

## Science and politics: Picking a winner

**The candidates for the office of President of the United States have declared opinions and traded jabs on a wide range of topics that affect the country's global reach. However, key scientific areas in which the US must show leadership, such as climate change, science education and scientific research funding, have yet to take centre stage.**

Scientific research has traditionally been an apolitical pursuit. However, scientists in the US, viewed through a political lens, have become polarized. According to a 2009 [survey](#) of scientists by the Pew Research Center in collaboration with the American Association for the Advancement of Science (AAAS), 55% of respondents self-identified as Democrats, whereas just 6% identified as Republican (at the same time, 35% of the US public as a whole self-identified as Democrat, with 23% identifying as Republican). The conflation of certain scientific issues (such as evolution and stem cell research) with social or religious beliefs has certainly contributed to the fractured electorate. Although scientists as a group lean towards the left, their livelihoods and, moreover, the research competitiveness of the US, hinge on the scientific policies and agenda that the future president will set. However, both candidates for this position — the incumbent Democrat, President Obama, and the Republican candidate, Mitt Romney — have been largely silent on their plans for the nation's scientific policy. These issues must be openly discussed and debated if the US electorate is to make an informed decision about its next president.

The AAAS maintains a [website](#) that tracks Mr Romney's and Mr Obama's views on science and technology. The information available is depressingly slim, however, perhaps reflecting the candidates' reticence to engage in a public discussion about these issues. Mr Obama's stance on certain policies can be inferred, in part, from his past decisions. As President, he loosened some strictures on human stem cell research, most notably ending the ban on using federal money for such research. The pace for approving new human embryonic stem cell lines for research has also accelerated, with 177 such cell lines now eligible for research using funds from the National Institutes of Health (NIH). Mr Obama has also consistently called for (modestly) increased funding for federal research agencies, including the NIH and National Science Foundation. Mr Romney's position on these issues has been harder to ascertain. He has in the past supported stem cell research, but more recently suggested that federal funding should not be used for these purposes. Worryingly, in his 'Believe in America' plan, Mr Romney stated that he would ask Congress to cut the non-security discretionary budget (that is, the part of the US budget that funds federal research agencies) by 5% on his first day as president. With the exception of the American Recovery and Reinvestment Act of 2009, the federal research budget has been largely flat for years, with well-publicized detrimental effects on the approval rate for NIH grant applications. As we have discussed in [previous editorials](#), a robust research budget is an essential aspect of a vibrant research culture. Further cuts to the federal research budget could have dire consequences for grant approval rates, potentially leading to job losses and harming the overall research competitiveness of US.

Given the important role that science and technology have in the US economy, presidential candidates must clearly communicate

their positions on these important scientific issues. The organisation ScienceDebate.org has championed this call, partnering with scientific associations and universities, as well as Nobel laureates and former presidential science advisors, to press the candidates to outline their positions on important and popular scientific issues. ScienceDebate.org has developed a list of [14 questions](#) covering key areas in technology and research, and has asked both candidates to provide a response. The questions would force the candidates to clarify their positions on climate change and energy, biosecurity, public policy, research spending and science education, among other issues. Given the importance of these concerns in domestic and foreign policy, it is essential to know where the candidates stand before election day. Mr Romney and Mr Obama should both provide detailed responses to these questions, and should be willing to discuss these issues in a nationally televised debate.

The available evidence suggests that Mr Obama is more likely to support science-friendly policies than Mr Romney. Indeed, the Republican Party has recently adopted positions that could be considered anti-science. For example, the Republican-led [Committee on Science, Space and Technology](#) in the US House of Representatives has voiced scepticism about climate change. Furthermore, the chairman of the committee, Representative Ralph Hall (a Republican from Texas), gave [an interview](#) in which he suggested that climate scientists were paid for every report they issued on the topic, and noted that he refused to believe their conclusions. The Republican Party of Texas recently released its [2012 platform](#) that included its position (known as a plank) on 'Knowledge-Based Education'. This plank read: "We oppose the teaching of Higher Order Thinking Skills (HOTS) (values clarification), critical thinking skills and similar programs that are simply a relabeling of Outcome-Based Education (OBE) (mastery learning) which focus on behavior modification and have the purpose of challenging the student's fixed beliefs and undermining parental authority." Critical thinking skills are an essential part of any scientist's repertoire, as well as a necessary ability in an informed and engaged electorate. The hostile stance that the Republican Party of Texas takes to this vital skill is shameful. By contrast, Mr Obama launched 'Educate to Innovate', a program intended to bolster science, technology, engineering and maths (STEM) education. The White House science fair held in February 2012 was a part of this initiative to train more science and math teachers and promote STEM education in schools.

Mr Obama's record of supporting science education, promoting science-friendly policies and increasing the federal research budget suggests that he will champion science if he is elected to a second term. However, both candidates must publicly discuss their views on science policy and their plans to support the research environment in the US. Only then will US scientists, and voters as a whole, be able to make an informed decision.