

The Assembly on

Environmental, Occupational, and Population Health

Volume 6 | Issue 1 Spring 2022

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Dear EOPH Members,



As we navigate through this pandemic and try to come to terms with our new normal, we have also decided to revamp how we communicate with the EOPH assembly. We hope everyone is staying safe and healthy as we continue to navigate and respond to the COVID-19 pandemic. We have also included some resources to help everyone stay informed as to the current status of the pandemic.

Also included in this **Spring 2022** newsletter are some of our members' recent articles.

We would also like to receive your feedback to identify strengths and areas of improvement for the newsletter going forward. Please participate in a 5-minute survey regarding your experience with the newsletter, and contribute to a word cloud to be published in the next edition of the newsletter. You can find the survey link at https://www.surveymonkey.com/r/CVYGJ8G.

This link will be open until May 18, 2022.

If you have a recent publication or other items (available jobs, lectures/seminars) that you would like to share in the upcoming newsletter, please send the title and citation link to sophia.kwon@nyulangone.org and TID Section relevant postings to satya.achanta@duke.edu.

Best.

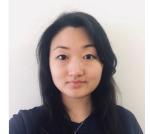
EOPH Web Committee



Junior Member Highlight

For this edition of the newsletter, we would like to highlight Dr. Sophia Kwon, DO, MPH, from New

York University Grossman School of Medicine. She has been working with the World Trade Center exposed Fire Department of New York City –NYU collaboration for the past 12 years focusing on longitudinal biomarkers of disease in this cohort of firefighters with exposure to World Trade Center particulate matter. Her recent work "Dynamic Metabolic Risk Profile of World Trade Center Lung Disease: A Longitudinal Cohort Study" published in the American Journal of Respiratory and Critical Care Medicine and was highlighted in an editorial by Dr. Fernando Holguin.



Metabolic syndrome, having at least three out of five conditions including obesity, hyperlipidemia, hypertension, and insulin resistance, had been previously shown to have increased risk of developing persistent obstructive airways disease after World Trade Center exposure in this cohort (N=16000). Dr. Kwon has since investigated serial, longitudinal measurements and used several important models to better understand the complex temporal relationship between lung disease, exposure, and traditionally cardiovascular risk factors. She also assessed the potential reversibility of these biomarkers and found that reduction in the risk factors could also risk of lung disease. Dr. Kwon and her group also further created an interactive risk assessment calculator that could predict the dynamic risk based on metabolic syndrome risk factors.

This field is of particular interest given the rising concerns of climate change, subsequent worsening ambient particulate matter exposure, and comorbid metabolic syndrome that could give rise to further inflammatory sequelae and pulmonary disease. The frameshift in investigating traditional markers of cardiovascular disease and investigating them as pulmonary ones gives interesting thought to multiple areas to mitigate disease after particulate matter exposure. This quarter's newsletter also reflects this burgeoning interest in the field with multiple interesting publications investigating the often-comorbid detriments to respiratory health: metabolic health and particulate matter exposure. The contribution of socioeconomic status also overlaps heavily with metabolic risk factors and respiratory disease.

Dr. Kwon is finishing her critical care fellowship at NYU, and has accepted a position as junior faculty with the same institution for the upcoming academic year. On behalf of the EOPH Web Editorial Committee, we congratulate her for her achievements and look forward to more of her future work.

Please let us know if you have junior members whose work you would like to have highlighted in the next newsletter! Please contact anna.nolan@med.nyu.edu.



Recent Publications

This section highlights some of our assembly members' exciting research that was recently "e-published" or were submitted for inclusion in this newsletter. It is possible that our search may miss your best work, so please send your recent publications to Sophia.Kwon@nyulangone.org.

SARS-CoV-2 / COVID-19

Woodsmoke particle exposure prior to SARS-CoV-2 infection alters antiviral response gene expression in human nasal epithelial cells in a sex-dependent manner. Brocke SA, Billings GT, Taft-Benz S, Alexis NE, Heise MT, Jaspers I.Am J Physiol Lung Cell Mol Physiol. 2022 Mar 1;322(3):L479-L494. doi: 10.1152/ajplung.00362.2021. Epub 2022 Feb 2. PMID: 35107034

Ambient air pollution and COVID-19 incidence during four 2020-2021 case surges. Sidell MA, Chen Z, Huang BZ, Chow T, **Eckel SP**, Martinez MP, Lurmann F, Thomas DC, **Gilliland FD**, Xiang AH.Environ Res. 2022 May 15;208:112758. doi: 10.1016/j.envres.2022.112758. Epub 2022 Jan 19. PMID: 35063430

Asthma and Allergy

Reducing asthma exacerbations in vulnerable children through a medical-legal partnership.

Mainardi AS, Harris D, Rosenthal A, **Redlich CA**, Hu B, Fenick AM.J Asthma. 2022 Mar 7:1-8. doi: 10.1080/02770903.2022.2045307. Online ahead of print.PMID: 35188437

Severe asthma and death in a worker using methylene diphenyl diisocyanate MDI asthma death.

Wisnewski AV, Cooney R, Hodgson M, Giese K, Liu J, **Redlich CA.**Am J Ind Med. 2022 Mar;65(3):166-172. doi: 10.1002/ajim.23323. Epub 2022 Jan 14.PMID: 35028957

A Murine Model of Ozone-induced Nonatopic Asthma from the Collaborative Cross. Smith GJ, Tovar A, McFadden K, Moran TP, Wagner JG, Harkema JR, Kelada SNP.Am J Respir Cell Mol Biol. 2021 Dec;65(6):672-674. doi: 10.1165/rcmb.2020-0577LE.PMID: 34851239

The Precision Interventions for Severe and/or Exacerbation-Prone (PrecISE) Asthma Network: An overview of Network organization, procedures, and interventions. Georas SN, Wright RJ, Ivanova A, Israel E, LaVange LM, Akuthota P, Carr TF, Denlinger LC, Fajt ML, Kumar R, O'Neal WK, Phipatanakul W, Szefler SJ, Aronica MA, Bacharier LB, Burbank AJ, Castro M, Crotty Alexander L, Bamdad J, Cardet JC, Comhair SAA, Covar RA, DiMango EA, Erwin K, Erzurum SC, Fahy JV, Gaffin JM, Gaston B, Gerald LB, Hoffman EA, Holguin F, Jackson DJ, James J, Jarjour NN, Kenyon NJ, Khatri S, Kirwan JP, Kraft M, Krishnan JA, Liu AH, Liu MC, Marquis MA, Martinez F, Mey J, Moore WC, Moy JN, Ortega VE, Peden DB, Pennington E, Peters MC, Ross K, Sanchez M, Smith LJ, Sorkness RL, Wechsler ME, Wenzel SE, White SR, Zein J, Zeki AA, Noel P; PrecISE Study Team. J Allergy Clin Immunol. 2022 Feb;149(2):488-516.e9. doi: 10.1016/j.jaci.2021.10.035. Epub 2021 Nov 29.PMID: 34848210

Impact of Personal, Sub-hourly Exposure to Ultrafine Particles on Respiratory Health in Adolescents With Asthma. Turner AL, Brokamp C, Wolfe C, Reponen T, Ryan PH.Ann Am Thorac Soc. 2022 Mar 22. doi: 10.1513/AnnalsATS.202108-947OC. Online ahead of print.PMID: 35315743

Child maltreatment, anxiety and depression, and asthma among British adults in the UK Biobank.

Han YY, Yan Q, Chen W, Celedón JC. Eur Respir J. 2022 Mar 17:2103160. doi: 10.1183/13993003.03160-2021. Online ahead of print.PMID: 35301250

Severe asthma in children: Description of a large multidisciplinary clinical cohort.

Forero Molina M, Okoniewski W, Puranik S, Aujla S, Celedón JC, Larkin A, Forno E.Pediatr Pulmonol. 2022 Mar 9. doi: 10.1002/ppul.25887. Online ahead of print.PMID: 35261210

Diet, Asthma, and Severe Asthma Exacerbations in a Prospective Study of Puerto Rican Youth.



Reyes-Angel J, Han YY, **Rosser F**, Forno E, Acosta-Pérez E, Canino G, **Celedón JC.**J Allergy Clin Immunol Pract. 2022 Feb 2:S2213-2198(22)00081-2. doi: 10.1016/j.jaip.2022.01.029. Online ahead of print.PMID: 35123101

Asthma in the Americas: An Update: A Joint Perspective from the Brazilian Thoracic Society, Canadian Thoracic Society, Latin American Thoracic Society, and American Thoracic Society.

Forno E, Brandenburg DD, Castro-Rodriguez JA, Celis-Preciado CA, Holguin F, Licskai C, Lovinsky-Desir S, Pizzichini M, Teper A, Yang C, **Celedón JC.**Ann Am Thorac Soc. 2022 Apr;19(4):525-535. doi: 10.1513/AnnalsATS.202109-1068CME.PMID: 35030062

Persistent overweight or obesity, lung function, and asthma exacerbations in Puerto Rican youth.

Wong M, Han YY, Rosser F, Acosta-Pérez E, Canino G, Forno E, Celedón JC. Ann Allergy Asthma Immunol. 2022 Apr;128(4):408-413.e2. doi: 10.1016/j.anai.2022.01.004. Epub 2022 Jan 10.PMID: 35017083

<u>Using Bayesian time-stratified case-crossover models to examine associations between air pollution and</u> "asthma seasons" in a low air pollution environment.

Bozigar M, Lawson AB, Pearce JL, **Svendsen ER**, Vena JE.PLoS One. 2021 Dec 8;16(12):e0260264. doi: 10.1371/journal.pone.0260264. eCollection 2021.PMID: 34879071

HEPA filtration intervention in classrooms may improve some students' asthma. Vesper SJ, Wymer L, Coull BA, Koutrakis P, Amparito, Petty CR, Metwali N, Sheehan WJ, Gaffin JM, Permaul P, Lai PS, Bartnikas LM, Hauptman M, Gold DR, Baxi SN, Phipatanakul W.J Asthma. 2022 Mar 27:1-12. doi: 10.1080/02770903.2022.2059672. Online ahead of print.PMID: 35341426

COPD, Chronic Bronchitis

Household air pollution and COPD: cause and effect or confounding by other aspects of poverty?

Mortimer K, Montes de Oca M, Salvi S, Balakrishnan K, Hadfield RM, Ramirez-Venegas A, Halpin DMG, Ozoh Obianuju B, Han MeiLan K, Perez Padilla R, Kirenga B, Balmes JR. Int J Tuberc Lung Dis. 2022 Mar 1;26(3):206-216. doi: 10.5588/ijtld.21.0570. PMID: 35197160; PMCID: PMC8886958.

Household air pollution and COPD: cause and effect or confounding by other aspects of poverty?

Mortimer K, Montes de Oca M, Salvi S, Balakrishnan K, Hadfield RM, Ramirez-Venegas A, Halpin DMG, Ozoh Obianuju B, Han MeiLan K, Perez Padilla R, Kirenga B, **Balmes JR**.Int J Tuberc Lung Dis. 2022 Mar 1;26(3):206-216. doi: 10.5588/ijtld.21.0570.PMID: 35197160

Forced Expiratory Flow at 25%-75% Links COPD Physiology to Emphysema and Disease Severity in the SPIROMICS Cohort. Ronish BE, Couper DJ, Barjaktarevic IZ, Cooper CB, Kanner RE, Pirozzi CS, Kim V, Wells JM, Han MK, Woodruff PG, Ortega VE, Peters SP, Hoffman EA, Buhr RG, Dolezal BA, Tashkin DP, Liou TG, Bateman LA, Schroeder JD, Martinez FJ, Barr RG, Hansel NN, Comellas AP, Rennard SI, Arjomandi M, Paine Iii R.Chronic Obstr Pulm Dis. 2022 Feb 2. doi: 10.15326/jcopdf.2021.0241. Online ahead of print. PMID: 35114743

Racial and Ethnic Minorities Have a Lower Prevalence of Airflow Obstruction than Non-Hispanic Whites. **Sood A**, Petersen H, Liu C, Myers O, Shore XW, Gore BA, Vazquez-Guillamet R, Cook LS, Meek P, Tesfaigzi Y.COPD. 2022 Jan 31:1-8. doi: 10.1080/15412555.2022.2029384. Online ahead of print.PMID: 35099333

Optimism is associated with respiratory symptoms and functional status in chronic obstructive pulmonary disease. Koo HK, Hoth KF, Make BJ, Regan EA, Crapo JD, Silverman EK, DeMeo DL.Respir Res. 2022 Jan 29;23(1):19. doi: 10.1186/s12931-021-01922-6.PMID: 35093071

The Air We Breathe: Respiratory Impact of Indoor Air Quality in Chronic Obstructive Pulmonary Disease. Mkorombindo T, Balmes JR, Custovic A, Dransfield MT.Am J Respir Crit Care Med. 2022 Feb 15;205(4):378-380. doi: 10.1164/rccm.202112-2822ED.PMID: 35007496



Chronic respiratory disease in adult outpatients in three African countries: a cross-sectional study.

Binegdie AB, Meme H, El Sony A, Haile T, Osman R, Miheso B, Zurba L, Lesosky M, Balmes J, Burney PJ, Mortimer K, Devereux G.Int J Tuberc Lung Dis. 2022 Jan 1;26(1):18-25. doi: 10.5588/ijtld.21.0362.PMID: 34969424

Forced Expiratory Flow at 25%-75% Links COPD Physiology to Emphysema and Disease Severity in the SPIROMICS Cohort. Ronish BE, Couper DJ, Barjaktarevic IZ, Cooper CB, Kanner RE, **Pirozzi CS**, Kim V, Wells JM, Han MK, Woodruff PG, Ortega VE, Peters SP, Hoffman EA, Buhr RG, Dolezal BA, **Tashkin DP**, Liou TG, Bateman LA, Schroeder JD, Martinez FJ, Barr RG, Hansel NN, Comellas AP, Rennard SI, Arjomandi M, Paine Iii R.Chronic Obstr Pulm Dis. 2022 Feb 2. doi:

10.15326/jcopdf.2021.0241. Online ahead of print.PMID: 35114743

<u>Identifying and predicting severe bronchiolitis profiles at high risk for developing asthma: Analysis of three prospective cohorts.</u> Fujiogi M, **Dumas O**, Hasegawa K, Jartti T, Camargo CA.

EClinicalMedicine. 2022 Jan 4;43:101257. doi: 10.1016/j.eclinm.2021.101257. eCollection 2022 Jan.PMID: 35028545

Panlobular emphysema is associated with COPD disease severity: A study of emphysema subtype by computed tomography. Wilgus ML, Abtin F, Markovic D, **Tashkin DP**, Phillips JE, Buhr RG, Flynn MJ, Dembek M, Cooper CB, Barjaktarevic I.Respir Med. 2022 Feb;192:106717. doi: 10.1016/j.rmed.2021.106717. Epub 2021 Dec 14.PMID: 35026616

Race/Ethnicity, Spirometry Reference Equations, and Prediction of Incident Clinical Events: The Multi-Ethnic Study of Atherosclerosis (MESA) Lung Study. Elmaleh-Sachs A, Balte P, Oelsner EC, Allen NB, Baugh A, Bertoni AG, Hankinson JL, Pankow J, Post WS, Schwartz JE, Smith BM, Watson K, Barr RG.Am J Respir Crit Care Med. 2022 Mar 15;205(6):700-710. doi: 10.1164/rccm.202107-1612OC.PMID: 34913853

Benefit of Prompt versus Delayed Use of Single-Inhaler Fluticasone Furoate/Umeclidinium/Vilanterol (FF/UMEC/VI) Following a COPD Exacerbation. Mannino D, Bogart M, Germain G, Huang SP, Ismaila AS, Laliberté F, Jung Y, MacKnight SD, Stiegler MA, Duh MS.Int J Chron Obstruct Pulmon Dis. 2022 Mar 5;17:491-504. doi: 10.2147/COPD.S337668. eCollection 2022.PMID: 35281476 Comparative Impact of Depressive Symptoms and FEV₁% on Chronic Obstructive Pulmonary Disease. O'Toole J, Woo H, Putcha N, Cooper CB, Woodruff P, Kanner RE, Paine R, Bowler RP, Comellas A, Hoth KF, Krishnan JA, Han M, Dransfield M, Iyer AS, Couper D, Peters SP, Criner G, Kim V, Barr RG, Martinez FJ, Hansel NN, Eakin MN; SPIROMICS Investigators.Ann Am Thorac Soc. 2022 Feb;19(2):171-178. doi: 10.1513/AnnalsATS.202009-1187OC.PMID: 34410883

Mortality and Exacerbation Risk by Body Mass Index in Patients with COPD in TIOSPIR and UPLIFT.

Putcha N, Anzueto AR, Calverley PMA, Celli BR, Tashkin DP, Metzdorf N, Mueller A, Wise RA.Ann Am Thorac Soc. 2022 Feb;19(2):204-213. doi: 10.1513/AnnalsATS.202006-722OC.PMID: 34406915 Home Dust Allergen Exposure Is Associated with Outcomes among Sensitized Individuals with Chronic Obstructive Pulmonary Disease.

Putcha N, Woo H, McCormack MC, Fawzy A, Romero K, Davis MF, Wise RA, Diette GB, Koehler K, Matsui EC, Hansel NN.Am J Respir Crit Care Med. 2022 Feb 15;205(4):412-420. doi: 10.1164/rccm.202103-0583OC.PMID: 34752729

Impact of Exposure to Diesel Exhaust on Inflammation Markers and Proteases in Former Smokers with COPD: A Randomized, Double-Blinded, Crossover Study.

Ryu MH, Afshar T, Li H, Wooding DJ, Orach J, Zhou JS, Murphy S, Lau KS, Schwartz C, Yuen ACY, **Rider CF**, **Carlsten C**.Am J Respir Crit Care Med. 2022 Feb 24. doi: 10.1164/rccm.202104-1079OC. Online ahead of print. PMID: 35202552



Occupational Injuries and Environmental Exposures

<u>Chemistry, lung toxicity and mutagenicity of burn pit smoke-related particulate matter.</u> Kim YH, Warren SH, Kooter I, Williams WC, George IJ, Vance SA, Hays MD, Higuchi MA, Gavett SH, DeMarini DM, Jaspers I, Gilmour MI. Part Fibre Toxicol. 2021 Dec 16;18(1):45. doi: 10.1186/s12989-021-00435-w. PMID:34915899; PMCID: PMC8675519.

Occupational health disparities: The pandemic as prism and prod. Brigham E, Harris D, Carlsten C, Redlich CA. J Allergy Clin Immunol. 2021 Nov;148(5):1148-1150. doi: 10.1016/j.jaci.2021.09.007. Epub 2021 Sep 14. PMID:34534567; PMCID: PMC8452464.

Pathology and Mineralogy Demonstrate Respirable Crystalline Silica is a Major Cause of Severe Pneumoconiosis in US Coal Miners.

Cohen RA, Rose CS, Go LHT, Zell-Baran LM, Almberg KS, Sarver EA, Lowers HA, Iwaniuk C, Clingerman SM, Richardson DL, Abraham JL, Cool CD, Franko AD, Hubbs AF, Murray J, Orandle MS, Sanyal S, Vorajee NI, Petsonk EL, Zulfikar R, Green FHY.Ann Am Thorac Soc. 2022 Mar 30. doi: 10.1513/AnnalsATS.202109-1064OC. Online ahead of print. PMID: 35353671

The effect of air pollution on the transcriptomics of the immune response to respiratory infection.

Croft, D. P., Burton, D. S., Nagel, D. J., Bhattacharya, S., Falsey, A. R., Georas, S. N. & McCall, M. N. Scientific reports. 2021. 11(1), 1-14

PMCID: PMC8484285 DOI: 10.1038/s41598-021-98729-8

<u>Pneumococcal pneumonia on the job: Uncovering the past story of occupational exposure to metal</u> fumes and dust.

Torén K, Naidoo RN, Blanc PD.Am J Ind Med. 2022 Mar 29. doi: 10.1002/ajim.23352. Online ahead of print.PMID: 35352358

Current global perspectives on silicosis-Convergence of old and newly emergent hazards.

Hoy RF, Jeebhay MF, Cavalin C, Chen W, **Cohen RA**, Fireman E, **Go LHT**, León-Jiménez A, Menéndez-Navarro A, Ribeiro M, Rosental PA.Respirology. 2022 Mar 18. doi: 10.1111/resp.14242. Online ahead of print.PMID: 35302259

<u>Cumulative occupational exposure to inorganic dust and fumes and invasive pneumococcal disease</u> with pneumonia.

Torén K, Blanc PD, Naidoo R, Murgia N, Stockfelt L, Schiöler L.Int Arch Occup Environ Health. 2022 Mar 9. doi: 10.1007/s00420-022-01848-6. Online ahead of print.

Small airways and airspace inflammation and injury distinguish lung histopathology in deployed military personnel from healthy and diseased lungs.

Rose CS, Moore CM, Zell-Baran LM, Krefft S, Wolff J, Pang K, Parr J, Cool C.Hum Pathol. 2022 Feb 28:S0046-8177(22)00047-8. doi: 10.1016/j.humpath.2022.02.014. Online ahead of print.PMID: 35240130

Prevalence and severity of abnormal lung function among US former coal miners with and without radiographic coal workers' pneumoconiosis. **Go LHT**, Almberg KS, **Rose CS**, Zell-Baran LM, Harris DA, Tomann M, Friedman LS, Weems DJ, Vonhof W, Mastel KM, **Cohen RA**.Occup Environ Med. 2022 Feb 11:oemed-2021-107872, doi: 10.1136/oemed-2021-107872. PMID: 35149597

<u>Dusty trades and associated rheumatoid arthritis in a population-based study in the coal mining counties of Appalachia.</u> Schmajuk G, Trupin L, Yelin EH, Blanc PD.Occup Environ Med. 2022 Jan 5:oemed-2021-107899. doi: 10.1136/oemed-2021-107899.PMID: 34987082

Chemistry, lung toxicity and mutagenicity of burn pit smoke-related particulate matter.



Kim YH, Warren SH, Kooter I, Williams WC, George IJ, Vance SA, Hays MD, Higuchi MA, Gavett SH, DeMarini DM, Jaspers I, Gilmour MI.Part Fibre Toxicol. 2021 Dec 16;18(1):45. doi: 10.1186/s12989-021-00435-w.PMID: 3491589

<u>Transcriptomics of single dose and repeated carbon black and ozone inhalation co-exposure highlight progressive pulmonary mitochondrial dysfunction.</u>

Hathaway QA, Majumder N, Goldsmith WT, Kunovac A, Pinti MV, **Harkema JR**, Castranova V, Hollander JM, Hussain S.Part Fibre Toxicol. 2021 Dec 15;18(1):44. doi: 10.1186/s12989-021-00437-8.PMID: 34911549

<u>Association of Outdoor Ambient Fine Particulate Matter With Intracellular White Matter Microstructural</u> Properties Among Children.

Burnor E, Cserbik D, Cotter DL, Palmer CE, Ahmadi H, **Eckel SP**, Berhane K, McConnell R, Chen JC, Schwartz J, Jackson R, Herting MM.JAMA Netw Open. 2021 Dec 1;4(12):e2138300. doi: 10.1001/jamanetworkopen.2021.38300.PMID: 34882178

Coal mine dust lung disease in miners killed in the Upper Big Branch disaster: a review of lung pathology and contemporary respirable dust levels in underground US coal mines.

Go LHT, Green FHY, Abraham JL, Churg A, **Petsonk EL**, **Cohen RA**.Occup Environ Med. 2021 Dec 8:oemed-2021-107694. doi: 10.1136/oemed-2021-107694.PMID: 34880046

Ambient ozone effects on respiratory outcomes among smokers modified by neighborhood poverty: An analysis of SPIROMICS AIR.

Belz DC, Woo H, Putcha N, Paulin LM, Koehler K, Fawzy A, Alexis NE, Barr RG, Comellas AP, Cooper CB, Couper D, Dransfield M, Gassett AJ, Han M, Hoffman EA, Kanner RE, Krishnan JA, Martinez FJ, Paine R 3rd, Peng RD, Peters S, **Pirozzi CS**, Woodruff PG, **Kaufman JD**, Hansel NN; SPIROMICS Investigators.Sci Total Environ. 2022 Mar 19;829:154694. doi: 10.1016/j.scitotenv.2022.154694. PMID: 35318050

Acute air pollution exposure increases TETs in human PBMCs.

Li H, Ryu MH, Orach J, Yuen A, Lau KSK, Yeung C, Wen W, Carlsten C.J Allergy Clin Immunol. 2022 Mar 31:S0091-6749(22)00438-9. doi: 10.1016/j.jaci.2022.03.018. PMID: 35367469 Controlled human exposure to diesel exhaust: a method for understanding health effects of traffic-

related air pollution.

Long E, Schwartz C, Carlsten C.Part Fibre Toxicol. 2022 Feb 25;19(1):15. doi: 10.1186/s12989-022-00454-1.PMID: 35216599

Effects of Traffic-Related Air Pollution on Exercise Endurance, Dyspnea, and Cardiorespiratory Responses in Health and COPD: A Randomized, Placebo-Controlled, Crossover Trial.

Syed N, Ryu MH, Dhillon S, Schaeffer MR, Ramsook AH, Leung JM, Ryerson CJ, **Carlsten C**, Guenette JA; Canadian Respiratory Research Network. Chest. 2022 Mar;161(3):662-675. doi: 10.1016/j.chest.2021.10.020. Epub 2021 Oct 23.PMID: 34699772

Lung cancer incidence among world trade center rescue and recovery workers.

Sigel K, de la Hoz RE, Markowitz SB, Kong CY, Stone K, Todd AC, Wisnivesky JP.Cancer Med. 2022 Mar 28. doi: 10.1002/cam4.4672. PMID: 35343066

<u>Live cell imaging of oxidative stress in human airway epithelial cells exposed to isoprene hydroxyhydroperoxide.</u> Masood S, Pennington ER, Simmons SO, **Bromberg PA**, Shaikh SR, Rice RL, Gold A, Zhang Z, **Samet JM.**Redox Biol. 2022 Mar 15;51:102281. doi: 10.1016/j.redox.2022.102281. Online ahead of print.PMID: 35306372



Neonatal and Pediatric Disease

<u>Daily Associations of Air Pollution and Pediatric Asthma Risk Using the Biomedical REAl-Time Health</u> Evaluation (BREATHE) Kit.

Hao H, **Eckel SP**, Hosseini A, Van Vliet EDS, Dzubur E, Dunton G, Chang SY, Craig K, Rocchio R, Bastain T, **Gilliland F**, Okelo S, Ross MK, Sarrafzadeh M, Bui AAT, Habre R.Int J Environ Res Public Health. 2022 Mar 17;19(6):3578. doi: 10.3390/ijerph19063578.PMID: 35329265

Quantification and Analysis of Micro-Level Activities Data from Children Aged 1-12 Years Old for Use in the Assessments of Exposure to Recycled Tire on Turf and Playgrounds.

Lopez-Galvez N, Claude J, Wong P, Bradman A, Hyland C, Castorina R, Canales RA, Billheimer D, Torabzadeh E, Leckie JO, **Beamer PI.**Int J Environ Res Public Health. 2022 Feb 21;19(4):2483. doi: 10.3390/ijerph19042483.PMID: 35206675

<u>Prenatal Exposure to Air Pollution and Autism Spectrum Disorder: Sensitive Windows of Exposure and Sex Differences.</u>

Rahman MM, Shu YH, Chow T, Lurmann FW, Yu X, Martinez MP, Carter SA, **Eckel SP**, Chen JC, Chen Z, Levitt P, Schwartz J, McConnell R, Xiang AH.Environ Health Perspect. 2022 Jan;130(1):17008. doi: 10.1289/EHP9509. Epub 2022 Jan 18.PMID: 35040691

The role of growth and nutrition in the early origins of spirometric restriction in adult life: a longitudinal, multicohort, population-based study.

Voraphani N, Stern DA, Zhai J, Wright AL, Halonen M, **Sherrill DL**, Hallberg J, Kull I, Bergström A, Murray CS, Lowe L, Custovic A, Morgan WJ, Martinez FD, Melén E, Simpson A, Guerra S.Lancet Respir Med. 2022 Jan;10(1):59-71. doi: 10.1016/S2213-2600(21)00355-6. Epub 2021 Nov 26.PMID: 34843665

Variability and predictors of urinary organophosphate ester concentrations among school-aged children.

Louis LM, Quirós-Alcalá L, Kuiper JR, **Diette G**, Hansel NN, McCormack MC, Meeker JD, Buckley JP.Environ Res. 2022 Mar 25:113192. doi: 10.1016/j.envres.2022.113192. PMID: 35346652

Comparison of the Respiratory Resistomes and Microbiota in Children Receiving Short versus Standard Course Treatment for Community-Acquired Pneumonia.

Pettigrew MM, Kwon J, **Gent JF**, Kong Y, Wade M, Williams DJ, Creech CB, Evans S, Pan Q, Walter EB, Martin JM, Gerber JS, Newland JG, Hofto ME, Staat MA, Fowler VG, Chambers HF, Huskins WC; Antibacterial Resistance Leadership Group.mBio. 2022 Mar 24:e0019522. doi: 10.1128/mbio.00195-22. Online ahead of print.PMID: 35323040

Global Health

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Prospective Identification of Subclinical Interstitial Lung Disease in a Rheumatoid Arthritis Cohort Is Associated with the MUC5B Promoter Variant. Matson SM, Deane KD, Peljto AL, Bang TJ, Sachs PB, Walts AD, Collora C, Ye S, Demoruelle MK, Humphries SM, Schwartz DA, Lee JS.Am J Respir Crit Care Med. 2022 Feb 15;205(4):473-476. doi: 10.1164/rccm.202109-2087LE.PMID: 34874815 Possible Alternate Explanation for Cases of Idiopathic Pulmonary Fibrosis. Frank AL. Ann Am Thorac Soc. 2022 Mar 15. doi: 10.1513/AnnalsATS.202202-139LE. Online ahead of print.PMID: 35289726

<u>Variables Associated With Response to Therapy in Patients With Interstitial Pneumonia With Autoimmune Features.</u> Joerns EK, Adams TN, Newton CA, Bermas B, Karp D, Batra K, Torrealba J, Davila L, Reisch J, **Glazer C**, Makris UE.J Clin Rheumatol. 2022 Mar 1;28(2):84-88. doi: 10.1097/RHU.000000000001808.PMID: 34897197

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https://www.docmatter.com/dm/app/profile/group/?id=12021

Member Announcements

Overarching Goals of the Apprenticeship Program

The Environmental, Occupational and Population Health (EOPH) Assembly's Apprenticeship Program is designed to provide early career EOPH Assembly members with an opportunity to be directly involved in guiding the future of ATS. For the purposes of this application, we define "early career" as senior fellows or early career faculty (i.e. less than 3 years from fellowship), though other applications will be considered. Apprentices may serve on the Program, Planning or Web Committee (descriptions below). Under the mentorship of a committee member, Apprentices will get a 'behind the scenes' look at the operations of the EOPH Assembly while developing skills for evaluation of committee applications and development of committee projects. This provides important networking opportunities with current Committee members.

https://www.thoracic.org/members/assemblies/assemblies/eoph/apprenticeship-program/index.php

Please email Alex Noel anoel@lsu.edu and Dan Croft daniel_croft@urmc.rochester.edu by May 13th (ATS 2022) if interested in the apprenticeship program.

Also, here is some mentoring info: We'll have a mentoring meeting spot and mentoring reception at the convention center. The Mentoring meeting spot will be available on Sun, 5/15 and Mon, 5/16 from 7 am -7 pm.

We'll also have one mentoring reception after the membership meetings on Sun, 5/15 from 7 pm - 9 pm.

Potential Faculty Positions

Please email us with and potential job openings that you would like included.

Other RESOURCES

Are you interested in getting more involved with ATS and the EOPH assembly? Register to indicate your interest! https://www.thoracic.org/members/assemblies/get-involved-with-ats.php

San Francisco Conference 2022



Info

Below is a list of the EOPH Events. Hope you can join us.

EOPH Events at ATS2022

KEYNOTE

K2: CUTTING THROUGH THE SMOKE: CONFRONTING THE CLIMATE CRISIS THROUGH PATIENT CARE AND POLICY MONDAY, MAY 16 – 8:15 AM – 9:00 AM

RAPID POSTER DISCUSSION

B25: ADVANCES IN OCCUPATIONAL LUNG DISEASE

MONDAY, MAY 16 - 9:30 AM-11:00 AM

MINI-SYMPOSIA



A14: INVESTIGATING COPD HEALTH INEQUITIES

SUNDAY, MAY 15 - 9:30 AM-11:00 AM

A95: THE IDEA GENERATOR: NOVEL RISK FACTORS AND FRESH APPROACHES TO DISEASE CHARACTERIZATION

SUNDAY, MAY 15 - 2:15 PM-3:45 PM

C95: WORLD TRADE CENTER 20TH ANNIVERSARY AND BEYOND

TUESDAY, MAY 17 - 2:15 PM-3:45 PM

D16: WILDFIRES AND WOODSMOKE

WEDNESDAY, MAY 18 - 8:15 AM-9:45 AM

THEMATIC POSTER

A48: SARS CoV-2: SURVEILLANCE, PREVENTION, AND IMPACT

SUNDAY, MAY 15 - 9:30 AM-3:45 PM

B48: OCCUPATIONAL AND EXPOSURE-RELATED CASE REPORTS

MONDAY, MAY 16 - 9:30 AM-3:45 PM

C50: EMERGING EPI IN OBSTRUCTIVE AND RESTRICTIVE LUNG DISEASE

TUESDAY, MAY 17 - 9:30 AM-3:45 PM

POSTER DISCUSSION

A25: TOBACCO AND THC HEALTH SCIENCE

SUNDAY, MAY 15 - 9:30-11:00 AM

B105: MORE CALLS TO ACTION: AIR POLLUTION EXPOSURES AND HEALTH

MONDAY, MAY 16 - 2:15-3:45 PM

C25: TERRORISM, INHALATIONAL DISASTERS, AND DEPLOYMENT-RELATED LUNG DISEASE

TUESDAY, MAY 17 – 9:30-11:00 AM

D15: THE VIEW AHEAD: EXPOSURE ASSESSMENT, COMMUNICATION, AND EARLY LIFE IMPACT

WEDNESDAY, MAY 18 – 8:15-9:45 AM

SCIENTIFIC SYMPOSIA

A12: (JOINT) THE FULL PICTURE: ASTHMA AS A CASE STUDY IN THE COMPLEXITIES OF EXPOSURE

SUNDAY, MAY 15 - 9:30-11:00AM

B9: COVID-19 PANDEMIC AND POST-PANDEMIC: DO AIR POLLUTION AND CLIMATE CHANGE HAVE A ROLE?

MONDAY, MAY 16 - 9:30-11:00AM

B92:(JOINT) THE PAST, PRESENT, AND FUTURE OF E-CIGARETTE OR VAPING ASSOCIATED LUNG ILLNESS (EVALI)

MONDAY, MAY 16 - 2:15-3:45 PM

C9: SEX, LUNGS, AND ENVIRONMENTAL EXPOSURES

TUESDAY, MAY 17 - 9:30-11:00AM

C12: (JOINT) ACHIEVING HEALTH EQUITY IN ASTHMA, LUNG CANCER, COPD, SLEEP, PULMONARY HYPERTENSION

AND COVID-19

TUESDAY, MAY 17 - 9:30-11:00AM

D86: HEARTH OF THE MATTER: DO HOUSEHOLD AIR POLLUTION INTERVENTIONS IMPROVE HEALTH OUTCOMES

WEDNESDAY, MAY 18 - 12:45-2:15 PM

MEET THE EXPERT

ME31: MAPPING HEALTH AND EXPOSURE: GIS TO IMPRESS!

TUESDAY, MAY 17 - 7:00-8:00AM

ME41: UPDATE ON BURN PIT LEGISLATION AND ADVOCACY

TUESDAY, MAY 17 - 12:15-1:15PM

ME49: SLEEP HEALTH- A NEW FRONTIER OF HARM FROM AIR POLLUTION?

WEDNESDAY, MAY 18 - 10:00-11:00AM



Current Events





(Photos Courtesy of Uwe Jaspers)

March 2022

Dust storm from the Sahara Desert caused significant particulate deposits across Europe.

Storm Celia off the northwest coast of Africa helped bring dust from the Sahara Desert into the atmosphere. Winds then pushed the dust northward into Europe, creating haunting scenes across the region. Dust concentrations in Spain were over five times the European Union's recommended threshold.

Climate change worsening Saharan dust being brought to areas of Europe is likely a contributor. Contributors include a change in wind and precipitation patterns and widespread desertification in Northern Africa.

We may likely see more of these events in the near future

Please send any future interesting photos and comments for future editions of the EOPH newsletter.

PhD and Basic/Translational Focused Events at ATS2022

Please see the below Brochure



Get your start at the Annual ATS International Conference!

Present your science and receive feedback from experts in respiratory, critical care and sleep medicine.

The <u>Science and Innovation Center</u> is a conference resource for PhDs and other basic and translational scientists to network and learn about emerging new technologies in the field. Programing includes:

- · Scientific and career development sessions
- Showcases of the latest research from early career researchers
- Sessions exploring innovative methods and emerging technologies
- Meet and greets with NIH program officers and industry biotech leaders
- · Join us at the PhD Reception

To learn more, visit conference.thoracic.org

Scan here for more information on the Science & Innovation Center:





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Supercharge Your Career

PhD researchers are an extremely important constituency for achieving the mission of the ATS. Become a member and enjoy the many opportunities for PhD researchers within the ATS and contribute to the cutting edge science in our Society!



Inspiring discussions on respiratory science

Feedback on research Grant opportunities

Networking



Mentorin

Clinical collaborations

Meet friends from around the world

Latest updates on state-of-the-art in the field

Opportunities for PhDs within the ATS

- Be a part of the largest professional organization that focuses on the science of pulmonary, critical care, and sleep medicine
- Connect with mentors in pulmonary, critical care, and sleep medicine research and establish international networks with like-minded peers
- Collaborate with physician-scientists and network with industry representatives to facilitate translational research
- Submit proposals to influence conference programming to include your state-of-the-art research interests
- · Join ATS Committees to advocate for your field
- Enjoy new opportunities for awards and recognition
- Access to the ATS Journals and discounts on submission fees



"The ATS improves global health by advancing research, patient care, and public health in pulmonary disease, critical illness, and sleep disorders. PhD researchers are essential members of our Society and engage at all levels of our organization. The close integration of researchers and clinicians is one of the aspects of the ATS that I find most valuable."

-Lynn Schnapp, MD ATS President 2021-2022

ATS PhD and Basic and Translational Scientist Working Group

Membership is predominantly non-clinicians from each of the structural divisions (Assemblies) within the ATS. Members advocate for the needs of PhD researchers within the ATS by...

- Providing a basic and translational research perspective toward event planning and Societywide issues
- Promoting diversity, equity, and inclusion in the Society
- Advocating for early- and mid-career investigators, including exposure, support, and award opportunities





Updates from Terrorism and Inhalation Disasters (TID) Section

Registration is open for 2022 ATS International Conference: https://conference.thoracic.org/attendees/?_ga=2.208041300.737679429.1648001431-238064050.1634582619

Highlights of TID Section at 2022 ATS International Conference:

This year onwards, TID Section will award two awards!!!

1. Award for outstanding contributions to the mission of TID section

The award will be given to an individual who has made outstanding scientific and scholarly contributions to areas related to the TID mission. Awardees will be presented with a framed certificate at the ATS International Conference.

Eligibility and materials to be submitted

- Associate or full professor (5 or more years from reaching the associate professor level or equivalent)
- Outstanding contributions to basic or translational science research, education and/or training in areas broadly related to TID
- Nominees must be an EOPH /TID member
- Nominations must include a cover letter (<2 pages) from an assembly member describing candidate's qualification and accomplishments and why the award is appropriate. Letters can be co-signed by more than one nominator. Members cannot self-nominate
- Nominee's curriculum vitae must be included in the submission.
- Previous awardees are not eligible for the same award
- Applications will be reviewed by the TID Executive Committee with members who are in conflict excluded.

2. Outstanding TID Abstract award

This award recognizes a trainee (graduate student, post-doctoral fellow, clinical trainee) or early scientist/faculty (within 3 years of first faculty appointment) for their abstract at the ATS International Conference related to TID. Awardees will be presented with a framed certificate at the ATS International Conference.

Eligibility and Evaluation Criteria

- Nominees must be an EOPH/TID member
- Previous awardees are not eligible for the same award
- Judging will be conducted by the EOPH program committee including TID delegates.



The award will be selected based on the highest ranking abstract related to the work of TID that
is submitted to an EOPH abstract category



TID Section is coming with an exciting agenda for the annual meeting. Stay tuned on the website and social media for the updates...

In the news:

Dr. Sven-Eric Jordt, PhD, an expert in nicotine and tobacco products, interviewed by New York Times on Rising Use of Synthetic Nicotine

While the FDA has prohibited the sale of many electronic cigarette products, manufacturers have taken advantage of a loophole by selling e-cigarettes containing synthetic nicotine that the FDA wasn't authorized to regulate. The issue became so urgent that Congress decided to include legislation in the omnibus budget bill signed by President Biden on Friday, bringing synthetic nicotine under the FDA's authority. In this article, Dr. Sven-Eric Jordt raises concerns about the health effects of some forms of synthetic nicotine that differ from tobacco-derived nicotine.



https://www.nytimes.com/2022/03/08/health/vaping-fda-nicotine.html?smid=url-share

COVID-19 Vaccination Materials

https://www.thoracic.org/vaccine-resource-center/index.php

ATS COVID-19 Resources

COVID-19: The ATS Response (thoracic.org)

Funding opportunities

Notice of Intent to Publish a Funding Opportunity Announcement for Countermeasures Against Chemical Threats (CounterACT) Therapeutics Discovery and Early Stage Development (UG3/UH3 Clinical Trial Not Allowed)

https://grants.nih.gov/grants/guide/notice-files/NOT-NS-22-086.html



Notice of Special Interest (NOSI): CCRP Administrative Supplement for Collaborative Science to Synergize Chemical Medical Countermeasures Discovery and Early Development

http://grants.nih.gov/grants/guide/notice-files/NOT-AI-22-029.html

Countermeasures Against Chemical Threats (CounterACT) Exploratory/Developmental Projects (R21 Clinical Trial Not Allowed)

http://grants.nih.gov/grants/guide/pa-files/PAR-20-253.html

Relevant publications for TID Section

Satyanarayana Achanta, Michael A. Gentile, Carolyn J. Albert, Kevin A. Schulte, Brooke G. Pantazides, Brian S. Crow, Jennifer Quiñones-González, Jonas W. Perez, David A. Ford, Rakesh P. Patel, Thomas A. Blake, Michael D. Gunn, Sven E. Jordt. Recapitulation of Human Pathophysiology and Identification of Forensic Biomarkers in a Translational Swine Model of Chlorine Inhalation Injury.

bioRxiv 2022.02.09.479576; doi: https://doi.org/10.1101/2022.02.09.479576 (pre-print)

Zhuang E, Thurman P, Chen HH, McDiarmid MA, Hines SE. Physiological Impacts of Surgical Mask Coverage of Elastomeric Half-mask Respirator Exhalation Valves in Healthcare Workers. Ann Work Expo Health. 2022 Feb 18;66(2):233-245. doi: 10.1093/annweh/wxab069. PMID: 34585722; PMCID: PMC8500049.

Hines SE, Gaitens J, Mueller NM, Molina Ochoa D, Fernandes E, McDiarmid MA. Respiratory Protection Perceptions among Malian Health Workers: Insights from the Health Belief Model. Int J Environ Res Public Health. 2022 Mar 4;19(5):3028. doi: 10.3390/ijerph19053028. PMID: 35270723; PMCID: PMC8909975.

Jabba SV, Erythropel HC, Torres DG, Delgado LA, Woodrow JG, Anastas PT, Zimmerman JB, Jordt SE. Synthetic Cooling Agents in US-marketed E-cigarette Refill Liquids and Popular Disposable Ecigarettes: Chemical Analysis and Risk Assessment. Nicotine Tob Res. 2022 Feb 15:ntac046. doi: 10.1093/ntr/ntac046. Epub ahead of print. PMID: 35167696.

A note on TID Section website: Our TID Section website

(https://www.thoracic.org/members/assemblies/sections/tid/) has many resources and exciting updates. Please check out it once and consider going through each and every link. If you have any suggestions to improve our website, please feel free to reach out to Web Director or any of the TID Section executive committee members.



Attention trainees and junior faculty: We are looking for someone who is interested to serve on the TID Section Web Editorial Committee. The incumbent will be actively involved in posting updates on social media, updating TID Section website, and assisting in generating content for the newsletters. If interested, please contact Satya Achanta (satya.achanta@duke.edu).





TID section is soliciting ideas for putting together podcasts, webinars, and journal clubs. Please contact Satya Achanta, DVM, PhD, DABT (satya.achanta@duke.edu), Web Director of TID section, if you are interested to lead any of these activities. Also, please email your publications, news articles, or presentations pertinent to TID section to include in the future EOPH newsletters.

EOPH Leadership

EOPH Leadership

Ilona Jaspers, PhD Chair, Assembly on Environmental, Occupational and Population Health **Stephanie London,** MD, DrPH -Past Chair, Assembly on Environmental, Occupational and Population Health

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