CURRICULUM VITAE

Zhanghua Chen

May 13, 2022

Personal Information:

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| **Work** |  |
|  2001 N. Soto Street #230F Los Angeles California 90032 |  |
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Education and Professional Appointments

Education:

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| *Year* | *Degree, Field, Institution, City* |
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| 2013 | PhD, Biostatistics, University of Southern California, Los Angeles |
| 2006 | BS, Clinical Medicine, Fudan University, Shanghai |
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Post-Graduate Training:

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| 2014-2019 | Postdoctoral Research Associate, Environmental Health, Mentor: Frank Gilliland, Department of Population and Public Health Sciences, University of Southern California, Los Angeles |

Academic Appointments:

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| 2019-current | Assistant Professor | Department of Population and Public Health Sciences, University of Southern California, Los Angeles, United States |
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Major Areas of Research Interest

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| *Research Areas* |
| 1. Health effect of air pollution and environmental chemical exposures in diverse population |
| 2. Early prevention of complex diseases including diabetes, obesity, asthma and autism. 3. Pathophysiological mechanism perturbed by the environmental pollution exposure4. Multi-omics including metabolomics, proteomics, genomics and epigenetics. 5. Environmental impact on COVID-19 pandemic  |

Grant Support – Current and Future:

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| *Grant No. R01 ES033707-01A1 (MPI: Zhanghua Chen and Jim Zhang)* | *Dates of Award: 07/01/22 - 06/30/27* |
| *Agency NIEHS* | *Percent Effort 20%* |
|  *Title: Slowing Atherothrombosis Progression through Indoor Air Filtration: A Crossover Trial in Hispanic and non-Hispanic Adults with Ischemic Heart Disease Histories* |
|  *Description: The study aimed to test the feasibility and investigate the benefits of using HEPA air purifiers on ameliorating atherothrombosis progression in older adults.*  |
|  *Role:* ***MPI*** *(Reviewed on 03/23/22, score 2%, coucil meeting on 06/07/22)* |
| Total Direct Costs: $2,736,772 |

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| *Grant No. R01 ES033705-01A1 (MPI: Roksana Karim and Zhanghua Chen)* | *Dates of Award: 07/01/22 - 06/30/27* |
| *Agency NIEHS* | *Percent Effort 25%* |
|  *Title: Circulating levels of Persistent Organic Pollutants and Subclinical Atherosclerosis progression in Postmenopausal women* |
|  *Description: The study will investigate the longitudinal impacts of persistent organic pollutants exposure on atherosclerosis progression and related inflammatory and epigenetic biomarkers*  |
|  *Role:* ***MPI*** *(Reviewed on 03/23/22, score 6%, coucil meeting on 06/07/22)* |
| Total Direct Costs: $2,499,973 |

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| *Grant No. UL project (MPI: Zhanghua Chen and Jim Zhang)* | *Dates of Award: 05/01/21 - 04/30/24* |
| *Agency UL LLC* | *Percent Effort 15%* |
|  *Title:* *Using Indoor Air Filtration to Reduce PM2.5 Cardio-metabolic Effects in At-risk Individuals* |
|  *Description: The study aimed to test the feasibility and investigate the benefits of using HEPA air purifiers on reducing indoor PM2.5 exposure and improve cardiometabolic function.*  |
|  *Role:* ***MPI*** |
| Total Direct Costs: $729,510 |

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| *Grant No. R01ES032247 (PI: Zhanghua Chen)* | *Dates of Award: 09/08/20 - 06/30/24* |
| *Agency NIEHS* | *Percent Effort 20%* |
|  *Title: The Long-term Influence of Persistent Organic Pollutants Exposure During and After Pregnancy on Metabolic Decline in Women After Pregnancies Complicated by Gestational Diabetes* |
|  *Description: The proposed research is aimed to understand the role of exposures to persistent organic pollutants during the vulnerable time windows of pregnancy in metabolic decline and diabetes risk in women after pregnancy.*  |
|  *Role:* ***PI*** |
| Total Direct Costs: $1,196,390 |

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| *Grant No.* *3R01ES029963-02S1 (MPI: Anny Xiang and Zhanghua Chen)* | *Dates of Award: 0*8/20/20 – 05/31/22 |
| *Agency NIEHS* | *Percent Effort* 20% |
| *Title* *The Impact of Air Pollution Exposure on COVID-19 Severity and Mortality* |
| *Description The overall aim of this proposal is to examine the effect of short-term and long-term air pollution exposure on COVID-19 severity and mortality.*  |
|  *Role:* ***MPI*** |
|  *Total Direct Costs $477,405* |

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| *Grant No. K99/R00ES027870**(PI: Zhanghua Chen)* | *Dates of Award 12/01/17 – 04/30/23* |
| *Agency NIEHS* | *Percent Effort 30%* |
| *Title Metabolomic Signatures Linking Air Pollution, Obesity and Diabetes* |
| *Description The proposed research is aimed to understand the metabolic pathways linking air pollution exposures and obesity and type 2 diabetes-related traits during two important developmental periods (neonatal and adolescence). This work may have international impact on improving air quality and early intervention and prevention of childhood obesity and other metabolic diseases.*  |
| *Role:* ***PI*** |
| *Total Direct Costs $615,941* |

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| *Grant No. SCEHSC pilot project (MPI: Shohreh Farzan and Zhanghua Chen)* | *Dates of Award 05/01/21-04/30/22* |
| *Agency NIEHS* | *Percent Effort no faculty salary support* |
| *Title Ambient Air Pollution Exposure and Stroke Outcomes in the NIH FAST-MAG Trial* |
| *Description This pilot project will investigate short and long-term air pollution effect on post-stroke recovery and funcional outcomes. Data of this pilot project will lay foundations for future R01 applications of intervention studies.*  |
|  *Role:* ***MPI*** |
|  *Total Direct Costs $27,948* |

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| *Grant No. 1R01ES029945 (MPI: Junfeng Zhang and Frank Gilliland)* | *Dates of Award 09/03/19 – 05/31/2023* |
| *Agency NIEHS* | *Percent Effort 15%* |
| *Title Impact of Preconception and Onward Exposure to Air Pollution on Growth Trajectories of Infants and Children**Description* ***This project aims to investigate the associations of air pollution exposure during preconception and gestational periods with low birth weight and higher catch-up growth before age 2 years.****Role:* ***co-I*** *Total Direct Costs $1,588,273*  |

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| *Grant No.* ***1R01ES029944*** *(PI: Leda Chatzi)* | *Dates of Award 08/15/19 – 05/31/2024* |
| *Agency NIEHS* | *Percent Effort 7%* |
| ***Title Environmental Chemical Exposures and Longitudinal Changes of Glucose Metabolism, Insulin Sensitivity and B Cell Function in Youth****Description The goal of this project is to evaluate the impact of environmental chemical exposures on clinical risk factors for type 2 diabetes in youth and mechanistically relevant pathways using an untargeted metabolomics approach.*  |
| *Role:* ***co-I*** |
|  *Total Direct Costs $2,047,195* |
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Grant Support - Past:

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| *Grant No. SCEHSC pilot project (PI: Zhanghua Chen)* | *Dates of Award 04/01/20-03/31/21* |
| *Agency NIEHS* | *Percent Effort no faculty salary support* |
| *Title Metabolomic Insights of the Link Between Prenatal Air Pollution Exposure and Autism* |
| *Description This pilot project investigates maternal and newborn metabolomic sigatures and metabolic pathways linking prenatal air pollution exposure and children’s autism risk. Data generated by this project will be essential for future R01 application.*  |
| *Role:* ***PI*** |
| *Total Direct Costs $49,965* |

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| *Grant No. CHEAR project (MPI: Zhanghua Chen and Frank Gillialand)* | *Dates of Award 04/10/17-03/31/18* |
| *Agency NIEHS* | *Percent Effort no salary support* |
| *Title Metabolomic Linking Air Pollution and PFASs, Obesity and Type 2 Diabetes* |
| *Description This pilot project investigates the impact of air pollutione exposure and per- and polyfluoroalkyl substances (PFASs) on altered metabolic pathways that increase the risk of obesity and type 2 diabetes in young adults.* |
| *Role:* ***MPI*** |
| *Total Direct Costs Metabolomics analysis by Emory’s Hercules Exposome Research Center* |

Teaching

Didactic Teaching:

*Institution: University of Southern California*

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| *Year-Year* | *Course Name* | *Units/Hrs* | *Role* |
| 2023 | PM575, Statistical Methods in Environmental Epidemiology | 4 Units | Instructor |
| 2022 | PM510, Principles of Biostatistics | 4 Units | Instructor |
| 2022 | PM533, Genetic and Molecular Epidemiology | 1 Hr | Guest Lecturer |
| 2021 | PM517A, Research Methods in Epidemiology | 5 Hrs | Guest Lecturer |
| 2021 | PM575, Statistical Methods in Environmental Epidemiology | 12 Hrs | Guest Lecturer |
| 2009 | PM513, Experimental Design | 4 Units | Teaching Assistant |
| 2008 | PM516A, Statistical Program Solving | 2 Units | Teaching Assistant  |

Undergraduate, Graduate and Medical Student (or Other) Mentorship:

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| *Year-Year* | *Trainee Name* | *Trainee Type* | *Dissertation/Thesis/Project Title* |
| 2022 | Jiayuan Hao | PhD Student | Machine Learning application in Environmental Health and Omics |
| 2021-2022 | Ni Kang | PhD Student | Statistical Methods for Analyzing Longitudinal Profiles of Multi Omics Data |
| 2021 | Subarna Biswas | PhD Student | Microbiome and Cardiovascular Risk |
| 2021  | William Patterson | PhD Student | MicroRNA Signatures Linking Air Pollution Exposure and Fatty Liver Disease |
| 2020-2022 | Muhammad Islam | Master Student | The Association of Persistent Organic Pollutants Exposure and Women’s Type 2 Diabetes Risk |
| 2021-2022 | Connor Castillo | Undergraduate Student | Review of Health impact of Wildfire Exposure |
| 2021-2022 | Alina Mercado | Undergraduate Student | Review of Health impact of Wildfire Exposure |
| 2020-2022 | Roya Gheissari | MD Student | Multi Omics for Diease Mechanism of Environmental Exposures |
| 2020-2021 | Suzan Sargsyan | Undergraduate Student | Metabolomics Link between Air Pollution Exposure and Autism  |
| 2021-2022 | Natalie Blanc | Undergraduate Student | Health Effect of Preconception Air Pollution Exposure |
| 2019-2020 | Tingyu Yang | Master Student | Associations between Perfluoroalkyl Substances Exposure and Metabolic Pathways in Youth  |
| 2019-2020 | Chenyu Qiu | Master Student | Targeted Metabolic Signatures and Diet in Associations with Obesity and Insulin Resistance in Young Adults |
| 2019-2020 | Xin Li | Master Student | Linking Air Pollution to Integrative Gene and Metabolites Networks in Young Adult with Asthma |
| 2019 | My-Nhi Nguyen | PhD Student | Integrated Omics for Air Pollution Exposure |

Graduate Student Thesis, Exam and Dissertation Committees:

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| *Year-Year* | *Trainee Name* | *Committee Type* | *Student Department* |
| 2022 | Ni Kang | PhD Dissertation Mentor | Population and Public Health Sciences, USC |
| 2021- 2022 | Liz Costello | PhD Dissertation Advisor  | Population and Public Health Sciences, USC |
| 2021- 2022 | Subarna Biswas | PhD Dissertation Advisor | Population and Public Health Sciences, USC |
| 2021- 2022 | William Patterson | PhD Dissertation (F31) | University of Colorado Boulder |
| 2021- 2022 | Muhammad Islam | Master Thesis Mentor | Population and Public Health Sciences, USC |
| 2019-2020 | Tingyu Yang | Master Thesis Mentor | Population and Public Health Sciences, USC |
| 2019-2020 | Chenyu Qiu | Master Thesis Mentor  | Population and Public Health Sciences, USC |
| 2019-2020 |  Xin Li | Master Thesis Mentor  | Population and Public Health Sciences, USC |

Postgraduate Mentorship:

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| *Year-Year* | *Trainee Name* | *If past trainee, current position and location* |
| 2020-present | Jiawen Liao | Postdoctoral Fellow, USC |
| 2022 | Yan Lin | Postdoctoral Fellow, Duke University (K99 co-mentor) |

Service

Department Service:

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| *Year-Year* | *Position, Committee* | *Organization/Institution* |
| *2021-2022* | *Co-Chair, PhD Admissions Committee for the Epi Program* | *Department of Population and Public Health Sciences, USC* |
| *2021* | *Biostatistics PhD Admission Interview* | *Department of Population and Public Health Sciences, USC* |
| *2021* | *Interviewer of Faculty Candidates of Biostatistics, Environmental Health and Genomic Center* | *Department of Population and Public Health Sciences, USC* |
| *2020-2021* | *Epi PhD Student Enrollment Application screen and Interviewer* | *Department of Population and Public Health Sciences, USC* |
| *2020-2021* | *PIBBS PhD Student Enrollment Interviewer* | *PIBBS, USC* |

Professional Society Memberships:

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| *Year- Year* | *Society* |
| 2020-2021 | The American Diabetes Association |
| 2017- Present | The International Society for Environmental Epidemiology |
| 2017-Present | The Association of Pacific Rim Universities (APRU) Global Health Program |

Community Service:

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| *Year-Year* | *Position*  | *Organization/Institution, City,*  | *Role or Activity* |
| 2019-2021 | Volunteer | Hugo Reid Elementary School, Arcadia | Provide environemntal health talk to children  |

Manuscript Review:

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| *Year-Year* | *Journal* |
| 2020-2021 | BMJ |
| 2020 | Current Opinion in Environmental Science and Health |
| 2020-2021 | Science of the Total Environment  |
| 2020 | Air Quality, Atmosphere and Health |
| 2019 | Atmospheric Environment |
| 2019-2020 | Indoor Air |
| 2019 | Journal of Hazardous Materials |
| 2019 | Obesity |
| 2019 | Environmental Science and Technology |
| 2019-2022 | Environmental Research |
| 2018-2019 | International Journal of Environmental Research and Public Health |
| 2018 | Biomedical and Environmental Sciences |
| 2018-2020 | Environmental Pollution |
| 2018 | The American Journal of Respiratory and Critical Care Medicine |
| 2017 | The International Journal of Epidemiology |
| 2017 | Environmental Health |
| 2017-2019 | The Lancet Planetary Health |
| 2017-2021 | Environment International |
| 2017-2022 | Environmental Health Perspectives |
| 2016 | The Lancet |
| 2016 | National Science Review |
| 2016-2017 | Arteriosclerosis, Thrombosis, and Vascular Biology |
| 2016 | The European Respiratory Journal |
| 2015 | DNA and Cell Biology |
| 2015-2017 | The Journal of Exposure Science and Environmental Epidemiology |
| 2015 | Thorax |
| 2015 | Allergy |
| 2015 | PLOS One |
| 2014 | The American Journal of Epidemiology |
| 2014 | The Journal of Thoracic Disease |
| 2014-2020 | The Journal of Allergy and Clinical Immunology |

Grant Reviews:

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| *Year* | *Description* | *Awarding agency, City, State, Country* |
| 2021 | P42 Superfund (RFA-ES-20-014) | NIEHS, Durham, NC, US (Video Assisted Meetings) |
| 2021 | ZES1 LWJ-S(KS) Special Emphasis Panel: Research Career Development of Scientist/Investigatorsin the Environmental Health Sciences | NIEHS, Durham, NC, US (Video Assisted Meeting) |
| 2021 | ZES1 ARL-D (R01) ViCTER Award R01 Grant Applications | NIEHS, Durham, NC, US (Video Assisted Meeting) |
| 2020 | Resubmission: Exposure to Air pollutants and Early Childhood Growth | Israel Science Foundation, Jerusalem, Israel |
| 2020 | New Investigator Award Application: Diabetes, Air Pollution, and Genetics in a Diverse LatinX Population | Diabetes Research Center at University of Washington, Seattle, WA, USA |
| 2019 | Personal Research Grant:Exposure to Air pollutants and Early Childhood Growth | Israel Science Foundation, Jerusalem, Israel |

Invited Lectures, Symposia, keynote addresses

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| *Year* | *Type* | *Title, Location* |
| 2022 | Webinar | *EHSCC Early-Stage Investigators Webinar – Session Six 06/08* |
| 2021 | Webinar | *Metabolomics and Glucose Intolerance in Young Adults. Human Health Exposure Analysis Resource (HHEAR) Virtual Grantee Meeting.* |
| 2021 | Online Workshop | Short- and Long-term Health Effects of Preconception Air Pollution Exposure. NIH Strategic Workshop – Preconception Origins of Child Health Outcomes |
| 2020 | Workshop | *Metabolomic Insights in Environmental Health Research. Workshop on Multiethnic Cohort Research, University of Southern California, LA, CA* |
| 2020 | Webinar | *Prenatal Air Pollution, Metabolomics and Autism. Southern California Environmental Health Science Center Pilot Project Webinar, University of Southern California, LA, CA* |
| 2019 | Symposia | *Early-Life Exposures to Traffic-Related Air Pollutants Contribution to Childhood Obesity and Type 2 Diabetes. Sol Price School of Public Policy, University of Southern California, LA, CA* |
| 2019 | Symposia | Ambient and Traffic-Related Air Pollution Exposures as Novel Risk Factors for Metabolic Dysfunction and Type 2 Diabetes. *Transportation, Air Quality, and Health Symposium, Texas* |
| 2019 | Symposia | *Near-roadway Air Pollution Exposure and Altered Fatty Acid Oxidation Among Adolescents and Young Adults – the Interplay with Obesity. International Society for Environmental Epidemiology (ISEE), Utrecht, The Netherland* |
| 2018 | Symposia | *Associations of Air Pollutants and PFASs Exposure with Lipid Metabolism. NIH Children’s Health Exposure Analysis Resource Center (CHEAR) Grantee Meeting, NY, NY* |
| 2017 | Invited Lectures | *Air Pollution Exposure and Respiratory Health in Children. SSCI 594a, Master Thesis Class, University of Southern California, LA, CA* |

Thesis:

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| *Year* | *Degree* | *Institution* | *Title* |
| 2013 | PhD | University of Southern California | *Evaluating the Associations between the Baseline and Other Exposure Variables with the Longitudinal Trajectory When Responses are Measured with Error*  |

Publications:

Refereed Journal Articles:

1. **Chen Z#,** Sidell MA#, Huang BZ#, Chow T, Eckel SP, Martinez MP, Gheissari R, Lurmann F, Thomas DC, Gilliland FD, Xiang AH. Ambient Air Pollutant Exposures and COVID-19 Severity and Mortality in a Cohort of COVID-19 Patients in Southern California. Am J Respir Crit Care Med. 2022 May 10. doi: 10.1164/rccm.202108-1909OC. Epub ahead of print. PMID: 35537137. **#**Co-first authors, *lead the project funding and contribute to the study design and manuscript review and editing.*
2. Knapp EA, Dong Y, Dunlop AL, Aschner JL, Stanford JB, Hartert T, Teitelbaum SL, Hudak ML, Carroll K, O’Connor TG, McEvoy CT, O’Shea TM, Carnell S, Karagas MR, Herbstman JB, Dabelea D, Ganiban JM, Ferrara A, Hedderson M, Bekelman TA, Rundle AG, Alshawabkeh A, Gilbert-DiamondD, Fry RC; **Chen Z**, Gilliland FD, Wright RJ, Camargo CA, Jacobson L, Lester BM, Hockett CW, Hodges ML, Chandran A. Change in BMI during the COVID-19 Pandemic among Children in the ECHO Cohort. Accepted by Pediatrics 2022, *contribute to the manuscript review and editing.*
3. Baumert BO, Goodrich JA, Hu X, Walker DI, Alderete TL, **Chen Z**, Valvi D, Rock S, Berhane K, Gilliland FD, Goran MI, Jones DP, Conti DV, Chatzi L. Plasma concentrations of lipophilic persistent organic pollutants and glucose homeostasis in youth populations. Environ Res. 2022 Apr 18;212(Pt B):113296. doi: 10.1016/j.envres.2022.113296. Epub ahead of print. PMID: 35447156, *contribute to the study design and manuscript review and editing.*
4. Huang BZ, Sidell MA, Wu BU, Setiawan VW, **Chen Z**, Xiang AH. Pre-existing pancreatitis and elevated risks of COVID-19 severity and mortality. Gastroenterology. 2022 Feb 8:S0016-5085(22)00111-1. doi: 10.1053/j.gastro.2022.02.005. Epub ahead of print. PMID: 35149034; PMCID: PMC8821019, *lead the project funding and contribute to the study design and manuscript review and editing.*
5. Liao J**\***, Gheissari R, Thomas DC, Gilliland FD, Lurmann F, Islam KT, **Chen Z**. Transcriptomic and metabolomic associations with exposures to air pollutants among young adults with childhood asthma history. Environ Pollut. 2022 Apr 15;299:118903. doi: 10.1016/j.envpol.2022.118903. Epub 2022 Jan 25. PMID: 35091019. *Lead the study design, methods development, manuscript writing and revision,* ***\*****mentee.*
6. Sidell MA#, **Chen Z#**, Huang BZ, Chow T, Eckel SP, Martinez MP, Lurmann F, Thomas DC, Gilliland FD, Xiang AH. Ambient Air Pollution and COVID-19 Incidence during Four 2020-2021 Case Surges. Environmental Research 2022; 208: *112758.* PMID: 35063430; PMCID: PMC8767981.**#**Co-first author, *lead the study design and write the manuscript.*
7. Taub MA, Conomos MP, Keener R, Iyer KR, Weinstock JS, Yanek LR, Lane J, Miller-Fleming TW, Brody JA, Raffield LM, McHugh CP, Jain D, Gogarten SM, Laurie CA, Keramati A, Arvanitis M, Smith AV, Heavner B, Barwick L, Becker LC, Bis JC, Blangero J, Bleecker ER, Burchard EG, Celedón JC, Chang YPC, Custer B, Darbar D, de las Fuentes L, DeMeo DL, Freedman BI, Garrett ME, Gladwin MT, Heckbert SR, Hidalgo BA, Irvin MR, Islam T, Johnson WC, Kaab S, Launer L, Lee J, Liu S, Moscati A, North KE, Peyser PA, Rafaels N, Seidman C, Weeks DE, Wen F, Wheeler MM, Williams LK, Yang IV, Zhao W, Aslibekyan S, Auer PL, Bowden DW, Cade BE, **Chen Z**, Cho MH, Cupples LA, Curran JE, Daya M, Deka R, Eng C, Fingerlin TE, Guo X, Hou L, Hwang S-J, Johnsen JM, Kenny EE, Levin AM, Liu C, Minster RL, Naseri T, Nouraie M, Reupena MaS, Sabino EC, Smith JA, Smith NL, Lasky-Su J, Taylor JGVI, Telen MJ, Tiwari HK, Tracy RP, White MJ, Zhang Y, Wiggins KL, Weiss ST, Vasan RS, Taylor KD, Sinner MF, Silverman EK, Shoemaker MB, Sheu WHH, Sciurba F, Schwartz DA, Rotter JI, Roden D, Redline S, Raby BA, Psaty BM, Peralta JM, Palmer ND, Nekhai S, Montgomery CG, Mitchell BD, Meyers DA, McGarvey ST, Mak ACY, Loos RJF, Kumar R, Kooperberg C, Konkle BA, Kelly S, Kardia SLR, Kaplan R, He J, Gui H, Gilliland FD, Gelb BD, Fornage M, Ellinor PT, de Andrade M, Correa A, Chen Y-DI, Boerwinkle E, Barnes KC, Ashley-Koch AE, Arnett DK, Albert C, Laurie CC, Abecasis G, Nickerson DA, Wilson JG, Rich SS, Levy D, Ruczinski I, Aviv A, Blackwell TW, Thornton T, O’Connell J, Cox NJ, Perry JA, Armanios M, Battle A, Pankratz N, Reiner AP, Mathias RA. Genetic determinants of telomere length from 109,122 ancestrally diverse whole-genome sequences in TOPMed. Cell Genomics2022; 2, *contribute to collection of cohort data, review and edit the manuscript.*
8. Rahman MM, Shu YH, Chow T, Lurmann FW, Yu X, Martinez MP, Carter SA, Eckel SP, Chen JC, **Chen Z**, Levitt P, Schwartz J, McConnell R and Xiang AH. Prenatal Exposure to Air Pollution and Autism Spectrum Disorder: Sensitive Windows of Exposure and Sex Differences. Environmental Health Perspectives 2022 *in press, contribute to the study design, and review and edit the manuscript.*
9. Carter SA, Rahman MM, Lin JC, Shu YH, Chow T, Yu X, Martinez MP, Eckel SP, Chen JC, **Chen Z**, Schwartz J, Pavlovic N, Lurmann FW, McConnell R and Xiang AH. In utero exposure to near-roadway air pollution and autism spectrum disorder in children. Environ Int 2022 **158**: 106898. PMID: 34627014, *contribute to the study design, and review and edit the manuscript.*
10. Yu X, Rahman MM, Wang Z, Carter SA, Schwartz J, **Chen Z,** Eckel SP, Hackman D, Chen J-C, Xiang AH, McConnell R. Evidence of susceptibility to autism risks associated with early life ambient air pollution: A systematic review. Environmental Research2021: 112590*, contribute to review and edit the manuscript.*
11. **Chen Z**, Huang BZ, Sidell MA, Chow T, Eckel SP, Pavlovic N, Martinez MP, Lurmann F, Thomas DC, Gilliland FD and Xiang AH. Near-roadway air pollution associated with COVID-19 severity and mortality - Multiethnic cohort study in Southern California. Environ Int 2021;157:106862. PMID: 34507232. PMC8416551, *lead the study design and manuscript writing, contribute to the statistical methods.*
12. Garcia E, Marian B, **Chen Z**, Li K, Lurmann F, Gilliland FD and Eckel SP. Long-term air pollution and COVID-19 mortality rates in California: Findings from the Spring/Summer and Winter surges of COVID-19. Environ Pollut 2021;292:118396. PMID: 34688723.PMC8529382, *contribute to the study design, statistical methods, review and edit the manuscript.*
13. Huang BZ#, **Chen Z#**, Sidell MA, Eckel SP, Martinez MP, Lurmann F, Thomas DC, Gilliland FD, Xiang AH. Asthma Disease Status, COPD, and COVID-19 Severity in a Large Multiethnic Population. J Allergy Clin Immunol Pract 2021. PMID: 34389242. PMC8353223. #Co-first author, *lead the study design and manuscript writing, contribute to the statistical methods.*
14. Nikos S, Garcia E, Chandran A, Hsu T, Alshawabkeh A, Aris IM, Aschner JL, Breton C, Burbank A, Camargo CA Jr, Carroll KN, **Chen Z**, Claud EC, Dabelea D, Dunlop AL, Elliott AJ, Ferrara A, Ganiban JM, Gern JE, Gold DR, Gower WA, Hertz-Picciotto I, Karagas MR, Karr CJ, Lester B, Leve LD; Litonjua AA, Ludena Y, McEvoy CT, Miller RL, Mueller NT, O’Connor TG, Oken E, O’Shea TM, Perera F, Stanford JB, Rivera-Spoljaric K, Rundle A, Trasande L, Wright RJ, Zhang Y, Zhu Y, Berhane K, Gilliland FD and Chatzi L. The Role of Childhood Asthma in Obesity Development, Epidemiology: January 2022 - Volume 33 - Issue 1 - p 131-140. PMID: 34561347. PMC8633057, *contribute to the study design, statistical methods, review and edit the manuscript.*
15. Goodrich JA, Alderete TL, Baumert BO, Berhane K, **Chen Z**, Gilliland FD, Goran MI, Hu X, Jones DP, Margetaki K, Rock S, Stratakis N, Valvi D, Walker DI, Conti DV, Chatzi VL In Press. Exposure to Perfluoroalkyl Substances and Glucose Homeostasis in Youth. Environmental Health Perspectives 2021; doi:[10.1289/EHP9200](https://urldefense.com/v3/__https%3A/doi.org/10.1289/EHP9200__;!!LIr3w8kk_Xxm!8dtaBhUi9kyk87FuVewwrLZIP3qJmNSemn4jZyM5L5j0dZqi4Cp3cLBaAAXDdKSr$), *contribute to the study design, and review and edit the manuscript.*
16. Garcia E, Eckel SP, **Chen Z**, Li K, Gilliland FD. COVID-19 mortality in California based on death certificates: disproportionate impacts across racial/ethnic groups and nativity. Ann Epidemiol 2021;58:69-75.PMID: 33746033. PMC8005258, *contribute to the study design, and review and edit the manuscript.*
17. **Chen Z**, Yang T\*, Walker DI, Thomas DC, Qiu C\*, Chatzi L, Alderete TL, Kim JS, Conti DV, Breton CV, Liang D, Hauser ER, Jones DP, Gilliland FD. Dysregulated lipid and fatty acid metabolism link perfluoroalkyl substances exposure and impaired glucose metabolism in young adults. Environment International 2020;145:106091, PMID: 32892005. PMC8009052, *lead the study design, supervise the statistical analysis, and write the manuscript,* \*mentees.
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Abstracts and Presentations:

1. **Chen Z.** Environment, Metabolomics and Glucose Intolerance in Young Adults. Invited speaker at Human Health Exposure Analysis Resource (HHEAR) Virtual Grantee Meeting, June 28-30, 2021.
2. **Chen Z.** Short- and Long-term Health Effects of Preconception Air Pollution Exposure. Invited speaker at NIH Strategic Workshop – Preconception Origins of Child Health Outcomes, Online June 17th, 2021.
3. **Chen Z**, Sidell MA, Huang BZ, Chow T, Eckel SP, Martinez MP, Gheissari R, Lurmann F, Thomas DC, Gilliland FD, Xiang AH. Longer- and Shorter-term Air Pollution Exposure Associated with COVID-19 Severity and Mortality: A Large Cohort Study in Southern California. *33rd Annual Conference of the International Society for Environmental Epidemiology (ISEE 2021),* August 2021
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11. Baumert BO, Goodrich JA, Hu X, Walker DI, Alderete TL, **Chen Z**, Valvi D, Rock S, Berhane K, Gilliland FD, Goran MI, Jones DP, Conti DV, Chatzi L. Exposure to lipophilic chemicals and glucose homeosais in youth. *33rd Annual Conference of the International Society for Environmental Epidemiology (ISEE 2021)*, August 2021.
12. [Huang](https://www.ncbi.nlm.nih.gov/pubmed/?term=Huang%20B%5BAuthor%5D) B, [**Chen**](https://www.ncbi.nlm.nih.gov/pubmed/?term=Chen%20Z%5BAuthor%5D) **Z**, [Sidell](https://www.ncbi.nlm.nih.gov/pubmed/?term=Sidell%20M%5BAuthor%5D) M, [Eckel](https://www.ncbi.nlm.nih.gov/pubmed/?term=Eckel%20S%5BAuthor%5D) SP, [Martinez](https://www.ncbi.nlm.nih.gov/pubmed/?term=Martinez%20M%5BAuthor%5D) M, [Lurmann](https://www.ncbi.nlm.nih.gov/pubmed/?term=Lurmann%20F%5BAuthor%5D) F, [Thomas](https://www.ncbi.nlm.nih.gov/pubmed/?term=Thomas%20D%5BAuthor%5D) DC, [Gilliland](https://www.ncbi.nlm.nih.gov/pubmed/?term=Gilliland%20F%5BAuthor%5D) FD, and [Xiang](https://www.ncbi.nlm.nih.gov/pubmed/?term=Xiang%20A%5BAuthor%5D)AH. Associations of Asthma, COPD and Medication History with the Risk of Severe COVID-19. The Journal of Allergy and Clinical Immunology. 2021 Feb; 147 (2), AB247. PMC7849539.
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Media and Television appearances:

1. 2021, Asthma and COVID-19 severity, <https://pressroom.usc.edu/people-who-manage-their-asthma-can-improve-their-chances-against-covid-19-study-finds/>
2. 2020, Air Pollution Can Worsen the Death Rate from COVID-19, <https://eos.org/articles/air-pollution-can-worsen-the-death-rate-from-covid-19>
3. 2019, Air Pollution Makes Teens More Likely to Eat Fattening Foods, <https://www.aau.edu/research-scholarship/featured-research-topics/air-pollution-makes-teens-more-likely-eat-fattening>
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