

CIBIS

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[Biohybrid Systems]

Center for International Research on Integrative Biomedical Systems

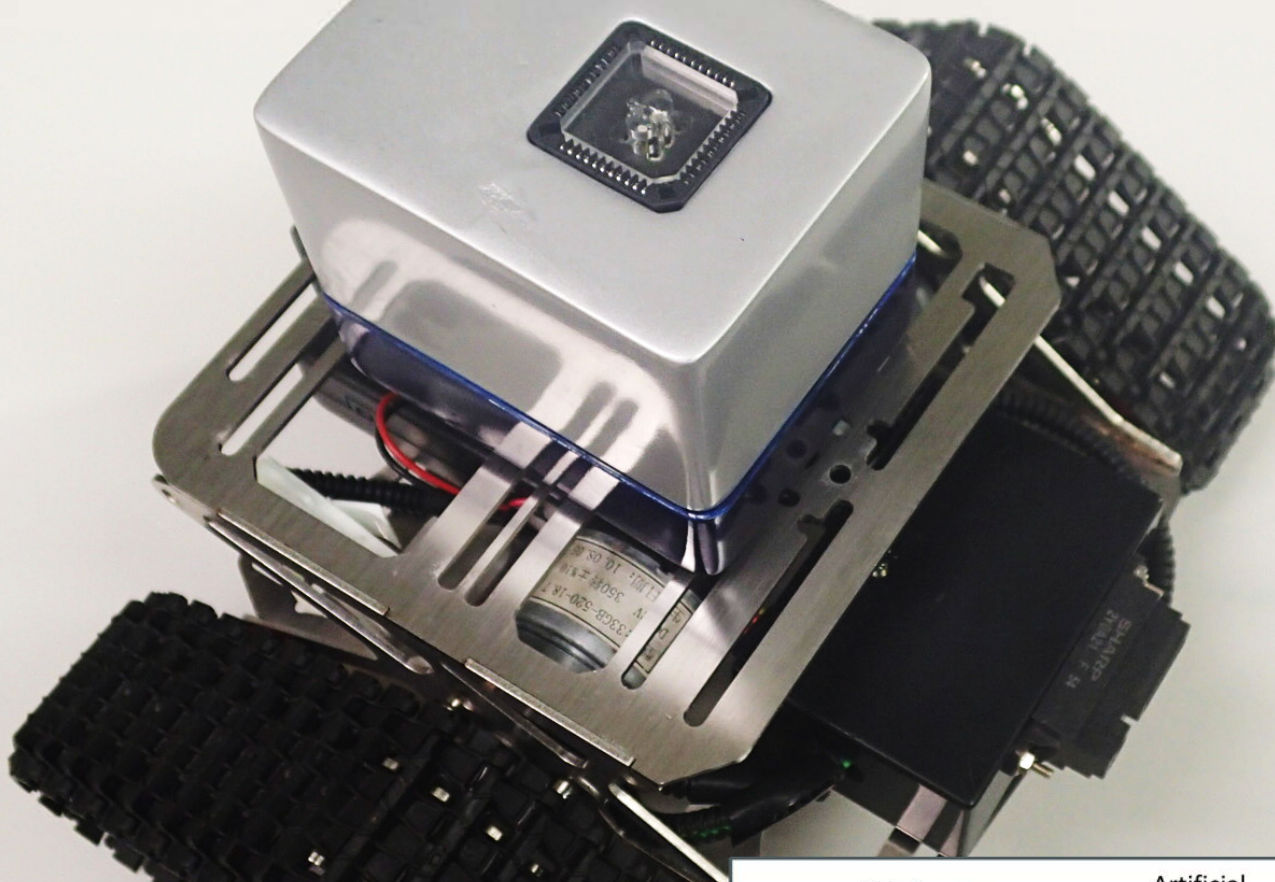
MEMS / Bionanotechnology / Tissue engineering

Dept. of Mechano-Informatics

Dept. of Life Sciences

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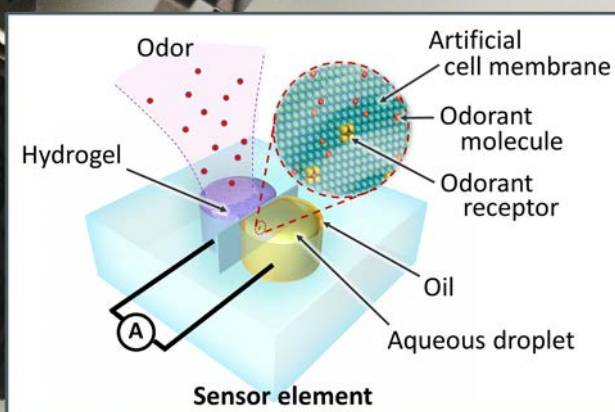
Odorant Sensing using an Insect Receptor on an Artificial Cell Membrane



Biological odorant receptors provide function of odorant sensing with high sensitivity and specificity. Here, we have developed an odorant sensing robot for human sweat by using a receptor of mosquito.

The sensor element consists of an artificial cell membrane with a receptor and a hydrogel for absorption of odorant molecules. On the sensor chip, the receptor transduced binding of the odorant molecules to an electrical signal, which was successfully transmitted to the response of the robot against the odor.

This odorant sensing system will be applied for the fields in medicine, food production, environmental concerns, and safety and security.



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