

## **Biocommunication of Ciliates**

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Guenther Witzany/ Mariusz Nowacki (Eds)

Ciliates are mobile, highly complex single-celled organisms that actively compete for environmental resources. They perceive themselves and can distinguish between ‘self’ and ‘non-self’. They process and evaluate available information and then modify their behaviour accordingly. They assess their surroundings, estimate how much energy they need for particular goals, and then realise the optimum variant.

These highly diverse competences show us that it is possible to own a sign(al)-mediated communication processes within the ciliate cell (intraorganismic), between two cells of the same or different species (interorganismic), and between ciliate and non-ciliate cells (transorganismic).

Additionally, ciliates have two types of nuclei: a germline micronucleus that transmits genetic information over sexual generations and a somatic macronucleus that governs gene expression and dictates the phenotype of the ciliate. Various interactional patterns of genome fragmentation and reassembly offer a broad range of fine tuned steps of development and epigenetic programming.

**Biocommunication of Ciliates** will assemble contributions which investigate *examples* according the following book sections:

1. ***Vocabulary*** of ciliates (i.e., chemical)
2. ***Interpretation and memory*** of abiotic influences (temperature, light, water, gravity, etc.)
3. ***Intra-organismic*** communication (signaling within the ciliate cell)
4. ***Inter-organismic*** communication, i.e. ciliate-ciliate interactions (such as competition, social interactions, swarming behavior, mating, etc.)
5. ***Trans-organismic*** communication, i.e. sign-mediated interactions between ciliates and non-ciliate organisms such as symbionts

This book will serve as an appropriate tool to transport an integrated depiction of fascinating ciliates.

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Contributions with up until **6000 words**, max.

**Deadline for transmission September 2015**

**A maximum of 16 printed pages including tables, figures and references (1 printed page = approx. 450 words (2500 characters), 1 figure = ½ printed page) per chapter**

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