn, and Holley Henderson. "Specifying Residential Upholstered Furniture to Safeguard Human Health." Presented at the GreenCE Professional Development Webinar, Virtual, May 20, 2022. https://www.greence.com/Webinars/Specifying-Residential-Upholstered-Furniture.
- Share, Melanie, and Holley Henderson. "Achieving Good Indoor Air Quality." Presented at the National Science Teaching Association (NSTA) National Conference, Houston, TX, April 1, 2022. https://chemicalinsights.org/wpcontent/uploads/NSTA\_Final\_Presented\_040122-Summary.pdf.
- Wright, Christa. "The Unknowns of Vaping: Oxidative Stress, Toxicity, and DNA Damage Across the Device Lifetime." Presented at the Society of Toxicology (SOT) 61st Annual Meeting and ToxExpo, San Diego, CA, March 31, 2022. https://chemicalinsights.org/wp-content/uploads/Summary\_SOT-2022\_ULCI-Chemical-Insights-PPT\_.pdf.
- Davis, Aika. "Indoor Air Quality Assessment of Classrooms with 3D Printers." Presented at the American Chemical Society (ACS) Spring 2022 National Meeting & Expo, San Diego, CA, March 20, 2022. https://chemicalinsights.org/wp-content/uploads/ACSspring2022\_3DP\_Summary-Slides\_03.24.22.pdf.
- Black, Marilyn. "Indoor Air Quality in Campus Buildings: Why and How to Address Emerging Risks." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) Spring Symposium, Orlando, FL, February 23, 2022.

- Black, Marilyn. "Before Disaster Strikes: A Picture Can Be Worth a Thousand Words & Dollars." Presented at the National Association of Home Builders (NAHB) International Builders' Show, Orlando, FL, February 8, 2022.
- Black, Marilyn, and Ryan Lisk. "Keeping Campus Buildings Healthy: Managing 3D Printer Emissions for Occupant Safety and Health." Presented at the Campus Safety, Health, and Environmental Management Association (CSHEMA) Training Webinar, Virtual, November 16, 2021. https://youtu.be/epKa74R9jA4.
- Davis, Aika, and Qian Zhang. "3D Printing, Is It Safe? Updates and New Findings on 3D Printer Emissions." Presented at the Institute of Electrical and Electronics Engineers (IEEE) Computer Society Chicago Chapter Webinar, Virtual, October 27, 2021.
- Jeon, Ji Soo, Aika Davis, Qian Zhang, Roby Greenwald, Marilyn Black, and Christa Wright. "The Influence of Ageing on the Genotoxic Potential of Electronic Nicotine Delivery System Aerosols: An In Vitro Assessment." Presented at the National Institute of Health (NIH) Tobacco Regulatory Science Meeting (TRSM), Virtual, October 20, 2021. https://chemicalinsights.org/wp-content/uploads/2021-NIH-Tobacco-Regulatory-Science-Abstract.pdf.
- Greenwald, Roby, Christa Wright, Aika Davis, Qian Zhang, and Ji Soo Jeon. "Physicochemical and Toxicological Characterization of Electronic Nicotine Delivery Systems." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Virtual, October 19, 2021. http://aaarabstracts.com/2021/viewabstract.php?pid=538.
- Zhang, Qian, Aika Davis, and Marilyn Black. "Particle Emissions from Fused Filament Fabrication 3D Printers and Their Impacts on Indoor Air Quality in School Environments." Presented at the American Association for Aerosol Research (AAAR) Annual Conference, Virtual, October 18, 2021. https://chemicalinsights.org/wpcontent/uploads/AAAR-2021\_3DP\_summary-deck.pdf.
- Black, Marilyn, and Ryan Lisk. "Keeping Campus Buildings Healthy: Managing 3D Printer Emissions for Occupant Safety and Health." Presented at the Association for the Advancement of Sustainability in Higher Education (AASHE) Virtual Global Conference on Sustainability in Higher Education, Virtual, October 12, 2021.
- Black, Marilyn. "Better Health by Managing Your Indoor Environment." Presented at NeoCon 2021, Chicago, IL, October 5, 2021. https://www.youtube.com/watch?app=desktop&v=fAeA2VA3ur4&feature=youtu.be.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "3D Printing Emissions and Their Impacts on Health and Indoor Air Quality." Presented at the RAPID + TCT 2021 Conference, Chicago, IL, September 15, 2021. https://chemicalinsights.org/wp-content/uploads/Rapid-TCT-2021-Abstract-1.pdf.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Exposure to Particle and Volatile Organic Compound Emissions from Consumer Level 3D Printers." Presented at the International Society of Exposure Science 31st Annual Meeting (ISES 2021), Virtual, September 1, 2021.
- Black, Marilyn. "Chemical Insights." Presented at the 68th Annual Campus Safety, Health, and Environmental Management Association (CSHEMA) Conference, Virtual, July 26-28, 2021.
- Black, Marilyn. "Keeping School Buildings Healthy: Emerging Issues in Managing for Occupant Safety and Health." Presented at the Association for Learning Environments: Enhancing the Educational Experience Georgia Chapter (GA4LE) Summer Conference, Jekyll Island, GA, June 28, 2021.
- Black, Marilyn, and Anna Stec. "Composition of Urban Materials and Their Combustion Products." Presented at the Chemistry of Urban Wildfires: An Information-Gathering Session by the National Academies of Sciences, Engineering, and Medicine, Virtual, June 8, 2021.
- Zhang, Qian, and Aika Davis. "Emissions and Exposure Levels Associated with 3D Printing in Schools and Universities." Presented at the American Industrial Hygiene Conference & Expo (AIHce 2021), Virtual, May 26, 2021.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney J. Weber. "Emissions from Material Extrusion and Vat Photopolymerization 3D Printers Using a Chamber Study." Presented at the American Industrial Hygiene Conference & Expo (AlHce 2021), Virtual, May 26, 2021.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Emissions from Consumer-Level 3D Printers and the Health Impacts." Presented at the National Institute for Occupational Safety and Health (NIOSH) Pathology and

- Physiology Research Branch (PPRB) Seminar, Virtual, March 10, 2021. https://chemicalinsights.org/wpcontent/uploads/NIOSH-2021\_3DP\_summary\_for-newsletter-and-website.pdf.
- Brehmer, Collin, Christina Norris, Karoline K. Barkjohn, Mike H. Bergin, Junfeng Zhang, Xiaoxing Cui, Yanbo Teng, Yinping Zhang, Marilyn Black, Zhen Li, and James J. Schauer. "The Influence of Indoor Air Cleaners on the Oxidative Potential and Sources of Metals in Indoor, Outdoor, and Personal Exposure of School Aged Children to PM<sub>2.5</sub> in Suburban Shanghai, China." Presented at Indoor Air 2020 – The 16<sup>th</sup> International Conference of Indoor Air Quality and Climate, Virtual, November 1, 2020. https://chemicalinsights.org/wpcontent/uploads/IA2020\_ExtAbstract\_final\_CB.pdf.
- Davis, Aika, Jordan Cohen, Peter Barry Ryan, Debra Harris, and Marilyn Black. "An Evaluation of Flame Retardant Exposure Routes from Upholstered Furniture." Presented at Indoor Air 2020 - The 16th International Conference of Indoor Air Quality and Climate, Virtual, November 1, 2020. https://chemicalinsights.org/wpcontent/uploads/2020/03/ADavis\_IA2020\_ExtAbstract5.doc.pdf.
- Norris, Christina, Michael H. Bergin, Yinping Zhang, Ross Edwards, Chinmay Ghoroi, Karoline K. Barkjohn, Junfeng Zhang, Marilyn Black, and James J. Schauer. "Quantifying Volatile Organic Compounds and Their Sources in Residences in Ahmedabad and Gandhinagar, India, and in Suburban Shanghai, China." Presented at Indoor Air 2020 - The 16th International Conference of Indoor Air Quality and Climate, Virtual, November 1, 2020. https://chemicalinsights.org/wp-content/uploads/IA2020 ExtAbstract final Norris.pdf.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Particle and Volatile Organic Compound Emissions from 3D Printers and Their Potential Exposure Risks." Presented at Indoor Air 2020 – The 16th International Conference of Indoor Air Quality and Climate, Virtual, November 1, 2020. https://chemicalinsights.org/wpcontent/uploads/2020/04/Indoor-air-2020-3DP-ext-abstract 2.pdf.
- Black, Marilyn, Aika Davis, and Qian Zhang. "NFP Chemical Safety-Human Health Research: 'Science for a Safer, Healthier Tomorrow." Presented at the William Henry Merrill Society Webinar, Virtual, October 21, 2020.
- Black, Marilyn, and Peter Barry Ryan. "Keeping Your Buildings Healthy: Managing 3D Printer Emissions for Occupant Safety and Health." Presented at the Environmental Stewardship, Utilities and Sustainability (ESUS) Community Webinar, Virtual, October 20, 2020. https://www.youtube.com/watch?v=pxJvICLC0Gg.
- Black, Marilyn. "3D Printing and Additive Manufacturing." Presented at the Association of Southeast Asian Nations (ASEAN) Consultative Committee on Standards and Quality Webinar, Virtual, October 16, 2020.
- Zhang, Qian, Marilyn Black, and Rodney J. Weber. "Particle Emissions and Chemical Emissions from Fused Filament Fabrication 3D Printers Using Emerging Filaments Including Metals." Presented at the 38th American Association for Aerosol Research (AAAR) Annual Conference, Virtual, October 6, 2020, https://chemicalinsights.org/wpcontent/uploads/AAAR-2020-Abstract-1.pdf.
- Davis, Aika, Qian Zhang, and Marilyn Black. "VOC Emissions and Exposure from E-Cigarettes." Presented at the International Society of Exposure Science 30th Annual Meeting (ISES 2020), Virtual, September 21, 2020. https://chemicalinsights.org/wp-content/uploads/PO37\_Davis\_Aika\_PDFv2-1.pdf.
- Thomas, Treye, Yong Qian, Mariana Farcas, Timothy R. Nurkiewicz, Sameer Patel, Aleksandr Stefaniak, and Qian Zhang. "Toxicological Exposure and Risk Assessment of Emissions from 3D Printers." Presented at the Society of Toxicology (SOT) 59th Annual Meeting and ToxExpo, Virtual, June 18, 2020. https://chemicalinsights.org/wpcontent/uploads/2020/07/Toxicological-Exposure-and-Risk-Assessment-of-Emissions-from-3D-Printers.pdf.
- Zhang, Oian, Aika Davis, Marilyn Black, and Rodney Weber, "Emissions from Consumer Level 3D Printers," Presented at the Society of Toxicology (SOT) 59th Annual Meeting and ToxExpo, Virtual, June 18, 2020, https ://chemicalinsights.org/wp-content/uploads/2020/04/NEW-SOT2020\_Emissions-from-consumer-3Dprinters-2.pdf.
- Black, Marilyn, and Dwayne Sloan. "Fire Retardants and the Need to Balance Human Health and Fire Safety in the Built Environment." Presented at the National Fire Protection Association (NFPA) Conference & Expo, Virtual, June 17, 2020.

- Davis, Aika, Aleksandr Stefaniak, Rodney J. Weber, Qian Zhang, and Marilyn Black. "Emissions, Exposure, and Health Impact of 3D Printing Processes." Presented at the American Industrial Hygiene Conference & Expo (AIHce 2020), Virtual, June 8, 2020.
- Davis, Aika, Marilyn Black, and Debra Harris. "A Study of Flame Retardants in Lounge Chairs and Electronics and Their Impact on Emission, Exposure, and Flammability." Presented at the American Chemical Society (ACS) Spring 2020 National Meeting & Expo, Virtual, March 22, 2020. https://chemicalinsights.org/wpcontent/uploads/2020/04/ACS-2020-Philadelphia-abstract.pdf.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Emissions from Consumer Level 3D Printers and Their Potential Health Impacts." Presented at the American Chemical Society (ACS) Spring 2020 National Meeting & Expo, Virtual, March 22, 2020. https://chemicalinsights.org/wp-content/uploads/2020/04/ACS-2020-3DPabstract.pdf.
- Black, Marilyn, and Debra Harris. "Are Flame Retardant Issues Resolved?" Presented at the Sustainable Furnishings Council Essentials Webinar, Virtual, February 25, 2020. https://vimeo.com/394971739.
- Zhang, Oian, and Aika Davis, "3D Printing: Emissions and Exposure Mitigation Methods." Presented at the Institute of Electrical and Electronics Engineers (IEEE) Computer Society Chicago Chapter Webinar, Virtual, February 25, 2020.
- He, Linchen, Zhen Li, Yanbo Teng, Xiaoxing Cui, Karoline K. Barkjohn, Christina Norris, Lin Fang, Lili Lin, Qian Wang, Xiaojian Zhou, Jianguo Hong, Feng Li, Yinping Zhang, James J. Schauer, Marilyn Black, Michael H. Bergin, and Junfeng (Jim) Zhang. "Associations of Personal Exposure to Air Pollutants with Airway Mechanics and Lung Function in Children with Asthma." Presented at the International Society for Environmental Epidemiology and the International Society for Exposure Science Asia Chapter (ISEE-ISES AC) Meeting, Daegu, South Korea, October 18, 2019.
- Davis, Aika, Debra Harris, and Marilyn Black. "A Study of Chemical Exposure from Consumer Products Used in Residential Environments." Presented at the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2019 Annual Conference, Kansas City, MO, June 25, 2019. https://chemicalinsights.org/wpcontent/uploads/2020/04/ADAVIS-ASHRAE-2019\_extended\_Abstract3.5.pdf.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Particle and Chemical Emissions from 3D Printers and Their Potential Health Impacts." Presented at the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2019 Annual Conference, Kansas City, MO, June 25, 2019. https://chemicalinsights.org/wp-content/uploads/2020/04/Extended\_Abstract\_ASHRAE\_3DP\_3qz.pdf.
- Zhang, Qian, and Aika Davis. "Particle and Chemical Emissions from Additive Manufacturing." Presented at the RAPID + TCT 2019 Conference, Detroit, MI, May 21, 2019. https://chemicalinsights.org/wpcontent/uploads/2020/04/RAPID-TCT-abstract-v2.pdf.
- Zhang, Qian, Aika Davis, Marilyn Black, and Rodney Weber. "Potential Health Impacts of Particle and Volatile Organic Compound Emissions from Consumer Level 3D Printers." Presented at the American Chemical Society (ACS) Spring 2019 National Meeting & Expo, Orlando, FL, April 3, 2019. https://chemicalinsights.org/wpcontent/uploads/2020/04/2019-ACS\_3DP\_abstract\_v2.pdf.
- Weber, Rodney, Qian Zhang, Jenny Wong, Aika Davis, and Marilyn Black. "Characterization of Particle and Chemical Emissions from 3D Printers." Presented at the United States Environmental Protection Agency (U.S. EPA) Webinar, Virtual, February 1, 2019.
- Johnson, Karoline, Shiyan Ma, Michael Bergin, Christina Norris, Tongshu Zheng, Xiaoxing Cui, James Schauer, Yinping Zhang, Marilyn Black, and Junfeng Zhang. "The Influence of Air Filtration on Indoor Air Pollution and Children's Personal Exposure to PM<sub>2.5</sub> and Ozone in Shanghai, China." Presented at the American Geophysical Union (AGU) Joint International Network in Geoscience (JING) Meeting on Atmospheric PM<sub>2.5</sub>, Xi'an, China, October 16, 2018.
- Black, Marilyn. "Emissions and Health Hazards from Consumer Level 3D Printers." Presented at the Quantifying Exposure to Engineered Nanomaterials Workshop by the U.S. Consumer Product Safety Commission and Department of Labor, Washington, DC, October 1, 2018.

- Davis, Aika, and Marilyn Black. "Emissions and Health Hazards from Consumer Level 3D Printers." Presented at the Institute of Electrical and Electronics Engineers (IEEE) Product Safety Engineering Society (PSES) Chicago Chapter, Virtual, September 26, 2018.
- Johnson, Karoline, Shiyan Ma, Michael Bergin, Christina Norris, Tongshu Zheng, Xiaoxing Cui, James Schauer, Yinping Zhang, Marilyn Black, and Junfeng Zhang. "Children's Personal and Microenvironmental Exposures to PM<sub>2.5</sub> and Ozone in Shanghai, China." Presented at the 2018 Air Sensors International Conference (ASIC), Oakland, CA, September 12, 2018. https://chemicalinsights.org/wp-content/uploads/2018/10/Air-Sensors-International-Conference-2018.pdf.
- Johnson, Karoline, Christina Norris, Tongshu Zheng, Michael Bergin, James Schauer, Junfeng Zhang, Marilyn Black, and Yinping Zhang. "Deployment of Low-Cost Sensors to Assess the Impacts of Portable Air Filtration on Indoor PM<sub>2.5</sub> and Associated Personal Exposure." Presented at the 10<sup>th</sup> International Aerosol Conference, St. Louis, MO, September 2, 2018.
- Zhang, Qian, Michal Pardo, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, Yinon Rudich, and Rodnev J. Weber. Toxicity of Particles Generated from a Consumer Fused Deposition Modeling 3D Printer Using Animal, Cellular and Acellular Models." Presented at the 10th International Aerosol Conference, St. Louis, MO, September 2, 2018. https://chemicalinsights.org/wp-content/uploads/2018/10/IAC poster gian 2-1.pdf.
- Davis, Aika, Marilyn Black, and Debra Harris. "A Study on Flame Retardants in Residential Furniture and Impact on Human Exposure and Flammability Control." Presented at the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE) 2018 Joint Annual Meeting, Ottawa, Canada, August 26, 2018.
- Norris, Christina, Fang Lin, Karoline K. Johnson, James J. Schauer, Junfeng (Jim) Zhang, Yinping Zhang, Marilyn Black, and Michael Bergin. "Volatile Organic Compounds in Homes in Shanghai, China: Identification of Pollutant Sources and Impact of Air Purifier Use on Pollutant Levels." Presented at the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE) 2018 Joint Annual Meeting, Ottawa, Canada, August 26, 2018.
- Fang, Lin. "Characteristics and Inhalation Cancer Risks Assessment of Exposure to VOCs in 20 Asthmatic Children's Homes in Shanghai." Presented at Indoor Air 2018 - The 15th International Conference of Indoor Air Quality and Climate, Philadelphia, PA, July 24, 2018.
- Weber, Rodney, Qian Zhang, Aika Davis, and Marilyn Black. "Emissions from Consumer Fused Deposition Modeling 3D Printers and Their Potential Health Impact." Presented at Indoor Air 2018 – The 15th International Conference of Indoor Air Quality and Climate, Philadelphia, PA, July 24, 2018. https://chemicalinsights.org/wpcontent/uploads/2018/10/IA2018\_abstract\_4.pdf.
- Black, Marilyn. "Human Health in the Built Environment: A Study on Chemical Exposure Risk and Flammability of Upholstered Furniture and Other Consumer Products." Presented at NeoCon 2018, Chicago, IL, June 1, 2018.
- Bergin, Michael H. "Assessing the Impacts of Air Filtration on Indoor and Personal Exposure Relevant Concentrations of PM<sub>2.5</sub> and Volatile Organic Compounds in Suburban Shanghai, China." Presented at the Lawrence Berkeley National Laboratory Workshop on Energy and Environment of Residential Buildings, China, 2018.
- Johnson, Karoline, Michael Bergin, Christina Norris, Junfeng Zhang, Yinping Zhang, and James Schauer. "The Application of Low-Cost Air Quality Sensors to Monitor Portable Air Filtration Device Performance and Personal Exposure in Beijing, China." Presented at the 36th American Association for Aerosol Research (AAAR) Annual Conference, Raleigh, NC, October 17, 2017.
- Zhan, Ying, Karoline Johnson, Christina Norris, Martin M. Shafer, Mike H. Bergin, Yinping Zhang, Junfeng Zhang, and James J. Schauer. "The Influence of Air Cleaners on Concentrations of Indoor Particulate Matter Components and Oxidative Potential in Beijing, China." Presented at the 36<sup>th</sup> American Association for Aerosol Research (AAAR) Annual Conference, Raleigh, NC, October 17, 2017.
- Zhang, Qian, Girish Sharma, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, Pratim Biswas, and Rodney J. Weber. 'Investigating Particle Emissions from a Consumer Fused Deposition Modeling 3D Printer with a Lognormal

- Moment Aerosol Dynamic Model." Presented at the 36th American Association for Aerosol Research (AAAR) Annual Conference, Raleigh, NC, October 17, 2017. https://chemicalinsights.org/wpcontent/uploads/2017/10/AAAR-Poster-Oct.-2017.pdf.
- Weber, Rodney, Qian Zhang, Jenny Wong, Aika Davis, and Marilyn Black. "Fine Particulate and Chemical Emissions from FFF/Desktop 3D Printers." Presented at the Additive Manufacturing Users Group (AMUG) Conference, Chicago, IL, March 19, 2017. https://chemicalinsights.org/wp-content/uploads/2018/10/ADavisAMUG2017-03222017-sharable.pdf.
- Davis, Aika, Marilyn Black, and Stephen Kerber. "Chemical Exposures Related to Upholstered Furniture and Other Consumer Products." Presented at Indoor Air 2016 - The 14th International Conference of Indoor Air Quality and Climate, Ghent, Belgium, September 14, 2016.
- Davis, Aika, Marilyn Black, Oian Zhang, Jenny P. S. Wong, and Rodney Weber. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." Presented at Indoor Air 2016 - The 14th International Conference of Indoor Air Quality and Climate, Ghent, Belgium, September 14, 2016. https://chemicalinsights.org/wpcontent/uploads/2017/06/Doc-5-Indoor-Air-2016-Fine-Particulate-and-Chemical-Emissions-from-Consumer-3D-Printers.pdf.
- Weber, Rodney, Qian Zhang, Jenny Wong, Marilyn Black, and Aika Davis. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." Presented at Printing for Fabrication 2016 – The 32nd International Conference on Digital Printing Technologies (NIP), Manchester, UK, September 14, 2016.
- Davis, Aika, Marilyn Black, Oian Zhang, Jenny P. S. Wong, and Rodney Weber. "Fine Particulate and Chemical Emissions from Desktop 3D Printers." Presented at American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2016 Annual Conference, St. Louis, MO, June 25, 2016. https://chemicalinsights.org/wp-content/uploads/2017/06/Doc-4-ASHRAE-2016-Fine-Particulate-and-Chemical-Emissions-from-Desktop-3D-Printers.pdf.
- Black, Marilyn, and Debra Harris. "Chemical Exposure from Upholstered Furniture and Other Consumer Products." Presented at NeoCon 2016, Chicago, IL, June 1, 2016.
- Zhang, Qian, Jenny P. S. Wong, Aika Y. Davis, Marilyn S. Black, and Rodney J. Weber. "Emissions from Consumer 3D Printers." Presented at the 34th American Association for Aerosol Research (AAAR) Annual Conference, Minneapolis, MN, October 1, 2015. https://chemicalinsights.org/wp-content/uploads/2017/06/Doc-3-AAAR-Emissions-from-Consumer-3D-Printers.pdf.

#### STANDARDS AND GUIDANCE DOCUMENTS

- Underwriters Laboratories Inc. "UL 200C: Guidance and Practical Strategies for Reducing Public Health Impacts of Wildland-Urban Interface (WUI) Fires on Community Populations." Underwriters Laboratories, Inc.: Marietta, GA, 2024. <a href="https://wildfirehealthrisks.org/wp-content/uploads/2024/10/UL200C\_Public-Health-Impacts-of-">https://wildfirehealthrisks.org/wp-content/uploads/2024/10/UL200C\_Public-Health-Impacts-of-</a> WUI-Fires.pdf
- American National Standards Institute (ANSI). "ANSI/CAN/UL 2904: 2023 Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers." American National Standards Institute: Washington, DC, 2023.
- Underwriters Laboratories Inc. "UL 200B: Safe Use of 3D Printing for Institutions of Higher Education." Underwriters Laboratories Inc.: Marietta, GA, 2023. https://chemicalinsights.org/wp-content/uploads/2023/05/UL-200B\_1.pdf.
- Underwriters Laboratories Inc. "UL 200A: Use of DIY Filtration Devices During Wildfires." Underwriters Laboratories Inc.: Marietta, GA, 2022. https://chemicalinsights.org/wp-content/uploads/UL-200A\_1\_20220413.pdf.
- Underwriters Laboratories Inc. "UL 118F: Managing Fire and Chemical Exposure Risks of Residential Upholstered Furniture." Underwriters Laboratories Inc.: Marietta, GA, 2021. https://chemicalinsights.org/wpcontent/uploads/UL-118F\_04.19.21\_FINAL.pdf.

American National Standards Institute (ANSI). "ANSI/CAN/UL 2904: Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers." American National Standards Institute: Washington, DC, 2019.

#### **TECHNICAL REPORTS**

- "ASID Impact of Design Brief: Climate Impacts on Building Resilience and Human Health Extreme Heat Impacts on Interior Design Materials." ASID/CIRI Insight Brief #2, November 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2024/11/Insights-Brief\_Effects-of-Extreme-Heat-on-Materials\_ASIDCIRI\_Final-11252024.pdf">https://chemicalinsights.org/wp-content/uploads/2024/11/Insights-Brief\_Effects-of-Extreme-Heat-on-Materials\_ASIDCIRI\_Final-11252024.pdf</a>.
- "Impact of 3D Printing on Indoor Air Quality in a University Dental School." Report 390, November 2024. https://chemicalinsights.org/wp-content/uploads/2024/11/R390\_Impact\_of\_3D\_Printing\_on\_IAQ\_Dental\_School.pdf.
- "Assessing the Influence of Indoor Air Filtration on the Health of Asthmatic Children in China." Report 370, November 2024. https://chemicalinsights.org/wp-content/uploads/2024/10/R370\_-Air\_Filtration\_Health\_China.pdf.
- "A Pilot Study to Quantify Volatile Organic Compounds and Their Sources Inside and Outside Homes in Urban India." Report 380, October 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2024/10/R380\_VOC\_Sources\_India.pdf">https://chemicalinsights.org/wp-content/uploads/2024/10/R380\_VOC\_Sources\_India.pdf</a>.
- "Impact of 3D Printing on Indoor Air Quality in Educational Settings." Report 360, August 2024. https://chemicalinsights.org/wp-content/uploads/2024/08/R360\_3DP\_081624.pdf.
- "A Research Study of 3D Printing in a University Dental School." Report 350, April 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2024/04/CIRI\_R350\_3DP\_Report\_040424.pdf">https://chemicalinsights.org/wp-content/uploads/2024/04/CIRI\_R350\_3DP\_Report\_040424.pdf</a>.
- "ASID Impact of Design Brief: Climate, Building Resiliency, Human Health, Extreme Weather Impacts on Interior Design Materials." ASID/CIRI Insight Brief #1, March 2024. <a href="https://www.asid.org/resources/resources/view/resource-center/358">https://www.asid.org/resources/view/resource-center/358</a>.
- "Phase 1A PFAS and Human Health: Exposures and Effects from Consumer Textiles." Report 340, December 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/12/CIRI\_R340\_PFAS.pdf">https://chemicalinsights.org/wp-content/uploads/2023/12/CIRI\_R340\_PFAS.pdf</a>.
- "The Effect of Wildfires and Wildland Urban Interface (WUI) on Indoor Air Quality and Health in Residential Homes: Pilot Study." Report 330, August 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/08/Chemical-Insights\_Indoor-Air-Quality\_Report-330\_final.pdf">https://chemicalinsights.org/wp-content/uploads/2023/08/Chemical-Insights\_Indoor-Air-Quality\_Report-330\_final.pdf</a>.
- "Characterization of Aerosol Emissions from Electronic Nicotine Delivery Systems (ENDS)." Report 320, July 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/07/Chemical-Insights\_ENDS-Report\_Final.pdf">https://chemicalinsights.org/wp-content/uploads/2023/07/Chemical-Insights\_ENDS-Report\_Final.pdf</a>.
- "Extreme Weather Impact on Indoor Material Emissions." Report 300, April 2023. https://chemicalinsights.org/wp-content/uploads/2023/06/Chemical-Insights\_MaterialEmissions-R300\_Fin.pdf.
- "The Impact of 3D Printing on Indoor Air Quality in a University Maker Center." Report 290, May 2023.

  <a href="https://chemicalinsights.org/wp-content/uploads/2023/05/Chemical-Insights\_3D-Makerspace\_Technical-Report\_Final.pdf">https://chemicalinsights.org/wp-content/uploads/2023/05/Chemical-Insights\_3D-Makerspace\_Technical-Report\_Final.pdf</a>.

  Report\_Final.pdf.
- "Volatile Organic Compounds (VOCs) Released from Electronic Nicotine Delivery Systems (ENDS)." Report 280, November 2022. Chemical-Insights\_VOC-Report-11.29.22-1.pdf
- "Final Report: Dosimetric and Toxicological Analysis of 3D Printer Emitted Particles." Report 270, September 2022. <a href="https://chemicalinsights.org/wp-content/uploads/Chemical-Insights\_3D-Toxicity-Report\_final.pdf">https://chemicalinsights.org/wp-content/uploads/Chemical-Insights\_3D-Toxicity-Report\_final.pdf</a>.
- "A Summary Report: Research Data on Upholstered Furniture Fire Barriers." Report 260, November 2021. https://chemicalinsights.org/wp-content/uploads/R260\_Barrier-Research\_112921.pdf.
- "Physiochemical and Toxicological Characterization of Electronic Nicotine Delivery Systems." Report 250, September 2021. <a href="https://chemicalinsights.org/wp-content/uploads/R250\_Physicochemical-and-Toxicological-Characterization-of-Electronic-Nicotine-Delivery-Systems\_092821.pdf">https://chemicalinsights.org/wp-content/uploads/R250\_Physicochemical-and-Toxicological-Characterization-of-Electronic-Nicotine-Delivery-Systems\_092821.pdf</a>.

- "Filtration Strategies for Reducing Chemical and Particle Emissions from 3D Printing." Report 210, July 2021. https://chemicalinsights.org/wp-content/uploads/3DP-Filtration-2021.pdf.
- "Wildfire Safety Research: An Evaluation of DIY Air Filtration." Report 200, July 2021. <a href="https://chemicalinsights.org/wp-content/uploads/2021/07/DIY-Box-Fan-Report-2021.pdf">https://chemicalinsights.org/wp-content/uploads/2021/07/DIY-Box-Fan-Report-2021.pdf</a>.
- "A Summary Report: Particle and Chemical Emissions from a Vat Photopolymerization 3D Printer." Report 240, May 2021. <a href="https://chemicalinsights.org/wp-content/uploads/2021/05/2021-Summary-Report-Particle-and-Chemical-Emissions-from-a-Vat-Photopolymerization-3D-Printer.pdf">https://chemicalinsights.org/wp-content/uploads/2021/05/2021-Summary-Report-Particle-and-Chemical-Emissions-from-a-Vat-Photopolymerization-3D-Printer.pdf</a>.
- "A Summary Report: The Effect of Filtration on Particle and Chemical Emissions from a 3D Printer." Report 170, March 2021. <a href="https://chemicalinsights.org/wp-content/uploads/2021-Summary-Report-Effects-of-Filtration-on-Particle-and-Chemical-Emissions-from-3D-Printers\_revised.pdf">https://chemicalinsights.org/wp-content/uploads/2021-Summary-Report-Effects-of-Filtration-on-Particle-and-Chemical-Emissions-from-3D-Printers\_revised.pdf</a>.
- "Effects of a Filter Setup on Particle and Chemical Emissions from a 3D Printer." Report 180, February 2021. https://chemicalinsights.org/wp-content/uploads/Website-Metal-Analysis-Summary-Report-180.pdf.
- "Toxicological Exposure and Risk Assessment of Emissions from 3D Printers." Report 230, June 2020.

  <a href="https://chemicalinsights.org/wp-content/uploads/2020/07/Toxicological-Exposure-and-Risk-Assessment-of-Emissions-from-3D-Printers.pdf">https://chemicalinsights.org/wp-content/uploads/2020/07/Toxicological-Exposure-and-Risk-Assessment-of-Emissions-from-3D-Printers.pdf</a>.
- "2019 Annual Summary Report: 3D Printer Emission Research." Report 140, May 2020. https://chemicalinsights.org/wp-content/uploads/2019-3D-Printing-Annual-Report.pdf.
- "2019 Executive Summary Report: 3D Printer Emission Research." Report 130, May 2020. https://chemicalinsights.org/wp-content/uploads/2019-3D-Printing-Summary-Report.pdf.
- "Human Health in the Built Environment: A Study of Chemical Exposure Risk and Flammability of Upholstered Furniture and Consumer Electronics." Report 050, April 2019. <a href="https://chemicalinsights.org/wp-content/uploads/2019/04/Human-Health-in-the-Built-Environment\_FINAL.pdf">https://chemicalinsights.org/wp-content/uploads/2019/04/Human-Health-in-the-Built-Environment\_FINAL.pdf</a>.
- "Summary Report: Characterization of Volatile Organic Compound Emissions from Consumer Level Material 3D Printers and Their Relationship with Particle Emissions." Report, December 2018. https://chemicalinsights.org/wp-content/uploads/2018/12/VOCs\_3DP\_112018.pdf.
- "Summary Report: Chemical Composition and Toxicity of Particles Emitted from a Consumer-Level 3D Printer Using Various Materials." Report, November 2018. <a href="https://chemicalinsights.org/wp-content/uploads/2018/11/Toxicity\_3DPrinting.pdf">https://chemicalinsights.org/wp-content/uploads/2018/11/Toxicity\_3DPrinting.pdf</a>.
- "Research Report and Preliminary Study: Chemical Exposure & Flammability Study on Upholstered Furniture from the U.S. and U.K." Report 010, June 2016. <a href="https://chemicalinsights.org/wp-content/uploads/2019/03/USUK\_PreliminaryStudy.pdf">https://chemicalinsights.org/wp-content/uploads/2019/03/USUK\_PreliminaryStudy.pdf</a>.
- "3D Printing: Health Effects of Ultrafine Particle Emissions." Report, August 2015. <a href="https://chemicalinsights.org/wp-content/uploads/2018/12/Emory\_UFPS\_2015.pdf">https://chemicalinsights.org/wp-content/uploads/2018/12/Emory\_UFPS\_2015.pdf</a>.
- "Ultrafine Particles: An Update What, Where, Why, Concern." Report, June 2015. <a href="https://chemicalinsights.org/wp-content/uploads/2017/06/Doc-2-Ultrafine-Particles-An-Update-What-Where-Why-Concern.pdf">https://chemicalinsights.org/wp-content/uploads/2017/06/Doc-2-Ultrafine-Particles-An-Update-What-Where-Why-Concern.pdf</a>.

## TECHNICAL BRIEFS, BULLETINS, APPLICATION NOTES, SCIENCE INSIGHTS, AND FACT SHEETS

- "A Strategic Research Initiative on the Cardiopulmonary Detriments of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Exposure in Firehouses." Technical Brief TB 710. <a href="https://chemicalinsights.org/wp-content/uploads/2024/11/TB\_710\_Cardiopulmonary\_Detriments\_PFAS\_Firehouses.pdf">https://chemicalinsights.org/wp-content/uploads/2024/11/TB\_710\_Cardiopulmonary\_Detriments\_PFAS\_Firehouses.pdf</a>.
- "A Strategic Research Initiative: Chemical Analysis of WUI Fire Emissions." Technical Brief TB 700. https://chemicalinsights.org/wp-content/uploads/2024/11/TB\_700\_Chemical\_Analysis\_WUI\_Fire\_Emissions.pdf.

- "A Strategic Research Initiative on Microchamber Protocols for Material Changes with Extreme Heat and Moisture." Technical Brief TB 690. https://chemicalinsights.org/wpcontent/uploads/2024/11/TB\_690\_Microchamber\_Protocols\_HeatMoisture.pdf.
- "A Strategic Research Initiative for Environmental Field Study Knowledge." Technical Brief TB 680. https://chemicalinsights.org/wpcontent/uploads/2024/11/TB\_680\_Environmental\_Field\_Study\_Knowledge.pdf.
- "A Strategic Research Initiative on Research Data Visualization and An Online Data Portal." Technical Brief TB 670. https://chemicalinsights.org/wp-content/uploads/2024/11/TB\_670\_Data\_Visualization.pdf.
- "Exposure and Health Implications of Per- and Polyfluoroalkyl Substances (PFAS)." Science Insights SI 010. https://chemicalinsights.org/wp-content/uploads/2023/01/ScienceInsights\_010\_Final\_2023.pdf.
- "A Strategic Research Initiative on the Combined Impact of Urban Heat and Indoor Air Quality Exposure on Human Health." Technical Brief TB 660. https://chemicalinsights.org/wp-content/uploads/2024/07/TB\_660\_Urban\_Heat\_IAQ\_Health.pdf.
- "When the Dust Settles: Reducing Chemical and Particle Health Risks Following a Large-Scale Urban Fire." Technical Brief TB 510. https://chemicalinsights.org/wp-content/uploads/2023/03/TB510\_When-the-Dust-Settles\_Reducing-Chemical-and-Particle-Health-Risks-Following-a-Large-Scale-Urban-Fire.pdf.
- "Strategies for Cleaning Hazardous Settled Dust after a Smoke Event." Application Note AN 300. AN300\_Strategiesfor-Cleaning-Hazardous-Settled-Dust-after-a-Smoke-Event.pdf (chemicalinsights.org).
- "A Strategic Research Initiative on the Development of a Dust Volatile Organic Compound Method for Chemical Characterization of Settled Dust and Environmental Residues." Technical Brief TB 650. <a href="https://chemicalinsights.org/wp-content/uploads/2024/05/WUI\_TB\_650.pdf">https://chemicalinsights.org/wp-content/uploads/2024/05/WUI\_TB\_650.pdf</a>.
- "A Strategic Research Initiative on Wildland Urban Interface (WUI) Fires and Community Health in Maui." Technical Brief TB 640. https://chemicalinsights.org/wp-content/uploads/2024/05/Maui\_TB\_640\_2024.pdf.
- "A Study on the Metal Composition of Particles Emitted from 3D Printing." Technical Brief TB 630. https://chemicalinsights.org/wpcontent/uploads/2024/01/TB\_630\_Metal\_Composition\_3DPrinting\_Emissions.pdf.
- "A Strategic Research Initiative on Chemicals of Emerging Concern and Respiratory Health Risks." Technical Brief TB 620. https://chemicalinsights.org/wp-content/uploads/2023/12/TB-620-A-Strategic-Research-Initiative-on-Chemicals-of-Emerging-Concern-and-Respiratory-Health-Risks.pdf.
- "A Strategic Research Initiative on Creation of a Multimodal Platform for Genotoxicity Testing for Chemicals of Emerging Concern." Technical Brief TB 610. https://chemicalinsights.org/wp-content/uploads/2023/12/TB-610-A-Strategic-Research-Initiative-on-Creation-of-a-Multimodal-Platform-for-Genotoxicity-Testing-for-Chemicals-of-Emerging-Concern-2.pdf.
- "Guidelines for Ventilation of Buildings Against Infectious Viruses." Technical Brief TB 600. https://chemicalinsights.org/wp-content/uploads/2023/10/TB-600-Ventilation-of-Buildings-Against-Infectious-Viruses-final-4.pdf.
- "A Strategic Research Initiative on the Impact of Extreme Weather on Indoor Air Quality." Technical Brief TB 580. https://chemicalinsights.org/wp-content/uploads/2023/08/TB-580\_Extreme-Weather\_final.pdf.
- "A Strategic Research Initiative on the Effect of Wildfires and the Wildland Urban Interface (WUI) on Indoor Air Quality and Health in Residential Homes." Technical Brief TB 590. https://chemicalinsights.org/wpcontent/uploads/2023/08/TB-590\_Residential-Homes\_final.pdf.
- "A Strategic Research Initiative for Extended Research on Periodontal Disease and Electronic Nicotine Delivery Systems (ENDS) Usage." Technical Brief TB 570. <a href="https://chemicalinsights.org/wp-content/uploads/2023/07/TB-570\_ENDS.pdf">https://chemicalinsights.org/wp-content/uploads/2023/07/TB-570\_ENDS.pdf</a>.
- "Tetrahydrofuran A Common Air Pollutant." Technical Brief TB 560. <u>https://chemicalinsights.org/wp-</u> content/uploads/2023/07/TB-560 Tetrahydrofuran.pdf.
- "Tetradecamethylcycloheptasiloxane A Common Air Pollutant." Technical Brief TB 550. https://chemicalinsights.org/wp-content/uploads/2023/07/TB-550\_Tetradecamethylcycloheptasiloxane.pdf.

- "Second Edition of ANSI/CAN/UL 2904: Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers." Technical Brief TB 540. https://chemicalinsights.org/wp-content/uploads/2023/06/TB-540\_3D-Printers\_fin.pdf.
- "A Strategic Research Initiative on the Characterization of Atmospheric Contributions of Wildland Urban Interface Fire Emissions." Technical Brief TB 530. https://chemicalinsights.org/wp-content/uploads/2023/06/TB-530\_Wildland-Urband\_Interface-Fire-Emissions\_Fin-1.pdf.
- "A Strategic Research Initiative for the Optimization of a Textile Fire Barrier Without Flame Retardants for Upholstered Furniture." Technical Brief TB 520. https://chemicalinsights.org/wp-content/uploads/2023/06/TB-520 Barrier -Fin.pdf.
- "Strategies for Cleaning Hazardous Settled Dust After a Smoke Event." Application Note AN 300. https://chemicalinsights.org/wp-content/uploads/2023/03/AN300\_Strategies-for-Cleaning-Hazardous-Settled-Dust-after-a-Smoke-Event.pdf.
- "When the Dust Settles: Reducing Chemical and Particle Health Risks Following a Large-Scale Urban Fire." Technical Brief TB 510. https://chemicalinsights.org/wp-content/uploads/2023/03/TB510\_When-the-Dust-Settles\_Reducing-Chemical-and-Particle-Health-Risks-Following-a-Large-Scale-Urban-Fire.pdf.
- "Health Hazards of Building Dust." Technical Brief TB 500. https://chemicalinsights.org/wpcontent/uploads/2023/03/TB-500 Health Hazardsof Building Dust.pdf.
- "Per- and Polyfluoroalkyl Substances (PFAS)." Fact Sheet FS 030. <a href="https://chemicalinsights.org/wp-content/uploads/2023/02/External-Chemical-Insights\_FS030\_PFAS\_final\_2023.pdf">https://chemicalinsights.org/wp-content/uploads/2023/02/External-Chemical-Insights\_FS030\_PFAS\_final\_2023.pdf</a>.
- "Exposure and Health Implications of Per- and Polyfluoroalkyl Substances (PFAS)." Science Insights SI 010. https://chemicalinsights.org/wp-content/uploads/2023/01/ScienceInsights\_010\_Final\_2023.pdf.
- "A Strategic Research Initiative on the Impact of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) on Human Health." Technical Brief TB 490. https://chemicalinsights.org/wp-content/uploads/2023/02/TB-490\_PFAS\_final-2023.pdf.
- "4-Phenylcyclohexene A Common Air Pollutant." Technical Brief TB 480. https://chemicalinsights.org/wpcontent/uploads/TB-480\_4-Phenylcyclohexene\_v2\_11.28.pdf.
- "Benzene A Common Air Pollutant." Technical Brief TB 470. https://chemicalinsights.org/wp-content/uploads/TB-470\_Benzene\_final.pdf.
- "A Strategic Research Initiative on Air Pollution Exposure in Child Care Settings." Technical Brief TB 460. https://chemicalinsights.org/wp-content/uploads/TB-460 APECCS 10.7.pdf.
- "Perchloroethylene A Common Air Pollutant." Technical Brief TB 450. https://chemicalinsights.org/wpcontent/uploads/TB-450\_Perchloroethylene.pdf.
- "Styrene A Common Air Pollutant." Technical Brief TB 440. https://chemicalinsights.org/wp-content/uploads/TB-440\_Styrene.pdf.
- "Naphthalene A Common Air Pollutant." Technical Brief TB 430. https://chemicalinsights.org/wpcontent/uploads/TB-430\_Naphthalene.pdf.
- "Understanding Vaping or Electronic Nicotine Delivery Systems." Technical Brief TB 420. https://chemicalinsights.org/wp-content/uploads/2022/05/TB-400\_ENDS-1.pdf
- "Strategies to Protect Air Quality During Wildfires: Considerations for Do-It-Yourself Filtration Devices." Application Note AN 200. https://chemicalinsights.org/wp-content/uploads/AN\_200\_061322.pdf.
- "2-Butoxyethanol A Common Air Pollutant." Technical Brief TB 410. https://chemicalinsights.org/wpcontent/uploads/TB-410\_2-Butoxyethanol.pdf.

- "A Strategic Research Initiative on African American Susceptibility to Periodontal Disease due to Electronic Nicotine Delivery Systems (ENDS) Usage." Technical Brief TB 400. https://chemicalinsights.org/wpcontent/uploads/2022/05/TB-400\_ENDS-1.pdf
- "Decamethylcyclopentasiloxane A Common Air Pollutant." Technical Brief TB 390. https://chemicalinsights.org/wpcontent/uploads/TB-390\_Decamethylcyclopentasiloxane.pdf.
- "Methylene Chloride A Common Air Pollutant." Technical Brief TB 380. https://chemicalinsights.org/wpcontent/uploads/TB-380\_Methylene-Chloride.pdf.
- "Xylene A Common Air Pollutant." Technical Brief TB 370. https://chemicalinsights.org/wpcontent/uploads/Technical-Brief-Xylene.pdf.
- "Specifying Upholstered Furniture Fire Barriers." Application Note AN 100. https://chemicalinsights.org/wpcontent/uploads/2022/02/AN100\_Specifying\_Upholstered\_Furniture\_Fire\_Barriers.pdf
- "CelTox Sampler An Overview." Technical Brief TB 360. https://chemicalinsights.org/wpcontent/uploads/TB360\_CelTox\_112921.pdf.
- "Ethylbenzene A Common Air Pollutant." Technical Brief TB 350. https://chemicalinsights.org/wpcontent/uploads/TB350\_Ethylbenzene\_112321.pdf.
- "Phenol A Common Air Pollutant." Technical Brief TB 340. https://chemicalinsights.org/wpcontent/uploads/TB340\_Phenol.pdf.
- "Ethylene Glycol A Common Air Pollutant." Technical Brief TB 330. <u>https://chemicalinsights.org/wp-</u> content/uploads/TB330\_Ethylene\_glycol\_092821.pdf.
- "Chemical Releases from Burning Upholstered Furniture and Electronics." Technical Brief TB 320. https://chemicalinsights.org/wp-content/uploads/TB320\_Chemical-Releases-from-Burning-Upholstered-Furniture-and-Electronics 092821.pdf.
- "Acetophenone A Common Air Pollutant." Technical Brief TB 310. https://chemicalinsights.org/wpcontent/uploads/Acetophenone.pdf.
- "Study Protocols for Indoor Air Quality Monitoring in Schools." Technical Brief TB 300. https://chemicalinsights.org/wp-content/uploads/2021/08/TB-300\_IAQ-Monitoring-in-Schools.pdf
- "A Strategic Research Initiative on the Dosimetric and Toxicological Analysis of 3D Printer Emitted Particles." Technical Brief TB 290. https://chemicalinsights.org/wp-content/uploads/TB-290\_A-Strategic-Research-Initiative-on-the-Dosimetric-and-Toxicological-Analysis-of-3D-Printer-Emitted-Particles-.pdf.
- "Acetaldehyde A Common Air Pollutant." Technical Brief TB 280. https://chemicalinsights.org/wpcontent/uploads/Acetaldehyde.pdf.
- "Toluene A Common Air Pollutant." Technical Brief TB 270, https://chemicalinsights.org/wpcontent/uploads/FactSheet\_Toluene-1.pdf.
- "Understanding Wildfires." Technical Brief TB 260. https://chemicalinsights.org/wpcontent/uploads/FactSheet\_Wildfires.pdf.
- "Formaldehyde A Common Air Pollutant." Fact Sheet FS 250. https://chemicalinsights.org/wpcontent/uploads/FactSheet\_Formaldehyde.pdf.
- "A Strategic Research Initiative on Wildfires and Public Health." Technical Brief TB 230. https://chemicalinsights.org/wp-content/uploads/Wildfire-Technical-Brief.pdf.
- "A Strategic Research Initiative on Physiochemical and Toxicological Assessment of Electronic Nicotine Delivery System." Technical Brief TB 110. https://chemicalinsights.org/wp-content/uploads/2019/11/ENDS\_Technical-Brief.pdf.

- "A National Taskforce on Residential Upholstered Furniture Flammability and Human Health." Technical Brief TB 220. https://chemicalinsights.org/wp-content/uploads/FFHH-Taskforce\_Brief.pdf.
- "Fire Regulations and Flame Retardant Usage Trends." Technical Bulletin TB 210. https://chemicalinsights.org/wpcontent/uploads/FireRegulations\_Brief.pdf.
- "Organic Flame Retardant Exposure." Technical Bulletin TB 200. <a href="https://chemicalinsights.org/wp-content/uploads/2020/07/FRExposure\_Brief.pdf">https://chemicalinsights.org/wp-content/uploads/2020/07/FRExposure\_Brief.pdf</a>.
- "Residential Fire Statistics." Technical Bulletin TB 190, rev. 1. https://chemicalinsights.org/wpcontent/uploads/TB\_Residential\_Fire\_Statistics.pdf.
- "Coronavirus Aerosol." Technical Brief TB 180. https://chemicalinsights.org/wpcontent/uploads/2020/03/Coronavirus-Aerosols.pdf.
- "Flame Retardants: Balancing Benefits and Risks." Technical Bulletin TB 170, https://chemicalinsights.org/wpcontent/uploads/2020/03/Flame-Retardants\_WHO.pdf.
- "A Strategic Research Initiative for Extended Research on Furniture Chemical Exposure." Technical Brief TB 130. https://chemicalinsights.org/wp-content/uploads/2020/05/FurnitureFlammability\_ResearchExpansion.pdf.
- "Phase 1 Research on Chemical and Particle Emissions from 3D Printing." Fact Sheet FS 120. https://chemicalinsights.org/wp-content/uploads/2019/09/3DPrinting\_BasicFacts.pdf.
- "A Strategic Research Initiative for Extended Research on Pollutant Exposure in India." Technical Brief TB 150. https://chemicalinsights.org/wp-content/uploads/2019/11/IndiaAirPollution\_ResearchExpansion.pdf.
- "A Strategic Research Initiative for Extended Research on Pollutant Exposure in China." Technical Brief TB 140. https://chemicalinsights.org/wp-content/uploads/2019/10/ChinaAirPollution\_ResearchExpansion.pdf.
- "A Strategic Research Initiative for Extended Research on 3D Printing School Studies." Technical Brief TB 100. https://chemicalinsights.org/wp-content/uploads/2019/09/3DPrint\_IAQSchools.pdf.
- "A Strategic Research Initiative for Extended Research on 3D Printing Emission Studies." Technical Brief TB 090. https://chemicalinsights.org/wp-content/uploads/2019/09/3DPrint\_EmissionStudies.pdf.
- "VOC and Aldehyde Analysis Methods Used in Research Studies." Technical Brief TB 080. https://chemicalinsights.org/wp-content/uploads/2019/09/VOC\_Aldehyde\_Methods.pdf.
- "Methodologies for Studying Furniture Flame Retardant Exposure." Technical Brief TB 070. https://chemicalinsights.org/wp-content/uploads/2019/04/FurnitureFlammability\_Methodologies.pdf.
- "Methodologies for Studying Furniture Flammability." Technical Brief TB 060. https://chemicalinsights.org/wpcontent/uploads/2019/04/FurnitureFlammability\_FlameAnalysis.pdf.
- "Research on Chemical Exposure and Flammability Risks of Upholstered Furniture and Consumer Electronics." Technical Brief TB 050. https://chemicalinsights.org/wpcontent/uploads/2019/04/FurnitureFlammability\_BasicFacts.pdf.
- "ANSI/CAN/UL 2904: Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers." Technical Brief TB 040. http://chemicalinsights.org/wpcontent/uploads/2019/05/3DPrint\_Standard\_Brief\_Version-2.pdf
- "A Strategic Research Initiative for China Air Quality: The Influence of Outdoor and Indoor Air Pollution on Acute Respiratory Responses of School Children in China." Technical Brief TB 030. https://chemicalinsights.org/wpcontent/uploads/2019/02/ChinaStrategy\_Brief.pdf.
- "A Strategic Research Initiative for 3D Printing: Safety Convergence for Manufactured Products." Technical Brief TB 020. https://chemicalinsights.org/wp-content/uploads/2019/02/3DPrint\_Brief.pdf.

"A Strategic Research Initiative for Furniture Flame Retardants and Flammability." Technical Brief TB 010. https://chemicalinsights.org/wp-content/uploads/2019/02/FurnitureFlame\_Brief.pdf.

#### OTHER PUBLICATIONS

- Black, Marilyn. "How to Stay Safe from Wildfires, No Matter Where You Live." Share Care, November 18, 2024. https://www.sharecare.com/first-aid-safety/health-effects-of-wildfire-smoke.
- Sager, Talia. "Health Hazards in the Building Process." Commercial Construction & Renovation, November 17, 2024. https://issuu.com/bocdesigninc/docs/ccr-issue.10.24/64.
- Sager, Talia. "Extreme Heat and the Built Environment." *Commercial Construction & Renovation*, June 7, 2024. <a href="https://issuu.com/bocdesigninc/docs/ccr-issue-5\_2024/70">https://issuu.com/bocdesigninc/docs/ccr-issue-5\_2024/70</a>.
- Sager, Talia. "Breathe Easier: How You Can Improve Student Health Through Better Indoor Air Quality." NASN Conference Blog, May 8, 2024.
- Saksena, Sumeet, Jim Zhang, and Marilyn Black. "Column: Wildfire Air Pollution Poses Health Risk." Honolulu Star Advertiser, November 19, 2023. https://www.staradvertiser.com/2023/11/19/editorial/island-voices/columnwildfire-air-pollution-poses-health-risk/.
- Kelly, Bert. "New Guidance for 3D Printing at Colleges and Universities." AIHA Synergist, June 20, 2023. https://www.aiha.org/blog/new-guidance-for-3d-printing-at-colleges-and-universities.
- Black, Marilyn, "Ways School Health and Facilities Staff Can Collaborate to Address IAO." Center for Green Schools. May 22, 2023. https://www.usgbc.org/articles/ways-school-health-and-facilities-staff-can-collaborateaddress-iag.
- Zhang, Qian, and Cristi Bell-Huff. "Chemical Insights Research Institute Introduces a New Interactive Data Portal for 3D Printing Emissions Information." 3DPrint.com, March 14, 2023. https://3dprint.com/298525/chemicalinsights-research-institute-introduces-a-new-interactive-data-portal-for-3d-printing-emissions-information/.
- Black, Marilyn. "Creating a Healthy Indoor Environment: Reducing Chemical Air Pollutants' Impact." FMJ, January/February 2023. <a href="http://fmj.ifma.org/publication/?i=778812&p=16">http://fmj.ifma.org/publication/?i=778812&p=16</a>.
- Black, Marilyn. "Aerosol Transmission: The Science Behind Good IAQ and Safer Spaces." FMJ, March/April 2021. http://fmj.ifma.org/publication/?m=30261&i=699223&view=articleBrowser&article\_id=3968078.
- Black, Marilyn. "Indoor Air Quality and Use of 3D Printers in Schools." USGBC, December 4, 2020. https://www.usgbc.org/articles/indoor-air-quality-and-use-3d-printers-schools.
- Black, Marilyn. "Printing Hazards: Managing 3D Printer Emissions for Safety & Health." FMJ, November/December 2020. http://fmj.ifma.org/publication/?m=30261&i=679917&p=48.
- Black, Marilyn. "Indoor Air Quality Tips Every School Should Follow Before Reopening." The Learning Counsel: Research and Context on the Digital Education Experience, August 11, 2020.
- Black, Marilyn. "3D Printing Presents Health Risks: Tips on Protecting Your Workers." Industry Week, August 10, 2020. https://www.industryweek.com/operations/safety/article/21138777/3d-printing-presents-health-risks-tips-onprotecting-your-workers.
- Black, Marilyn. "3D Printer Emissions Under Scrutiny as Usage Grows." Industry Today, May 19, 2020. https://industrytoday.com/3d-printer-emissions-under-scrutiny-as-usage-grows/.
- Black, Marilyn. "3D Printing Safety 101: How Schools Can Safely Use 3D Printers in the Classroom." The Learning Counsel: Research and Context on the Digital Education Experience, April 28, 2020.
- Black, Marilyn. "Are Flame Retardant Issues Solved?" Furniture World News, April 17, 2020. https://www.furninfo.com/furniture-industry-news/11708.

#### **TOOLKITS**

- "Clearing the Air on Wildfire Smoke: A Toolkit for Reducing Downwind Exposure Risks." Toolkit. Chemical Insights Research Institute, 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2024/12/CIRI\_Clear-The-Air-Downwind\_Toolkit\_2024.pdf">https://chemicalinsights.org/wp-content/uploads/2024/12/CIRI\_Clear-The-Air-Downwind\_Toolkit\_2024.pdf</a>.
- "Specifying Residential Upholstered Furniture to Safeguard Human Health and Well-Being: A Toolkit for Reducing Fire and Chemical Risks." Toolkit. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. <a href="https://chemicalinsights.org/wp-content/uploads/FFHH\_Toolkit\_042821.pdf">https://chemicalinsights.org/wp-content/uploads/FFHH\_Toolkit\_042821.pdf</a>.
- "3D Printer School Safety: A Guide for Supporting Indoor Air Quality & Human Health." Toolkit. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2020. <a href="https://chemicalinsights.org/wp-content/uploads/2020/07/3D\_Printer\_School\_Safety.pdf">https://chemicalinsights.org/wp-content/uploads/2020/07/3D\_Printer\_School\_Safety.pdf</a>.
- "3D Printer Safety: A Guide for Supporting Indoor Air Quality & Human Health." Toolkit. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2020. <a href="https://chemicalinsights.org/wp-content/uploads/3DP-General-Toolkit.pdf">https://chemicalinsights.org/wp-content/uploads/3DP-General-Toolkit.pdf</a>.

#### LEARNING ASSETS

- "PFAS Basics." Handout. Chemical Insights Research Institute of UL Research Institutes, 2024. https://chemicalinsights.org/wp-content/uploads/2024/05/PFAS\_Handout\_2024.pdf.
- "PFAS in the Built Environment." Handout. Chemical Insights Research Institute of UL Research Institutes, 2024. https://chemicalinsights.org/wp-content/uploads/2024/05/PFAS\_Handout\_Building\_Practioners\_2024.pdf.
- "Protecting Your Health After a Wildfire: Cleaning Indoor Air." Handout. Chemical Insights Research Institute of UL Research Institutes, 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2023/11/Educational-Handout\_Cleaning-The-Air\_2023.pdf">https://chemicalinsights.org/wp-content/uploads/2023/11/Educational-Handout\_Cleaning-The-Air\_2023.pdf</a>.
- "Protecting Your Health After a Wildfire: Cleaning Settled Dust." Handout. Chemical Insights Research Institute of UL Research Institutes, 2024. <a href="https://chemicalinsights.org/wp-content/uploads/2023/11/Educational-Handout\_Cleaning-Settled-Dust\_2023-1.pdf">https://chemicalinsights.org/wp-content/uploads/2023/11/Educational-Handout\_Cleaning-Settled-Dust\_2023-1.pdf</a>.
- "3D Printer Safety: 10 Ways to Promote Healthy Indoor Air Quality While Using a 3D Printer." Poster. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2024. <a href="https://chemicalinsights.org/wp-content/uploads/3DP\_Top\_Ten\_Handout.pdf">https://chemicalinsights.org/wp-content/uploads/3DP\_Top\_Ten\_Handout.pdf</a>.
- "3D Printers and Air Quality: Health Effects and Mitigation Strategies for Use of 3D Printers in Higher Education."
  Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2022.
  https://chemicalinsights.org/wp-content/uploads/3DPrintersandAirQualityHigherEd\_062022.pdf.
- "DIY Box Fan Air Cleaner Safety Tips." Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. <a href="https://chemicalinsights.org/wp-content/uploads/Box\_Fan\_Handout\_090921.pdf">https://chemicalinsights.org/wp-content/uploads/Box\_Fan\_Handout\_090921.pdf</a>.
- "Keeping Schools Healthy: Strategies for Good Air Quality." Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. https://chemicalinsights.org/wp-content/uploads/IAQ\_Strategies\_Final.pdf.
- "Keeping Schools Healthy: Ventilation & Filtration Fundamentals." Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. <a href="https://chemicalinsights.org/wp-content/uploads/Ventilation\_Strategies\_Final.pdf">https://chemicalinsights.org/wp-content/uploads/Ventilation\_Strategies\_Final.pdf</a>.
- "How to Use 3D Printers Safely in Schools." Poster. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. https://chemicalinsights.org/wp-content/uploads/3DP-School-Poster.pdf.
- "Resources for Using 3D Printers Safely in Schools." Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021.
- "3D Printer: Innovate. Create. Be Safe." Sticker. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021.

- "3D Printer Safety: 10 Ways to Promote Healthy Indoor Air Quality While Using a 3D Printer." Poster. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. https://chemicalinsights.org/wpcontent/uploads/3DP\_Top\_Ten\_Handout.pdf.
- "3D Printer Mitigation Checklist." Handout. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2020. https://chemicalinsights.org/wp-content/uploads/2020/07/Toolkit\_Checklist\_generic.pdf.

#### LANDING PAGES

- "Wildfires and the Wildland Urban Interface." Landing Page. Chemical Insights Research Institute of UL Research Institutes, 2024. https://chemicalinsights.org/wildfires/#/.
- "3D Printers: Innovate. Create. Be Safe." Landing Page. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. https://chemicalinsights.org/3dp/#/.
- "Furniture Flammability and Human Health." Landing Page. Chemical Insights, an Institute of Underwriters Laboratories Inc., 2021. https://chemicalinsights.org/ffhh/#/.

#### **E-LEARNING MODULES**

- PFAS and the Built Environment. Chemical Insights, 2024. https://chemicalinsights.org/courses/pfas-and-the-builtenvironment/.
- What School Nurses Should Know About Emerging Air Pollutants and Their Impact on Student Health. Chemical Insights in partnership with the National Association of School Nurses (NASN), 2024. https://nftyce.com/course/pollutants.
- Wildfires in the Wildland Urban Interface: Exploring Resilience in WUI Communities. Chemical Insights, 2023. https://chemicalinsights.org/courses/wildfires-in-the-wildland-urban-interface-exploring-resilience-in-wuicommunities-30-min/.
- Specifying Residential Upholstered Furniture to Safeguard Human Health. Chemical Insights (ASID Knowledge Contributor), in partnership with the American Society of Interior Designers (ASID), 2022. https://learn.asid.org/products/specifying-residential-upholstered-furniture-to-safeguard-human-health.
- Keeping School Buildings Healthy: Challenges and Opportunities. Chemical Insights, in partnership with the Environmental Protection Agency (EPA) Asthma Community Network (ACN), 2021. https://chemicalinsights.org/courses/keeping-school-buildings-healthy-making-the-case-for-healthy-cleanenvironments/.
- Keeping Your Buildings Healthy: Managing 3D Printer Emissions. Chemical Insights, in partnership with the International Facility Management Association (IFMA), 2021. https://chemicalinsights.org/courses/keeping-your-buildingshealthy-managing-3d-printer-emissions-for-occupant-safety-and-health/.
- The Impact of 3D Printers on Indoor Air Quality and Human Health. Chemical Insights, 2020. https://chemicalinsights.org/courses/test-your-knowledge-3d-printers-and-indoor-air-quality/.
- COVID-19: Maintaining Healthy Indoor Air Quality. Chemical Insights, 2020. https://chemicalinsights.org/courses/maintaining-healthy-indoor-air-quality-during-covid-19-what-you-needto-know/.
- Emissions, Exposure, and Health Impact of 3D Printing Processes Professional Development Course. Chemical Insights, in partnership with the American Industrial Hygiene Association (AIHA), 2020. https://learning.aiha.org/courses/32572.

The Story of Chemical Insights, an Institute of Underwriters Laboratories Inc. Cantilever Instruction + Design, n.d. https://cantilever-instruction.com/chemicalinsights/story\_html5.html.

#### E-LEARNING VIDEOS

- How Certification Programs Address PFAS. Chemical Insights, 2024. https://youtu.be/ULO2hk01rJU?si=Ma4YHZppW-6D0MtE.
- Preliminary Research Results: PFAS in Textiles. Chemical Insights, 2024. https://youtu.be/\_JI\_TUzG610?si=w0Fu0eqKDY2t1dIA.
- CIRI's Research Initiative: PFAS in Textiles. Chemical Insights, 2024. https://youtu.be/R8SOg4sXnhM?si=maMcDoJay57ppZ72.
- Reducing PFAS Through Material Selection. Chemical Insights, 2024. https://youtu.be/LgsKiK7dOKM?si=7gBY66awInMSy3wj.
- PFAS in the Built Environment. Chemical Insights, 2024. https://youtu.be/Q1Ap15\_x8AE?si=\_\_o2lfTvtapuZlwz.
- Health Risks of PFAS. Chemical Insights, 2024. https://youtu.be/o3vzROuzZI8?si=LLGe0fS-FT1XFHmA.
- Human Exposure to PFAS. Chemical Insights, 2024. https://youtu.be/F0cJP8R4K4g.
- PFAS History and Regulations. Chemical Insights, 2024. https://youtu.be/K49elSvrwbk.
- PFAS 101. Chemical Insights, 2024. https://youtu.be/kcEIUVbvGJQ.
- Resilience for Health: Exploring the Impacts of Extreme Heat and Human Health. Chemical Insights, 2024. https://www.youtube.com/watch?v=6-7AtDGctKk.
- Understanding Wildfires in the Wildland Urban Interface, the Built Environment, and Public Health. Chemical Insights, 2024. https://www.youtube.com/watch?v=ZAU7MNLv1w0.
- Case Study: Surviving the Marshall Fire and Its Aftermath. Chemical Insights, 2024. https://youtu.be/htqOyeK99as?si=Itd6CjHkk\_Np\_mUU.
- Chemical Insights Grand Opening of Three New Research Laboratories. Chemical Insights, 2024. https://www.youtube.com/watch?v=3IZ4Bbdw9EY.
- The Wildland Urban Interface. Cantilever Instruction + Design, 2023. https://chemicalinsights.org/resources/wildfiresin-the-wildland-urban-interface/.
- Fuel in the WUI. Cantilever Instruction + Design, 2023. https://chemicalinsights.org/resources/what-fuels-wildfires/.
- Emissions in the Wildland Urban Interface. Cantilever Instruction + Design, 2023. https://chemicalinsights.org/resources/emissions-from-wildfire-smoke/.
- NeoCon 2023: Building Resiliency for Health. Cantilever Instruction + Design, 2023. https://chemicalinsights.org/resources/neocon-building-resiliency-for-health/.
- How to Make and Use a DIY Air Cleaner. Cantilever Instruction + Design, 2023. https://chemicalinsights.org/resources/how-to-make-and-use-a-diy-air-cleaner/.
- Wildfires and Human Health. SOT TV, 2023. https://youtu.be/nLkNqSwuDCU.
- The Emerging Threat of Wildfires to Public Health. SOT TV, 2023. https://youtu.be/9S7jjonY1hE.
- The Impact of Wildfires on Human Health. SOT TV, 2023. https://youtu.be/E-zQ8Xgbepg.
- How to Mitigate the Threat of Wildfires to Human Health. SOT TV, 2023. https://youtu.be/Wbcx6N0Sx5l.

- PFAS Research. Cantilever Instruction + Design, 2023. https://www.youtube.com/watch?v=aAWzVtLTbZc.
- What Are PFAS? Cantilever Instruction + Design, 2023. https://youtu.be/TYI\_GGZgXfl?si=5GOFtoRNOjk\_XwRh.
- Greenbuild 2022: Annette Stelmack on the Marshall Fire. Cantilever Instruction + Design, 2022. https://www.voutube.com/watch?v=rFP8FUOhXv4.
- Greenbuild 2022: Birgitte Messerschmidt, M.Sc., on Homes as Wildfire Fuel. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=8wkVww2CUfE.
- Greenbuild 2022: Debra Harris, PhD, on Natural vs. Synthetic Materials During a Fire. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=4ipB\_2nRbtE.
- Chemistry 101 for Building Managers. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=7wuKZGnMM1o.
- NeoCon 2022: Design It Healthy, Keep It Healthy. Cantilever Instruction + Design, 2022. https://youtu.be/KMkWe-0Rwo0?si=8U1A0FWTUWNwcmIW
- Research for a Safer and Healthier Tomorrow (Three Minute). Society of Toxicology, 2022. https://www.youtube.com/watch?v=oy-rbNUCo0Y.
- Research for a Safer and Healthier Tomorrow (One Minute). Society of Toxicology, 2022. https://www.youtube.com/watch?v=aOsSQNX9iYg.
- Research for a Safer and Healthier Tomorrow (Full). Society of Toxicology, 2022. https://www.youtube.com/watch?v=vYQnWIUV23o.
- A Decision Tree: Considering Upholstered Furniture Fabrication Strategies for Slowing Ignition. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=zYl8Ugob15M.
- Fire Barrier Performance Specifications. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=GlpGAgpDHyo.
- Fire Trends in the U.S. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=IMCebNIv6r0.
- Human Health Impacts of Flame-Retardant Exposure. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=vmQ5GM9-cuA.
- Issuing Flammability Standards. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=L21OxVOfObw.
- Next Steps for Designers. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=amlzZPYcz7s.
- Overview: Furniture Flammability and Human Health. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=LytIV4GX8X8.
- The History of Flammability Standards in the U.S. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=LHZlosmLgkY.
- When to Use a Fire Barrier. Cantilever Instruction + Design, 2022. https://www.youtube.com/watch?v=bGhOk\_UY9BQ.
- Learn More About Our Research on Electronic Nicotine Delivery Systems (ENDS). Cantilever Instruction + Design, 2021. https://www.youtube.com/watch?v=g5DknVUWqB0.
- Installing a Fire Barrier. Cantilever Instruction + Design, 2021. https://www.youtube.com/watch?app=desktop&v=LenSF9fvmXs&list=PLVxn85\_ikhGQuvYeYFeJir7yd3wGs.

- A History of Chemical Insights Furniture Flammability and Human Health Initiative. Cantilever Instruction + Design, 2021.
  - https://www.youtube.com/watch?v=e5Aoi07ch3g&list=PLVxn85\_ikhGQuvYeYFeJir7yd3wGs\_FtT&index=2.
- Behind the Scenes: Robiesitz. Cantilever Instruction + Design, 2021. https://www.youtube.com/watch?app=desktop&v=8RhSTny8NgY.
- Clearing the Air on COVID-19. Arketi, 2020. https://chemicalinsights.org/covid-19/.
- Disinfecting and Cleaning. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?app=desktop&v=FKpiBZSxzP0.
- Precautionary Measures. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=w8zWRdBV4hs.
- *Understanding Aerosol Transmission.* Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=uiwOgQccqoc.
- Ventilation. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=jM-jjBzK-II.
- Why Is Indoor Air Quality Important? Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=U0REPEvxFDI.
- 3D Printer Basics. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=ALpZmlZ2Tz4.
- 3D Printer Mitigation Strategies Location. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=6-nDbgGXwx4.
- 3D Printer Mitigation Strategies Operation. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=0Z-BIQYrA2k.
- 3D Printer Mitigation Strategies Purchasing. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=qxE720CTda8.
- 3D Printer Research Findings. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=LLpgu5Fuc6Y.
- 3D Printer Research Overview. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=\_XDiaaKOtvc.
- 3D Printer Standard. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=zesDPRqLei8.
- Behind the Scenes: Chemical Insights' 3D Printer Research. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=va8CZAUtMu8.
- About Chemical Insights. Cantilever Instruction + Design, 2020. https://www.voutube.com/watch?v=6zh3\_gOexFw&list=PLVxn85\_ikhGTesoULGnmggsctNdnNlvSd&index=1.
- About Chemical Insights: A Collaborative Research Approach. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=6z\_9n5TMktg&list=PLVxn85\_ikhGTesoULGnmggsctNdnNlvSd&index=4.
- About Chemical Insights: A Focus on Human Exposure. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=nNm5-78gv\_8&list=PLVxn85\_ikhGTesoULGnmggsctNdnNlvSd&index=3.
- About Chemical Insights' Mission. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=Z08zPjSM7Bw&list=PLVxn85\_ikhGTesoULGnmggsctNdnNlvSd&index=2.
- About Chemical Insights' Process. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=uXSluiA4KZ4&list=PLVxn85\_ikhGTesoULGnmggsctNdnNlvSd&index=5.
- Chemical Insights, An Institute of Underwriters Laboratories Inc. SOT TV, 2020. https://www.youtube.com/watch?app=desktop&v=vfOTFxY63xM.

Chemical Insights' Chair Burns. Cantilever Instruction + Design, 2020. https://www.youtube.com/watch?v=Tz9AcaiFiUs.

### INTERNAL REPORTS (FOR RESEARCH PURPOSES ONLY)

- "Research Results for Metal Analysis of Particles and Filaments for Markforged, Inc." Internal Report 310, July 2023.
- "Particle and Chemical Emissions from MakerBot Method X 3D Printer with Clean Air™ Filter System." Internal Report 220, September 2021.
- "Effects of Filtration on Particle and Chemical Emissions from MakerBot Method X Printer: An Update of Filtration Design." Internal Report 190, July 2021.
- "Effects of a Filter Setup on Particle and Chemical Emissions from MakerBot Method X Printer." Internal Report 160, January 2021.
- Report for Particle and Chemical Emissions from Markforged 3D Printers (Test Product Description: Markforged X7" and Metal X)." Internal Report 090, August 2020.
- "Report for Particle and Chemical Emissions from MakerBot 3D Printer (Test Product Description: MakerBot Method X)." Internal Report 150, July 2020.
- "Research Emission Results for Markforged, Inc. (Test Product Description: Markforged Metal X)." Internal Report 120, June 2020.
- "Report for Particle and Chemical Emissions from MakerBot 3D Printer (Test Product Description: MakerBot Method)." Internal Report 110, June 2020.
- "Research Emission Results for MakerBot Industries LLC (Test Product Description: MakerBot Method and Method X)." Internal Report 100, April 2020.
- "Data Comparison on Conducting ANSI/CAN/UL 2904 for UL Environment and Sustainability (Test Product Description: Markforged X7)." Internal Report 080, February 2020.
- "Research Emission Results for Markforged, Inc. (Test Product Description: Markforged X7 and Metal X)." Internal Report 070, January 2020.

#### **E-NEWSLETTERS**

- "Foresight: New Research on Emerging Environmental Pollution Sources." Chemical Insights.org (e-newsletter), November 22, 2024. https://mailchi.mp/chemicalinsights/foresight-november-2024.
- "Foresight: CIRI's New Resources for Protecting Community Health Before, During, and After a Wildfire Disaster." Chemical Insights.org (e-newsletter), October 31, 2024. https://mailchi.mp/chemicalinsights/foresight-october-<u>24</u>.
- "Foresight: Science Translation Hub: Research to Impact." Chemical Insights.org (e-newsletter), September 30, 2024. https://mailchi.mp/chemicalinsights/foresight-september2024.
- "Foresight: The Impact of Emerging Technologies on Indoor Air." Chemical Insights.org (e-newsletter), August 29, 2024. https://mailchi.mp/chemicalinsights/foresight-august-14187701.
- "Foresight: Volatile Organic Compounds: What They Are and Why They Matter." Chemical Insights.org (e-newsletter), July 31, 2024. https://mailchi.mp/chemicalinsights/foresight-july-2024.
- "Foresight: Extreme Heat and Disasters." Chemical Insights.org (e-newsletter), June 30, 2024. .

- "Foresight: Wildfires in the WUI: A Growing Public Health Challenge." Chemical Insights.org (e-newsletter), May 31, 2024. https://mailchi.mp/chemicalinsights/foresight-may2024.
- "Foresight: Extreme Weather and Resiliency for Health: Emerging Insights for a Changing World." Chemical Insights.org (e-newsletter), April 30, 2024. <a href="https://mailchi.mp/chemicalinsights/foresight\_april2024\_1-14183184">https://mailchi.mp/chemicalinsights/foresight\_april2024\_1-14183184</a>.
- "Foresight: Unraveling the Mystery of PFAS: Understanding These Hidden Hazards." Chemical Insights.org (enewsletter), March 28, 2024. <a href="https://mailchi.mp/chemicalinsights/foresight\_march2024">https://mailchi.mp/chemicalinsights/foresight\_march2024</a>.
- "Foresight: CIRI's Research Agenda Highlights Resiliency for Health as Emerging Chemicals and Extreme Weather Present Challenges." Chemical Insights.org (e-newsletter), February 29, 2024. <a href="https://mailchi.mp/chemicalinsights/foresight\_february2024?e=a4bd02d209">https://mailchi.mp/chemicalinsights/foresight\_february2024?e=a4bd02d209</a>.
- "Foresight: New CIRI Laboratories Usher in Opportunities for Scientific Innovation, Discovery, Collaboration, and Human Health Protection." Chemical Insights.org (e-newsletter), January 31, 2024. <a href="https://mailchi.mp/chemicalinsights/foresight\_january2024-14095681">https://mailchi.mp/chemicalinsights/foresight\_january2024-14095681</a>.
- "Foresight: Warm Holiday Wishes and a 2023 Recap from Chemical Insights Research Institute (CIRI) of UL Research Institutes." Chemical Insights.org (e-newsletter), December 20, 2023. https://mailchi.mp/chemicalinsights/foresight\_december2023.
- "Foresight: Expanding the Definition of Resiliency: Promoting Health in the Built Environment." Chemical Insights.org (e-newsletter), November 30, 2023. <a href="https://mailchi.mp/chemicalinsights/foresight\_november2023">https://mailchi.mp/chemicalinsights/foresight\_november2023</a>.
- "Foresight: Looking Through the Smoke: Learn About CIRI's Health-Related Wildfire Research." Chemical Insights.org (e-newsletter), October 30, 2023. <a href="https://mailchi.mp/chemicalinsights/foresight\_october2023">https://mailchi.mp/chemicalinsights/foresight\_october2023</a>.
- "Foresight: CIRI Provides Key Insights on Sources of VOCs in Indoor Environments and Steps to Reduce Exposure." Chemical Insights.org (e-newsletter), September 29, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/09/CIRI-Provides-Research-and-Strategies-to-Protect-Indoor-Air-Quality.pdf">https://chemicalinsights.org/wp-content/uploads/2023/09/CIRI-Provides-Research-and-Strategies-to-Protect-Indoor-Air-Quality.pdf</a>.
- "Foresight: CIRI's E-Learning Courses Provide Insights on Current Issues Affecting Your Health and Safety and How You Can Reduce Risks." Chemical Insights.org (e-newsletter), August 31, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/08/Upskill-Your-Career-with-CIRIs-E-Learning-Courses.pdf">https://chemicalinsights.org/wp-content/uploads/2023/08/Upskill-Your-Career-with-CIRIs-E-Learning-Courses.pdf</a>.
- "Foresight: New School Year, Be Concerned About the Health Risks of Vaping." Chemical Insights.org (e-newsletter), July 28, 2023. https://chemicalinsights.org/wp-content/uploads/2023/08/CIRIForesightJuly.pdf.
- "Foresight: The Changing Climate and Its Impact on Human Health." Chemical Insights.org (e-newsletter), June 30, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/06/Researching-climate-change-and-what-it-means-for-human-health.pdf">https://chemicalinsights.org/wp-content/uploads/2023/06/Researching-climate-change-and-what-it-means-for-human-health.pdf</a>.
- "Foresight: CIRI Releases New Research Data and an Actionable Guidance Document on 3D Printing." Chemical Insights.org (e-newsletter), May 31, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/05/New-Guidance-and-Insights-on-Reducing-Exposure-to-3D-Printing-Emissions.pdf">https://chemicalinsights.org/wp-content/uploads/2023/05/New-Guidance-and-Insights-on-Reducing-Exposure-to-3D-Printing-Emissions.pdf</a>.
- "Foresight: CIRI Introduces Its Extensive Resource Library." Chemical Insights.org (e-newsletter), April 30, 2023. <a href="https://chemicalinsights.org/wp-content/uploads/2023/04/CIRI-Introduces-Its-Extensive-Resource-Library.pdf">https://chemicalinsights.org/wp-content/uploads/2023/04/CIRI-Introduces-Its-Extensive-Resource-Library.pdf</a>.
- "Foresight: Sharing CIRI's 2023 Research Agenda." Chemical Insights.org (e-newsletter), March 31, 2023. https://mailchi.mp/chemicalinsights/march2023issue?e=50b4b3850e.
- "Foresight: Sharing CIRI's 2023 Research Agenda." Chemical Insights.org (e-newsletter), February 28, 2023. <a href="https://mailchi.mp/chemicalinsights/february2023issue">https://mailchi.mp/chemicalinsights/february2023issue</a>.
- "Foresight: Wishing You a Happy and Healthy Holiday Season." Chemical Insights.org (e-newsletter), December 21, 2022. <a href="https://mailchi.mp/chemicalinsights/dec2022issue-13824678">https://mailchi.mp/chemicalinsights/dec2022issue-13824678</a>.
- "Foresight: Convening Experts to Share Scientific Insights." Chemical Insights.org (e-newsletter), November 30, 2022. <a href="https://mailchi.mp/chemicalinsights/nov2022issue">https://mailchi.mp/chemicalinsights/nov2022issue</a>.

- "Foresight: Research-Backed Insights for Professionals." Chemical Insights.org (e-newsletter), October 31, 2022. https://mailchi.mp/chemicalinsights/october2022issue-13703010.
- "Foresight: Advancing Chemical Insights Research Institute's (CIRI's) Research into Unraveling the Human Health Impact of 3D Printing Emissions." Chemical Insights.org (e-newsletter), September 29, 2022. https://mailchi.mp/chemicalinsights/september2022issue-13699818?e=50b4b3850e.
- "Foresight: Actionable Scientific Information for Professionals." Chemical Insights.org (e-newsletter), August 31, 2022. https://mailchi.mp/chemicalinsights/august2022issue-13695494.
- "Foresight: Wildfire Resources." Chemical Insights.org (e-newsletter), July 28, 2022. https://mailchi.mp/chemicalinsights/july2022issue-13691385.
- "Foresight: Chemical Insights Research Institute Publishes New DIY Filtration Application Notes." Chemical Insights.org (e-newsletter), June 30, 2022. https://mailchi.mp/chemicalinsights/june2022issue-13686041.
- "Foresight: Chemical Insights Research Institute Launches New Research and Webinar to Protect Human Health." Chemical Insights.org (e-newsletter), May 31, 2022. https://mailchi.mp/chemicalinsights/may2022issue-13660986.
- "Foresight: New Continuing Education Course and Guidance Document." Chemical Insights.org (e-newsletter), April 27, 2022. https://mailchi.mp/chemicalinsights/april2022issue.
- "Foresight: Chemical Insights Research Institute & Partners Share Timely Resources." Chemical Insights.org (enewsletter), March 29, 2022, https://mailchi.mp/chemicalinsights/march2022issue-13643702.
- "Foresight: CIRI Confirms Commitment to Studying Human Health Risks from Chemical Exposure." Chemical Insights.org (e-newsletter), February 24, 2022, https://mailchi.mp/chemicalinsights/feb2022issue.
- "Foresight: 2022 Highlights." Chemical Insights.org (e-newsletter), January 25, 2022. https://mailchi.mp/chemicalinsights/jan2022issue.
- "Foresight: 2021 Highlights." Chemical Insights.org (e-newsletter), December 22, 2021. https://mailchi.mp/chemicalinsights/dec2021issue.
- "Foresight: New Environmental Research Journal Article." Chemical Insights.org (e-newsletter), November 30, 2021. https://mailchi.mp/chemicalinsights/nov2021issue.
- "Foresight: Toxicology Health Sciences Center Expands." Chemical Insights.org (e-newsletter), October 27, 2021. https://mailchi.mp/chemicalinsights/oct2021issue.
- "Foresight: Latest Summary Report on E-Cigarettes and Vaping." Chemical Insights.org (e-newsletter), September 29, 2021. https://mailchi.mp/chemicalinsights/sept2021issue.
- "Foresight: Chemical Insights Releases New Research on DIY Air Cleaners." Chemical Insights.org (e-newsletter), August 31, 2021. https://mailchi.mp/chemicalinsights/new-research-with-partners-on-emerging-topicsannounced?e=%5bUNIOID.
- "Foresight: Chemical Insights Releases New Report on DIY Air Cleaners." Chemical Insights.org (e-newsletter), July 31, 2021. https://us17.campaign-archive.com/?u=576ed13f0a3c1a6cd9efcfc24&id=3d3b9fbd47.
- "Foresight: Chemical Insights Releases New 3D Printing Educational Tools." Chemical Insights.org (e-newsletter), June 30, 2021. https://us17.campaign-archive.com/?u=576ed13f0a3c1a6cd9efcfc24&id=cd9bb28b7b.
- "Foresight: Chemical Insights and EPA Conducting Wildfire Research." Chemical Insights.org (e-newsletter), May 28, 2021. https://mailchi.mp/chemicalinsights/wildfire-research-with-epa.
- "Foresight Special Edition: Furniture Flammability and Human Health." Chemical Insights.org (e-newsletter), April 30, 2021. https://mailchi.mp/chemicalinsights/specialedition\_ffhh.

- "Foresight: Join Our Virtual Summit." Chemical Insights.org (e-newsletter), March 30, 2021. https://mailchi.mp/chemicalinsights/join-our-virtual-summit.
- "Foresight: Our Latest Research." Chemical Insights.org (e-newsletter), February 23, 2021. https://mailchi.mp/chemicalinsights/our-latest-research.
- "Foresight: Find Out What Chemical Insights Is Working On." Chemical Insights.org (e-newsletter), January 27, 2021. https://us17.campaign-archive.com/?u=576ed13f0a3c1a6cd9efcfc24&id=77aceae1b7&e=[UNIQID].
- "Foresight: Meet Chemical Insights." Chemical Insights.org (e-newsletter), December 15, 2020. https://us17.campaignarchive.com/?u=576ed13f0a3c1a6cd9efcfc24&id=709619df7a.

#### PRESS RELEASES AND NEWS ALERTS

- "Chemical Insights Research Institute Launches a New Public Service Website with Key Information on Protecting Public Health During Wildland-Urban Interface (WUI) Fires." Business Wire, December 11, 2024. https://www.businesswire.com/news/home/20241211458750/en/Chemical-Insights-Research-Institutelaunches-a-new-public-service-website-with-key-information-on-protecting-public-health-during-wildlandurban-interface-WUI-fires
- "Effects of Extreme Heat Explored in New Design Brief." Business Wire, November 27, 2024. https://www.businesswire.com/news/home/20241127362144/en/Effects-of-Extreme-Heat-Explored-in-New-Design-Brief.
- "Chemical Insights Research Institute Publishes Comprehensive Guidance to Protect Community Health Impacted by Wildland-Urban Interface Fire Events." Business Wire, October 23, 2024. https://www.businesswire.com/news/home/20241023404937/en.
- "Chemical Insights Research Institute announces the UL Research Institutes' Lifetime Achievement Award in Public Health to Dean Jones, Ph.D., for Pioneering Work in Protecting Human Health." Business Wire, September 26, 2024. https://www.businesswire.com/news/home/20240926971582/en.
- "News Alert: Research Findings in School Classrooms Show that Use of 3D Printers Release Indoor Air Pollution that May Affect Airway Cells and Respiratory Health." Chemical Insights, July 16, 2024. https://mailchi.mp/chemicalinsights/news-alert-july-16\_2024.
- "IFMA Joins Forces with Chemical Insights Research Institutes to Provide Educational Content for Facilities Professionals." International Facility Managers Association (IFMA), July 15, 2024. https://www.ifma.org/news/whats-new-at-ifma-new/ifma-joins-forces-with-chemical-insights-researchinstitutes-to-provide-educational-content-for-facilities-professionals/.
- "News Alert: CIRI Presents Webinar Examining Ways to Understand Wildfires in the Wildland Urban Interface, the Built Environment, and Public Health." Chemical Insights, June 11, 2024. https://mailchi.mp/chemicalinsights/newsalert-june-11\_2024.
- "New Alert: Chemical Insights Research Institute Initiates Task Force to Establish Best Practices for Protecting Community Health Associated with Wildland-Urban Interface Fires." Chemical Insights, June 6, 2024. https://mailchi.mp/chemicalinsights/news-alert-june\_2024.
- "Chemical Insights Research Institute Partners with Duke University and the East-West Center to Examine Dust and Ash from Devastating Hawaiian Wildfires." Business Wire, May 20, 2024. https://www.businesswire.com/news/home/20240520585377/en/Chemical-Insights-Research-Institute-Partners-with-Duke-University-and-the-East-West-Center-to-Examine-Dust-and-Ash-from-Devastating-Hawaiian-Wildfires.
- "Chemical Insights Research Institutes and GBES Join Forces to Offer Cutting-Edge Continuing Education Courses for LEED and AIA Credits." PR Web, May 8, 2024. https://www.prweb.com/releases/chemical-insightsresearch-institutes-and-gbes-join-forces-to-offer-cutting-edge-continuing-education-courses-for-leed-andaia-credits-302139557.html.

- "News Alert: Research from Chemical Insights Research Institute Finds Vat Photopolymerization 3D Printing Can Generate Hazardous Chemicals and Particles into the Air During Operation." Chemical Insights, April 29, 2024. https://mailchi.mp/chemicalinsights/news-alert-april-2024.
- "Chemical Insights Research Institute Webinar Examines Extreme Climate Condition Impacts on Human Health." EurekAlert!, April 1, 2024. https://www.eurekalert.org/news-releases/1039633.
- "Impacts of Extreme Weather on Interior Design Examined in New Research: American Society of Interior Designers Releases Collaborative Design Research Brief with Chemical Insights Research Institute." Business Wire, March 28, 2024. https://www.businesswire.com/news/home/20240328666113/en.
- "Chemical Insights Research Institute Shares Its Latest Research Findings on PFAS Associated with Consumer and Commercial Textiles." Business Wire, March 27, 2024. https://www.businesswire.com/news/home/20240327381298/en/.
- "News Alert: Chemical Insights Research Institute Presents Key Research Data on the Human Health Impact of Vaping, 3D Printing, and Wildfire Exposure at the Society of Toxicology 2024." Chemical Insights, March 8, 2024. https://mailchi.mp/chemicalinsights/news-alert-march\_2024.
- "Chemical Insights Research Institute Scientist Honored for Technical Innovation and STEM Education." EurekAlert!, February 12, 2024. https://www.eurekalert.org/news-releases/1033612.
- "Announcement: Grant Opportunities." Chemical Insights, January 25, 2024. https://mailchi.mp/chemicalinsights/news-alert-jan2024?e=a4bd02d209.
- "Chemical Insights Research Institute Commits to Public Health Research with the Opening of New Laboratories." Business Wire, January 11, 2024. https://www.businesswire.com/news/home/20240111005105/en.
- "News Alert: Release of Comprehensive Emissions Data from Material Extrusion 3D Printing." Chemical Insights, December 6, 2023. https://mailchi.mp/chemicalinsights/news-alert-december2023.
- "News Alert: Chemical Insights Research Institute and the U.S. Green Building Council Release Summary of Building Resilience for Health Summit." Chemical Insights, October 31, 2023. https://mailchi.mp/chemicalinsights/newsalert-october2023.
- "Chemical Insights Research Institute Initiates Health Research to Understand the Dangers of Wildfire Smoke and How to Reduce Community Health Risks." EurekAlert!, October 17, 2023. https://www.eurekalert.org/newsreleases/1004452.
- "News Alert: Chemical Insights Research Institute Addresses Building Resilience and Wildfire Smoke at Greenbuild International Conference + Expo." Chemical Insights, September 21, 2023. https://chemicalinsights.org/wpcontent/uploads/2023/09/Chemical\_Insights\_Research\_Institute\_at\_Greenbuild2023.pdf.
- "News Alert: The Effect of Wildfires and the Wildland Urban Interface (WUI) on Indoor Air Ouality and Health in Residential Homes: Pilot Study Results." Chemical Insights, September 1, 2023. https://chemicalinsights.org/wpcontent/uploads/2023/09/The-Effect-of-Wildfires-and-the-WUI-on-IAQ.pdf.
- "News Alert: Sharing the Latest Data on Protecting Homes from Wildland Fires; Chemicals in Textiles; 3D Printing Emissions; and Vaping Risks." Chemical Insights, August 11, 2023. https://chemicalinsights.org/wpcontent/uploads/2023/08/CIRI-News-Alert-August2023.pdf.
- "News Alert: An Update of the National 3D Printer Emissions Standard (ANSI/CAN/UL 2904) Requires Reporting of Two New Chemicals." Chemical Insights, July 25, 2023. https://chemicalinsights.org/wpcontent/uploads/2023/07/An-update-of-the-National-3D-Printer-Emission-Standard-ANSI\_CAN\_UL-2904.pdf.
- "News Alert: CIRI Shares Creative Resources That Can Protect Air Quality Against Wildfire Smoke." Chemical Insights, June 15, 2023. https://chemicalinsights.org/wp-content/uploads/2023/06/Creative-Resources-Can-Protect-Air-Quality-Against-Wildfire-Smoke.pdf.

- "Chemical Insights Research Institute and the Campus Safety, Health, and Environmental Management Association Publish Guidance for the Safe Use of 3D Printing in Institutions of Higher Education." Business Wire, May 24, 2023. https://www.businesswire.com/news/home/20230524005232/en/Chemical-Insights-Research-Instituteand-the-Campus-Safety-Health-and-Environmental-Management-Association-Publish-Guidance-for-the-Safe-Use-of-3D-Printing-in-Institutions-of-Higher-Education.
- "News Alert: CIRI's PFAS Exposure Research Is Underway." Chemical Insights, April 24, 2023. https://chemicalinsights.org/wp-content/uploads/2023/04/CIRIs-PFAS-Exposure-Research-is-Underway.pdf.
- "News Alert: Managing Hazardous Dust Following a Fire Event." Chemical Insights, March 9, 2023. https://mailchi.mp/chemicalinsights/news-alert-hazardous-dust-march2023?e=50b4b3850e.
- "Chemical Insights Research Institute and Emory University's Rollins School of Public Health Team to Study the Human Health Impact of PFAS Chemical Exposure." PR Newswire, February 21, 2023. https://www.prnewswire.com/news-releases/chemical-insights-research-institute-and-emory-universitysrollins-school-of-public-health-team-to-study-the-human-health-impact-of-pfas-chemical-exposure-301751324.html?tc=eml\_cleartime.
- "Chemical Insights Research Institute and Emory University's Rollins School of Public Health Team to Study the Human Health Impact of PFAS Chemical Exposure." EurekAlert!, February 21, 2023. https://www.eurekalert.org/news-releases/980166.
- "News Alert: Holiday Safety Tips for Gifting and Operating 3D Printers." Chemical Insights, December 16, 2022. https://mailchi.mp/chemicalinsights/news-alert-3d-printer-gifting-december2022.
- "News Alert: Selecting Upholstered Furniture to Reduce Safety Risks of Open Flame Fires Without the Use of Hazardous Flame Retardants." Chemical Insights, October 21, 2022. https://mailchi.mp/chemicalinsights/selecting-upholstered-furniture-to-reduce-safety-risks-of-fires-withoutthe-use-of-flame-retardants?e=50b4b3850e.
- "Chemical Insights Research Institute Receives Prestigious Award from the National Institutes of Health." Business Wire, May 5, 2022. https://www.businesswire.com/news/home/20220505005023/en/Chemical-Insights-Research-Institute-Receives-Prestigious-Award-from-the-National-Institutes-of-Health.
- "Chemical Insights Research Institute Releases Actionable Scientific Tools to Help Save Lives During Home Fires." PR Newswire, April 19, 2022. <a href="https://www.prnewswire.com/news-releases/chemical-insights-research-institute-releases-actionable-scientific-tools-to-help-save-lives-during-home-fires-301527956.html?tc=eml\_cleartime.">https://www.prnewswire.com/news-releases/chemical-insights-research-institute-releases-actionable-scientific-tools-to-help-save-lives-during-home-fires-301527956.html?tc=eml\_cleartime.</a>
- "Chemical Insights Research Institute Confirms Commitment to Studying Human Health Risks from Chemical Exposure." Business Wire, February 22, 2022. https://www.businesswire.com/news/home/20220222005377/en/Chemical-Insights-Research-Institute-Confirms-Commitment-to-Studying-Human-Health-Risks-from-Chemical-Exposure.
- "Chemical Insights Research Institute of Underwriters Laboratories Inc. Expands with Dr. Christa Wright to Lead Toxicology Health Sciences Center." Business Wire, October 18, 2021. https://www.businesswire.com/news/home/20211018005989/en/Chemical-Insights-Research-Institute-of-Underwriters-Laboratories-Inc.-Expands-with-Dr.-Christa-Wright-to-Lead-Toxicology-Health-Sciences-Center.
- "Chemical Insights Research Institute, Underwriters Laboratories Inc. Teams with EPA's Office of Research and Development to Evaluate Safety Risks of DIY Air Cleaners for Wildfire Indoor Pollution Control." Business Wire, August 26, 2021. https://www.businesswire.com/news/home/20210826005187/en/Chemical-Insights-Research-Institute-of-Underwriters-Laboratories-Inc.-Teams-with-EPA%E2%80%99s-Office-of-Research-and-Development-to-Evaluate-Safety-Risks-of-DIY-Air-Cleaners-for-Wildfire-Indoor-Pollution-Control.
- "Chemical Insights Research Institute, Underwriters Laboratories Inc., and Georgia State University Announce Research Study on Vaping and E-Cigarettes." PR Newswire, August 18, 2021. https://www.prnewswire.com/news-releases/chemical-insights-research-institute-underwriters-laboratoriesinc-and-georgia-state-university-announce-research-study-on-vaping-and-e-cigarettes-301358006.html.

- "Chemical Insights, an Institute of Underwriters Laboratories, Publishes UL 118F Guidance Document on the Science of Achieving Both Fire and Chemical Safety for Residential Upholstered Furniture." EurekAlert!, April 21, 2021. https://www.eurekalert.org/news-releases/633714.
- "Chemical Insights Publishes eLearning Module COVID-19 and Its Impact on Indoor Air Quality." Business Wire, December 8, 2020. https://www.businesswire.com/news/home/20201208005130/en/Chemical-Insights-Publishes-eLearning-Module-COVID-19-and-Its-Impact-on-Indoor-Air-Quality.
- "Chemical Insights Partners with EPA to Improve the Lives of People with Asthma." Business Wire, October 15, 2020. https://www.businesswire.com/news/home/20201015005166/en.
- "Chemical Insights Publishes Educational Guide on Managing IAQ During the COVID-19 Pandemic and Beyond." Business Wire, September 11, 2020. https://www.businesswire.com/news/home/20200911005281/en/Chemical-Insights-Publishes-Educational-Guide-Managing-IAO.
- "Chemical Insights' 3D Printing Toolkit Now Available to Schools Through U.S. Department of Education's Green Strides Portal." Business Wire, July 30, 2020. https://www.businesswire.com/news/home/20200730005164/en/Chemical-Insights%E2%80%99-3D-Printing-Toolkit-Schools-U.S.
- "Chemical Insights Earns Top Project of the Year Award from Environment + Energy Leader." Business Wire, July 23, 2020. https://www.businesswire.com/news/home/20200723005596/en/Chemical-Insights-Earns-Top-Project-Year-Award.
- "Chemical Insights Partners with American Industrial Hygiene Association to Present Virtual Course on Health Impact of 3D Printer Emissions." Business Wire, June 4, 2020. https://www.businesswire.com/news/home/20200604005553/en/Chemical-Insights-Partners-American-Industrial-Hygiene-Association.
- "Chemical Insights Partners with Duke University to Research Air Pollution Impacts on Asthmatic Children." Business Wire, April 6, 2020. https://www.businesswire.com/news/home/20200406005622/en/Chemical-Insights-Partners-Duke-University-Research-Air.
- "Chemical Insights Delivers Critical Pollutant Exposure Information You Can Trust." Business Wire, March 3, 2020. https://www.businesswire.com/news/home/20200303005666/en/.
- "New Study from UL Chemical Safety and Emory University Demonstrates Ways for Reducing Flame Retardant Exposure and Flammability Hazards of Residential Furniture." PR Newswire, April 23, 2019. https://www.prnewswire.com/news-releases/new-study-from-ul-chemical-safety-and-emory-universitydemonstrates-ways-for-reducing-flame-retardant-exposure-and-flammability-hazards-of-residential-furniture-300833002.html.
- "UL Publishes ANSI/CAN/UL 2904 Standard for 3D Printers." PR Newswire, February 5, 2019. https://www.prnewswire.com/news-releases/ul-publishes-ansicanul-2904-standard-for-3d-printers-300789173.html?tc=eml\_cleartime.
- "UL Chemical Safety and Georgia Institute of Technology Release Pioneering 3D Printing Research." PR Newswire, November 12, 2018. https://www.prnewswire.com/news-releases/ul-chemical-safety-and-georgia-institute-oftechnology-release-pioneering-3d-printing-research-300748076.html?=prn.

#### PODCASTS AND LIVE BROADCASTS

- Roedel, Kaleb. "Millions of Homes Are Being Built in Fire-Prone Areas of Mountain West as Wildfire Risks Grow." KNUR Public Radio, November 28, 2022. https://www.kunr.org/energy-and-environment/2022-11-28/millions-homesfire-prone-areas-mountain-west-wildfire-risks-grow.
- Roman, Jesse. "Flame Retardant Chemicals in Furniture." NFPA, October 25, 2022. https://nfpa.libsyn.com/flameretardant-chemicals-in-furniture.
- Lesseos, Sophia. "Wildfire Smoke Safety." KNDO/KNDU News, August 12, 2022. https://www.nbcrightnow.com/news/wildfire-smoke-safety/article\_123dfdda-1a42-11ed-9942-1b7192785ac8.html.
- Edwards, Rebecca. "Safety Chat | The Ugly Truth About Flame Retardants with Dr. Marilyn Black." Safewise.com (podcast), July 21, 2021. https://www.youtube.com/watch?v=4czinFVwp24.
- Nieminen, Robert. "Understanding Furniture Flammability and Human Health." Interiors and Sources (podcast), June 28, 2021. https://iands.design/podcasts/45035/furniture-flammability-human-health.
- Cichetti, Charlie. "Interview with Material Chemical Expert Dr. Marilyn Black." Green Building Education Services: Green Building Matters (podcast), May 27, 2021. https://www.gbes.com/green-building-matterspodcast/interview-with-material-chemical-expert-dr-marilyn-black/.
- Michelson, Joan. "Risk, Tips for Kids & 3D Printers." Insights and Tips from Remarkable Innovative Women on Green Connections Radio (podcast), February 22, 2019. https://greenconnectionsradio.libsyn.com/risk-tips-for-kids-3d-printers-marilyn-black-ul-chemical-safety?tdest\_id=376030.
- Kloepple, Sarah, and Christoph Trappe. "Health Risks of 3D Printers." Buildings (podcast), January 14, 2019. https://www.buildings.com/articles/27763/health-risks-3d-printers.
- Wong, Kenneth. "Are Desktop 3D Printers Safe to Use?" Digital Engineering (podcast), December 13, 2018. https://www.digitalengineering247.com/article/de-podcast-are-desktop-3d-printers-safe-to-use.

#### **OTHER ARTICLES**

- IFMA. "IFMA, CIRI Team Up to Educate Facility Pros on Healthy Air." (IFMA), August 1, 2024. https://facilityexecutive.com/ifma-ciri-team-up-to-educate-facility-pros-on-healthy-air/.
- Safety+Health. "3D Printer Emissions Can Harm Respiratory Health: Study." Safety+Health, July 22, 2024. https://www.safetyandhealthmagazine.com/articles/25714-3d-printer-emissions-can-harm-respiratory-healthstudy.
- Sandle, Tim. "Why are the poor most impacted by climate change?" Digital Journal, July 21, 2024. https://www.digitaljournal.com/life/why-are-the-poor-most-impacted-by-climate-change/article.
- Irons, Jordyn, and Sam Fahmy. "Grants Enable Expansion of School of Public Health's EMPOWER Program." Georgia State News Hub, July 15, 2024. https://news.gsu.edu/2024/07/15/grants-enable-expansion-of-georgia-stateschool-of-public-healths-empower-program/.
- Hayes, Rose. "How to Protect Kids from Extreme Heat." ShareCare, June 14, 2024. https://www.sharecare.com/firstaid-safety/how-to-protect-kids-from-extreme-heat.
- Roberts, Abby. "Researchers Evaluate 3D Printing Hazards in Educational Settings." American Industrial Hygiene Association (AIHA), May 21, 2024. https://www.aiha.org/news/240521-researchers-evaluates-3d-printing-hazards-in-educational-settings?utm\_campaign=sweekly24&utm\_content=3d-printing-educationalsettings&utm\_medium=email&utm\_source=aiha.
- Tagami, Tv. "With More 3D Printers in Homes and Schools, Potential Health Risks Examined." The Atlanta Journal-Constitution, April 10, 2024. <a href="https://www.ajc.com/education/with-more-3d-printers-in-homes-and-schools-potential-health-risks-examined/QTGATPMITBD5VM6ZCQW6BQCT5I/">https://www.ajc.com/education/with-more-3d-printers-in-homes-and-schools-potential-health-risks-examined/QTGATPMITBD5VM6ZCQW6BQCT5I/</a>.

- Deen, Lango. "Outstanding Technical Contribution in Industry Award." US Black Engineer (USBE) Information Technology, April 3, 2024. https://www.blackengineer.com/article/outstanding-technical-contribution-inindustry-award/.
- Bourque, Caroline. "Ikea Faces a Class Action Lawsuit, Gen Z Turns to the Skilled Trades, and More." MSN, April 2, 2024. https://www.msn.com/en-us/money/companies/ikea-faces-a-class-action-lawsuit-gen-z-turns-to-theskilled-trades-and-more/ar-BB1kXQ0k.
- SGB Media. "EXEC: Researching Exposures & Effects from PFAS and Consumer Textiles on Human Health." SGB Media, March 27, 2024. https://sgbonline.com/exec-researching-exposures-effects-from-pfas-andconsumer-textiles-on-human-health/.
- "Reflections from Maui: EWC Researcher Visits Wildfire-Stricken Areas to Collect Samples to Aid Recovery." East-West Center, March 13, 2024. https://www.eastwestcenter.org/news/announcement/reflections-maui-ewcresearcher-visits-wildfire-stricken-areas-collect-samples.
- Hodnett, Cindy W. "ASID CEO Says 2024 Looks Positive for Interior Designers, Outlines Organizational Goals." Designers Today, March 12, 2024. https://www.designerstoday.com/designers/asid-ceo-says-2024-looks-positive-for-interior-designers-outlines-organizational-goals/.
- Pallerino, Michael J. "Driving Change: How the Chemical Insights Research Institute (CIRI) Has Become a Trusted Environmental Health Resource." Cobb in Focus, February 28, 2024. https://issuu.com/newsouthpublishing/docs/cobb in focus march april 2024.
- Bartlett, Amanda. "Pretty Clever: How to Build a DIY Air Purifier as Smoke Hangs over SF Bay Area." SFGATE, September 20, 2023. https://www.sfgate.com/bayarea/article/diy-air-purifier-bay-area-wildfire-smoke-16459463.php.
- Perez, Adrianna, and Talia Soglin. "Can AC Protect Against Wildfire Smoke? How Chicagoans Can Stay Safe from Bad Air While Indoors." Chicago Tribune, August 27, 2023. https://www.chicagotribune.com/news/environment/ctwildfire-smoke-air-quality-purifiers-20230827-mcrquun4g5buxg3dsevtud5cze-story.html.
- "Study of 3D Printing Emissions Leads to ANSI/CAN/UL Standard for Testing." Safety+Health, June 21, 2023. https://www.safetyandhealthmagazine.com/articles/study-of-3d-printing-emissions-leads-to-ansi-can-ulstandard-for-testing.
- Stevenson, Kerry. "UL 200B: A Definitive Guide to Safe 3D Printing for Educational Institutions and Users." Fabbaloo, June 12, 2023. https://www.fabbaloo.com/news/ul-200b-a-definitive-guide-to-safe-3d-printing-foreducational-institutions-and-users.
- Williams, Al. "3D Printing Safety (According to the UL)." Hackaday, June 4, 2023. https://hackaday.com/2023/06/04/3d-printing-safety-according-to-the-ul/.
- Schwaar, Carolyn. "Finally, Standards for 3D Printing Safety." All3DP Pro, May 30, 2023. https://all3dp.com/4/finallyan-official-guide-to-3d-printing-safety/.
- Russell, Thomas. "Researchers Study Human Exposure to PFAS Chemicals Used in Performance Fabrics." Home News Now, May 12, 2023. https://homenewsnow.com/blog/2023/05/12/researchers-study-human-exposure-topfas-chemicals-used-in-performance-fabrics/.
- Burch, Kelly. "The 7 Best Humidifiers for Your Baby, with Advice from Pediatricians." Business Insider, March 15, 2023. https://www.insider.com/guides/home/best-humidifier-for-baby.
- Rizzuto, Pat. "PFAS Lurking in Textiles, Effects on Health Subject of New Study." Bloomberg Law, March 3, 2023. https://news.bloomberglaw.com/environment-and-energy/pfas-lurking-in-textiles-effects-on-health-subjectof-new-study.
- "New Research into PFAS Impact of Textiles." Ecotextile News, February 21, 2023. https://www.ecotextile.com/2023022030392/dyes-chemicals-news/new-research-into-pfas-impact-oftextiles.html.

- Kite-Powell, Jennifer. "New Research Shows Fumes from 3D Printers Can Create Human Health Hazards." Forbes, October 2, 2022. https://www.forbes.com/sites/jenniferhicks/2022/10/02/new-research-shows-fumes-from-3d-printers-can-create-human-health-hazards/?sh=1af73e0548b6.
- "3 Tips for Making Safe, Healthy and Green Furniture Choices." U.S. Green Building Council's Green Home Guide, March 14, 2022.
- "UL Research Institute Studies Health Risks from Chemical Exposure." Chemical Processing, February 25, 2022. https://www.chemicalprocessing.com/industrynews/2022/ul-research-institute-studies-health-risks-fromchemical-exposure/.
- Kauppila, Ile. "3D Printing Emissions & Air Quality A Practical Guide." All3DP Pro, January 22, 2022. https://all3dp.com/1/3d-printing-emissions-air-quality/.
- Northington, Laurie. "Chemical Insights Releases Summary Report on Fire Barriers for Upholstered Furniture." Home Furnishing's Business, January 5, 2022. http://hfbusiness.com/hfbnow/ArticleId/22085/chemical-insightsreleases-summary-report-on-fire-barriers-for-upholstered-furniture.
- Mitra, Puja. "MakerBot Achieves GREENGUARD Certification." Tenlinks, December 1, 2021.
- "New Study Details All the Toxic Shit Spewed Out by 3D Printers." Konitono, November 27, 2021.
- Shapiro, Debra. "3D Printer Safety Resources and Poster." National Science Teaching Association (NSTA), October 26, 2021. https://www.nsta.org/resources/freebies-science-teachers-october-26-2021.
- Hendrixson, Stephanie. "Vat Photopolymerization and VOC Emissions: Study Results and User Guidelines." Additive Manufacturing Magazine, September 25, 2021. https://www.additivemanufacturing.media/articles/vatphotopolymerization-and-voc-emissions-study-results-and-user-guidelines.
- Stroud, Janet. "The Science Behind Good IAQ and Safer Spaces." FMJ, September 17, 2021. https://www.fmlink.com/articles/science-behind-good-iag-safer-spaces/.
- "Chemical Insights, Underwriters Laboratories and GSU Launch Research Initiative on Vaping and E-Cigarettes." Nicotine Science and Policy, August 20, 2021.
- Henderson, Emily. "Chemical Insights, Underwriters Laboratories and GSU Launch Research Initiative on Vaping and E-Cigarettes." News-Medical.net, August 20, 2021. https://www.news-medical.net/news/20210820/Chemical-Insights-Underwriters-Laboratories-and-GSU-launch-research-initiative-on-vaping-and-e-cigarettes.aspx.
- "Research on DIY Air Cleaners to Reduce Wildfire Smoke Indoors | US EPA." Environmental Protection Agency, August 19, 2021. https://www.epa.gov/air-research/research-diy-air-cleaners-reduce-wildfire-smoke-indoors.
- "Georgia State Begins Aerosol Research Study for ENDS." Vapor Voice, August 13, 2021. https://vaporvoice.net/2021/08/13/georgia-state-begins-aerosol-research-study-for-ends/.
- "Georgia State Starts Research Initiative on Study of Electronic Nicotine Delivery Systems with Chemical Insights Nonprofit." Georgia State News Hub. August 12, 2021. https://news.gsu.edu/2021/08/12/gsu-starts-researchinitiative-on-study-of-electronic-nicotine-delivery-systems-with-chemical-insights-nonprofit/.
- "3D Printers Precautions and Safety." SV3DPRINTER, July 29, 2021.
- Druley, Kevin. "3D Printing Process Emissions May Cause 'Strong Irritation': Study." Safety+Health, July 29, 2021. https://www.safetyandhealthmagazine.com/articles/21537-d-printing-process-emissions-may-cause-strongirritation-study?linkld=126767299.
- Saunders, Sarah. "New UL Study Reveals VOC Emission Rates Are Higher in SLA vs. FFF 3D Printing." 3DPrint.com, July 19, 2021. https://3dprint.com/283025/new-ul-study-reveals-voc-emission-rates-are-higher-in-sla-vs-fff-3d-printing/.
- Pyle, Carla. "Follow Up: Questions About Flame Retardants in Upholstery? Help Is on the Way!" National Upholstery Association (blog), June 28, 2021. https://nationalupholsteryassociation.org/news-blog/10708498.

- Northington, Laurie. "Chemical Insights' New Toolkit Helps Interior Designers Select Furniture with Greater Flammability Protection." *Home Furnishing's Business*, May 19, 2021. <a href="http://hfbusiness.com/hfbnow/articleid/21388/chemical-insights-new-toolkit-helps-interior-designers-select-furniture-with-greater-flammability-protection">http://hfbusiness.com/hfbnow/articleid/21388/chemical-insights-new-toolkit-helps-interior-designers-select-furniture-with-greater-flammability-protection</a>.
- Borneman, Jim. "Chemical Insights, an Institute of Underwriters Laboratories, Releases Toolkit to Help Interior Designers Specifying Furniture to Reduce Flame Retardant Exposure." *Textile World*, May 17, 2021. <a href="https://www.textileworld.com/textile-world/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/.">https://www.textileworld.com/textile-world/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/">https://www.textileworld.com/textile-world/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/">https://www.textileworld.com/textile-world/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/">https://www.textileworld.com/textile-world/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/">https://www.textileworld.com/textileworld/2021/05/chemical-insights-an-institute-of-underwriters-laboratories-releases-toolkit-to-help-interior-designers-specifying-furniture-to-reduce-flame-retardant-exposure/">https://www.textileworld/</a>
- Ledoux, Nicholas. "Chemical Insights Releases Toolkit to Help Interior Designers Specifying Furniture to Reduce Flame Retardant Exposure." Furniture World Magazine, May 10, 2021. <a href="https://www.furninfo.com/Furniture-lndustry-News/14010/">https://www.furninfo.com/Furniture-lndustry-News/14010/</a>.
- Zinn, Harold. "In the News: May 2, 2021." *Product Safety Network News*, May 2, 2021. http://www.productsafetynetworknews.com/2021/05/02/in-the-news-may-3-2021/.
- "Chemical Insights Releases Interior Designer Toolkit." Furniture Lighting & Decor, April 28, 2021. https://www.furniturelightingdecor.com/chemical-insights-releases-interior-designer-toolkit.
- "Chemical Insights, an Institute of Underwriters Laboratories, Releases Toolkit to Help Interior Designers Specifying Furniture to Reduce Flame Retardant Exposure." *Yahoo! Finance*, April 28, 2021.
- "Free E-Learning Module: Maintaining Healthy IAQ During COVID-19." Safety+Health, March 2, 2021. <a href="https://www.safetyandhealthmagazine.com/articles/20909-free-e-learning-module-maintaining-healthy-iaq-during-covid-19">https://www.safetyandhealthmagazine.com/articles/20909-free-e-learning-module-maintaining-healthy-iaq-during-covid-19</a>.
- DE Editors. "Editor's Pick: UL Certification for Emissions-Free 3D Printing." *Digital Engineering 24/7*, January 6, 2021. <a href="https://www.digitalengineering247.com/article/editors-pick-ul-certification-for-emissions-free-3d-printing/New-Products">https://www.digitalengineering247.com/article/editors-pick-ul-certification-for-emissions-free-3d-printing/New-Products</a>.
- Listen, Vanesa. "School Guide to Offset the Invisible Threat in Fused Filament 3D Printing." 3DPrint.com, August 12, 2020. <a href="https://doi.org/10.271328/school-guide-to-offset-the-invisible-threat-in-fused-filament-3d-printing/">https://doi.org/10.271328/school-guide-to-offset-the-invisible-threat-in-fused-filament-3d-printing/</a>.
- K., Yosra. "Chemical Insights' 3D Printing Toolkit Gives Key Takeaways to Use 3D Printers Safely at Home or in Schools." 3D Adept Media, July 31, 2020. <a href="https://3dadept.com/chemical-insights-3d-printing-toolkit-gives-key-takeaways-to-use-3d-printers-safely-at-home-or-in-schools/">https://3dadept.com/chemical-insights-3d-printing-toolkit-gives-key-takeaways-to-use-3d-printers-safely-at-home-or-in-schools/</a>.
- "Particles Emitted by Consumer 3D Printers Could Hurt Indoor Air Quality." *Georgia Tech Research: Horizons*, October 7, 2019.
- "Skin Contact Main Exposure Route for Flame Retardants in Furniture, Study Suggests." *Chemical Watch*, April 29, 2019. <a href="https://chemicalwatch.com/76917/skin-contact-main-exposure-route-for-flame-retardants-in-furniture-study-suggests">https://chemicalwatch.com/76917/skin-contact-main-exposure-route-for-flame-retardants-in-furniture-study-suggests</a>.
- Albright, Brian. "UL Releases Emissions Standards for 3D Printers." *Digital Engineering*, February 26, 2019. <a href="https://digitalengineering247.com/article/ul-releases-emissions-standards-for-3d-printers/prototype">https://digitalengineering247.com/article/ul-releases-emissions-standards-for-3d-printers/prototype</a>.
- Michelson, Joan. "How to Keep Kids Safe from 3-D Printers, Adults Too." *Forbes*, February 20, 2019. <a href="https://www.forbes.com/sites/joanmichelson2/2019/02/20/how-to-reduce-the-risks-of-3d-printers-especially-for-kids/?sh=2c5ad8a92c40">https://www.forbes.com/sites/joanmichelson2/2019/02/20/how-to-reduce-the-risks-of-3d-printers-especially-for-kids/?sh=2c5ad8a92c40</a>.
- Stevenson, Kerry. "The Deep Implications of UL2904 on 3D Printing." *Fabbaloo*, February 8, 2019. https://www.fabbaloo.com/blog/2019/2/8/the-deep-implications-of-ul2904-on-3d-printing.
- Davies, Sam. "UL Publishes 3D Printing Standard for Testing and Assessing Particle and Chemical Emissions." *TCT Mag: 3D Printing & Additive Manufacturing Intelligence*, February 6, 2019.

- https://www.tctmagazine.com/additive-manufacturing-3d-printing-news/ul-3d-printing-standard-particle-emission/.
- O'Neal, Bridget. "ANSI/CAN/UL 2904 Standard: New Data on 3D Printer Particle Emissions & Safety Measures." 3DPrint.com, February 6, 2019. <a href="https://3dprint.com/235707/ansi-can-ul-2904-standard-new-data-3d-printer-particle-emissions-safety-measures/">https://3dprint.com/235707/ansi-can-ul-2904-standard-new-data-3d-printer-particle-emissions-safety-measures/</a>.
- "New Standard ANSI/CAN/UL 2904 Addresses 3D Printer Emissions." TSI (blog), February 5, 2019.
- Rizzuto, Pat. "Indoor Air Pollution Standards Announced for 3D Printers." *Bloomberg Law*, February 5, 2019. <a href="https://news.bloomberglaw.com/environment-and-energy/indoor-air-pollution-standards-announced-for-3d-printers">https://news.bloomberglaw.com/environment-and-energy/indoor-air-pollution-standards-announced-for-3d-printers</a>.
- Kloepple, Sarah. "Health Implications and Safety Tips for Desktop 3D Printing." *Buildings*, December 20, 2018. <a href="https://www.buildings.com/articles/27785/health-implications-and-safety-tips-desktop-3d-printing">https://www.buildings.com/articles/27785/health-implications-and-safety-tips-desktop-3d-printing</a>.
- Panjwani, Laura. "R&D Special Focus: 3D Printing." *R&D World*, December 19, 2018. <a href="https://www.rdworldonline.com/rd-special-focus-3d-printing-2/">https://www.rdworldonline.com/rd-special-focus-3d-printing-2/</a>.
- Goldsberry, Clare. "New Research Finds Potential Health Impact from Consumer FDM 3D Printers." *Plastics Today*, December 17, 2018. <a href="https://www.plasticstoday.com/3d-printing/new-research-finds-potential-health-impact-consumer-fdm-3d-printers">https://www.plasticstoday.com/3d-printing/new-research-finds-potential-health-impact-consumer-fdm-3d-printers</a>.
- Walter, Kenny. "Researchers Investigate Unsafe Emissions from 3D Printers." *R&D World*, December 5, 2018. <a href="https://www.rdworldonline.com/researchers-investigate-unsafe-emissions-from-3d-printers/">https://www.rdworldonline.com/researchers-investigate-unsafe-emissions-from-3d-printers/</a>.
- Molitch-Hou, Michael. "3D Printing Health Risks Identified by UL and Georgia Tech." *Engineering.com*, November 28, 2018. <a href="https://www.engineering.com/story/3d-printing-health-risks-identified-by-ul-and-georgia-tech">https://www.engineering.com/story/3d-printing-health-risks-identified-by-ul-and-georgia-tech</a>.
- Saunders, Sarah. "UL and Georgia Tech Continue Research into Impact of 3D Printing Emissions on Indoor Air Quality." 3DPrint.com, November 20, 2018. <a href="https://3dprint.com/230209/ul-and-georgia-tech-continue-research-into-impact-of-3d-printing-emissions-on-indoor-air-quality/">https://3dprint.com/230209/ul-and-georgia-tech-continue-research-into-impact-of-3d-printing-emissions-on-indoor-air-quality/</a>.
- Winick, Erin. "We Still Don't Know If 3-D Printers Pose a Health Risk But I'm Taking No Chances." *MIT Technology Review*, November 15, 2018. <a href="https://www.technologyreview.com/2018/11/15/139066/we-still-dont-know-if-3d-printers-pose-a-health-risk-but-im-taking-no-chances/">https://www.technologyreview.com/2018/11/15/139066/we-still-dont-know-if-3d-printers-pose-a-health-risk-but-im-taking-no-chances/</a>.
- "3D Printers Emit Dangerous Substances into the Air." *The Earth Chronicles of Life: Science*, November 13, 2018. https://earth-chronicles.com/?s=3d+printers.
- Clyburn, Thomas. "Another 3D Printer? Oh, Stop It, You're Killing Us. Perhaps Literally: Fears over Ultrafine Dust." *The Register*, November 13, 2018. <a href="https://www.theregister.com/2018/11/13/3d\_printer\_toxins/">https://www.theregister.com/2018/11/13/3d\_printer\_toxins/</a>.
- Albright, Brian. "UL Study Identifies Hazardous 3D Printer Emissions." *Digital Engineering*, November 12, 2018. <a href="https://www.digitalengineering247.com/article/ul-study-identifies-hazardous-3d-printer-emissions/">https://www.digitalengineering247.com/article/ul-study-identifies-hazardous-3d-printer-emissions/</a>.
- "Research Raises Awareness of Indoor Air Quality Risk from 3D Printers." *Georgia Tech Research: Horizons*, November 12, 2018.
- Vialva, Tia. "MIT, Yale and University of Nottingham Examine Environment Impact of 3D Printing." 3D Printing Industry, September 5, 2018. <a href="https://doi.org/ncm/news/environmental-impact-3d-printing-2-139330/">https://doi.org/ncm/news/environmental-impact-3d-printing-2-139330/</a>.
- Vialva, Tia. "Is 3D Printing Really as Ecofriendly as We Think It Is?" 3D Printing Industry, July 17, 2018. https://3dprintingindustry.com/news/is-3d-printing-really-as-ecofriendly-as-we-think-it-is-136335/.

- Barash, Martina, and Pat Rizzuto. "Desktop 3D Printers: Sales Soaring, Emissions Standards Coming." Bloomberg Law, May 23, 2018. https://news.bloomberglaw.com/safety/desktop-3d-printers-sales-soaring-emissions-standardscoming.
- Pelley, Janet. "3D Printer Emissions Raise Concerns and Prompt Controls." Chemical & Engineering News, March 26, 2018. https://cen.acs.org/materials/3-d-printing/3-D-printer-emissions-raise/96/i13.
- Kassner, Michael. "3D Printing May Be Hazardous to Your Health: The Case for a Particle Emissions Standard." TechRepublic, September 11, 2017.
- Scott, Clare. "UL Study Releases Data on Effects of 3D Printing on Human Health, Calls for New Standards." 3DPrint.com, June 28, 2017. https://3dprint.com/179369/3d-printing-emissions-study/.
- Petch, Michael. "Is 3D Printing Safe? UL Publishes Safety Science of 3D Printing." 3D Printing Industry, June 27, 2017. https://3dprintingindustry.com/news/3d-printing-safe-ul-publishes-safety-science-3d-printing-117136/
- Kira. "3D Printer Emissions Study to Determine Impact on Air Quality and Health." 3ders 3D Printer and 3D Printing News, December 8, 2015. https://www.3ders.org/articles/20151208-3d-printer-emissions-study-determineimpact-air-quality-health.html.
- Goehrke, Sarah. "How Safe Is 3D Printing? UL Teams Up with Two Universities to Examine 3D Printing's Effect on Air Quality & Human Health." 3DPrint.com, December 4, 2015. https://adprint.com/108795/ul-research-indoor-airquality/.



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