

OPINION

We Need a Science White House

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Tomorrow Hillary Clinton, Barack Obama and John McCain should have been going toe-to-toe in a televised science debate. All three were invited by a bipartisan group of Nobel laureates and other scholars called ScienceDebate 2008 to step on stage at the Franklin Institute in Philadelphia and explain how they will ensure that America continues to dominate the sciences. Leading in scientific research and advancement is an essential element to our future prosperity, health and national defense.

All three candidates declined. Apparently the top contenders for our nation's highest elective office have better things to do than explain to the public their views on securing America's future.

Protecting that future starts with understanding that much of the wealth in this country comes from scientific research and technological innovation. Translating science into commerce has opened up vast new fields of endeavor and has raised the standard of living in America. The country that is on the cutting edge of developing new technology is the country best positioned to benefit from that new technology.

A clear example is biotechnology. The U.S. is a leader here, and is able to capitalize on its pre-eminence with disease-resistant crops, anticancer drugs and much more. By developing a strong understanding of the basic science that underlies advances in biotechnology, we are also creating a good training ground for a future generation of scientists and innovators.

But America cannot simply assume its lead in science will continue. In recent years the science community has been starved of the resources it needs. Young, new, energetic scientists are the seed corn of nearly all new scientific development. However, our schools, laboratories and granting agencies all, in one way or another, discourage launching a career in the sciences. There are few grants to live on; and both schools and laboratories have long since lost the sense of joy we remember from our younger days. Science can be exciting and attractive. But convincing bright students to become scientists requires a lot more than we are now providing.

A young university scientist today spends much of his or her time scouring up funding rather than wrestling out the secrets of nature. And the young are not so young. At the National Institutes of Health, the average age of a first grant is 42 for a Ph.D. and 44 for an M.D. We need policies that nurture excellence and give scientists independence at a younger age. And we need to make American science attractive to both those who were born here and those who were born abroad.

Last year things seemed hopeful, at least for the physical sciences. The National Academy of Sciences issued a report, "Rising Above the Gathering Storm," that helped drive Congress to pass legislation – the American Competitiveness Initiative (ACI) – aimed at bolstering the

sciences. It was supposed to beef up the study of science in high school. In the end, no money was found to fund the initiative. It was a commitment made, but not kept.

That's embarrassing as well as shortsighted. We need to re-energize our commitment to being the world's leader in science and technology. We can start doing that by doing a few things:

We need a president who moves science back into the White House. Today we do not have a presidential science adviser and there is no office of science in the White House.

Our government needs to treat science honestly. When the world's scientists flag global warming as a threat to our way of life, it is a warning that should be taken seriously. Stewardship of the planet is our responsibility. No one else is going to do it for us.

We need to fund ACI and double the National Science Foundation's budget for basic research. The government should fund science at a level that will ensure that the U.S. stays in a leadership position in areas like biotechnology, military preparedness, electronics and communication. We need to pay special attention to health research.

We also need to encourage young people to become educated about scientific issues, regardless of whether they become scientists.

This would all be a start. But a complete overhaul of national science policy is needed to prepare the U.S. for a future rapidly overtaking us. Our presidential hopefuls should be telling us their positions on critical science issues, but they have not done so yet. We hope they become more responsive in the months ahead.

Mr. Baltimore, a professor of biology and president emeritus at the California Institute of Technology, was awarded the Nobel Prize in biology in 1975. Mr. Zewail, a professor of chemistry and physics at the California Institute of Technology, was awarded the Nobel Prize in chemistry in 1999.