



Scientist Spotlight with Rod Nichols

Q&A with prominent FAS-affiliated scientists and engineers

1. You've clearly worked on a wide range of subjects and on a variety of projects in the science and technology policy fields throughout your career. What is your preferred area of focus?

“Particularly because you have ‘policy’ in the question, I would have to say a combination of national security and foreign policy – or, as a second preference, what is sometimes referred to as ‘science diplomacy.’ [I am co-teaching a class at the Rockefeller University on science diplomacy] The idea of globalization has sunk deeply into the current generation of young scientists...now they see that whatever careers they enter, and especially because so many who earn PhDs in the US are of different nationalities, global trends will definitely affect their futures. Whether nuclear weapons, or public health, or cyber security, the issues are international.

However, if ‘policy’ wasn’t in your good question, I think my interest in science and technology, with my background originally in physics, recently moves toward neuroscience (although I’m certainly not an expert). My curiosity also focuses on the extraordinary frontiers in cosmology. Many of the most talented young investigators see deep puzzles and how much more we must learn to fathom the origins of the universe and the diseases affecting the brain.”

2. Tell me more about your work on the Boards and Councils you currently serve on. Overall, what is your primary role? [So in general, what is the responsibility of someone who is on a Board of Directors/Trustees for a nonprofit organization?]

“There’s a wonderful, short, generic answer to this question: There are three responsibilities: 1) To hire and fire the President/CEO; 2) to ensure that there is a sound strategy and it is being carried out (this one is more subtle in that the board shouldn’t ‘chart’ the strategy, that should be the job of the President/CEO) and; 3) to ensure the financial health of the organization. This last, fiduciary role is the one that leads to the duty of giving money (in my opinion, I believe that it is the responsibility of every Board member to do so) and also to help raise money for the organization.

I personally take all three of these responsibilities quite seriously, but this varies according to the Council/Board. There are some people who aren’t as interested in strategy and others who aren’t into fundraising, preferring to just provide ‘wisdom’ (and that’s all fine and good, but nonprofits need money too). My roles fluctuate from being very informal, almost on the periphery of an organization, to being right in the center of it (for example, I’m currently chairing development for CRDF Global and was just asking Board Members the other day for their contributions and gifts for the upcoming annual gala).”

3. What do you believe is the single, greatest challenge that scientists or engineers have in conveying information to the public and political spheres?

“I actually gave this question quite a bit of thought and I think there are two issues. First, scientists must listen and unpack the messages from the public (because you’ll never get the answers to your own questions without listening to others first).

Second, there is the very tricky business of simplifying without distorting. There’s a quote attributed to Albert Einstein: “You don’t really understand something unless you can explain it to your grandmother.” The implication being that if you can’t explain the core of an important scientific idea to a person who knows little formal science, you don’t really understand what you’re talking about. Now, that injunction is a little hyperbolic, but that’s the challenge. Even when the subject matter is complicated, there are methods – whether through analogies, brevity, or maybe even empathy – to probe what the public doesn’t understand and then come back with another angle.”

4. What have you discovered to be the most effective strategy in connecting scientists or engineers with each other?

“When I was Executive Vice President at Rockefeller University, often the best way to assure a good crowd for a lecture or special workshop was to make it clear that *fertile, interdisciplinary ground was being plowed*. For example, a biophysicist discussing structural views of the folding of DNA – or new methods for, and the ethical implications of, gene splicing – or powerful new visualizations of cells and neurons ‘in action.’ Such meetings and workshops brought together people from diverse areas of the physical and life sciences, along with mechanical and electrical engineers, all working at the interfaces of theory and experiment.

More generally, scientists and engineers often are eager to come together to help solve genuine and widespread social-economic ‘global problems’ – such as water shortages around the world, or urban systems for transportation and communication. These ‘grand challenges’ have energized thousands of applicants in the competitions launched by foundations, as well as the hundreds of small, informal groups on campuses around the world.”

5. What do you believe is FAS’s greatest strength and how can the organization take advantage of it?

“FAS’s greatest strength is its total integrity and its complete analytical outlook – all the pros and cons, and the nuanced edges, of the choices for responsible science serving society. The organization is non-partisan – and that’s not easy to do! Many decades ago, the founders (although a few may now be thought of as “leaning” either to the left or the right), did come together on this unshakable commitment to integrity. It has shined through the work of FAS over the years.”

6. What are the top issues that FAS should focus on in the next five years?

“First, the past 6-12 months of negotiations on the Iran Deal have reminded us that nonproliferation is still very important and probably increasingly harder to achieve. So FAS has a critical opportunity to chart prudent paths with rigorous technical analysis, captured by no politics.

Second, the divisive climate debates will need improved science. I’m a skeptic about the ‘gloomsayers and doomsayers’ of climate alarm; the computer models have not been correct – almost 20 years of no change in

the earth's average global temperature, despite the projections of the computers. Moreover, more CO2 will bring benefits to the world! – Research clearly shows increased agricultural productivity and global greening.

Third, I think the past goal for nuclear power used for civilian electricity is also going to be important; this means “back to the future” in terms of FAS's founders' priorities – nonproliferation, along with safe and reliable nuclear energy – but these are sure to remain as hot topics in the coming years.

In short, because the science is certainly *not* settled on any of these three themes – non-proliferation, climate, and nuclear power – FAS has enormous potential for informing effective public policy.”

7. Complete this sentence: Science is _____.

“...It's hard to say anything except a cliché, but here goes...‘a voyage of discovery that regularly challenges orthodoxy.’”

Rodney W. Nichols was President and CEO of the New York Academy of Sciences (1992 to 2001), Scholar-in-Residence at the Carnegie Corporation of New York (1990-1992), and Vice President and Executive Vice President of The Rockefeller University (1970-1990), with physicist Frederick Seitz and geneticist Joshua Lederberg. Earlier he was an R&D manager in the aerospace industry and a special assistant in Office of the Secretary of Defense. He was appointed in 2013 to the Adjunct Faculty of Rockefeller University.

He currently serves on The Rockefeller University Council, and on the boards of the Research Foundation of the City University of New York, CRDF Global, Manhattan Institute, Federation of American Scientists, and the Alliance for Global Good. Mr. Nichols gave invited testimony in 2007 to the bi-partisan HELP Commission recommending reforms for US foreign assistance. He was a founding judge on the selection panel for the Weizmann Institute's Women in Science Award and served on the 2005-07 National Innovation Initiative of the Council on Competitiveness. Earlier he served on the boards of the American University of Beirut, Christopher Reeve Foundation, the Critical Technologies Institute (RAND), and ALS Association. He has been an advisor to the Lounsbery Foundation, Simons Foundation, Sloan Foundation, and Woodrow Wilson Center, among others.