

Degussa and the Mendacity Award5

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**March
2005**

PERIODICAL

FIFTY YEARS AGO IN THE SOUTHWEST RETORT.

The Spring Meeting of the American Chemical Society will be held in Dallas next year. Meeting headquarters will be the new Statler-Hilton Hotel.

Warning the nation that the "cold war" has now become a "technological war," the ACS recently called for immediate and sweeping changes in the present draft and reservist programs to assure optimum use of specialized personnel in maintaining technological superiority over Russia. This vital objective is not being met today, the Society declared. Recommendations include creation by law of a national manpower board to formulate policies for handling all trained specialists, including scientists and engineers, and to supervise administration of these policies.

The March meeting of the Dallas-Fort Worth Section will feature **Dr. Joseph C. Sherrill**, Research Professor of Detergency at the Texas State College for Women (TSCW), speaking on "Detergents and the Washday Blues." The chemistry, physics, and biology departments at TSCW have invited high school girls of Dallas, Ft. Worth, and Denton to take part in a Science Day program on Saturday, Mar. 26. Many interesting exhibits will include a miniature reactor pile and a model atomic power plant. At Magnolia **Roger Sandberg** visited Argonne National Laboratory for two days, and **Ovid Baker** presided at a session of a short course at Texas A&M.

In Houston **Nugent Chamberlain** of Humble Oil attended the 10th Symposium on Instrumentation held at Texas A&M. Registration for the Janu-

ary Symposium on Hydrocarbon Chemistry sponsored by the Southeastern Texas Section totaled 264. Members from states such as New York, Massachusetts, Delaware, and Indiana, attended. About 1/4 of the Registrants were from outside the Section's area.

The January meeting of the Baton Rouge Section honored LSU professors **Dr. Paul Delahay** and **Dr. Philip West**. Delahay is the recipient of the ACS Award in Pure Chemistry, while West recently won the Southwest Regional Award. Delahay spoke on "The Tortuous Path of Scientific Investigation," while West spoke on "Microanalysis." The Section presented the chemists gold ACS pins.

At Baylor **Dr. Leone Cockerell** spoke to the student affiliate chapter on her doctoral research on the effect of ion-exchange resins on complex ions. **Dr. Thomas Franklin** attended the LSU Analytical Chemistry Symposium. **Dr. William B. Cook** was featured on a 15 minute TV program on station KANG. He described several Baylor research projects, then performed several lecture demonstrations.

Continued from p. 14 (You idiot! It's Liebig, not Liebeg.). One benefit from the several messages is that I am assured that many people really read our magazine. I never get any feedback when I think I write a great article (perhaps no one agrees), but this mistake caused feedback aplenty. Despite the gratifying reader response, I am going to continue to work to keep errors of this type to a minimum. ♣



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Southwest Retort

FIFTY-SEVENTH YEAR

March 2005

DEGUSSA AND THE MENDACITY AWARD: A NEW ACS PRIZE?

By Erwin Klingsberg

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Editor's Foreword. Dr. Erwin Klingsberg gave a paper at the recent SWRM symposium on "Perspectives in the History of Chemistry," but was not present at the time the picture of symposium presenters was taken. That picture appeared in the November 2004 issue of our magazine. We remedy the omission at right. This article draws in part on the paper Dr. Klingsberg presented at the symposium.

Dr. Klingsberg worked at American Cyanamid's Bound Brook Laboratory from 1946 until 1981. He achieved the highest rank on the technical ladder, that of research fellow. He was author and inventor on over 75 publications and patents and was the Editor of the four-part monograph, "Pyridine and its Derivatives," Volume 14 in "The Chemistry of Heterocyclic Compounds." As the inventor of the selective herbicide "Avenge," he was in 1993 inducted into the New Jersey Inventors Hall of Fame. Erwin is an occasional contributor to The Southwest Retort and still does research in the history of chemistry.

The ACS today distributes so many honors and medals that most members would probably say that the last thing we need is a new one. What is proposed here is, however, different from the others; the idea for it arose during my research into the history of Degussa AG. Degussa is a famous

German firm much older than Germany itself and today is one of the world's leading chemical internationals.

After the Napoleonic wars ended at Waterloo in 1815, the victorious powers tried to put Europe back together again more or less as it had existed

before the French Revolution. This left Germany utterly divided politically, and not to be united until Bismarck created the modern state in 1871.

During the period of the fragmentation of Germany, one of its leading cities was Frankfurt with a long tradition of commercial and political independence. The growing need for a uniform and stable coinage led to the establishment there in 1838 of a mint operated by Friedrich Ernst Roessler. His family was active in the refining and metallurgy of gold and silver and their successors have continued this tradition to the present day. Under Bismarck the industrialization of Germany continued and accelerated, and in 1873 what had been a family business was incorporated under the acronym Degussa, *i.e.*, Deutsche Gold und Silver Scheide Anstalt (German Gold and Silver Refinery).

As frequently happens when such a change takes place, the founding Roessler family continued to be represented in the management. Its last member was apparently Fritz Roessler (1870-1937), whose papers survived World War II. They shed valuable light on the early Nazi period when Jewish firms were being bought up at fire sale prices by their non-Jewish competitors, including, of course, Degussa. Fritz Roessler evidently believed that these acquisitions would strengthen the firm by bringing to it not only new assets but also the entrepreneurial talent that had created the assets in the first place. However, things never seemed to work out that way. The Jewish owners and managers, after selling out for what they could get, usually vanished. This last member of the founding family died

before the worst of the Nazi hell descended upon his country.

During World War II German technical and organizational genius achieved something new and unprecedented: the production at Auschwitz of human cadavers on an industrial scale, using modern chemical technology. Many of these bodies contained gold in the form of dental fillings. The Degussa executives, with the firm's long experience in precious metals refining, realized that it would have been sheer folly, criminal folly even, to allow this gold to go to waste. Accordingly they undertook the task of recovering the gold from the mouths of the dead at Auschwitz and melting it down into ingots for delivery to the Deutsche Bank. The bank generously permitted Degussa to retain a portion of this stream of gold for its own use. The arrangement provided a valuable source of revenue for both firms until the end of the war.

Degussa ever since has been trying to cover its tracks, as discussed earlier in *The Southwest Retort* (see in particular the issue of Dec., 2002). The task of integrating this nightmare into the larger history of the chemical industry is clearly not an enviable one. It is interesting to see how writers have met, or dodged, the challenge. Fred Af-talion is an excellent case in point. His "History of the International Chemical Industry" has gone into a second

[Place Kelly Scientific Ad here]

edition. Degussa is one of the very oldest chemical firms still extant and naturally figures prominently in these pages. And Degussa at Auschwitz? Not a whisper. When questioned about the omission, Aftalion does not reply.

This kind of scholarship deserves recognition, which the ACS Division of the History of Chemistry might well provide in the form of a Mendacity Award to be conferred at regular intervals. Fred Aftalion and his history would, of course, have a powerful claim on such an award, but other contenders are not hard to find. For example, there are the reviewers who hailed this history as a model of scholarship, as perhaps the standard work in its field, but who never seem to notice the absence from this masterpiece of Degussa at Auschwitz.

And then there is the Chemical Heritage Foundation (CHF), the publisher of the Aftalion history. In the summer of 1999 the CHF quarterly magazine featured as its cover story a lavishly illustrated history of Degussa, a very interesting article but with something odd about it. Its treatment of World War II could hardly be called even perfunctory; the reader might easily be left wondering whether the war had ever really happened.

Silence about World War II in a chronicle of 20th century events amounts to lying by omission, but lying by commission is equally well exemplified by this article. It begins with the

statement that it was written by the staff of the Chemical Heritage Foundation. Not true; it was written by the public relations department of Degussa. Not everybody at the CHF was entirely happy with it, and there were even suggestions of possible improvements; but Degussa would not permit a word to be changed, saying in effect, "You will print what we wrote, and you will like it."

It is hard to see how anybody could find fault with Degussa for its firmness. It was providing the CHF with liberal financial support, and rightly believed that this generosity brought certain privileges. The CHF, once the logic of the situation had been made clear, agreed. In this way the two organizations, after perhaps a slight misunderstanding, established a mutually beneficial relationship.

This relationship might, however, have its drawbacks, and it is just here that the Mendacity Award would prove so useful, once it has been conferred upon the CHF, by providing a warning to readers of CHF publications: What you are looking at is not scholarly writing but advertising. Most readers would certainly be grateful for the guidance.

The value of the Mendacity Award thus is clear, but we may look forward to a Utopian future in which it will have served its purpose and been abolished, because no one is left who is deserving of the honor.

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CHEM GEMS & JOULES

A group of 50 attendees were present to honor Plano Senior High School teacher **Jerry Mullins** and Salutes to Excellence co-honorees **Dick Caldwell** of UT-Dallas and **Paul Ricca** of Ricca Chemical Co. Jerry was introduced by fellow teacher **Jane Smith**. Jerry spoke to the group, reflecting on his many years teaching and his seminal work in teaching ChemCom and AP chemistry.

By the time you read this, the 2005 NSTA Annual Convention will be going on in Dallas, Mar 31-Apr 3. Our own Kathleen Holley is performing as part of Flinn's "Morning of Chemistry."

We now present the final comments from anonymous high school teachers on the effects of the proposed four-year science requirement.

1. The Concern about available and safe laboratory environments is real. I teach in a public high school that serves 3000 students. The recommendation for all students to take chemistry created a tremendous burden on our school and schedule, because we had only three classrooms with fume hoods—one of which was barely functional and too small for the classroom. This meant that all chemistry classes were crowded, that all lab activities were challenging and time-consuming (not to mention more dangerous for all), and that budgets for supplies were stretched even thinner than usual. The preparation time for science teachers was further complicated by the sharing of classrooms, which led to mandatory out-of-school-day time for lab prep and cleanup, in addition to removal of lab setups before and after another teacher came in to use the classroom, unless the teachers were able to schedule the same labs on the same days. Teachers sharing classrooms also had to pick up and move their paperwork and carry it with them to utilize their planning period, and often were forced to work outside the school day to enter grades and/or attendance into the computers,

as computers made available in the teacher's workroom were few in number and often out of commission.

2. The loss of remedial/modified science courses for credit is creating a "reverse discrimination" problem that is clogging AP/IB courses with students who cannot handle the workload of the classes but who enroll in them to escape regular science courses. These "regular" classes are now forced to serve students with reading levels as low as 2nd grade, whose comprehension is detrimental to the ability of the class to conduct meaningful discussion, and whose motor control causes classmates to be fearful for their safety or requires them to function as monitors to complete their own assignments. This situation is exhausting for the teacher, and often causes serious frustration and discipline problems for students who find that the pace of instruction is tedious and fails to hold their attention. Students who WANT to learn are giving up because their classroom is too challenging SOCIALLY.

Alternative science credits are being offered more and more to special education students, and these students are being moved into courses such as "Animal Husbandry" and "Horticul-

ture” offered through Agricultural Education departments. Unmotivated “regular education” students are picking up on this “alternative science credit” methodology, and these classes are being packed beyond their capacity, decreasing the ability of these teachers to focus on their subject matter, and detracting from the quality of the class for students who are honestly focused on agricultural sciences. The ability of agricultural science teachers to meet the objectives of their courses while serving the research-based and intensive record keeping projects of their ag science students is almost destroyed, and requires even longer out-of-school-day hours for teachers who already go for many days with very little sleep or personal time when assisting their students to prepare for, and escorting them to, fairs, judging competitions, and stock shows.

3. The addition of Earth Science as a high school science credit is a fabulous idea, and one that deserves our immediate support. Earth Science is a course that **can** be safely taught in a regular classroom or a science lab. In my opinion, the loss of Earth Science as a standard 8th grade science credit is a travesty that, in addition to “new math” has contributed to the huge failure rate of 9th grade students in IPC courses. Biology as a 10th grade science credit alleviates some of the failure problem, but it moves unprepared students into a course that is much more chemistry-intensive than even 10 years ago, and I fear that we will see high failure rates in 9th grade biology courses because these students have not had the introduction to chemistry that was previously provided by IPC. This is theoretically addressed by current middle school science courses, but

these courses do not effectively prepare students for ABSTRACT concepts, which was also served by the 8th grade Earth Science and 9th grade IPC curriculum. The restoration of Earth Science as a state credit is at least a step in the right direction toward restoring a combination of concrete and abstract concepts into the subject matter of science courses.

In summation; the best things that could happen to Science Education in the State of Texas is that we include Earth Science as a high school credit AND that we restore remedial courses, or offer “science courses for the non-science-minded” that will meet basic standards, thereby freeing instructors to pursue true science in the “real” science courses, or to implement basic understanding of science concepts when that is what is called for by the state. Colleges and universities have developed these courses, and they serve the students well by exposing them to a general education while allowing them to focus on their major areas of interest.

If all this is offered on a voluntary basis, and students have the freedom to CHOOSE, then we can effectively prepare more students to be informed voters, capable workers, and well-rounded college freshmen. I honestly feel that parents would welcome these changes as well.

Column Editor Robyn Shipley-Gerko of Plano Sr. High School welcomes future material for this column that would be of interest to chemical educators. Send your material by e-mail to Robyn at Rshiple@pisd.edu.

THINKING SMALL: 2004 OKLAHOMA CHEMIST DANIEL RESASCO

By E. Thomas Strom



Daniel Resasco, the 2004 Oklahoma Chemist, is actually a chemical engineer, not a chemist. However, the proposed union of ACS and AIChE means that one day we will all be one big happy family, so no one should be disturbed by his being named the Oklahoma Chemist. Indeed, Resasco's pace setting materials research is in the great tradition of chemical discovery, in which molecules are modified for the ultimate benefit of humankind. His materials research involves a plethora of surface research techniques: surface spectroscopies (DRUV-VIS, FTIR), x-ray absorption ((EXAFS, XANES), microcalorimetry, electron microscopy, resonance techniques, temperature programmed methods (TPD, TPR, TPO), "in situ" Raman spectroscopy together with steady-state and transient catalytic activity measurements. Resasco received his \$1000 award and a plaque last fall in Tulsa to the approbation of materials chemists everywhere. UTD Welch Professor Ray Baughman applauded the award and said, "Daniel's pioneering discoveries have enormous fundamental and practical importance for both understanding and using the effect of low polydispersities on nanotube properties."

Daniel Resasco was born in 1952 in Mar del Plata, Argentina. He liked math and science, and Mar del Plata was home to a number of chemical and refining plants. This all worked together to give him an interest in chemical engineering. He received his B.S. degree from the Universidad Nacional del Sur in Argentina in 1975. He worked for a while in the steel industry, but he later decided to go to Yale for his Ph.D. He received that degree in 1984. He then returned to Argentina as a member of the chemical engineering faculty at Universidad Nacional de Mar del Plata. During this time period he was a visiting professor at Yale in 1986-87, and he returned to Yale for another visiting professorship in 1990. In 1991 he joined Sun Oil in Marcus Hook, PA as a senior scientist. He then joined the chemical engineering department at OU in 1993. He is currently Sam A. Wilson Professor of Chemical Engineering and is also a George Lynn Cross Research Professor.

The focus of Daniel Resasco's research is heterogeneous catalysis. His goal is to understand the relationship between catalytic performance and the microscopic structure and composition of the material. His research is carried out on zeolites, supported metals, and strong solid acids. His work is designed to be applicable to industrial processes such as the isomerization and dehydrogenation of lower alkanes, the

aromatization of paraffins, and the nitration of aromatics. He also has interest in environmental catalysts for the abatement of nitrogen oxides. However, in recent years his research that has caught the public's notice deals with the catalytic synthesis of carbon nanotubes in such a fashion as to potentially reduce the costs of such materials by two orders of magnitude.

In 1998, Resasco and group found a way to synthesize carbon nanotubes in a directed way. By controlling the catalysts used, they were able to master production of the carbon nanotubes. Although some details are proprietary, the catalysts used involved cobalt and molybdenum with the catalysts now being called CoMoCAT.

Obviously, orders of magnitude improvements in nanotube synthesis is highly significant and creates a driving force for early commercialization. The University of Oklahoma has created a company based in Norman, Southwest Nanotechnologies, to work to commercialize the process. The company has won NASA and NSF grants in the hundreds of thousands of dollars range to move the process along. Resasco is an officer of the company working without a salary.

At present these nanotubes are being synthesized on a grams per day scale. The intention is to build a plant that can make the tubes on a kilograms per day scale. Such a plant need be no bigger than a traditional pilot plant associated with a petroleum refinery. The company officers are working with an engineering firm to design the plant, and private investment is being sought to make the plant a reality. Already Conoco-Phillips owns equity in Southwest Nanotechnologies, but more investors are welcome.

One of Daniel's big hobbies is going to soccer games with his son. He also enjoys outdoor activities and plays tennis when he has time. Daniel and his wife Teresita, a Spanish teacher, have five children: Mariana, Marilina, Julian, Maggie, and Joaquin.

In the past, advice to entrepreneurs has been to think big. In the age of nanotech, those who can think small in new and innovative ways are bringing a fabulous new technology to fruition. The research of Daniel Resasco is helping the process along. *The Southwest Retort* congratulates Daniel Resasco on this prestigious award and looks forward to his new discoveries that are bound to come.

[Place SciConsult Ad here]

*The Dying of American Dyeing –
Continued from page 20*

was formed. The Cal came from the first letters of Cott-A-Lap. Calco was also the name of the company's highest grade of burlap. Despite the difficulties of learning dye technology, the company soon became America's largest supplier of dye intermediates. By the end of the war, a strong American dyemaking industry had emerged. As part of war reparations, American industries were issued licenses for the use of German patents.

Throughout the '20's Jeffcott carried out an aggressive acquisition policy of buying out firms, but by 1929 the firm's resources were over-extended. In the nick of time, American Cyanamid, a firm founded in 1907, purchased Calco. When the depth of the Depression hit, Calco was safe in the arms of Cyanamid. For a considerable time, all Cyanamid research was carried out at Calco in Bound Brook. However, in 1937 Cyanamid opened another research laboratory in Stamford, CT. Cyanamid had purchased Lederle and David and Geck in 1930, so the company became involved in drug development. Lederle labs were at Pearl River, NY, but work on the newly discovered sulfa drugs was also performed at the Bound Brook facility. Cyanamid also moved into melamine resin chemistry.

In 1939 Calco was merged into the parent organization as the Calco Chemical Division, and substantial expansion was carried out at the Bound Brook location. The outbreak of World War II found Calco ready to produce many chemicals of vital importance to the war effort. Some of the most important of these were the sulfa drugs, so necessary for the U.S. armed forces.

After the war was over, dyestuffs continued to be a major part of Bound Brook's output. Advances in instrumen-

tation enhanced the study of the dyeing process. In 1954 Calco became the Organic Chemicals Division of Cyanamid. The '50's also saw Cyanamid managers hired who no longer had strong technical backgrounds. Management theory then and now posits that a good manager can manage anything, no matter what his/her background. Managers believe this dogma, but their hapless employees may have other views. Computer based accounting procedures demanded cost estimates for up to 17 months ahead --- costs impossible to predict. Gradually earnings and cost figures lost their contact with reality. Things looked good when I was there in 1958 working on wrinkle-resistant fabrics, but Cyanamid had started on down that slippery slope. A plant at Bound Brook was set up to make Cyanamid's Creslan polyacrylonitrile fiber. Longterm research in the '50's did result in Erwin Klingsberg's important discovery of Avenge herbicide, but the Kennedy round of tariff reductions removed the protection of the dyestuffs industry. By the late '60's, management had been taken over by the bookkeepers. The long dying had begun.

Longtime employee Guido Mino was appointed in 1977 as Manager of Industrial Chemicals Research at Cyanamid's Stamford facility. In 1978 he wrote a memo documenting his concerns about the research environment at Cyanamid. I wish every working chemist and every manager of chemists could read pp. 299-302 of this book, which presents Mino's analysis. It is a textbook example of what happens when an industrial research laboratory develops "hardening of the arteries": emphasis on short term objectives; lack of time for long term work; the valuing of well-organized, productive people over creative people, financial rewards only to managers; failed managers being moved to the top rungs of the technical ladder for which they are unqualified; upon realizing that

the management ladder is the only sure route to financial reward, brilliant technical people moving into management positions for which they are unqualified. Mino's analysis fits the situation at Mobil when I worked there to a T, and I imagine that many of our readers have the same experiences.

Mino was commissioned to do a report on this problem, and he did so in 1980. Unfortunately, no meaningful changes occurred afterwards. Cyanamid limped along for a while, emphasizing the life sciences aspect of the Lederle Laboratories part of the company. Bound Brook became a branch of Lederle, and most operations were closed down in 1998. What remained of Cyanamid had been purchased by American Home Products in 1994. The Cyanamid name and its agrochemicals business, headquartered at Princeton, were sold to BASF in 2000. In 2001 the Princeton laboratory was closed. Calco Chemical Co. and American Cyanamid were gone.

Part 2 of the book deals with environmental problems at Bound Brook. In the 1960's the plant used 20 million gallons from the Raritan River daily. The Raritan was also the repository for the industrial wastes from this facility. The Bound Brook plant faced litigation from the state on many occasions, and important efforts were made in waste treatment. Environmental aspects of the chemical industry are a big interest to author Travis, and his treatment is thorough and even-handed.

Travis' book is a magisterial account of the life and death of a significant industrial laboratory. I don't know of any other such accounts, but I wish there were more. Do I have any reservations about the book? The book might be considered too comprehensive, given the voluminous materials given the author by Isaiah Von and Erwin Klingsberg, but there is a lot to be said for having all these details available. Much time is

spent discussing personnel. Many of these people were quite interesting, but readers who are not Cyanamid annuitants may find their eyes glazing over when reading employee lists. My more serious objection is the inclusion of Part 2 on the environmental aspects of Cyanamid's tenure at Bound Brook. Pollution by chemicals is important, but Part 2 reads as an anticlimax after Part 1. At 100 pages plus notes, Part 2 expands the book a bit much. I would rather it had been coupled with additional evaluations of environmental problems at two or three other laboratories to make a separate, more focused book.

Clearly, these are minor quibbles. This book on the story of an important industrial laboratory is a significant addition to industrial chemistry history. Industrial research in the U.S. *has* provided "Better Things For Better Living, Through Chemistry," even if DuPont is too chicken to use the slogan any more. Perhaps this book will inspire other authors to do similar histories. At a cost of \$60 including postage for early buyers, it is a bargain. Orders may be placed at the Edelstein Center in Jerusalem via e-mail at alephj@cc.huji.ac.il. Anyone with an interest in industrial chemical history will not be disappointed by this invaluable book.

ERRATUM:

I beg the indulgence of *Retort* readers for a big mistake in the February issue: the spelling of Justus von Liebig as Liebeg. In preparing my article, I read the story of Liebig and his laboratory in William Brock's *The Norton History of Chemistry*, so I had plenty of exposure to the correct spelling. I don't know what caused the error. My wife has helpfully suggested that it indicates the early onset of senility. I was alerted to the error by several courteous e-mail messages:

Continued on page 2

Around-the-Area

East Texas

The February section meeting was held Feb. 17th at Ana-Lab with the company's founder **Dr. Charles Whiteside** speaking on "Methane Generation from Water Hyacinths." The March 7th section meeting was held at Panola College. The speaker was **Dr. John J. Meister**. His topic was "Chemical Sources for the Twenty First Century."

University of Arkansas

Faculty member **Xiaogang Peng** has been named to the Scharlau Professorship in the chemistry department. This professorship was made possible from a \$500,000 gift from Charles Scharlau, former President and CEO of Southwestern Energy Co., and his wife Clydene, which was supplemented with \$500,000 from the U of A Matching Gift Program. Peng has established himself as one of the premier chemists in the field of nanochemistry. During the past five years Peng has obtained \$2.5 million in external funding. Of his 68 published papers, 44 have been on nanomaterials. He joined the U of A faculty in 1999.

Neil Allison has been appointed co-director of the Wally Cordes Center for Teaching and Faculty Support. **Derek Sears** authored the book "The Origin of Chondrules and Chondrites" published by Cambridge University Press in December. The book presents a comprehensive look at the

origin of meteorites and their role in the formation of our solar system. **Wes Stites** won first place in the faculty poster category at the Arkansas BRIN meeting in Little Rock. **Roger Koeppe** gave seminars in Leeds, England and Umea, Sweden in January. **Matt McIntosh** presented seminars in December at Rutgers and at Merck and attended a study section on Synthetic and Biological Chemistry-B for NIH SBC-B Feb. 24-25 in Washington, D.C. **Joshua Sakon** spent from Dec. 14 until Jan. 20 in Senegal, Africa, for HEP C Collaboration. **Ryan Tian** attended the NAISNT conference in Los Alamos last fall.

The following undergraduates and their mentors were awarded SURF research grants. They are (student first, mentor second) **Neil Tracy** and **Matt McIntosh**, **David Deitz** and **Neil Allison**, **Taylor Ladd** and **Denise Greathouse**, and **Jennifer Pharr** and **Bob Gawley**. **Charles Wilkins** was awarded a \$430,000 NSF grant to study "Polymer Analysis by Mass Spectrometry." **Ingrid Fritsch** presented an invited talk at Rensselaer Polytechnic Institute in February. Both Wilkins and Fritsch are giving invited papers at the Pittsburgh Conference. Graduate student **Eyitayo Fakunle** presented a paper at the Lab Automation 2005 Conference in San Jose. **Peter Pulay** was in Cape Town, South Africa, Jan. 9-23 for a WATOC board meeting. Attending the February Biophysical

Society Meeting in Long Beach were faculty members **Dan Davis, Bill Durham, Lois Geren, Frank Millet, Roger Koeppe, Denise Greathouse,** and graduate students **Sue Brand, Ashwini Bhise, Cassie Bruns, Anna Daily, Ryan Dossey, Hong Gu, Jeff Havens, Chris Mazzanti, Jay Staiger, Ray Rajugukguk, Sany Rajagukguk,** and **Quan Yuan** plus undergraduates **Gilia Thomas** and **Eugenia Tsamis.**

South Plains

Texas Tech. Professor **David M. Birney** has been chosen to be the recipient of the President's Academic Achievement Award on April 12th. This award is given for excellence in achievement across the teaching-research-service missions of Texas Tech. David has excelled in all three, with an internationally recognized research program in computational and experimental chemistry, award-winning teaching, and extensive service to the department and the university. David received a BS with high honors from Swarthmore College with a major in chemistry and a minor in history. He earned his Ph.D. at Yale in organic chemistry and did postdoctoral research at UCLA. He joined Texas Tech faculty in 1989.

Assistant Professor Bill Poirier will be honored for his excellence in teaching at the 2005 Tribute to Teachers. Dr. Poirier earned an undergraduate degree in physics and math at Brown University and earned his Ph.D. in theoretical chemical physics at UC-Berkeley. His colleagues and students praise his dedication, innovation, creativity, and

fresh approaches in both the graduate and undergraduate classroom. His research program has received funding from the Research Corporation, ACS, DOE, and the Welch Foundation. He has also received the DOE Early Career Award.

Now in its 10th year, the annual Tribute to Teachers is billed as the premier event on the South Plains to honor the profession of teaching. Selected professors, teachers, administrators, and counselors from preschool through university level are honored with a dinner, gift, and certificate of appreciation.

Heart o' Texas

Baylor University. February Colloquium speakers were: Feb. 11, **Marcetta Darensbourg,** Texas A&M; Feb. 18, **David Kingston,** Virginia Tech; Feb. 25, **Diane Wy-cuff,** Baylor. **Hania Wehbe,** a graduate student doing joint research with **Kevin Pinney** (Chemistry) and **Christopher Kearney** (Biology) attended a Keystone Symposium and gave a poster presentation on her research. Five members of the department recently received Baylor Service Pin Awards. They were: **Dr. Kathy Kuhler,** 5 yrs; **Mrs. Nance Kallus,** 10 yrs; **Dr. Charles Garner,** 15 yrs; **Dr. David Young,** 15 yrs; and **Dr. Kenneth Busch,** 30 yrs.

Dallas-Fort Worth

SMU. **John Buynak** was recently invited to serve as an associate editor of Current Medicinal Chemistry: Anti-Infective Agents. John also presented a seminar at the Depart-

ment of Biochemistry of Case Western Reserve University, titled: "The Design, Synthesis, Evaluation, and Mechanistic Study of Class-Selective and also Broad-Spectrum Inhibitors of b-Lactamase."

TCU. Tracy Hanna gave a talk at UT-San Antonio on "Bismuth and Molybdenum Alkoxides: from Metallocalixarenes to Catalyst Models" on Feb. 21st.

University of North Texas.

Weston T. Borden, the first Welch Professor of Chemistry at UNT, was featured in the February 14th issue of *C&E News* for receiving the Arthur C. Cope Scholar Award. "Borden's masterful combination of theoretical insight and incisive experiments has made him the world's expert on the electronic structure and properties of diradicals," according to Josef Michl at the University of Colorado at Boulder.

Diana Mason and the Mean Green Chemistry Demo Team presented "Chem Joules", with **Alan Lowe** at Bandera Elementary School, Bandera, TX, February 1st and "Magic Chemistry Ride" at the University of North Texas (Denton) for the Girl Scouts February 12th.

On February 15th **Dr. Paul Braterman** presented "Layered Double Hydroxides, Observations and Simulations," at Sandia National Labs, Albuquerque, where he is visiting with financial assistance from DOE Basic Sciences program.

Dr. Mohammad Omary presented "Use of the Jahn-Teller Effect and Donor-Acceptor Chemistry for a

Systematic Design of Efficient Optoelectronic Devices" February 25th at Truman State University and at the University of Missouri-Rolla February 24th. He also presented "Fascination with Light: Simultaneous Advances in Fundamental and Applied Research Involving Excited Transient Species," at UNT February 4th.

UT-Arlington. The chemistry department has chosen the following individuals to receive this year's student awards: The CRC Handbook Award for Outstanding Freshman, **Maryann Abanobi**; The Robert Francis Award for Outstanding Sophomore, **Hai Le**; the R. L. Hoyle Award for Outstanding Junior, **Chirag Pungaliya**; The John T. Murchison Award for Outstanding Senior, **Hannah Toomey**; The ACS Award for Outstanding Chemistry/Biochemistry Major, **Hannah Toomey**; The Undergraduate Research Award, **Ronald Moningka** and **Ivan Omari**; Service and Leadership Award, **Joleen Abarca**; Graduate Teaching Award, **Ewa Zajac**; Graduate Research Award, **Thamara Janaratne**. Students received their awards at a ceremony held on March 22nd.

UT-Dallas. **Dean Sherry** presented the annual Xerox Lectureship at the University of British Columbia, Vancouver, Jan. 25th. His lecture title was "The Chemistry of Molecular Imaging Agents for MRI: Agents that respond to tissue physiology and metabolism". Ray Baughman and the UTD NanoTech Institute were awarded a \$750K DARPA grant for research on artificial muscles.

APRIL METROPLEX SEMINAR SCHEDULE

Seminars are sometimes postponed or cancelled, so readers are urged to call the departments or check departmental websites before attending.

UT-Arlington, Apr 1, Sergey Kozmin, University of Chicago, "Chemical Synthesis: From New Reactivity to Complex and Diverse Molecular Architecture." **Apr 8**, Kay Brummond, University of Pittsburgh, "Allenes and Transition Metal Catalyzed Carbon-Carbon Bond Forming Reactions." **Apr 15**, Mary Cloninger, Montana State University, "Using Dendrimers to Study Protein-Carbohydrate Interactions." **Apr 22**, John Fackler, Texas A&M, "New Chemistry from a very Old and Enduring Element, Gold." **Apr 29**, Gregg Dieckmann, UT-Dallas, "Noncovalent Functionalization of Carbon Nanotubes using Designed Peptide Systems." Seminars are normally at 2:30 p.m. in Room 114, Chemistry Research Building.

UT-Dallas, Apr 1 (Note change of day), Kenneth S. Suslick, University of Illinois, TBA. **Apr 6**, Eric Simanek, Texas A&M, TBA. **Apr 13**, Kevin Chambliss, Baylor, TBA. **Apr 20**, David Corey, UT-Southwestern, TBA. Seminars are normally at 3:30 p.m. in Room MP2.214.

UT-Southwestern Biochemistry, Apr 7, Benita Katzenellenbogen, University of Illinois, "Estrogen Receptors: Selective Modulation and Actions in Normal Cancer Cells." **Apr 14**, Chi-Huey Wong, Scripps Research Institute, "Protein Glycosylations: New Challenges and Opportunities." **Apr 21**, Edward M. Marcotte, UT-Austin, TBA. **Apr 28**,

Joachim Frank, Wadsworth, TBA. Seminars are normally at noon in Biochemistry L4.176.

UT-Southwestern Biological Chemistry, Apr 5, Yian Shi, Colorado State University, TBA. Seminars are normally at 6:30 p.m. in Biochemistry Conference Room L4.162.

University of North Texas, Apr 1, Steven Bachrach, Trinity University, TBA. **Apr 15**, Michael Hall, Texas A&M, "Modelling Metalloenzymes." **Apr 22**, Henry White, "Electrochemistry in Tight Spaces." **Apr 29**, Jim Marshall, UNT, "Rediscovery of the Elements: Visiting the Original Sites of Discovery in Europe." Seminars are normally at 3:30 p.m. in Room 324, Masters Hall.

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APRIL D-FW ACS MEETING
NEDDERMAN HALL, UT-ARLINGTON
SATURDAY, APRIL 30

MEETING IN MINIATURE

LOCAL SECTION MEMBERS ARE INVITED TO
LISTEN TO UNDERGRADUATE AND GRADUATE
STUDENT PRESENTATIONS AND/OR ATTEND THE
EARLY EVENING SOCIAL HOUR

SCHEDULE

- 8:30 a.m.**, Coffee and Donuts, Atrium, Nedderman Hall
9 a.m.- 12 noon, Student Presentations, Rms. 109-112,
Nedderman Hall
12 noon-1 p.m., Lunch (on your own),
(Many restaurants are within walking distance.)
1:00- 4:30 p.m., Student Presentations, Rms. 109-112
4:30-5:00 p.m., Judges Deliberations
5:00 p.m. Presentation of Awards and Social Hour, Atrium,
Nedderman

Morning Coffee and Social Hour:
Courtesy of Armstrong Forensic Laboratories

How To Get There. From either Interstate 20 or Interstate 30, take the Cooper exit and travel either north (Interstate 20) or south (Interstate 30) on Cooper to the University. From either direction, turn east at the light at Mitchell. Mitchell is at the far west end of the campus, just north of the huge student parking lot at Mitchell and Cooper. Go one block on Mitchell to the light at West St. and turn left. Go about half a block and turn left into the faculty-staff parking lot at Nedderman (the street, not the building) and West. From the faculty-staff lot, cross Nedderman at the crosswalk about in the center of the lot and continue walking north. The first building on your left is University Hall, followed on your left by Science Hall (connected with a bridge to the Chemistry Research Building), the Geological Sciences Building, and finally Nedderman Hall. The atrium is on the first floor at the south end of the building.

THE DYING OF AMERICAN DYEING

A Book Review by E. Thomas Strom of

Dyes Made In America 1915-1980: The Calco Chemical Company, American Cyanamid, and the Raritan River

Published by *The Sidney M. Edelstein Center for the History and Philosophy of Science, Technology, and Medicine at The Hebrew University of Jerusalem*, in conjunction with *The Hexagon Press*, 2004, 582 p, Hardbound, ISBN 965-555-149-0
Price, Special Discount through May 30, 2005, \$60 U.S., List Price \$115.

There was a figurative tear in my eye when American Cyanamid vanished from the scene in the late '90's through purchases by American Home Products and then BASF. I received my first salary as a working chemist in 1958 from the Bound Brook Laboratory of American Cyanamid, where I was a summer employee prior to entering graduate school at Berkeley. The recent spate of buyouts and mergers in the chemical, pharmaceutical, and petroleum industries (Exxon-Mobil, Chevron-Texaco, Conoco-Phillips) should cause all working chemists to have real tears in their eyes, because these buyouts and mergers clearly reduce the number of jobs available to chemists. Are the rise and fall of old-time chemical companies an inevitable consequence of the aging of U.S. industry, or do management decisions in these industries bring about their decline? Chemical historian Anthony S. Travis, the Deputy Director of the Sidney M. Edelstein Center at the Hebrew University, brings his microscope to bear on one unit of American Cyanamid, the Calco Chemical Co. unit located at Bound Brook, NJ. The first part of his title, *Dyes Made in America*, hearkens back to the glory days of Calco Chemical Co., when the company published a celebration of their first 25 years, *Dyes Made In America, 1915-1940*.

Author Travis is the ideal person to write this history. In 1993 he wrote *The Rainbow Makers: The Origins of the Synthetic Dyestuffs Industry in Western Europe*, and in 2000 with co-author Carsten Reinhardt he wrote *Heinrich Caro and the Creation of the Modern Chemical Industry*. Caro was the seminal figure in the rise of the German dyestuff industry. The book is superbly documented, and the author was aided immensely by three long-lived individuals who had long tenures at the Bound Brook facility: Dr. Jay Leavitt, Dr. Isaiah Von, and Dr. Erwin Klingsberg. (Klingsberg is an occasional contributor to *The Retort*; see the feature article in this issue.) There were also important contributions from Dr. William B. Hardy and Dr. C. Marsden Vanderwaart.

The impetus for an American dye industry arose with World War I, when the British blockade of German ports cut off the imports of German dyes. The Cott-A-Lap Company, a burlap manufacturing company, decided under the leadership of Robert Jeffcott to embark on the manufacture of coal-tar dye intermediates. Property was bought near Bound Brook, NJ, which was close to the Raritan River, a source of water for plant needs and also the repository for plant waste. A subsidiary company, Calco Chemical Co., was *Continued page 13*