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Male 1991/11 Guldhedsgatan 10A, 41346 Gothenburg, Sweden

Zhuofeng Yu

BACKGROUND

Education

Ph.D. in Microbiology (2017.10 – 2022.06, 35.1/30 ECTS)

University of Copenhagen, Copenhagen, Denmark

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

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), Hangzhou, Zhejiang, China

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 (Activity and Sulfur Resistance of a New Diesel Vehicle Exhaust Catalyst [Pt-Pd/CeO₂])

Scholarships of ZJUT, 2010/2011 Level B, 2011/2012 Level B, 2012/2013 Level A

Research Expertise

Large-scale Sample Processing (n > 200) and Pre-Treatment

Traditional Environmental Experiments including pH, EC, TN, TOC, BOD₅ and COD and Humic Substances Analysis, IR, GC, HPLC, LC-MS and ICP-MS, and **Aquatic Toxicity Experiments** using the Zebrafish Model, etc.

Traditional Microbiology Experiments including Culturing, Plating, Growth Curve using OmniLog™, AST, MIC Tests and Phenotyping

Exogenous Plasmid Isolation using Filter Mating Assay

Flow Cytometry Knowledge and User Experience; Cell Staining, Counting and Sorting, etc.

Molecular Microbiology Experiments including Primer Design, PCR, qPCR, Multiplex PCR, Plasmid Typing, Plasmid Curing, CRISPR and TraDIS Hands-on Experience, Cloning; Genomic and Plasmid DNA Isolation and Purification (by Robot and Manually), Illumina and Nanopore Sequencing Libraries Preparation and Load on Devices; Sequence Analysis and Database Search

Personal Skills

Computer Literate: Microsoft Office, Google Workspace, Apple iWork, Adobe Creative Cloud, EndNote, Slacks, etc.

Analytics: IBM SPSS, R Studio (Basic)

Data Visualization: OriginPro, SIMCA, Prism GraphPad, Geneious Prime, SnapGene, etc.

Graphic Design: Autodesk AutoCAD, BioRender, SketchUp, Sketch, Adobe InDesign and Illustrator, etc.

Social Media: Web design, photography, photo and video editing

Language Proficiency: CET4 (552), CET6 (502)

Miscellaneous: Active Listening, Critical-thinking, Transferable Skills, Problem-solving, Interpersonal Skills (Oral/Written Communication), Presentation Competency, Leadership, Time-management, etc.

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EXPERIENCE

2023.03 – 2025.03

Postdoctoral Researcher (Full-time)

Department of Infectious Diseases, Institute of Biomedicine, the Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

Work on the Global Sewage Project (Selection Potential Investigation)

2022.02 – 2023.03

Research Assistant (Full-time)

Section of Microbiology, Department of Biology, University of Copenhagen, Copenhagen, Denmark

Work on the Swine Gut Plasmidome Project and Teaching Assistance in Two Courses (Human Microbiome & the Experiments, Block 1 & 4)

2020.09 – 2021.02

Environment Change for PhD Student

Department of Environmental Engineering, Technical University of Denmark, Lyngby, Denmark

Work on the SandBAR project (Mobile Antibiotic Resistance Content Changes along with Three Different Swedish Wastewater Treatment Systems) at Prof. Barth F. Smets' Group

2017.10 – 2022.06

PhD (Full-time)

Section of Microbiology, Department of Biology, University of Copenhagen, Copenhagen, Denmark

Work on the DARWIN project (Strategies and Barriers to Avoid the Spread of Antibiotic Resistance Genes in Wastewater Treatment Plants) at Prof. Søren Sørensen's Group

2016.09 – 2017.03

ERASMUS+ Higher Education Student Mobility

Department of Industrial Engineering, University of Padua, Padua, Italy
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

Research Assistant (Part-time)

Institute of Waste Treatment & Reclamation, Tongji University, Shanghai, China

Work on the Food Waste AMR Project

2014.07 – 2014.08

Office Personal Assistant (Internship)

Environmental Protection Bureau of Fuyang District, Hangzhou, Zhejiang, China

Work on Office Work and Document Review

2013.03 – 2014.05

Research Assistant (Part-time)

International Joint Research Center for Persistent Toxic Substances & Research Center of Green Chirality, Zhejiang University of Technology, Hangzhou, Zhejiang, China
Work on Daily Lab Tasks

2012.07 – 2013.01

Research Assistant (Part-time)

Institute of Catalytic Reaction Engineering, Zhejiang University of Technology, Hangzhou, Zhejiang, China
Work on Daily Lab Tasks

Fieldwork Experience

2016.10 – 2017.02

Legnago Landfill, Arzignano Landfill, Campodarsego Landfill, Gea Sant'Urbano Landfill, Veneto, Italy

2013.08 – 2013.09

Tianziling Municipal Solid Waste Landfill, Linan Zhengda Paper Industry, Shaoxing Feida Group Co., Ltd, Jiaying Jiehua Group Co., Ltd, Zhejiang, China

2013.07 – 2013.08

Hangzhou Tianchuang Water Services Co., Ltd, Hangzhou Nanxing Drinking Water Treatment Plant, Linan Municipal Wastewater Treatment Plant, Hangzhou Iron & Steel Group Company, Zhejiang, China

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ACTIVITIES

Conferences

2024. Where Do Resistance Genes Become Mobile? [Poster]

7th Environmental Dimension of Antimicrobial Resistance Conference (EDAR7), Montreal, Canada

2022. Dynamics of Antimicrobial Resistance in the Urban Water Cycle: a Polyphasic pan-European Investigation [Poster]

18th International Symposium on Microbial Ecology (ISME18), Lausanne, Switzerland

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,

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

Publications

2024. Environment International 183, 108351

Insights into the Circular: the Cryptic Plasmidome and its Derived Antibiotic Resistome in the Urban Water Systems

2024. Ecotoxicology and Environmental Safety 271, 115971

Horizontal Transmission of a Multidrug-resistant IncN Plasmid Isolated from Urban Wastewater

2024. Research Square, 10.21203/rs.3.rs-5064567/v1

Plasmidome Derived Antibiotic Resistome Reveals the Partitioning of Different Geographic Regions and Treatment Compartments in the Urban Water Systems

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

2021. Chemosphere 266, 129182

Antibiotic Resistance Contamination in Four Italian Municipal Solid Waste Landfills Sites Spanning 34 Years

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

2018. The Danish Microbiological Society Congress 2018, 71

Danish Wastewater Harbours Multiple Mobilized Colistin Resistance (*mcr*) Genes: A Preliminary Study on the Environmental *mcr* Reservoir

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

Involved Projects & Grants

2023 – 2025 Swedish Research Councils VR (Medicine and Health)

Unaccounted Risk Factors for the Mobilization and Transfer of Antibiotic Resistance Genes from the Environmental Reservoir to Human Pathogens [Postdoc]

2022 – 2024 FORMAS ETT Forskningsråd för Hållbar Utveckling

Hospital Sewers as an Arena for Selection and Evolution of Antibiotic Resistance [Postdoc]

2017 – 2021 JPIAMR (7044-00004B)

Dynamics of Antimicrobial Resistance in the Urban Water Cycle in Europe [Ph.D.]

2017 – 2020 DFF-Forskningsprojekt2 (7017-00210A)

Strategies and Barriers to Avoid the Spread of Antibiotic Resistance Genes during Wastewater Treatment [Ph.D.]

2017 – 2019 National Natural Science Foundation of China (51622809)

Utilization of Waste Biomass into Energy Resources [M.Eng.]

2014 – 2017 National Natural Science Foundation of China (51378375)

Investigation into the Mechanism of Enhanced Microecological Tolerance of Methanogens by Meta-proteomics and Micromanipulation Analysis [M.Eng.]

2012 – 2016 National Basic Research Program of China (2012CB719801)

Characteristics of Anaerobic Degradation of Solid Waste [M.Eng.]