

Answers to interview questions for Sigma Xi President-Elect Candidates

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If elected president, what would be your goals, particularly concerning membership, fiscal growth, and policy for Sigma Xi's future?

Membership in honor societies has been dropping and societies have responded by trying to increase their value to individuals to entice them to join. It is all very well to ask what's in it for me, but rather than just explaining its value to members, Sigma Xi should play to its strengths and emphasize its value to science. It is through our participation in a Society that stands for excellence and integrity that we may signal our commitment to the importance of these values for the scientific community, for the next generation of researchers, and for the benefit to society as a whole.

I don't take fiscal growth in and of itself to be an important goal for a not-for-profit honor society. Sigma Xi needs to be financially well-managed to maintain its long-term stability and health and then should simply seek additional funds for special initiatives. Again, it seems to me that emphasizing projects that focus on issues of scientific excellence and integrity is the proper focus for an honor society. I'd advocate for grant-making and fund raising to support efforts of this sort.

Most scientific societies have particular disciplinary foci, which is perfectly appropriate, but Sigma Xi should make it its distinctive policy to speak generally for science itself as an honorable calling. That means that it should continue to highlight science's special importance in civic life and to articulate the ideals of responsible conduct that are required to keep science worthy of public trust.

Tell us about your most relevant leadership experience.

Within Sigma Xi, my most significant leadership achievement was as chapter president at University of Texas – Austin. The chapter had become moribund, but with the help of Otto Friedrich as secretary we brought it into good standing. By the time I stepped down after five years, it was once again active and vibrant.

After moving to Michigan, I co-founded and was President for four years of Michigan Citizens for Science, a citizens action group that defended science education in the state. I led opposition to proposed bills in the state legislature that tried to introduce anti-evolution and anti-climate change materials into school standards. I also served on the AAAS Committee on Public Understanding of Science and Technology and on the National Research Council committee that authored *Science, Evolution and Creationism: A View from the National Academy of Sciences* (2008). I was an expert witness in the *Kitzmiller et al v. Dover Area School Board* case that ruled that teaching ID Creationism was unconstitutional.

My most important leadership role in the last decade has been as Co-PI of BEACON, an NSF Center for the Study of Evolution in Action. Centered at MSU, with partners at North Carolina A&T, University of Idaho, Univ. of Texas and Univ. of Washington, BEACON studies

evolutionary processes in natural and computational systems and harnesses it for engineering applications. We have also made improving education and diversity a priority and have exceeded national norms in all categories of underrepresented groups for the past eight years.

What is the most significant issue within Sigma Xi that you would exert time and effort to address?

We are in what is being called a “post-truth” era, when even well-established scientific findings—involving topics from evolution to vaccination—are blithely dismissed. Science itself is under attack and Sigma Xi should be leading the call for its defense.

In my book on the scientific virtues—*An Instinct for Truth*—I wrote about the meaning of the Sigma Xi name and what its notion of “companions in zealous research” means in scientific culture. I recently completed a study of scientific culture in which we asked scientists to reflect upon the character traits that are important for scientific research. With data from 1100 scientists, we now have a newly clear idea of the core values that constitute the ideals of the scientific community. John Ahearne, who for many years was the key member of Sigma Xi to promote the Society’s emphasis on ethics in science, served on the external advisory committee of my study. John passed away this year, and it is in his memory that I offered to stand for election. Like John, I believe that highlighting these ideals and advocating for the importance of scientific integrity is one of the most significant things that Sigma Xi can do.

We should take a stand for scientific truth to the public and to our elected representatives. Modelling the passionate search for truth that is central to scientific identity is also important for science education and mentoring and will help make science more attractive to a more diverse group of students.

What particular personal qualities do you possess that might help convince members to vote for you?

Personal qualities? Well, I’m something of an introvert, but so are most scientists and engineers, so maybe they would vote for me as a fellow member of this awkward, quiet tribe? More seriously, I guess I would say that I have qualities that cross boundaries. I conduct scientific research, but I’m also a philosopher. As such, I think both analytically and synthetically. I am interested in a big picture view of things, but I care about getting the details right, so they hang together. I’m like other scientists in being incurably curious (which was a central character virtue that stood out in our survey) and like engineers in seeking innovative ways to solve difficult problems. Like other philosophers, I feel that problems often seem intractable because of unquestioned assumptions and insufficient reflective deliberation. For the wicked social problems that we currently face, I tend to look for ways to view things to reveal shared values that can unite people, rather than divide them, because we’ll need to work together to get at the truths we’ll need to solve our common problems and to flourish as human beings. Denying empirical truths is a recipe for social and civic disaster. If I were to have a campaign slogan that I would hope people could rally around, it would be this: Liberty, Equality, Reality!