

Rob Smith*President, Eli Lilly and Company Foundation**Cosmos, Consciousness, and Community*

Four hundred years ago, Galileo first looked at the night sky through a telescope. Think of how far we have come since that fateful night in 1609. We have hoisted humans into space and probed distant planets. We have discovered what powers the stars, and particle physicists are demonstrating just how remarkable—and mind-bendingly strange—the fabric of the universe really is.

Galileo would be impressed. He would also marvel at today's telescopes.

My love of astronomy was sparked by one of those instruments, the Hubble Space Telescope, which orbits Earth about every ninety minutes. More specifically, my fascination began when I saw a remarkable photograph of the Hubble Ultra-Deep Field, created when the Hubble was pointed at the same small part of the sky for eleven days in 2003 and 2004.

The resulting image opens the mind to the capaciousness of the cosmos. It suggests that the Hubble would see 130 billion galaxies if it surveyed the entire sky. For perspective, our home galaxy, the Milky Way, contains at least 200 billion stars, and if you were able to travel at the speed of light (a mere 670 million miles per hour), it would take you 100,000 years to cross the Milky Way's expanse. This Hubble image suggests that there are *billions* of these structures "out there."

The Hubble hooked me on amateur astronomy. I love observing through my telescope under a dark sky and am often deeply moved, experiencing frequent moments of transcendence, particularly when I glimpse a distant object in my eyepiece. The faint photons from these objects left their sources thousands, even millions of years ago; I see them as they were then. So my telescope is also a time machine. This is amazing stuff. The cosmos is my inspiring place.

But for all my inspiration, there is also something unsettling and deeply disorienting about the cosmos. It is hard to escape the fact that we are mere motes floating through a vast universe that seems more hospitable to black holes than human beings.

Are my pangs of profound insignificance overblown? On his blog,

Science Musings, astrophysicist and Notre Dame alum Chet Raymo recounts times when students told him they felt insignificant when looking at the Hubble Ultra Deep Field. Raymo responded, "You are part of a species that flung a magnificent instrument into space and managed to keep it pointed at a tiny dot of sky for 11.3 days as the instrument whirled around the Earth. You made visible 130 billion galaxies. You carry a universe of 130 billion galaxies in your head. If that doesn't make you feel significant, nothing will."

Such is the power of the human brain, which is the ultimate inspiring place. Our brains spark a consciousness that gives us significance, even when the units on the measuring stick are in light-years. We can grasp our astonishing cosmos. We can accumulate knowledge, share insights, and make new discoveries.

But how do we nurture these inspiring places—the minds—of our children? How do we foster an environment that regularly motivates and develops our young people into adults who not only think critically, but also imagine, create, and innovate, regardless of their chosen fields?

Socrates said that he was certain of only one thing—his ignorance. This enlightened observation is relevant 2,500 years later, for we have so much more to learn. Who will be inspired to be an astrophysicist or a biologist or an engineer? Who will make great discoveries? Who will be the scientists helping my company find the next generation of breakthrough medicines? Who will be an inspiring artist, musician, teacher, philosopher, or political leader?

Strong academics are absolutely necessary but not sufficient. Along the way, we cannot lose sight of the inherent power of creating for our children a life-long sense of wonder—a call to their imaginations to think big and, in the words of legendary IU President Herman Wells, dream long dreams.

Each of us has a role to play. We all can mentor, teach, and share our passions. I can find more opportunities to share with young people my wonder of the night sky. Maybe one day they, too, will be moved by the words of Ralph Waldo Emerson: "Suns haste to set, that so remoter lights beckon the wanderer to his vaster home."