

# FEBRUARY D-F W ACS MEETING

## TEXAS WOMAN'S UNIVERSITY

### MONDAY, FEBRUARY 25, 2008

#### DR. SUZANNE LOMAX, NATIONAL GALLERY OF ART

#### "APPLICATION OF CHEMISTRY TO WORKS OF ART"

**About the Talk:** Only recently have art curators and conservators begun to appreciate the contributions that scientists can make in the preservation and restoration of art objects. This talk focuses on the application of various scientific techniques to the examination of paintings and sculpture. Examples will be given from the National Gallery collection.

**About the Speaker:** Dr. Lomax received her Ph.D. in organic photochemistry from Maryland in 1984. After postdoctoral training at Northwestern, she joined the Scientific Research Department of the National Gallery of Art in 1986. Her areas of interest include identification of synthetic organic pigments and modern paint binders. She has performed extensive analyses on 15<sup>th</sup> and 16<sup>th</sup> century paint binders.

**Times:** Social hour 6-7 p.m.; Dinner 7-8 p.m., both in Hubbard Hall. Lecture 8-9 p.m. in Room 301, in the nearby ACT Building.

**Reservations/Dinner:** Make reservations to Mary Anderson at 940-898-2550 or by e-mail to (manderson3@twu.edu). Deadline is 5 p.m., Tuesday, Feb. 19. Dinner costs \$16 and is chicken Marsala with wild rice pilaf, green beans almandine, salad, and carrot cake. Vegetarian dinner available on request. Members are financially responsible for reservation made but not used!

**Prizes:** A prize will be given to the student affiliate group with the most attendees!

**How to Get There:** Campus maps are available at <http://www.twu.edu/maps.asp>. From Dallas: Take Interstate 35 E to Denton. Take Exit 464, which becomes Dallas Drive. Dallas Drive passes under a railroad bridge and curves to the right, where it becomes Bell Ave. Continue on Bell Ave. After crossing McKinney St., Bell curves to the left (be in the left lane!). Ahead of you will be the TWU campus with its distinctive high rise buildings. At the intersection of Bell and Administration Drive, turn left and park in the visitor's lot near the visitor's booth. Walk directly to Hubbard Hall (#30 on the campus map) in front of the visitor's lot. ACT Building (#1A on campus map) is a short distance to the left of Hubbard Hall. From Fort Worth: Take Interstate 35 W to Denton, exiting at University Drive (US 380). Turn right on University. Follow University Drive to Bell Ave., which runs through the TWU campus. Turn right on Bell, and continue a short distance to Administration Drive. Turn right on Administration. Then follow the directions to Hubbard Hall and ACT given above.

**March Meeting:** Wednesday, Mar. 12. E. Gerald Meyer on "Energy for the 21<sup>st</sup> Century." Location to be announced.

**April Meeting:** Saturday, Apr. 19. Meeting-in-Miniature, SMU.

# CHEMISTRY TEACHING – THEN AND NOW

## p. 5

Southwest

RETORT

January  
2008

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PERIODICAL

# FIFTY YEARS AGO IN THE SOUTHWEST RETORT

**Teller on Global Warming.** The featured speaker at last month's ACS Regional Meeting held in Tulsa was **Dr. Edward Teller**, the father of the H-bomb. His plea was for nuclear energy to be put to work for certain peaceful uses---and soon---or the earth would become overheated before the end of the 20<sup>th</sup> century. The earth is gradually getting hotter from the increase of CO<sub>2</sub> in the air, he pointed out. An accurate measurement has shown an increase of 2% CO<sub>2</sub> in the air since the beginning of the industrial revolution. This increase has come about through ever increasing uses of fuel energy---coal, oil and derivatives---in our industrial age. Studies show that when the amount has increased 10%, the ice caps on the poles will begin to melt and the amount of water on the earth will increase. Such places as New York and Holland will be inundated. He said, "While nuclear fuel still has dangers and limitations, it must be put to use in certain large package needs, such as the powering of electrical plants, in order to reduce the use of conventional fuels that add to the CO<sub>2</sub> content. (*Editor's Comment: Sound familiar?*)"

The ACS tour speaker for January is **Marshall Sittig**, President of the American Lithium Institute. His presentations are "Lithium Uses--Today and Tomorrow" and "The Alkali Metals---A Cold Look at a Hot Topic." **Dr. R. C. Fuson** of the

University of Illinois will speak at Texas Woman's University Jan. 28 at 7 p.m. in a talk sponsored by the Welch Foundation. His subject is "Steric Hindrance as a Research Tool."

The ACS Councilors have approved a plan for a new national headquarters building for ACS. The cost will be \$3,000,000. One half of the funds are to be raised by and from the members. **Professor C. S. (Speed) Marvel** of Illinois is heading up the campaign organization. There are 55 geographic areas to be covered. Our area is Area 45. **Homer Hix** of Magnolia Research Lab is heading up Area 45 with **Harry M. Bulbrook** of Industrial Laboratories in Fort Worth leading the Dallas-Fort Worth effort.

New chemistry faculty members at the University of Texas (*now UT-Austin*) are **Robert L. Augustine**, **Jordan J. Bloomfield**, **Bennie A Ferrone**, **Rowland Pettit**, and **Leon Slutsky**. New additions to the chemical engineering faculty are **David M. Himmelblau** and **Eugene H. Wissler**. **John J. McKetta** was recently elected to a three year term as Director of the AIChE. Attending the Tulsa Regional Meeting were **K. A. Kobe**, **N. Hackerman**, and **L. O. Morgan**. Hackerman was the featured speaker at the Physical and Inorganic Division talks with an address on "Modern Corrosion Problems." **\*\*\*\*Continued on Page 15\*\*\*\***

**SMU.** Feb. 4, Ian Ivar Suni, Clarkson University, "Electrochemical Impedance Spectroscopy for Biosensing." Feb. 11, 3 p.m. (*Note change of time.*), Pat Farmer, UC-Irvine, "Bioinorganic Chemistry: At the Heart of Biology and Medicine." Feb. 22, Elizabeth Burns, Cabot Corp., TBA. Feb. 29, Thomas Gray, Case Western Reserve University, TBA. Mar. 3, *Time to be Announced*, Cameron Jones, Monash University, Australia, "Bulky Guanidines: New Ligands for the Stabilization of Very Low Oxidation State Metallocycles." Seminars are normally at 2 p.m. in Room 152, Fondren Science Bldg.

**UT-Southwestern-Biochemistry.** Feb. 7, Jon Thorson, University of Wisconsin, "Glycosylating Natural Products: Opportunities and Challenges." Feb. 14, Doug Koshland, Carnegie Institution, "Chromosomes: Answering to a Higher Call." Feb. 21, Lora Hooper, UT-Southwestern Center for Immunology & Microbiology, "Lectin-mediated Defense of the Gut Epithelial Surface." Feb. 28, Beth Levine, UT-Southwestern, "Autophagy in Stress, Development and Disease." Mar. 6, Grant Jensen, Cal Tech, "How Electron Cryotomography is Opening a New Window into Bacterial and Viral Ultrastructure." Seminars are normally at 12 noon, Biochemistry Lecture Hall L4.176.

**UT-Southwestern-Biological Chemistry.** Feb. 5, Steve Bruner, Boston College, TBA. Feb. 19, Gregory Dudley, Florida State University, TBA. Seminars are normally at 6 p.m., Biochemistry

Library L4.162.

**\*\*\*\*Continued from Page 2\*\*\*\***

lems." The Welch Conference on "The Structure of the Nucleus" held in Houston was attended by **N. Hackerman**, **P. S. Bailey**, **L. F. Hatch**, **L. O. Morgan**, and **S. H. Simonsen**.

**Gerald Perkin**, **R. B. Escue**, **J. J. Spurlock** and **J. L. Carrico** of North Texas State College (*now UNT*) attended the Welch Conference. **Price Truitt** attended the Tulsa Regional Meeting. From Texas Woman's University, **Robert Higgins** and **Harold T. Baker** attended the Welch Conference.

Four papers from U of A faculty were presented at the Tulsa Southwest Regional ACS meeting. They were "Carbonate Cleavage of Malonic Esters, the Scope of the Reaction" given by **Dr. Arthur Fry**, "Heat Transfer through Dry Powders" given by **Dr. M. E. Barker**, "The Stereochemistry of the Reduction of 3-Phenylcyclohexanone" given by **Dr. Samuel Siegel** (coauthor **Harold Doorenbos**), and "The Geochemistry of the Stable Isotopes of Nitrogen in Natural Gas and Petroleum" given by **Dr. T. C. Hoering** (coauthor **H. E. Moore**)

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# FEBRUARY METROPLEX SEMINAR SCHEDULE

*Seminars are occasionally postponed or cancelled. Call the department or check departmental websites before attending.*

**UT-Arlington. Feb. 1,** Olafs Daugulis, University of Houston, "Regioselective Functionalization of Unreactive C-H Bonds." **Feb. 8,** Linda J. Reha-Krantz, University of Alberta, "Using 2-Aminopurine Fluorescence to Study DNA Polymerase Function." **Feb. 15,** R. Graham Cooks, Purdue University, "Mass Spectrometry: The Science and the Technology." **Feb. 20** (*Note Change of Day*), Gregory B. Dudley, Florida State University, "Organic Synthesis and Methodology Inspired by Natural Products." **Feb. 22,** Norma Tacconi, "Nanostructures and Nanocomposites for Energy Applications." **Feb. 29,** Tim Croley, Virginia State Labs, "Identification and Characterization of Biological Pathogens using Top-down LC/MS." **Mar. 7,** Mark Wilson, University of Kentucky, "Fluorinated Organic Electronic Materials." Seminars are normally at 2:30 p.m. in Room 114, Baker Chemical Research Building.

**UT-Dallas. Feb. 5,** Robert Hammer, Louisiana State University, "Bioorganic Chemistry." **Feb. 19,** Ryan Z. Tian, University of Arkansas, "Hierarchical Nanostructures." **Feb. 26,** Alberto Striolo, University of Oklahoma, "Computer Modeling of Interfacial Systems." Seminars are

normally at 3:30 p.m. in Room JO 3.516 Johnson Building.

**University of North Texas. Feb. 1,** Brad Holiday, University of Texas, "Functional Conducting Metallo-polymer Materials." **Feb. 8,** David Dixon, University of Alabama, "Advances in Computational Inorganic Chemistry." **Feb. 15,** Carl Lovely, UT-Arlington, "Marine Natural Products as a Driving Force for the Development of New Synthetic Methods." **Feb. 22,** Theresa Windus, Ames Laboratory, Iowa State, "Monte Carlo Simulations of Cluster Nucleation Using Quantum Mechanical Potentials." **Feb. 29,** Jon Clardy, Harvard Medical School, "Finding New Compounds in Nature." **Mar. 7,** Frank Turecek, University of Washington, "Tandem Mass Spectrometry in Clinical Enzymology: Toward Newborn Screening for Inborn Errors of Metabolism." Seminars are normally at 3:30 p.m. in Room 106, Chemistry Building.

**Texas Christian University. Feb. 21,** Gregory Dudley, Florida State University, TBA. **Mar. 4,** Bert Chandler, Trinity University, "Dendrimer Templates for Supported Au and NiAu Catalysts." **Mar. 6,** Rick Kemp, University of New Mexico, TBA. Seminars are normally at 11 a.m. in Lecture Hall 4, Sid Richardson Science Bldg.

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## Southwest Retort

*Published for the advancement of  
Chemists, Chemical Engineers  
and Chemistry in this area.*

*Published by*

The Dallas-Fort Worth Section, with the cooperation of five other local sections of the American Chemical Society in the Southwest.

**Vol. 60 January, 2008 No. 5**

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Southwest Retort (USPS 507880) is published monthly, September through May by the Dallas-Ft. Worth Section of the American Chemical Society, Inc., for the ACS Sections of the Southwest Region. Subscription rates are \$3.24 per year. Periodical postage paid at Dallas, Texas. **POSTMASTER:** Send address changes to American Chemical Society, Southwest Retort, Box 3337, Columbus, Ohio 43210.

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40 Zr 91.224	41 Nb 92.906	42 Mo 95.94	43 Tc (98)	44 Ru 101.07	45 Rh 101.07	46 Pd 106.90	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.76	52 Te 127.60	53 I 126.90
72 Hf 178.49	73 Ta 180.95	74 W 183.84	75 Re 186.21	76 Os 190.23	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po (209)	85 At (210)
104 Rf (261)	105 Db (262)	106 Sg (266)	107 Bh (264)	108 Hs (277)	109 Mt (268)	110 Ds (281)	111 Rg (289)	112 Cn (285)	113 Nh (284)	114 Uuq (289)	115 Fl (289)	116 Lv (293)	117 Ts (294)
57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (145)	62 Sm 150.36	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04

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and also ran track. His interest extended later to officiating high school and college games, and even with the American Football League.

While at UNT Price Truitt was designated Yucca (Yearbook) "Who's Who" in chemistry in 1942 and 1943. Price Truitt received his B.S. and M.S. at UNT and his Ph.D. at the University of Texas. During World War II he worked at General Aniline in Linden, NJ. In 1945 he returned to Denton, where he taught and conducted research until 1977. He had many grants, and his active research program helped show the way for the college to become a research institution. He was an officer of the local ACS section and was always contributing to its activities.

Price Truitt is survived by his wife of 69 years, Elaine Boyd Truitt, his two daughters Linda Truitt Creagh and Sharon Truitt, and many grandchildren and great-grandchildren. Until his passing Price Truitt was the last remaining member of the pioneering core chemistry group at UNT, comprised of himself and Drs. James L. Carrico, James Spurlock, and R. B. Escue. We pause to honor this previous era, which is the foundation of the present UNT Chemistry Department.

**Meeting-in-Miniature.** The 41<sup>st</sup> Meeting-in-Miniature will be held on Saturday, April 19, at SMU. Stay tuned for further details in the February Retort.

**University of North Texas.** Drs. Angela Wilson and Tom Cundari (co-PIs) and several other faculty associated with the UNT Center of

Excellence in Computational Chemistry were awarded a \$360,139 NSF grant to study "Acquisition of a Computational Resource for the Chemistry Department at UNT." Dr. Cundari presented a seminar at LeTourneau University in Longview on Jan. 17. **Welch Professor Wes Borden** will be lecturing this summer at the University of Cologne, at the Czech Academy of Sciences in Prague, at a symposium in honor of Ernest R. Davidson in Vancouver, B.C., and at a free radical conference on Heron Island in Australia. He will collaborate with Tom Cundari in lectures at a summer school in Seattle. In the fall he will give lectures in Japan in Kyoto and at Hiroshima University.

**Dr. Michael Richmond** was selected to serve on the Editorial Advisory Board for the journal *Organometallics*. **Dr. Diana Mason** is director of the oldest continually running regional science fair in Texas. The Fort Worth Regional Science Fair will be held at UNT, Mar. 2-4, in the Coliseum on campus.

**Texas Christian University.** **Dr. Manfred Reinecke** has been reappointed to the Editorial Board of the journal *Natural Product Communications*.

**UT-Arlington.** **Dr. Yoshihisa Kobayashi** of UC-San Diego gave a seminar on Jan. 23 on the topic "Heterocycles in Natural Product Synthesis."

# AROUND-THE-AREA

## University of Arkansas

The following undergraduates were awarded scholarships: Ed Amis Scholarship, **Will Fraser, James Hoffman**; DuPont Chemistry Scholarship, **Heather Ainsley, Jennifer Gladden, Molly Steen**; Arthur and Lois Fry Scholarship, **Megan Huslig, Kelly Ong**; Honorary Fry Scholars, **Rachel Thomas; Nathan Tobey, Whitney Gammill, Natalie Anderson**, Coulter Jones Scholarship, **Emily Edwards, Tyler Rogers, Mary Smith, Maria Super, Jessica Sutton**; Sacks Scholarship, **Brandon Achor, Dawson Carson, Christopher DuVall, Christopher Hall, Iryna Polyakova**; Honorary Scholars, **Tammy Binz, Kyle Blair, Andreas Chen, Eric Flagg, Nicole McClellan, Fredisha Manning, Kristin Nagle, Sidney Winford**. Doctoral candidates **Bridgette Blackman, Cynthia Sides, Deepika Talla** and **Jason Thessing** have defended their theses. **Matt McIntosh** gave a talk at the University of Illinois at Chicago and graduate recruiting talks at Missouri State, TCU, and SMU. Undergraduate students **Britton Blough** and **Khalil Ibrahim** from the **Kumar** lab made poster presentations at the American Society of Cell Biology Meeting in Washington, D.C. Dec. 1-5. The Fall, 2007 Arkansas INBRE Research Conference took place Nov. 9-10. Undergraduate chemistry major **Khalil Ibrahim** took first place in

the undergraduate poster category.

## Heart o' Texas

**Baylor University.** The following graduate students defended their research and graduated during fall commencement: Ph.D.'s **Kihanduwage Gunawardhana, Shou-Feng Chen, Madhavi Sriram, Alejandro Ramirez**; M.S. **J. Freeland Ackley. Dr. Kevin Chambliss** will spend the Fall, 2008 semester on Research Leave. **Dr. David Pennington** attended a John Brown Development Workshop Jan. 7-8. Colloquium speakers: Jan. 18, **Veronica Vaida**, University of Colorado; Jan. 25, **Kurt Swogger**, Dow Chemical.

## Dallas-Fort Worth

**In Memorium: Price Truitt.** **Dr. Benjamin Price Truitt** passed away, Jan. 5, 2008 at the age of 88. Dr. Truitt was part of the UNT core chemistry faculty in the 1960's when the department initiated its Ph.D. program. In fact, Dr. Price mentored the first Ph.D. student, his daughter Dr. Linda Creagh, in 1967.

Price Truitt was born on the family farm six miles east of Gainesville, TX. He had a long-time interest in sports, especially football, softball, and baseball. He also loved the outdoors including hunting, fishing, and gardening. He was an excellent football player and played varsity college football at UNT (then North Texas State Teachers College)

# Southwest

# Retort

SIXTIETH YEAR

JANUARY 2008

## CHEMISTRY TEACHING THEN AND NOW

by *Robert Patrizi,*  
*The Hockaday School*

*Editor's Foreword. A number of months ago I promised to share with you readers reflections by 2006 Schulz Award winner Bob Patrizi on changes in chemistry teaching over the past 30 years. These thoughts, abridged and edited, are taken from his 2006 Schulz Award address.*

In my time I've witnessed, as well as been a part of, a multitude of changes in teaching chemistry at the secondary level. You teachers, how many different changes have you witnessed during your tenure? How many do you envision taking place in the next few years? How many more will we all experience prior to our respective retirements from this noble profession that we love so much? These changes have been occurring more frequently and often several at a time, especially in the field of technology related to what we do in the classroom.

For me, the first recollection of a significant change occurred while I

was sitting in Drivers Education Class during my junior year of high school. Our principal interrupted classes that day with the announcement that the Russians had launched a satellite, Sputnik 1, that was now in orbit around the earth. We all sat in eerie silence wondering how this single event would change our future lives.

How many teachers still have their slide rules or even know what a slide rule is or what it does? I recall showing the movie "Apollo 13" to a class on a special occasion. Almost every student wanted to know "What is that 'stick thing' the astronauts are using to do their calculations?" When

I brought mine out to show them how it works, they were horrified that anyone would ever consider using such a device!! What impact did the invention of the first hand-held calculator have on how we teach our chemistry students--- or the programmable and the graphing calculator?

Would any teacher with less than ten years experience know what a "mimeograph machine" is or ever use one? I have fond and vivid memories of Fred Lee sitting in the Chemistry Prep Room of Fondren Science at SMU correcting all the mistakes or changes on the "master stencil" that was needed to run off copies of tests and quizzes on this machine. With the introduction of photocopiers, we could run off multiple copies of anything with minimal problems, as long as you made the changes or corrections using "white out" or had a "correcting typewriter." In my opinion these changes were all very manageable and fairly easy to incorporate into my classroom teaching, since most occurred as a singular event rather than along with some other change or several other simultaneous changes.

With all these changes, one of the "constants" was still there everyday in the classroom---my students.

1. Students STILL need teachers--- good teachers & plenty of them!!!! If you want to experience how students feel when they take chemistry, particularly at the secondary level, take a course, or better yet, TEACH a course where you have little or no expertise. WOW!! What an eye

opener that was for me. Several years ago, the Science Department decided to teach physics at the 9<sup>th</sup> grade level prior to chemistry. This was not a gradual change where only a few "physics first" classes would be phased in, but rather one that dictated that the following year, there would be no introductory chemistry classes. For an entire year plus several weeks during the summer, all of the chemistry teachers were being "retrained" to teach physics. WE were now the students asking "WHY" when we did not completely comprehend a topic. I gained a completely different perspective on how I should present new material in my chemistry classes after having that experience.

2. Chemistry is a "new language" for every student, and for a vast majority it is a foreign language as well. In addition, WE must speak that language properly every day!! Use a term incorrectly once without catching it in time, and this causes significant problems for students in their attempts to understand the language as well as to apply it to new situations.

3. Students need guidance and compassion for all sorts of reasons from being "over-scheduled" and not having enough time to do their work, to family issues that arise, to just plain not understanding the concepts. I hope we can permanently eliminate statements from teachers to students in our classes such as a.) "That was a stupid question!" **If students ask questions, they don't understand.** b.) "It's in your book. Read it again and you'll figure it out." **Have you**

## LETTERS TO THE EDITOR

Dear Editor:

C&EN published a recent article describing how the employment picture is picking up for chemists. This is based upon job offers for recent graduates. The employment picture for experienced chemists would be much more informative. My paper published in the May/June, 2005 issue of *The Southwest Retort* (pp. 5-7, 9) "The Very Model of a Modern Profession" showed that the employment picture was best for recent graduates and deteriorated as the chemist gained experience. Has anyone read about a new research laboratory opening in the United States? Has anyone read about a research laboratory being closed? I am personally familiar with the sites of five former research laboratories in the Dallas-Fort Worth area.

Employment prospects had been best for people in the pharmaceutical industry. *The Wall Street Journal* recently ran a story about a Michigan research lab being closed. Among the casualties was the chemist who had first synthesized Lipitor. The story said that pharmaceutical management had become discouraged about the lack of new blockbuster (highly profitable) drugs coming out of the labs. They were getting away from traditional organic synthesis and turning to biological synthesis. They were now hiring more biologists and fewer chemists. ACS's Polyanna attitude (through C&EN) is incurable. We have to accept it, though some of us get "old too quick, smart too late."

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## GAO, FERGUSON WIN SW REGIONAL AWARDS

The winners of the Southwest Awards were honored at the recent ACS Southwest Regional Meeting in Lubbock last November. The winner of the 2007 Southwest Regional Award was **Professor Xaolian Gao** of the University of Houston. She was honored for her outstanding research in chemical biology, biotechnology, and structural biology. The winner of the 2007 Southwest Regional Award for High School Chemistry Teachers was **Valerie Ferguson** of Moore High School in Moore, OK. She has been a consultant to the College Board and the Advanced Placement Summer Institute, and she has twice been elected as Chair of the Oklahoma ACS Section. More detailed profiles of both these winners will appear in later issues of *The Southwest Retort*.

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ever tried reading the directions necessary to put together your child's or grandchild's Christmas present so it will be under the tree when Santa arrives?? Don't ask Santa or one of his helpers for an explanation to the directions!!! Try reading the directions again!! You'll figure it out!!!!

Students will always need us to explain, to guide, direct, console, and encourage them as often as possible. How do you feel when your supervisor, boss or department chair gives you only negative feedback? You're an adult!! Students are STILL little kids (even if they don't think so), and their delicate minds can be damaged for a long time. What effect has our litigious society had on how you deal with students or employees who need consoling? Do you still give them a well-intended hug? Or has the threat of lawsuits alleging "sexual harassment" altered your method of consolation? A few short years ago, I was threatened with a lawsuit from a parent because, in his opinion, my class was causing his child "undue mental anguish"!!!!

How did Calculator Based Labs (CBL's) and the introduction of computers in the science classroom alter not only how we teach our classes, but how much individual time was required to become proficient in using them---time that was required so we could then properly instruct our students on the correct way to use such equipment? In recent years with CBL's and computer now very affordable, there has been an explosion of new "gadgets" such as those to measure

temperature, pH, pressure, voltage, as well as gadgets to create mini spec-20's for Beer's Law experiments. Then there are the computer programs that are necessary to use with these devices. All of these required valuable time to learn how to use them and to be able to explain their use to our very "inexperienced" students. I've not even touched on what happened and the time commitment required when some piece of equipment does not work properly either for a lab activity or classroom exercise. How many hours or days have we all spent in our schools dealing with such situations?

With the development of the internet, has your approach to teaching the concepts changed since the days before it was available? How much time do you spend verifying the accuracy of internet sites where your students can access information related to the topic you are discussing in class? Do you use on-line testing sites such as WebAssign or ARIS when assigning homework or for giving quizzes and tests? These sites require a huge time investment to learn how to use them as well as how to set up properly.

Are there any teachers who still use chalk or have chalkboards in their classrooms? Remember the dust and mess chalk created that seemed to always get on your clothes? The came "white boards" that saved us from that dilemma. I am happy to report that now there is a better way to put information on the "board." In 1998 I asked for and got the first SMARTBOARD at Hockaday. If



you are not familiar with how a SMARTBOARD operates, they really are amazing! SMART-BOARDS look like a white, dry eraser board but have a completely different function. With the correct interface and projector, the SMART-BOARD becomes your computer and your whiteboard. You stand before it and by touching it with your finger or a stylus pen, you can write on it in a multitude of colors, use it just like a computer screen by touching it to open files, go to the internet, show movies on it, and much more.

How about curriculum changes and requirements by district, state or national guidelines? Remember the CHEM Study Program (Chemical Education Material Study)--- or the CBA---Chemical Bond Approach, or more recently the ChemCom (Chemistry in the Community) Program. Go back almost 50 years if you will and recall the launching of Sputnik 1 on Oct. 4, 1957. Shocked by the success of a rival country, the US government felt they had been beaten in space development because of inadequacies in its science education system and decided to reform its science education policy in a rapid and dramatic way. Massive amounts of money and manpower were poured into the development of the CHEM Study and CBA programs. In the 1980's, sponsored by ACS, came the development of the CHEM Com program. In the May/June, 2006 issue of *The Southwest Retort*, Stephen Starnes wrote about another new teaching method called POGIL (Process Oriented Guided Inquiry Learning), which does not use the

traditional lecture style of teaching but emphasizes group learning.

In spite of all these changes, we have another constant---Teachers!!! It takes an enormous amount of dedication and patience to keep up with the changes and keep our frustration level at a minimum. We need to be **passionate** about what we do as well as be innovative in the way we do it. It has been said that teachers directly affect student's lives more than almost any other profession. Dr. Robert Evans in his book "Family Matters" states "schools may have developed skills and awakened interests that prove lifelong-perhaps even life-shaping-for some graduates; we should never underestimate the potential of a teacher to affect a student." I recall watching the movie "Ferris Buhler's Day Out" and particularly the scene where one of his teachers is greeting the class and taking roll. His tone was so monotonous and mundane in every way that it was no wonder that all the students were either asleep or just plain disconnected. I hope I never see that look on the faces of my students. Passionate teaching is contagious, and our students know it from the first day they enter our classroom. So do parents!!

We also need NOT to be afraid to be innovative even if this brings some negative comments or concerns



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from others. Again I quote Dr. Evans, "The evidence is abundant: Schools are facing a cohort of students that is harder to interest, motivate & engage---." When the old methods are obviously not working, we have to look for different ones to stimulate the student's curiosity.


So, what do we need in the years to come?

1. Teachers need to keep their standards high. That is often hard to do.
2. In addition, schools must educate new teachers about how to keep their standards high.
3. Schools must find whatever means necessary to attract and train young teachers, so they will make teaching a lifetime career—not just for a few years.
4. Schools must also strive to keep experienced teachers by whatever means it takes.
5. Teachers must continue to be very professional, not only in class preparation, but also in dress, tone in class, and respect for students.
6. Schools must continue to retrain current faculty with abundant funding available to attend conferences and workshops. The local ACS section could be encouraged to revive the monthly "Saturday Workshops" that were held at various schools. These gatherings were designed to bring teachers from different schools together to share new ideas in curriculum and textbooks, as well as to expose teachers to the latest developments in technology. With the approach of AP and Chemistry Olympiad Exams in the Spring, these sessions could also be used to bring students from many school to-

gether for a review for these exams.

Let me end with some quotations that really summarize how I feel. "Live the life you love and Love the life you live," and I really do. Lastly, "In your life, if you do what you truly love to do, then you will NEVER have to work a single day in your life."

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