

Is Graphene a Cure-All or Glyphosate 2.0?

Analysis by [Tessa Lena](#)

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STORY AT-A-GLANCE

- › Graphene is a material that consists of a single layer of carbon atoms that are bonded together in a repeating pattern of hexagons
- › According to scientists, it has “miraculous” properties in terms of strength, elasticity, thermal and electrical conductivity
- › The testing of graphene-derived materials for toxicity has been very limited, and even the limited testing has shown a wide range of potential harms – yet graphene materials are being broadly introduced into different industries and aspects of our lives, from biosensors to conductive surfaces to batteries and face masks
- › Due to their unique properties, graphene materials enable the implementation of the indispensable component of the Fourth Industrial Revolution, the wretched Internet of Bodies

This story is about graphene materials and philosophy. Graphene! Graphene! Graphene is here, at last! We the people, meaning, we the lowly peasants, can sigh a sigh of relief. Can you hear our celebratory breath? Sorry probably not behind our masks but trust us, we are celebrating, and following the science.

I mean, what took them so long to give us a wonder material enabling those wonderful futuristic sensors that will let us connect to the [Internet of Bodies](#) and have our caring, wise masters monitor our biological state and nudge us to do the right thing, for our own good – not to mention the good of the community and the collective grandmas?

We know, this material has not really been tested for biological safety in a meaning way but we are used to it by now, and we've trained ourselves to not worry our little heads about such silly things. As long as they show us at least ten shiny commercials saying that it's safe, our bodies will replace their outdated chemistry with the contents of the new commercials. Science!

Laws of nature? Forget them, we are above ... meaning, our masters are above, we are below, but below is above. Kind of like, we are not engineers, so we can't really decide the directions. And what matters to the peasants is that we're in this together, and we have been waiting and waiting and drumming our fingers for someone to connect us to a really important network of computers to monitor our bodies with care ... and our wait is finally over! We are in this together!

We – and we are speaking for all the lowly peasants – are feeling very good and grateful that we can now count on the masters to monitor our biological functions, as opposed to empowering our own immune systems that have only been around for millions of years. So we are truly relieved by the all this Fourth Industrial Revolution and other related progress. Phew!

Thank you, our super wealthy, caring masters! Thank you! Please monitor us harder! Harder! Harder! (We are feeling a little ecstatic!)

Oh and about that self-heating graphene wallpaper (that may or may not shed little particles that may or may not damage our bodies ... sorry for an obviously selfish and irresponsible train of thought ... sorry sorry)? Yes, please also give us the self-heating graphene wallpaper! And please give us a big [glass of glyphosate](#) to drink while we are at it!

Being one with the system is totally worth it, since what's good for Monsanto is good for our bodies! And may we also please request another safe 5G tower next to our bedroom?

We may live a shorter life as a result but who cares, at least we'll have meaning, and a sense of belonging granted by our masters for being zombies, and "community values"!

And please keep monitoring and controlling us harder!

On a side note, how we've managed to survive to this day without multiple 5G towers and self-heating wallpaper is a mystery to us peasants. It must be all the glyphosate in our food that kept us going. We just love the progress, and we just love love love marching in line with anything the masters give us for our good and their profits.

Wait ... we are feeling weird ... our brains ... our hearts ... the room is swirling ... we may be collapsing ... we are not pretending ... we think we are dying ... why are those other people still laughing, clapping, and screaming to continue the show?

Now let's pause, scream, cry, ponder the tragedy, and proceed to the serious part of the story. By the way, my sarcasm was directed at the blind fanaticism, not at chemistry, and not at the poor, disposable model citizens. Graphene ... graphene is just a material.

If we took the predatory motives and the Internet of Bodies and the greed and the cruel arrogance out of the equation, and if graphene materials were properly tested for short-term and long-term health safety before even considering putting them in everything, there would be no need to write this story.

But alas, our world of today is driven by cruel, headless maniacs with a propensity toward **totalitarianism**, who are obsessed with the Internet of Bodies and who care about our well-being as much as a cockroach farmer cares about his "cattle." And my sarcasm is a protective reaction to mask the grief I feel over the fact that the headless people are trying to invade my everything, and to trick my brothers.

The temporarily enchanted may be acting proud and self-destructive due to enchantment, but underneath the spell, they have a soul, and they are my brothers, and I pray for them to break free from bad magic, so that we can hold hands and dance together. And to hell with the self-heating graphene wall-paper, unless it is thoroughly tested. Anyway, the serious part of the story.

What Is Graphene?

Graphene is a carbon material with unique and lucrative properties. It's "**a single layer (monolayer) sheet of carbon atoms that are bonded together in a repeating pattern of hexagons.**" This sheet is only one atom thick. Monolayers of graphene stacked on top of each other form graphite. Since a typical carbon atom has a diameter of about 0.33 nanometers, there are about 3 million layers of graphene in a 1 mm thick sheet of graphite.

"Thanks to the unique structure of graphene, it possesses other amazing characteristics: Its high electron mobility is 100x faster than silicon; it conducts heat 2x better than diamond; its electrical conductivity is 13x better than copper; it absorbs only 2.3% of reflecting light; it is impervious so that even the smallest atom (helium) can't pass through a defect-free monolayer graphene sheet."

It is considered a new class of materials, the so called 2D material. It's called 2D (arbitrarily, in my opinion) because it's only one atom thick, and so the scientists decided to measure its height at zero.

It's the talk of the town. Its inventors won a Nobel prize. It's harder than steel, it shrinks from heat and expands from cold (which is the opposite of what other materials do), and it is extremely conductive. And again, I would personally be cautiously excited about such a wonder material if it weren't in the hands of the maniacs who have no respect for my body! I am not a conspiracy theorist, I am a conspiracy realist!

Additionally, there are many graphene-based materials and derivatives with their own unique properties, such as "holey graphene," graphene oxide, graphene hydroxide, etc.

For example, "graphene oxide (GO) is a single atom carbon layer where both surfaces of the layer are modified by oxygen containing functional groups. In multi-layer graphene oxide, the carbon layers are separated by functional groups bonded to each layer of carbon atoms.

Although GO – like graphene – is a 2D material, its properties are very different from that of graphene. It does not absorb visible light, has very low electric

conductance compared to that of graphene, and demonstrates significantly higher chemical activity."

Are Graphene Materials Safe?

The truth is, we have no idea. It has not been sufficiently tested for toxicity. Where it was tested, the results were mixed – and in that limited testing, it seems like it greatly depended on various factors such as what specific material was used, how it was produced, the size of the flakes, whether there were **possible contaminants**, and so on.

Some studies talk about neurotoxicity, immunotoxicity, DNA damage, lung damage, and many other alarming outcomes ([here](#), [here](#), and [here](#)). I particularly recommend going over the first one since it provides an overview (as of 2016) of different administration routes and mechanisms of toxicity for graphene-family nanoparticles.

Some stories of bringing up the toxicity of graphene materials are tragic. The German chemist Dr. Andreas Noack made a video about the toxicity of graphene hydroxide and how it could cut like a tiny razor blade, and then he was found dead, rumored to have been murdered.

Some are saying graphene is an amazing weapon against antibiotic-resistant superbugs ([here](#), [here](#), and [here](#)).

(Notably – and I can't help thinking about it – the WEF is talking about antimicrobial resistance as the **next big health hazard**, and if there is one thing in this world that is certain, it's that they wouldn't mind us getting sick so that they can profitably "cure" us.)

As an oddity, here is a **study** on improving fertility outcomes in pigs by using graphene oxide to, forgive me, "engineer sperm membrane." (Sounds wonderful. Another idea is to maybe stop messing with nature and let us all reproduce without poisons, but I understand that my idea makes it hard to make a profit, so I apologize, and bring on graphene oxide!) And **another interesting study**.

In addition, graphene (as opposed to some of its derivatives) has mad electric conductivity, and the science of today is very arrogant about our bodies' electric properties, so they are not even looking at that properly, despite the fact that electricity is one of the main languages used by our bodies for internal and external communication.

In other words, we are on our own with this, and if it turns out that graphene materials is Glyphosate 2.0., I am sure that the super investors will find a way to market new and improved graphene in coffin decorations.

Here are two dry and technical presentations from 2016, in which the presenters talk about the tests they conducted. And while their conclusions are optimistic, they mention things like "[nice internalization](#)" (integration of graphene oxide into the cells), as well as "[oxidative stress, inflammatory pathway activation](#)."

My problem, as a peasant and a citizen, is that I am on my own with figuring it out! I trust the principle of science, I just don't trust the institutions and the myopic establishment scientists! To sum it up, this video from 1947 explains how I feel in 2022 about the missionaries:

Where Is Graphene Found Now and Potentially in the Future?

Well, everywhere, seemingly – and not just in sensors, antennas, nanotubes, and various medical applications, including some injections.

It's in [facemasks](#) (see also [here](#)).

And in [paint](#).

And in car [inferiors](#).

And in sustainable [adhesives](#).

And in [computing](#).

And in [batteries](#).

And in clothing. See also [here](#).

And potentially in [energy production](#).

And in [enriching uranium](#).

And in "[biometric soft skin](#)."

And in [heating wallpaper](#).

And in [construction in general](#).

And in [diagnostics](#). (See also [here](#).)

And in "[smart orthodontics](#)."

And, kind of, in [decarbonization](#).

And here is a case of grinding used face makes into powder [to make better concrete](#) (no comment here).

And a case of [spying on the previously unaccountable bacteria](#).

What about the vaccines?

Advance Vaccine Tech Is Not a Conspiracy Theory

The mainstream media likes to mock the "crazy conspiracy theorists." But notions like "nanotech in vaccines," "self-spreading vaccines," or "graphene oxide in vaccines" are not conspiracy theories — but well-documented notions that are talked about in official studies and documents — just not necessarily in the context of the COVID injections.

Graphene-Based Materials in Medicine, Including in Vaccines

A 2019 [article](#) in "Science Daily" called, "Graphene can hear your brain whisper":

"A newly developed graphene-based implant can record electrical activity in the brain at extremely low frequencies and over large areas, unlocking the wealth of information found below 0.1 Hz."

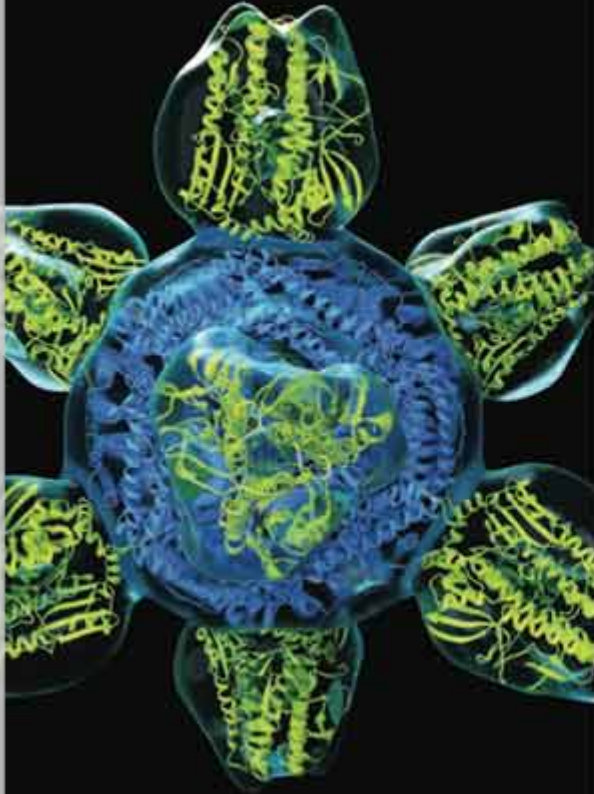
A 2021 [paper](#) called, "Intranasal vaccination with influenza HA/GO-PEI nanoparticles provides immune protection against homo- and heterologous strains" that talks about a new investigational intranasal influenza vaccine with graphene oxide:

"Two-dimensional (2D) graphene oxide (GO) nanoparticles have great potential as a novel vaccine platform due to their extraordinary attributes."

And while we are being conspiratorial, um, sorry realistic, let's briefly touch upon the crazy topics of self-assembling vaccines and nano-sized communicational networks, some of which (not all but some) use graphene materials.

Self-Assembling Nanoparticle Vaccines

Here is a 2018 brochure by the NIAID Vaccine Research Center ([PDF](#)). They are talking about self-assembling nanoparticles as a mechanism used in new influenza vaccines.



Influenza

The influenza vaccine program seeks to design a vaccine that can provide potent and long-lasting protection against all seasonal influenza strains as well as pandemic influenza. Guided by atomic-level details of protein structure, VRC scientists have engineered the hemagglutinin (HA) surface protein of influenza to direct the immune system to make antibodies targeting specific regions of HA, such as the head and stem components. **In addition, the HA protein can be displayed on self-assembling nanoparticles**, a platform technology shown to stimulate potent immunity to HA. Shown here is a colorized structure of a novel vaccine with eight copies of the stem portion of the HA protein (depicted in yellow-green) displayed on a ferritin nanoparticle base (in blue). The HA was specifically designed to display antibody binding sites common to many human influenza subtypes. The nanoparticle vaccine candidates developed by VRC scientists are being advanced into human clinical trials. 3D structure of the particle was determined by cryo-electron microscopy by John Gallagher and Audray Harris (NIAID Laboratory of Infectious Diseases).

Here is a 2019 'Testimony before the House Committee on Energy and Commerce Subcommittee on Oversight and Investigations' by no other than Anthony Fauci ([PDF](#)). He is talking about self-assembling nanoparticles vaccines!

the goals of the Executive Order, NIAID is conducting and supporting research to develop state-of-the-art vaccine platform technologies that could be used to develop universal influenza vaccines as well as to improve the speed and agility of the influenza vaccine manufacturing process. These platform technologies include DNA, messenger RNA (mRNA), virus-like

particles, vector-based, and self-assembling nanoparticle vaccines. For example, NIAID-supported scientists are investigating an mRNA vaccine candidate that would allow for a more rapid and flexible response to both seasonal and pandemic influenza than do existing vaccine production strategies.

Here is from [Rice University](#) (not in the context of vaccines though): "Nanotubes assemble! Rice introduces 'Teslaphoresis.'"

"These nanotube wires grow and act like nerves, and controlled assembly of nanomaterials from the bottom up may be used as a template for applications in regenerative medicine ... There are so many applications where one could utilize strong force fields to control the behavior of matter in both biological and artificial systems."

A 2019 [article](#), titled: "Aerosolized Nanobots: Parsing Fact from Fiction for Health Security – A Dialectical View."

"Nanoscalar robotics can be used as both sensors and receiver-delivery devices, and the controllability of these technologies enable their directed

activity in biological organisms. Such devices – either operating in tandem as distinct sense-and-engage systems, or as single devices with both sense and delivery modes – could be employed to assess, respond to, or modify molecular and chemical characteristics of a biological target.

As recent studies have indicated, these approaches can be used in clinical care to more precisely monitor tissue, organ, and overall bodily states and to alter the structure and function of biological tissues and systems at a variety of scales, from the subcellular to the systemic and organismic."

A 2015 [paper](#) out of Forth Institute of Computer Science in Greece, titled (I kid you not) "CORONA: A Coordinate and Routing system for Nanonetworks." The paper is about a topology of nano communication networks potentially for use inside living beings:

"Advances in nanotechnology enable the development of tiny machines from nanoscale components, namely nanomachines. Composed of a power supply, a memory, an antenna and a CPU module, nanomachines are entirely autonomous nodes which are able to perform simple operations and communicate in short distances.

*Currently, miniature **graphene based antennas** are introduced giving nanomachines the ability to achieve high transmission rates over very short distances when operating in the most promising operating spectrum of Terahertz Band. Such networks are expected to be widely deployed in a variety of fields, such as biomedicine, industry, environment and the military.*

*Communication among nanomachines is evolving in the direction of ad-hoc networks due to their characteristics: **the ability to be reconfigurable and self-organized**. However, the severe restrictions of nano-nodes in terms of computational power, memory and energy, combined with the expected high number of nano-nodes per network, give rise to different protocols and networking design issues.*

The key challenge in nano- architectures and protocols is to maintain simplicity without compromising the connectivity and lifetime of the nanonetwork."

Here is a [Harvard Magazine article](#) from 2011:

"Imagine being able to signal an immune cell to generate antibodies that would fight bacteria or even cancer. That fictional possibility is now a step closer to reality with the development of a bio-compatible transistor the size of a virus.

Hyman professor of chemistry Charles Lieber and his colleagues used nanowires to create a transistor so small that it can be used to enter and probe cells without disrupting the intracellular machinery. These nanoscale semiconductor switches could even be used to enable two-way communication with individual cells."

And here's from [Science](#):

"More recently, Lieber's Harvard lab has shifted gears to integrate nanowires with biology. In 2017, for example, [he reported creating soft, flexible 3D nanowire mesh](#) that could be injected into the brains or retina of animals, unfurl and wrap around neurons, and eavesdrop on the electrical communication between cells."

Etc. etc. What I am trying to say is that these are not conspiracy theories! And the point is not being scared of the fact that the scientists discovered a material with interesting properties, or that technology offers new opportunities – but that we are ruled by the soulless maniacs, and that they will abuse any technology!

And the crazy behavior on our behalf would be to shut our eyes and ears and keep whispering, "Safe and effective," despite the uncertainty or even the evidence to the contrary.

PS. We the peasants are getting tired of this. Our masters keep promising us wonderful progress and new cures, and they sound so excited, and they get us so excited – and then we try their cures and strangely, we get sicker, and then

the cures stop working, and in the meanwhile, our homes get more polluted, and our bodies get more loaded with poisons, and it is still not even clear to us how they are planning to clean up all those futuristic nanomaterials and cures from our bodies if it doesn't work out ... have they even thought about it?

We are not so sure. So at long last, we are growing tired of their advertisement. We are "hesitant" because we no longer believe our masters.

About the Author

To find more of Tessa Lena's work, be sure to check out her bio, [Tessa Fights Robots](#).