

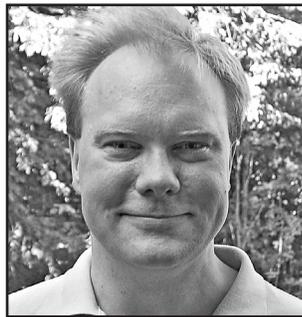
New Directors



Tom Moore is our new Vice-President for the Americas, taking over from Walt Mandell

who is stepping down to gain more space to pursue his ideas. We would like to thank Walt, who continues as a director, for his services. Tom is head of Interplanetary Physics at NASA's Goddard Space Flight Center, living in leafy suburban Maryland with his wife and cat, her dog, and one of their three daughters, two of whom are in universities this year. Baptized Methodist, Tom grew up in a small industrial community of Catholics. His Mom showed him the spiritual possibilities of a walk in the woods. Long an agnostic student of solar system science, and amateur evolutionist, Tom's spiritual

interests were aroused when his father's mortality struck him. He came upon World Pantheism and found it a satisfying basis for spiritual reflection, with a compelling set of life principles. Tom hopes to find time to promote Pantheism as a source of ethical values. Tom's personal area of interest is in ionospheric plasmas. He has been involved in 10 suborbital, one space shuttle, and 6 orbital NASA missions. Tom is also secretary for the Magnetospheric Physics subsection of the American Geophysical Union.



John "Eljay" Love-Jensen lives in Chanhasen, Minnesota with his wife of

fifteen years Tina, three year old daughter Lexie, and three pets. Eljay is a computer scientist, and holds a Bachelor of Science degree from the University of Minnesota. His interests include his family,

philosophy, comparative religion, linguistics, physics, astrophysics, reading (technical manuals, science fiction, fantasy), role-playing games, computer games, chess, and computers. He was raised Roman Catholic Christian, went through a non-religious period, and then discovered pantheism.



Tony Vander Mude lives in the hills of North-western New Jersey with his wife Mary. He

is a computer programmer with interests in Artificial Intelligence, Machine Learning, Expert Systems and Speech Recognition. Besides touching the sacred in the everyday miracles of the world and living things, his interest in computer logic has led him to the essential mystery and wonder of existence through mathematics. He has a strong interest in music, especially Rock and Jazz.

42 acres saved for wildlife



Our click group saving wildlife habitat at EcologyFund now has a record 157 members, and we have saved 1,860,000 square feet or more than 42 acres - that's equivalent to 26 international football pitches. Most of this is tropical rainforest and the benefits for biodiversity are considerable: one hectare (2.5 acres) of rainforest may contain 700 types of tree and 1500 of plants. A single tree in Peru was found to host 43 different species of ant.

We are saving at the rate of about one acre every three weeks, but if every one of our EcologyFund group members were clicking every day we could be saving an acre every five days. The next largest group is Pagans for Mother Earth, with 109 members. Because they started a very long time before we did, they have saved more, but we have nearly caught up with them - we are just 1.1 acres short and at our present pace we should surpass them in a couple of months. They have done excellently too and

should be congratulated.

Traditional religious groups have not done so well, though anyone who is doing anything deserves encouragement. Buddhists have saved 1.3 acres, Hindus half an acre. UUA Member Congregations have saved 17 acres. It's nice to see that there is an atheist group, though it has saved only half an acre. There are four Muslim groups, two of them with the slogan: "Islam is the best way to save Nature." So far there is little evidence to back that claim: they have saved a total of 0 (zero) square feet.

You can sign up and save more than 60 square feet a day at: <http://www.pantheism.net/reserves/nature.htm>

Credit Cards



The WPM has signed up with Verisign and can take subscriptions with Visa or Mastercard. We retain our Paypal account so if you are registered with Paypal you can use this route. Renew, as usual, at the members center: <http://members.pantheism.net/renew.html>

New Green Living section



Our old daily click page for charity has been expanded into a “Green Up your Life” page, providing practical and direct links to make our lives sustainable in all areas.

Here with just six clicks from one page you can give 1.6 cups food to humans, save 180 sq ft of wildlife habitat or 3 trees in 5 days, give

1 bowl food to rescued animals, and more. This is now combined with a sustainable living page with the most direct practical links to audit your lifestyle and make it sustainable. Checkout your home area for pollution - Offset your own pollution through treeplanting - Green up your energy use - Transport - Appliances - Building - Gardening - Workplace. Many of the links allow localized searches for information and services.

In a period in the US when environmental policy will not be progressive, this page gives individuals many of the tools needed to make a difference to their own lives and to the planet directly. It’s an active alternative to despair and depression. Please also tell all your friends, whether pantheists or not, about this page.

A long farewell to a great friend

The Hubble Space Telescope, NASA’s premier space science tool, gave us a quantum leap in our vision of the Universe, unmatched by earth-bound telescopes. But on current plans it is fated to end its mission in a few years. Electronics tend to fail gradually with exposure to radiation from the Van Allen belts, or Solar Energetic Particles. One important camera died last summer. When the gyroscopes fail, the HST can’t be pointed.

Since the accident with the Columbia shuttle, further missions have been grounded for over two years now, creating a backlog of unfinished work on the Space Station. A year after Columbia burned up on reentry, NASA declared that it would cancel the servicing mission needed to keep HST going. Money is always a factor, but NASA disavowed any concern but astronaut safety. During the past year, proposals have been seriously considered to mount a robotic mission to Hubble to carry out the needed servicing, and this appeared feasible for much of the year. However, the National Academy of Science reported that the robotic mission would be a high risk (and high cost) approach. Now NASA is rejecting both the robotic and the crewed servicing mission approaches.

The estimated cost of a Hubble servicing mission is very high either way, measured in billions of USD. And NASA is in the process of transforming itself back into an agency of human exploration at the behest of the Bush administration and the

President himself.

Hubble servicing has thus run square into heavy competition for available funds, under a relatively fixed or slowly increasing annual budget. The larger increases needed to pursue both science and exploration goals seem out of the question in the near term.

The decision to abandon and de-orbit Hubble will be very unpopular with Congress and the taxpaying public. And it may not stick for that reason. Congress can put things back into the budget that it finds to be compelling priorities.

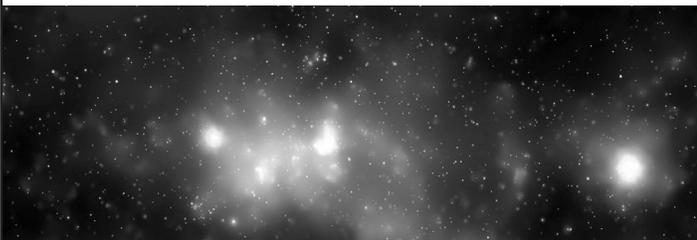
On the other hand, budgetary circumstances are anything but favorable to this outcome at this time. By the time the budgetary crunch eases, the next generation (James Webb) space telescope may be so close to flight that it will make little sense to service Hubble. Considering this, it may be more practical at this point to accelerate JWST than to preserve HST.

There is some philosophical comfort in the age of Hubble, which has survived longer than most NASA missions on the strength of its serviceability by the Shuttle. By any measure, it has had a long and fabulously productive run of astonishing scientific imagery and results. Still it is a great disappointment to NASA, the astronomy community, and the public, to be contemplating Hubble’s demise before another space telescope can be deployed to take its place.

Tom Moore

This article represents the author’s personal views, not those of NASA.

Some siblings and successors



1999: Chandra X-Ray Telescope, Milky Way core.

Beautiful colors, all of them false, and usually fuzzy, but mysterious and awe-inspiring.

2005/2006: Large Binocular Telescope

Multinational land-based project in Arizona, scheduled for completion in spring 2006. Two 8.5 meter mirrors will create a collecting area equivalent to a mirror with a diameter of 11.8m. In interferometric mode, the LBT will achieve a resolution about ten times better than the HST.

2003: The Spitzer Space Telescope, DR21 in Cygnus.

Infrared imagery, often in fine detail and almost as good as the Hubble.

2011: The James Webb Space Telescope

Designed to study the earliest galaxies and stars, the primary mirror will be two and a half times bigger than the Hubble. It will be built in segments, which will unfold in its orbital location about 1.5 million km (1 million miles) from the Earth.

