

Marc Kaufman

Now that I've shared with you some of what I learned during my time at ELSI, let me tell you a little about myself.

I've been a writer for more than four decades mostly in the newsrooms of The Washington Post and the Philadelphia Inquirer, but also as the author of two books. "First Contact: Scientific Breakthroughs in the Search for Life Beyond Earth" was published by Simon & Schuster in 2011 and "Mars Up Close: Inside the Curiosity Mission" was published by National Geographic Books in 2014.

For the past two years I have also written a NASAsponsored column about exoplanets and astrobiology

called Many Worlds (www.manyworlds.space)

Although most of my reporting in the past decadeplus has focused on space, astrobiology and science, I previously spent many years as a reporter and foreign correspondent writing about most everything except science. That changed when I began covering NASA for The Washington Post and I've never looked back.

It has been both a wonderful challenge and a great pleasure to learn about what so many men and women of science are studying, measuring, hypothesizing and discovering. And I thank those at ELSI for taking the time to talk with me about their work.



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Nerissa Escanlar . Photograpaher

a very human face on the scientists and staff of the institute. Before ELSI, I worked with they are in - this is the kind of information fine art photographers and photojournalists I'm looking for when taking pictures. Put for ten years. I think the most important these demeanors together, and add quite a things they gave my photography were our friendships and adventures, and the ways to capture some of the qualities that define a they made me a better person.

As a long-time photographer, I pretty much think and understand visually. For me, traveling, not being on the clock and interacting with people is where inspiration deserve, and that will hopefully allow others and ideas come from.

How a subject engages with me is a wonderful, and patient, bunch. big part of creating images. How a person

I came to ELSI in 2015 and set out to put is standing, his or her expressions, their comfort (or discomfort) with the setting few others, and a photographer has a chance person, something pretty deep inside.

> I feel very strongly about the need to show the public who ELSI scientists are; to give them the exposure that they to understand them better. They are a



Written by Marc Kaufman.

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Images:

Krok, Lexi. "Inside the Archimedes Palimpsest," NOVA website, http://www.pbs.org/wgbh/nova/physics/inside-archimedes-palimpsest.html (accessed December 10, 2017).

Stromatolite: Photograph by: Andre´-P. Drapeau P. Retrieved 10 December, 2017 from https://commons.wikimedia.org/wiki/File:StromatoliteUL03.JPG

Hiroshige, Utagawa . *Swallow Chorus*. 1878, color woodblock print. Los Angeles County Museum of Art, Los Angeles. Retrieved 9 December, 2017 from https://collections.lacma.org/node/201293

Appleton, D and Company. (1878) Portrait of Samuel Morse, New York, NY: Popular Science Monthly, Volume 13. Retrieved from https://en.wikipedia.org/wiki/Edward_S_Morse#/media/File:PSM_V13_D008_Edward_S_Morse.jpgFile:PSM_V13_D008_Edward_S_Morse.jpgFile:PSM_V13_D008_Edward_S_Morse.jpg

Stanley Miller University Of California, San Diego. Stanley Miller with Electric Discharge Equipment. (1953) photograph.

NASA/JPL . *Global View Of The Surface Of Venus* Retrieved 9 December, 2017 from https://www.nasa.gov/topics/solarsystem/features/pia00104.html

Simone Marchi/SwRI. An artistic conception of the early Earth, showing a surface pummeled by large impacts, resulting in extrusion of deep seated magma onto the surface. Retrieved 10 December, 2017 from https://sservi. nasa.gov/articles/new-nasa-research-shows-giant-asteroids-battered-early-earth/

NASA/JPL/MSSS . *Eberswalde Delta* Retrieved 9 December, 2017 from https://photojournal.jpl.nasa.gov/tiff/PIA04293.tif

NASA/JPL-Caltech/MSSS. *Strata at Mount Sharp* Retrieved 9 December, 2017 from https://photojournal.jpl.nasa.gov/tiff/PIA19839.tifv

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How and why did a planet like Earth form? How did geochemistry on prebiotic Earth later become biochemistry and life? What happened, and what made the emergence possible?

Those questions are at the core of ELSI's scientific mission.

The questions are not easy to answer and not at all limiting for a growing origin-of-Earth and origin-of-Life institute. To understand how that change occurred means studying the formation and dynamics of our planet, the evolution of our core and atmosphere, the "messy" process through which the building blocks of life and then life emerged, the possibility of life on other planets, and how life evolved and changed the Earth. And inherent in the quest is the scientific ambiguity about what life is and how life expresses itself.

Quite a full plate for any group of scientists and quite a thrilling challenge.