

Curriculum Vitae

Personal Data

Title Prof. Dr.
Name Amelia-Elena Rotaru
Current position Professor
Current institution University of Southern Denmark, Odense, Denmark
ORCID 0000-0003-2415-8585

Qualifications and Career

Since 01/10/2023 Professor, University of Southern Denmark, DK
2018-2022 Associate Prof., University of Southern Denmark, DK
2017 Guest Assist. Prof. (6 mo.), University of Massachusetts Amherst, USA
2015 – 2018 Assistant Professor, University of Southern Denmark, DK
2013 – 2015 Postdoctoral Fellow, University of Southern Denmark, DK
2010 – 2013 Postdoctoral Researcher, University of Massachusetts Amherst, USA
2009 – 2010 Postdoctoral Researcher, Aarhus University, DK
2005 – 2009 PhD in Marine Microbiology, Max Planck Institute, Uni. Bremen, DE
2003 – 2005 MSc in Marine Microbiology, Max Planck Institute, Uni. Bremen, DE
2003 Researcher, Inst. of Biochemistry, Romanian Academy of Science, RO
1998 – 2002 BSc in Biochemistry, University of Bucharest, RO

Selected Academic Distinctions, Awards, Excellence Grants (region)

2024 EliteForsk Prize, most prestigious research award in Denmark (DK)
2022 – 2027 ERC Consolidator Grant, European Research Council (Europe)
2021 – 2026 Ascending Investigator Grant, Novo Nordisk Foundation (Nordic Region)
2015 – 2020 Young Investigator Grant (Sapere Aude) Danish Research Council (DK)
2016 Fyens Stiftidsende Research Excellence Award (local – Fyn, DK)
2015 – 2018 Independent Investigator Fellowship, Novo Nordisk Fond (Nordic Region)
2013 – 2015 FNU Mobilex Postdoctoral Fellowship, Danish Research Council (DK)
2013 Dale T. Mortensen Postdoctoral Fellowship (declined) (DK)
2006 Teaching award, International Max Planck Research School (DE)

Other professional training

2020 Leadership Training
2019 Ph.D. supervision course
2016 – 2017 University Lecturer Training Program
2014 Career development workshop

Research expeditions

2022 Baltic Sea transect, Bornholm Basin, Denmark (9 days)
2022, 2023 Several daily expeditions coastal Denmark (Aarhus Bay, Gyldesteen, Rømø)
2014 Baltic Sea transect, Bothnian Bay, Sweden (2 weeks)
2014 Lago La Cruz, Spain (2 weeks)

Engagement in the Research System

Grants: Principal Investigator on 7 grants (2013-2023), co-PI on one other grant. These include an ERC Consolidator Grant, an Ascending Investigator award and a Sapere Aude start-up Grant, all in all totaling 9 million Euro.

Reviewer Activities: Funding Agencies: ERC, NSF, for the Dutch and German Research Councils, Novo Nordisk Foundation, Helmholtz Society. Journals: Science, PNAS, ISME Journal, various Nature Journals etc.

Positions in Professional Organizations and Societies: American Society of Microbiology (Member & Editor for Microbiology Spectrum), Danish Microbiological Society (Member), Frontiers in Microbiology (Associate Editor)

Selected Trainees:

- Shanshan Chen (PhD student, UMASS): Professor GuangDong University of Technology, CN
- Oona Snoeyenbos-West (postdoc, SDU): Senior Scientist at University of Arizona, USA
- Mon Oo Yee (PhD student, SDU): Microbiologist Research & Development, Nature Energy, DK
- Paola A. Palacios (PhD student, SDU): Postdoc, Dept. Engineering Aarhus University, DK

Hiring and other academic committees (selected):

- At SDU: Co-Leader of research section, Departmental leadership board, Departmental council, Hiring & tenure evaluator, Sustainability committee, PhD committee chair.
- External: International advisory board member for Wageningen institute for environment & climate research (NL), Tenure evaluator for Aarhus university (DK), PhD committee member (DK, NL, FI, AUS)

Selected teaching

- EMBO-Breathless Microbes invited lecturer (2019)
- Biochemistry and molecular biology for biologists ([BB537](#)) and pharmacists ([FA508](#))
- Microbial Ecology with focus on extracellular electron transfer for biologists ([BB540](#))

Selected conference and symposia activities:

- At SDU: Chair and organizer of the Departmental Lecture Series; Organizer of a mini conference at SDU for the visit by the graduate school in environmental engineering from Wageningen University (NL)
- External: Conference committee member EU-ISMET (IT) and Electromicrobiology (DK)

Five recent selected invited talks of the 35+ invited talks, including 6 keynotes.

- Invited Speaker, DFG Priority Program InterZell, Jena (DE) 2023
- Keynote, International Society for Microbial Electrochemical Technologies, Crete (GR), 2022
- Keynote, International Conference on Biogas Microbiology, Braga (PT) 2022
- Invited Speaker, New Topics in Mineralogy 2, Online (UK) 2022
- Keynote, Symposium of Aquatic Microbial Ecology, Potsdam (DE) 2019

Scientific results (10 selected) on which AER served as project lead and/or PI (last and/or *corresponding author)

Category A: research articles published in top journals (Q1/Q2 according to Web of Science)

Category B: reviews and commentaries in top journals (Q1/Q2 according to Web of Science)

Category A

1. Yee MO, Ottosen LDM, **Rotaru AE***. Electrical current disrupts the electron transfer in defined consortia. (2023) **Microbial Biotechnology**, 00, 1–12. DOI: [10.1111/1751-7915.14373](https://doi.org/10.1111/1751-7915.14373) (Q1 - Microbiology)

2. Yee MO and **Rotaru AE***. Extracellular electron uptake in Methanosarcinales is independent of multiheme c-type cytochromes. (2020) **Scientific reports**. 10(1):372. DOI: [10.1038/s41598-019-57206-z](https://doi.org/10.1038/s41598-019-57206-z) (Q2 – Multidisciplinary Science)
3. Palacios PA, Snoeyenbos-West O, Loescher C, Thamdrup B, & **Rotaru A-E***. Baltic Sea methanogens compete with acetogens for electrons from metallic iron. (2019) **The ISME Journal** 13(12), p.3011 DOI: [10.1038/s41396-019-0490-0](https://doi.org/10.1038/s41396-019-0490-0) (Q1 - Microbiology/Ecology)
4. **Rotaru A-E***, Calabrese F, Stryhanyuk H, Musat F, Shrestha PM, Weber HS...& Thamdrup B. Conductive particles enable syntrophic acetate oxidation between *Geobacter* and *Methanosarcina* from coastal sediments. (2018) **mBio**, 9(3), e00226-18. DOI: [10.1128/mbio.00226-18](https://doi.org/10.1128/mbio.00226-18). (Q1 - Microbiology)
5. **Rotaru A-E***, Shrestha PM, Liu F, Markovaite B, Chen S, Nevin KP & Lovley DR. Direct interspecies electron transfer between *Geobacter metallireducens* and *Methanosarcina barkeri*. (2014) **Applied and environmental microbiology**, 80(15), 4599-4605. **WOS highly cited, top 1% in Biology/Biochemistry**. DOI: [10.1128/AEM.00895-14](https://doi.org/10.1128/AEM.00895-14) (Q2 - Microbiology)
6. **Rotaru A-E***, Shrestha PM*, Liu F, Shrestha M, Shrestha D, Embree M ... & Lovley DR. A new model for electron flow during anaerobic digestion: direct interspecies electron transfer to *Methanosaeta* for the reduction of carbon dioxide to methane. (2014) **Energy & environmental science**, 7(1), 408-415. **WOS highly cited, top 1% in Environment/Ecology** DOI: [10.1039/C3EE42189A](https://doi.org/10.1039/C3EE42189A) (Q1 – Environmental Science)
7. **Rotaru A-E***, Shrestha PM, Liu F, Ueki T, Nevin K, Summers ZM & Lovley DR. Interspecies electron transfer via hydrogen and formate rather than direct electrical connections in cocultures of *Pelobacter carbinolicus* and *Geobacter sulfurreducens*. (2012) **Applied & environmental microbiology**, 78(21), 7645-7651. DOI: [10.1128/AEM.01946-12](https://doi.org/10.1128/AEM.01946-12) (Q2 - Microbiology)
8. Chen S, **Rotaru A-E***, Shrestha PM, Malvankar NS, Liu F, Fan W ... & Lovley DR. Promoting interspecies electron transfer with biochar. (2014) **Scientific reports**, 4, 5019. **WOS highly cited, top 1% in Environment/Ecology**. DOI: [10.1038/srep05019](https://doi.org/10.1038/srep05019) (Q2 – Multidisciplinary Science)

Category B

9. Rotaru A-E*, Yee MO, Musat F. Microbes trading electricity in consortia of environmental and biotechnological significance. (2021) **Current Opinion in Biotechnology**. 67:119-29. DOI: [10.1016/j.copbio.2021.01.014](https://doi.org/10.1016/j.copbio.2021.01.014) (Q1 – Biotechnology and Applied Microbiology)
10. Rotaru A-E* & Thamdrup B. A new diet for methane oxidizers. (2016) **Science**, 351 (6274), 658-658. DOI: [10.1126/science.aaf0741](https://doi.org/10.1126/science.aaf0741) (Q1 – Multidisciplinary Science)