



THE CONSULTANT

The Newsletter of the IEEE Consultants Network of Long Island

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Visit our web page
<http://www.consult-li.com>

Chairman's Corner — Jerry Brown, Essex Systems

Last month we approved the postcard project and the subject of measuring results came up. We developed a method of doing that several years ago. Unfortunately, it fell into disuse. Here is the way it works.

Customer enquiries generated by our Network advertising should come through two channels – the phone referral system or the web site. In either case, the host of the month should contact the prospect and gather details to forward to our members.

Phone referrals: In the case of a phone referral, each of you will receive an email with an audio recording of the original call. You are welcome to respond directly to the recording. However, the host of the month will call to be sure the prospect is not left dangling and to collect useful information. The host will then go to the Member Resources section of our web site and click on the link called “Data Entry Form for Monthly Volunteer”. The form is shown on page 3. When this form is filled in, the host clicks on submit and the information is emailed out to all our members. PLEASE BE SURE TO GET THE SOURCE OF THE LEAD (How they learned of us).

Web site “Request for Consultant” referrals: In the case of a web site referral, all members will get a copy of the information that a prospect enters into the “Request for a Consultant”. The host of the month is expected to respond to this as well to get additional details. The host should then go to the Member Resources section and enter information just as for a phone referral. Once again PLEASE BE SURE TO GET THE SOURCE OF THE LEAD.

Leads that come from our network web site but the member is contacted directly by the prospect: This is something that needs review at a meeting. In the past we have asked members to pay 2% of the income resulting from the first project if the client found them through our network marketing. My personal opinion is that members need not share the customer name in these instances but should pay the fee and let us know the source of the lead.

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Meetings

May 2008

Topic: "Introduction to LabVIEW and Computer-Based Measurements Hands-On Seminar"

Speaker: Robert E. Berger, National Instruments District Sales Manager for Long Island and New York City

June 4, 2008

**Topic: "How I Design Switching Power Supplies"
A Pragmatic Approach for Wide Ranging Applications**

Speaker: Martin Kanner, Kanner Electro-Medical Co. (KEMCO)

July 2, 2008

Topic: "State-of-the-Art Laser Triangulation Sensors"

Speaker: Steve Chirichella, Senior Sales Engineer, Keyence America

6:45 PM, Wednesday, July 2, Business Meeting

7:15 PM, Presentation begins.

Briarcliffe College, Great Room

1055 Stewart Avenue, Bethpage, NY.

Guests are welcome.

Light refreshments will be served.

Directions: See our website www.consult-li.com.

Other Meetings

**Consult the Events Calendars on the Section website:
www.ieee.li and the LICN site: www.consult-li.com**

Remember to inform the members about seminars and other items that might be of interest. E-mail them at members@consult-li.com.

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The opinions expressed in this newsletter are those of the individual authors, and no endorsement by the IEEE, the IEEE Long Island Consultants' Network, their officials, or their members is implied.

Deadlines: Flexible

Articles for publication in **THE CONSULTANT**: Send them in. We need them.

The IEEE Consultants' Network of Long Island maintains a referral service of engineering, computer, managerial, and technical professionals. Call or write for more information. There is no charge to the client for this service.

Referral Service and Voice Mail:

516-379-1678

Web Page: <http://www.consult-li.com>

Monthly Volunteer Input Form

Fill in the blanks below and press the submit button to send a message to all Members and record it in the referrals log. Your name and email address are required.

Your Name: and E-Mail:

Information on Prospect:

Name:

Company:

Address:

City, State, Zip:

Phone: Fax:

E-Mail:

Source of lead:

Description of Project:

How to enter the Member Resources section for the first time: If you gave Jim LaTourrette your IEEE membership number when you signed up, the membership number is your initial password. You may change it after getting in. Your ID is your last name with the first letter capitalized. If you have a problem, contact Jim.

Tropical Diseases — Dr. Richard LaRosa, sealevelcontrol.com

Newsday (6/25/08) had an article about a George Washington University study of tropical diseases that are prevalent in the Mississippi Delta, Appalachia, and the Mexican border. They affect primarily poor women and children. Millions of people in the U.S. are infected with worms. Soil-dwelling microscopic worms can cause diarrhea, abdominal pain, weakness, anemia, and may affect mental function and physical growth.

In a 2000 estimate, 169,000 homes in Appalachia had no indoor plumbing, and in some counties 25% lacked complete plumbing. In the Mississippi Delta, 36% of the black population lived below the poverty line. Dengue fever is found along the U.S.-Mexican border, where there is inadequate access to clean water. Water is often stored in containers that have been used for other fluids whose residues contaminate the water. Small-scale solar stills have been promoted. Dengue fever is mosquito-borne, so there may not be a direct relationship to the water supply. However, poverty, ignorance, illegal immigrants avoiding authorities, poor sewage and drainage, and lack of clean water often combine to make an unhealthy environment.

The Newsday article also mentioned leishmaniasis, a skin infection that can infect internal organs. We might think that the more northerly and wealthier U.S. citizens are protected from the foregoing diseases, but with general warming, this may not be so. We already have some problems. Our son, a land surveyor in Wisconsin, has often complained of mosquito infestations. He has also had a severe case of tick-borne Lyme disease. Pictures of recent flooding along the Mississippi River do not convey the stench that remains after the water recedes. We know there were pigs in the water.

Some managed to swim to the levees, but were shot to keep them from tearing the sandbags. The worst-smelling farms in Wisconsin, when we visited, were the pig farms.

If the animal carcasses, manure, sewage, farm chemicals, fertilizer, and all the other bad stuff in the flood water joins forces with the tropical diseases coming from the South, we could experience real trouble. Maintaining an adequate supply of clean water, and properly disposing of waste, will be crucial to our survival. We must do this in the simultaneous presence of drought and flooding, and keep the cost within reason. Should keep us busy.

Lake Victoria — Dr. Richard LaRosa, sealevelcontrol.com

LOCATION

Lake Victoria is located in the East African Rift Zone where the African tectonic plate is splitting into two plates. The Nubian part is going to the west and the Somalian part is going to the east. The rift lines run almost north-south in this region. There are actually two rifts side-by-side. Lake Tanganyika occupies a long gash in the westerly rift and is about 400 km southwest of Lake Victoria. Lake Malawi occupies a long gash in the easterly rift and is about 1000 km south of Lake Victoria. This is the Great Lakes region of East Africa and there are many other, smaller, lakes in the area. Lake Victoria is large and shallow and is situated in a shallow valley where the two rifts spread apart. The lake surface is 1133 m above sea level.

The head waters of both the Congo and the Nile rivers are located in this Great Lakes region. The Congo goes west and the Nile goes north, but there is some meandering and I have not yet figured out where the two rivers actually originate. There is additional confusion due to people building hydroelectric plants that appear to connect the waterways together. No matter.

What does matter is that these water basins are surrounded by mountains. Mt. Kilimanjaro (alt. 5895 m) is about 500 km southeast of L. Victoria. Mt. Elgon (alt. 4321 m) is about 200 km north of L. Victoria. Mt. Rungwe (alt. 2961 m) is about 900 km south of L. Victoria. The Margherita Peak (alt. 5109 m) of the Ruwenzori Range is about 300 km west of L. Victoria. There are many mountains for air to rise over, expand, cool, condense water vapor, nucleate, form mist, increase droplet or ice crystal size, precipitate, fill all the lakes, and supply water to all the rivers.

That's what used to happen. Now the precipitation is insufficient. People are dying from starvation and dehydration. It's so dry up there that water is sublimating directly into vapor on Mt. Kilimanjaro.

MOUNTAIN DROUGHT

The East African Rift Zone drought is remarkably similar to all the other mountain droughts that I have studied so far: Australia, New Zealand, Spain, European Alps, Morocco, Sahara Desert, Himalayas, China, western USA, and the Andes. They all appear to be due to the decline of precipitation from air masses that rise to go over mountains. This is happening while humidity is generally increasing and rainfall is increasing in other places on our warming planet. The explanation for this paradox may be due to the increase in temperature of the respective mountain tops that exceeds the warming of the lower-altitude terrain. This could be caused by the decrease of snow cover, changes in mountain vegetation, and drying out of the mountain tops.

Air rising over these mountains expands and cools, but the mountain surfaces conduct heat to the oxygen and nitrogen molecules, and radiate infrared energy to the water vapor molecules and liquid particles. The apparent result of this heat transfer is that the expanding air mass cannot cool down to its dew point. This opposes condensation and precipitation, so we get no runoff. The mountains and lower areas experience drought. I expect that my continuing study of other drought areas will reinforce this hypothesis.

POSSIBLE REMEDY

Since we cannot cool the air masses sufficiently below their respective present dew points, the remedy may be to increase their dew points by adding humidity to the air masses as they cross the coastline. I think that it is only necessary to raise the dew point 1 or 2 degrees C, which requires only a moderate increase in relative humidity. My spot calculations show that this can be done by solar-heated evaporator rafts moored at appropriate locations in coastal waters. I have worked out a lot of construction, deployment, and mooring details that are written up and available to interested people. In almost all instances, the benefits are seasonal because of monsoonal changes in wind direction. This appears to be the case in East Africa.

Within the past few days, I received an appeal from the Missionaries of Africa related to the starvation and drought in East Africa, and a thankyou note from AMREF (African Medical & Research Foundation USA). These organizations have workers and other contacts in East Africa who might be willing to help me with their observations and information. It would help me to know the average wind direction in this area for each month. Also, since the wind path is curved, a guess at where the incoming wind path crosses the African coast each month would be helpful in determining where evaporator rafts should be located. People who live or work in East Africa may be able to get this information or remember it from their experience. Scientists and government employees tend to be cautious and not very helpful. I have the feeling that my email address has wound up in many spam filters. We will see if humanitarian workers are more humane. An approximate idea or impression from one of them is better than nothing, especially when combined with other information. Hope is eternal.

POLITICS

During the northern summer, monsoon winds cross the coast of Mozambique and/or Tanzania and then turn to flow over the East African Rift Zone. Then they head toward India. To take advantage of these winds, it would be necessary to deploy evaporator rafts in the territorial waters of Mozambique and/or Tanzania. These rafts would affect the water supply to interior countries in the rift zone and all along the Congo and Nile rivers. The financial, political, and diplomatic implications of this concept are mind-boggling.

But we are living in a world where genocide and other atrocities are widespread, and many people who survive are damaged mentally and physically. I can barely comprehend this situation and have no solution to offer. I do see a predicament in which much of our inhabited world is turning to desert while the rest of it goes underwater. I see the proper positioning of evaporator rafts (and reflector rafts to retard evaporation in other places) as a possible part of the solution.