

## Tianxing Cai, Assistant Professor

Dan F. Smith Department of Chemical and Biomolecular Engineering  
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### A. Education

Shanghai University, Shanghai, China	Chemistry	B.S., 2006
Lamar University, Beaumont, Texas	Chemical Engineering	Ph.D., 2014

### B. Professional Experience

Aug.2021 – Present	Assistant Professor, Lamar University
Aug.2019 – Aug.2021	Instructor, Lamar University
Jan.2015 – Aug.2019	Visiting Assistant Professor, Lamar University
Jul.2006 – Dec. 2010	Senior Quality Engineer, Amkor Technology

### C. Awards and Honors

Young Research Scholar Award for FOCAPO, NSF, 2014  
Best Student Paper Award of Environmental Division, AIChE, 2013  
Outstanding Employee Award, Amkor Technology, 2007

### D. List of Selected Grants for the Last 5 Years

N.A

### E. List of Selected Publications

1. Fu, J., Cai, T., Xu, Q. (2012). Coupling Multiple Water-reuse Network Designs for Agile Manufacturing, *Computers & Chemical Engineering*, **45**, 62-71.
2. Cai, T., Zhao, C., Xu, Q. (2012). Energy Network Dispatch Optimization under Emergency of Local Energy Shortage, *Energy*, **42**, 132-145.
3. Cai, T., Wang, S. J. Xu, Q., Ho, T.C. (2013). Proactive Abnormal Emission Identification via Air-quality Monitoring Network, *Industrial & Engineering Chemistry Research*, **52**, 9189-9202.
4. Wang, S., Cai, T., Eick, C. F. (2013). New Spatiotemporal Clustering Algorithms and their Applications to Ozone Pollution, *2013 IEEE 13th International Conference on Data Mining Workshops (ICDMW), IEEE*, 1061-1068.
5. Cai, T., Wang, S., Xu, Q. (2013) Scheduling of Multiple Chemical Plant Start-ups to Minimize Regional Air Quality Impacts, *Computers & Chemical Engineering*, **54**, 68-78.
6. Mittal, V., Cai, T., Krishnadevarajan, K., Xu, Q. (2014). Emission Considered Diesel Blending Optimization, *Chemical Engineering & Technology*, **37**, 293-

*Enriched Geo-Spatial Data, ACM.*

8. Cai, T., Xu, Q. (2015) Uncertainty Relationship Analysis for Multi-Parametric Programming in Optimization, *Advances in Global Optimization*, 437-447.
9. Cai, T., Wang, S., & Xu, Q. (2014). Air Quality Considered Site Selection for New Chemical Plants. In *Computer Aided Chemical Engineering* (Vol. 34, pp. 273-278). Elsevier.
10. Cai, T., Xu, Q. (2014). Application of Leading and Lagging Indicators to Improve Situation Awareness, *Proceedings of 2014 AIChE Spring Meeting & 10th Global Congress on Process Safety*.
11. Cai, T., Xu, Q. (2013). HAZOP Analysis and Debottleneck for Laboratory Operation in the Semiconductor Industry, *Proceeding of 2013 AIChE Spring Meeting & 9th Global Congress on Process Safety*.
12. Cai, T., Wang, S., & Xu, Q. (2015). Monte Carlo optimization for Site Selection of New Chemical Plants. *Journal of Environmental Management*, 163, 28-38.

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## **F. Synergistic Activities**

Faculty Advisor of National Society of Black Engineers Student Chapter at Lamar University

Faculty Advisor of American Institute of Aeronautics and Astronautics Student Chapter at Lamar University

Faculty Advisor of American Society of Heating, Refrigerating, and Air-Conditioning Engineers Student Chapter at Lamar University

Task Force Team Member, AIChE ChemEs with Disabilities Task Force

AIChE CCPS Translation for Process Safety Leading and Lagging Metrics

Newsletter Editor – AIChE Young Professional Committee

Webmaster – AIChE Upstream Engineering & Flow Assurance Forum

Student Board Member – IIE Sustainability Division

Technical Session Chairpersonship –

