

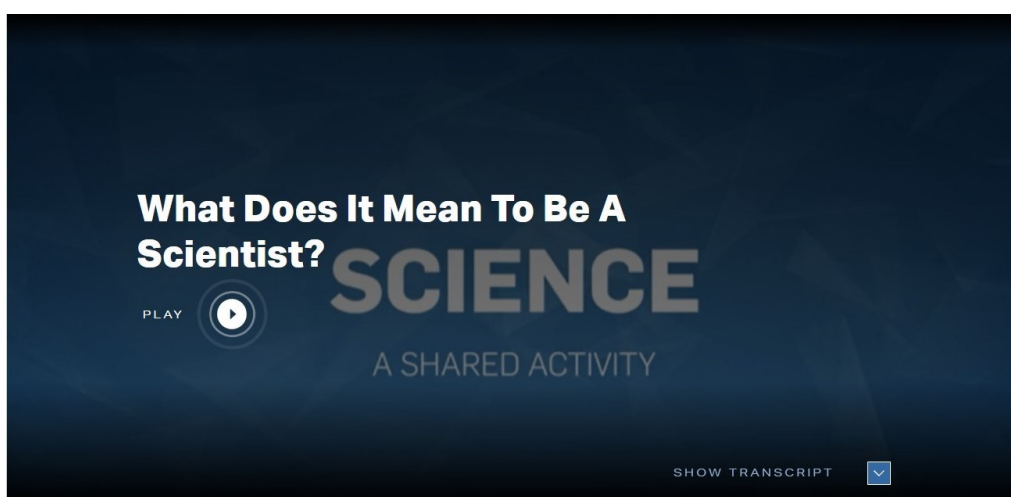
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What Does It Mean To Be A Scientist?

What does it mean to be a scientist? How do scientists work together, and how do new scientific discoveries interact with the humanity of the scientist? Is science a solo enterprise or is it shared?

DATE PUBLISHED
February 10, 2022

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How do scientists work together, and how do new scientific discoveries interact with the humanity of the scientist? Is science a solo enterprise or is it shared? These questions and more are explored in this exciting series of videos from the Dialogue on Science, Ethics, and Religion. [View the entire "Who Is Science?" series here.](#)

Series Featured Scholars:

Dr. Jada Benn Torres is an American genetic anthropologist. She is also an associate professor of anthropology at Vanderbilt University and serves as the Director of Vanderbilt's Laboratory of Genetic Anthropology and Biocultural Studies.

Dr. Sean B. Carroll is the Allan Wilson Professor of Molecular Biology and Genetics at the University of Wisconsin–Madison. He is an American evolutionary developmental biologist, author, educator, and executive producer.

Br. Guy J. Consolmagno is an American research astronomer, physicist, and Jesuit. He serves as the Director of the Vatican Observatory and the President of the Vatican Observatory Foundation.

Dr. Agustín Fuentes is American primatologist and biological anthropologist at Princeton University. He was formerly the chair of the Department of Anthropology at the University of Notre Dame.

Dr. S. James Gates, Jr. is a theoretical physicist at Brown University. He specializes in supersymmetry, supergravity, and superstring theory.

Dr. David Go is the Rooney Family Collegiate Professor of Engineering at the University of Notre Dame. He is also the Chairman of the Department of Aerospace and Mechanical Engineering at the University of Notre Dame.

Dr. Joseph L. Graves, Jr. is a biologist and professor at North Carolina A&T State University. He is also an Associate Director of the Triangle Center for Evolutionary Medicine.

Dr. Susan G. Sheridan is an Associate Professor in Anthropology at the University of Notre Dame.

Dr. Jennifer Wiseman is the Hubble Senior Project Scientist at NASA's Goddard Space Flight Center. She also serves as the Executive Director of AAAS Dialogue on Science, Ethics, and Religion.

Dr. Huda Zoghbi is a Professor at Baylor College of Medicine. She also serves as the Director of the Jan and Dan Duncan Neurological Research Institute (NRI) at Texas Children's Hospital.

VIDEO TRANSCRIPT

ENGLISH

S. James Gates, Jr.:

Scientists are people. We are subject to all the frailties and all of the weaknesses, but also all of the strengths, that everyone else is. That is what I desperately hope that people will understand about scientists.

Cheryl Hayashi:

I'm a basic science researcher, so I'm an evolutionary biologist. And the particular system I work in is the evolution of spider silk. Most of what I spend my time doing, is really you know, trying to understand is how spiders and their silks came to be, and how spider silk genetics might lead to a new generation of materials.

Margaret Hamburg:

Almost everyone that does science wants to see their discoveries get applied to issues in the world that matter.

David Go:

That is exhilarating, but it goes back towards our origins, understanding the way the world works and how that ties to who we are, and how we interact with the world, and how we interact with each other.

Jerold Chun:

And so it's not as though scientists are some weirdo, something that's squirreled away in a closet. We are- all scientists are very human, complete with all the pros and cons of human activity. And it's something that is shared amongst every human activity. Whether you're an artist, chef, engineer, it's really a shared activity.

David Go:

There are some real realities to being a scientist that are hard. There's always this sense of uncertainty in the back of your mind that you don't quite understand what it is you're doing.

S. James Gates, Jr.:

"One has to make peace with pain" is something I've been heard to say many times.

David Go:

The act of discovery involves the act of being wrong. A lot. Like 99% of the time you're wrong.

S. James Gates, Jr.:

That you have to be at peace with being in a state of emotional distress at not getting what you want.

Agustín Fuentes:

As scientists, we're human beings. Being human is incredibly messy, and that's not a bad thing.

Cheryl Hayashi:

So what sustains me during those periods of when you're just sort of really trudging through doing the labor of science? It's just this belief that the discovery is just around the corner.

Agustín Fuentes:

There's so much that we don't yet know. And so questions drive science, but scientists are humans. They come from a culture. They come from a background. They have individual experiences. So they're bringing to the table all those things.

Jada Benn Torres:

Questions that we ask are always filtered through our worldview, of our way of understanding the world. And the way you understand the world doesn't happen on your own. You're socialized in a particular environment. And all of those factors will filter down into your science.

Agustín Fuentes:

Study after study after study shows that diversity and inclusivity, different perspectives, different viewpoints, collaborating as a team makes for a better process of science.

Joseph L. Graves, Jr.:

So changing the demography of science also changes the enterprise of science, because people are going to have quite different ideas about what are the most important science problems and what are the most important applications.

David Go:

Science is at its best when many voices are heard, when many experiences inform, and when many people are curious.

SPANISH

S. James Gates, Jr.

Los científicos son personas. Estamos sujetos a todas las fragilidades y todas las debilidades, pero también a las fortalezas, como todos. Eso es lo que espero desesperadamente que la gente entienda sobre los científicos.

Cheryl Hayashi:

Soy investigador científico fundamental, por lo tanto, soy biólogo evolutivo. El sistema particular con el que trabajo es la evolución de la seda de arañas. Me paso la vida en tratar de comprender cómo surgen las arañas y sus sedas y cómo la genética de la seda de arañas puede llevarnos a una nueva generación de materiales.

Margaret Hamburg:

Casi todos los que se dedican a la ciencia quieren que sus descubrimientos se apliquen a cuestiones importantes en el mundo.

David Go:

Es emocionante, pero se remonta hacia nuestros orígenes comprender la manera en la que el mundo funciona y cómo se conecta con quien somos y cómo interactuamos con el mundo y cómo interactuamos entre nosotros.

Jerold Chun:

No es como si los científicos fueran raros, algo que hay que mantener escondido. Somos... todos los científicos somos humanos completos con los pros y contras de la actividad humana. Y es algo que se comparte entre todas las actividades humanas. Así seas artista, chef, ingeniero, es una actividad compartida.

David Go:

Hay algunas realidades de ser científico que son complicadas. Siempre existe este sentido de incertidumbre en tu cabeza que dice que no comprendes completamente lo que estás haciendo.

S. James Gates, Jr.

"Hay que amigarse con el dolor" es algo que he escuchado muchas veces.

David Go:

El acto del descubrimiento implica el acto de equivocarse. Mucho. Como el 99 % de las veces, estás equivocado.

S. James Gates, Jr.

Hay que aceptar estar en un estado de angustia emocional por no obtener lo que quieres.

Agustín Fuentes:

Como científicos, somos humanos. Ser humanos es muy complicado y eso no es malo.

Cheryl Hayashi:

¿Qué me sostiene en esos períodos cuando estoy luchando con el trabajo? La esperanza de que el descubrimiento está a la vuelta de la esquina.

Agustín Fuentes:

Hay tanto que todavía no sabemos. Las preguntas impulsan la ciencia, pero los científicos son humanos. Vienen de una cultura. Vienen de un origen. Tienen experiencias individuales. Así que traen todo eso con ellos.

Jada Benn Torres:

Las preguntas que hacemos siempre están filtradas por nuestra visión del mundo, por nuestra manera de comprender el mundo. Y la manera en la que comprendes el mundo no sucede por si sola. Estás socializado en un ambiente en particular. Y todos esos factores se infiltrarán en tu investigación.

Agustín Fuentes:

Estudio tras estudio muestran que la diversidad y la inclusión, las diferentes perspectivas, los diferentes puntos de vista, colaborar como un equipo propician un mejor proceso científico.

Joseph L. Graves, Jr.

Cambiar la demografía de la ciencia también cambia el proceso de la ciencia, porque las personas van a tener diferentes ideas sobre cuáles son los problemas más importantes de la ciencia y cuáles son las aplicaciones más importantes.

David Go

La ciencia es mejor cuando se escuchan muchas voces, cuando hay muchas experiencias y cuando hay mucha gente curiosa.



Facilitating dialogue and engagement between scientific and religious communities on science, technology, and society.

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