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Zhuofeng Yu



BACKGROUND

Education

Ph.D. in Microbiology (2017.10 – 2022.06, 35.1/30 ECTS)
University of Copenhagen, Copenhagen, Denmark
Keywords: Antibiotic Resistance, Plasmids
PhD Thesis: The Wastewater Plasmidome and its Derived Resistome - Insight into Their Dynamics in the Urban Water Systems

M.Eng. in Environmental Engineering (2014.09 – 2017.08, 3.5/4)
Tongji University, Shanghai, China
Keywords: Municipal Solid Waste, Antibiotics, ARGs
Master's Thesis: Fate of Antibiotics and Antibiotic Resistance Genes in Municipal Solid Waste under Anaerobic Treatment
Ranked Second in the Overall Academic Evaluation (n = 87)

B.Sc. in Environmental Science (2010.09 – 2014.06, 3.5/4)
Zhejiang University of Technology (ZJUT), Zhejiang, China
Keywords: Selective Biological Activity, Chiral Pesticides
Bachelor's Thesis: Enantioselectivity in Aquatic Toxicity of Synthetic Pyrethroid Insecticides Bifenthrin, Cyhalothrin and Permethrin
Ranked First in the Overall Academic Evaluation (n = 30)

Awards

Erasmus+ Grant for Student Mobility, KA1 Higher Education, 2016/2017

Level A Scholarship, Tongji University, 2014/2015, 2015/2016, 2016/2017

Outstanding Graduate of Zhejiang Province, China, 2014
Excellent Diploma Theses of School, ZJUT, 2014
Merit Student of School, ZJUT, 2013
First Prize of College-level and School-level Extracurricular Science and Technology Competitions, ZJUT, 2013 (Title: Synthesis and Performance Evaluation of Novel Catalysts for Diesel Exhaust Aftertreatment
Scholarships of ZJUT, 2010/2011 Level B, 2011/2012 Level B, 2012/2013 Level A

Research Expertise

Laboratory Management: Sampling and Pretreatment of Various Environmental Matrices (Sludge, Wastewater, Leachate, Soil, Compost, Odorous Gas, etc.); Large-scale Sample Handling and Processing (n > 200); Project Planning and Execution; Experimental Design Optimization; Equipment Maintenance; Lab Inventory, Strain, and Data Management; Coordination with International Collaborators; Information Feedback, and Overall Laboratory Organization

Molecular Biology: Primer Design, PCR, qPCR, Multiplex PCR; DNA Transformation, Plasmid Curing; CRISPR and TraDIS Experiments; Cloning; DNA Extraction for Whole-Genome and Plasmidome Analysis; Library Preparation and Loading for Illumina and Nanopore Sequencing Platforms; DNA Fragment Analysis (NGS Fragment Analysis); Post-Sequencing Bioinformatics, including Sequence Analysis and Database Alignment

Microbiology: Isolation of Exogenous Plasmids; Basic Flow Cytometry Operation, Cell Staining, Sorting and Counting; Pure Culture and Community Screening; Omnilog™ Growth Curve Assays; Antibiotic Susceptibility Testing (AST) and Determination of Minimum Inhibitory Concentrations (MIC)

Environmental Biochemistry: pH, EC, NH_3–N/TN, TOC/TC/IC, BOD_5, and COD; Monitoring of Humic Substances, Antibiotic and Biocide Residues, and Enantiomeric Separation of Chiral Pesticides by using HPLC; Aquatic Toxicity Testing using Zebrafish (*Danio rerio*) Models (Developmental and Gene Function Assessment); IR, GC, LC–MS and ICP–MS

Personal Skills

Compute: AI Tools (ChatGPT, Claude, Gemini), Microsoft Office, Notion, Slacks, Benchling, Clustermarket, etc.
Analytics & Data Visualization: IBM SPSS, R, OriginPro, SIMCA, Prism GraphPad, Geneious Prime, SnapGene, etc.
Graphic Design: Autodesk AutoCAD, BioRender, SketchUp, Sketch, Adobe InDesign and Illustrator, etc.
Social Media: Web Design, Photo and Video Editing
Language Proficiency: College English Test 4 (552), College English Test 6 (502), Japanese (Basic)

EXPERIENCE

2026.03 – 2026.06, Gothenburg, Sweden

Researcher (Part-time)

Department of Infectious Diseases, University of Gothenburg

Work on Daily Laboratory Tasks and Investigate Drivers of Antibiotic Resistance in Hospital Wastewater at Prof. Joakim Larsson's Group

2023.03 – 2026.03, Gothenburg, Sweden

Postdoctoral Researcher (Full-time)

Department of Infectious Diseases, University of Gothenburg

Work on the Global Sewage Project (Wastewater Selection Potential) at Prof. Joakim Larsson's Group, and Teaching Assistance in Molecular Microbiology Experiments

2022.02 – 2023.03, Copenhagen, Denmark

Research Assistant (Full-time)

Department of Biology, University of Copenhagen

Work on Daily Laboratory Tasks and the Swine Gut Plasmidome Project at Prof. Søren Sørensen's Group, and Teaching Assistance in Two Courses (Human Microbiome & the Experiments, Block 1 & 4)

2020.09 – 2021.02, Kgs. Lyngby, Denmark

Environment Change for PhD Student

Department of Environmental Engineering, Technical University of Denmark

Work on the SandBAR Project (Strategies and Barriers to Avoid the Spread of Antibiotic Resistance Genes in Wastewater Treatment Plants) at Prof. Barth F. Smets' Group

2017.10 – 2022.06, Copenhagen, Denmark

PhD (Full-time)

Department of Biology, University of Copenhagen

Work on the DARWIN Project (Dynamics of Antimicrobial Resistance in the Urban Water Cycle in Europe) at Prof. Søren Sørensen's Group

2016.09 – 2017.03, Padua, Italy

ERASMUS+ Higher Education Student Mobility

Department of Industrial Engineering, University of Padua

Work on the Landfill AMR Project (Prevalence and Proliferation of Antibiotic Resistance Genes and Heavy Metal Resistance Genes in MSW Landfills in Italy) at Assoc. Prof. Roberto Raga's and Prof. Raffaello Cossu's Group

2014.09 – 2017.08, Shanghai, China

Research Assistant (Part-time)

Institute of Waste Treatment & Reclamation, Tongji University

Work on Daily Laboratory Tasks and the Food Waste AMR Project at Prof. Pinjing He's Group

2014.07 – 2014.08, Zhejiang, China

Office Personal Assistant (Internship)

Environmental Protection Bureau of Fuyang District, Hangzhou

Work on Office Work and Document Review

2013.03 – 2014.05, Zhejiang, China

Research Assistant (Part-time)

International Joint Research Center for Persistent Toxic Substances & Research Center of Green Chirality, ZJUT

Work on Daily Laboratory Tasks

2012.07 – 2013.01, Zhejiang, China

Research Assistant (Part-time)

Institute of Catalytic Reaction Engineering, ZJUT

Work on Daily Laboratory Tasks

Fieldwork Experience

2016.10 – 2017.02, Veneto, Italy

Arzignano Landfill
Campodarsego Landfill
Legnago Landfill
Sant'Urbano Landfill

2013.07 – 2013.09, Zhejiang, China

Hangzhou Iron & Steel Group Co., Ltd.
Hangzhou Tianziling Landfill
Hangzhou Tianchuang Capital Water Co., Ltd.
Nanxing Drinking Water Treatment Plant, Hangzhou
Lin'an Municipal Wastewater Treatment Plant, Hangzhou
Hangzhou Lin'an Zhengda Paper Co., Ltd.
Feida Group Company Limited, Shaoxing
Jiehua Holdings Co., Ltd., Jiaxing

ACADEMICS

1. Conferences

Presentations

2026. Antibiotic Resistance Selection and Deselection in Municipal Wastewater from 47 Countries [Poster]
20th International Symposium on Microbial Ecology, Auckland, New Zealand
2025. Antibiotic Resistance Selection and Deselection in Municipal Wastewater from 47 Countries [Oral]
Annual Conference of the Centre for Antibiotic Resistance Research, Gothenburg, Sweden
2019. IncN Plasmids are Vectors Disseminating Colistin Resistance in Wastewater Microbiota [Poster & Oral]
5th International Symposium on the Environmental Dimension of Antibiotic Resistance, Hong Kong
15th Symposium on Bacterial Genetics and Ecology, Lisbon, Portugal
The Danish Microbiological Society Congress 2019, Copenhagen, Denmark
2016. Persistent Sulfonamides-resistant Genes Associated with Mobile Genetic Elements in Municipal Solid Waste Landfill Leachates [Poster & Oral]
9th Intercontinental Landfill Research Symposium, Hokkaido, Japan

Organizing Committee

2018. Organizing Committee Member of the PhD Day 2018
PhD Day of the Department of Biology, University of Copenhagen, Copenhagen, Denmark
2015. Organizing Committee Member of the IWWG-ARB 2015
2nd Symposium of Asian Regional Branch of International Waste Working Group, Shanghai, China

Participation

2024. Where Do Resistance Genes Become Mobile?
7th Environmental Dimension of Antimicrobial Resistance Conference, Montreal, Canada
2022. Dynamics of Antimicrobial Resistance in the Urban Water Cycle: A Polyphasic pan-European Investigation
18th International Symposium on Microbial Ecology, Lausanne, Switzerland

2. Publications

Selected First-Author Publications in the Past Five Years

2025. Nature Communications 16, 9698
Antibiotic Resistance Selection and Deselection in Municipal Wastewater from 47 Countries [Author 1/12, SCI, IF=18.1]
2024. Environment International 183, 108351
Insights into the Circular: The Cryptic Plasmidome and its Derived Antibiotic Resistome in the Urban Water Systems [Author 1/10, SCI, IF=10.2]
2024. Ecotoxicology and Environmental Safety 271, 115971
Horizontal Transmission of a Multidrug-resistant IncN Plasmid Isolated from Urban Wastewater [Author 1/13, SCI, IF=6.6]

Other Publications

2026. Microbiome 14, 39
Beyond Borders: Plasmids Drive a Shared Antibiotic Resistome in European Urban Water Systems [Author 2/9, SCI, IF=14.9]
2021. Environmental Science & Technology 55, 5939-5949
Extended-Spectrum β-Lactamase and Carbapenemase Genes are Substantially and Sequentially Reduced during Conveyance and Treatment of Urban Sewage [Author 7/12, SCI, IF=12.2]
2021. Chemosphere 266, 129182
Antibiotic Resistance Contamination in Four Italian Municipal Solid Waste Landfills Sites Spanning 34 Years [Author 3/6, SCI, IF=8.1]
2019. Journal of Environmental Sciences 85, 17-34
Fate of Antibiotics and Antibiotic Resistance Genes in a Full-Scale Restaurant Food Waste Treatment Plant: Implications of the Roles beyond Heavy Metals and Mobile Genetic Elements [Author 2/5, SCI, IF=6.5]
2016. Water Research 106, 583-592
Co-occurrence of Mobile Genetic Elements and Antibiotic Resistance Genes in Municipal Solid Waste Landfill Leachates: A Preliminary Insight into the Role of Landfill Age [Author 1/5, SCI, IF=12.8]

3. Involved Projects & Grants

Postdoctoral Research Projects

2025.01 – 2029.12 Swedish Research Council FORMAS (2024-01696)
Hospital Sewers as an Arena for Selection and Evolution of Antibiotic Resistance
2023.01 – 2025.12 Swedish Research Council VR (2022-00945)
Unaccounted Risk Factors for the Mobilization and Transfer of Antibiotic Resistance Genes from the Environmental Reservoir to Human Pathogens
2022.01 – 2024.12 Swedish Research Council FORMAS (2021-00949)
Hospital Sewers as an Arena for Selection and Evolution of Antibiotic Resistance
2021.06 – 2024.06 Swedish Research Council VR (ERA-NET 243/2021; No. 869178-AquaticPollutants)
Antibacterial Biocides in the Water Cycle – An Integrated Approach to Assess and Manage Risks for Antibiotic Resistance Development
2019.01 – 2024.12 Swedish Research Council VR (2018-05771)
The Environment as a Driver of Antibiotic Resistance – EDAR

PhD Research Projects

2017.01 – 2021.12 JPI AMR (7044-00004B)
Dynamics of Antimicrobial Resistance in the Urban Water Cycle in Europe
2017.01 – 2020.12 DFF-Forskningsprojekt2 (7017-00210A)
Strategies and Barriers to Avoid the Spread of Antibiotic Resistance Genes during Wastewater Treatment

Master's Research Projects

2017.01 – 2019.12 National Natural Science Foundation of China (51622809)
Utilization of Waste Biomass into Energy Resources
2016.08 – 2017.03 Erasmus+ EU Fund for KA1 Higher Education
2014.01 – 2017.12 National Natural Science Foundation of China (51378375)
Investigation into the Mechanism of Enhanced Microecological Tolerance of Methanogens by Meta-proteomics and Micromanipulation Analysis
2012.01 – 2016.12 National Basic Research Program of China (2012CB719801)
Characteristics of Anaerobic Degradation of Solid Waste