

Treating brain damage and disorders with ‘wonder material’ graphene

While graphene has been tapped to deliver on everything from electronics to optoelectronics, it's a bit harder to picture how it may offer a key tool for addressing neurological damage and disorders. But that's exactly what researchers have been looking at lately because of the wonder material's conductivity and transparency.

In the most recent development, a team from Europe has offered a deeper understanding of how graphene can be combined with neurological tissue and, in so doing, may have not only given us an additional tool for neurological medicine, but also provided a tool for gaining insights into other biological processes.

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[The researchers] have demonstrated that single-layer graphene increases neuronal firing by altering membrane-associated functions in cultured cells.

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“These materials are increasingly engineered as components of a variety of applications such as biosensors, interfaces, or drug-delivery platforms,” said [researcher Laura] Ballerini.

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“Our work provides important insights on the deep interactions of technology with nature,” said Ballerini. “Novel and outstanding materials might then represent, in general, unconventional and exciting tools to gain insights into genuine biological processes. In turn, biological processes may hint at describing unconventional properties, new physics, and applications of the materials.”

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[F]or now Ballerini and her colleagues will focus on the design of a smart device that takes advantage of their expertise in biology and nanomaterials.

Read full, original post: [Brains Improved by Graphene Are on the Horizon](#)