

## Please Mr President, do one thing for me...

Energy, healthcare, education, innovation, defence: science holds the key to these and many other pressing issues facing the US, so we asked 11 prominent scientists and thinkers what's top of their wish list for the new president

### Peter Agre

The first priority should be to re-establish the Presidential Science Adviser within the White House with a rank equivalent to cabinet secretary. The person appointed should be a major leader in science who has demonstrated commitment to the future of American science. This individual could then oversee our greatest needs: fortify our efforts in science education in the public schools, depoliticise science within government agencies, and expand the budget of the National Science Foundation. I am optimistic that we will elect a new president who exhibits objectivity and enlightenment. Then we must all get behind him.

**Peter Agre is director of the Johns Hopkins Malaria Research Institute in Baltimore, Maryland, and joint recipient of the 2003 Nobel prize in chemistry**

### Ray Kurzweil

We only have to capture 1 part in 10,000 of the sunlight that hits the Earth to meet 100 per cent of our energy needs. With emerging new nanoengineered solar panels and storage technologies, we are getting close to a tipping point at which solar power is less expensive per watt than energy from fossil fuels. Government research dollars and tax incentives can accelerate the trend towards this environmentally friendly, renewable source of energy.

**Ray Kurzweil is an inventor and futurist**

### Marion Nestle

I would love to see the next president initiate a strong programme in agricultural research. Agricultural production is linked to some of the most important issues of our time – food security, climate change, balance of trade and environmental protection, for example – and research is sorely lacking on ways to make agricultural production better support the health of people as well as the planet.

**Marion Nestle is the Paulette Goddard Professor in Nutrition, Food Studies and Public Health at New York University**

### Matthew Chapman

I would urge the next president to see it as his patriotic duty to raise the status of those who use their brains. From Hollywood to the White House, ignorance and stupidity have been increasingly portrayed as endearingly funny or admirably macho. In fact, anti-intellectualism is anti-American because a nation that celebrates its clowns more than its geniuses eventually pratfalls into the toilet. Instead of being derided as geeks or nerds, scientists should be seen as courageous realists and the last great heroic explorers of the unknown. They should get more money, more publicity, better clothes, more sex and free rehab when the fame goes to their heads.

**Matthew Chapman is a screenwriter, author and co-founder of ScienceDebate2008**



### Harvey Rubin

**"If our next president doesn't realise the importance of science, he risks our readiness to face the future"**

I would urge the president to engage US and international scientists from a range of disciplines in an effort to deal with the threat of natural and deliberate spread of infectious diseases. This can be accomplished by developing a framework for an innovative, integrated information architecture leading to a secure yet open knowledge system for infectious diseases. The next president ought to build a network of international basic science research centres dedicated to the study of microbial threats to global health, and expand capabilities for the production of vaccines and therapeutics expressly for emerging and re-emerging infections. This effort will bring creative focus to exciting cross-disciplinary university programmes in microbiology and systems biology, applied mathematics and



cyberphysical systems, global health and epidemiology, and legal and social sciences. It will maintain and enhance the positive role that scientific inquiry can have on national and international health, social and economic development and international security.

**Harvey Rubin is director of the Institute for Strategic Threat Analysis and Response (ISTAR) at the University of Pennsylvania, Philadelphia**

## Eric Chivian

The next president should appoint the top scientists and engineers in major wind, solar, biomass, geothermal and energy-efficiency companies, as well as those in fossil fuel companies, to form an Energy Solution Task Force that will advise him about what research and development needs to be done to wean the US off fossil fuels, to develop these

**“A nation that celebrates its clowns more than its geniuses eventually pratfalls into the toilet”**

renewable energy systems into efficient, affordable sources for businesses and families, and to put together a federal budget to make it all happen. He should also make it a top priority to join the Kyoto protocol, the Convention on Biological Diversity, the Law of the Sea and other international environmental conventions and treaties. That would restore the US to a position of world leadership – last held at the Montreal protocol that protected the stratospheric ozone layer – in helping to protect the global environment.

**Eric Chivian is founder and director of the Center for Health and the Global Environment at Harvard Medical School**

## Jonathan Moreno

I recently served on a National Research Council committee on the implications of emerging neuroscience for national intelligence. If the next president appoints a bioethics advisory commission, its short list of topics should include the ethics of neuroscience.

**Jonathan Moreno is a professor of medical ethics at the University of Pennsylvania, Philadelphia, and a senior fellow at the Center for American Progress**

## Chris Mooney

The single most important thing that our next president can do is surround himself with scientists, and especially appoint a trusted, visionary national science adviser who will have the president's ear, sit in on his cabinet meetings, and serve as his chief forecaster for the technological changes that are coming. It is hard to find an issue today that lacks some scientific component, but it's easy to find politicians who either don't see those components or don't think science is relevant to what they do. Nothing could be further from the truth, and if our next president doesn't realise the importance of science, he'll be risking nothing less than our readiness to face the future.

**Chris Mooney is a science journalist and author**

## Paul Davies

I would impose a large carbon tax to reduce the outrageous waste of energy that is apparent to anyone living in the US, and use the revenue raised to provide a decent universal healthcare system. This should be coupled with a dramatic expansion of nuclear power which, in spite of its bad press, remains by far the safest and most reliable means of energy production. This will be an interim measure, during which we can make a planned transition to renewable energy sources.

**Paul Davies is a cosmologist at Arizona State University, Tempe**

## Laura Grego

The next president should put the world on the path to being free of nuclear weapons. This long-term goal should begin at home with near-term steps: the president should unilaterally reduce the US nuclear arsenal to less than 1000 weapons and take them off hair-trigger alert, abandon efforts to develop new types of nuclear weapons, commit not to resume nuclear weapons testing, retire the Ground-based Midcourse Defense system, and drop plans for space-based missile defence.

**Laura Grego is a staff scientist for the Global Security Program of the Union of Concerned Scientists in Cambridge, Massachusetts**

## Sean Carroll

If I had to pick only one thing for the next president to do, it would be to dramatically upgrade science education at the K-12 (kindergarten through high-school) level. Revamp curricula, fund better teacher training and establish a pipeline for graduates with science doctorates to become teachers: I can't think of anything that would have a more lasting and significant impact than that. At the university level, US education is the best in the world; at the primary and secondary level, public schools are an embarrassment.

**Sean Carroll is a cosmologist at the California Institute of Technology, Pasadena**