

Anna Nolan, MD, MS, FCCP, ATSF

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Education

Year	Degree	Field	Institution
1988	Certificate		Bronx High School of Science
1992	BA	Chemistry	Barnard College, Columbia University
1996	MD	Medicine	SUNY Health Science Center, Brooklyn
2007	MS	Clinical Investigation	New York University

Internships and Residencies:

1996-97	Intern in Medicine, St. Luke's-Roosevelt Hospital Center, New York City
1997-99	Resident, Internal Medicine, St. Luke's-Roosevelt Hospital Center, New York City

Faculty

1999-2000	Instructor, St. Lukes's-Roosevelt Hospital Center, New York City
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Clinical and Research Fellowships:

2000-3	Fellow, Pulmonary and Critical Care, NYU School of Medicine
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Postdoctoral Training:

2003-5	National Research Service Award, NIH-NIEHS, NYU School of Medicine Licensure and
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Certification (initial year of certification)

1999	New York State License Registration #212947 Active October 2021
1999	American Board of Internal Medical (ABIM), #193177 (Re-Certified/Enrolled in MOC)
2000	DEA # Active till 10/31/2021
2000	NPI # 1790848448
2002	ABIM, Pulmonary Diseases (Re-Certified/Enrolled in MOC)
2003	ABIM, Critical Care Medicine (Re-Certified/Enrolled in MOC)

Academic Appointments

1999-2000	Instructor, St. Luke's-Roosevelt Hospital Center
2003-2005	Instructor, NYU School of Medicine
2005-2016	Assistant Professor of Medicine, NYU, School of Medicine
2009-2016	Assistant Professor of Environmental Medicine, NYU, School of Medicine
2013-	Associate, Division of Ethics, Department of Population Health, NYU School of Medicine
2016-	Associate Professor of Medicine NYU, School of Medicine

2016-	Associate Professor of Environmental Medicine, NYU, School of Medicine
2020-	Professor of Medicine NYU, School of Medicine (Recommended)
2020-	Professor of Environmental Medicine, NYU, School of Medicine (Recommended)

Hospital Appointments

1999-2000	Instructor, St. Luke's-Roosevelt Hospital Center, New York
2003-	Consultant, Manhattan Veteran's Hospital, New York
2003-	Clinical Assistant, Bellevue Hospital, New York

Other Professional Positions and Major Visiting Appointments

2010-13	Pulmonologist(City Medical Specialist), Fire Department of New York, Bureau of Health Services, New York
2013-	Medical Officer, Fire Department of New York, Bureau of Health Services, New York

Awards and Honors

1995	Dean's List, Barnard College
2003-5	National Research Service Award, NIH-NIEHS, NYU School of Medicine
2004	William S. Tillet, Award for Excellence in Research, New York University
2008	Excellence in Medical Education, NYU
2008	Fellow, College of Chest Physicians
2010	American Thoracic Society(ATS) Abstract Award-Environmental and Occupational Health Assembly
2010	Association for Clinical and Translational Science (ACTS) Annual Meeting Trainee Award, Washington, DC
2010	LEADS: Leadership, Education and Development for Scientists
2011	Scholars Abstract Award, ACTS Washington DC
2012	ATS Abstract Award-Assembly on Respiratory Cell and Molecular Biology (RCMB)
2013	ATS Assembly on Allergy, Immunology and Inflammation (All), Abstract Award-Foundation for Sarcoidosis Research
2014-15	Saperstein Scholar, NYU School of Medicine
2016	ATS Abstract Award-Environmental and Occupational Health Assembly ‡
2016	Burroughs Wellcome Awards for work presented at the ACTS http://www.actscience.org/page/2016-annual-meeting-awards**
2016	Burroughs Wellcome Awards for work presented at the ACTS http://www.actscience.org/page/2016-annual-meeting-awards**
2017	ATS Abstract Award-Environmental and Occupational Health Assembly (EOH), ATS International Conference, Washington, DC. §
2017	ATS Abstract Award-Environmental and Occupational Health Assembly, ATS International Conference, Washington, DC. §
2017	Deans List 2015-16: Research Incentive Awardee
2018	ATS Abstract Award-Environmental and Occupational Health Assembly, ATS International Conference, San Diego.
2018	NYU Faculty Honoree: 2017 Mega Grant Awardee
2018	Dean's List 2016-17: Research Incentive Awardee
2019	Fellow, American Thoracic Society

- 2019 Mentor, [Rudin Fellowship in Medical Ethics and Humanities](#); Mentee: Corbett Walsh, MD. Understanding medical decision making for unrepresented patients admitted to the hospital.
- 2020 Member, Sigma Xi

Major Committee Assignments

National and Regional

- 2015 **On-line Reviewer: Acute Lung Injury I.** Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs-
- 2016 **National Ebola Training and Education Center (NETEC) Special Pathogens Research Network (SPRN):** Data Capture Team
- 2016 **Scientific Reviewer: Acute Lung Injury Panel;** Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs, December 2016.
- 2017- Environmental, Occupational and Population (EOPH) Assembly of the American Thoracic Society, Web Subcommittee
- 2017- **Appointed, Research Advocacy Committee,** American Thoracic Society
- 2017 **NIH, Special Emphasis Panel:** Respiratory Sciences Small Business Activities ZRG1 CVRS-Q (11) B
- 2018 **Scientific Reviewer: Discovery Award Lung Injury (DIS-LI);** Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs
- 2018 **NIH, Special Emphasis Panel:** Respiratory Sciences Small Business Activities ZRG1 CVRS-Q (11) November 2018
- 2019 **NIOSH Disease, Disability and Injury Prevention and Control Special Emphasis Panel,** 2019/05 NXT (50), February 24, 2019
- 2019 **NIH, Small Business: Cardiovascular Respiratory Sciences,** 2019/05 ZRG1 CVRS-A (11) B San Diego March 21, 2019
- 2019 **Member,** EOPH Assembly of ATS, Planning Committee
- 2019 **Scientific Reviewer: Acute Lung Injury Panel;** Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs, April
- 2019 **NIH/CSR ZRG1 OBT-M (50) R A19-009:** US-China Collaborative Biomedical Research, June 20
- 2019 **Member,** EOPH Assembly of ATS, Executive Committee
- 2019 **NIH, Small Business: Cardiovascular Respiratory Sciences,** 2019/05 ZRG1 CVRS-A (11) B San Diego, March 2019
- 2019 **Scientific Reviewer: Acute Lung Injury Panel;** Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs, August 2019
- 2019 **NIH, Small Business: Cardiovascular Respiratory Sciences,** 2019/05 ZRG1 CVRS-A (11) B Washington DC, Nov 2019
- 2019 **Scientific Reviewer:** Acute Lung Injury Panel; Peer-Reviewed Medical Research Program for the Department of Defense Congressionally Directed Medical Research Programs, August 2019
- 2018 **NIH/NHLBI, Special Emphasis Panel:** Respiratory Sciences Small Business Activities ZRG1 CVRS-Q (11) B; Washington
- 2018- **Fellow,** American Thoracic Society
- 2018- ATS EOPH Mentoring Program
- 2019 **NIOSH Disease, Disability and Injury Prevention and Control Special Emphasis Panel,** 2019/05 NXT (50), February 24, 2019

- 2019 **NIH, Small Business: Cardiovascular Respiratory Sciences (CVRS), 2019/05 ZRG1 CVRS-A (11)**
B San Diego March 21, 2019
- 2019 **Planning Committee**, EOPH Assembly of ATS
- 2019 **Scientific Reviewer: Acute Lung Injury Panel** PRMP-DOD CDMRP, April
- 2019 **NIH/CSR ZRG1 OBT-M(50)RA19-009:US-China Collab.Biomed.Research**, June 20
- 2019 **Member**, EOPH Assembly of ATS, Executive Committee
- 2019 **Scientific Reviewer: Acute Lung Injury Panel;** PRMP-DOD CDMRP, August
- 2019 **NIH/CSR, ZRG1 SBIB-Q 02, Bioengineering, Surgery, Anesthesiology & Trauma:** Nov 01
- 2019 **NIH/CSR ZRG1 CVRS-A (11) B Small Business: Respiratory Sciences:** Nov 20
- 2020 **NIH/CSR ZRG1 CVRS-A (11) B Small Business: Respiratory Sciences:** March 25
- 2020 **NIH/NHLBI S 2020/10 ZHL1 CSR-M (O1) 1; NHLBI Mentored Career Development Awards -**
K23, K24, K99: July 16
- 2020 **Health Effects Institute;** Grant Reviewer Oct 4th
- 2020 **ZOH1 EHG (01) 1 NIOSH MEMBER CONFLICT REVIEW; 10/27/2020**
- 2021 **ZHL1 CSR-M (M2) NHLBI Mentored Career Development Awards - K24, K99 3/25/21**

New York University, School of Medicine

- 2008-2013 Research Subject's Safety Officer, General Clinical Research Center/CTSI
- 2007-2012 Alternate/Member, Institutional Animal Care and Use Committee
- 2010- Member, Institutional Review Board
- 2016- Member, Scientific Review Committee, NYU SOM
- 2020 COVID IRB, NYU SOM, Ad Hoc Reviewer
- 2020 Chair, Bellevue COVID Research Working Group

Bellevue Hospital

- 2009- Member, Bellevue Research Committee
- 2010- Chair, Bellevue Research Committee
- 2014- Medical Director of Research, Bellevue Hospital
- 2016 HHC Bellevue Hospital Representative, Research Committee

Memberships, Offices and Committee Assignments in Professional Societies

- 2001- Member, American Thoracic Society
- Member of the Environmental, Occupational and Population Health (EOPH) Assembly
- 2001- Fellow, American College of Chest Physicians
- 2003- Member, Society of Critical Care Medicine
- 2016- European Respiratory Society
- 2017-20 Member, EOPH Assembly Web Committee
- 2017-20 ATS Research Advocacy Committee
- 2018- ATS EOPH Mentoring Program
- 2019- EOPH, ATS Program Planning Committee
- 2019- EOPH, ATS Executive Committee
- 2020- ATS EOPH, Chair Web Committee

Editorial Positions

Associate Editor

- 2010- Journal of Inflammation

Editorial Boards

- 2013- PLoS ONE
- 2013- Journal of Pulmonary and Respiratory Medicine
- 2019 IJERPH

Ad Hoc Reviewer

2005-	Chest
2005-	Inflammation
2012-	PLoS ONE
2012-	BMC Pulmonary
2012-	American Journal of Respiratory and Critical Care Medicine
2012-	International Journal of Tuberculosis and Lung Disease
2013-	International Archives of Allergy and Immunology
2013-	Environmental Health Perspectives
2013-	American Journal of Industrial Medicine
2014-	Journal of Epidemiology
2015-	Annals of Internal Medicine
2016-	Federation of European Biochemical Societies (FEBS) Letters
2016-	Pediatric Pharmacology Reviews
2016-	Occupational and Environmental Medicine
2017-	Annals of the American Thoracic Society
2017-	Respirology
2017-	Journal of Intensive Care Medicine
2019-	Scientific Reports
2019	IJERPH
2019-	European Respiratory Journal
2020	Metabolites
2020	American Journal of Physiology-Lung Cellular and Molecular Physiology
2021	Canadian Medical Association Journal (CMAJ) Open

Principal Clinical and Hospital Service Responsibilities

1999-2000	Attending Physician, St. Luke's-Roosevelt Hospital Center, NY
2003-	Attending Physician, Pulmonary and Critical Care, Bellevue Hospital, NY
2003-	Attending Physician, Div. of Pulm/Critical Care, Veteran's Admin. Hosp., NY
2010-13	Pulmonologist, Fire Department of New York, Bureau of Health Services, NY
2013-	Medical Officer, Fire Department of New York, Bureau of Health Services, NY

Advisory Boards and Consultant Positions

2019-	Advisory Board Member, The Ray Pfeifer Foundation https://www.theraypfeiferfoundation.org/about-us/
2020	Direct Biologics: Advisory Board

Major Administrative Responsibilities

2008-2013	Research Subjects Safety Officer, General Clinical Research Center/CTSI
2007-2012	Alternate/Member, Institutional Animal Care and Use Committee
2009-10	Member, Bellevue Research Committee
2010-	Chair, Bellevue Research Committee
2010-	Member, NYU IRB
2012-2015	Scientific Review Committee NYU-HHC CTSI
2016-2019	Scientific Review Committee-Medical Reviewer
2019-	Associate Director of the Pilot Projects and Research Support program, CTSI, NYU SOM(pending funding of CTSI)

Teaching Experience

2001-2003	Physical Diagnosis, NYU School of Medicine
2003-	Attending Physician, Bellevue Medical ICU and Chest Service
2003-	Attending Physician, Veteran's Administration Hospital, New York
2005-	Pulmonary Physiology Seminars, NYU School of Medicine
2009-	Lecturer, Molecular Techniques Course, Masters in Clinical Investigation, NYU
2009-	Lecturer, Research Retreat, Pulmonary/Critical Care/Sleep Fellowship, NYU
2009-	Lecturer, Integrative Seminar, Masters of Clinical Investigation
2010-	Mentor, Department of Medicine Summer Fellowship Program, NYU
2016-	"Pollution and Lung Health" Passion in Science Program, Salk School of Science
2016-	Faculty Editor "Writing for Scientific Publication" focused on CTSI's MS in Clinical Investigation program and Sackler Institute programs students improve their scientific writing.
2019	Mentor, Rudin Fellowship in Medical Ethics and Humanities

Mentoring of High School Students, Medical Students, Residents, Fellows and Faculty

2005-6	Elvio Ardilles, MD	Pulmonary/Critical Care, California
2005-6	S. Ananthanarayanan, MD	Physician, Mount Sinai Medical School
2006-7	Nishay Chitkara, MD	Assistant Professor, NYU School of Medicine
2007-13	Bushra Naveed, MD	Post-Doc Fellow, NYU School of Medicine
2007-11	Ashley L. Comfort, BS	Resident, NYU School of Medicine
2007-12	Natalia Ferrier, MD	Post-Doc Fellow, NYU School of Medicine
2009-10	Yingdi Chen, BA	Student, NYU School of Medicine
2009-10	Shugi Zheng, MD	Physician, Hawaii, USA
2009-20	Sophia Kwon, DO, MPH	Post-Doc Fellow, NYU School of Medicine
2010-12	Kusali J. Kasturiarachchi, BA	Medical Doctor, U. of Queensland, Australia
2011-14	Soo Jung Cho, MD	Instructor, Cornell School of Medicine
2012-13	Bryant Babel	Student, Oceanside High School
2012-13	Edward Schenck, MD	Assistant Prof., Cornell School of Medicine
2013-14	Young Im Lee, MD	Attending, Beth Israel Medical Center, NYC
2013-16	Erin Caraher, BS, MS	Medical Student, New York Medical College
2014-16	Audrey Lee, BA	Brown University; Albert Einstein College of Medicine Fall 2018
2015-16	Mohamed Zedan, MD	Volunteer, NYU School of Medicine
2015-16	Minah Ebrahim	Volunteer, Lehigh University
2015-16	Liqun Zhang, MD	Associate Physician-in-Chief, Dept. of Respiratory Diseases, Beijing Military Region General Hospital of PLA, Visiting Professor
2015-	Syed Hissam Haider, MD	Post-Doc Fellow, NYU School of Medicine
2015	Estephania Ramirez, BS	Hunter College; MD Applicant
2015-	George Crowley	Pre-Doc, University of California, Berkeley
2015-	Rachel Lam	Pre-Doc, Fordham University, BS
2016-17	Daniel Kim	Great Neck, High School
2016	Ramsha Suhail	Volunteer, Baruch College, BS Candidate
2016-17	Odai Sinokrot, MD	Fellow Pulmonary Critical Care, NYU SOM
2016-17	Jonathan Bekisz	Medical Student, MS in Clinical Investigation
2016-17	Amanda Bienenfeld	Dental Student, MS in Clinical Investigation
2017-19	Jessica Riggs, MD	Fellow, Pulmonary Critical Care, NYU; Clinician
2017-19	Assad Oskuei, MD	Fellow, Pulmonary Critical Care, NYU; Clinician

Curriculum Vitae

February 18, 2021

2018-9	Angela Talusan	Princeton Day School; NYU Undergraduate
2018-9	Sandya Vydyathan	Brooklyn Technical HS, Current Student at RIT
2015-	George Crowley, BS	University of California, Berkeley; Pre-Doc Fellow; MS Bioinformatics NYU
2017-20	Maria Sunseri, MD	Fellow, Pulmonary Crit Care NYU
2018-	Arul Veerappan, PhD	Assistant Professor, Research, NYU SOM
2018-20	James Kim	Great Neck HS; College Applicant
2018-	Mena Mikhail, MD	Post-Doc; Intern SI University Hospital
2018-20	Dean Ostrofsky, BS	Pre-Doc; Current NYU School of Nursing
2019-20	Christina Nayar, MD	Fellow, Pulm/Crit Care
2019-	Corbett Walsh, MD	Fellow, Pulm/Crit Care and Rudin Fellow
2020-	Isabel Young, BA	Pre-Doc; Brown University

Teaching Awards Received

2008 Excellence in Medical Education, Department of Medicine, NYU School of Medicine

Major Research Interests

- i. COVID
- ii. Particulate Matter exposure and lung Injury
- iii. Dyslipidemia/Metabolic Syndrome and lung Injury
- iv. Metabolomics of Particulate associated lung disease
- v. Innate Immunity in Sepsis
- vi. Sarcoidosis and Particulate Matter Exposure
- vii. Research Ethics
- viii. Research Subject Safety

Bibliography; Peer-Reviewed (68)

1. Lam R; Kwon S; Sunseri M; Crowley G; Schwartz T; Zeig-Owens R; Halpren A; Colbeth H; Liu M; Prezant DJ; **Nolan A**. Dietary Phenotype and Advanced Glycation End-Products Predict WTC-Obstructive Airways Disease: a Longitudinal Observational Study. **Respiratory Research**. <https://www.researchsquare.com/article/rs-40956/v1> Published 18 January 2021. Volume 22, Article number: 19 (2021).
2. Weiden MD; Zeig-Owens R; Singh A; Schwartz T; Liu Y; Vaeth B; **Nolan A**; Cleven KL; Hurwitz K; Beecher S; and Prezant DJ. Pre-COVID-19 Lung Function and Other Risk Factors for Severe COVID-19 in First Responders. **ERJ Open Research** 2020 Oct 30: 00610-2020.doi:10.1183/23120541.00610-2020; PMID: PMC7607970
3. Kwon S; Bangalore S; Altschul E; **Nolan A**. COVID-19 Myocarditis: a Case Report, Overview of Diagnosis and Treatment. **Infect Dis Clin Pract** Accepted Jan 2021
4. Kwon S, Riggs J, Crowley G, Lam R, Young IR, Nayar C, Sunseri M, Mikhail M, Ostrofsky D, Veerappan A, Zeig-Owens R, Schwartz T, Colbeth H, Liu M, Pompeii ML, St-Jules D, Prezant DJ, Sevick MA, Nolan A. Food Intake REstriction for Health OUTcome Support and Education (FIREHOUSE) Protocol: A Randomized Clinical Trial. **9/11 Special Issue. Int J Environ Res Public Health**. 2020 Sep 9;17(18). doi: 10.3390/ijerph17186569. PubMed PMID: 32916985.
5. de la Hoz RE, Shapiro M, **Nolan A**, Celedón JC, Szeinuk J, Lucchini RG. Association of low FVC spirometric pattern with WTC occupational exposures. **Respir Med** 2020; Volume 170, August–September 2020,

106058. <https://authors.elsevier.com/c/1bC~T3P3QukMUS>. <https://doi.org/10.1016/j.rmed.2020.106058>
Epub 2020 Jun 7. PubMed PMID: 32843177.
6. Lam R; Haider SH; Crowley G; Caraher EJ; Ostrofsky DF; Talusan A; Kwon S; Prezant DJ; Wang Y; Liu M; **Nolan A**. Synergistic Effect of WTC-Particulate Matter and Lysophosphatidic Acid Exposure and the Role of RAGE: in vitro and translation assessment. **Special Issue Environmental Health Environmental Pollution and Oxidative Status**; <https://doi.org/10.3390/ijerph17124318> Int J Environ Res Public Health. 2020 Jun 17;17(12). doi: 10.3390/ijerph17124318. PubMed PMID: 32560330; PubMed Central PMCID: PMC7344461.
7. Haider SH; Veerappan A; Crowley G; Ostrofsky D; Caraher EJ; Mikhail M; Lam R, Wang Y; Sunseri M; Kwon S; Prezant DJ; Liu M; Schmidt AM; **Nolan A**. MultiOMICs of WTC-Particulate Induced Persistent Airway Hyperreactivity: Role of Receptor for Advanced Glycation End Product. Published Online: April 21, 2020 **AJRCMB**. Am J Respir Cell Mol Biol. 2020 Aug;63(2):219-233. doi: 10.1165/rcmb.2019-0064OC. PubMed PMID: 32315541; PubMed Central PMCID: PMC7397767.
8. Vikram Sengupta; Sascha Sengupta; Angel Lazo Jr.; Peter Woods; **Anna Nolan** and Nicholas Bremer. Exosomes Derived from Bone Marrow Mesenchymal Stem Cells as Treatment for Severe COVID-19. **Published Online**: 12 May 2020. **Stem Cells and Development** Stem Cells Dev. 2020 Jun 15;29(12):747-754. doi: 10.1089/scd.2020.0080. Epub 2020 May 12. PubMed PMID: 32380908; PubMed Central PMCID: PMC7310206.
9. Veerappan A; Oskuei A; Crowley G; Mikhail M; Ostrofsky D; Gironde Z; Vaidyanathan S; Wadghiri YZ; Liu M; Kwon S; **Nolan A**. World Trade Center-Cardiorespiratory and Vascular Dysfunction: Assessing the Phenotype and Metabolome of a Murine Particulate Matter Exposure Model. **Sci Rep**. 2020 Feb 21;10(1):3130. doi: 10.1038/s41598-020-58717-w. PubMed PMID: 32081898; PubMed Central PMCID: PMC7035300.
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10. Crowley G; Kwon S; Haider SH; Caraher EJ; Lam R; St-Jules DE; Liu M; Prezant DJ; **Nolan A**. Assessing the Protective Metabolome Using Machine Learning in World Trade Center Particulate Exposed Firefighters at Risk for Lung Injury). **Scientific Reports**. 2019 Sep 3;9(1):11939. doi: 10.1038/s41598-019-48458-w. PMID: 31481674; PMCID: PMC6722247.
11. Citron J; Willcocks E; Crowley, G; Kwon S; **Nolan A**. Genomics of Particulate Matter Exposure Associated Cardiopulmonary Disease **Int J Environ Res Public Health** 2019 Nov 7;16(22). pii: E4335. doi: 10.3390/ijerph16224335. PMID: 31703266
12. Kwon S; Crowley G; Caraher EJ; Haider SH; Lam R; Veerappan A; Yang L; Liu M; Zeig-Owens R; Schwartz T; Prezant DJ; **Nolan A**. Validation of Predictive Metabolic Syndrome Biomarkers of World Trade Center Lung Injury: a 16-Year Longitudinal Study. **Chest** 2019 Sep;156(3):486-496 **PMID: 30836056**. PMCID: [PMCID: PMC6717118](https://pubmed.ncbi.nlm.nih.gov/30836056/)
DOI: [10.1016/j.chest.2019.02.019](https://doi.org/10.1016/j.chest.2019.02.019)
13. Crowley G, Kwon S, Caraher EJ, Haider SH, Lam R, Batra P, Melles D, Liu M, **Nolan A**. **Quantitative Lung Morphology: Semi-automated Measurement of Mean Linear Intercept**. **BMC Pulmonary Medicine**; 19: 206. Published online 2019 Nov 9 <https://doi.org/10.1186/s12890-019-0915-6>. PMCID: PMC6842138; PMID: [31706309](https://pubmed.ncbi.nlm.nih.gov/31706309/)
14. de la Hoz RE; Jeon Y; Reeves AP; Raúl San José Estépar, Liu X; Doucette JT; Celedón JC, **Nolan A**. Increased pulmonary artery diameter is associated with reduced FEV1 in former World Trade Center workers. **Clin Respir J**. 2019 Oct;13(10):614-623. doi: 10.1111/crj.13067. Epub 2019 Aug 19. PubMed PMID: 31347281; PubMed Central PMCID: PMC6783324.
15. Kwon S; Crowley G; Mikhail M; Lam R; Clementi E; Zeig-Owens R; Schwartz TM; Liu M; Prezant DJ; **Nolan A**. Metabolic Syndrome Biomarkers of World Trade Center Airway Hyperreactivity: A 16-Year

Prospective Cohort Study. https://www.mdpi.com/journal/ijerph/special_issues/9-11_Disaster#published
Int J Environ Res Public Health. 2019 Apr 26;16(9). doi: 10.3390/ijerph16091486. PubMed PMID: 31035527;
 PubMed Central PMCID: PMC6539892.

Editorial: Brackenbill RM; Graber JM; and Robison WA. “Long-Term Health Effects of the 9/11 Disaster” in **International Journal of Environmental Research and Public Health**, 07 Sep 2019
Int. J. Environ. Res. Public Health 2019, 16(18), 3289; <https://doi.org/10.3390/ijerph16183289> -

16. Haider SH; Oskuei A; Crowley G; Kwon S; Lam R; Riggs J; Mikhail M; Talusan A; Veerappan A; Kim JS; Caraher EJ; **Nolan A**. Receptor for Advanced Glycation End-Products and Environmental Exposure Related Obstructive Airways Disease: a Systematic Review. **European Respiratory Review** March 2019, 28 (151) 180096; DOI: 10.1183/16000617.0096-2018 **PMID: 30918021**.
17. Emily A. Clementi; Angela Talusan; Sandhya Vaidyanathan; Arul Veerappan; Mena Mikhail; Dean Ostrofsky; George Crowley; James S. Kim; Sophia Kwon; **Anna Nolan**. Metabolic Syndrome and Air Pollution: a Narrative Review of their Cardiopulmonary Effects. **Toxics** 2019, 7(1), 6; 30 January 2019 **PMID: 30704059**

18. Mena Mikhail; George Crowley; Syed Hissam Haider; Arul Veerappan; Rachel Lam; Angela Talusan; Emily Clementi; Dean Ostrofsky, Sophia Kwon; **Anna Nolan**. Non-Cardiac Chest Pain: A Review of Environmental Exposure Associated Co-Morbidities and Biomarkers. **EMJ Gastroenterol**. 2018;7[1]:103-112 **PubMed PMID: 30774967; PubMed Central PMCID: PMC6375490**
19. Crowley G; Kwon S; Haider SH; Caraher EJ; Lam R; St-Jules DE; Liu M; Prezant DJ; **Nolan A**. Metabolomics of World Trade Center-Lung Injury: a Machine Learning Approach. **BMJ Open Respiratory Research**. Aug 3, 2018. <http://dx.doi.org/10.1136/bmjresp-2017-000274> **PubMed PMID: 30233801; PubMed Central PMCID: PMC6135464**.
20. Singh A; Liu Charles; Putman B; Zeig-Owens R; Hall CB;; Aldrich TK; Schwartz T; Webber MP; Cohen HW; Berger KI; **Nolan A**; Prezant DJ; Weiden MD. Predictors of Asthma/COPD Overlap in FDNY Firefighters With World Trade Center Dust Exposure. **Chest**.2018;154(6):1301-1310. DOI: [10.1016/j.chest.2018.07.002](https://doi.org/10.1016/j.chest.2018.07.002). **PMID: 30028968**
21. Stream S; **Nolan A**; Kwon S; Constable C. Factors Associated with Combined Do-Not-Resuscitate and Do-Not-Intubate Orders: A Retrospective Chart Review at an Urban Tertiary Care Center. **Resuscitation**. 2018;130:1-5. DOI: [10.1016/j.resuscitation.2018.06.020](https://doi.org/10.1016/j.resuscitation.2018.06.020). **PMID: 29935341**
22. Haider SH; Sophia Kwon; Rachel Lam; Audrey K. Lee; Erin J. Caraher; George Crowley; Liqun Zhang; Theresa M. Schwartz; Rachel Zeig-Owens; Mengling Liu, PhD^{2,3}, David J. Prezant; **Nolan A**. Predictive Biomarkers of Gastroesophageal Reflux Disease and Barrett’s Esophagus in World Trade Center Exposed Firefighters: a 15 Year Longitudinal Study. **Scientific reports**. 2018;8(1). DOI: [10.1038/s41598-018-21334-9](https://doi.org/10.1038/s41598-018-21334-9) **PMCID:5814524 PMID: 29449669**
23. Zeig-Owens R; Singh A; Aldrich TK; Hall CB; Schwartz T; Webber MP; Cohen HW; Kelly KJ; **Nolan A**; Prezant DJ; Weiden MD. Blood Leukocyte Concentrations, FEV1 Decline, and Airflow Limitation. A 15-Year Longitudinal Study of World Trade Center-exposed Firefighters. **Annals of the American Thoracic Society**. 2018;15(2):173-183. **PMCID:5802620, PMID: 29099614**
24. Beattie J; Sunita Parajuli; Sanger M; Lee G; Pleninger P; Crowley G; Kwon S; Murthy V; Manko JA; Caplan A; Dufort E; Pastula DM; **Nolan A**. ZIKV case report Zika Virus-Associated Guillain-Barré Syndrome in a Returning U.S. Traveler. **Infect Dis Clin Pract** (Baltim Md). 2018 Nov;26(6):e80-e84. doi: 10.1097/IPC.0000000000000654. PMID: 30923438; PMCID: PMC6433380.
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Acuna DS, Weiden MD, **Nolan A**, Diaz K, Ortiz V, Kelly K.). Clinical Course of Sarcoidosis in World Trade Center Exposed Firefighters. [Chest. 2018;153\(1\):114-123](#). DOI: [10.1016/j.chest.2017.10.014](#). PMID: [29066387](#)

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Software

1. **MLI plugin for ImageJ v1.52.** <https://med.nyu.edu/nolanlab/software>. This plugin is designed to measure mean linear intercept by serial measurement of a test line overlaying an image. Our method has been validated using simulated data and used in several of our publications to assess pulmonary mean linear intercept. Our method could also be used for a variety of other applications, including the measurement of grain size in geological settings.

The zip file contains the plugin, a readme with instructions, and a non-commercial research use license. If you use this resource, cite: Crowley G; Kwon S; Caraher EJ et al. Quantitative lung morphology: semi-automated measurement of mean linear intercept. *Pulmonary Medicine*. November 2019. <https://doi.org/10.1186/s12890-019-0915-6>

2. **Spirometry Calculator.** Click [here](#) to access the Spirometry Calculator, which calculates predicted spirometry based on NHANES III criteria. To view license, copyright, and reference information for this file, view its source code.
3. **Cell Counter,** Soon to be released on the NolanLab Webpage

Invited Commentary

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OTHER

1. Walsh BC; **Nolan A.** A Framework for Rationing Ventilators and Critical Care Beds During the COVID-19 Pandemic: A Response. AJOB Posted on May 29, 2020 at 9:00 AM. May 28, 2020 5/29/2020 [A Framework for Rationing Ventilators and Critical Care Beds During the COVID-19 Pandemic: A Response. Facebook TwitterShare](#)
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BOOK CHAPTERS

1. **Nolan A;** Weiden MD; Mohr LC Jr; Prezant DJ. Chapter on **"Acute Inhalational Injury"** 8th Edition of *Irwin and Rippe's Intensive Care Medicine*, 8th Edition. ISBN: 9781496306081. December 2017.

ABSTRACTS (In Preparation or Under Review)

1. Kwon S; Crowley G; Liu M; **Nolan A.** Biomarkers of COVID-19 a Longitudinal Assessment: a Retrospective assessment of a NYC 1st Wave Cohort. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
2. Veerappan A; Sunseri M; Crowley G; Kwon S; Young IR; **Nolan A.** Exogenous RAGE Inhibitor Attenuates Particulate Matter Induced Airway Hyperreactivity. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
3. Crowley G; Kwon S; Liu M; **Nolan A.** ICU Admission and Mortality Prediction in Severe COVID-19: a Machine Learning Approach. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
4. Crowley; Kwon; Li; Young; Liu; McRitchie; Sumner; Prezant; **Nolan A.** Metabolomics of WTC-Associated Aerodigestive Disease includes metabolites of Heme Oxygenase-1: a Pilot Study. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
5. Young IR; Lam R; Kwon S; Crowley G; Riggs J; Ostrofsky D; Nayar C; Zeig-Owens R; Schwartz T; Colbeth H; Mikhail M; Veerappan A; Pompeii ML; St-Jules D; Liu M; Prezant DJ; Liu M; Sevic MA; **Nolan A.** Food Intake Restriction for Health Outcome Support and Education (FIREHOUSE): a Randomized Clinical Trial. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
6. Crowley G; Caraher EJ; Veerappan A; Lam R; Haider SH; Kwon S; Liu M; **Nolan A.** Metabolomics at the Intersection of Murine WTC-PM Exposure and High Fat Diet: a Machine Learning Assessment. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego
7. Young IR; Cowman MK; Kirsch T; Crowley G; **Nolan A.** COVID-19 and PM Exposure: Identifying and Mitigating the Synergistic Deleterious Effects. Submitted Dec 21, 2020. ATS International Conference May 2021 San Diego

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1. Lee M; Kwon B; Troxel AB; **Nolan A;** and Liu M. Partially Linear Single Index Hazards Regression with Time-Dependent Covariates. JSM 2021 August 7-12. American Statistical Society

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2. Kwon S, Lee M, Schwartz T; Zeig-Owens R; Prezant DJ, Liu M; **Nolan A.** 4088 Longitudinal Assessment of Metabolic Syndrome as a Modifiable Risk factor of World Trade Center Particulate Matter Exposure

- Associated Lung Disease, ACTS; Translational Science 2020 April 14-17th Washington DC. (Conference canceled due to COVID, Abstract Published) Journal of Clinical and Translational Science, 4(S1), 49-50.doi: 10.1017/cts.2020.180
3. Lee M; Kwon B; Troxel AB; **Nolan A**; and Liu M. Partially Linear Single Index Hazards Regression with Time-Dependent Covariates 30th International Biometric Conference; COEX | SEOUL, KOREA | 5-10 Accepted, JULY 2020. (conference cancelled due to COVID)
 4. Kwon S, Lee M; Liu M, Prezant DJ, **Nolan A**. Assessing the Temporal Relationship of Metabolic Syndrome, a Modifiable Risk factor of World Trade Center Particulate Exposure Associated Lung Injury: a longitudinal case-cohort study. D55-RESPIRATORY HEALTH OUTCOMES OF WORLD TRADE CENTER EXPOSURES 18 YEARS LATER Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00 PM ATS International Conference 2020 Philadelphia, PA. American Journal of Respiratory and Critical Care Medicine 2020;201:A7125
 5. Veerappan A; Caraher EJ; Kwon S; Crowley G; Ostrofsky D; Oskuei A; Aristizabal O; Wadghiri Y; **Nolan A**. Synergistic Deleterious Effect of High Fat Diet and World Trade Center Particulate Matter Exposure: An Assessment of Cardiopulmonary Dysfunction and Injury. A47 - HEALTH EFFECTS OF AIR POLLUTION - ORGANIC DUST/BIO MASS. Thematic Poster Session; Sunday May 17, 2020 9:15 AM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2020;201:A1790
 6. Lam R; Kwon S; Sunseri M; Crowley G; Schwartz T; Zeig-Owens R; Halpren A; Colbeth H; Liu M; Prezant DJ; **Nolan A**. Nutritional Quality Predicts Airway Hyperreactivity/Lung Injury in the World Trade Center-Health Program Fire Department of New York Cohort. D55-RESPIRATORY HEALTH OUTCOMES OF WORLD TRADE CENTER EXPOSURES 18 YEARS LATER Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00 PM ATS International Conference 2020 Philadelphia, PA. American Journal of Respiratory and Critical Care Medicine 2020;201:A7126
 7. Crowley G; Kim J; Kwon S; Lam R; Prezant DJ; Liu M; **Nolan, A**. PEDF a Pleiotropic WTC-LI Biomarker: Machine Learning Biomarker Identification and Validation. D55-RESPIRATORY HEALTH OUTCOMES OF WORLD TRADE CENTER EXPOSURES 18 YEARS LATER Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00 PM ATS International Conference 2020 Philadelphia, PA. American Journal of Respiratory and Critical Care Medicine 2020;201:A7124
 8. Walsh BC; Forster M; Caplan A; **Nolan A**. "Understanding Medical Decision Making For Hospitalized Unrepresented Patients: A Systematic Review". D37-A PULMONARY CRITICAL CARE MEDLEY. Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00. ATS 2020 International Conference; May 15-20, 2020 in Philadelphia, PA. American Journal of Respiratory and Critical Care Medicine 2020;201:A6612
 9. Ostrofsky D; Kwon S; Lam R; Crowley G, M. Liu, Prezant DJ; **A. Nolan**. Association of Endogenous Secretory RAGE and World Trade Center Particulate Matter-induced AHR and Lung Injury. D55-RESPIRATORY HEALTH OUTCOMES OF WORLD TRADE CENTER EXPOSURES 18 YEARS LATER Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00 PM ATS International Conference 2020 Philadelphia, PA American Journal of Respiratory and Critical Care Medicine 2020;201:A7128
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10. Jasra S, Giricz O, Zeig-Owens R, Goldfarb D, Barreto-Galvez A, Pradhan K, Chen J, Choudhary GS, Aluri S, Bhagat TD, Shastri A, Thiruthuvanathan V, Goto H, Gerhardt J, Gordon S, Veerappan A, Haider SH, Bartenstein M, Nwankwo G, Landgren O, Weiden M, Fletcher F, Greenberger L, Ebert BL, Steidl UG, Britta Will, **Nolan A**, Prezant D, Madireddy A, and Verma A. High Burden of Clonal Hematopoiesis in First Responders Exposed to the World Trade Center Disaster. Session: 503. Clonal Hematopoiesis: Aging and Inflammation: Poster III Hematology Disease Topics & Pathways: Biological Processes, hematopoiesis ASH Annual Meeting, December 5-8, 2020. San Diego Convention Center, San Diego, CA; Monday, December 9, 2019, 6:00 PM-8:00 PM; Hall B, Level 2 (Orange County Convention Center).

11. Kwon S; **Nolan A.** METABOLIC SYNDROME BIOMARKERS OF WORLD TRADE CENTER AIRWAY HYPERREACTIVITY: A 16 YEAR PROSPECTIVE COHORT STUDY. **Population-wide lung health: exposures and risks.** Ernest N. Morial Convention Center: 267. October 23, 2019. Presentation 11:00-11:15 am Chest New Orleans
12. Kwon S; Clementi E.; Crowley G; Schwartz T; Zeig-Owens R; Liu M; Prezant DJ; **Nolan A.** Clinical Biomarkers of World Trade Center Airway Hyperreactivity: a 16-Year Longitudinal Study. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2492**
13. Crowley G; Kwon S; Lin Y; Clementi E; Haider SH; Talusan A; Prezant DJ; Schwartz T; Zeig-Owens R; Liu M; Mcritchie S; Sumner SJ; **Nolan A.** Metabolomics of WTC-Lung Injury (WTC-LI): a Validation Study. American Thoracic Society International Meeting Dallas, Texas, US May 2019. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2490**
14. Veerappan A; Oskuei A; Vaidyanathan S; Crowley G; Wadghiri YZ; **Nolan A.** World Trade Center Particulate Matter Associated Cardiopulmonary Dysfunction and Injury: Incorporating Echocardiography in a Murine Model. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2491**
15. Lam R; Riggs J; Sunseri M; Kwon S; Crowley G; Schwartz T; Zeig-Owens R; Halpern A; Liu M; Prezant DJ; **Nolan A.** Nutritional Assessment of the World Trade Center-Health Program Fire Department of New York Cohort. American Thoracic Society International Meeting Dallas, Texas, US. **Tuesday May 21, 2019 C43 – COPD AND POPULATION HEALTH Thematic Poster Session; 9:15 AM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A4877**
16. Oskuei A; Haider SH; George Crowley¹, BA¹, Sophia Kwon, DO, MPH¹, Rachel Lam; Jessica Riggs; Mena Mikhail; Angela Talusan; James S. Kim¹, Erin J. Caraher; Veerappan A; **Nolan A.** Receptor for Advanced Glycation End-Products and Environmental Exposure Related Obstructive Airways Disease: a Systematic Review. American Thoracic Society International Meeting Dallas, Texas, US. Tuesday, May 21, 2019. **C45 - EFFECTS OF THE ENVIRONMENT ON PULMONARY HEALTH Thematic Poster Session; 9:15 AM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A4924**
17. Oskuei A; Veerappan A; Vaidyanathan S; Crowley G; Wadghiri YZ; **Nolan A.** Novel Use of μ -PET/CT Imaging to Detect Cardiopulmonary Changes in a Murine Model Following World Trade Center Particulate Matter Exposure. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2493**
18. Riggs J; Kwon S; Crowley G; Ostrofsky D; Talusan A; Mikhail M; Kim J; Zeig-Owens R; Schwartz T; Prezant DJ; Liu M; **Nolan A.** Validation of Biomarkers of WTC Lung Injury: Design of a Case Cohort Control. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2494**
19. Mikhail M; Crowley G; Veerappan A; Haider SH; Caraher EJ; Lam R; Kwon S; Ostrofsky D; **Nolan A.** Quantifying Cardiopulmonary Collagen Deposition in a Murine Model of WTC-PM Exposure. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A50 - MOLECULAR MECHANISMS OF ENVIRONMENTAL AND OCCUPATIONAL LUNG DISEASES Thematic Poster Session. 9:15 AM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A1831**
20. Ostrofsky D; Lam R; Haider SH; Crowley G; Talusan A; Kwon S; Zhang L; Liu M; **Nolan A.** Synergistic Interleukin-1 α Elaboration due to World Trade Center Particulate Matter and Lipid Co-Exposure in vitro is

not NF- κ B Dependent. American Thoracic Society International Meeting Dallas, Texas, US. . Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2497**

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22. Kwon S; Clementi E.; Crowley G; Schwartz T; Zeig-Owens R; Liu M; Prezant DJ; **Nolan A.** Clinical Biomarkers of World Trade Center Airway Hyperreactivity: a 16-Year Longitudinal Study. Chest Congress Bangkok Thailand, April 10, 2019. Chest 155(4):142A. DOI: 10.1016/j.chest.2019.02.134

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23. Haider SH; Crowley G; Sunseri M; Erin J. Caraher; Rachel Lam; Kwon S; Prezant DJ; Chen LC; Schmidt AM; **Nolan A.** Advanced Glycation End-products Receptor: Mediator of Persistent Airway Reactivity after Particulate Matter Exposure. 11125 Rapid Abstract Poster Discussion Session: A105 - DUST AND PARTICULATE MATTER EXPOSURE RAPID. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2587**
24. Kwon S; Haider SH; Caraher EJ; Lam R; Crowley G; Schwartz T; Liu M; Prezant DJ; **Nolan A.** Lipids Metabolic Syndrome Biomarkers of Lung Injury in World Trade Center Exposed Firefighters: a 15 Year Longitudinal Cohort Study. 9392 Rapid Abstract Poster Discussion Session: A105 - DUST AND PARTICULATE MATTER EXPOSURE RAPID. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2584**
25. Caraher EJ; Haider SH; Kwon S; Crowley G; Chen LC; **Nolan A.** Pioglitazone Pre-Treatment by Gavage Attenuates Particulate Matter Induced Lung Disease. 14571 Thematic Poster Session - C34-COPD POTPOURRI. American Thoracic Society International Conference, San Diego: Tuesday May 22, 2018 9:15 AM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A476**
26. Caraher EJ; Crowley G; Haider SH; Kwon S; Lam R; Riggs J; Oskuei A; **Nolan A.** Lipids as Modifiable Risk Factors of Environmental Lung Disease: a Systematic Review of the Good, the Bad and the Misunderstood 14685 Thematic Poster Session - C34 - COPD POTPOURRI. American Thoracic Society International Conference, San Diego: Tuesday May 22, 2018 9:15 AM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A4777**
27. Crowley G; Kwon S; Haider SH; Caraher EJ; Lam R; Liu M; Prezant DJ; **Nolan A.** Metabolite and Biomarker Predictors of World Trade Center-Lung Injury: an Integrated Multiplatform Machine Learning Approach. 12817 RAPID: Rapid Abstract Poster Discussion Session - A105 DUST AND PARTICULATE MATTER EXPOSURE. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2588**
28. Lam R; Caraher EJ; Sunseri M; Haider SH; Kwon S; Crowley G; **Nolan A.** Nutritional Assessments and Obstructive Airways Disease: a Systematic Review. 11853 Thematic Poster Session: A66 - PULMONARY REHABILITATION: CLINICAL STUDIES IN COPD. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 9:15 AM - 4:15 PM. **American Journal of Respiratory and Critical Care Medicine 2018;197:A2165**

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 32. SH Haider, G Crowley, L Zhang, R Lam, E Caraher, S Kwon, DJ Prezant, AM Schmidt, **A Nolan.** Persistence of World Trade Center Particulate Induced Hyperresponsiveness and the Role of RAGE. Military Health System Research Symposium: Kissimmee, FL, US August 27, 2017.
 33. G Crowley; S Kwon, SH Haider, L Zhang, R Lam, D Kim, M Liu; DJ Prezant; **A Nolan.** Metabolite and Biomarker Predictors of WTC-Lung Injury: an Integrated Multiplatform Pilot Analysis. *ACTS Translational Science*: Washington DC, US April 19-21, 2017.
 34. SH Haider, L Zhang, G Crowley, EJ Caraher, R Lam, S Kwon, AM Schmidt, LC Chen, DJ Prezant, **A Nolan.** Receptor for Advanced Glycation End-products: Mitigating the Persistent Effects of Particulate Matter Induced Airway Injury. *ACTS Translational Science*: Washington DC, US April 19-21, 2017.
 35. S. Kwon, G. Crowley, S.H. Haider, R. Lam, L. Zhang, R. Zeig-Owens, T. Schwartz, D. Prezant, **A. Nolan.** Weight Loss as a Modifiable Risk: Body Mass Index and Loss of Lung Function in World Trade Center Particulate Exposure B95 NEW INSIGHTS FROM WORLD TRADE CENTER PARTICULATE EXPOSURE STUDIES / Mini Symposium / Monday, May 22. *Am J Respir Crit Care Med* 2017;195:A4648: Washington DC, US May 2017[§]
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Syndrome in a Returning U.S. Traveler. A58. CRITICAL CARE CASE REPORTS: NEURO-CRITICAL CARE / Thematic Poster Session / Sunday, May 21 Am J Respir Crit Care Med 2017;195:A2008 Washington DC, USA.

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52. Stream S, **Nolan A**, Kwon S, Constable C. Linked Dnr and Dni Orders and Factors Associated with Intubation: A Retrospective Chart Review at an Urban Tertiary Care Center [abstract]. *Journal of Hospital Medicine*. 2016; 11 (suppl 1). [Conference Abstract](#)
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55. Haider SH; Kwon S; Caraher EJ; Lee AK; Schwartz T; Zeig-Owens R; Webber MP; Prezant DJ; **Nolan A.** Biomarkers of GERD and Barrett’s Esophagus in World Trade Center-Exposed Fire Department of New York City Rescue Workers: the Aerodigestive Continuum. C56 OCCUPATIONAL MEDICINE AND LUNG FUNCTION/Thematic Poster Session/ Tuesday, May 17. *Am J Respir Crit Care Med* 193;2016:A5444. SanFrancisco CA, US. May 2016 [Conference Abstract](#) *ATS-Environmental and Occupational Health Assembly Abstract Award #*
56. Kwon S; Caraher EJ; Haider SH; Schwartz T; Zeig-Owens R; Webber MP; Prezant DJ; **Nolan A.** Validation of Metabolic Syndrome Biomarkers of Particulate Induced Lung Injury in World Trade Center Exposed Firefighters. B105 COPD: EPIDEMIOLOGY AND GENETICS/Poster Discussion Session/ Monday, May 16. *Am J Respir Crit Care Med* 193;2016:A4441. SanFrancisco CA, US. May 2016 [Conference Abstract](#)
57. Doo, K; Ahuja, S; **Nolan, A.** The Misadventures of Air: Colitis versus Barotrauma. C52 CRITICAL CARE CASE REPORTS: RESPIRATORY FAILURE/MECHANICAL VENTILATION/Thematic Poster Session/Tuesday, May 17. *Am J Respir Crit Care Med* 193;2016:A5330. San Francisco CA, US. May 2016. [Conference Abstract](#)
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60. J. Weakley; C.B. Hall; R. ZeigOwens¹; T. Schwartz¹, M.P. Webber; M. Vossbrinck¹; H.W. Cohen²; T.K. Aldrich; **A. Nolan**; Prezant DJ; Weiden MD. TH17 cytokine expression within the first 6 months post WTC exposure is associated with accelerated FEV₁ decline over the subsequent 13 years. B105 COPD: EPIDEMIOLOGY AND GENETICS/Poster Discussion Session/Monday, May 16. Am J Respir Crit Care Med 193;2016:A4440. SanFrancisco CA, US. May 2016. [Conference Abstract](#)
61. Kwon S; Caraher EJ; Haider SH; Crowley G; Lee A; Prezant DJ; **Nolan A.** Receptor for Advanced Glycation End Products (RAGE) Contributes to World Trade Center Particulate Matter (WTC-PM)-Associated Lung Function Loss. 149(4_S): 408A-408A. Chest. 2016; Shanghai, China October 16 [Conference Abstract](#)
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65. Caraher EJ; Kwon S; Lee AK; Chen LC; Gordon T; Prezant DJ; Rom WN; Weiden MD; **Nolan A.** Additive and Synergistic Effects of LPA in World Trade Center Particulate Matter-Induced Inflammation. Am J Respir Crit Care Med 191; 2015: A5404. ATS International Conference; Denver, Colorado USA
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92. Ashley L. Comfort Michael Weiden Bushra Naveed N Ferrier MP Webber KI Berger WN Rom DJ Prezant; **Nolan A**. Pulmonary Disability Evaluations In FDNY Rescue Workers Exposed To WTC Particulates: A Pilot Study. Am J Respir Crit Care Med. 2011; 183: A4799. ATS International Conference; Denver, Colorado USA
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94. Naveed B; Comfort AL; Ferrier N; Kasturiarachchi KJ; Rom WN; Prezant DJ; Weiden MD; **Nolan A**. Biomarkers Of Metabolic Syndrome Predict Accelerated Decline Of Lung Function

In NYC Firefighters That Were Exposed To WTC Particulates. *Am J Respir Crit Care Med.* 2011; 183: A4795. ATS International Conference; Denver, Colorado USA

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95. Naveed B; Weiden MD; Comfort AL; Chen Y; Kwon S; Rom WN; **Nolan A.** Microparticle Activity Is Increased In Murine Polymicrobial Sepsis. *Am J Respir Crit Care Med.* 2010; 181: A1375. ATS International Conference; New Orleans, Louisiana USA
 96. Naveed B; Weiden MD; Rom WN; Prezant DJ; Comfort AL; Chen Y; Kwon S; Chen LC; Gordon T; **Nolan A.** WTC PM_{2.5} Stimulates A More Intense Inflammatory Response In Human BAL Cells Than Other Ambient PM_{2.5} From NYC And Surrounding Environs. *Am J Respir Crit Care Med.* 2010; 181: A1158. ATS International Conference; New Orleans, Louisiana USA
 97. Naveed B.; Weiden M.D.; Rom W.N.; Prezant D.J.; Comfort A.; Chen L.; Kwon S.; Chen Y.; Gordon T.; **Nolan A.** WTC PM_{2.5} stimulates a more intense inflammatory response in human BAL cells than other ambient PM_{2.5} from NYC and surrounding environs. *Clinical & Translational Science.* 2010;3 (2):S48. ATS International Conference; New Orleans, Louisiana USA
 98. Ferrier N; **Nolan A;** Rom WN; Comfort AL; Prezant DJ; Weiden MD. Similar Exposure To World Trade Center (WTC) Dust Produced Variable Lung Function Decline: Defining Most And Least Effected Subgroups In The FDNY Cohort. *Am J Respir Crit Care Med.* 2010; 181: A1252. ATS International Conference; New Orleans, Louisiana USA
 99. Kobayashi H; **Nolan A;** Naveed B; Comfort A L; Rom WN; Hoshino Y; Weiden M D. Neutrophils Activate Alveolar Macrophages By Producing Caspase-6 Mediated Cleavage Of Interleukin-1 Associated Kinase-M (IRAK-M) In Tuberculosis. *Am J Respir Crit Care Med.* 2010; 181: A3221. ATS International Conference; New Orleans, Louisiana USA
 100. Naveed B; Weiden MD; Rom WN; Prezant DJ; Comfort AL; Chen Y; Kwon S; Chen LC; Gordon T; **Nolan A.** WTC PM_{2.5} Stimulates A More Intense Inflammatory Response In Human BAL Cells Than Other Ambient PM_{2.5} From NYC And Surrounding Environs. *Am J Respir Crit Care Med.* 2010; 181: A1158. ATS International Conference; New Orleans, Louisiana USA
 101. Naveed B; Weiden MD; Comfort AL; Chen Y; Kwon S; Rom WN; **Nolan A.** Microparticle Activity Is Increased In Murine Polymicrobial Sepsis. *Am J Respir Crit Care Med.* 2010; 181: A1375. ATS International Conference; New Orleans, Louisiana USA
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102. Kobayashi H; **Nolan A;** Naveed B; Hoshino Y; Hoshino S; Rom WN; Weiden MD. Caspase 6 cleaves the macrophage inhibitor IRAK-M in contact dependent innate immune activation. *Am J Respir Crit Care Med.* 2009 April; 179: A5689. ATS International Conference; San Diego, California USA
 103. Naveed B; **Nolan A;** Weiden WN; Rom WN; Gold JA. CD80 mediates the innate inflammatory response in murine polymicrobial sepsis. *Am J Respir Crit Care Med.* 2009 April; 179: A1142. ATS International Conference; San Diego, California USA
 104. Naveed B; Weiden MD; **Nolan A;** Kang GS; Rom WN; Chen LC. Costimulatory molecules in the inflammatory response to PM_{2.5} exposure. 2009 April; 179: A3138 *Am J Respir Crit Care Med.* ATS International Conference; San Diego, California USA
 105. Weiden MD; Ferrier N; **Nolan A;** Rom WN; Comfort AL; Gustave J; Zheng S; Goldring R; Berger K; Cosenza K; Beringer A; Glass L; Lee R; Zeig-Owens R; Webber MP; Prezant DJ.

- World Trade Center Collapse Produced Airway Injury and Air Trapping. *Am J Respir Crit Care Med.* Apr 2009; 179: A5852. ATS International Conference; San Diego, California USA
106. Naveed B; **A Nolan**; MD Weiden; WN Rom and JA Gold. CD80 Mediates the Innate Inflammatory Response in Murine Polymicrobial Sepsis. *Am J Respir Crit Care Med.* Apr 2009; 179: A1142. ATS International Conference; San Diego, California USA
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107. Gold JA; **Nolan A**; Weiden MD. Role of combined costimulatory molecule inhibition in sepsis. *Am J Respir Crit Care Med.* 2007; A900. ATS International Conference; San Francisco, California USA
108. Chitkara N; Ardilles EE; Gold JA; Weiden MD; **Nolan A**. The CD80/86-CD28 interaction is significant to mortality in murine polymicrobial sepsis. *Am J Respir Crit Care Med.* 2007; A443. ATS International Conference; San Francisco, California USA
109. Chitkara N; Ardilles EE; Gold JA; Weiden MD; **Nolan A**. Treatment with alpha-1 antitrypsin confers protection from mortality in murine polymicrobial sepsis *Am J Respir Crit Care Med.* 2007; A443. ATS International Conference; San Francisco, California USA
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110. Ardilles EE; Gold JA; Weiden MD; **Nolan A**. Macrophage expressed co-stimulatory molecules CD80/86 in murine polymicrobial sepsis. *Am J Respir Crit Care Med.* 2006; A648. ATS International Conference; San Diego, California USA
111. Gold JA; **Nolan A**; Mehta NL; Weiden MD. Blockade of CD80/86 improves survival in a murine model of polymicrobial sepsis. *Am J Respir Crit Care Med.* 2006; A644. ATS International Conference; San Diego, California USA
112. Gold JA; Rimal B; **Nolan A**; Nelson LN. A strategy of escalating doses of benzodiazepines and phenobarbital administration reduces need for mechanical ventilation in delirium tremens. *Am J Respir Crit Care Med.* 2006; A735. ATS International Conference; San Diego, California USA
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113. Mehta NL; Shih P; **Nolan A**; Weiden MD; Hoshino Y; Gold JA. Role of macrophage costimulatory molecules in human sepsis. *Am J Respir Crit Care Med.* 2005; A522. ATS International Conference; San Diego, California USA
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114. Shih PH; **Nolan A**; Tse D; Doshi AM; Weiden MD; Gold JA. Role of CD40 ligand in early sepsis. *Am J Respir Crit Care Med.* 2004; 169: A635. ATS International Conference; Orlando, Florida USA
115. Gold JA; Jones MB; Levy DE; Hoshino Y; **Nolan A**; Weiden MD. Role of interferons in an in vivo model of inhalational anthrax. *Am J Respir Crit Care Med.* 2004; 169: A230. ATS International Conference; Orlando, Florida USA
116. **Nolan A**; Thurston G; Weiden MD; Gold JA. Vascular endothelial growth factor blockade reduces serum cytokines in a murine model of polymicrobial sepsis. *Am J Respir Crit Care Med.* 2004; 169: A118. ATS International Conference; Orlando, Florida USA
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117. **Nolan A**; Parsey M; Hoshino Y; Yee H; Tse DT; Weiden MD; Gold JA. CD40 is integral to the innate immune response during polymicrobial sepsis. *Am J Respir Crit Care Med.* 2003; 167: A556. ATS International Conference; Seattle, Washington USA
118. Rimal B; **Nolan A**; Gold JA. Severe alcohol withdrawal in the ICU treatments and complications. *Am J Respir Crit Care Med.* 2003; 167: A250 ATS International Conference; Seattle, Washington USA
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119. **Nolan A**; Rom WN; Condos R; Raju B. Correlation of PPD status of Immunocompetent tuberculosis patients and bronchoalveolar lavage (BAL) cell differential. *Am J Respir Crit Care Med.* 2002; 165: A288, ATS International Conference; Atlanta, Georgia USA

MEDIA

- 2011 **Interview:** [NY1.com: Biomarkers may hold clues to WTC firefighters-Lung-health](#)
- 2015 **Spotlight:** The Lancet Respiratory Medicine: World Trade Center dust-inhalation: assessing the fallout. Published online August 14, 2015 [http://dx.doi.org/10.1016/S2213-2600\(15\)00318-5](http://dx.doi.org/10.1016/S2213-2600(15)00318-5)
- 2017 **Study: Research on Dying ICU Patients Is Ethically Feasible**
"EXECUTIVE SUMMARY Research on critically ill, dying ICU patients is ethically feasible, found a recent study which achieved a 95% consent rate for approached families."
 May 22, 2017 | AHC Media (United States) [View article](#)
- 2018 **Men'sHealth: A Volcano Eruption in Hawaii is Producing Dangerous Sulfur Dioxide Gas.** Interviewed as an expert on lung health and environmental exposure
- 2018 **Expert Explains How 9/11 Lung Disease May Be Linked to Diet.**
 NYU Langone expert Dr. Anna Nolan explains how the diet of 9/11 firefighters affects the development of lung disease.
<https://nyulangone.org/news/fox-5-news-ny-study-suggests-911-lung-disease-impacted-diet>
[Natural "Breakdown" of Chemicals Predicts Lung Damage in 9/11 Firefighters](#): NYU Langone Health, Reuters, Medscape, USA Today, Daily Mail, CBS News, Sirius XM.
- **[Study: Blood test could predict 9/11 lung damage](#)**
"BY SYDNEY PEREIRA Thirty firefighters exposed to World Trade Center toxins have helped researchers at New York University's medical school to identify a specific set"
 October 11, 2018 | Downtown Express (New York) (New York) | [Article](#)
 - **[Blood markers link firefighters' lung disease to WTC attacks](#)**
"Two dozen metabolites in blood samples from firefighters who were exposed to the dust and smoke from the World Trade Center (WTC) towers, during the"
 September 11, 2018 | Chemistry World.com (United Kingdom) [View article](#)
 - **[9/11 lung disease study suggests link to diet](#)**
"NEW YORK (FOX5NY.COM) - Dr. Anna Nolan and her team at NYU School of Medicine looked at blood samples from some New York City firefighters"
 September 5, 2018 | Fox 5 New York (New York) [View article](#)

- Diet key to lung health of 9/11 victims: Study
"Firefighters who suffered lung damage after inhaling particles in the line of duty on Sept. 11, 2001, may be able to quell or reverse the"
 - September 5, 2018 | Tribune's Newsday (6+ months) (US)
 - September 3, 2018 | AM New York (New York) [View article](#)

Metabolite Analysis Predicts 9/11 Lung Damage

"Analysis of blood samples taken from World Trade Center (WTC) firefighters soon after 9/11 led to the identification of more than two dozen metabolites that,"
 September 4, 2018 | MedPage Today (New Jersey) [View article](#)

Natural "Breakdown" of Chemicals Predicts Lung Damage in 9/11 Firefighters

"NEW YORK, Sept. 4, 2018 /PRNewswire/ -- Abnormal levels of more than two dozen metabolites — chemicals produced in the body as it breaks down"
 September 4, 2018 | PR Newswire (United States) [View article](#)

- September 4, 2018 | HealthNewsDigest.com (United States) [View article](#)
- September 4, 2018 | Asian Hospital & Healthcare Management (India) [View article](#)
- September 4, 2018 | Long Room.com (United States) [View article](#)

Natural "Breakdown" of Chemicals Predicts Lung Damage in 9/11 Firefighters

"SOURCE NYU Langone Health NEW YORK Researchers say the results, published by NYU School of Medicine researchers in the journal BMJ Open Respiratory Research online"

- September 4, 2018 | KSWO (Oklahoma) [View article](#)
- September 4, 2018 | Fox 19 (Ohio) [View article](#)
- September 4, 2018 | WALB 10 (Georgia) [View article](#)

- 2018 <https://nyulangone.org/news/predicting-lung-injury-gastroesophageal-reflux-disease-911-firefighters>
- 2019 [NYU News: Predicting-lung-injury-gastroesophageal-reflux-disease-911-firefighters](#)
- 2019 **Reuters:** Heart risk factors may predict lung damage in 9-11 responders
"(Reuters Health) - For firefighters who worked at "Ground Zero" around September 11, 2001, a group of heart-disease risk factors also predicted who was likely"
 - March 21, 2019 | Reuters UK (United Kingdom) [View article](#)
- 2019 NPR July 3, 2019: <https://www.wshu.org/post/update-911-victim-compensation-fund>
- 2019 [NYU Langone News Natural-breakdown-chemicals-may-guard-against-lung-damage-911-first-responders](#) https://www.eurekalert.org/pub_releases/2019-09/nlh-no082719.php
- 2019 [Scientists Identify Body Chemicals That Signal Which 9/11 Responders Are at Risk for Lung Disease – and Which Are Protected](#) This press release received extensive media pick-up across the country. **Daily Mail** – September 3
- 2019 [Natural 'Breakdown' of Chemicals May Guard Against Lung Damage in 9/11 First Responders](#) This press release received extensive media pick-up across the country.

- Business Insider** – September 3
- 2019 ***Body's Natural Chemicals May Help Protect 9/11 Responders' Health: Study***
This article received extensive pick-up by additional media outlets including Doctorslounge.com, United Press International, and Drugs.com.
- HealthDay** – September 3
- 2019 <https://www.the-scientist.com/news-opinion/metabolites-may-predict-lung-injury-in-9-11-first-responders-66384>
- 2019 ***Researchers Identify Chemicals in the Body That Protect 9/11 Responders From Lung Disease*** **Tech Times** – September 4
- 2019 ***Study: 9/11 First Responders' Diet May Help Prevent Lung Disease***
Fox5 New York – September 5
- 2019 ***Metabolites May Predict Lung Injury In 9/11 First Responders***
The Scientist – September 3
- 2019 **Battling Lung Disease in 9/11 Firefighters and First Responders.** Through her research on World Trade Center-related lung injuries and inflammation, Anna Nolan, MD, has found that certain metabolites— chemicals made as the body breaks down fats, proteins, and carbohydrates—can predict, and perhaps prevent, loss of lung function in firefighters and emergency workers at the disaster site. [Read an interview with Dr. Nolan.](#)
- 2019 **Understanding Why Some 9/11 Rescue Workers Experienced Lung Disease & Others Didn't** <https://nyulangone.org/news/understanding-why-some-911-rescue-workers-experienced-lung-disease-others-didnt>; December 23, 2019
- 2020 **Coronavirus Adds to Health Risks of Ailing 9/11 Responders; Bloomberg; Posted May 23, 2020.** <https://about.bgov.com/news/coronavirus-adds-to-health-risks-of-ailing-9-11-responders/>
- 2020 Interviewed May 2020. Medscape **A Long Road to Recovery: Lung Rehab Needed After COVID-19** MDedge · May 28, 2020
- 2020 **Posted June 8, 2020: Tear gas during COVID-19 is a public health disaster** <https://www.popsoci.com/story/health/tear-gas-coronavirus/>
- 2020 **Posted July 19, 2020:** <https://www.salon.com/2020/07/19/how-police-are-causing-a-public-health-crisis/>
- 2020 **Doctor Radio “Pulmonology” Frank Adams 6:30-7:00 AM** September 15, 2020

EDITORIALS (Concerning Original Investigations)

- 2012 Balmes JR. Can we predict who will develop chronic sequelae of acute inhalational injury? *Chest*. 2012; 142:278-279
- 2012 Holguin F. The Metabolic Syndrome as a Risk Factor for Lung Function Decline. *Am. J Respir. Crit. Care Med*. 2012; 185:352-353
- 2013 Antao VC. The World Trade Center Disaster: A tragic source of medical advancement. *Eur Respir J*. 2013; 41: 999-1001

- 2015** **Spotlight:** The Lancet Respiratory Medicine: World Trade Center dust-inhalation: assessing the fallout. Published online August 14, 2015
[http://dx.doi.org/10.1016/S2213-2600\(15\)00318-5](http://dx.doi.org/10.1016/S2213-2600(15)00318-5)
- 2019** Brackenbill RM; Graber JM; and Robison WA. **“Long-Term Health Effects of the 9/11 Disaster” in International Journal of Environmental Research and Public Health, 07 Sep 2019** *Int. J. Environ. Res. Public Health* **2019**, 16(18), 3289; <https://doi.org/10.3390/ijerph16183289> -

Invited Presentations/Seminars

- 2010** **Symposium.** NYU IRB Research Ethics “Data Safety and Monitoring” NYU SOM
- 2011** **Grand Rounds,** Department of Medicine, NYU SOM
- 2011-13** **Grand Rounds.** Translational Research Education and Careers (TREC), NYU SOM
- 2010-16** **Seminar.** Research Retreat
- 2012** **Grand Rounds.** Sepsis, Richmond University Hospital, Staten Island New York.
- 2011** **Seminar.** Biomarkers, FDNY, Bureau of Health Services
- 2012** **Round Table.** New York City Department of Health Advisory Committee World Trade Center Health Registry holds biweekly Research Roundtables. Invited to discuss “Metabolic syndrome biomarkers predict lung function impairment: A nested case-control study”
- 2013** **Mini-Symposium.** "RAGE Mediates LPA Induced Pulmonary Inflammation" Presented at the American Thoracic Society International Conference
- 2013** **Mini-Symposium.** "Computed Tomography Derived Vascular Injury Marker Correlates with Loss of Forced Expiratory Volume In One Second (FEV1) In World Trade Center Exposed Firefighters", Presented at the American Thoracic Society International Conference
- 2012** **Seminar.** Masters Clinical Investigation: Proteomics, NYU SOM
- 2014-16** **Seminar.** Masters in Clinical Investigation: Biomarkers, NYU SOM
- 2015** **Symposium.** Caraher E; Kwon S; Lee AK; Echevarria GC; Chen LC; Gordon T; Prezant DJ; Rom WN; Schmidt AM; Weiden MD; Nolan A. Inciting RAGE: World Trade Center Lung Injury and Therapy in a Murine Model. Association for Clinical and Translational Science; Washington DC, April 2015
- 2015** **Mini symposium.** Caraher EJ; Kwon S; Lee AK; Chen LC; Gordon T; Prezant DJ; Rom WN; Weiden MD; Nolan A. Additive and Synergistic Effects of LPA in World Trade Center Particulate Matter-Induced Inflammation. *Am J Respir Crit Care Med* 191; Denver May 2015
- 2015** **Symposium.** The William A. Briscoe Lung Club; Weill Cornell Medicine College; Metabolic Derangement and Particulate Matter Induced Lung Disease. Cornell, School of Medicine. April 2015
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- 2016** **Grand Rounds. Translational Research, Education and Careers(TREC) “Work-Life Balance”**

- 2016** **Discussant.** Exploration of High Dimensional Data and Validation of Metabolic Syndrome Biomarkers of Particulate Induced Lung Injury in World Trade Center Exposed Firefighters. 3rd International Workshop of Lung Health: Monaco Jan 2016
- 2016** **Moderator.** CHEST World Congress in Shanghai, China. April 2016: Noninfectious “Pneumonia”
- 2016** **Symposium Speaker.** Metabolic Biomarker Validation and Clinomics of WTC-Lung Injury. Invited Symposium Speaker and winner of a Burroughs Wellcome Abstract Award. Association of Clinical and Translational Science Meeting, Washington DC, April 2016
- 2016** **Mini-Symposium,** RAGE Contributes to Particulate-Induced Lung Function Loss and Hyperreactivity: Mitigating the Persistent Effects of a Single Intense Particulate Exposure. American Thoracic Society International Conference, San Francisco, USA. May 2016
- 2016** **Discussant: ERS 2016 London. Discussant** Sophia Kwon, Syed H Haider, Erin J Caraher, Theresa Schwartz, David J Prezant, Anna Nolan. Metabolic biomarker validation and clinomics of World Trade Center- Lung injury. Poster Discussion, ERS International Congress, London September 2016. https://erj.ersjournals.com/content/48/suppl_60/PA382
- 2016** **Invited Seminar.** Western Institutional Review Board: International Fellows Program in Research Ethics. Clinical Research in Vulnerable Populations.
- 2016** **Moderator,** October, Chest 2016, Los Angeles California
- 2016** **Grand Rounds.** Sepsis Update: 2016 Guidelines. Department of Medicine Easton Hospital, Pennsylvania. December.
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- 2017** **Seminar.** Metabolomics of WTC lung injury, Masters in Clinical Investigation, NYU SOM, March 15
- 2017** **Distinguished Oral Abstract Presentation,** Persistence of World Trade Center Particulate Induced Hyper-responsiveness and the Role of RAGE. *ACTS Translational Science:* Washington DC, US April 2017.
- 2017** **Mini-Symposium,** Metabolomics of World Trade Center Lung Injury: A Pilot Study American Thoracic Society International Conference: Washington DC, US May 22^s
- 2017** **Mini-Symposium,** Weight Loss as a Modifiable Risk: Body Mass Index and Loss of Lung Function in World Trade Center Particulate Exposure. American Thoracic Society International Conference: Washington DC, US May 22^s
- 2017** **Mini-Symposium,** Persistence of World Trade Center Particulate Induced Hyper-responsiveness and the Role of RAGE. American Thoracic Society International Conference: Washington DC, US May 22
- 2017** **Invited Speaker,** Interstitial Lung Disease and Catastrophic Events. Berzelius Symposium 94. International conference on multidisciplinary approach to diffuse parenchymal lung disease. June 1-3, Stockholm, Sweden, <http://www.sls.se/ILDupdate2017>
- 2017** **Oral Presentation, breakout session; MHSRS-17-0806 - Environ & Occupational Exposures.** *Metabolite and Biomarker Predictors of WTC-Lung Injury: an Integrated*

- [Multiplatform Pilot Analysis](#). Military Health System Research Symposium (MHSRS): Kissimmee, FL, US, August 27, 2017.
- 2017** **Grand Rounds.** Sepsis Update: 2017 Guidelines. Department of Medicine, **Bayone Hospital**. December 15.
- 2017** **World Trade Center Research Principal Investigators Autumn-Winter Meeting.** Metabolomics of World Trade Center-Lung Injury: Biomarker Validation, Longitudinal Assessment and Dietary Intervention, Nov 16, 2017, New York City.
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- 2016-18** Western Institutional Review Board **WIRB: International Fellows Program in Research Seminar Series: Ethics Vulnerable Subjects**
- 2018** **Molecular and Cell Bio Conference:** February 12.
- 2018** **Seminar. Masters in Clinical Investigation: Biomarkers, NYU SOM, Feb 14**
- 2018** **Discussant; RaPiD** Lipids Metabolic Syndrome Biomarkers of Lung Injury in World Trade Center Exposed Firefighters: a 15 Year Longitudinal Cohort Study. 9392 Rapid Abstract Poster Discussion Session: A105 - DUST AND PARTICULATE MATTER EXPOSURE RAPID. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2584**
- 2018** **Discussant;** Advanced Glycation End-products Receptor: Mediator of Persistent Airway Reactivity after Particulate Matter Exposure. 11125 Rapid Abstract Poster Discussion Session: A105 - DUST AND PARTICULATE MATTER EXPOSURE RAPID. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2587**
- 2018** **Discussant; RaPiD** Metabolite and Biomarker Predictors of World Trade Center-Lung Injury: an Integrated Multiplatform Machine Learning Approach. 12817 RAPID: Rapid Abstract Poster Discussion Session - A105 DUST AND PARTICULATE MATTER EXPOSURE. American Thoracic Society International Conference, San Diego: Sunday May 20, 2018 2:15 PM - 4:15 PM **American Journal of Respiratory and Critical Care Medicine 2018;197:A2588**
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- 2019** **TREC Grand Rounds “Work Life Balance” March 13th**
- 2019** **Masters in Clinical Investigation Seminar “ Biomarkers” March 27th**
- 2019** **Moderator,** A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session Sunday May 19, 2019 2:15 PM - 4:15 PM. **ATS International Conference Dallas Texas.**
- 2019** **Discussant;** Clinical Biomarkers of World Trade Center Airway Hyperreactivity: a 16-Year Longitudinal Study. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES** Poster Discussion Session 2:15 PM - 4:15 PM. **American Journal of Respiratory and Critical Care Medicine 2019;199:A2492**
- 2019** **Discussant;** Metabolomics of WTC-Lung Injury (WTC-LI): a Validation Study. American Thoracic Society International Meeting Dallas, Texas, US May 2019. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES**

- Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2490**
- 2019** **Discussant;** World Trade Center Particulate Matter Associated Cardiopulmonary Dysfunction and Injury: Incorporating Echocardiography in a Murine Model. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2491**
- 2019** **Discussant;** Novel Use of μ -PET/CT Imaging to Detect Cardiopulmonary Changes in a Murine Model Following World Trade Center Particulate Matter Exposure. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2493**
- 2019** **Discussant;** Validation of Biomarkers of WTC Lung Injury: Design of a Case Cohort Control. American Thoracic Society International Meeting Dallas, Texas, US. Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2494**
- 2019** **Discussant;** Synergistic Interleukin-1 α Elaboration due to World Trade Center Particulate Matter and Lipid Co-Exposure in vitro is not NF- κ B Dependent. American Thoracic Society International Meeting Dallas, Texas, US. . Sunday May 19, 2019 **A104 - WILDFIRE, BIOMASS, AND WORLD TRADE CENTER EXPOSURES Poster Discussion Session 2:15 PM - 4:15 PM. American Journal of Respiratory and Critical Care Medicine 2019;199:A2497**
- 2019** **Seminar.** Western Institutional Review Board WIRB: International Fellows Program in Research Seminar Series: Ethics Vulnerable Subjects. March 19th and June
- 2019** **Moderator,** Clinical Decision Making (4045) Chest International Conference New Orleans October 2019, Sunday 10/20/2019 2:15-3:15. Ernest N. Morial Convention Center
- 2019** **Facilitator,** Cardiovascular Disease(4626), Chest International Conference New Orleans October 2019 10/21/2019, 2:30 pm - 3:15 pm Ernest N. Morial Convention Center-Exhibit Hall - Poster Area 5
- 2019** **Symposium,** METABOLIC SYNDROME BIOMARKERS OF WORLD TRADE CENTER AIRWAY HYPERREACTIVITY: A 16 YEAR PROSPECTIVE COHORT STUDY. Population-wide lung health: exposures and risks (4155). Ernest N. Morial Convention Center: 267. October 23, 2019. Presentation 11:00-11:15 am Chest 2019 New Orleans
- 2019** **Discussant.** WTC Grantee Meeting, Nov 2019. Metabolic Risk in WTC Exposed FDNY Cohort: Overview of Findings and Impact on Future Research
- 2019** **Dec 6th Research Retreat; NYU School of Medicine Division of Pulmonary and Critical Care: 1st Year Fellows**
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- 2020** **Invited Speaker, Grand Rounds,** University of Canada, Edmonton, Alberta Canada

- 2020** **Invited Speaker; NYS Thoracic Society March, March 26-27.** World Trade Center Associated Disease: Lessons Learned and Future Plans. <https://www.nysthoracic.org/2020-conference>
- 2020** **Facilitator; NYS Thoracic Society March, March 26-27.** Poster Session <https://www.nysthoracic.org/2020-conference>
- 2020** **Facilitator; D55-RESPIRATORY HEALTH OUTCOMES OF WORLD TRADE CENTER EXPOSURES 18 YEARS LATER** Thematic Poster Session. Wednesday May 20, 2020 8:45 AM - 3:00 PM ATS International Conference; Philadelphia, PA.
- 2020** **NYU School of Medicine Department of Medicine Grand Rounds;** Particulate Matter Exposure and COVID-19: Unraveling the Relationship of Lung Disease and Metabolic Syndrome, Sept 22
- 2020** **Mount Sinai School of Medicine Grand Rounds;** Particulate Matter Exposure and COVID-19: Unraveling the Relationship of Lung Disease and Metabolic Syndrome; **Dec 11, 2020**
- 2020** **Invited Speaker, Webinar:** Community Impact COVID-19 and the Flu
- 2020** **Invited Speaker, Webinar:** COVID-19. Direct Biologics
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- 2021** **Colorado School of Public Health** Epidemiology monthly Seminars; Particulate Matter Exposure and COVID-19: Unraveling the Relationship of Lung Disease and Metabolic Syndrome; January 04, 2021
- 2021** **Symposium.** Dynamic Metabolic Risk Profiling of World Trade Center-Lung Injury: a Longitudinal Cohort Study. The William A. Briscoe Lung Club; Weill Cornell Medicine College; **January 27, 2021** Presenter: Sophia Kwon, MPH, DO
- 2021** **Seminar Biomolecular Course; CTSI Course Director Vinh Pham March 24th**