

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Neeta Thakur

eRA COMMONS USER NAME (credential, e.g., agency login): NThakur

POSITION TITLE: Associate Professor of Medicine

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Arizona, Tucson, AZ	B.S.	05/02	Physiology
University of Arizona, Tucson, AZ	M.D./M.P.H.	06/07	
University of California, San Francisco	Resident	06/10	Internal Medicine
University of California, San Francisco	Fellow	06/13	Pulmonary and Critical Care Medicine
University of California, San Francisco	Certificate	06/13	Clinical Research
University of California, San Francisco	Fellow	06/14	Clinical Pharmacology
University of California, San Francisco	Certificate	9/2019	Implementation Sciences

A. Personal Statement

I am a physician-scientist with specialty training in pulmonary and critical care medicine and advanced training in clinical research methods, social epidemiology, and implementation sciences. My research program examines the short and long-term health effects of multilevel structural and environmental stressors; this includes working with Environmental Justice communities to identify place-based strategies to reduce health effects of these stressors. Our group has linked multiple data types (biologic, individual, and environmental) to demonstrate that social risk factors are geo-spatially distributed, disproportionately burden communities of color, and are associated with clinically relevant health outcomes. Through federal and state funded studies, I have established cross-bay research infrastructure and cross-institute and community collaborations. Relevant to this proposal, I am the contact PI for a PCORI engagement grant, a collaboration between academic researchers and local municipality departments, that brings in community stakeholders from San Francisco neighborhoods that are disproportionately impacted by extreme heat and poor air quality to co-develop acceptable mitigation strategies to reduce the impact of climate-related events on health. One priority mitigation area identified by our community partners is weatherization, particularly increasing access to these programs for renters. Through this proposal, we aim to develop and test strategies that increase acceptance of weatherization and other decarbonization renovations among landlords. My longstanding history of community engagement, expertise in implementation science, and history of examining multi-level stressors and health, make me well-suited to be a partner on this proposal.

Research Support

RMD019027A (MPI Best, Erdei, Torgerson)

09/24/2023-09/23/2028

NIH/NIMHD

Role: Co-I

Title: Factors in Pediatric Asthma (FIPA2) Study

Major Goals: The FIPA2 study is designed to leverage the previously NIMHD-funded Factors Influencing Pediatric Asthma study (U54MD008164) which successfully enrolled 324 Cheyenne River Sioux Tribal (CRST) children (age 6-17 years) in 2013-2017. In the FIPA2 study, we will examine the complex interplay between social, environmental and immunological response to viral respiratory infections and gap in knowledge that

remains largely unknown. In this continued AI community-focused pediatric asthma study, we will test the hypothesis that AI children with asthma have alterations in immunological response to several viral respiratory infections as compared to those without asthma. We will also investigate whether social and environmental factors (SEF) significantly contribute to this disparity through stressed-induced modification of immune state.

U01HG071823 (MPI Christenson/Thakur)

08/01/2023-07/31/2028

NIH/NHGRI

Title: EXposomic Profiling in Airway disease to uNravel Determinants of disease in Asthma (EXPAND-Asthma) Center

Major Goals: The goal of this project is to provide mechanistic insight into how socioenvironmental exposures contribute to disease and poor outcomes in adolescent asthma. We will use a multi-faceted approach that combines measurements of ambient air pollution and psychosocial stress with systemic and airway multi-omic sampling to better understand the roles for these socio-environmental exposures in asthma disease status, worsening symptoms, and exacerbations.

Grant13504839 (PI: Thakur)

12/01/2022-11/30/2025

EPA

Cumulative Health Impacts at the Intersection of Climate Change, Environmental Justice, and Vulnerable Populations/Lifestages: Community-Based Research for Solutions

Title: Partnering for Resilient Opportunities To Eliminate Cumulative Toxic (PROTECT) Health Effects from Wildfire PM2.5 in Environmental Justice Communities.

Goals: This proposal seeks to 1) estimate the health effects of sub-daily exposure to wildfire-specific PM2.5 in California, including across social vulnerability factors, with particular focus on effects within EJ communities; 2) understand community recovery from short-term health effects following exposure; 3) understand indoor infiltration of wildfire smoke and the mitigating effect of housing quality and behaviors on health effects; and, 4) identify acceptable community-relevant mitigation interventions.

R01HL161049 (Thakur)

02/1/2022-01/31/2027

NIH/NHLBI

Title: Rehabilitation in Safety-Net Environments (RISE) for COPD

Goals: Pulmonary rehabilitation is one of the few interventions that has been shown to effectively modify the course of Chronic Obstructive Pulmonary Disease (COPD) and improve health outcomes; however, challenges in implementation and access to this high resource intervention in real-life settings have led to low-availability and engagement due to both healthcare system-level and patient-level barriers. The proposed Type 1 effectiveness-implementation hybrid designed study will test an innovative low-resource, community-based pulmonary rehabilitation program (COPD Wellness) with social supports (Health Advocates) for patients with symptomatic COPD through a three-arm randomized waitlist-controlled trial

EACB-23028 (Thakur)

12/1/2021-11/30/2023

PCORI

Title: Building Capacity for Research to Address Climate-Impacted Health Conditions

Goals: To build and engage a community stakeholder group from San Francisco neighborhoods and community-based organizations serving areas disproportionately impacted by extreme heat and poor air quality. With these community partners, to identify priority climate-related health conditions, patient-centered outcomes, and acceptable community-level mitigation interventions. To prioritize through a stakeholder partnership process acceptable interventions that target climate-related health priorities and patient-centered outcomes.

California Office of Planning and Research (Lead PI: Thakur).

07/01/2021-05/30/2024

California Initiative to Advance Precision Medicine

Title: The Collaborative approach to examining Adversity and building Resilience (CARE) Program

Goals: This interdisciplinary project draws upon clinical intervention, stress-biology science, and community partnership to help us understand which children are most vulnerable to the effects of ACEs, what family and community-level factors provide the most buffering protection, and which interventions most improve child and family outcomes—and for whom.

B. Positions, Scientific Appointments, and Honors

2023- Health Effects Institute Research Committee Member, Boston, MA

2022- NHLBI National Asthma Education and Prevention Program Coordinating Committee member

2021- Associate Professor in Residence, Medicine, University of San Francisco, San Francisco, CA

2021-2022	Environmental Protection Agency Clean Air Scientific Advisory Committee for PM _{2.5} Member
2020-	Program for Research in Implementation Science for Equity Program Director
2017-2021	Assistant Professor in Residence, Medicine, University of San Francisco, San Francisco, CA
2016-	Medical Director, ZSFG Chest Clinic, San Francisco, CA
2015-2017	Assistant Adjunct Professor, Medicine, University of San Francisco, San Francisco, CA
2013-2015	Clinical Instructor, Medicine, University of San Francisco, San Francisco, CA
2013-2014	Medical Director, Health and Environmental Resource Center, San Francisco, CA

Academic and Professional Honors

2022	UCSF Division of Pulmonary Mentorship Award
2021	ATS Behavioral Sciences and Health Services Research Early Career Achievement Award
2020	Haile T. Debas Academy of Medical Educators Excellence in Teaching Award
2018	The ATS Asian Pacific Society of Respiriology Young Investigator Award
2017	Faculty Position, Nina Ireland Program in Lung Health, University of California, San Francisco, CA
2015	Parker B. Francis Fellowship Program, 2015-2018
2014	American Thoracic Society (ATS) Recognition Award for Early Career Investigators
2014	Podell Hewett Fellowship in Airways Disease Research, 2014-15
2002	Magna Cum Laude

Other Experience and Professional Memberships

2023-	Ethics and Conflict of Interest Committee Member, ATS
2022-	International Society of Environmental Epidemiology (ISEE) member
2022-2023	Health Equity and Diversity Committee Immediate-Past Chair, ATS
2019-2022	Health Equity and Diversity Committee Chair, ATS
2019-2021	National Committee on Asthma and Toxic Stress, member
2018-2019	Health Equity and Diversity Committee Vice Chair, ATS
2017-2020	Behavioral Science and Health Service Research Program Committee Member, ATS
2016-	Nina Ireland Program for Lung Health Executive Advisory Board Member
2014-	Health Equity and Diversity Committee Member, ATS
2014-2017	Early Career Professionals Working Group, Environmental, Occupational, and Population Health Assembly, ATS
2010-	American Thoracic Society (ATS) member

C. Contributions to Science

1. Examining effects of composite and geospatial measures of stress on respiratory disorders: Structural and social factors have joint and cumulative health effects. As such, composite measures of social stress at the individual and neighborhood level have the potential to capture multiple facets of exposure and provide more holistic understanding of co-occurring risk factors. By using composite measures, we refine our ability to assess individual and community risk. I have demonstrated that composite measures of socioeconomic status, acculturation, racism, and neighborhood quality better describe exposure and are associated with having respiratory disease in communities of color.
 - a. **N. Thakur**, Oh SS, Nguyen EA, Martin M, Roth LA, Galanter J, Gignoux CR, Eng C, Davis A, Meade K, Lenoir MA, Avila PC, Farber HJ, Serebrisky D, Brigino-Buenaventura E, Rodriguez-Cintron W, Kumar R, Williams LK, Bibbins-Domingo K, Thyne S, Sen S, Rodriguez-Santana JR, Borrell LN, Burchard EG. Socioeconomic Status and Childhood Asthma in Urban Minority Youths: The GALA II and SAGE II Studies. *Am J Respir Crit Care Med*. 2013 Nov 15; 188(10):1202-9. PMID: 24050698; PMCID: PMC3863734.
 - b. **N Thakur**, Borrell LN, Ye M, Oh SS, Eng C, Meade K, Avila PC, Farber HJ, Serebrisky D, Brigino-Buenaventura E, Rodriguez-Cintron W, Kumar R, Bibbins-Domingo K, Thyne S, Sen S, Rodriguez-Santana JR, Burchard EG. Acculturation is Associated with Asthma Burden and Pulmonary Function in Latino Youth: The GALA II Study. *JACI*. 2019 May;143(5):1914-22. PMID: 30682453. PMCID PMC9186509.
 - c. Ejike CO, Woo H, Galiatsatos P, Paulin LM, Krishnan JA, Cooper CB, Couper DJ, Kanner RE, Bowler RP, Hoffman EA, Comellas AP, Criner GJ, Barr RG, Martinez FJ, Han MK, Martinez CH, Ortega VE, Parekh TM, Christenson SA, **Thakur N**, Baugh A, Belz DC, Raju S, Gassett AJ, Kaufman JD, Putcha

- N, Hansel NN. Contribution of Individual and Neighborhood Factors to Racial Disparities in Respiratory Outcomes. *AJRCCM*. 2021 Apr;203(8):987-997. PMID: 33007162. PMCID: PMC8048743.
- d. Baugh AD, Shiboski S, Hansel NN, Ortega V, Barjaktarevic I, Barr G, Bowler R, Comellas AP, Cooper CB, Couper D, Criner G, Curtis JL, Dransfield M, Ejike C, Han MK, Hoffman E, Krishnan J, Krishnan JA, Mannino D, Paine III R, Parekh T, Peters S, Putcha N, Rennard S, **Thakur N***, Woodruff PG*. *Equal contributors. Reconsidering the Utility of Race-Specific Lung Function Prediction Equations. *AJRCCM*. 2022 Apr 1;205(7):819-829. PMID: 34913855 PMCID PMC 9836221
2. Air Pollution and Asthma: Through collaborations, we have demonstrated that the health effects of air pollution differ by race/ethnicity and community, stressing the importance of including diverse populations in research and studying risk factors across communities.
 - a. Nishimura KK, Galanter JM, Roth LA, Oh SS, **Thakur N**, Nguyen EA, Thyne S, Farber HJ, Serebrisky D, Kumar R, Brigino-Buenaventura E, Davis A, LeNoir MA, Meade K, Rodriguez-Cintron W, Avila PC, Borrell LN, Bibbins-Domingo K, Rodriguez-Santana JR, Sen S, Lurmann F, Balmes JR, Burchard EG. Early Life Air Pollution and Asthma Risk in Minority Children: The GALA II & SAGE II Studies. *AJRCCM*. 2013 Aug 1;188(3):309-18. PMID: 23750510. PMCID: PMC3778732.
 - b. Neophytou AM, White MJ, Oh SS, **Thakur N**, Galanter JM, Nishimura KK, Pino-Yanes M, Torgerson DG, Gignoux CR, Eng C, Nguyen EA, Hu D, Mak AC, Kumar R, Seibold MA, Davis A, Farber HJ, Meade K, Avila PC, Serebrisky D, Lenoir MA, Brigino-Buenaventura E, Rodriguez-Cintron W, Bibbins-Domingo K, Thyne SM, Williams LK, Sen S, Gilliland FD, Gauderman WJ, Rodriguez-Santana JR, Lurmann F, Balmes JR, Eisen EA, Burchard EG. Air Pollution and Lung Function in Minority Youth with Asthma in the GALA II & SAGE II Studies. *AJRCCM*. 2016 Jun 1; 193(11):1271-80. PMID 26734713. PMCID: PMC4910900.
 - c. Nardone A, Neophytou AM, Balmes J, **Thakur N**. Ambient Air Pollution and Asthma-Related Outcomes in Children of Color of the USA: a Scoping Review of Literature Published Between 2013 and 2017. *Curr Allergy Asthma Rep*. 2018 Apr 16; 18(5):29. PMID: 29663154. PMCID: PMC6198325.
 - d. Contreras MG, Keys K, Magaña J, Goddard PC, Risse-Adams O, Zeiger AM, Mak ACY, Samedy-Bates LA, Neophytou AM, Lee E, Thakur N, Elhawary JR, Hu D, Huntsman S, Eng C, Hu T, Burchard EG, White MJ. Native American Ancestry and Air Pollution Interact to Impact Bronchodilator Response in Puerto Rican Children with Asthma. *Ethn Dis*. 2021 Winter;31(1):77-88. eCollection 2021 Winter. PMID: 33519158; PMCID: PMC7843041.
 3. Stakeholder process for implementing screening and referral for adverse childhood experiences: Adverse childhood experiences (ACEs) are associated with several negative health outcomes in childhood and adulthood. We demonstrated association with asthma prevalence and asthma morbidity. As principal Investigator of the Pediatrics ACEs Screening and Resiliency Study, we executed a randomized control trial aimed at examining effective screening modalities for ACEs, estimating health and biologic effects in childhood, and testing the effect of primary care-based interventions aimed at 1) building resilience, or at 2) unmet social needs on reducing negative behavioral outcomes in children. Through this study we developed and validated the Pediatric ACEs and Related Life Event Screener (PEARLS) Tool to screen for adversity in pediatric primary care and piloted two innovative interventions. This tool was recommended by the CA Department of Health Care Services and the only tool to reimbursed by Medicaid with funds from Prop 56.
 - a. Koita K, Long D, Hessler D, Benson M, Daley K, Bucci M, **Thakur N**, Burke Harris N. Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *PLoS One*. 2018; 13(12):e0208088. PMID: 30540843. PMCID: PMC6291095
 - b. **Thakur N**, Hessler D, Koita K, Ye M, Benson M, Gilgoff R, Bucci M, Long D, Burke Harris N. Pediatrics adverse childhood experiences and related life events screener (PEARLS) and health in a safety-net practice. *Child Abuse & Neglect*. 2020 PMID 32898839 PMCID 9350954
 - c. Long, D, Hessler D, Koita K, Bucci M, Benson M, Gilgoff R, Thakur N, Burke Harris N. Screening for adverse childhood experiences in pediatrics: A randomized trial of aggregate-level versus item-level response screening formats. *PLoS One*. 2022; 17(12):e0273491. PMID: 36520927; PMCID: PMC9754205
 - d. **de la Rosa R**, Zablony D, Ye M, Bush N, Hessler D, Benson M, Koita K, Bucci M, Long D, Burke-Harris N, **Thakur N** (2022). Biological Burden of Adverse Childhood Experiences in Children. *Psychosomatic Medicine*. 2023 Feb-Mar;85(2):108-117. PMID: 36728584. PMCID: PMC9930178

- e. Jeung J, Hessler Jones D, Frame L, Gilgoff R, Long D, **Thakur N**, Koita K, Bucci M, Burke Harris N. A Caregiver-Child Intervention for Mitigating Toxic Stress ("The Resiliency Clinic"): A Pilot Study. *Matern Child Health J*. 2022 Oct; 26(10):1959-1966. PMID: 35947275; PMCID: PMC9489544.
4. Determinants of Lung Function. Through collaborations, we have demonstrated the lung function effects of social and environmental factors. We have also shown that predicted lung function values derived from race-specific equations are less congruent with symptom burden than using a single reference equation in individuals with COPD. Further, the use of a race-specific equation may norm the effects of social and environmental factors, which are disproportionately experienced by communities of color.
 - a. Neophytou AM, White MJ, Oh SS, **Thakur N**, Galanter JM, Nishimura KK, Pino-Yanes M, Torgerson DG, Gignoux CR, Eng C, Nguyen EA, Hu D, Mak AC, Kumar R, Seibold MA, Davis A, Farber HJ, Meade K, Avila PC, Serebrisky D, Lenoir MA, Brigino-Buenaventura E, Rodriguez-Cintron W, Bibbins-Domingo K, Thyne SM, Williams LK, Sen S, Gilliland FD, Gauderman WJ, Rodriguez-Santana JR, Lurmann F, Balmes JR, Eisen EA, Burchard EG. Air Pollution and Lung Function in Minority Youth with Asthma in the GALA II & SAGE II Studies. *AJRCCM*. 2016 Jun 1; 193(11):1271-80. PMID 26734713. PMCID: PMC4910900.
 - b. **N Thakur**, Borrell LN, Ye M, Oh SS, Eng C, Meade K, Avila PC, Farber HJ, Serebrisky D, Brigino-Buenaventura E, Rodriguez-Cintron W, Kumar R, Bibbins-Domingo K, Thyne S, Sen S, Rodriguez-Santana JR, Burchard EG. Acculturation is Associated with Asthma Burden and Pulmonary Function in Latino Youth: The GALA II Study. *JACI*. 2019 May;143(5):1914-22. PMID: 30682453. PMCID: PMC9186509.
 - c. Baugh AD, Shiboski S, Hansel NN, Ortega V, Barjaktarevic I, Barr G, Bowler R, Comellas AP, Cooper CB, Couper D, Criner G, Curtis JL, Dransfield M, Ejike C, Han MK, Hoffman E, Krishnan J, Krishnan JA, Mannino D, Paine III R, Parekh T, Peters S, Putcha N, Rennard S, **Thakur N***, Woodruff PG*. *Equal contributors. Reconsidering the Utility of Race-Specific Lung Function Prediction Equations. *AJRCCM*. 2022 Apr 1;205(7):819-829. PMID: 34913855 PMCID PMC 9836221
 - d. Bhakta NR, Bime C, Kaminsky DA, McCormack MC, **Thakur N**, Stanojevic S, Baugh AD, Braun L, Lovinsky-Desir S, Adamson R, Witonsky J, Wise RA, Levy SD, Brown R, Forno E, Cohen RT, Johnson M, Balmes J, Mageto Y, Lee CT, Masekela R, Weiner DJ, Irvin CG, Swenson ER, Rosenfeld M, Schwartzstein RM, Agrawal A, Neptune E, Wisnivesky J, Oretaga VE, Burney P. Race and Ethnicity in Pulmonary Function Test Interpretation: An Official American Thoracic Society Statement. *AJRCCM* 2023 Apr 15;207(8):978-995. PMID: 36973004 PMCID PMC 10112445

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/neeta.thakur.1/bibliography/47135371/public/?sort=date&direction=ascending>