

## Special Issue

# Water-Gated Organic Devices and Their Applications

### Message from the Guest Editor

Aromatic small molecules, organic polymers, and graphene-related materials have been extensively used into electronic devices (diodes, transistors, etc.). Among their excellent properties, the intrinsic capability to combine ionic and electronic conductivity has made them key players in the field of Bioelectronics. An impressive amount of effort has been devoted to this scientific field, spanning from the basics of the charge transport (namely, capacitive coupling versus electrochemical doping) up to extremely sophisticated applications (biosensors, electrochemical devices, actuators, etc.). The level of maturity and success of such devices relies on different factors: i) chemical synthesis of these semiconducting materials, ii) their (bio-)friendliness towards biological targets, iii) extreme versatility of manufacturing, and iv) low-power consumption. The intriguing concept of “water-gating” dates back to 2010, and its innovative perspective has triggered many scientific investigations, whose ultimate objective is to achieve efficient communication between biological and human-made signals.

### Guest Editor

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### Deadline for manuscript submissions

closed (30 April 2021)



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Impact Factor 3.0  
CiteScore 6.0  
Indexed in PubMed



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