Nature4Nature

Nature provides an almost inexhaustible source of inspiration for innovative designs that may help to tackle many of the world's current social, economic and environmental challenges. In accordance, the potential of bioinspiration (including biomimetics and biomimicry) has become widely recognized in academia and industry. The main hurdle preventing the field of bioinspiration from delivering its promises, however, stems from differences in tools, practices and viewpoints of its practitioners, often obstructing further development towards successful products. Nature4Nature, a unique joint effort of biologists, engineers, designers and manufacturers, will immerse early stage researchers (ESRs) in a learning environment that fully spans the inspiration, integration and implementation aspects of bioinspired design to tackle the conceptual, methodological and practical challenges. It will provide ESRs (a) with a mindset and know-how to harness biodiversity into design; (b) with the theoretical background and practical skills for transferring biological model systems into engineering designs and applications; and (c) with an attitude and competence to implement bioinspired ideas in an explicit sustainable way. Nature4Nature will focus its research activities onto one model system: how to efficiently separate solid particles from liquids. Biological filtration systems have evolved repeatedly over the earth's living history. Nature4Nature will teach ESRs to make the most of this rich heritage, using it as an inspiratory source for designing and manufacturing high-throughput, clog-resisting filtering systems that can help conserving and restoring the world's aquatic habitats. By fostering a new generation of researchers operating at the interface between scientific disciplines, sectors and societal actors, Nature4Nature sets out to spur innovative practices and will aid in overcoming the barriers to implementation of bioinspiration in the design process.

Eckdaten

Forschungsschwerpunkt

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Ziele

Ausbildung von Nachwuchswissenschaftler:innen /Doktorand:innen, Entwicklung eines biologisch-inspirierten Systems zur Filtration von Mikroplastik aus Ozeanen, europaweite Vernetzung