



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 (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

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 and Determination of Minimum Inhibitory Concentrations (MIC)

Environmental Biochemistry: pH, EC, NH₃-N/TN, TOC/TC/IC, BOD₅, and COD; Humic Substance Characterization, IR, GC and LC; Monitoring of Antibiotic and Biocide Residues; Enantiomeric Separation of Chiral Pesticides; Aquatic Toxicity Testing using Zebrafish (Danio rerio) Models (Developmental and Gene Function Assessment); LC-MS and ICP-MS

Personal Skills

Computer Literate: Microsoft Office, Notion, EndNote, Mendeley, 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)

LinkedIn: <https://www.linkedin.com/in/zhuofeng-yu-92aa6887/>

ORCID: <https://orcid.org/0000-0001-9077-7662>



Zhuofeng Yu

EXPERIENCE

2023.03 – 2026.03, Gothenburg, Sweden

Postdoctoral Researcher (Full-time)

Department of Infectious Diseases, Institute of Biomedicine, the Sahlgrenska Academy, University of Gothenburg
Work on the Global Sewage Project (Selection Potential Investigation) at Prof. Joakim Larsson's Group

2022.02 – 2023.03, Copenhagen, Denmark

Research Assistant (Full-time)

Section of Microbiology, Department of Biology, University of Copenhagen
Work on Daily Lab Tasks, the Swine Gut Plasmidome Project 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 (Mobile Antibiotic Resistance Content Changes along with Three Different Swedish Wastewater Treatment Systems) at Prof. Barth F. Smets' Group

2017.10 – 2022.06, Copenhagen, Denmark

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, 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, Shanghai, China
Work on Daily Lab Tasks and the Food Waste AMR Project

2014.07 – 2014.08, Zhejiang, China

Office Personal Assistant (Internship)

Environmental Protection Bureau of Fuyang District, Hangzhou, Zhejiang, China
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, Zhejiang University of Technology, Hangzhou, Zhejiang, China
Work on Daily Lab Tasks

2012.07 – 2013.01, Zhejiang, China

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, Veneto, Italy

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

2013.08 – 2013.09, Zhejiang, China

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

2013.07 – 2013.08, Zhejiang, China

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

Zhuofeng Yu



ACADEMICS

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

2025. Nature Communications 16, 9698

Antibiotic Resistance Selection and Deselection in Municipal Wastewater from 47 Countries [Author 1/12]

2025. Science Advances (Under Consideration, adx8512)

Beyond Borders: Plasmids Drive a Shared Antibiotic Resistome in European Urban Water Systems [Author 2/9]

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]

2024. Ecotoxicology and Environmental Safety 271, 115971

Horizontal Transmission of a Multidrug-resistant IncN Plasmid Isolated from Urban Wastewater [Author 1/13]

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 [Author 1/10]

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]

2021. Chemosphere 266, 129182

Antibiotic Resistance Contamination in Four Italian Municipal Solid Waste Landfills Sites Spanning 34 Years [Author 3/6]

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, Supervisor 1]

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 [Author 1/6]

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]

Involved Projects & Grants

2023 – 2025 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 [Postdoc]

2022 – 2024 FORMAS (2021-00949)

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

2021 – 2024 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 [Postdoc]

2019 – 2024 Swedish Research Council VR (2018-05771)

The Environment as a Driver of Antibiotic Resistance - EDAR [Postdoc]

2017 – 2021 JPI-AMR (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 Metaproteomics and Micromanipulation Analysis [M.Eng.]

2012 – 2016 National Basic Research Program of China (2012CB719801) Characteristics of Anaerobic Degradation of Solid Waste [M.Eng.]

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移动电话: +86 – 159 0097 8256; +45 – 5222 7155
电子邮箱: zhuofeng.yu@hotmail.com
个人网站: <https://www.zhuofeng-yu.com>
简要信息: 男, 1991/11, 籍贯浙江杭州, 3.5年工作经验

俞卓锋



个人简介

教育背景

博士, 微生物学, 哥本哈根大学, 丹麦 (2017.10 – 2022.06, 35.1/30 ECTS)

研究方向: 分子生物学 (质粒与抗生素耐药性基因)

博士论文: 城市水处理系统中污水的质粒组及其衍生的抗生素耐药组的动态研究

硕士, 环境工程, 同济大学, 中国 (2014.09 – 2017.08, 3.5/4)

研究方向: 固体废弃物 (城市生活垃圾与抗生素及其耐药性基因)

硕士论文: 生活垃圾厌氧处理环境下抗生素及其抗性基因的赋存规律

学业和学术综合排名专业第二 (n=87)

学士, 环境科学, 浙江工业大学, 中国 (2010.09 – 2014.06, 3.5/4)

研究方向: 环境毒理学 (手性农药选择性生物活性)

学士论文: 拟除虫菊酯的对映体选择性水生毒性

学业和学术综合排名专业第一 (n=30)

获奖成果

欧盟Erasmus+奖学金, 2016/2017

同济大学A等学业奖学金, 2014 – 2017

浙江省优秀毕业生, 2014; 浙江工业大学校级优秀毕业论文, 2014

浙江工业大学校三好学生, 2013; 浙江工业大学党员骨干培训班优秀学员, 2013

浙江工业大学第二十四届校"运河杯"学生课外学术科技作品竞赛一等奖, 2013 (新型柴油车尾气催化剂[Pt-Pd/CeO₂]活性及抗硫性研究)

浙江工业大学生物与环境工程学院第十一届"昂立杯"学生课外学术科技作品竞赛一等奖, 2013

浙江工业大学校级优秀奖学金 (2010/2011二等奖学金, 2011/2012二等奖学金, 2012/2013一等奖学金)

浙江工业大学优秀团员, 2011/2012

研究专长

实验室基本技能, 包括各类环境样品采样与预处理 (污泥, 污水, 渗滤液, 土壤, 堆肥, 臭气等), 大规模样品管理与操作 (n>200), 实验项目规划与执行, 实验方案优化, 仪器设备维护, 库存/菌种/数据管理等

分子生物学实验, 包括引物设计, PCR, qPCR, 多重PCR, DNA转化, 质粒去除, CRISPR与TraDIS, 克隆, 全基因组与质粒组的DNA提取; Illumina 和Nanopore测序的实验准备与上样; DNA片段分析 (NGS Fragment Analysis); 测序后序列分析, 数据库搜索比对等下游分析等

微生物学实验, 包括外源性质粒分离, 流式细胞仪的基本操作, 细胞染色与分选计数等; 纯培养与菌群筛选, OmniLog™生长曲线实验, 抗生素敏感性测试, 最小抑菌浓度测试等

环境生化实验, 包括pH, EC, NH3-N/TN, TOC/TC/IC, BOD₅和COD的检测; 腐殖质分析, 红外扫描, 气相色谱, 液相色谱; 抗生素/杀菌剂残留监测; 手性农药的同分异构体分离, 运用斑马鱼模型进行水生毒性实验 (发育和基因功能影响); LC-MS 和ICP-MS等

个人技能

日常办公: Microsoft Office, Google Workspace, Adobe Creative Cloud, Notion, EndNote, Mendeley, Slacks, Clustermarket等

数据分析: IBM SPSS, R

数据可视化: OriginPro, SIMCA, Prism GraphPad, Geneious Prime, SnapGene, Benchling等

图形设计: Autodesk AutoCAD, BioRender, SketchUp, Sketch, Adobe InDesign和Illustrator等

社交媒体: 网页设计, 摄影, 图片与视频编辑

语言能力: CET4 (552), CET6 (502)

其他: 倾听能力, 批判性思维, 知识转化, 问题解决力, 人际交往能力(口头/书面交流), 演讲能力, 领导力, 时间管理能力等

Website: <https://www.zhuofeng-yu.com>

LinkedIn: <https://www.linkedin.com/in/zhuofeng-yu-92aa6887/>

ORCID: <https://orcid.org/0000-0001-9077-7662>



工作经历

2023.03 – 2026.03, 哥德堡大学, 瑞典

博士后研究员 (全职)

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

在Joakim Larsson教授团队中参与全球污水项目 (抗生素耐药性的选择性研究与主要选择物的探究)和一门课程 (分子微生物学实验)的教学辅助

2022.02 – 2023.03, 哥本哈根大学, 丹麦

研究助理 (全职)

Section of Microbiology, Department of Biology, University of Copenhagen
日常实验室助理工作, 参与猪肠道质粒组项目和两门课程 (人体微生物组及其实验课)的教学辅助

2020.09 – 2021.02, 丹麦技术大学, 丹麦

博士生环境交换

Department of Environmental Engineering, Technical University of Denmark
在Barth F. Smets教授团队中参与 SandBAR项目 (移动性抗生素耐药性在瑞典三种不同的污水处理工艺系统中的含量变化)

2017.10 – 2022.06, 哥本哈根大学, 丹麦

博士 (全职)

Section of Microbiology, Department of Biology, University of Copenhagen
在 Søren Sørensen教授的团队中从事 DARWIN 项目 (避免抗生素耐药性基因通过污水处理厂传播的研究)

2016.09 – 2017.03, 帕多瓦大学, 意大利

ERASMUS+ 高等教育学生交换

Department of Industrial Engineering, University of Padova
在Roberto Raga副教授与Raffaello Cossu教授的团队中参与意大利城市固体废物填埋场中抗生素耐药基因和重金属耐药基因的流行和增殖的研究工作

2014.09 – 2017.08

研究助理 (兼职)

同济大学固体废弃物研究所

日常实验室助理工作, 参与餐厨垃圾抗生素耐药基因项目

2014.07 – 2014.08

办公室助理(实习)

浙江省杭州市富阳区环境保护局

文件审阅与传递

2013.03 – 2014.05

研究助理 (兼职)

浙江工业大学持久性毒物国际联合研究和绿色手性研究中心

日常实验室助理工作

2012.07 – 2013.01

研究助理 (兼职)

浙江工业大学催化反应工程研究所

日常实验室助理工作

2016.10 – 2017.02

实地实习

意大利威尼斯各地 (Legnago, Arzignano, Campodarsego, Gea Sant'Urbano)的填埋场

2013.07 – 2013.09

工艺实习

杭州天子岭垃圾填埋场, 杭州临安正达纸业有限公司, 绍兴菲达集团有限公司, 嘉兴洁华控股股份有限公司, 杭州天创水务有限公司, 杭州南星自来水厂, 杭州临安城市污水处理厂, 杭州钢铁集团有限公司

科研业绩

国际会议

2024. Where Do Resistance Genes Become Mobile? [海报展示]

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 [海报展示]

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

2019. IncN Plasmids are Vectors Disseminating Colistin Resistance in Wastewater Microbiota [海报展示与口头汇报]

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 [海报展示与口头汇报]

9th Intercontinental Landfill Research Symposium, Hokkaido, Japan

期刊杂志

2025. Nature Communications 16, 9698, SCI, IF 15.7

Antibiotic Resistance Selection and Deselection in Municipal Wastewater from 47 Countries [作者 1/12]

2025. Science Advances (Under Consideration, adx8512)

Beyond Borders: Plasmids Drive a Shared Antibiotic Resistome in European Urban Water Systems [作者 2/9]

2024. Environment International 183, 108351, SCI, IF 10.3

Insights into the Circular: the Cryptic Plasmidome and its Derived Antibiotic Resistome in the Urban Water Systems [作者 1/10]

2024. Ecotoxicology and Environmental Safety 271, 115971, SCI, IF 6.8

Horizontal Transmission of a Multidrug-resistant IncN Plasmid Isolated from Urban Wastewater [作者 1/13]

2021. Environmental Science & Technology 55, 5939-5949, SCI, IF 11.4

Extended-Spectrum β -Lactamase and Carbapenemase Genes are Substantially and Sequentially Reduced during Conveyance and Treatment of Urban Sewage [作者 7/12]

2021. Chemosphere 266, 129182, SCI, IF 8.9

Antibiotic Resistance Contamination in Four Italian Municipal Solid Waste Landfills Sites Spanning 34 Years [作者 3/6]

2019. Journal of Environmental Sciences, 85, 17-34, SCI, IF 4.8

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 [作者 2/5, 导师第一]

2016. Water Research 106, 583-592, SCI, IF 6.9

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 [作者 1/5]

参与项目与基金支持

博士后项目研究

2023 – 2025 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 – 2024 Swedish Research Council FORMAS (2021-00949)

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

2021 – 2024 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 – 2024 Swedish Research Council VR (2018-05771)

The Environment as a Driver of Antibiotic Resistance – EDAR

博士项目研究

2017 – 2021 JPIAMR (7044-00004B)

Dynamics of Antimicrobial Resistance in the Urban Water Cycle in Europe

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

Strategies and Barriers to Avoid the Spread of Antibiotic Resistance Genes during Wastewater Treatment

硕士项目研究

2017 – 2019 国家自然科学基金项目 (51622809)

废弃生物质能源资源利用

2014 – 2017 国家自然科学基金项目 (51378375)

基于宏蛋白质组学及显微操作多相分析产甲烷菌微生态耐受性强化机制

2012 – 2016 国家973重点基础研究发展计划项目课题 (2012CB719801)

城市固废物-化-生相变及污染物产生