

Ruize Chen

Phone: +86 18340833320 Email: ruize.chen@icloud.com
Address: Dalian, China

EDUCATION

- The University of Tokyo (UTokyo)** 2019.04 - 2021.03
Master of Environmental Studies, GPA ~3.83/4 Tokyo, Japan
Department of Environment Systems
- Thesis (independent research): Source, Fate, and Public Health Impact Assessments of PAHs in the Bohai Sea Region
 - Educational Program: Interdisciplinary Education Program on Ocean Science and Policy, Atmosphere and Ocean Research Institution, the University of Tokyo (AORI)
- Dalian University of Technology (DUT)** 2014.09 - 2018.07
Bachelor of Engineering Dalian, China
Department of Environmental Engineering
Ministry of Education (MoE) Key Laboratory of Industrial Ecology and Environmental Engineering, DUT
- Thesis title: PM_{2.5} and PM_{2.5}-bound Organic Pollutant Investigation in Dalian City
 - Minor: Japanese

RESEARCH EXPERIENCE

- MoE Key Laboratory of Industrial Ecology and Environmental Engineering, DUT** 2021.12 - Present
Part-time Research Assistant
- Designed simulation approach and established available models for emerging organic pollutants in environmental systems and environment-flora processes (like *Oryza sativa* L.).
 - Designed and developed approach to decompose apparent concentration variation into detailed kinetics.
- Laboratory of Marine Environment System (Independent research), UTokyo** 2019.04 - 2021.03
- I. Model function test and optimization**
- Reconstructed and optimized the historical concentration of hexachlorocyclohexane in the Yellow River.
- II. Energy consumption and PAHs emission estimation**
- Studied the energy consumption structure in China, and estimated the energy consumption variation and relevant contaminant emissions through the emission factors.
- III. Source apportionment**
- Discovered potential sources of organic pollutants through statistical methods including MLR, FA, PCA, diagnostic analysis, etc., by using SPSS and R.
- IV. Fate simulation**
- Designed and established the fugacity-based dynamic multimedia model to simulate organic pollutant concentration and transport variation by using Python and Matlab.
 - Reconstructed the water budget and long-term PAHs variation in the Bohai Sea and Bohai Bay region and predicted under multiple climate scenarios.
 - Performed validation, sensitivity, and uncertainty analysis (Monte Carlo, etc.).
- V. Public health and risk assessment**
- Estimated the ecotoxicity and dietary exposure of fish through the fugacity model, and evaluated the cancer risk from inhalation and fish intake.
 - Revealed the longitudinal body burden, and cross-sectional body burden concentration level of 9 generations, and divergent comparison between males and females from 1950 to 2050.
- Interdisciplinary Education Program on Ocean Science and Policy, UTokyo** 2019.04 - 2020.03
- Learned issues of the programme, including marine litter and microplastics, offshore generation, and aquatic biodiversity.
 - Investigated the development of offshore power generation and impacts on the local economy in Goto-Island and Hokkaido-Island.
 - Interviewed the islands' inhabitants, and studied the positive and negative opinions on the impact of offshore constructions.
 - Discovered the possible solutions to establish an integral system based on urbanization and economic transformation (Individual work).
- Laboratory of Marine Environment System, UTokyo** 2018.10 - 2019.03
- Studied Marine Environmental Committee (MEC) Model (in Fortran).
- MoE Key Laboratory of Industrial Ecology and Environmental Engineering, DUT** 2015.05 - 2018.07
- Sampled environmental pollutants, including particulate matter and airborne and waterborne contaminants, and

research materials like building dust, and decoration materials.

- Determined concentrations and compositions of organic pollutants like PAHs, PCBs, and PBDEs through chemical experiments and analysis equipment like GC-MS, etc.
- Discovered the characteristics of PM_{2.5} and PM_{2.5}-bound pollutants in a coastal city, and possible sources by using factor analysis, positive matrix factors, and other statistical methods.

Department of Environmental Engineering, DUT

2016.10 - 2017.02

- Investigated carbon footprint based on the student's behavior in the university.

PEER-REVIEWED PUBLICATIONS

- Wang, Y.*, **Chen, R.**, Zhang, Z., Fu, Z., Zhang, L., and Tan, F., 2024. "Kinetics of uptake, translocation, and metabolism of organophosphate esters in japonica rice (*Oryza sativa* L.): Hydroponic experiment combined with model." *Science of the Total Environment*. 2024: 175838. [Peer-reviewed] [Online] DOI: 10.1016/j.scitotenv.2024.175838.
- **Chen, R.*** and Tabeta, S., 2024. "Dynamic Multimedia Approach for Source Apportionment of Polycyclic Aromatic Hydrocarbons." *Chemosphere*. 350(2023): 141036. [Peer-reviewed] [Published] DOI: 10.1016/j.chemosphere.2023.141036
- **Chen, R.** and Tabeta, S.*, 2023. "Modeling the long-term fate of polycyclic aromatic hydrocarbons (PAHs) and public health risk in Bohai Bay Sea Area, China." *Marine Pollution Bulletin*. 190(2023): 114872. [Peer-reviewed] [Published] DOI: 10.1016/j.marpolbul.2023.114872
- Hou, M., Wang, Y.*, Zhao, H., Zhang, Q., Xie, Q., Zhang, X., **Chen, R.**, and Chen, J., 2018. "Halogenated flame retardants in building and decoration materials in China: Implications for human exposure via inhalation and dust ingestion." *Chemosphere*. 203 (2018): 291-299. [Peer-reviewed] [Published] DOI: 10.1016/j.chemosphere.2018.03.182
- Wang, Y.*, Wu, X., Hou, M., Zhao, H., **Chen, R.**, Luo, C., and Zhang, G., 2017. "Factors influencing the atmospheric concentrations of PCBs at an abandoned e-waste recycling site in South China." *Science of the Total Environment*. 578 (2017): 34-39. [Peer-reviewed] [Published] DOI: 10.1016/j.scitotenv.2016.08.131

WORK/INTERNSHIP EXPERIENCE

Baizhiye Tech

2023.08 - Present

Technic Partner

Nanchang, China

- Designed proposals on industrial visualization and digitalization (Digital Twins), and promotional extended reality(XR) production.
- Designed the business architecture and agenda, and cooperations with China Culture Network (CCNTV), the Sports Bureau of the prefecture-level city, etc.

Ruize AD Studio (Family Business)

2022.02 - Present

Technique Visualization Designer

Dalian, China

- Designed scientific and technical illustrations and covers for research groups with personal works including *Advanced Functional Materials Vol.32 No.44*, *Vol.35 No.45...*, *Advanced Material Interfaces Vol 9 I 33b*; *Advanced Energy Materials Vol14 No14*; etc.
- Responsible for advertising business and promoted cooperation with Adbentoboy Inc. (Japan).

Accenture

2021.07 - 2022.02

Software Engineer/ Application Analyst, Financial Service

Dalian, China

- Supported development project for Tokio Marine Group (Japan) new business line.
- Responsible for Java DC designing, developing, testing, and communicating with foreign colleagues.

SusLab Co., Ltd

2020.08 - 2021.03

Part-time assistant, SDGs and ESG

Tokyo, Japan

- Established SDGs List of 100+ corporate groups in the Tokyo Stock Exchange, Japan, including the airline, rubber, mechanical, insurance, and service industries.
- Analyzed 209 sub-SDGs data of administrative units, and designed statistic posters.

UNEP/NOWPAP/CEARAC/NPEC-Utoko IEPOSP

2019.07 - 2019.10

Assistant Intern

Tokyo, Toyama, Japan & Dalian, China

- Learned relevant issues on microplastics, marine litter, seagrass, eDNA, biodiversity, and etc in the Northwest Pacific region.
- Attended the Marine Environment Committee on the Sea of Japan of the first year of Reiwa Era, responsible for the meeting recording.
- Attend The 17th NOWPAP CEARAC Focal Points Meeting, responsible for the meeting operations and meeting recording.
- Attended NOWPAP-TEMM Joint Workshop on Marine Litter Management, 2019 NOWPAP International Coastal Cleanup (ICC), NOWPAP Regional Action Plan on Marine Litter (RAP MALI) Focal Points Meeting, and Second Expert Group Meeting of the NOWPAP Special Project "Monitoring and Assessment Methods for Microplastics

Pollution”, responsible for the issues recording and feedback.

Bureau of Environmental Protection of Dalian/ Dalian University of Technology

2017.10 - 2018.01

Student Investigator, Internship

Dalian, China

- Investigated 47 local state, private, and foreign firms, including the automobile industry, shipbuilding industry, chemical industry, oil storage, and mechanical industry, and processed the statistics on the emission of volatile organic component (VOCs) pollution and industry introduction
- Investigated the industrial field, and workspace, and analyzed relevant environmental protection measures for the VOCs dynamics checklist

EXTRA-CURRICULAR/VOLUNTEER ACTIVITY

The Department of Event Management, Envirsys, UTokyo

2019.04 - 2021.03

Secretary

Tokyo, Japan

- Responsible for the student activities and events, including the competitions, department parties, and activities

Students' Union of DUT, Department of Culture and Literature

2014.09 - 2015.07

Secretary

Dalian, China

- Responsible for scheming, designing, managing, and reporting the competitions and activities of the university
- Assisted to manage the literary journals of the university

SKILLS

Software: Microsoft Office, ArcGIS, AutoCAD, SPSS, RStudio, Matlab, Eclipse, MySQL and Oracle database, Photoshop, Procreate

Programming Languages: Java, SQL, R, C++, Matlab, Python

Professional Skills: Environmental Impact Assessment, Experiments of Chemical Synthesis and Analysis, System dynamics simulation, Statistical analysis (eg. MLR, FA, PMF, PCA, etc.),

Languages: Mandarin (native), English, Japanese