

Statement of Dr. Jo Handelsman
Nominee
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White House Office of Science and Technology Policy

Committee on Commerce, Science, and Transportation
United States Senate
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Chairman Rockefeller, Ranking Member Thune, and Committee members, I am honored to be here today as President Obama’s nominee to serve as the Associate Director for Science in the White House Office of Science and Technology Policy. I am pleased to have this opportunity to introduce myself, to tell you a little about what inspires me, and to discuss what I would hope to accomplish, if confirmed, in this position of public service.

Many experiences contributed to my decision to pursue a career as a scientist—and to apply my knowledge and skills to public service—but two experiences in particular stand out.

When I was 12 years old, I looked through a microscope for the first time and saw a microscopic organism swimming about in a world that had been invisible and completely unknown to me. It was a revelatory experience, and at that moment I knew I wanted to become a scientist. From that day on, I didn’t really want to do much else besides look through a microscope at whatever I could find—to explore this tiny yet amazingly complex ecosystem of living things. So I did enough babysitting for the next six months to save up \$72 to buy a wonderful old microscope that had been used in European hospitals in the 1930s and somehow had made its way across the ocean to America. I still have that microscope today. And the universe it introduced me to was—and continues to be—no less wondrous than the one that today’s astronomers—and perhaps a few Senators—marvel at as they look through their giant telescopes to the outer limits of space.

All students should be able to have their own “microscope moments”. Most will not decide to follow the path that I did, but the right experiences in classrooms and on field trips can teach them the important lesson that science is not about facts in a textbook, but about exploring the world around us, about discovery, about puzzles, and about problem solving. The understanding that science is not a body of facts but rather a *process*—a way of asking questions and solving problems—is increasingly important for all of us, as personal and societal decision-making is increasingly dependent on our ability to interpret and make judgments about scientific data.

But it is also important on a larger scale, because science and technology today are also essential for our nation’s continued innovation, competitiveness, and economic strength. If America is to maintain its leadership position in the world it is absolutely necessary that we as a nation inspire a new generation of Americans to excel in science, technology, engineering, and mathematics—the so-called STEM subjects. As you may know, I co-chaired a working group of the President’s Council of Advisors on Science and Technology that prepared the report, *Engage to Excel*, which focused on the pending shortfall of domestically trained scientists and engineers for the

U.S. workforce and called for actions to increase by one million the number of college graduates with STEM degrees over the next decade. Our working group concluded that a critical aspect of attracting more students to STEM careers is providing those “microscope moments” to students throughout science education. I know that the Congress and the Administration share this important goal and, if confirmed, I would welcome the opportunity to help improve our citizens’ understanding of science and inspire more young people to become scientists and engineers.

The second experience that has shaped me as a scientist and inspired me to apply my skills on the scale of Federal service was my mother’s death. The pain of that loss was deepened because she died from an infection with antibiotic-resistant bacteria—precisely the focus of my own research. After 20 years of seeking new antibiotics and inventing new ways to find them, I stood by helplessly watching my mother suffer because we still lacked sufficient antibiotics to save her. And my mother’s case is a personal example of the type of infectious disease that kills many thousands of Americans each year. Antibiotic-resistant bacteria represent one of the greatest health threats confronting us today, and also represent a gap in our federally funded research portfolio.

That experience intensified my search for new antimicrobials and inspired many studies of antibiotic resistance in my lab. But beyond that, it connected me with a problem of national and even global significance, as antimicrobial resistance is a major problem around the world, and it forced me to consider the U.S. biomedical research agenda in a personal way. It stimulated me to think hard about strategic investment in science and the prioritization of precious resources.

As you know, Mr. Chairman, OSTP serves as a coordinating office for many scientific and technological endeavors that cross department and agency lines. If confirmed, I can promise that I will bring all of my personal and professional power to bear to ensure that America’s research portfolio is balanced with regard to the most serious risks we face as a nation, and that critical gaps are addressed methodically but aggressively, as American taxpayers appropriately expect.

Finally, I should note that none of this can be accomplished by the Federal Government alone, and academic researchers and teachers have a huge role to play. Toward that end of partnering with and leveraging the immense potential of academic science and science education, I bring 28 years of experience as a professor at two great universities – the University of Wisconsin and Yale University – which have provided me with an understanding of the responsibilities and contributions of both public and private institutions. If confirmed, I would be honored to serve the people of the United States by helping to focus this nation’s diverse public and private resources on the task of ensuring that U.S. policies effectively bolster scientific research and education.

Thank you for having me here today, and I would be happy to answer your questions.