

Che-Jen (Jerry) LIN, Ph.D., P.E.

TECHNICAL EXPERTISE

Multiscale atmospheric transport and air quality; Water and wastewater engineering;
Biogeochemical cycling of environmental mercury.

EDUCATION AND QUALIFICATION

Ph.D., Environmental Engineering, University of Cincinnati, Cincinnati, Ohio, Dec. 1998.

Dissertation: "Chemical Transformation of Mercury in the Multiphase Atmosphere."

M.S., Environmental Engineering, Duke University, Durham, North Carolina, May 1995.

Thesis: "Removal of Hexavalent Chromium in Water using Ferrous Sulfate."

B.S., Chemical Engineering, Tatung University, Taipei, Taiwan, July 1991. Senior Research:

"Development of Conductive Polymer Composites through Hot Extrusion Processes."

Registered Professional Engineer, Environmental Engineering, State of Ohio, PE#65032.

EMPLOYMENT HISTORY AND ACADEMIC POSITIONS

Chief Research Officer and Associate Provost for Research & Sponsored Programs, Lamar University, Beaumont, Texas, September 2019 – present.

Dean, College of Graduate Studies, Lamar University, Beaumont, Texas, September 2020 – December 2022. Changed responsibility to address the program needs of McNair Scholars Program and Undergraduate Research in January 2023.

Director, Center for Advances in Water and Air Quality, Lamar University, Beaumont, Texas, September 2015 – August 2021.

Associate Dean, College of Engineering, Lamar University, Beaumont, Texas, January 2016 – August 2019.

University Professor and Scholar, Department of Civil and Environmental Engineering, Lamar University, Beaumont, Texas, September 2009 – Present.

Associate Professor, Department of Civil and Environmental Engineering, Lamar University, Beaumont, Texas, September 2004 – August 2009.

Director, Master of Science in Environmental Engineering Program and Master of Science in Environmental Studies Program, Department of Civil and Environmental Engineering, Lamar University, Beaumont, Texas, September 2004 – August 2015.

Assistant Professor, Department of Civil Engineering, Lamar University, Beaumont, Texas, September 1999 – August 2004.

Postdoctoral Research Associate, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, October 1998 – September 1999.

Research/Teaching Assistant, Department of Civil and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio, October 1995 – September 1998.

Process Engineer, Kaohsiung Chemical Corp., Kaohsiung, Taiwan, September 1991 – June 1993.

SUMMARY OF ACADEMIC CAREER ACCOMPLISHMENTS

Administration as Associate Provost for Research and Sponsored Programs

- Serves as the Chief Research Officer at Lamar University for grant applications, research administration, and government relations.
- Have grown externally funded grant revenues by over 400% since Fall 2019.

- Have grown research administration and laboratory support staff by 250% since Fall 2019.
- Lead the institutional efforts at Lamar University in building research infrastructures and establishing strategic collaborations with industries and peer institutions of higher education.
- Serve as the institutional liaison at Lamar University for government relations in grant applications, congressional direct spending requests (e.g., community projects), and Texas State Legislative Appropriation Requests for research initiatives.
- Serve as the designated institutional representative in the Texas Semiconductor Innovation Consortium, and Texas Space Initiatives.
- Supervise the research and teaching operations in Lamar University's *Science & Technology Building* (a 50,000 ft² instruction & advanced research space completed in 2019).
- Lead the development of research policies for promoting research productivity and incentives at Lamar University.
- Modernize proposal review and submission processes and implement electronic research administration platforms (Cayuse SP and 424; Banner Grant Management Module).
- Implement electronic management of grant funds and conflict of interest disclosure for principal investigators.
- Renovate analytical capability and research support capacity in the Lamar University Science & Technology Building.
- Develop external funding and collaboration models to engage industrial partners and investors for institutional patent applications.
- Develop internal seed grant programs for research development.
- Supervise Department of Commerce grant-funded centers, including the Texas Manufacturing Assistance Center (NIST) and Small Business Development Center (SBA).
- Oversees the congressional direct-spending projects at Lamar University (Cybersecurity; Data Analytics of Petrochemical & Energy Industrial Processes).
- Guide the development of Environmental Centers of Excellence at Lamar University (Center for Advances in Water and Air Quality; Texas Air Research Center; Texas Hazardous Waste Research Center).
- Supervise McNair Scholars Program and Office of Undergraduate Research at Lamar University.
- Develop policies and procedures governing research compliance pertinent to the Internal Review Board (IRB), Institutional Patent Committee (IPC), Institutional Biosafety Committee (IBC), and Institutional Animal Care & Use Committee (IACUC).
- Policies formulated: PI Eligibility; Expenditures of Facilities and Administrative Cost; Student Tuition Support by Grants; Sponsored Project Closeouts, Role & Responsibility of PIs and Administrators for Research; Policy Manuals of IRB, IBC, and IACUC; Export Control; Responsible Research Conduct; Conflict of Interest/Commitment.

Administration as Dean of Graduate College

- Led the development and review of new graduate degree and certificate programs at Lamar University.
- Modernized and digitalized academic documentation, degree certification, review of student records, theses and dissertations that lead to improved operational efficiency.
- Led the revision of graduate education policies for enhancing academic rigor and addressing the demands of distance and digital learning.
- Served as the liaison for SACSCOC (the Southern Association of Colleges and Schools Commission on Colleges) accreditation of graduate programs at Lamar University.

- Strengthened the competitive process for awarding Lamar University Graduate Scholarships.
- Developed program improvement review strategies for graduate programs.
- Program reviewed: MEd in Educational Leadership; MBA Management Concentration; Speech & Hearing Sciences; MBA Accounting Concentration; Dual MBA/MSN Program; MA in Teaching Spanish as a Second Language; Certificate of Leadership; Certificate of History; Certificate of Fermentation Science and Engineering; Certificate of Sports Nutrition; Certificate of Didactic Program in Dietetics; Certificate of Sustainable Infrastructure Engineering; Certificate of Nursing Administration; Certificate of Nursing Education.
- Policies formulated: Accelerated Programs; Change of Graduate Majors; Competency-Based Evaluation; Academic Rigors of Graduate Courses; Full-time and Half-time Equivalency for Scholarship and Financial Aids; Curricular and Optional Practical Training for International Students; Suspension and Appeal of Academic Standing; Offering of Special Topics; Bylaws of Graduate Council; Offering of Dual Degree Programs at Graduate Level.

University Services

- Chair of six (5) university committees and councils at Lamar University, including the Research Council, Institutional Patent Committee, Institutional Biosafety Committee, Institutional Animal Care and Use Committee, and Faculty Performance Evaluation/Merit Salary Increase Appeals Committee. Other university-level committee services include the Graduate Council, Executive Search Committees, Deans' Council, Academic Review Committee (for Dean's evaluation), IT Steering Committee, and Faculty Senate.
- Chief Ex-Officio of Lamar University's Institutional Review Board for Human Subjects Studies.
- Previously served on more than 20 Departmental, College and University Councils & Committees as a faculty member for academic affairs, research, information technology, Program Improvement Reviews (PIRs for biology, physics, environmental sciences, and engineering programs), university advancement and faculty/chair searches.
- Led the preparation of SACSCOC reaffirmation for Lamar College of Engineering graduate programs (Doctor of Engineering, Master of Engineering, Master of Engineering Science, Master of Science in Environmental Engineering, Master of Science in Environmental Studies); as well as ABET (Accreditation Board for Engineering and Technology) accreditation for BS in Civil Engineering program.

Research

- Publications and grant records: more than 150 SCI-listed journal articles published (>7,100 citations, h-index = 48); approximately \$7.5cM of research grants as a PI or co-PI in more than 60 funded projects; 59 invited seminars (2 keynote speeches); 120 conference papers and presentations; 6 book chapters.
- Citation record ranked in Stanford University's World's Top 2% Scientists List, 2021, 2022, and 2023 (<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>).
- 2008 University Scholar Award of LU, 2012 University Professor and Ann Die-Hasselmo Faculty Scholar of Lamar University
- A recognized scientific contributor to the knowledge of atmospheric chemistry, water technologies and biogeochemical cycling of mercury in the global environment.
- A licensed professional engineer (PE) in environmental engineering specializing in water and wastewater engineering systems.
- An expert mathematical modeler for long-range transport of air pollutants.

- Primary scientific contributions include mercury chemistry in gaseous phase and atmospheric droplets including cloud microphysics, long-range transport of mercury and particulate pollutants, and advanced treatment technologies of industrial waste streams.

Teaching

- Have taught seven (7) undergraduate courses in engineering and twelve (12) graduate courses in environmental sciences and engineering.
- Teaching awards: 2016 Excellence in Engineering Education Award of Texas Society of Professional Engineers; 2014 ExxonMobil Distinguished Faculty Lecturer; 2012 Tekoa Academy InSpire Teaching Award; 2009 Student Competition Award of Water Environment Association of Texas in Wastewater Engineering Design; 2008 Chi-Epsilon (The National Civil Engineering Honor Society) “James M. Robbins” Excellence in Teaching Award; 2003 American Society of Civil Engineers (ASCE) Excellence in Civil Engineering Education (ExCEEEd) fellow; 2002 Lamar University Teaching Merit Award.
- Have chaired or served as a committee member in 22 doctoral dissertations and 54 master theses.
- Served as the faculty advisor of Lamar ASCE Chapter (2001-2019), which won >40 awards in regional and national competitions.
- Led the first-ever Lamar Engineering Study Abroad program (2017) in Global Issues in Engineering Management at Universitat Rovira i Virgili (Tarragona, Spain).

HONORS AND SPECIAL CONTRIBUTIONS TO RESEARCH COMMUNITY

1. Expert Panel Reviewer, Science to Achieve Results (STAR) Program, USEPA, 2024.
2. Session Chair and Keynote Speaker, Session *Environmental Geochemistry of Mercury*, the 21st International Conference on Heavy Metals in the Environment, Wuppertal, Germany, September 6-10, 2023.
3. Member of Modeling Group, Global Mercury Assessment, United Nations Environment Programme (UNEP), 2016 - present. Co-Author of UNEP Global Mercury Assessment Report 2018 (completed) and 2023 (to be published in 2024).
4. Included in Stanford University’s World’s Top 2% Scientists List, 2021, 2022, and 2023 (<https://elsevier.digitalcommonsdata.com/datasets/btchxktyw/6>).
5. Guest Editor, *Atmosphere*: Special Issue – Metal Pollution in the Atmosphere – Vol. II, 2021-2022.
6. Expert Panel Reviewer, Small Business Innovation Research – Phase II, USEPA, 2019.
7. Guest Editor, *Science of the Total Environment*: Special Issue – Mercury Cycling and Bioaccumulation in a Changing Environment, 2018-2019.
8. Co-Editor, *Atmosphere*: Special Issue – Metal Pollution in the Atmosphere, 2017-2018.
9. Expert Panel Reviewer, Science to Achieve Results, USEPA, 2018.
10. Expert Panel Reviewer, People, Prosperity, and the Planet, USEPA, 2018.
11. Session Chair, “*Modeling of Atmospheric Mercury*,” the 12th International Conference on Mercury as a Global Pollutant, Jeju, Korea, June 2015.
12. Expert Panel Reviewer, National Center for Sustainable Water Infrastructure, USEPA, 2015.
13. Chair of the Conference Opening Plenary Session, the 17th International Conference on Heavy Metals in the Environment, September 22-25, 2014.
14. Member, USEPA Science Advisory Board (SAB), Mercury and Air Toxics Standards for Power Plants, 2011 - 2014.
15. Expert Panel Reviewer, USEPA Studies to Achieve Results (STAR) Grant, 2014.
16. Expert Panel Reviewer, USEPA Small Business Innovation Research (SBIR) Grant, 2013.

17. Research Fellowship Award, K. C. Wong Education Foundation, Hong Kong, 2013.
18. Invited Speaker, Gloyna Breakfast, Texas Water Conference, San Antonio, TX, 2012.
19. Expert Reviewer, the USEPA Occupational Mercury Exposure Models, 2010-2011.
20. Expert Panel Reviewer, National Science Foundation Career Award review panel, 2010.
21. Session Chair, "Modeling and Measurements to Characterize Mercury Transport and Deposition," the 9th International Conference on Mercury as a Global Pollutant, Guiyang, China, June 7-11, 2009.
22. Panelist, Texas Mercury Impaired Water Workgroup, Texas Commission on Environmental Quality (TCEQ), 2009.
23. Expert Reviewer, USEPA air pollutant source apportionment tools for air quality models (Community Multi-Scale Air Quality Modeling System, CMAQ, and Comprehensive Air Quality Model with Extensions, CAMx), 2008.
24. Plenary Speaker, "Mercury Rising – An Exploration of Issues," the 24th International Conference on Incineration and Thermal Treatment Technologies, Galveston, Texas, May 12, 2005.
25. Expert Reviewer, USEPA Clean Air Mercury Rule (CMAR) Receptor Modeling for mercury wet deposition, October 2005.
26. University Research Forum Award, Texas Water Conference, 2004 and 2005.
27. Member of Technical Assistance Panel (TAP) of Hydraulics and Environment, Texas Department of Transportation (TxDOT), 2000-2009.
28. Member of Science Coordinating Committee, Texas Commission on Environmental Quality, 2003-2008.
29. Chair, Atmospheric Chemistry Section, the 6th International Conference of Mercury as a Global Pollutant, Minamata, Japan, October 2001.
30. Expert Reviewer, the Texas Solid Waste Management Strategy, Texas Natural Resources Conservation Commission, 2000.
31. Highest Score in the April 2000 Professional Engineer License Exam in Environmental Engineering, State of Ohio, 2000.
32. Gill Master Award for Young Investigator, Gill Foundation, 2000.
33. Winner of Paper Contest, Doctoral Category, Air and Waste Management Association 91st Annual Meeting, 1998.

PROFESSIONAL MEMBERSHIPS

1. National Council of University Research Administrators (NCURA)
2. The Council on Undergraduate Research (CUR)
3. American Association of State Colleges and Universities (AASCU)
4. Association of Research Integrity Officers (ARIO)
5. American Chemical Society (ACS)
6. Chi Epsilon (The National Civil Engineering Honor Society)
7. Sigma Xi (The International Honor Society of Scientific and Engineering Research)

RESEARCH

1. SCI-Indexed Peer-Reviewed Publications (h-index = 48)

- (1) Yuan, W.; Wang, X.; **Lin, C. J.**; Zhang, G.; Wu, F.; Liu, N. T.; Jia, L. Y.; Zhang, H.; Lu, H. Z.; Dong, J. L.; et al. Fate and Transport of Mercury through Waterflows in a Tropical Rainforest. *Environmental Science & Technology* 2024, 58 (11), 4968-4978. DOI: 10.1021/acs.est.3c09265.

- (2) Luo, K.; Yuan, W.; Lu, Z. Y.; Xiong, Z. C.; **Lin, C. J.**; Wang, X.; Feng, X. B. Unveiling the Sources and Transfer of Mercury in Forest Bird Food Chains Using Techniques of Vivo-Nest Video Recording and Stable Isotopes. *Environmental Science & Technology* 2024, 58 (13), 6007-6018. DOI: 10.1021/acs.est.3c10972.
- (3) Yuan, Y. Z.; Zhu, Y.; **Lin, C. J.**; Wang, S. X.; Xie, Y. H.; Li, H. X.; Xing, J.; Zhao, B.; Zhang, M. M.; You, Z. Q. Impact of commercial cooking on urban PM_{2.5} and O₃ with online data-assisted emission inventory. *Science of the Total Environment* 2023, 873. DOI: 10.1016/j.scitotenv.2023.162256.
- (4) Wu, F.; Yang, L. H.; Wang, X.; Yuan, W.; **Lin, C. J.**; Feng, X. B. Mercury Accumulation and Sequestration in a Deglaciated Forest Chronosequence: Insights from Particulate and Mineral-Associated Forms of Organic Matter. *Environmental Science & Technology* 2023, 57 (43), 16512-16521. DOI: 10.1021/acs.est.3c03107.
- (5) Yuan, W.; Wang, X.; **Lin, C. J.**; Song, Q. H.; Zhang, H.; Wu, F.; Liu, N. T.; Lu, H. Z.; Feng, X. B. Deposition and Re-Emission of Atmospheric Elemental Mercury over the Tropical Forest Floor. *Environmental Science & Technology* 2023, 57 (29), 10686-10695. DOI: 10.1021/acs.est.3c01222.
- (6) Yin, H. Q.; Yao, H.; Yuan, W.; **Lin, C. J.**; Fu, X. W.; Yin, R. S.; Meng, B.; Luo, J.; Feng, X. B. Determination of the Isotopic Composition of Aqueous Mercury in a Paddy Ecosystem Using Diffusive Gradients in Thin Films. *Analytical Chemistry* 2023, 95 (33), 12290-12297. DOI: 10.1021/acs.analchem.3c01356.
- (7) Liu, N. T.; Cai, X. Y.; Jia, L. Y.; Wang, X.; Yuan, W.; **Lin, C. J.**; Wang, D. Y.; Feng, X. B. Quantifying Mercury Distribution and Source Contribution in Surface Soil of Qinghai-Tibetan Plateau Using Mercury Isotopes. *Environmental Science & Technology* 2023, 57 (14), 5903-5912. DOI: 10.1021/acs.est.2c09610.
- (8) Li, J.; Jang, J. C.; Zhu, Y.; **Lin, C. J.**; Wang, S. X.; Xing, J.; Dong, X. Y.; Li, J. Y.; Zhao, B.; Zhang, B. Y.; et al. Development of a recurrent spatiotemporal deep-learning method coupled with data fusion for correction of hourly ozone forecasts. *Environmental Pollution* 2023, 335. DOI: 10.1016/j.envpol.2023.122291.
- (9) Du, H.; Wang, X.; Yuan, W.; Wu, F.; Jia, L. Y.; Liu, N. T.; **Lin, C. J.**; Gan, J.; Zeng, F. P.; Wang, K. L.; et al. Elevated Mercury Deposition, Accumulation, and Migration in a Karst Forest. *Environmental Science & Technology* 2023, 57 (45), 17490-17500. DOI: 10.1021/acs.est.3c05409.
- (10) Yuan, W.; Wang, X.; **Lin, C. J.**; Wu, F.; Luo, K.; Zhang, H.; Lu, Z. Y.; Feng, X. B. Mercury Uptake, Accumulation, and Translocation in Roots of Subtropical Forest: Implications of Global Mercury Budget. *Environmental Science & Technology* 2022. DOI: 10.1021/acs.est.2c04217.
- (11) Sun, G. Y.; Feng, X. B.; Yin, R. S.; Wang, F. Y.; **Lin, C. J.**; Li, K.; Sommar, J. O. Dissociation of Mercuric Oxides Drives Anomalous Isotope Fractionation during Net Photo-oxidation of Mercury Vapor in Air. *Environmental Science & Technology* 2022. DOI: 10.1021/acs.est.2c02722
- (12) Wang, X.; Yuan, W.; **Lin, C. J.**; Wang, D. Y.; Luo, J.; Xia, J. C.; Zhang, W.; Wang, F. Y.; Feng, X. B., Root uptake dominates mercury accumulation in permafrost plants of Qinghai-Tibet Plateau. *Communications Earth & Environment* 2022, 3, (1).
- (13) Chen, Y.; Zhu, Y.; **Lin, C. J.**; Arunachalam, S.; Wang, S. X.; Xing, J.; Chen, D. H.; Fan, S. J.; Fang, T. T.; Jiang, A. Q., Response surface model based emission source contribution and meteorological pattern analysis in ozone polluted days. *Environmental Pollution* 2022, 307.

- (14) Wang, X.; Yuan, W.; **Lin, C. J.**; Feng, X. B., Mercury cycling and isotopic fractionation in global forests. *Critical Reviews in Environmental Science and Technology* 2022, 52, (21), 3763-3786.
- (15) Wang, B.; Yuan, W.; Wang, X.; Li, K.; **Lin, C. J.**; Li, P.; Lu, Z. Y.; Feng, X. B.; Sommar, J., Canopy-Level Flux and Vertical Gradients of Hg-0 Stable Isotopes in Remote Evergreen Broadleaf Forest Show Year-Around Net Hg-0 Deposition. *Environmental Science & Technology* 2022, 56, (9), 5950-5959.
- (16) Feng, X. B.; Li, P.; Fu, X. W.; Wang, X.; Zhang, H.; **Lin, C. J.**, Mercury pollution in China: implications on the implementation of the Minamata Convention. *Environmental Science-Processes & Impacts* 2022, 24, (5), 634-648.
- (17) Chen, W. D.; Li, H. X.; Zhu, Y.; Jang, J. C.; **Lin, C. J.**; Chiang, P. C.; Wang, S. X.; Xing, J.; Fang, T. T.; Li, J.; Yang, Q. S.; Zheng, K. M., Impact Assessment of Energy Transition Policy on Air Quality over a Typical District of the Pearl River Delta Region, China. *Aerosol and Air Quality Research* 2022, 22, (7).
- (18) Chang, W.; Zhu, Y.; **Lin, C. J.**; Arunachalam, S.; Wang, S. X.; Xing, J.; Fang, T. T.; Long, S. C.; Li, J. Y.; Chen, G., Environmental Justice Assessment of Fine Particles, Ozone, and Mercury over the Pearl River Delta Region, China. *Sustainability* 2022, 14, (17).
- (19) Yuan, W.; Wang, X.; **Lin, C. J.**; Zhang, H.; Feng, X. B.; Lu, Z. Y., Impacts of Extreme Weather on Mercury Uptake and Storage in Subtropical Forest Ecosystems. *Journal of Geophysical Research-Biogeosciences* 2022, 127, (1).
- (20) **Lin, C. J.**; Zhang, R. L.; Waisner, S. A.; Nawaz, T.; Center, L.; Gent, D. B.; Johnson, J. L.; Holland, S., Effects of process factors on the performance of electrochemical disinfection for wastewater in a continuous-flow cell reactor. *Environmental Science and Pollution Research* 2021, 28, (27), 36573-36584.
- (21) Zhao, H. F.; Meng, B.; Sun, G. Y.; **Lin, C. J.**; Feng, X. B.; Sommar, J., Chemistry and Isotope Fractionation of Divalent Mercury during Aqueous Reduction Mediated by Selected Oxygenated Organic Ligands. *Environmental Science & Technology* 2021, 55, (19), 13376-13386.
- (22) Yuan, W.; Wang, X.; **Lin, C. J.**; Sommar, J. O.; Wang, B.; Lu, Z. Y.; Feng, X. B., Quantification of Atmospheric Mercury Deposition to and Legacy Re-emission from a Subtropical Forest Floor by Mercury Isotopes. *Environmental Science & Technology* 2021, 55, (18), 12352-12361.
- (23) Wang, X.; Yuan, W.; **Lin, C. J.**; Wu, F.; Feng, X. B., Stable mercury isotopes stored in Masson Pinus tree rings as atmospheric mercury archives. *Journal of Hazardous Materials* 2021, 415.
- (24) Liu, Y.; **Lin, C. J.**; Yuan, W.; Lu, Z. Y.; Feng, X. B., Translocation and distribution of mercury in biomasses from subtropical forest ecosystems: evidence from stable mercury isotopes. *Acta Geochimica* 2021, 40, (1), 42-50.
- (25) Hao, J. L.; Xu, X. H.; **Lin, C. J.**; Zhang, L. M., A comparison of two bidirectional air-surface exchange models for gaseous elemental mercury over vegetated surfaces. *Atmospheric Environment* 2021, 246.
- (26) Zhou, J.; Wang, Z. W.; Zhang, X. S.; Driscoll, C. T.; **Lin, C. J.**, Soil-atmosphere exchange flux of total gaseous mercury (TGM) at subtropical and temperate forest catchments. *Atmospheric Chemistry and Physics* 2020, 20, (24), 16117-16133.
- (27) Yuan, W.; Wang, X.; **Lin, C. J.**; Wu, C. S.; Zhang, L. M.; Wang, B.; Sommar, J.; Lu, Z. Y.; Feng, X. B., Stable Mercury Isotope Transition during Postdepositional Decomposition of Biomass in a Forest Ecosystem over Five Centuries. *Environmental Science & Technology* 2020, 54, (14), 8739-8749.

- (28) Yao, H.; Zhao, Y. J.; **Lin, C. J.**; Yi, F. J.; Liang, X. F.; Feng, X. B., Development of a novel composite resin for dissolved divalent mercury measurement using diffusive gradients in thin films. *Chemosphere* **2020**, 251.
- (29) Wang, X.; Yuan, W.; **Lin, C. J.**; Luo, J.; Wang, F. Y.; Feng, X. B.; Fu, X. W.; Liu, C., Underestimated Sink of Atmospheric Mercury in a Deglaciated Forest Chronosequence. *Environmental Science & Technology* **2020**, 54, (13), 8083-8093.
- (30) Wang, X.; Luo, J.; Yuan, W.; **Lin, C. J.**; Wang, F. Y.; Liu, C.; Wang, G. X.; Feng, X. B., Global warming accelerates uptake of atmospheric mercury in regions experiencing glacier retreat. *The Proceedings of the National Academy of Sciences of the United States of America* **2020**, 117, (4), 2049-2055.
- (31) Wang, X.; Luo, J.; **Lin, C. J.**; Wang, D. Y.; Yuan, W., Elevated cadmium pollution since 1890s recorded by forest chronosequence in deglaciated region of Gongga, China. *Environmental Pollution* **2020**, 260.
- (32) Wagle, D.; **Lin, C. J.**; Nawaz, T.; Shipley, H. J., Evaluation and optimization of electrocoagulation for treating Kraft paper mill wastewater. *Journal of Environmental Chemical Engineering* **2020**, 8, (1).
- (33) Yuan, W.; Wang, X.; **Lin, C. J.**; Sommar, J.; Lu, Z. Y.; Feng, X. B., Process factors driving dynamic exchange of elemental mercury vapor over soil in broadleaf forest ecosystems. *Atmospheric Environment* **2019**, 219.
- (34) Yu, M. F.; Zhu, Y.; **Lin, C. J.**; Wang, S. X.; Xing, J.; Jang, C.; Huang, J. Z.; Huang, J. Y.; Jin, J. B.; Yu, L., Effects of air pollution control measures on air quality improvement in Guangzhou, China. *Journal of Environmental Management* **2019**, 244, 127-137.
- (35) Xu, H.; Zhu, Y.; Wang, L.; **Lin, C. J.**; Jang, C.; Zhou, Q.; Yu, B.; Wang, S. X.; Xing, J.; Yu, L., Source contribution analysis of mercury deposition using an enhanced CALPUFF-Hg in the central Pearl River Delta, China. *Environmental Pollution* **2019**, 250, 1032-1043.
- (36) Wang, X.; Yuan, W.; Lu, Z. Y.; **Lin, C. J.**; Yin, R. S.; Li, F.; Feng, X. B., Effects of Precipitation on Mercury Accumulation on Subtropical Montane Forest Floor: Implications on Climate Forcing. *Journal of Geophysical Research-Biogeosciences* **2019**, 124, (4), 959-972.
- (37) Wang, X.; Yuan, W.; **Lin, C. J.**; Zhang, L. M.; Zhang, H.; Feng, X. B., Climate and Vegetation As Primary Drivers for Global Mercury Storage in Surface Soil. *Environmental Science & Technology* **2019**, 53, (18), 10665-10675.
- (38) Wang, X.; Yuan, W.; **Lin, C. J.**; Feng, X. B., Mercury cycling and isotopic fractionation in global forests. *Critical Reviews in Environmental Science and Technology* **2019**, <https://doi.org/10.1080/10643389.2021.1961505>.
- (39) Qian, Q.; Sun, B.; Li, X. C.; Sun, F.; **Lin, C. J.**; Jiang, L. P., Water Quality Evaluation on an Urban Stormwater Retention Pond Using Wireless Sensor Networks and Hydrodynamic Modeling. *Journal of Irrigation and Drainage Engineering* **2019**, 145, (12).
- (40) Li, Z. G.; Chen, X. F.; Liu, W. L.; Li, T. S.; Chen, J.; **Lin, C. J.**; Sun, G. Y.; Feng, X. B., Evolution of four-decade atmospheric mercury release from a coal-fired power plant in North China. *Atmospheric Environment* **2019**, 213, 526-533.
- (41) Li, X. Y.; Li, Z. G.; Fu, C. C.; Tang, L.; Chen, J.; Wu, T. T.; **Lin, C. J.**; Feng, X. B.; Fu, X. W., Fate of mercury in two CFB utility boilers with different fueled coals and air pollution control devices. *Fuel* **2019**, 251, 651-659.
- (42) Li, K.; **Lin, C. J.**; Yuan, W.; Sun, G. Y.; Fu, X. W.; Feng, X. B., An improved method for recovering and preconcentrating mercury in natural water samples for stable isotope analysis. *Journal of Analytical Atomic Spectrometry* **2019**, 34, (11), 2303-2313.

- (43) Fu, X. W.; Zhang, H.; Liu, C.; Zhang, H.; **Lin, C. J.**; Feng, X. B., Significant Seasonal Variations in Isotopic Composition of Atmospheric Total Gaseous Mercury at Forest Sites in China Caused by Vegetation and Mercury Sources. *Environmental Science & Technology* **2019**, *53*, (23), 13748-13756.
- (44) Bank, M. S.; Rinklebe, J.; Feng, X. B.; Xu, X. Y.; **Lin, C. J.**, Mercury cycling and bioaccumulation in a changing environment Preface. *Science of the Total Environment* **2019**, *670*, 345-345.
- (45) Yuan, W.; Sommar, J.; **Lin, C.-J.**; Wang, X.; Li, K.; Liu, Y.; Zhang, H.; Lu, Z.; Wu, C.; Feng, X., Stable Isotope Evidence Shows Re-emission of Elemental Mercury Vapor Occurring after Reductive Loss from Foliage. *Environmental Science & Technology* **2019**, *53*, (2), 651-660.
- (46) Li, J.; Zhu, Y.; Kelly, J. T.; Jang, C.; Wang, S.; Hanna, A.; **Lin, C. J.**; Long, S.; Yu, L., Health benefit assessment of PM2.5 reduction in Pearl River Delta region of China using a model-monitor data fusion approach, *Journal of Environmental Management* **2019**, *233*, 489-498.
- (47) Liu, J. J.; Wang, L.; Zhu, Y.; **Lin, C. J.**; Jang, C.; Wang, S. X.; Xing, J.; Yu, B.; Xu, H.; Pan, Y. Z., Source attribution for mercury deposition with an updated atmospheric mercury emission inventory in the Pearl River Delta Region, China. *Frontiers of Environmental Science & Engineering* **2019**, *13*, (1).
- (48) Zhu, W.; Li, Z. G.; Li, P.; Yu, B.; **Lin, C. J.**; Sommar, J.; Feng, X. B., Re-emission of legacy mercury from soil adjacent to closed point sources of Hg emission. *Environmental Pollution* **2018**, *242*, 718-727.
- (49) Yang, W. W.; Zhu, Y.; Jang, C.; Long, S. C.; **Lin, C. J.**; Yu, B.; Adelman, Z.; Wang, S. X.; Xing, J.; Wang, L.; Li, J. B., Development and case study of a new-generation model-VAT for analyzing the boundary conditions influence on atmospheric mercury simulation. *Frontiers of Environmental Science & Engineering* **2018**, *12*, (1).
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- (158) **Lin, C. J.**; Pehkonen, S. O., Aqueous free radical chemistry of mercury in the presence of iron oxides and ambient aerosol. *Atmospheric Environment* **1997**, *31*, (24), 4125-4137.
- (159) **Lin, C. J.**; Pehkonen, S., Aqueous photoreduction of divalent mercury with organic acids: Implications of mercury chemistry in the atmosphere. *Abstracts of Papers of the American Chemical Society* **1997**, *213*, 41-ENVR.

2. Invited Presentations

- (1) "A Synthesis of Air-Surface Exchange of Mercury Vapor over Global Terrestrial Ecosystem," Seminar at Texas A&M University, College Station, TX, October 31, 2022.
- (2) "Chinsing Quicksilver –the Role of Terrestrial Forest Ecosystems in Global Cycling of Mercury," Seminar at the University of Houston, Houston, TX, March 9, 2018.
- (3) "Re-Assessment of Mercury Outflow from East Asia," International Workshop on Mercury Emissions and Pollution, Beijing, China, December 8-9, 2016.
- (4) "Air-surface Exchange of Elemental Mercury Vapour: Measurement, Modeling and Global Observations," University of Eastern Finland, Kuopio, Finland, September 16, 2016.
- (5) "Evaluation of Natural Emission of Elemental Mercury Vapor from Environmental Surfaces," Yongsei University, Wonju, Korea, February 18, 2016.

- (6) "Re-assessment of Mercury Emission Outflow from East Asia," International Conference on Mercury Pollution Prevention & Control in China, December 6-8, 2015, Beijing, China.
- (7) "A Synthesis of Global Observations on the Air-Surface Exchange of Elemental Mercury Vapor," American Geophysical Union Joint Assembly, Montreal, Canada, May 3-7, 2015.
- (8) "The Global Biogeochemical Cycling of Mercury," Seminar at the University of California - Los Angeles, January 29, 2015.
- (9) "Quantifying the air-Surface exchange of elemental mercury vapor using enclosure and micrometeorological methods," the 3rd International Conference on Earth Science & Climate Change, July 28-30, San Francisco, 2014.
- (10) "Development of a new air-surface exchange model for estimating Hg⁰ evasion in China: model parameterization and sensitivity analysis," The 2014 International Conference on Air Benefit, Cost and Attainment Assessment, Beijing, May 28-30, 2014.
- (11) "A tale of two waters - the paths through biosphere and anthroposphere," Cardinal Conversation, March 2014, Lamar University.
- (12) "Effective Engineering Teaching: From Theories to Real-world Applications," Texas STEM Workshop, Beaumont, TX, January 13, 2014.
- (13) "Development of a novel dynamic flux chamber for quantifying air-surface exchange flux," seminar at Jiaotong University, Shanghai, China, June 2, 2013.
- (14) "MCRT Control and State Point Analysis of Activated Sludge Process," Washington Operator Workshop, Vancouver, Washington, April 25-28, 2013.
- (15) "Development and Implementation of DAAB-Technology for Emergency Relief," Washington Operator Workshop, Vancouver, Washington, April 25-28, 2013.
- (16) "Fouling of Dissolved Silica on Reverse Osmosis Membranes," seminar at Masdar Institute of Science and Technology, Abu Dhabi, Dubai, January 21, 2013.
- (17) "Converting Organic Wastes to Renewable Energy," seminar at South China University of Technology, Guangzhou, China, December 3, 2012.
- (18) "Source-Receptor Relationship of Mercury Long-range Transport," Norwegian-China Mercury Research Workshop, Guiyang, China, May 15, 2012.
- (19) "Waste Streams to Renewable Energy - A New Paradigm in Wastewater Treatment," Gloyna Breakfast, 2012 Texas Water Conference, San Antonio, TX, April 13, 2012.
- (20) "Atmospheric Mercury - Current State of Science," Department of Environmental Engineering, Tsinghua University, Beijing, China, November 9, 2011.
- (21) "Long-range Transport of Atmospheric Mercury - the Cause and Impact," Department of Earth & Atmospheric Sciences, the University of Houston, Houston, TX, October 7, 2011.
- (22) Invited Public Reviewer, "National-Scale Mercury Risk Assessment Supporting the Appropriate and Necessary Finding for Coal and Oil-Fired Electric Generating Units," USEPA, Research Triangle Park, NC, June 15-17, 2011.
- (23) "The Long-range Transport of Mercury at a Global Scale," EPRI Environmental Council Meeting, San Antonio, TX, September 27-28, 2010.
- (24) "Global Transport and Deposition of Mercury," Workshop of Task Force on Hemispheric Transport of Air Pollutants: 2010 Assessment Report Review, Brussels, Belgium, June 11-14, 2010.
- (25) "Atmospheric Mercury - Emission, Transport and Deposition," Workshop of Texas Air Quality, Texas A&M University, College Station, TX, April 22-23, 2010.
- (26) "Atmospheric Modeling for Air Pollutants," Institute of Geochemistry at Chinese Academy of Science, Guiyang, China, March 21, 2010.

- (27) Invited Expert Panelist, "Global Transport and Deposition of Mercury," *Workshop of Task Force on Hemispheric Transport of Air Pollutants: 2010 Assessment Report Review*, Chapel Hill, North Carolina, March 1-3, 2010.
- (28) Invited Expert Panelist, "Global Transport and Deposition of Mercury," *Workshop of Task Force on Hemispheric Transport of Air Pollutants: 2010 Assessment Report Drafting*, Toronto, Canada, November 11-13, 2009.
- (29) "Development of Portable Biological Wastewater Treatment," *Workshop on advancing Water Technologies*, Rolla, Missouri, October 14, 2009.
- (30) "The Fate and Long-Range Transport of Mercury in the Atmosphere," the University of Nevada, Reno, NV, October 5, 2009.
- (31) "Trans-Pacific Transport of Mercury," *Workshop of Task Force on Hemispheric Transport of Air Pollutants: Focus on Eastern Europe, Asia and the Arctic*, St. Petersburg, Russia, April 1-3, 2009.
- (32) "Emission, Transport and Deposition of Atmospheric Mercury in China," Tsinghua University, Beijing, China, March 16, 2009.
- (33) "Scientific Uncertainties in the Fate and Transport of Atmospheric Mercury," Opening Presentation in the *National Science Foundation (NSF) Mercury Research Workshop*, Seattle, WA, October 23-25, 2008.
- (34) "Chemical Transport of Ozone, Aerosol, and Reactive Tracers over the Pacific - Results from HTAP SR and TP1X Experiments Using CMAQ," *International Workshop on Regional and Intercontinental Transport of Air Pollution*, Hanoi, Vietnam, October 13-14, 2008.
- (35) "Model Estimate of Mercury Dry Deposition and Its Uncertainty," *Mercury Dry Deposition Intercomparison Workshop*, University of Michigan, Ann Harbor, MI, August 6-8, 2008.
- (36) "HTAP O₃ Analysis Using CMAQ: Comparison with Global Model Results," *International Workshop on Regional and Intercontinental Transport of Air Pollution*, Washington, DC, June 9-13, 2008.
- (37) "Understanding the Uncertainties in the Modeling of Atmospheric Mercury," *Electric Power Research Institute (EPRI) Modeling Workshop*, Palo Alto, CA, May 20-21, 2008.
- (38) "The Emission and Chemical Transport of Mercury in China," in the *Workshop on Regional and Urban Air Quality in Yangzi River Delta Region*, Shanghai, China, April 17-18, 2008.
- (39) Invited Discussion Panelist, *Joint International Conference on Intercontinental Transport of Atmospheric Mercury and Persistent Organic Pollutants*, Rome, Italy, April 7-11, 2008.
- (40) "Scientific Uncertainties in Atmospheric Mercury Simulations," the University of Houston, Houston, TX, February 12, 2008.
- (41) "The Parallel Computation of USEPA's CMAQ Modeling System," Tsinghua University, Beijing, China. November 2, 2007.
- (42) "The Cycling of Mercury in the Atmosphere," Chinese Academy of Science, Beijing, China, October 31, 2007.
- (43) Invited Expert, *Task Force on Hemispheric Transport Air Pollutants - Workshop on Global and Regional Modeling for Assessing Hemispheric Air Pollution*, Julich, Germany, October 17-19, 2007.
- (44) "Long-range Transport of Air Pollutants and it's Relationship to Emission Inventory," in *Inventories of Greenhouse Gases and Aerosol Emissions Associated to Different Vegetation Land Use in the Mekong River Basin Sub-region*, Bangkok, Thailand. April 27-May 6, 2007.
- (45) "Impact of CMAQ Dry Deposition Scheme on the Concentration and Deposition Flux of Gaseous Phase Pollutants," in *Workshop on Regional Air Quality Management in Rapidly Developing Economic Regions*, Zhuhai, China, March 11-13, 2007.

- (46) "A GIS-Based Approach to Estimate Mercury Emission from Natural Sources," in *Developing Improved Regional Emission Inventories for China: A Capacity-Building Workshop*, Guangzhou, China, March 20-21, 2006.
- (47) "Uncertainties in Modeling Assessment of Atmospheric Mercury," National University of Singapore, Singapore, January 19, 2006.
- (48) "The Fate of Mercury in the Environment," National Central University, Taiwan, January 16, 2006.
- (49) "Chemistry Uncertainties in Atmospheric Mercury Simulation," USEPA Mercury Chemistry Panel, Research Triangle Park, NC, September 29, 2005.
- (50) "Chemical Transport Modeling of Atmospheric Mercury," Mercury in Taiwan Workshop, National Central University, Taiwan, May 24, 2005.
- (51) "Mercury Rising - An Exploration of Issues," **Plenary Presentation** of the 24th International Conference on Incineration and Thermal Treatment Technologies, Galveston, Texas, May 12, 2005.
- (52) "Nested Simulation, Data Processing and Visualization using USEPA's One-Atmosphere CMAQ Models," *Air Quality Training and Technology Transfer Workshop*, Bangkok, Thailand, March 15-18, 2005.
- (53) "Mercury Emission from Vegetation: Is It Important and How to Implement in Mercury Modeling?" *the 2nd Intercontinental and Climate Impact of Air Pollution Workshop*, USEPA, October 2004.
- (54) "Application of CMAQ in Simulating Transient High Ozone Event in Houston, TX" *Beijing Air Pollution Workshop*, Tsinghua University, Beijing, China, September 2004.
- (55) "Fate and Simulation of Atmospheric Mercury" Chongqing Academy of Environmental Science, Chongqing, China, September 2004.
- (56) "Preparation of Hg Emission Inventory for Comprehensive Mercury Modeling," *USEPA-ANL Emission Inventory Workshop*, Argonne National Laboratory, May 2004.
- (57) "Atmospheric Mercury - the Origin, Transformation and Modeling," Department of Atmospheric Sciences, Texas A&M University, College Station, March 23, 2004.
- (58) "The Measurement of Oxidation Kinetics for the Reactions of Mercury Species and Free Radicals," National University of Singapore, Singapore, December 2000.
- (59) "Aqueous Phase Reactions of Mercury with Free Radicals and Chlorine," IUPAC International Conference, Dubrovnik, Croatia, May 1998.

3. Awarded Research Projects

- (1) **PI:** "Design, Construction and Evaluation of a Single Cell Protein (SCP) Production using Bioaugmentation," \$588,178 funded by Meridian Biotechnology, September 2017 - August 2019.
- (2) **PI:** "Examination of Biological Selection for Single Cell Protein (SCP) Production using Syrup," \$45,108 funded by Meridian Biotechnology, November 2016 - February 2018.
- (3) **PI:** "Data Validation and Engineering Assessment of Wastewater Treatment Plant," \$52,000 funded by SOCHEM, Plaquemines Processing & Recovery and Light Environmental, November 2018 - August 2019.
- (4) **PI:** "AtmoSpark: Exploring Commercial Potential of Electrocondensation Technology," \$50,000 funded by National Science Foundation (NSF), December 2017 - August 2018.
- (5) **PI:** "Design, Construction and Evaluation of a Single Cell Protein (SCP) Production Unit using MTech Bioaugmentation," \$190,322 funded by Meridian Biotechnology, LLC., October 2016 - August 2017.

- (6) **PI:** “Conversion of hazardous organic wastes to renewable energy using anaerobic digestion: an experimental and modeling study,” \$23,000 funded by Texas Hazardous Waste Research Center, September 2015 – August 2017.
- (7) **PI:** “Investigation of Divalent Mercury Reduction and Isotopic Fractionation in Plumes of Coal Fire Power Plants,” \$18,500 funded by Natural Science Foundation of China, January 2015 – December 2016.
- (8) **Co-PI:** “MRI: Acquisition of an LC/MS/MS System for Multidisciplinary Research and Educational Projects,” \$456,549 funded by National Science Foundation, February 2013 – February 2016.
- (9) **PI:** “Process Evaluation of Oil and Grease Removal from Refinery Wastewater,” \$15,000 funded by Light Environmental, Inc., September 2014 – August 2016.
- (10) **PI:** “Solubilization of Hardened Grease using Petroleum-Based Surfactants in a Municipal Wastewater Water Collection System,” \$11,500 funded by Evergreen Southwest, LLC, September 2014 – August 2015.
- (11) **Co-PI:** “Characteristics of Air-surface Exchange of Mercury over four selected Croplands,” \$421,000 funded by Natural Science Foundation of China, January 2011 – December 2014.
- (12) **PI:** “Process Evaluation of Biogas Production for Sustainable Waste Management at a Paper Mill,” \$110,409 funded by MeadWestvaco, November 2011 – August 2013.
- (13) **PI:** “Process Analysis of Biological Wastewater Treatment in a Refinery Plant,” \$28,000 funded by Refinery Water Associates, September 2011 – August 2016.
- (14) **PI:** “Effect of Bioaugmentation on Biogas Production in Anaerobic Digestion of Organic Waste Streams,” \$141,060 funded by VOW Resource, April 2011 – December 2013.
- (15) **PI:** “Treatment of Pharmaceuticals and Sanitary Chemicals Using the Deployable Aerobic Aqueous Bioreactor Technologies,” \$232,060 funded by the US Department of Defense, October 2010 – August 2013.
- (16) **PI:** “Fabrication and Deployment of a Portable Biological Wastewater Treatment System for Decentralized Applications,” \$399,866 funded by the US Department of Defense, July 2009 – August 2012.
- (17) **PI:** “Assessment of Oil/gas Production, 21st Century Automotive Transportation, and Climate Change Impacts on Ground-level Ozone in Southeast Texas,” \$23,000 funded by Texas Air Research Center, September 2010 – August 2011.
- (18) **PI:** “Impact of Global Climate Change on the Precipitation and Acid Deposition in the Rio Grande River Basin Region,” \$155,000 funded by the Department of Agriculture, July 2008 – June 2011.
- (19) **PI:** “Design and Optimization of a Portable Biological Wastewater Treatment System for Emergency Relief and Decentralized Deployments,” \$500,244 funded by the US Department of Defense, March 2008 – February 2010.
- (20) **PI:** “System Integration and Optimization of a Novel Deployable Aqueous Aerobic Bioreactor (DAAB) for Wastewater Treatment,” \$568,651 funded by the US Department of Defense, September 2007 – February 2009.
- (21) **Co-PI:** “Collaborative Project: CCLI - Development of Materials for Teaching Design for Sustainability via Spiral Learning,” \$70,801 funded by National Science Foundation, February 2008 – February 2010.
- (22) **Co-PI:** “Assessment of the Impact of Airborne Particulate Pollutants on the Rio Grande Basin Watershed,” \$115,000 funded by the Department of Agriculture, July 2008 – June 2010.

- (23) **PI:** “Mitigation of Biological and Inorganic Fouling for Waste Stream Reduction in Membrane Filtration,” \$70,000 funded by Texas Hazardous Waste Research Center, September 2008 – August 2011.
- (24) **PI:** “Assessing the outflow of mercury from East Asia,” \$15,000 funded by the US Environmental Protection Agency, October 2009 – September 2010.
- (25) **PI:** “An integrated experimental and modeling study for improving mercury chemical mechanism in atmospheric mercury models,” \$83,266 funded by Texas Air Research Center, November 2007 – October 2009.
- (26) **PI:** “Modeling of Mercury Transport and Deposition in China,” \$25,000 funded by US Environmental Protection Agency, August 2007 – July 2008.
- (27) **PI:** “Waste Reduction from Membrane Facilities by Quantifying Fouling Caused by Bacteria and Inorganic Salts,” \$75,000 funded by Texas Hazardous Waste Research Center, September 2005 – August 2008.
- (28) **Co-PI:** “State Implementation Plan (SIP) Modeling Support through Atmospheric Chemical Transport Modeling,” \$75,000 funded by Texas Commission on Environmental Quality, November 2007 – August 2008.
- (29) **Co-PI:** “State Implementation Plan (SIP) Modeling Support and the Community Multi-scale Air Quality (CMAQ) Modeling System Development,” \$165,000 funded by Texas Commission on Environmental Quality, January 2007 – August 2007.
- (30) **PI:** “Modeling of Mercury in the Eastern US with Source Tagging Schemes,” \$25,000 funded by US Environmental Protection Agency, June 2006 – May 2007.
- (31) **Co-PI:** “Acquisition of a SEM/EDS System for Multi-disciplinary Research and Education,” \$126,427 funded by National Science Foundation, September 2006 – August 2009.
- (32) **PI:** “Study of CaSO₄ Fouling and Calcium Recovery from Brine in the Reverse Osmosis Desalination of Brackish Groundwater in the Rio Grande Basin,” \$80,000 funded by the Department of Agriculture, July 2005 – June 2007.
- (33) **Co-PI:** “Assessing the Impact of Airborne Pollutants on the Rio Grande Basin Watershed,” \$126,250 funded by the Department of Agriculture, September 2004 – June 2007.
- (34) **PI:** “Inter-comparison of Comprehensive Chemical Transport Models of Atmospheric Mercury,” \$25,000 funded by US Environmental Protection Agency, April 2005 – March 2006.
- (35) **PI:** “Modeling of Mercury Pollutants over the Pacific Regions,” \$25,000 funded by US Environmental Protection Agency, April 2005 – March 2006.
- (36) **Co-PI:** “Comparison of Atmospheric Deposition Schemes and System Development at TCEQ,” \$125,000 funded by Texas Commission on Environmental Quality, November 2005 – August 2006.
- (37) **Co-PI:** “Acquisition of a High-Sensitivity Gas Chromatography/Mass Spectrometry System for Multi-Disciplinary Research Projects and Education,” \$126,427 funded by National Science Foundation, January 2004 – December 2006.
- (38) **PI:** “Simulations of the Emission, Transport, Chemistry and Deposition of Atmospheric Mercury in the Upper Gulf Coast Region,” \$120,985 funded by USEPA Gulf Coast Hazardous Substance Research Center, September 2003 – December 2006.
- (39) **Co-PI:** “Development of a Low-Cost Adsorptive Filter for Simultaneous Soot, VOCs, and NO_x Control from Stationary Diesel Engine Exhaust with Microwave Regeneration,” \$125,040 funded by Texas Commission on Environmental Quality, February 2005 – November 2006.
- (40) **Co-PI:** “Development of Microwave-Enhanced Adsorption/Destruction Technology for Concerned Air Pollutants,” \$75,500 funded by USEPA Gulf Coast Hazardous Substance Research Center, September 2002 – November 2006.

- (41) **Co-PI:** "Characterization of Airborne Particulate Matter in a Heavily Industrialized Community," \$132,000 funded by Texas Air Research Center, December 2001 – August 2006.
- (42) **PI:** "Characterization of Water Pollution and Evaluation of Treatment Technologies Using Membrane Filtration for the Polluted Water in the Rio Grande Basin," \$40,833 funded by the Department of Agriculture, September 2004 – August 2005.
- (43) **Co-PI:** "Modeling Assessment of Water Quality for Reservoirs of Rio Grande," \$26,250 funded by the Department of Agriculture, September 2004 – August 2005.
- (44) **Co-PI:** "Air Quality Forecasting Using CMAQ," \$40,000 funded by Houston Advanced Research Center/University of Houston, February 2005 – August 2005.
- (45) **Co-PI:** "Development of CMAQ Chemistry Model for Atmospheric Mercury Modeling," \$75,000 funded by Texas Commission on Environmental Quality, December 2004 – August 2005.
- (46) **Co-PI:** "CMAQ Modeling of Mercury Deposition in Texas," \$90,000 funded by Texas Commission on Environmental Quality, June 2004 – August 2004.
- (47) **Co-PI:** "CMAQ One-Atmosphere Modeling," \$100,000 funded by Texas Commission on Environmental Quality, December 2003 – August 2004.
- (48) **Co-PI:** "Science Assessment of CAMx and CMAQ: I. Model Input and Algorithm Comparison," \$86,000 funded by Texas Commission on Environmental Quality, December 2003 – August 2004.
- (49) **Co-PI:** "Development of Texas Emission Inventory Preparation System for SMOKE," \$80,000 funded by Texas Air Research Center, November 2003 – August 2004.
- (50) **Co-PI:** "Matrix Isolation Study of Homogeneous and Heterogeneous Reactions of Nitrogen Oxides, Chlorine and Water in Tropospheric Processes," \$ 26,000 funded by Texas Air Research Center, November 2003 – May 2005.
- (51) **PI:** "Waste Reduction in Nanofiltration Facilities Employed to Prevent Pollution of Drinking Water by Halogenated Disinfection By-Product," \$97,518 funded by Texas Hazardous Waste Research Center, September 2001 – August 2004.
- (52) **Co-PI:** "Development of XRF Technology for Environmental Applications," \$76,500 funded by Texas Hazardous Waste Research Center, September 2002 – August 2005.
- (53) **Co-PI:** "Acquisition of an X-Ray Fluorescence (XRF) Spectrometer for Multi-disciplinary Research Projects," \$99,875 funded by National Science Foundation, January 2002 – December 2004.
- (54) **Co-PI:** "Matrix Isolation Study of the Effects of Molecular Chlorine and Isoprene on Tropospheric Ozone Formation," \$46,000 funded by Texas Air Research Center, December 2002 – November 2003.
- (55) **Co-PI:** "Satellite Assimilation in Meteorological and Air Quality Models for the TEXAQS2000 Study Period," \$34,000 funded by Texas Air Research Center, December 2002 – November 2003.
- (56) **Co-PI:** "The Modeling of Particulate Matter in Southeast Texas Airshed Using Community Multiscale Air Quality Model," \$150,000 funded by Texas Commission on Environmental Quality and Texas Air Research Center, January 2003 – August 2003.
- (57) **Co-PI:** "Jefferson County Highway 87 Shore Protection - Clay Sediment Characterization," \$10,000 funded by Jefferson County, Texas and Pacific International Engineering, January 2003 – August 2003.
- (58) **Co-PI:** "Field Investigation of Effluent Quality of Placement Areas along Sabine-Neches Waterway," \$53,631 funded by U.S. Army Corps of Engineers, January 2003 – August 2003.

- (59) **Co-PI:** “CMAQ Regional Haze Modeling,” \$65,000 funded by Texas Commission on Environmental Quality, June 2003 – August 2003.
- (60) **Co-PI:** “The Modeling of Tropospheric Ozone Formation in Southeast Texas Using Community Multiscale Air Quality Models,” \$150,000 funded by Texas Natural Resources Conservation Commission and Texas Air Research Center, February 2002 – August 2002.
- (61) **Co-PI:** “Field and Mechanistic Studies for Texas Upper Gulf Coast Air Quality,” \$350,000 funded by Texas Air Research Center, December 2000 – November 2002.
- (62) **PI:** “Removal of Methyl Tertiary-Butyl Ether in Water,” \$8,000 funded by Gill Foundation, January 2000 – August 2000.

4. Conference Proceeding Papers and Presentations

- (1) **Lin, C. J.** (Keynote Presentation), “Air-surface exchange of atmospheric mercury over terrestrial forest ecosystem,” 2023 Joint International Conference of Biogeochemistry of Trace Elements & International Conference of Heavy Metals, Wuppertal, Germany, September 6-10, 2023.
- (2) Feng, X., Yuan, W., Liu, Y., Li, K., **Lin, C. J.**, “Stable isotope fractionation induced from mercury biogeochemical cycling in forest ecosystems,” *14th International Conference on Mercury as a Global Pollutant*, Krakow, Poland, September 8-13, 2019.
- (3) Yuan, W., Wang, X., **Lin, C. J.**, Sommar, J., Feng, X. “Isotope fractionation induced by soil-air exchange of mercury vapor in subtropical forest ecosystems: Evidence for legacy re-emission,” *14th International Conference on Mercury as a Global Pollutant*, Krakow, Poland, September 8-13, 2019.
- (4) Wang, X., Yuan, W., **Lin, C. J.**, Wang, F., Feng, X. “Global warming accelerates uptake of atmospheric mercury in glacier retreated regions,” *14th International Conference on Mercury as a Global Pollutant*, Krakow, Poland, September 8-13, 2019.
- (5) Hao, J., Xu, X., **Lin, C. J.**, Zhang, L. “Comparison of two atmospheric mercury bi-directional exchange models,” *14th International Conference on Mercury as a Global Pollutant*, Krakow, Poland, September 8-13, 2019.
- (6) Chen C., Fu, X., Li, K., **Lin, C. J.**, Feng, X. “Uptake and re-emission of gaseous elemental mercury process between needles and broad leaves: Evidence from mercury isotopes,” *14th International Conference on Mercury as a Global Pollutant*, Krakow, Poland, September 8-13, 2019.
- (7) **Lin, C. J.**, Wang, X., Sommar, J., Feng, X., “Atmospheric Deposition and Outflow of Mercury Emissions in China,” *19th International Conference on Heavy Metals in the Environment*, Athens, Georgia, USA, July 22-25, 2018.
- (8) Bao, Z., **Lin, C. J.**, Wang, X., Shang, L., Feng, X., “Mercury cycling and isotopic fractionation in forest ecosystems: a modeling study,” *13th International Conference on Mercury as a Global Pollutant*, Providence, Rhode Island, USA, July 16-21, 2017.
- (9) Cao, T., **Lin, C. J.**, “Application of ABaCAS (Air Benefit and Cost and Attainment Assessment System)-TX for Ozone Non-attainment in Southeast Texas,” *16th Annual Community Modeling and Analysis System Conference*, Chapel Hill, North Carolina, 2017.
- (10) Feng, X., Wang, X., Yuan, W., **Lin, C. J.**, Sommar, J., “Stable isotopic evidence for mercury accumulation in the montane forests in southwest China,” *13th International Conference on Mercury as a Global Pollutant*, Providence, Rhode Island, USA, July 16-21, 2017.
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- (117) **Lin C.-J.**, Pehkonen S. O., "Free Radical Chemistry of Mercury: Implications for Mercury Transformation in the Atmosphere," *Current Environmental Research Workshop by USEPA and Univ. of Cincinnati*, Cincinnati, OH, May 1997.
- (118) **Lin C.-J.**, Pehkonen S. O., "Aqueous Photoreduction of Divalent Mercury with Organic Acids: Implications of Mercury Chemistry in the Atmosphere," *American Chemical Society National Conference*, 41-43, April 1997.
- (119) **Lin C.-J.**, Pehkonen S. O., "Aqueous Photoreduction of Divalent Mercury with Organic Acids," *19th Midwest Environmental Chemistry Workshop*, Purdue University, West Lafayette, IN, October 1996.
- (120) **Lin C.-J.**, Pehkonen S. O., "The Catalytic Effect of Airborne Particles on Aqueous Photoreduction of Divalent Mercury with Organic Acids," *16th Annual AAAR Conference*, Orlando, FL, August 1996.
- (121) **Lin C.-J.**, Vesilind P. A., "The Removal of Hexavalent Chromium by Ferrous Sulfate in Drinking Water Treatment," *27th Mid-Atlantic Industrial Waste Conference*, 568-579, Lehigh University, Bethlehem, PA, July 1995.

5. Book Chapters

- (1) Shirazi S. and **Lin C.-J.**, "Membrane Technology for Water Purification and Desalination," in *Sustainable Water Management and Technologies, Volume I: Sustainable Water Technologies*. (Ed.) Chen D., Taylor & Francis/CRC Press, Boca Raton, FL, 2015.
- (2) Travnikov O., **Lin C.-J.**, Dastoor A., et al., *Global and Regional Modelling, Hemispheric Transport of Air Pollution Part B: Mercury*, United Nations Convention on Long-range Transboundary Air Pollution, New York and Geneva, 2010.
- (3) **Lin C.-J.**, Pattaraporn Singhasuk, Simo O Pehkonen, "Atmospheric Chemistry of Mercury," in *Environmental Chemistry and Toxicology of Mercury*, (Eds.) G. Liu, Y. Cai and O'driscoll, John Wiley & Sons, Inc., New York, USA, 2011.
- (4) **Lin C.-J.** (contributing author), "Heavy Metals," in *Arctic Pollution 2002*, (Eds.) Nilsson A. and Huntington H., Arctic Monitoring and Assessment Programme, Oslo, Norway 2002.
- (5) Lindberg, S. E., Brooks S., **Lin C.-J.**, Scott, K., "Recent Research on Missing Sources and Sinks in the Global Mercury Cycle: The Role of the Arctic," *Proceedings of NIMD Forum-01*, the National Institute of Minamata Disease Press, Japan, pp. 53-58, 2001.
- (6) **Lin C.-J.** (contributing author), "Matheson Gas Data Book 7th Ed.– Chapter 26, 27, 28, 29 and 30," (Editor: Carl L. Yaws), Matheson Tri-Gas, Parsippany, NJ 07054, 2001.

TEACHING

1. Courses Taught at Lamar University

Undergraduate Courses

- (1) MCNR 4301-10 Research Methods and Graduate Studies
- (2) ENGR 4301-SA Global Issues in Engineering Management (Study Abroad Program)
- (3) ENGR 2301-10 Engineering Mechanics – Statics
- (4) CVEN 3290-01 Introduction to Engineering Statistics
- (5) CVEN 3310-02 Water Chemistry in Environmental Engineering
- (6) CVEN 3370-01 Water and Wastewater Treatment
- (7) CVEN 4370-01 Environmental Engineering Systems

Graduate Courses

- (1) CVEN 5325-10 Fundamentals of Air Pollution
- (2) CVEN 5329-10 Water Supply and Treatment
- (3) ENGR 5331-10 Engineering Ethics and Communications
- (4) CVEN 5331-10 Biological Wastewater Treatment
- (5) CVEN 5338-10 Solid Waste Management
- (6) CVEN 5343-10 Industrial Waste Management
- (7) CVEN 5348-10 Advanced Air Pollution Control
- (8) CVEN 5351-15 Unit Operations in Environmental Engineering
- (9) CVEN 5380-10 Chemical Principles in Environmental Engineering
- (10) CVEN 5387-14 Environmental Sciences and Engineering Analysis
- (11) CVEN 5347-14 Statistical Principles in Engineering Systems
- (12) CVEN 6387-17 Hydraulics in Environmental Systems

2. Teaching as an Academic Advisor for Graduate Students

I have served as the supervising professor or a committee member in 22 doctoral dissertations (chair for 9 dissertation committees) and 54 master theses (chair for 29 thesis committees) in research areas including global biogeochemical cycling of mercury released into the atmosphere, long-range transport of air pollutants, air-surface exchange of trace gases in forest ecosystems, membrane technologies for water purification, development of decentralized water and wastewater engineering systems, industrial sorption technologies for flue gas cleaning, chemical kinetic modeling, and global atmospheric model development.

SERVICE

I am an active member in the research communities of environmental sciences and engineering. As a contributing member, I frequently evaluate my peers' research proposals and manuscripts, provide analytical advice for environmental policies, organize special sessions in scientific conferences and participate in the scientific collaborations for UNEP's (United Nations Environment Programme) *Global Mercury Assessment*. In addition to being a technical reviewer for high-quality refereed journals*, I have served as a guest editor of special issues in mercury pollution and heavy metals in the environment for the journals *Atmosphere* and *Science of the Total Environment*. I have served as a member of the USEPA's Science Advisory Board on mercury emission and deposition, and was one of the lead modelers of the United Nations' Task Force on Hemispheric Transport of Air Pollutants (atmospheric mercury transport and deposition). I have also assisted in the technical analysis for national and international policymaking on mercury emission reduction including USEPA's Clean Air Mercury Rules (2005), Mercury and Air Toxics Standards for Power Plants (2013), and United Nations' Minamata Convention on Mercury (2017).

At Lamar University, I have served on more than 20 committees as a faculty member at the department, college and university levels in the areas of faculty/administrator searches, academic policies, program improvement review, personnel issues, student-faculty relations, university advancement and research development, and was elected as a faculty senator (2005-2008). I have hands-on experience in the planning and assessment of academic programs and have served as a liaison interacting with accreditation organizations including ABET and SACSCOC. I understand industrial needs and have provided technical assistance to the petrochemicals industry in the Southeast Texas region, mainly in the areas of process advancement, waste stream management and resources recovery.

* Journal list: *Environmental Science & Technology*, *Atmospheric Chemistry and Physics*, *Atmospheric Environment*, *Desalination*, *Langmuir*, *Journal of Membrane Science*, *Journal of Aerosol Science*, *Journal of Geophysical Research*, *Journal of Applied Meteorology*, *Waste Management*, *Journal of Environmental Engineering*, *Journal of Environmental Management*, *Journal of Hazardous Materials*, *Journal of Air and Waste Management Association*, *Separation Science and Technology*, *Environmental Progress*, *Environmental Pollution*, *Combustion and Flame*, *Journal of American Society of Civil Engineers*, etc.