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*Editorial*

## **Editorial Note on Plant Physiology Organic Roots**

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### **EDITORIAL**

Research in organic electronics is usually within the context of light-emitting and photovoltaic devices, stretchable and wearable devices, and biomedical applications. However, researchers have now extended the technology of an organic electronic air pump (OEIP) for a rather less obvious purpose to manage plant physiology. We see this study as a primary step toward bridging the amazing biological technologies developed over the previous couple of decades for human therapies into the Plantae.

The physiology of plants is controlled by tight hormone gradients between cells. To help understand and modulate these processes, there are several attempts to deliver hormones to the roots of plants. However, previous methods suffered from poor spatiotemporal control and disruption of natural pathways or induced stress on cells. Thus, there's an unmet technological need for a replacement method to modulate plant physiology.

The foundations of this project were laid a few decades ago. "We were asked: what's the craziest combination of technologies and applications you'll come up with? Our answer: drug delivery to plants explains Simon. His group later contacted Ove Nilsson, director of the Umea Plant Science Centre, who pointed them towards colleague Markus Grebe (a co-author of the study) without the willingness of Ove and Markus and therefore the Wallenberg Foundation to figure with crazy engineers, none of this project would be possible."

To overcome this limitation, the researchers developed a replacement sort of ion-transport material supported dendrolytes hyperbranched or dendrolytic polyelectrolytes. This material forms uniform pores and is compatible with common patterning techniques, like photolithography. When positioned next to the basis of an in vivo plant model, the device successfully delivered the phytohormone auxin dynamically on a cellular scale, thereby affording control over plant growth.