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**Neil deGrasse Tyson on *Cosmos* and Integrating Science into Pop Culture**

Tyson hopes that the updated *Cosmos* can play a small part in improving the severe lack of scientific literacy among many adults today



March 7, 2014 |By [Alex Jackson and SoapboxScience](http://www.scientificamerican.com/author/alex-jackson-and-soapboxscience)

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"Science matters in our lives for us to be better shepherds of not only our civilization, but the world."
*Image courtesy of Patrick Eccelsine/FOX*

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*Neil deGrasse Tyson is the Frederick P. Rose Director of the Hayden Planetarium at the [Rose Center for Earth and Space](http://www.amnh.org/exhibitions/permanent-exhibitions/rose-center-for-earth-and-space%22%20%5Ct%20%22_blank) and a research associate in the department of astrophysics at the American Museum of Natural History.*

*A popular American astrophysicist, author, science communicator and educator, Tyson hosted the science educational show [NOVA ScienceNow](http://www.pbs.org/wgbh/nova/sciencenow/%22%20%5Ct%20%22_blank) on PBS for five years. He received a bachelor’s degree in Physics from [Harvard University](http://www.harvard.edu/%22%20%5Ct%20%22_blank) and a doctorate in Astrophysics from Columbia University in 1991. After spending a number of years doing post-doctorate work at [Princeton University](http://www.princeton.edu/main/%22%20%5Ct%20%22_blank), Tyson landed a role at the Hayden Planetarium.*

*He is the author of several best-selling books, including [Space Chronicles: Facing the Ultimate Frontier](http://www.haydenplanetarium.org/tyson/buy/books/space-chronicles%22%20%5Ct%20%22_blank), [Death By Black Hole and Other Cosmic Quandaries](http://www.haydenplanetarium.org/tyson/buy/books/death-by-black-hole%22%20%5Ct%20%22_blank) and the [Pluto Files: The Rise and Fall of America’s Favorite Planet](http://www.haydenplanetarium.org/tyson/buy/books/the-pluto-files%22%20%5Ct%20%22_blank). In 2001, US President George W Bush appointed Tyson to the Commission on the Future of the United States Aerospace Industry. He also served another commission three years later to examine US policy on space exploration. In 2004, Tyson was awarded the [NASA Distinguished Public Service Medal](http://en.wikipedia.org/wiki/NASA_Distinguished_Public_Service_Medal%22%20%5Ct%20%22_blank), the highest civilian honor bestowed by [NASA](http://www.nasa.gov/%22%20%5Ct%20%22_blank). He also hosts his own podcast and radio show [StarTalk.](http://www.startalkradio.net/%22%20%5Ct%20%22_blank)*

“*Cosmos* is truly intended for anyone with a beating heart. I haven’t checked recently whether zombies have beating hearts, but if they do – I’ll take them too,” barks Astrophysicist Neil deGrasse Tyson, with exalted hilarity.

Tyson’s approachability, energy and humor are what make him such an affable academic, who has not only become of one of America’s most popular scientists over the last decade, but has inspired many to follow in his footsteps and engage with science. It is therefore apt that Tyson is picking up where Carl Sagan left off in taking the reins of a new, updated version of the hit television series *Cosmos*– premiering this weekend.

In most hands this would be a daunting task; Sagan’s original PBS series can be credited with the proliferation of many science programs today, broadcast in more than 60 countries, and seen by over 500 million people. However Tyson, a science educator and the Director of Hayden Planetarium at the American Museum of Natural History, is no stranger to communicating complex messages in an accessible, exciting way.

**Power of Science**
Sagan’s rich ability to capture the excitement of the wonders of the universe, astronomy and the history of scientific discovery in such a conversational way played a huge role in bringing the marvels of science to the homes of millions. “*[Cosmos: A Space Time Odyssey](http://www.cosmosontv.com/%22%20%5Ct%20%22_blank)* will bear the soul of the original series bringing a certain level of awe, wonder and joy to the learning of science,” exclaims Tyson. “While it would be great to see many new scientists emerging from having watched the program, the real impact would be in sensitizing people to the power of science, the methods and tools, and how scientists shape our culture and continue to do so, especially in the 21st century.

“The hope is that no matter what profession someone has in the future, they’ll have some awareness of how issues such as energy, transportation, health or security matter in the future,” Tyson explains. “These are big issues that all require some level of science literacy in order to be an informed electorate.”

**Scientific Literacy**
It is the severe lack of scientific literacy in many adults today that worries Tyson and something he hopes the show can play a small part in improving. “It is not the younger generation that concerns me, as many are born scientists in a sense, both curious about the world and asking questions. It is the scientific illiterate adults who are in charge of things, who wield resources, power and legislation, who can’t necessarily embrace where their children’s ideas are coming from.”

Tyson talks fondly of his brief encounters with Sagan and the invitation he received to visit the campus of [Cornell University](https://www.cornell.edu/%22%20%5Ct%20%22_blank) in New York, to see his laboratory as a 17 year-old. It was Sagan’s immediate interest in a then aspiring young scientist’s ambitions that still inspires Tyson today.

“With the original writers [Ann Druyan](http://www.imdb.com/name/nm0238668/%22%20%5Ct%20%22_blank) (Sagan’s widow) and [Steven Soter](http://www.imdb.com/name/nm1581663/%22%20%5Ct%20%22_blank) on board, we have the genetic links to the 1980s series. This allows us to say what previously worked, what didn’t, and what we can improve on from the original series,” says Tyson. The “powerful storytelling elements” remain, as do both the ‘Cosmic Calendar’ and the ‘Ship of Imagination’.

“When I think of the universe, I think of glorious places and fascinating times with colliding planets or galaxies, and the birth of universe itself. These are stunning moments in history and in the show we combine this real science with dramatic visualisations and storytelling that people could have only imagined years ago,” declares Tyson.

**Cosmic Calendar**
In the new series, Tyson will go inside molecules and atoms, spiral down a DNA molecule and use the ‘Ship of Imagination’ as a “literal and figurative tool” to move from one story to another. However it is the ‘cosmic calendar’, the size of a football pitch, which Tyson walks across during the show – that excites him the most.

“The cosmic calendar is the perfect tool to relay the entire history of the universe over 14 billion years. It gives a sense of what happened over that vast time period, which would otherwise be really hard to conceptualize,” says Tyson. “There is obviously a lot of new science in there since 1980, but the science is not the destination point. The new science feeds into the broader story that science matters in our lives for us to be better shepherds of not only our civilization, but the world.”

**Shifting Scientific Perspectives**
The integration of science in popular culture and the general mainstreaming of it is something that Tyson is massively enthused about. He notes that with some of the biggest television programs in America rooted in science, and his own [Twitter](https://twitter.com/neiltyson%22%20%5Ct%20%22_blank) following of ever growing in numbers, there is a certain level of “hunger” for scientific subject matter.

“If you’d asked me a few years ago, I would have said it feels like science is mainstreaming, but maybe that’s just what I wanted to be true. Yet now we have enough evidence to say that the ground has been tilled, with *Cosmos,*the popularity of the *[Big Bang Theory](http://the-big-bang-theory.com/%22%20%5Ct%20%22_blank)* and other programs such as *[CSI](http://www.cbs.com/shows/csi/%22%20%5Ct%20%22_blank).*

“We have real scientists with real backgrounds in Biochemistry, Physics, Forensics and many other scientific disciplines informing these story lines and characters. They have real lives, marriages and kids. Now that may sound trivial that they have this real life, but if you go back a number of years – scientists were never portrayed this way. They would be in a laboratory, the main characters would ask a few questions of them if they need an answer and then move on – the viewer had no relationship with the scientist.”

**Mainstreaming Science**
The13-part series*Cosmos*is proof of this with its estimated distribution figures alone. Tyson suggests the very fact the show is airing on Fox provides a global audience where “science should be.” Within a week of the premiere, the show will have been viewed in 171 countries in 45 languages.

“Just look at the success Brian Cox has had in the UK with scientific programing. Further proof is the fact I have 1.7m Twitter followers. I wake up every morning saying ‘guys didn’t I tell you I’m actually an astrophysicist, didn’t I remind you, did I not tell you that?’” Tyson roars with exuberant laughter once again.

“That’s just how I feel. It tells me there is an unserved hunger out there and that hunger is ripe for the full mainstreaming of science. Science is no longer something you can step around, or over, or neglect telling people you never did well at science at school, so why should it matter to me? It is something that surrounds you and I’d like to believe with shows like *Cosmos*it will not only surround you, but you’ll embrace that fact.”

*[Cosmos: A Spacetime Odyssey](http://www.cosmosontv.com/%22%20%5Ct%20%22_blank)* premieres on Fox in the US on Sunday evening at 9pm ET and Monday 10pm ET on National Geographic. Sky1 alongside National Geographic and National Geographic Wild will air the first episode in the UK a week later on Sunday 16 March at 7pm.