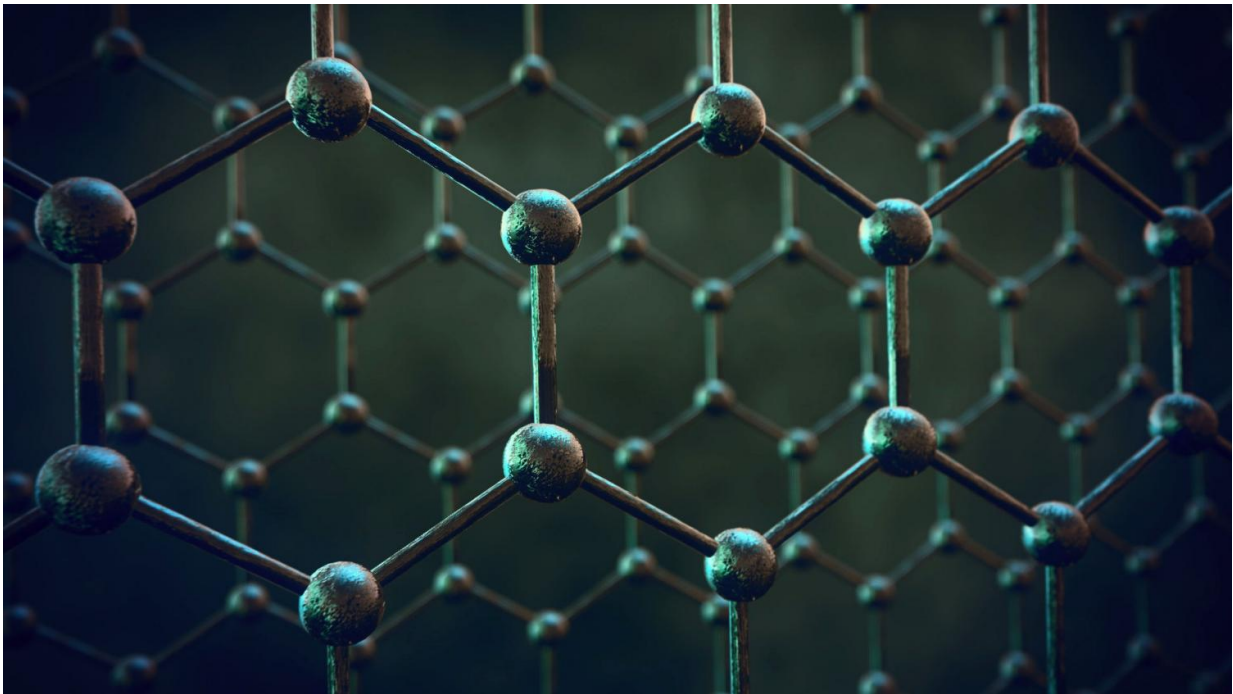


Researchers use chicken poop to dope graphene to make a point

January 27 2020, by Bob Yirka



This visualisation shows layers of graphene used for membranes. Credit: University of Manchester

A trio of researchers, two from the University of Chemistry and Technology, Praha 6, the other the University of Toronto, has demonstrated that chicken feces can be used to make graphene a better catalyst. In their paper published in the journal *ACS Nano*, Lu Wang, Zdenek Sofer and Martin Pumera argue that researchers churning out

papers describing newly found dopants for graphene are not contributing to understanding graphene's electrocatalytic abilities.

Graphene has been found to have conductivity and strength characteristics that make it a desirable material for use in commercial products. Some have suggested it might also make an excellent catalyst if the right dopant can be found. To that end, researchers have been testing various materials as dopants for [graphene](#) to find new ways to use graphene. In their paper, Pumera et al. argue that rather than simply testing materials one after another with graphene, researchers might make better use of their time by devising experiments designed to better understand the fundamentals of graphene's electrocatalytic abilities. To drive their point home, they wondered if any "crap" they tested would work as a possible dopant—to find out, they tested chicken crap. They prepared samples of graphene oxide using two different methods, then combined each with chicken feces—they then used thermal exfoliation on the results to make graphene. Testing showed that yes, even chicken poop could be used as a dopant to improve graphene's performance as a catalyst—likely due to traces of metals.

The researchers note that their intent was not to make a cheap joke, or to henpeck other scientists—or even to convince others that doping graphene is not a viable pursuit. Instead, it was to draw attention to research for its own sake rather than for science. They note that an endless parade of studies basically replicating one another's research with slight variations is a waste of time for those who review papers for publication and for those who read them. At the same time, they readily acknowledge that their own study did nothing to contribute to the search for a viable graphene [dopant](#).

More information: Lu Wang et al. Will Any Crap We Put into Graphene Increase Its Electrocatalytic Effect?, *ACS Nano* (2020). [DOI: 10.1021/acsnano.9b00184](https://doi.org/10.1021/acsnano.9b00184)

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