

Coastal and marine ecosystems: The origin and foundation of tomorrow's technologies



Cable bacteria: living electrical wires hidden in the sediment

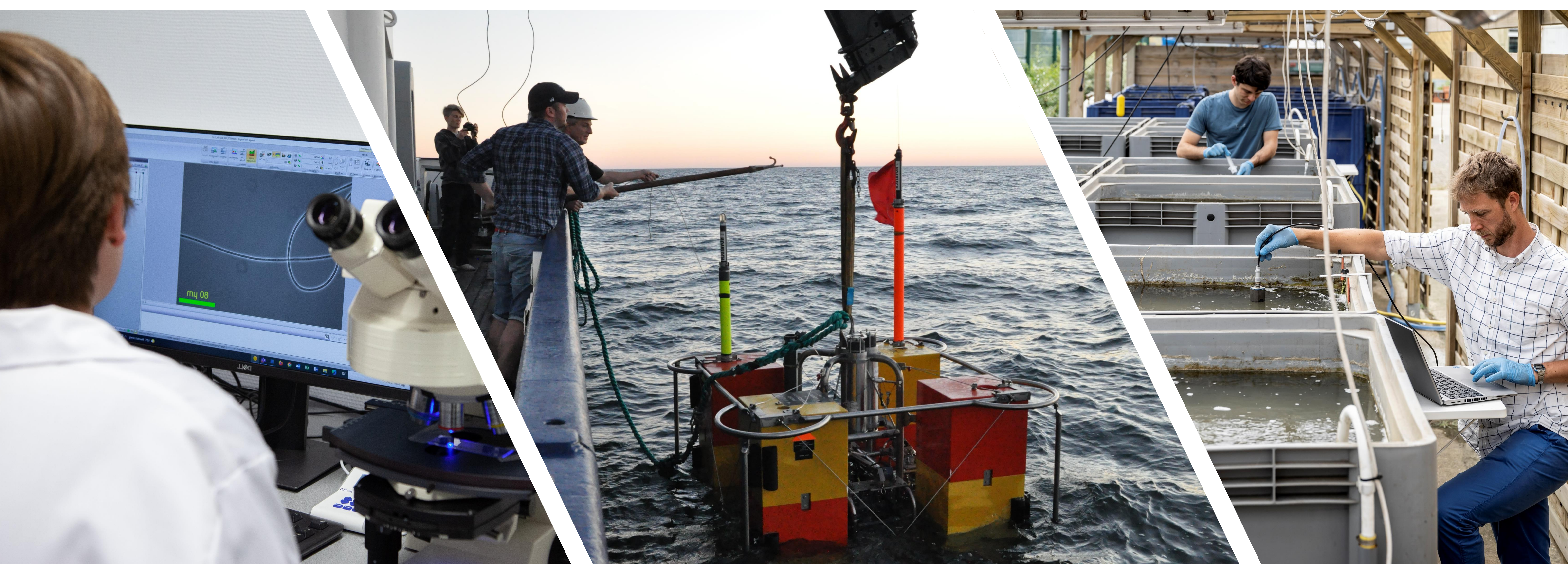
- Cable bacteria are **long, conductive bacteria** found in aquatic sediments. Their conductivity is comparable to the best **traditional semiconductors**.
- Cable bacteria create a bridge between biology and technology and may offer the key towards **sustainable and biodegradable electronics**.

Research question Can we unravel cable bacteria's electron transport mechanisms and and use their highly conductive proteins for novel technological applications?

Climate change mitigation by enhancing natural processes

- Weathering of natural mineral rocks increases ocean **alkalinity**, improving **ocean's CO₂ buffering capacity** and counteracting acidification.
- Rapid alkalinity release from **mined minerals**, or **industry waste products** can increase ocean CO₂ uptake.

Research question Does the addition of mined minerals or waste materials increase ocean CO₂ uptake without disrupting ecosystem functioning?



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