



# THE CONSULTANT

The Newsletter of the IEEE Consultants Network of Long Island

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## *Chairman's Corner* — John Dunn, President, *Ambertec, Inc.*

How does one avoid burnout? What small, simple pleasures might one engage in when it now and then becomes necessary to lower the RPM on the mental tachometer? Let's just consider a few.

### Playing with words:

I once mentioned during a casual, family conversation, of having read of fossils of Homo Erectus that were found in a cave in China near that country's capital city. Because of their location, they were referred to as "Peking Man".

My father-in-law thought that was very odd because as far as he knew, peeking man had arisen as a result of the Judeo-Christian morality. I suggested probably not, but that there had been much advancement as a result of Galileo's work with the telescope.

### More playing with words:

Consider the on-line dictionary. I open the home page and enter random strings of letters into the space for the word I'm supposed to be looking up and a whole list of possible alternatives emerges. Some of them look unfamiliar, so I check them out.

Entering "qlictorn" led to "calutron" which turns out to be an electromagnetic device for separating isotopes according to their masses. Entering "zlingot" led to "singlet" which is an atom or molecule that has no 'net electronic magnetic moment'. And so it goes. Believe it or not, this can actually be fun and yes, maybe I do now and then have too much time to spare, but one can't concentrate on Thevenin and Norton all of the time.

This is the issue: A total and all-consuming concentration solely on one's professional discipline can be detrimental to one's general well being. Some kind of non-taxing mental diversion is, in my opinion, absolutely necessary for the preservation of one's sanity.

### Other things:

Try this one some day. Take a red LED and let its light shine through a piece of amethyst. You wouldn't believe what a captivatingly beautiful color of diffused light will emerge.

Happy New Year everyone.

# Meetings

## December 2006

The slate of officers elected for 2007 is:

Chairman - John Dunn  
First Vice Chairman - Jerry Brown  
Second Vice Chairman - Sam Sadinsky  
Treasurer - David Rost  
Secretary - Dick LaRosa

Don't forget to pay your dues for 2007.

There was a suggestion that we pay to get a higher ranking for our website on search engines. Perhaps we can discuss this at the January meeting.

Jerry Brown gave us a great talk on the pioneers of electromagnetic theory, and I remembered something -- I still don't understand how any of that stuff works.

We thank Sam and Marty for the all-important refreshments.

## January 2007

7:00 PM, Wednesday, January 3, the first Wednesday of the month.  
Briarcliffe College, 1055 Stewart Avenue, Bethpage, NY  
See website for directions: [www.consult-li.com](http://www.consult-li.com)

Topic: "Beware of Loop Gain!"  
Speaker: Mr. John Dunn, Ambertec, Inc., Merrick, NY.

Light refreshments will be served. Admission is free (no charge), and no pre-registration is required. For more information, contact Chairman John Dunn at (516)378-2149 or e-mail [ambertec@ieee.org](mailto:ambertec@ieee.org).

## Other Meetings

Consult the Events Calendars on the Section website: [www.ieee.li](http://www.ieee.li) and the LICN site: [www.consult-li.com](http://www.consult-li.com).

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## *Other Ways to Cool the Earth* — *Richard LaRosa, sealevelcontrol.com*

Peter Buitenkant suggested that it might be possible to counteract global warming by interposing a reflector or shadowing device between the Sun and the Earth. I remembered a chapter in the book, "Macro-Engineering: A Challenge for the Future." The chapter is "Planetary Macro-Engineering Using Orbiting Solar Reflectors" by Colin R. McInnes. He proposes a large light-blocking or attenuating screen between the Earth and Sun. We would want this screen to remain permanently in the line of sight between Earth and Sun. There is a Lagrange Point L1 about 1.5 million km from the Earth where an object of small mass (compared to the Earth) can orbit the Sun at the same rate as the Earth, even though its orbit has a smaller radius than the Earth's orbit. This is because the gravitational attraction of the Earth cancels some of the attraction of the Sun and slows down the object's orbital speed.

We already have an object near the L1 point. It is the Solar and Heliospheric Observatory (SOHO) which is used to measure emissions from the Sun. The SOHO is positioned away from the line of sight between Earth and Sun because a microwave antenna aimed at the observatory must not include the Sun in its field of view. This is to avoid picking up noise from the hot Sun. The light-blocking screen would be on the line of sight, so perhaps it could share the L1 neighborhood with the SOHO.

The SOHO requires frequent corrections to its position because the gravitational fields of Earth and Sun do not lock it in place. The SOHO is a compact object and its position can be controlled by a few thrusters with on-board propellant storage. The screen also requires position corrections but it would have a large area and would have the structural rigidity of a thin film. It is difficult to visualize active positioning devices distributed over the screen. The agency concerned with the SOHO would most likely not welcome such a potentially troublesome neighbor. Author McInnes provides only slightly more detail than I have passed along here.

Other schemes for cooling the Earth have been proposed and their descriptions have also been equally superficial. I have already carried the design of the ocean-powered pumping plants to much greater detail and there is much more design and promotion work still to be done. So I will leave the development of these other schemes to their respective proponents. It is worth noting that a sun shade in space does not produce clean power for terrestrial use. It only reduces the solar heating. So maybe I shouldn't be too apologetic if the OTEC-powered pumping station outputs only cold seawater.