Xinlei Deng, Ph.D.

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EDUCATION

May 2022	**Ph.D.** (Environmental Health Sciences) State University of New York at Albany *Dissertation*: Developing High-Resolution Meteorological Datasets to Assess the Short-Term Association between Meteorological Factors and Green Space and Mental Disorders
May 2019	**M.B.B.S.** (Preventive Medicine & Biostatistics) Sun Yat-sen University *Thesis*: Time series clustering analysis on the epidemiological characteristics of notifiable infectious diseases in China.

PROFESSIONAL EXPERIENCE

Aug 2022 – present	Intramural (IRTA) Postdoctoral Fellow National Institutes of Health (NIH) National Institute on Aging (NIA) National Institute of Environmental Health Sciences (NIEHS) Epidemiology Branch
Nov 2022 – present	Guest Editor Plos One
Oct 2021 – Oct 2022	Board Representative The Nation's Health Newspaper American Public Health Association
July 2019 – Jun 2022	Research Assistant State University of New York at Albany School of Public Health
Aug 2018 – Jan 2019	Intern Doctor Kaiping Central Hospital
Aug 2017 – May 2018	Intern Doctor Third Affiliated Hospital of Sun Yat-sen University
July 2016 – Aug 2016	Intern Doctor

	Sixth Affiliated Hospital of Sun Yat-sen University
July 2015 – Aug 2015	Intern Doctor Hailong Street Community Healthcare Service Center
Dec 2014 – Jan 2015	Intern Doctor Yiyang Central Hospital

GRANTS

2022	Statistician. Weather Extremes, Natural Disasters, and Health Outcomes among Vulnerable Older Adults: New Improvements on Exposure Assessment, Disparity Identification, and Risk Communication Strategies. NIH (No.: 1R01AG070949-01A1).
2021-2022	Statistician. Changes in PM Composition in NYS & Triggering of Acute Cardiorespiratory Events. New York State Energy Research and Development Authority (No.: 156226).
2020-2022	Statistician. Evaluating short-/long-term impacts of exposure sources of ultrafine particles on multiple health outcomes in New York State by using high resolution pollutant simulations. New York State Energy Research and Development Authority. (No.: 137487)
2020-2022	Statistician. Assess and model the health effects, population, and infrastructural vulnerabilities of power outage. (No.: 1R15ES028000-01A1)
2019-2021	Statistician. Assess school environmental effects on children's health and performance and strengthen state/community capacity to create a healthy and safe learning environment. Environmental Protection Agency.
2016-2018	Principal Investigator. Influence of miR-451a on Liver Lipid Metabolism and Identification for Its Target Genes. SYSU Medical Laboratory Open Foundation Program.
2016-2018	Principal Investigator. Effects of Irisin on Blood Lipid Level in High-Fat Diet-fed Mice. Cultivation of Guangdong College Students' Scientific and Technological Innovation.
2015-2017	Lab Operator. Deep Analysis on the Mechanism of 1, 2-DCE-Induced Hepatic Abnormalities in NIH Swiss Mice. SYSU Medical Laboratory Open Foundation Program.

HONORS

2023	Distinguished Dissertation Award. State University of New York at Albany, School of Public Health.
2021, 2022, 2023	Registration Award. International Society of Environmental Epidemiology.
2021	Applied Public Health Statistics (APHS) Student Membership Award. American Public Health Association.
2021	Outstanding Presentation Award. State University of New York at Albany, School of Public Health.
2021, 2022	Travel Award. State University of New York at Albany, School of Public Health.
2021	George Scholarship. State University of New York at Albany, School of Public Health.
2020	Student and New Researcher Network (SNRN) Award. International Society of Environmental Epidemiology.
2019	Outstanding Thesis Award. Sun Yat-sen University
2018	Honor Mention Award. American Mathematical contest
2018	Excellent Medical Students Scholarship. Sun Yat-sen University
2017	First Prize. Chinese Mathematical contest
2017	Jerry Yan Scholarship. Sun Yat-sen University
2016, 2017, 2018, 2019	First Class Scholarship. Sun Yat-sen University

PUBLICATIONS (PEER REVIEWED)

1. **Deng X**, Brotzge J, Tracy M, Chang HH, Romeiko X, Zhang W, Ryan I, Yu F, Qu Y, Luo G, Lin S. Identifying joint impacts of sun radiation, temperature, humidity, and rain duration on triggering mental disorders using a high-resolution weather monitoring system. Environment International. 2022;167:107411. doi: 10.1016/j.envint.2022.107411

2. **Deng X**, Thurston G, Zhang W, Ryan I, Jiang C, Khwaja H, Romeiko X, Marks T, Ye B, Qu Y, Lin S. Application of data science methods to identify school and home risk factors for asthma and allergy-related symptoms among children in New York. Science of The Total Environment. 2021;770:144746. doi:10.1016/j.scitotenv.2020.144746

3. **Deng X**, Friedman S, Ryan I, Zhang W, Dong G, Rodriguez H, Yu F, Huang W, Nair A, Luo G, Lin S. The independent and synergistic impacts of power outages and floods on hospital admissions for multiple diseases. Science of The Total Environment. 2022;828:154305. doi:10.1016/j.scitotenv.2022.154305

4. **Deng X***, Li H*, Liao X, Qin Z, Xu F, Friedman S, Ma G, Ye K, Lin S. Building a predictive model to identify clinical indicators for COVID-19 using machine learning method. Med Biol Eng Comput. 2022 Jun;60(6):1763-1774. doi: 10.1007/s11517-022-02568-2. Epub 2022 Apr 25. PMID: 35469375; PMCID: PMC9037972.

5. Qu Y*, **Deng X***, Lin S, Han F, Chang HH, Ou Y, Nie Z, Mai J, Wang X, Gao X, Wu Y, Chen J, Zhuang J, Ryan I, Liu X. Using Innovative Machine Learning Methods to Screen and Identify Predictors of Congenital Heart Diseases. Frontiers in Cardiovascular Medicine. 2022;8. doi: 10.3389/fcvm.2021.797002

6. Lin S, **Deng X**, Ryan I, Zhang K, Zhang W, Oghaghare E, Gayle DB, Shaw B. COVID-19 Symptoms and Deaths among Healthcare Workers, United States. Emerg Infect Dis. 2022 Aug;28(8):1624-1641. doi: 10.3201/eid2808.212200. Epub 2022 Jul 7. PMID: 35798004; PMCID: PMC9328912.

7. Luo W, **Deng X**, Xu X, Song R, Luo M, Moss HE, Du Y. Development of a Prognostic Model for Predicting Multiple Sclerosis After Optic Neuritis: A Secondary Analysis of Data From the Optic Neuritis Treatment Trial. J Neuroophthalmol. 2022 Mar 1;42(1):88-96. doi: 10.1097/WNO.0000000000001424. Epub 2021 Oct 22. PMID: 34860745; PMCID: PMC9159903.

8. Qu Y, Zhang W, Boutelle AYM, Ryan I, **Deng X**, Liu X, Lin S. Associations Between Ambient Extreme Heat Exposure and Emergency Department Visits Related to Kidney Disease. American Journal of Kidney Diseases. Published online October 2022. doi:10.1053/j.ajkd.2022.09.005

9. Ye B, Yucel R, Qu Y, Thurston G, **Deng X**, Ryan I, Lin S. Impact of environmental programs on student test scores mediated by school attendance rate. Hygiene and Environmental Health Advances. 2022;4:100028. doi:10.1016/j.heha.2022.100028

10. Ryan I, **Deng X**, Thurston G, Khwaja H, Romeiko X, Zhang W, Marks T, Yu F, Lin S. Measuring students' exposure to temperature and relative humidity in various indoor environments and across seasons using personal air monitors. Hygiene and Environmental Health Advances. 2022;4:100029. doi:10.1016/j.heha.2022.100029

11. Sheridan SC, Zhang W, **Deng X**, Lin S. The individual and synergistic impacts of windstorms and power outages on injury ED visits in New York State. Sci Total Environ. 2021 Nov

25;797:149199. doi: 10.1016/j.scitotenv.2021.149199. Epub 2021 Jul 21. PMID: 34346383.

12. Hu K, **Deng X**, Han L, Xiang S, Xiong B, Pinhu L. Development and validation of a predictive model for feeding intolerance in intensive care unit patients with sepsis. Saudi J Gastroenterol. 2022 Jan-Feb;28(1):32-38. doi: 10.4103/sjg.sjg_286_21. PMID: 34528519; PMCID: PMC8919923.

13. Zhang T, Zhang G, **Deng X**, Zeng J, Jin J, Zeping H, Wu M, Zheng R. APS (Age, Platelets, 2D Shear-Wave Elastography) Score Predicts Hepatocellular Carcinoma in Chronic Hepatitis B. Radiology. 2021 Nov;301(2):350-359. doi: 10.1148/radiol.2021204700. Epub 2021 Aug 24. PMID: 34427463.

14. Qu Y, Zhang W, Ryan I, **Deng X**, Dong G, Liu X, Lin S. Ambient extreme heat exposure in summer and transitional months and emergency department visits and hospital admissions due to pregnancy complications. Sci Total Environ. 2021 Jul 10;777:146134. doi: 10.1016/j.scitotenv.2021.146134. Epub 2021 Mar 1. PMID: 33689898.

15. Guo J, Wu Y, **Deng X**, Liu Z, Chen L, Huang Y. Association between social determinants of health and direct economic burden on middle-aged and elderly individuals living with diabetes in China. PLoS One. 2021 Apr 15;16(4):e0250200. doi: 10.1371/journal.pone.0250200. PMID: 33857252; PMCID: PMC8049277.

16. Lin S, Ryan I, Paul S, **Deng X**, Zhang W, Luo G, Dong GH, Nair A, Yu F. Particle surface area, ultrafine particle number concentration, and cardiovascular hospitalizations. Environmental Pollution. 2022;310:119795. doi:10.1016/j.envpol.2022.119795

17. Yount CS, Utell MJ, Hopke PK, Thurston SW, Lin S, Ling FS, Chen Y, Chalupa D, **Deng X**, Rich DQ. Triggering of ST-elevation myocardial infarction by ultrafine particles in New York: Changes following Tier 3 vehicle introduction. Environmental Research. 2023;216:114445. doi:10.1016/j.envres.2022.114445

18. Cai Y, Gong W, He W, He H, Hughes JP, Simoni J, Xiao S, Gloyd S, Lin M, **Deng X**, Liang Z, Dai B, Liao J, Hao Y, Xu DR. Residual Effect of Texting to Promote Medication Adherence for Villagers with Schizophrenia in China: 18-Month Follow-up Survey After the Randomized Controlled Trial Discontinuation. JMIR Mhealth Uhealth. 2022 Apr 19;10(4):e33628. doi: 10.2196/33628. PMID: 35438649.

19. Cai Y, Gong W, He H, Hughes JP, Simoni J, Xiao S, Gloyd S, Lin M, **Deng X**, Liang Z, He W, Dai B, Liao J, Hao Y, Xu DR. Mobile Texting and Lay Health Supporters to Improve Schizophrenia Care in a Resource-Poor Community in Rural China (LEAN Trial): Randomized Controlled Trial Extended Implementation. J Med Internet Res. 2020 Dec 1;22(12):e22631. doi: 10.2196/22631. PMID: 33258788; PMCID: PMC7738261.

20. Wang T, Xu D, Fan Q, Rong W, Zheng J, Gao C, Li G, Zeng N, Guo T, Zeng L, Wang F, Xiao C, Cai L, Tang S, **Deng X**, Yin X, Huang M, Lu F, Hu Q, Chen W, Huang Z, Wang Q. 1,2-Dichloroethane impairs glucose and lipid homeostasis in the livers of NIH Swiss mice. Toxicology.

2017 Apr 1;380:38-49. doi: 10.1016/j.tox.2017.02.005. Epub 2017 Feb 8. PMID: 28189721.

21. Zhang W, **Deng X**, Romeiko XX, Zhang K, Sheridan SC, Brotzge J, Chang HH, Stern EK, Guo Z, Dong G, Reliene R, Hao Y, Lin S. How neighborhood environment modified the effects of power outages on multiple health outcomes in New York state? Hygiene and Environmental Health Advances. 2022;4:100039. doi:10.1016/j.heha.2022.100039

22. Ryan I, **Deng X**, Thurston G, Khwaja H, Romeiko X, Zhang W, Marks T, Ye B, Lin S. Measuring students' exposure to particulate matter (PM) pollution across microenvironments and seasons using personal air monitors. Environmental Monitoring and Assessment. 2022;195(1). doi:10.1007/s10661-022-10624-5

23. Wang Y, Wei J, Zhang Y, Guo T, Chen S, Wu W, Chen S, Li Z, Qu Y, Xiao J, **Deng X**, Liu Y, Du Z, Zhang W, Hao Y. Estimating causal links of long-term exposure to particulate matters with all-cause mortality in South China. Environment International. 2023;171:107726. doi:10.1016/j.envint.2022.107726

24. Wang Y, Du Z, Zhang Y, Chen S, Lin S, Hopke PK, Rich DQ, Zhang K, Romeiko XX, **Deng X**, Qu Y, Liu Y, Lin Z, Zhu S, Zhang W, Hao Y. Long-term exposure to particulate matter and COPD mortality: Insights from causal inference methods based on a large population cohort in southern China. Science of The Total Environment. 2023;863:160808. doi:10.1016/j.scitotenv.2022.160808

25. Cai H, Du Z, Lin X, Lawrence WR, Hopke PK, Rich DQ, Lin S, Xiao J, **Deng X**, Qu Y, Lin Z, Wang X, Ju X, Chen S, Zhang Y, Wu W, Wang Y, Gu J, Hao Y, Zhang W. Interactions between long-term ambient particle exposures and lifestyle on the prevalence of hypertension and diabetes: insight from a large community-based survey. J Epidemiol Community Health. Published online April 24, 2023:jech-220480. doi:10.1136/jech-2023-220480

26. Wu G, Wang S, Jiang Z, Hopke P, Rich DQ, Chen L, Lin S, Zhang K, Romeiko XX, Qu Y, **Deng X**, Lin Z, Xiao J, Zhang W, Hao Y. Spatial-temporal pattern of tuberculosis mortality in China and its relationship with long-term PM2.5 exposure based on a causal inference approach. Environ. Res. Lett. 2023;18(8):084006-084006. doi: 10.1088/1748-9326/ace207

27. GBD 2021 Diabetes Collaborators. Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet. Published online June 1, 2023. doi: 10.1016/s0140-6736(23)01301-6

UNDER REVISION (FIRST AUTHOR)

1. **Deng X**, et al. Association between solar radiation and mood disorders among Gulf Coast residents.

2. **Deng X**, et al. Assessing the short-term association between ultrafine particles and emergency department visits of renal diseases in New York State.

3. **Deng X**, et al. Generating daily high-resolution gridded meteorological datasets for New York State from 2017-2018 using two-stage downscaling model.

PRESENTATION & ABSTRACTS

1. **Deng X**, Launer L, Lawrence K, Werder E, Buller I, Braxton W, Sandler D. Association between solar radiation and mood disorders among Gulf Coast residents. ISEE Conf Abstr. 2023
2. **Deng X**, Qu Y, Lin S, Han F, Chang HH, Ou Y, Nie Z, Mai J, Wang X, Gao X, Wu Y, Chen J, Zhuang J, Ryan I, Liu X. Using Innovative Machine Learning Methods to Screen and Identify Predictors of Congenital Heart Diseases. American Public Health Association, 2021.
3. **Deng X**, Sheridan SC, Zhang W, Lin S. The individual and synergistic impacts of windstorms and power outages on injury ED visits in New York State. International Society of Biometeorology, 2021.
4. **Deng X**, Thurston G, Zhang W, Ryan I, Jiang C, Khwaja H, Romeiko X, Marks T, Ye B, Qu Y, Lin S. Application of data science methods to identify school and home risk factors for asthma and allergy-related symptoms among children in New York. Society of Epidemiology Research, 2020.
5. **Deng X**, Brotzge J, Zhang W, et al. Assessing the association between meteorological factors and mental disorders in summer using Mesonet, a refined weather monitoring system, in New York State. ISEE Conf Abstr. 2020;2020(1). doi:10.1289/ISEE.2020.VIRTUAL.P-0334
6. **Deng X**, Zhang W, Yu F, et al. Short-term risk effects of exposure to ultrafine particles on emergency department visits of renal diseases in New York State, 2013-2017. ISEE Conf Abstr. 2021;2021(1). doi:10.1289/ISEE.2021.O-TO-127
7. **Deng X**, Lin S, Hopke PK, Thurston S, Utell M, Chen Y, Ito K, Yount CS, Rich DQ. Triggering of cardiovascular hospitalization by short-term increases in PM2.5 in New York adults: changes following Tier 3 vehicle introduction. ISEE Conf Abstr. 2022.
8. **Deng X**, Chang H, Brotzge J, Tracy M, Romeiko X, Lin S. Generating daily high-resolution gridded meteorological datasets for New York State from 2017-2018 using two-stage downscaling model. ISEE Conf Abstr. 2022.
9. Ye B, Zhang W, **Deng X**, et al. Impacts of environmental policies on students' test scores mediating by school attendance rate. ISEE Conf Abstr. 2020;2020(1). doi:10.1289/ISEE.2020.VIRTUAL.P-1249
10. Yount CS, Hopke PK, Utell M, Thurston SW, Ling F, Chen Y, Chalupa D, Lin S, **Deng X**, Rich DQ. Triggering of ST-elevation myocardial infarction by ultrafine particles in New York: changes following Tier 3 vehicle introduction. ISEE Conf Abstr. 2022.

11. Lin S, Qi Q, Ryan I, **Deng X**, Luo G, Nair A, Yu F. High ambient temperature or ultrafine particles – which one has the largest effect on high burden diseases in New York State (NYS). ISEE Conf Abstr. 2022.
12. Lin S, Ryan I, Paul S, **Deng X**, Zhang W, Luo G, Dong G, Nair A, Yu F. Particle surface area, ultrafine particle number concentration, and cardiovascular hospitalizations. ISEE Conf Abstr. 2022.
13. Nair AA, Luo G, Ryan I, **Deng X**, Lin S, Yu F. Socioeconomic disparities in aerosol pollutant exposure may be amplified by ultrafine particles despite declining PM2.5. ISEE Conf Abstr. 2022.
14. Nair AA, Ryan I, Luo G, **Deng X**, Zhang W, Yu F, Lin S. Race-ethnicity disparities in COVID-19 outcomes may be worsened by shorter-and long-term aerosol pollutants exposure. ISEE Conf Abstr. 2022.

INVITED SPEAKER

1. **Deng X.** Identifying Joint Impacts of Sun Radiation, Temperature, Humidity, and Rain Duration on Mental Disorders in New York State Using the Mesonet Weather Monitoring System. CSDA 40th Anniversary Colloquium, University at Albany, State University of New York, 02/04/2022.
2. **Deng X.** Identifying joint impacts of sun radiation, temperature, humidity, and rain duration on triggering mental disorders using a high-resolution weather monitoring system. The International Conference on Environment and Human Health: Challenges and Opportunities in the 21st Century, Research Centre for Environment and Human Health, Hong Kong Baptist University, 08/18/2022.
3. **Deng X.** Building Predictive Model for Congenital Heart Diseases, Guangdong Cardiovascular Institute, Guangdong Provincial People's Hospital.
4. **Deng X.** Clinical Research Methods Remote Training Program 2021 (UAlbany)
5. **Deng X.** HEHS Course 545 Global Climate Change, Extreme Weather and Public Health (Topic: Machine Learning Methods in Public Health, UAlbany Fall 2020)
6. **Deng X.** HEHS Course 629 Grant Writing and Protocol Preparation (Topic: Sample size and power calculation, UAlbany Fall 2021-2023)

SOCIAL MEDIA & NEWS

1. UAlbany study finds exposure to heat, humidity and the sun can trigger mental disorders. **WAMC Northeast Public Radio**. 09/13/2022
2. Hot, Humid Weather Linked to Mental Disorder-Related ED Visits. **Neurology Advisor**.

09/01/2022

3. Hot, Humid Weather Linked to Mental Disorder-Related ED Visits. **Health Day**. 08/31/2022
4. Hot, Humid Weather Linked to Mental Disorder-Related ED Visits. **Drugs.com**. 08/31/2022
5. UAlbany-led Study Finds Exposure to Sun, Heat and Humidity Can Exacerbate Symptoms of Mental Disorders. **University at Albany**. 08/25/2022
6. UAlbany-led Study Finds Exposure to Sun, Heat and Humidity Can Exacerbate Symptoms of Mental Disorders. **Newswise**. 08/25/2022
7. Exposure to Sun, Heat and Humidity Can Exacerbate Symptoms of Mental Disorders. **Neuroscience News**. 08/25/2022
8. Study finds exposure to sun, heat and humidity can exacerbate symptoms of mental disorders. **Medical Xpress**. 08/25/2022

PEER REVIEW

1. Sustainable Cities and Society

2. Environmental International

3. Environmental Pollution

4. Journal of Exposure Science and Environmental Epidemiology

5. Environmental Health

6. Journal of Environmental Management

7. International Journal of Cancer

8. Health and Place

9. Indoor Air

10. The Journal of Nutrition

11. Frontiers in Public Health

12. JMIR Public Health and Surveillance

13. Head and Neck

14. Journal of BioMed Research International

15. Hygiene and Environmental Health Advances

16. Plos One