

THE VORTEX

AMERICAN CHEMICAL SOCIETY
VOLUME LXX NUMBER 6

CALIFORNIA SECTION
JUNE 2009



*The 2009 Summer Social, Friday June 5,
Women Chemists Committee, American Chemical Society, pre-
sents Rosie the Riveter and the World War II Home Front, (See
page 5 for details)*

VORTEX UPDATE (L. RIGALI)	PAGE 3
MODERATION & COMMON SENSE (A. PAVLATH)	PAGE 4
JUNE SECTION MEETING	PAGE 5
WOMEN CHEMISTS SUMMER SOCIAL MEETING	PAGE 5
WCC NATIONAL SYMPOSIUM	PAGE 5
BUSINESS DIRECTORY	PAGE 6-7
INDEX OF ADVERTISERS	PAGE 7

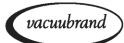
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Chairs Message

Eileen Nottoli

Eileen Nottoli, has graciously offered her space in order to provide this update on the *Vortex*.

The Vortex has been published continuously by the California Section

since 1947. Most past issues are bound and available, with permission, to Section Members to view historically what the *Vortex* recorded in terms of people and events.

For many years advertising revenue covered all or most of the printing costs. Postage and associated mailing costs were also covered but more often than not these additional expenses were subsidized by the Section. Over the last dozen years or so, advertising income has not supported all the costs; the local test labs, laboratory supply houses, and local equipment manufacturers who did much of the advertising, have all but disappeared.

As Editor of the *Vortex*, I gave voice to the obvious; changes needed to take place, new sources of advertising revenue, or reduction of printing, mailing and distribution expenses, or increased subsidy by the Section or some combination of all three.

A digital version of the *Vortex* has been available and on the Section website, albeit inconsistently, due to technical issues. Some Members feel that an on-line version that could be downloaded, would be sufficient, and the Section could save the expense of publishing and mailing paper copies.

The Executive Committee (EXCOMM) requested that the Editor, yours truly, form an *ad hoc* committee to investigate and recommend by December 2009 what other sections were doing, what comments our Section Members would have on a digital-only version, and to what extent could the expenses of a printed *Vortex* be reduced and/or the advertising income increased. No matter what, an on-line version of the *Vortex*, barring technical difficulties, was always part of any plan.

Members of this *ad hoc* committee searched out the chairs and editors of other ACS sections and found that those that had a printed newsletter, and many did not, were facing a similar situation and were considering or planning to discontinue their printed version in favor of an on-line version only. Few sections have as extensive a newsletter as the *Vortex* in terms of content and with feature writers Most are primarily a meeting notice newsletter. We also placed a request in the *Vortex* asking mem-

(Continued on page 6)



Moderation and Common Sense, XIII

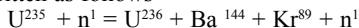
Atila Pavlath

Being a chemist I could write much more about the utilization of biomass. Nowadays, we hear a lot about the use of alcohol to replace or at least supplement gasoline. The debate is going on continuously whether it is a viable economic solution or not, whether it is beneficial or not. What is the truth? Proponents and opponents select data which support their stands, while frequently downplaying or ignoring those which will weaken their conclusion. The only point on which everyone agrees on both sides of the issue that, regardless of the economy, using alcohol would decrease our dependence on foreign oil. This is again a point where moderation and common sense should be applied instead of emotion.

This is the same situation about the last alternate energy resource discussed in this series of articles: atomic energy. Here emotions run even much higher. Since Hiroshima one can hear a various objections to the use of atomic energy. Is it possible that its real root is not based on scientific basis, but rather on the assumption that it is for war and nothing good can come out of it? You might remember from my earlier writings that solar energy, frequently labeled as peaceful, preceded Hiroshima by 2500 years as weapon through concentrating the solar rays by parabolic mirrors. Not the source of the energy, but its use should be the deciding factor. The recent news about Iran (with one of the largest amount of oil reserves in the world) building atomic power plants is interestingly defended as peaceful effort to obtain more energy, by some, who oppose atomic energy development in the United States. Where is the logic?

Because numerous books are written about every aspect of atomic power plants and most of us are familiar with the general con-

cept, let me just touch on the most important points. Energy from atoms can be obtained by fission or fusion. In both reactions new atoms are forming, but the sum of their atomic weights is less than that on the starting side. The difference of the masses is converted to energy, according to the Einsteinian $E=mc^2$ equation. One of the reactions can be written as follows



The reaction is started by a slow neutron, but this reaction can yield up to 2.5 neutrons and gamma rays. The average energy is about 215 MeV. Depending on the conditions, the forming high-energy neutrons can provide heat or initiate a nuclear chain reaction.

Any type of chain reaction, chemical or atomic, can result in explosion; therefore they have to be controlled. In atomic reactors various neutron moderators are used to moderate the number of neutrons initiating new chain reactions and, by reducing their velocity, convert them to thermal neutrons. The latter heats up water and, through steam turbines, electricity can be generated. The moderator can be graphite rods by varying the depth of their immersion into the reactor will determine the degree of control. Other methods are using various liquids including water and molten metals, which simultaneously are also used as coolant.

Are there any problems? There is no danger of nuclear explosion, but nuclear meltdown may occur when the control fails as it happened in Chernobyl. This may result in non-nuclear explosion releasing radioactive materials in the atmosphere. The probability of meltdown in a well-controlled atomic reactor is very low. The major controversial problem is the disposal of the radioactive waste. What happens if the underground storage tank develops a leak? The holding tanks could be built in less populated areas, e.g. Arizona, Nevada or New Mexico; however, it runs into objection by the population of those states. The NIMBY slogan is again the dominating factor.

Should the possible danger hold us back from building nuclear reactors? This depends

(Continued on page 6)

*California Section
American Chemical Society
June Meeting
Wine Tasting in the Livermore Valley at the
Murrieta's Well Winery*

Date: Saturday, June 20, 2009
Place: The Barrel Room (the lower level) of the Murrieta's Well Winery, 3005 Mines Road, Livermore (see the article below for directions)
Time: 11:00 am tasting (please arrive by 10:45 am for check in)
Cost: \$10
RSVP by Monday, June 15, by e-mail office@calacs.org or call (510) 351-9955

Wine Tasting in the Livermore Valley

Up to about 1970, the three main fine wine areas of California were the Napa Valley, the Sonoma Valley, and the Livermore Valley. Fine wines were produced in other areas of the state, but these three valleys had well known reputations. In the Livermore Valley the two main wine producers were Concannon and Wentz. New wineries sprouted there in the last quarter of the 20th century and in 1990 Philip Wentz and winemaker Sergio Traverso brought back to life the winery on the property at 3005 Mines Road. They named it "Murrieta's Well" in recognition of the legend that the notorious Joaquin Murrieta and his men had often stopped at the artesian well there to water their horses. The winery is located in an old concrete building and the small production is based on "old world" style blends of grapes the varieties of which originated in Spain and

Portugal. The wine tasting will include wines not often seen at other producers. Bring a picnic lunch for after the tasting and enjoy the winery grounds. The location is beautiful and slightly off the beaten track so it is a great place to linger.

There are now many wineries in the area around Murrieta's Well Winery. Wentz Vineyards has a tasting room to the east of Murrieta's Well on Tesla Road. Concannon Vineyards is to the west along Tesla Road. Slightly south and west of Livermore city are many other wineries.

From highway I-580 take the N. Livermore Avenue exit and follow it southward through Livermore. It will eventually turn into S. Livermore Avenue and then Tesla Road. Turn right onto Mines Road where it dead ends into Tesla. Murrieta's Well Winery is a short way down Mines Road to the right. Follow the signs to the tasting room.



*Women Chemists Committee, American Chemical Society presents
The 2009 Summer Social*

Date: Saturday, June 13, 2009
10:00-10:30 am Meet at SS Red Oak Victory, 1337 Canal Blvd., Berth 6A, Richmond
10:30-11:30 am SS Red Oak Victory Ship tour (\$5 per person) (not wheel chair friendly)
Noon-1:00 pm Lunch in the park (bring your own)
1:30pm arrive at Rosie the Riveter Memorial
1:30-2:15pm Rosie the Riveter Memorial tour (free)
RSVP by Fri. June 5 at 510-351-9922 or email office@calacs.org
Directions to Rosie Memorial: North on 80, west on 580 towards San Rafael Bridge. Take Marina Bay Parkway/South 23rd Street exit. Turn left on Marina Bay Parkway over the freeway and proceed to Regatta Way. Rosie the Riveter Memorial Park is located within Marina Bay Park, at corner of Regatta and Marina Bay Parkway.

(continued from page 3)
bers to comment. You answered passionately, in a few case, for a printed version and a like number, equally passionately, for a on-line version only. Other comments were substantially evenly split.

Meanwhile, as you have noticed, we have been publishing an 8 page *Vortex* versus a 16 or 20 page issue. This has cut our printing costs about 60%, Unfortunately the mailing costs and postage remain about the same.

Tell us who you are if you want a paper *Vortex*

So where are we going? I can tell you what I would like to do...and all is subject to the approval of the (EXCOMM).

1. Publish a 16 page *Vortex*, 8 pages does not provide sufficient content for Section activities or value to Members and advertisers.

2. Print and distribute 2000 copies instead of the 4000, keeping the printing cost the same as with the 8 page *Vortex* currently published. Mailing and distribution costs should be reduced by 50-60%.

3. Ensure that the online *Vortex* is consistently current on the Section website and offer some additional member and advertising features. Those of you who would like an on-line version of the *Vortex*...will have it. Those of you who want a printed version of the *Vortex*...some of you will get it. Statistically about half of our members want a paper version. You will need to tell us who you are by letter, phone or email. Otherwise the EXCOMM will devise some other method of distribution.

Please note that these are my preliminary recommendations. I reserve the right to make

changes in my final recommendation in December...and in any event, the EXCOMM has the final decision.

There is no July or August issue of the *Vortex*, the next issue is September. We wish you a pleasant summer. You can send your comments to me or anyone in the EXCOMM.

Lou Rigali, Editor, C/O Quantity Postcards
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(Continued from page 4)

on the degree of energy need. In the whole world, over 400 atomic reactors exist to generate 16% of the electricity used. The worldwide plan is to raise their number to 800. In the U.S. slightly more than 100 atomic power plants provides 19% of the electricity, but only 30 more are considered. France, in spite of its dense population, has 59 reactors, which provides 77% of its electricity use. At the same time, China uses atomic reactors to provide only 2% of it electricity, but it proposes to increase its reactors 10 times. It all boils down whether there are other economic possibilities. If not, common sense replaces emotions recognizing that the energy need should take precedent over the desire of zero risk. Then the question is whether we have enough nuclear fuel to fulfill our energy requirement under these conditions? That will be addressed in the next article in September. Have a nice summer vacation.



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