



## RESEARCH INTERESTS

- **phylogenomics**

molecular phylogenetics (e.g. targeted sequence capture, transcriptomics) to help uncover the evolutionary relationships of marine invertebrates (mainly annelids)

- **molecular and cellular mechanisms of chaetogenesis**

combining advanced morphological techniques (e.g. serial TEM, immunohistochemistry, 3D-modelling) with transcriptomics and differential gene expression to characterize chaetae formation in annelids.

- **integrative taxonomy**

using molecular species delimitation methods and phylogenetics together with detailed bioimaging methods and morphological descriptions (micro-CT, serial histology, SEM)

## EDUCATION

### Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

**Dr. rer. nat. (PhD Equivalent)** Zoology.

18 Dec 2015 Thesis Title: Ultrastructure, Formation and Evolution of Chaetae in Annelids

20 Jul 2012 **MSc.** Organismic Evolutionary and Paleobiology.

10 Sept 2010 **BSc.** Biology.

## EMPLOYMENT

Mar 2021 — **Marie Curie Fellow** at the University of Copenhagen. PI: Katrine Worsaae

May 2019 — Feb 2021 **scientific assistant** at the Institute of Evolutionary Biology, University of Bonn

Apr 2017 — May 2019 **postdoctoral fellow** at Scripps Institution of Oceanography, UCSD. PI: Greg Rouse

Jan 2016 — Mar 2017 **scientific assistant** at the Institute of Evolutionary Biology, University of Bonn

## GRANTS & FUNDING

2021 as team-member	<b>DFE-Forskningsprojekt1</b> (Danish Research Council) How to reduce body size - a dwarf male's tale — PI: Katrine Worsaae	2.878.423 DKK
2020 as team-member	<b>International Network Grant</b> Danish Ministry of Higher Education and Science Advancing developmental biology - combining cutting-edge techniques & non-model organisms — PI: Katrine Worsaae	270.573 DKK
2020	<b>Marie Skłodowska-Curie Individual Fellowship</b> (H2020 – European commission) University of Copenhagen. Research Topic: Molecular and Morphological Characterization of Chaetogenesis in <i>Osedax japonicus</i>	207.312 €
2017	<b>DFG postdoctoral research fellowship</b> Scripps Institution of Oceanography, UCSD Research Topic: Phylogenomics of Sabellidae	90.000 €
2014	<b>Short-term PhD exchange fellowship of DAAD</b> Scripps Institution of Oceanography, UCSD	5.606 €

## AWARDS

- 2016 **Reinhard Rieger-Award in Zoomorphology**  
for the Paper: Phylogenetic Significance of Chaetal Arrangement and Chaetogenesis in Maldanidae (Annelida). ZOOMORPHOLOGY 134: 383-401 (2015)

## TEACHING EXPERIENCE

as main instructor

- SS 2020, SS 2019,  
WS 2016-17 Practical Course on Electron Microscopy (OEP Free 3G, University of Bonn)
- SS 2020 DNA barcoding: Identifying and Describing Biodiversity (OEP Free 3K)
- WS 2019-20,  
WS 2020-21 Morphology and Evolution of Animals (BP02, University of Bonn)

## SUPERVISION

- ongoing 1 MSc (co-supervisor), 1 PhD (co-supervisor)  
Pernille Fornitz Marloth, University of Copenhagen, Julian Müller, University of Bonn
- 2016—2020 7 Bachelor's theses supervised:  
2020 Nina Neunzig "Ultrastruktur des Borstenfilzes von Aphrodite spp. (Annelida)"  
2020 Alicia Gerarz "Ultrastruktur der Spinndrüsen von *Sthenelanelle uniformis* (Sigalionidae, Annelida)"  
2019 Anja Schumacher "Topologie und Genese der Borsten bei *Euphrosine foliosa* (Amphinomida, Annelida)"  
2016 Benedikt Pauli "Topologie und Genese der Borsten bei *Eurythoe complanata* (Amphinomida, Annelida)"  
2016 Julian Müller "Topologie und Genese der Borsten bei *Glycera gigantea* (Glyceridae) und *Nephtys hombergii* (Nephtyidae), (Annelida)"  
2016 Tim Herkenrath "Topologie und Genese der Borsten bei *Platynereis* (Nereididae) und *Eulalia viridis* (Phyllodocidae), (Annelida)"  
2016 Schabnam Sermelwall "Topologie und Genese der Borsten bei den *Chrysopetalidae* (Annelida)"

## EXPEDITIONS

- planned Apr 2022 **MBARI Cruise**  
Gulf of California hydrothermal vents
- Nov — Dec 2018 **R/V Falkor Cruise FK181031 ROV Subastian**  
Interdisciplinary investigation of a new hydrothermal vent field
- Oct — Nov 2018 **R/V Atlantis HOV Alvin AT42-03**  
Exploration of Costa Rican methane seeps

## MEMBERSHIPS

Deep-Sea Biology Society  
International Polychaete Association  
International Society for Invertebrate Morphology  
German Society of Biological Systematics (GfBS)  
German Zoological Society (DZG)

# PUBLICATION LIST

**ORCID ID:** 0000-0003-0463-322X

**overview** 25 peer-reviewed publications  
16 as first author, 4 as last author (2 under review), 12 in 2020-21  
2 issue covers  
citations: 154, h-index: 8 (google scholar)

**BOOK** Rouse, G.W., Pleijel F. and **Tilic, E.** (in press) *Annelida*. Oxford University Press.

## JOURNAL ARTICLES

- under review** Müller, J., Bartolomaeus, T. and **Tilic, E.** Formation and degeneration of scaled capillary notochaetae in *Owenia fusiformis* Delle Chiaje, 1844 (Oweniidae, Annelida). *Zoomorphology*
- Sagorny, C., von Döhren, J., Rouse, G.W. and **Tilic, E.** Cutting the ribbon: Bathyal Nemertea from seeps along the Costa Rica margin, with descriptions of 3 new genera and 10 new species. *European Journal of Taxonomy*
- in press** **Tilic, E.**, Stiller, J., Campos, E., Pleijel F. and Rouse G.W. Phylogenomics resolves ambiguous relationships within Aciculata (Errantia, Annelida). *Molecular Phylogenetics and Evolution*
- Müller, J., Schumacher, A., Borda, E. Rouse, G.W., Bartolomaeus, T. and **Tilic, E.** “Brittleworms”: Ultrastructure and arrangement of the calcified chaetae of *Euphrosine* (Amphinomida, Annelida). *Invertebrate Biology*
- 2021** **Tilic, E.**, Neunzig, N. and Bartolomaeus, T. (2021) Hairy and iridescent chaetae of the sea mouse *Aphrodita* (Annelida, Errantia). *Acta Zoologica*. 00: 1–13.
- Beckers, P. and **Tilic, E.** (2021) Fine structure of the brain in Amphinomida (Annelida). *Acta Zoologica*. 00: 1–13.
- Geisberger, S., Bartolomaeus, H., Neubert, P., Willebrand, R., Zasada, C., Bartolomaeus, T., McParland, V., Swinnen, D., Geuzens, A., Maifeld, A., Krampert, L., Vogl, M., Mähler, A., Wilck, N., Marko, L., **Tilic, E.**, Forslund, S.K., Binger, K.J., Stegbauer, J., Dechend, R., Kleinewietfeld, M., Jantsch, J., Kempa, S., Müller, D.N. (2021) Salt transiently inhibits mitochondrial energetics in mononuclear phagocytes. *Circulation*. 144:144–158.
- Tilic, E.**, Geratz, A., Rouse, G.W. and Bartolomaeus T. (2021) Notopodial “spinning glands” of *Sthenelanelia* (Annelida: Sigalionidae) are modified chaetal sacs. *Invertebrate Biology*. e12334.
- Goffredi, S.K., Motooka, C., Fike, D.A., Gusmão, L.C., **Tilic, E.**, Rouse, G.W., Rodríguez, E. (2021) Mixotrophic chemosynthesis in a deep-sea anemone from hydrothermal vents in the Pescadero Basin, Gulf of California. *BMC Biology*. 19: 8.
- Tilic, E.**, and Bartolomaeus, T. (2021) Commentary on: “Unravelling the ultrastructure and mineralogical composition of fireworm stinging bristles” by Righi et al. 2020. *Zoology*, 144: 125890.
- Tilic, E.**, Rouse, G.W. and Bartolomaeus, T. (2021) Comparative ultrastructure of the radiolar crown in Sabellida (Annelida). *Zoomorphology*. 140: 27 — 45.
- 2020** **Tilic, E.**, Atkinson, S. and Rouse, G.W. (2020) Mitochondrial genome of the freshwater annelid *Manayunkia occidentalis* (Sabellida: Fabriciidae). *Mitochondrial DNA Part B*, 5(3): 3313 — 3315.
- Tilic, E.**, Sayyari, E., Stiller, J., Mirarab, S. and Rouse, G.W. (2020) More is needed — Thousands of loci are required to elucidate the relationships of the ‘flowers of the sea’ (Sabellida, Annelida). *Molecular Phylogenetics and Evolution*, 151: 106892.

**Tilic, E.** and Rouse G.W. (2020) Hidden in plain sight, *Chaetopterus dewysee* sp. nov. (Chaetopteridae, Annelida) — A new species from Southern California. *European Journal of Taxonomy*, 643.

Stiller, J., **Tilic, E.**, Rousset, V., Pleijel, F. and Rouse, G.W. (2020). Spaghetti to a tree: A robust phylogeny for Terebelliformia (Annelida) based on transcriptomes, molecular and morphological data. *Biology*, 9: 73.

Goffredi, S.K., **Tilic, E.**, Mullin, S.W., Dawson K.S., Keller, A., Lee, R.W., Wu, F., Levin, L.A., Rouse, G.W., Cordes, E.E. and Orphan, V.J. (2020). Methanotrophic bacterial symbionts fuel dense populations of deep-sea feather duster worms (Sabellida, Annelida) and extend the spatial influence of methane seepage. *Science Advances* 6: eaay8562.

- 2019** Watson, C., **Tilic, E.** and Rouse G.W. (2019) Revision of *Hyalopale* (Chrysopetalidae; Phyllodocida; Annelida): an amphi-Atlantic *Hyalopale bispinosa* species complex and five new species from reefs of the Caribbean Sea and Indo-Pacific Oceans. *Zootaxa* 4671(3).

**Tilic, E.**, Feerst, K. and Rouse, G.W. (2019) Two new species of *Amphiglena* (Sabellidae, Annelida), with an assessment of hidden diversity in the Mediterranean. *Zootaxa* 4648(2).

**Tilic, E.**, Sermelwall, S. and Bartolomaeus, T. (2019) Formation and structure of paleae and chaetal arrangement in Chrysopetalidae (Annelida). *Zoomorphology* 138(2): 209—220.

- 2017** **Tilic, E.**, Pauli, B. and Bartolomaeus, T. (2017) Getting to the root of fireworms' stinging chaetae — chaetal arrangement and ultrastructure of *Eurythoe complanata* (Pallas, 1766) (Amphinomida). *Journal of Morphology* 278:865–876.

- 2016** **Tilic, E.** and Bartolomaeus, T. (2016). Structure, function and cell dynamics during chaetogenesis of abdominal uncini in *Sabellaria alveolata* (Sabellariidae, Annelida). *Zoological Letters* 2:1.

**Tilic, E.**, Bartolomaeus, T. and Rouse, G.W. (2016). Chaetal type diversity increases during evolution of Eunicida (Annelida). *Organisms Diversity & Evolution* 16(1): 105—119.

- 2015** **Tilic, E.**, von Döhren, J., Quast, B., Beckers, P. and Bartolomaeus, T. (2015). Phylogenetic significance of chaetal arrangement and chaetogenesis in Maldanidae (Annelida). *Zoomorphology* 134 (3): 383—401.

**Tilic, E.**, Lehrke, J. and Bartolomaeus, T. (2015). Homology and evolution of the chaetae in Echiura (Annelida). *PLoS ONE* 10 (3): e0120002.

- 2014** **Tilic, E.**, Hausen, H. and Bartolomaeus, T. (2014). Chaetal arrangement and chaetogenesis of hooded hooks in *Lumbrineris (Scoletoma) fragilis* and *Lumbrineris tetraura* (Eunicida, Annelida). *Invertebrate Biology* 133 (4): 354—370.

**Taxa described** *Chaetopterus dewysee* Tilic & Rouse 2020  
*Amphiglena seaverae* Tilic, Feerst & Rouse 2019  
*Amphiglena joyceae* Tilic, Feerst & Rouse 2019  
*Hyalopale zerofskii* Watson, Tilic & Rouse 2019

*Hyalopale leslieae* Watson, Tilic & Rouse 2019  
*Hyalopale angeliensis* Watson, Tilic & Rouse 2019  
*Hyalopale furfuricola* Watson, Tilic & Rouse 2019  
*Hyalopale sapphiriglancyorum* Watson, Tilic & Rouse 2019

