Zhehao Hu

Curriculum Vitae

PERSONAL INFORMATION

Last Name, First Name	Hu, Zhehao
Birth	28.12.2000 in Tokyo, Japan
Nationality	R. O. China (Taiwan)
Mobile	+49(0)152-5322-4676
E-Mail	hu_zhehao@hotmail.com
Location	Hamburg, Germany
Languages	Mandarin (native), German (fluent), English (fluent), Japanese (fluent)

RESEARCH INTEREST

I am a passionate graduate student focused on eco-evolutionary dynamics and conservation strategy. My research interest centers on the interaction between species evolution and human impacts. I am particularly fascinated by how species adapt to changing world in terms of population dynamics, as well as underlying physiological traits.

I aim to use interdisciplinary approaches by combining molecular ecology, biochemical technologies, integrative taxonomy and biodiversity studies, to enhance our understanding of how species evolve in response to exposome changes. My long-term goal is to support conservation efforts and One Health by conducting research and turning my findings into public education, encouraging greater participation from others.

EDUCATION

M.Sc. Biology

University of Hamburg — 10/2023 - 09/2025 (expected)
Faculty of Mathematics, Informatics and Natural Science — Current GPA: 3.9/4.0 (1.1)

Courses:

- Molecular Parasitology
- Cellular and Molecular Immunology
- Evolutionary Systematics
- Community Ecology
- Marine Deep-Sea Benthic Habitats and Biodiversity

B.Sc. Biology

University of Hamburg — 10/2020 - 03/2024
Faculty of Mathematics, Informatics and Natural Science — GPA: 3.0/4.0 (2.0)

Elective Courses:

- Biological Oceanography and Fisheries Science
- Methods of Open Field Ecology
- Biodiversity of Fungi
- Introduction of Geographic Information System
- Molecular Methods of Animal Physiology
- Data Analysis in Ecology with R

Course works:

- Gradient analysis of floodplain grassland: species community
- Understanding hemocyanin evolution using molecular and biochemical methods

Bachelor thesis: How's *Wolbachia* doing? Various *Wolbachia* communities in the female-biased flea beetle *Altica lythri*.

- Supervisor: Prof. Dr. Susanne Dobler, Dr. Kim Rohlfing
- Grade: 4.0/4.0

INTERNSHIP

Research Internship | Senckenberg am Meer 10/2024 - Present

German Centre for Marine Biodiversity Research (DZMB), Section Epifauna, run by Dr. Saskia Brix

- Species delimitation of Atlantic *Acanthocope* (genus of Munnopsidae, Isopoda) samples collected from IceDivA, IceDivA2 and IceAGE3 expeditions.
- Integrative taxonomy using morphological approaches with bright-field microscopy and confocal laser scanning microscopy (CLSM), DNA barcoding (COI) and proteomics fingerprints analysis (MALDI-TOF).
- Examining possible cryptic species, as well as morphologically distinct new species.
- Exploring biogeographic distribution pattern of the genus in Northern Atlantic.

Contact: Dr. Saskia Brix, saskia.brix-elsig@senckenberg.de

EMPLOYMENT

Research assistant | University of Hamburg 07/2024 - Present

Working Group "Neurophysiology" run by Prof. Dr. Christian Lohr

- Assisted genotyping of the experimental animals.
- Enhanced skills to optimize laboratory works.

Contact: Prof. Dr. Christian Lohr, christian.lohr@uni-hamburg.de

Student assistant | University of Hamburg 08/2023 - 03/2024

Working Group "Molecular Evolutionary Biology" run by Prof. Dr. Susanne Dobler

- Assisted essential works in laboratory research and laboratory organization.
- Developed novel DNA/RNA-extraction protocols for specific tissues and usages.
- Enhanced research skills by cooperating with other researchers.
- Attended the DZG (German Zoological Society) conference in Kassel with poster contribution.

Contact: Prof. Dr. Susanne Dobler, susanne.dobler@uni-hamburg.de

Laboratory technician | Eurofins BioTesting Service Nord GmbH 07/2023

- Student job in biosafety level 2 laboratory.
- Operated *in vitro* diagnostic tests (ISO 17822) for testing *Salmonella spp.*, *Listeria monocytogenes* and *Vibrio spp.*
- Developed laboratory skills to navigate a fast-paced working environment with standardized laboratory procedures.
- Demonstrated ability to follow strict protocols and ensure compliance with safety regulations.

Contact: Gerrit Fabian Bauer, GerritFabianBauer@eurofins.de

TEACHING EXPERIENCE

Animal Physiology | University of Hamburg 2022 - 2023

Teaching assistant | 24 classes, 200+ students total

- 2nd year mandatory practical course for the B.Sc. Biology program.
- Supported in assessing course plan.
- Advised students on molecular biology experiments (cell counting, SDS-PAGE, ECG, enzyme acitivity measurement, basic data interpretation)

Evolutionary Ecology | University of Hamburg 2023

Teaching assistant | 1 class, 12 students

- 3rd year elective practical course for the B.Sc. Biology program.
- Supported and advised students on molecular biology experiments (PCR, gel-electrophoresis, immunocytochemistry, result interpretation)

CONFERENCE ACTIVITY

Detecting *Wolbachia* infection with Real-time PCR in female-biased flea beetle *Altica lythri*
Poster | 115th Conference of the German Zoological Society | 09/2023

SKILLS

Professional Competence

- **Molecular Biological Tools**: PCR techniques, SDS-PAGE, western blot, sequencing, cloning, ICC
- **Informatics**: R, Python 3, HTML, CSS, GIS, phylogenetic reconstruction, Bayesian statistics, multivariate analysis, genome assembly, sequence alignment, motif finding, peptide sequencing, BLAST, image and video processing and analysis (Adobe Creative Softwares, DaVinci Resolve), technical writing (Markdown, LaTeX, Quarto)

Research Skills

- **Analysis & Problem-Solving**: comprehend large amounts of information, identify problems through experiment design, form and defend independent conclusions
- **Interpersonal**: teach skills and concepts to others, collaborate on projects
- **Management**: effectively organize and evaluate large quantities of data, identify sources of information, plan projects realistically to meet deadlines, maintain flexibility in a changing environment
- **Communication**: prepare logically-written materials, deliver comprehensive oral presentations, explain complex concepts in basic terms

CERTIFICATE AND COMPETENCE

Coursera Courses

- Bioinformatics Specialization (I-II) (by UC San Diego)

SCUBA Diving

- PADI Rescue Diver

REFERENCES

Prof. Dr. Susanne Dobler
Department of Biology, University of Hamburg
Martin-Luther-King Pl. 3, 20146 Hamburg, Germany
susanne.dobler@uni-hamburg.de
Tel.: +49 40 42838-4288
First supervisor of my bachelor thesis.

Dr. Kim Rohlfing
Department of Biology, University of Hamburg
Martin-Luther-King Pl. 3, 20146 Hamburg, Germany
kim.rohlfing@uni-hamburg.de
Tel.: +49 40 42838-3867
Second supervisor of my bachelor thesis.

LINKS

Personal website: zzzhehao.github.io
GitHub: github.com/zzzhehao
LinkedIn: linkedin.com/in/zhehaohu