

## **Bigger than Earth Day?**

Last month we celebrated Earth Day. It was the 40th anniversary of the event that raised national and then worldwide awareness of the plight of our environment. Since the first Earth Day in 1970 a lot has been accomplished toward reversing the potentially devastating impact that just one species has had on this little blue dot we call home. More, maybe even more than ever imagined, still needs to be done. Or else our lone island of life could end up as inhospitable as Venus, or as void as Mars. Keep that in mind as we share views of the heavens with the public by celebrating Astronomy Day on May 8th.

Yes, I know that there are numerous and wonderful objects in the universe. With the invention of the telescope 401 years ago, and the subsequent failure to secure a patent on this new military device, our universe became visually accessible to anyone with a penchant for exploring new worlds. That's what excites us all about astronomy. We need to share that excitement with the public on Astronomy Day. But don't let the wonders of the universe mislead you into thinking that you must look outward to explore the universe. Earth has a lot to teach us about the universe.

For instance, we only recently realized how lucky we are to have Earth positioned just 90 million miles from a yellow dwarf star. The mix of energy from the star and the availability of liquid water was the right combination to kick-start and support life here on Earth, at least as we know it. The rarity of these conditions is becoming more apparent as we search for exoplanets. The effort has turned up more than 400 other planets orbiting other stars. But not one of these out-of-this solar system planets is within its star's "green zone". Granted, the technology currently employed in the searches isn't sensitive enough to detect earth-sized planets, but even the super-Jupiter and super-Earth sized planets already found lie outside the green zone. So, Earth and all its life are now at least a 1 in 409 proposition -- I'm counting Pluto.

Maybe, different forms of life exist in the universe, or even in our own solar system. Life that isn't carbon-based and water-dependent is possible, and maybe even prevalent. But then our form of life would be different, if not rare.

What if it turns out that life is everywhere throughout the cosmos? Then there is the question of intelligent life. Will the other forms of life that we find be smarter than us? Or challenged? So far, the efforts of SETI have concluded that any form of life within 60 light-years of Earth (60-yrs is how long we've been listening for radio waves from space) has yet to develop communication via the radio spectrum.

And once found, how will we treat these other forms of life? Will we have learned anything from our experience with life that once lived, and that now lives, among us; sharing our planet, our form, our fate? Can we now cherish earthbound life as we would life found on another world?

Astronomy Day may never be as big as Earth Day, but they do complement each other. Don't they?

*Ross Gorman, President*