

Materials science

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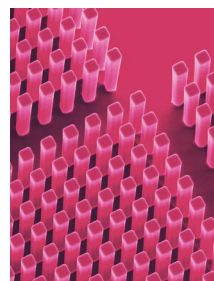
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Much of the scientific discourse around climate change, at least in public-policy debates, relates to tracing the status and effects of global warming, as well as solving urgent challenges such as cutting emissions. Materials science might not seem of immediate relevance here, but the ongoing hunt for the most efficient solar energy cells. But scratch beneath the surface and it is clear that the search for materials-based solutions to environmental challenges is the driving force for many of the emerging researchers in this vast field. Whether it is the ongoing hunt for better battery technologies in electric vehicles, designing cooling materials that can protect buildings from heat, or ways to convert greenhouse gases into useful – and sustainable – products, materials scientists are leading the charge in finding answers to seemingly intractable problems. Successful applications of this science can drive economic growth, too, something that the countries at the heart of the green-technology revolution – many of which are in Asia – are likely to be acutely aware of. With a trade war potentially on the cards with the arrival of Donald Trump's second presidential term in the United States, it will be interesting to see how the economic fruits of this materials science are distributed. Environmental concerns are far from the only motivation for materials researchers, however. Medical diagnostics is just one area in which advances in the field can hopefully usher in improvements, through the design of next-generation biosensors that allow for the real-time monitoring of patients, or even spot health issues before they arise. Provided these are used to benefit people from all walks of life, regardless of their location or income, such advances have the potential to broaden access to health care worldwide.

Simon Baker
 Chief editor, Nature Index

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On the cover
 DNA purification microchip.
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