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Education

- 2020 **Doctor of Philosophy** (Zoology), Charles University, Faculty of Science, Prague, Czech Republic. Dissertation title: Anaerobic ciliates as a model group for studying the biodiversity and symbioses in anoxic environments. Advisor: Prof. RNDr. Ivan Čepička, Ph.D.
- 2015 **Rerum naturalium doctor & Master of Science** (Protistology), Charles University, Faculty of Science, Prague, Czech Republic. Thesis: Morphological and molecular diversity of the free-living representatives of the family Metopidae and the discovery of a new lineage of anaerobic ciliates. Advisor: Prof. RNDr. Ivan Čepička, Ph.D.
- 2013 **Bachelor of Science** (Molecular Biology and Biochemistry of Organisms), Charles University, Faculty of Science, Prague, Czech Republic. Thesis: The use of DNA barcoding method in protists. Advisor: Prof. RNDr. Ivan Čepička, Ph.D.

Research Appointments

- 2024 **Assistant Professor**, Department of Marine Sciences, University of Puerto Rico Mayagüez, PR, USA
- 2020–2023 **Postdoctoral researcher** in the team of Dr Roxanne Beinart, Graduate School of Oceanography University of Rhode Island, RI, USA
- 2019–2020 **Scientific researcher** at Department of Zoology, Faculty of Science, Charles University, Czech Republic
- 2014–2017 **Scientific researcher** at Department of Zoology, Faculty of Science, Charles University, Czech Republic

Research Funding Experience

- 2020–2022 **Member of the research team (unofficial co-PI)** in Gordon and Betty Moore Foundation's Symbiosis in Aquatic Systems Initiative funding project nr. 9342, titled New Tools for Advancing Model Systems in Aquatic Symbiosis
- 2019–2020 **Principal Investigator** (PI) in Charles University Grant Agency funding project nr. 116119, titled Phylogeny and diversity of anaerobic ciliates of the class Odontostomatea (SAL, Ciliophora) and characterization of their methanogenic symbionts
- 2019–2021 **Member of the research team** in Czech Science Foundation (GACR) project nr. 19-19297S titled Free-living anaerobic ciliates as a model group for studying the biodiversity and symbioses in anoxic environments
- 2018–2020 **Member of the research team** in Czech Science Foundation (GACR) project nr. 18-18699S, titled Non-standard genetic codes in protists and their evolution
- 2015–2018 **Principal Investigator** (PI) in Charles University Grant Agency funding project nr. 389915, titled Diversity and Evolution of Anaerobic Ciliates, an ecologically important but poorly known group of protists

Selected Academic Awards and Scholarships

- 2022 CAREERS (*Cyberteam to Advance Research and Education in Eastern Regional Schools*) Scholarship, NSF project 2018873
- 2021 Vakovlk Award for significant PhD publication record, Department of Zoology, Faculty of Science, Charles University
- 2021 Bolzano Award for outstanding Dissertation work, Charles University
- 2020 Hlávková Foundation Award for Best PhD Students, Czech Republic
- 2018 Best Doctoral Poster Award at Department of Zoology, Faculty of Science, Charles University
- 2018 ISEP Travel Award, FEMS (Federation of European Microbiology Societies)
- 2015 STARS – Scholarship for Talented PhD Students, Faculty of Science, Charles University
- 2016 Charles University Mobility Fund scholarship and Hlávková Foundation Endowment for WHOI internship, MA, USA
- 2014 Best conference poster at 44th Jírovec Protozoological Days, Krásná, Czech Republic
- 2014 Hlávková Foundation Travel Award for international conference Protist, Banff, Canada

Peer-reviewed Publications in Impacted Scientific Journals, Available Protocols & Scopus Metrics

15. **Rotterová, J.**, Salomaki, E., Pánek, T., Táborský, P., Kotyk, M., Kolísko, M., Čepička, I., 2023. Single cell transcriptomics of the APM clade of anaerobic ciliates resolves the position phylogeny of Armophorida (Armophorea) and reveals stop UAR codon reassignment in a member of Tropidoatractidae *Palmarella salina* (Metopida, Armophorea). *Molecular Phylogenetics and Evolution*, 191, p.107991. (IF 4.100)
14. Feng, X., Méndez-Sánchez, D.*, Zhuang, W., Li, R., Pomahač, O.*, Čepička, I., **Rotterová, J.**, Hu, X., 2023. Morphology, morphogenesis, and molecular characterization of *Castula specialis* sp. nov. (Ciliophora, Armophorea, Metopida). *Journal of Eukaryotic Microbiology*, p.e13014. (IF 3.170)
13. Li, R., Zhuang, W., Feng, X., Al-Farraj, S. A., Schrecengost, A.*, **Rotterová, J.**, Beinart, R. A., Hu, X., 2023. Molecular phylogeny and taxonomy of three anaerobic plagiopyleans (Alveolata, Ciliophora), retrieved from two geographically distant localities in Asia and North America. *Zoological Journal of the Linnean Society* 199: 493–510. (IF 3.286)
12. Méndez-Sánchez, D.*, Pomahač, O.*, **Rotterová, J.**, Bourland, W.A. and Čepička, I., 2023. Morphology and phylogenetic position of three anaerobic ciliates from the classes Odontostomatea and Muranotrichea (Ciliophora). *Journal of Eukaryotic Microbiology*, p.e12965. (IF 3.170)
11. Méndez-Sánchez, D.*, Pomahač, O.*, **Rotterová, J.**, Bourland, W., Čepička, I., 2022. Diversity and phylogenetic position of *Bothrostoma* Stokes, 1887 (Ciliophora: Metopida), a poorly studied ciliate genus, with description of four new species. *Protist* 173: p. 125887. (IF 2.700)
10. **Rotterová, J.**, Edgcomb, V.P., Čepička, I., Beinart, R., 2022. Anaerobic ciliates as a model group for studying symbioses in oxygen-depleted environments. *Journal of Eukaryotic Microbiology*, p.e12912. (IF 3.170) *Selected for cover*
9. **Rotterová, J.**, Salomaki, E., Pánek, T., Bourland, W., Žihala, D., Táborský, P., Edgcomb, V. P., Beinart, R. A., Kolísko, M., Čepička, I., 2020. Genomics of new ciliate lineages provides insight into the evolution of obligate anaerobiosis. *Current Biology* 30: 1–14. (IF 9.193)
8. Bourland, W., **Rotterová, J.**, Čepička, I., 2020. Description of three new genera of Metopidae (Metopida, Ciliophora): *Pileometopus* gen. nov., *Castula* gen. nov., and *Longitaenia* gen. nov., with notes on the phylogeny and cryptic diversity of metopid ciliates. *Protist* 171: p.125740. (IF 3.000)
7. Bourland, W., **Rotterová, J.**, Čepička, I., 2018. Morphologic and molecular characterization of *Brachonella pulchra* (Kahl, 1927) comb. nov. (Armophorea, Ciliophora) with comments on cyst structure and formation. *International Journal of Systematic Evolutionary Microbiology* 68:3052–3065. (IF 2.166)
6. **Rotterová, J.**, Bourland, W., Čepička, I., 2018. Tropidoatractidae fam. nov., a deep branching lineage of Metopida (Armophorea, Ciliophora) found in diverse habitats and possessing prokaryotic symbionts. *Protist* 169: 362–405. (IF 3.000)
5. Beinart, R.A., **Rotterová, J.**, Čepička, I., Gast, R.J., Edgcomb, V.P., 2018. The genome of an endosymbiotic methanogen is very similar to those of its free-living relatives. *Environmental Microbiology* 20: 2538–2551. (IF 5.147) *Selected for cover*
4. Bourland, W., **Rotterová, J.**, Luo, X., Čepička, I., 2018. The little-known freshwater metopid ciliate, *Idiometopus turbo* (Dragesco and Dragesco-Kernéis, 1986) nov. gen., nov. comb., originally discovered in Africa, found on the Micronesian island of Guam. *Protist* 169: 494–506. (IF 3.000)
3. Warren, A., Patterson, D. J., Dunthorn, M., Clamp, **Rotterová, J.**, et al., 2017. Beyond the “Code”: A guide to the description and documentation of biodiversity in ciliated protists (Alveolata, Ciliophora). *Journal of Eukaryotic Microbiology* 64: 539–554. (IF 3.170)**
2. Bourland, W.A., **Rotterová, J.**, Čepička, I., 2017. Redescription and molecular phylogeny of *Metopus es* Lauterborn, 1916 and *Brachonella contorta* Jankowski, 1964, based on broad geographic sampling. *European Journal of Protistology* 59: 133–154. (IF 2.626)
1. Bourland, W.A., **Rotterová, J.**, Čepička, I., 2017. Morphologic and molecular characterization of seven species of the remarkably diverse metopid genus *Urostomides* (Armophorea, Ciliophora). *European Journal of Protistology* 61: 194–232. (IF 2.626)

For **laboratory protocols** developed together with international collaborators, see protocols.io/researchers/johana-rotterova/publications.

Currently (March 2024) author or co-author of 15 publications with 284 (317) citations, 74 co-authors; h-index 10.

*Graduate and undergraduate students I have (co)mentored.

**Listed as one of the most downloaded articles of JEM in 2017, generating immediate impact and raising visibility of the journal.

Presentations at Selected International Conferences

- Rotterová, J.**, Breusing, C., Čepička, I., Beinart, R.A., July 2023. Intraspecific variation in a syntrophic symbiosis between marine anaerobic ciliates and intracellular methanogens. ICOP ECOP 2023 Vienna, Austria
- Rotterová, J.**, Breusing, C., Čepička, I., Beinart, R.A., March 2023. Intraspecific variation in a syntrophic symbiosis between marine anaerobic ciliates and intracellular methanogens. EMBO EMBL Symposium: The cellular mechanics of symbiosis. EMBL Heidelberg, Germany
- Méndez-Sánchez, D.*, **Rotterová, J.**, Schrecengost, A.*, Poláková, K.*, Beinart, R.A., Čepička, I., 2022. Anoxic relationships: Anaerobic ciliates and methanogenic archaea. 51st Jírovec Protozoological days, Svatka, Czech Republic
- Méndez-Sánchez, D.*, **Rotterová, J.**, Pomahač, O.*, Bourland, W., Čepička, I., 2021. Morphological and molecular diversity of *Bothrostoma*, a neglected genus of Metopida (Ciliophora). 50th Jírovec Protozoological days, Nove Hrad, Czech Republic
- Rotterová, J.**, Méndez-Sánchez, D.*, Schrecengost, A.*, Edgcomb, V.P., Beinart, R.A., Čepička, I., 2020. Interactions between anaerobic ciliates and their prokaryotic symbionts. Cell Bio 2020 Virtual – Online ASCB EMBO Meeting
- Rotterová, J.**, Salomaki, E., Pánek, T., Bourland, W.A., Edgcomb, V.P., Táborský, P., Žihala, D., Beinart, R.A., Kolísko, P., Čepička, I., 2019. Where oxygen is not popular—phylogenomic analysis of anaerobic ciliates (Ciliophora). VIII. ECOP (European Congress of Protistology)—ISOP (International Society of Protistologists) Joint Meeting, Rome, Italy
- Rotterová, J.**, Beinart, R.A., Edgcomb, V.P., Bourland, W.A., Táborský, P., Kolísko, P., Čepička, I., 2018. Phylogenomic analysis of SAL super-group (Ciliophora), including novel marine lineages of anaerobic ciliates, which host prokaryotic symbionts. ISEP (International Society of Evolutionary Protistology), Paphos, Cyprus.
- Rotterová, J.**, Beinart, R.A., Edgcomb, V.P., Bourland, W.A., Táborský, P., Kolísko, P., Čepička, I., 2018. First phylogenomic analysis of free-living anaerobic ciliates within SAL super-group. 48th Jírovec Protozoological Days, Beskydy, Czech Republic.
- Beinart, R.A., **Rotterová, J.**, Sylva, S., Seewald, J.S., Čepička, I., Gast, R.G., Edgcomb, V.P., 2017. Metabolic functioning of a ciliate-methanogen symbiosis from anoxic habitats, 6th International Symposium on Chemosynthesis-Based Ecosystems, WHOI, USA.
- Rotterová J.**, Beinart, R., Edgcomb, V., Bourland W., Čepička I., 2017. Novel marine lineages of anaerobic ciliates hosting prokaryotic symbionts, XV. ICOP (International Congress of Protistologists), Prague, Czech Republic.
- Rotterová J.**, Bourland W., Čepička I., 2017. Morphologic and molecular characterization of an ecologically diverse basal lineage of Armophorea, Ciliophora, XV. ICOP, Prague, Czech Republic
- Bourland W., Luo X., **Rotterová J.**, Čepička I., 2017. The little-known freshwater armophorean ciliate, *Metopus turbo* Dragesco and Dragesco-Kernéis, 1986, originally found in Africa, discovered on Guam island, XV. ICOP, Prague, Czech Republic
- Rotterová J.**, Beinart, R., Edgcomb, V., Bourland W., Čepička I., 2017. Prokaryotic symbionts of Armophorea and novel marine lineages of anaerobic ciliates, 47 th Jírovec Protozoological Days, Nové Hrad, Czech Republic
- Rotterová J.**, Nováková L., Čepička I., 2015. Mapping the diversity of Metopida and revealing new marine anaerobic ciliates hosting prokaryotic symbionts, VII. ECOP 2015, Seville, Spain.
- Rotterová J.**, Čepička I., 2014. Mapping the diversity of Metopida, anaerobic ciliates hosting prokaryotic symbionts. 44th Jírovec Protozoological days, Krásná, Czech Republic
- Rotterová J.**, Nováková L., Čepička I., 2014. Mapping the diversity of metopids and revealing new marine anaerobic ciliates, ISOP ISEP, Protist 2014, Banff, Canada
- Rotterová J.**, Nováková L., Čepička I., 2014. Mapping the diversity of metopids and revealing new marine anaerobic ciliates, IRCN - BC ciliates workshop, Egham London, United Kingdom
- Rotterová J.**, Nováková L., Čepička I., 2013. Mapping the diversity of metopids and revealing new marine anaerobic ciliates hosting prokaryotic symbionts, 45th Jírovec, Protozoological Days, Dubovice, Czech Republic

Invited Seminars

- 2023 **Syntrophic symbiosis between archaea and microbial eukaryotes.** Archaea Power Hour (APH) Americas Spring 2023 – Online Seminar Series
- 2021 **Symbioses between marine anaerobic ciliates and archaeal methanogens.** ISEP Online Seminar Series
- 2020 **Anaerobic ciliates as a model group for studying the biodiversity and symbioses in anoxic environments.** Bio at Noon Seminar Series, GSO URI, RI, USA

- 2020 **Genomics of new ciliate lineages provides insight into the evolution of obligate anaerobiosis.** Vakovlk Awards, Charles University, Czech Republic (remote)
- 2019 **Conservation of slow loris in North Sumatra, Indonesia,** Zoological Journal Club, Veterinary and Pharmaceutical University, Brno, Czech Republic
- 2019 **Conservation of slow loris in North Sumatra (Indonesia),** Seminar in Zoology, Department of Botany and Zoology, Faculty of Science, Masaryk University, Brno, Czech Republic

Teaching Experience

- 2024 **Lecturer,** University of Puerto Rico Mayagüez, Biological Oceanography Graduate course Marine Microbiology
- 2022 **Guest Lecturer,** University of Rhode Island, Biology 308 course The Invisible Living Ocean
- 2015–2019 **Assistant Lecturer,** Charles University, Practical Course in Protistology
- 2019 **Guest Lecturer,** Charles University, Protistology Course
- 2019 **Guest Lecturer,** Veterinary and Pharmaceutical University (Czech Republic), Graduate Course Conservation of endangered species, nature, and land
- 2016 **Guest Lecturer** in Summer Program with Dr Virginia Edgcomb (WHOI, USA), K9 School, Falmouth, MA, USA

Mentoring Experience

Nine undergraduate, graduate, and doctoral students in years 2015 – 2023 at Graduate School of Oceanography, University of Rhode Island, Boston University (via Virtual Lab Meeting Training Program, The Research Coordinated Network for Evolution in Changing Seas), and Faculty of Science, Charles University.

More information available upon request.

Memberships in Scientific Organizations

American Society for Cell Biology (**ASCB**) | Czech Slovak Society of Microbiology (**CSSM**) | Czech Society of Parasitology (**CSP**), Protozoological Section | International Society of Protistologists (**ISOP**) | International Society for Evolutionary Protistology (**ISEP**) | Research Coordinated Network (**RCN**) for Evolution in Changing Seas | Society for Women in Marine Science (**SWMS**)

Scientific cruises

- 2022 SP2213 The metabolic innovations of benthic protists in response to anoxia, Chief Scientist Joan Bernhard (WHOI, MA, USA), sampling at Santa Barbara Basin, CA, USA; **R/V Robert Gordon Sproul** (Scripps Institution of Oceanography, University of San Diego, CA, USA)

Professional service and Volunteer Activities

- 2022 **Member** of Orientation Team committee, Graduate School of Oceanography, University of Rhode Island
- 2020 **Volunteering panelist** at 2020 symposium of SWMS **Society for Women in Marine Science** (URI Chapter)
- 2020 **Co-organizer** of international virtual scientific conference Online Poster Session on Protists, August 2020
- 2020 **Chair** of Species & Morphology Session at International Society of Protistologists online meeting, July 2021
- 2019–2024 **Manuscript reviewer** for Diseases of Aquatic Organisms, Environmental Microbiology, European Journal of Protistology, Marine Life Science & Technology, Microbial Ecology, Microbiological Research, Molecular Phylogenetics and Evolution, Journal of Eukaryotic Microbiology, Molecular Ecology, Protist, Zoological Journal of the Linnean Society
- 2019 **Committee member** for prize competition Velemlok Awards, Faculty of Science, Charles University
- 2018–2019 **Main organizer and head** coordinator of international scientific conference 49th Jírovec Protozoological Days, April 2019
- 2016–2019 **Chairman and co-founder** of non-governmental organization The Kukang Rescue Program r.s., focused on conservation, rehabilitation, and reintroduction of Greater slow loris in Northern Sumatra, Indonesia
- 2014–2019 **Volunteer** and **PR manager** in non-governmental project The Kukang Rescue Program

- 2017 **Opponent committee member** at Parasitology Department, Faculty of Science, Charles University; Bachelor's Thesis Defense
- 2016 **Volunteer** in Environment and habitat evaluation of potential release sites in the province of North Sumatra (Indonesia) in order of reintroduction of rehabilitated individuals of the Greater slow loris, The Kukang Rescue Program
- 2015 **Volunteer** in Mapping and population evaluation of the Greater slow loris in the province of North Sumatra, The Kukang Rescue Program

Public Outreach Activities

- 2022, 2021 **Contributor** at GSO Science Saturday, University of Rhode Island, public science outreach events at Bay Campus; introducing public to the microbial eukaryotes and symbioses occurring in New England coastal sediments, protist microscopy demonstration
- 2020 **Public Media Outreach: Czech National Television** Interview – *Life without Oxygen*, Studio 6 | **Daily Newspaper** Print Lidove Noviny – *Adaptations to life without oxygen. Czech Scientists Bring New Perspective.* | **Popular Science Magazine** Forum Interview – *Johana Rotterova investigates ciliates and protects slow lorises* | **Popular Science Magazine** ScienceMag.cz – *Adaptations to life without oxygen – with the symbionts' help.*
- 2020, 2019 **Coordinator** of Protist Demonstration, Faculty of Science, Charles University; student engagement events allowing students to get acquainted with microscopy and protists
- 2016–2019 **Contributor** at public events raising awareness and educational events on the conservation of Indonesian wildlife and nature (Zoo Hodonin, Zoo Liberec, Zoo Jihlava, Zoo Ostrava, Zoo Brno, Primary schools in Prague), The Kukang Rescue Program, Czech Republic

Accessibility, Justice, Equity, Diversity, and Inclusion Engagement

- 2021–2022 Member of **URGE (*Unlearning Racism in Geoscience*)** group pod, Graduate School of Oceanography, University of Rhode Island, focused creating and implementing policies to help scientists unlearn racism and improve accessibility, justice, equity, and inclusion; particular emphasis on consequences of colonialism on lands of Algonquian nations
- 2021 Participation in **Safe Zone Workshop** at University of Rhode Island, focused on building a visible support network of LGBTQ allies and improving the campus climate for LGBTQ people

Additional Technical Training and Scientific Visits

- 2022 **Python for Biologists Workshop**, Aquatic Symbiosis Genomics Project, The Wellcome Sanger Institute (remote)
- 2020 **MINOTA: Maine INBRE Non-model Organism Transcriptome Analysis Workshop**, MDI Biological Laboratory, ME, USA (remote)
- 2019 **EMBO Workshop – Comparative genomics of eukaryotic microbes: Genomes in flux, and flux between genomes**, Sant Feliu, Catalonia, Spain
- 2019 **Scientific Visit** in the laboratory of Dr. Roxanne Beinart, Graduate School of Oceanography, University of Rhode Island, RI, USA (Aug – Sept) focused on the establishment of a coastal New England microbial culture collection
- 2019 **Evomics Workshop on Phylogenomics**, Český Krumlov, Czech Republic
- 2018 **OstraPy Bioinformatics Workshop** focused on coding in Python language, Ostrava, Czech Republic
- 2016 **Scientific Internship** in the laboratory of Dr. Virginia Edgcomb, Department of Geology & Geophysics, Woods Hole Oceanographic Institution, MA, USA (Jun – Sept) focused on fluorescence microscopy methods in microbial symbioses
- 2016 **Microbial Diversity Course (MDC) | Molecular Evolution Workshop (MEW) | Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS)**, Marine Biological Laboratory (MBL), Woods Hole, MA, USA, visiting attendance as an internship student of Woods Hole Oceanographic Institution (WHOI)
- 2017, 2019 **Scientific Visit** of Dr William Bourland (Boise University, Idaho) focused on morphological methods of staining in taxonomy of ciliates, Faculty of Science, Charles University