

### *The value of astrobiology*

Astrobiology and the search for life beyond the Solar System contributes directly to one of NASA's main science questions, "Are we alone?" The quest for understanding of the origin and evolution of habitable worlds and life beyond the Solar System is specified in NASA documents including the 2010 National Space Policy, 2011 NASA Strategic Plan, 2010 SMD Strategic Plan, 2012 Astrophysics Strategic Plan, and the National Academy of Sciences Astrophysics Decadal Survey, the 2010 New Worlds New Horizons.

NASA missions inspire the next generation of explorers. My experience with science and engineering students at MIT and elsewhere is that they crave to work on challenging and meaningful technical problems, and few if any efforts are more attractive in this regard than the search for life beyond Earth using advanced space missions. Even though most students may not end up as exoplanet researchers or planetary science mission engineers, with their advanced technical skills and abilities they will go on to work in and greatly contribute to many other research areas, including aerospace technology development, remote sensing, and data analysis. By investing in university-supported astrobiology space-mission related research we can continue to train a workforce for technology leadership of the future. As a nation we must continue to be bold in our space endeavors, so as to not only inspire the next generation but also to keep a skilled workforce at the forefront of technology.

The lure of astrobiology is not limited to undergraduate and graduate students. Exoplanets and specifically the promise of finding other Earths offer major opportunities for deep public engagement. Exoplanet discoveries are constantly in the news. People of all walks of life are inspired by astrobiology, and so many seek to be involved, either students via STEM education or other individuals through grassroots internet-based "citizen science" projects. People all around the world, at all levels, from individuals to organizations, are awakening to the realization that finding life elsewhere in our Galaxy would forever change how we see ourselves and our place in the cosmos.

In July 2010 I became a citizen of the United States of America, motivated by our nation's uniqueness in its combination of technological forte, allocated resources for space missions, and ambitious spirit. It is within the power of our influence to cross the great historical threshold and be the first generation in human history to map the nearby exoplanetary systems and find signs of life on other Earth-like worlds. As a country, this achievement may prove to be our greatest legacy. As a species, it may be the beginning of our boldest adventure. I imagine that hundreds or a thousand years from now, our descendants will find a way to travel to these nearby star systems, and embarking on their interstellar journey will look back upon us here in the 21st century as those who first found the Earth-like worlds.

Mr. Chairman and Committee this concludes my remarks. Thank you for your attention and your continued support of this revolutionary area of research – the search for life beyond our Solar System.