

Watt's Happening? #216

by Don Pettit

for Peace Energy Renewable Energy Cooperative

www.peaceenergy.ca ph 250-782-3882



Welcome aboard SPACESHIP EARTH



We and every living thing on this amazing planet are on a vast, unbelievable cosmic journey through the stars. As important crew members, the human species is now in charge of our spaceship's critical life support systems.

This holiday season do yourself a favour. Go outside on a clear night (bundle up!) and look up at the stars.

That's right, just stand firmly with your feet on the ground (in the snow or on your deck, doesn't matter) and look up. Set your eyes on wide angle, and look out, way out, into deep space.

Then try to wrap your head around this amazing fact: you are standing on the perfect spaceship, hurtling through outer space. Together, we and every living thing on this amazing planet are on a vast, unbelievable cosmic journey through the stars.

HURTLING THROUGH SPACE

Our ship is in orbit around the sun, travelling at a speed of 100,000 km per hour, making one full revolution each year. Our mighty engine is the sun, a massive fusion reactor a nice safe 93 million miles away, always with us, always flooding the ship with the energy it needs.

The sun and its family of planets are moving too. It's speeding around the center of our Milky Way galaxy at an amazing 800,000 km per hour, making one full revolution every 250 million years. The galaxy itself is moving at an incredible two million km per hour towards another "close" spiral galaxy, Andromeda, with a collision expected in about 2 billion years.

Add up all these velocities, and you get the picture: you and I are effortlessly zipping through space at about 3 million km per hour, or about 1/300th the speed of light (Star Trek's "warp one.") just like a good spaceship should.

SHIELDS ARE UP

The spinning iron core of our ship produces a magnetic force field around our ship that protects us from the deadly radiations flooding outer space, radiations and high-speed atomic particles that would sterilize all life in seconds. No problem. Our shields are always up.

Our on-board life support systems operate at an unbelievably sophisticated level too. Always running on automatic, the biosphere is a self-regulating system that keeps our planet healthy and habitable by controlling our on-board chemical and physical environment. The Earth's living plants and animals, the air, the oceans and land surfaces all work in concert to keep our ship a fit place to live and thrive, and they have been doing so for several billion years.

So sophisticated is this planet-wide system that some have come to think of it as a single living entity itself. The Greeks called her Gaia, many other religions Mother Earth.

A RARE SPACESHIP INDEED

Modern telescopes have discovered several thousand planets around other stars. Amazingly, we now know that almost all the stars you see in the sky at night have a family of planets orbiting around them.

But only a tiny, tiny handful have any chance of being "Earth like," that is, habitable by life forms like

the ones our planet is literally covered with. They are too cold, or too hot, or with all the wrong chemistries. So now we know for a fact that Spaceship Earth is a very, very, very rare and special place, one of only a handful in the galaxy's 200 billion stars.

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WE ARE THE CREW

The human species is perhaps the most successful species to find itself here, ever. Perhaps a bit too successful. We have become greedy and a bit careless, reveling in our newfound abundance and power, proud of our knowledge and skills. But we are degrading our life support systems, and Gaia is now seeking a new planetary equilibrium, one that may not be quite so cozy.

In our distraction, we have forgotten that we are vital crew members, now in charge of life support, in a ship speeding through a hostile and deadly universe.

ARE WE THE BRAIN?

Perhaps humanity and our technology are becoming the nervous system of Gaia. Is our collective intelligence a brain that can consciously anticipate environmental threats to the living planet? Can we stop another asteroid collision like the one that wiped out the dinosaurs? Can we understand that the way we create the energies we need is destabilizing our climate and so inspire us to change the way we do things, re-establishing the

integrity of our life support systems, getting them back onto auto-pilot?

Perhaps it is time to remember that we are riding on a very rare and perfect spaceship, and as crew members we have an important job to do. Perhaps its time to go outside, place our feet firmly on the ground, and look up at the stars.