

## CHEMISTRY DEPARTMENT NEWSLETTER

FEBRUARY 1998

EDITOR: VANCE KENNEDY

### Ralph Powell Retires. . .

After 31 years of service, Professor Ralph Powell retired from the Chemistry Department in January 1998. Most people have difficulty maintaining an interest in anything for even a single year, but Powell isn't most people - he was noted for oozing with enthusiasm for his discipline even in his fourth decade of teaching general chemistry.

Powell has been analyzing Roman coins with retired chemist Giles Carter for several years- an activity he plans to continue in retirement. However, his real professional interest is chemistry education. Even in his final year at EMU, Powell was redesigning the laboratory curriculum for our basic studies course Chemistry and Society. His motivation for this activity was nurtured by his long-time leadership role in the Ann Arbor Sierra Club. Powell believed that the public must understand some basic science before it can wrestle with complex environmental policy issues. Chem 115 is a course that serves chemistry concepts within the context of the environment and social policy.

Although technically retired, Powell isn't absent. He still stops by the Department at noon - under the pretense of doing a statistical analysis on his office computer - but we all know he's looking for a game of cards, handball, or tennis. Congratulations and best wishes, Ralph!

### Ron Scott Passes Away . . .

"The sun is shining. The birds are singing." Such was the daily greeting extended to the EMU Chemistry Department for 38 years by Professor Ronald Scott. Scott passed away unexpectedly in Mark Jefferson Hall on November 5, 1997 as he prepared for an evening graduate lecture. For Scott, the day was typical: He discussed chemistry and careers at 7:45 a.m. with a group of Woodhaven High School chemistry students, presented an OSHA training workshop in the afternoon, and then returned to EMU at 5:00 p.m.

Scott was appreciated by student, faculty, and staff for the breadth of his knowledge in several areas of chemistry (biochemistry, physical chemistry, toxicology, dietetics, and neurochemistry), his ability to speak extemporaneously on virtually any subject, his seemingly

unending supply of free energy, his knowledge of Detroit geography and history, and his gift for telling a good tale.

The winner of several faculty teaching and scholarship awards, Scott provided the stimulus for the creation of EMU's nursing program, outlined plans for the toxicology program, and, at the time of his death, was seeking approval for an industrial hygiene program. A prolific writer, Scott published 38 papers, 10 books, and two laboratory manuals during his EMU tenure. His most recent book, *Basic Concepts of Industrial Hygiene*, was published shortly before his death.

Memorial Services were held on November 15th at the Greenwood United Methodist Church in Ann Arbor. Scott's family has generously created a Ronald M. Scott Memorial Endowment Fund to benefit students of the Chemistry Department.

### Staff Notes . . .

Secretary *Dana Stothard* has been promoted and taken a new position in the Office of University Planning and Budget. She worked in the Department for about a year and her talents will be missed by all. Taking her place is the recently married *Jennifer Stavros*. Jennifer is a 1996 graduate of EMU and arguably the best athlete in the Department. The very capable and caring *Carolyn Jackson* continues to serve the Department as its Sr.

Secretary. Her helpful attitude is appreciated by staff and students alike. *Joe Mason* is getting used to orchestrating the stockroom from his new glassed-in office in the basement. *Brian Samuels'*, whose sense of humor brightens our days, continues to provide technical expertise. And Manager of Department Services *Don Schoolmaster* is our renaissance man, providing practical expertise on any subject.

### Some New Faces Expected Soon in the Department . . .

Due to some recent changes in the faculty, the Department is looking to hire three new faculty members in the fields of Physical Chemistry (to replace Powell), Analytical Chemistry (Tornquist), and Biochemistry (Scott). The new hires will start teaching in the Fall of 1998.

## And Some New Faces Have Already Arrived: Introducing the Lecturers. . .

The Chemistry Department takes pride in the skills of the lecturers who complement our faculty each year. We especially acknowledge the faithful services of Julie Frentrup, Ray Hough, Mary Lynam, Susan Riles, Donald Schoolmaster, and Cheryl Snyder. Recent additions to our instructional staff include Marge Carter, a Ph.D. analytical chemist from The University of Michigan; Charles Kotulski, a retired high school educator with 30+ years of service; Sharon MacKellar a B.S.-M.S. EMU alumna; David Rogers and Marcus Haubenstricker, professional industrial/environmental chemists, and Eric Priuska and Elizabeth Butch, who spend most of their time conducting research at The University of Michigan.

## And Introducing the New Graduate Students . . .

???New Graduate Students and countries.

## And Introducing a New Chemistry Award for Undergraduates . . .

The Maurice Decoster Chemistry Scholarship was founded to award two senior Chemistry students with \$1500 scholarships. Maurice "Pete" Decoster, a 1932 graduate of EMU, spent most of his professional career working for the Upjohn Corporation. He was able to complete his senior year at EMU only because a benefactor aided him in paying for his tuition and expenses. Mr. Decoster wishes to return the favor - and more - to EMU students who are following him 70 years later. Two awards will be presented each of the next ten years. This year's award winners are *Tanya Philpot* and *Tara Prendergast*.

## Chemistry's Computer Lab Gets a Much Needed Update . . .

The Chemistry Computer Lab on the second floor of Mark Jefferson, where recent graduates will recall generating "PRELAB" assignments for the CHEM 122 and CHEM 124 (General Chemistry) lab classes, was recently updated. The old computers were replaced with modern versions (including CD drives, disk drives that can read high density disks, and internet capability!). Installation was done by *Brian Samuels* and the Provost's Office provided funds to the tune of \$40,000.

## Chemistry Department Renovation: Finally Complete. . .

Yes, it is finally finished. This renovation was initiated in the Fall of 1994 through a National Science Foundation (NSF) Academic Research Infrastructure program. Delays in the project moved the completion date several times. Most of the work was completed by Spring of 1996, but problems obtaining proper air flow in the building (with the new hoods installed) resulted in delaying the final project approval until 1997.

Steve Schullery, Arthur Howard, and Don Schoolmaster all worked diligently with the contractors and EMU to push the project to closure. Thanks again!!

## A New Chemistry Building In the Cards???

Could it be true? Will the Chemistry Department find a new home outside of Mark Jefferson? These questions and others are being raised as EMU examines its options for building new facilities on campus. Currently a new sciences facility, and one that would house the Chemistry Department, is in the early planning stages. This facility is high on the list (well OK, it is #1 on the list) of new building projects that EMU desires to construct. Will the project get the go ahead from the "bean counters".... Will it house all of Chemistry.... Will it have windows.... Will the windows open ....???? Stay tuned for more exciting details.

## Students Active in Research Programs and Presentations

Several Chemistry students were featured at the EMU Undergraduate Symposium XVII last March. At this meeting, *Jeremy Haley* (Milletti) presented a poster titled "Determination of the Site of Nucleophilic Attack by Hard and Soft Nucleophiles on an Allylic Complex." *Colleen Huber* (Brabec) presented a poster on "Changes in Heat Shock Messenger RNA after Exposure to DDT and DDE." *Terrance McNamara* (Pernecky) presented a poster on the "Protection of the Anti-Apoptotic Protein bcl2 from Proteolytic Degradation." *Shawn Morris and Rich Points* (Scott and Schullery) co-presented a poster on "Short Range Solvation Effects by Tetrahydropyran on Proton Complexes Formed by Pentachlorophenol and Triethylamine." *Tanya Philpot and Andrew Jeffrey* (Tornquist) co-presented a poster on the "Comparison of Electrochemical Oxidation Mechanisms of Ethanol and Acetaldehyde." *Kyung Hee Yoo* (Vites) presented a poster on the "Reaction of  $[\text{Fe}(\text{CO})_4\text{C}[\text{O}]\text{Ar}]$  with  $\text{BH}_3$ , THF and Corresponding Products."

Three oral presentations were also given at the Symposium, with **Katay Bouttamy** (Snyder) talking on the "Synthesis and Potential Geometric Isomerism of [(Methyl)(Aminoalkyl) Pentacarbonyl Chromium (0)] Carbene Complexes. **Ermelinda Harper** (Brabec) presented a talk on the "Measurement of HSP27 mRNA with use of a Homologous HSP27 Standard," and **Shelly Nixon** (Rengan) discussed "The Sorption of Silver by Chelating Resins."

**Cara Brooks** spent six weeks at Brookhaven National Lab where she participated in a summer school course in Nuclear and Radiochemistry.

Graduate students **Hua-Fen Liu** (Brewer) and **Nerenda Meruva** (Brewer) presented posters at the Anachem/ Society for Applied Spectroscopy Symposium held at the Burton Manor in Livonia. Liu's poster was titled "Determination of Volatile Organic Compounds in Aqueous Samples by Rapid Purge and Trap Coupled with Fast GC," and Meruva's poster was titled "Analysis of Organic Volatile Compounds in Water Using Solid Phase Microextraction-Fast Gas Chromatography."

## Honors Undergrad Assistantship Winners and Student Awardees

Once again the chemistry department is proud to have several students who received Honors Undergraduate Assistantships to conduct research with a faculty member. In the Fall term, **Christopher Zyskowski** (Kennedy) was involved in the synthesis of synthetic dye compounds from the class of phthalocyanines for potential use in optical data storage and light-based tumor therapy.

**Jaime Predmore** (Pernecky) was awarded Summer and Fall Honors Undergraduate Assistantships. She is studying the effects of cytochrome P450 inhibitors on T-cell viability.

**Tom Horvath** (Ross Nord) was awarded Fall and Winter Assistantships. He is using computational methods to model lattice filling processes on surfaces.

## 1997 Chemistry Banquet and Student Awardees

The Chemistry Banquet for 1997 was again a shining success, in part because of the careful planning provided by the chemistry staff. Weber's Inn in Ann Arbor was the meeting place and provided comfortable surroundings. The evening included entertainment in the form of folk music sang by the department's own **Ray**

**Hough**. During the event the following students were recognized for their outstanding achievements:

Bert W. Peet Award-**Daniel J. Burnett and Ermelinda Harper**

American Institute of Chemists Award-**Jeffrey D. Kittendorf**

Hypercube Award-**Kyla Gurganus**

Toxicology Award-**Daniel D. Simmons**

Biochemistry Award-**Katay C. Bouttamy**

ACS Division of Analytical Chemistry Award-**Shelly M. Nixon**

ACS Organic Chemistry Achievement Award-**Christopher Zyskowski**

J. Contario Analytical Chemistry Award-**Kyla Gurganus**

ACS Huron Valley Section Undergraduate Award-**Ermelinda Harper**

Collins Endowed Scholarship in Chemistry for 1996-97-**Shelly M. Nixon**

Sandra J. Lobbstael Scholarship for 1996-97-**Tracy L. Wenzlick**

Perry S. Brundage Scholarship for 1995-96-**Ka Ho Kwok and Dale R. Drake**

CRC Press Chemistry Achievement Award-**Christopher Zyskowski**

General Chemistry Achievement Award-**Karin L. Borgerson, Keith C. Krygielski, Terry L. Munsell, Tracy L. Wenzlick, and Jennifer L. Wolak**

ACS Huron Valley Section Research/Teaching Award-**Mohamed Salamoun**

EMU Chemistry Department Graduate Teaching Assistant Award-**Hafida Makhoulouf**

EMU Chemistry Department Research Award-**Tasneem Mohammedshah**

EMU Chemistry Department Service Award-**Sandra L. Parent**

Print and Copy Centers Scholarship-**Sandra L. Parent**

Chemistry Club Scholarship-**Deva J. Walker**

CONGRATULATIONS TO ALL!!

## Chemistry Club-Catalyzed Events

The Chem Club has had a busy year. **Sandra Parent** has returned as president and the faculty advisors are **José Vites, Steven Pernecky, and Vance Kennedy**. The big

news for this year is that the club now has its “own” room from which it can direct its many activities. The annual Chemistry Club picnic was held at Clark Spike’s farm in September of 1997, along with a number of other social events throughout the year. The Chem Club helped the 1997 version of the Chemistry Department’s Magic show go over with a bang. The show, organized by Don Philips, was held in Strong Auditorium during Parent’s Weekend at EMU in October of 1997. Event participants included students **Brad Caudill, Denice Jastrzembki, Terry McNamara, Sandra Parent, Erica Snider, Jason Sonnenberg, Deva Walker, and Chris Zyskowski**, and faculty/staff **Joe Mason, Steve Pernecky, Don Snyder, Wade Tornquist, and José Vites**. The club received an Honorable Mention Chapter Award from the ACS. Congratulations!!! Next year’s goal is to reach top honors from the ACS.

The club increased their activities by organizing and presenting chemical demonstrations at Bach Elementary School (Ann Arbor), Ypsilanti West Middle School, Mitchell Elementary School and Kaiser-Willow Run School. They helped local Boy Scouts earn their chemistry merit badges (one session held in the Fall semester and one held in the Winter semester). They participated in a “Chemistry Magic Show” (demonstrations and hands on activities....yes they made “Slime”!!!) as part of Little Sibs Weekend activities. A number of the members participated in the Great Lakes College Chemistry Conference “Undergraduate Research Program” held in April at Michigan State University. Two of the members, **Jason Sonnenberg** and **Sandra Parent**, will be presenting posters at the ACS Regional Conference in Cleveland, OH.

The club assisted in April with the U.S. National Chemistry Olympiad held at EMU. They hosted Hellen Free, ACS tour speaker and former ACS president, who discussed the role of “Women in Science.” In addition, the Club hosted presentations by **Steve Pernecky** and **José Vites** on “How to Look for Graduate Schools.” They also hosted lunches for visiting speakers from various colleges so that students could have a chance to meet and talk about research and research opportunities on an informal basis. As for community service, they collected holiday gifts for underprivileged children in the Ypsilanti area.

As you know, the Chem Club awards a “Chemical Research Initiation Scholarship” and this year’s awardee (the third) is **Deva Walker**, who is doing research with **Steve Pernecky**. The fourth recipient will be announced at the Spring Banquet.

As a final note, the Chemistry Club would like to thank the Chemistry faculty/staff for their support and

help in the group’s efforts to make their organization grow. In the words of club president **Sandra Parent**, “Without the faculty’s support and faith in us, we could never have achieved what we have. Thank you very much.” As special thanks goes out to Wade Tornquist for all that he has done for the club and to the advisors of the club for all their wisdom and guidance.

## Community Outreach Efforts Continue . . .

\*The Chemistry Department continues to be actively engaged in an outreach effort with area schools and organizations. **Ron Scott** has led the department in arranging visitations and hosting the following Michigan area high schools this past year: Community (Ann Arbor), Rogers (Toledo), Thurston (South Redford), Okemos, Our Lady of Mt. Carmel (Wyandotte), Chelsea, Kurzy (Flint), Carleton (Carleton), Lakeview, Airport (Jackson), Belleville (Belleville), Clauson (Ann Arbor), Northwestern (Detroit), Southfield, John Glenn (Livonia), and Pioneer (Ann Arbor).

## Chemistry Graduates: Moving Up and Moving On

**Rod Finzel** (‘73) sent word that he is the Chairman of the Chemistry Department at Hofstra University on Long Island, NY. He mentioned that he keeps in contact with **Bob Haushalter** (‘74) and **David Weinstein** (‘75), who also live in the area.

**Mark Fox** (‘80) is now a graduate of the Michigan State University School of Osteopathy.

**Randy Galipo** (‘92) finished his Ph.D. in Chemistry at the University of South Carolina and is now working for Kodak in Rochester, NY.

**Shuqiong Guo** (MS ‘90) has entered Purdue’s Medicinal Chemistry Ph.D. program.

**Pat Lancaster** (‘96) is currently working for Flint Ink and has already obtained his first patent.

**Carrie Leonard** (‘96) is busy working in Richard Sacks’ lab at The U of M. She was a co-author of two posters given at the 1997 Anachem/Society for Applied Spectroscopy Symposium held at the Burton Manor in Livonia.

**Sharon MacKellar** (‘92 & MS ‘96) continues to do a wonderful job as a lecturer in the Chemistry Department here at EMU.

**John W. Oudsema ('85)** is the president elect for Anachem. He is currently working as a chemist in the atomic spectroscopy laboratory at BASF Corporation in Wyandotte. He received his BS in Chemistry from EMU in 1985 and worked in an environmental Laboratory for several years before commencing his doctoral work at Wayne State University under the direction of Professor Colin Poole. John completed his doctoral work in 1992, in the area of supercritical fluid chromatographic extractions. Before joining BASF in 1993, he carried out method development for Abbott Laboratories.

**Sung-Ho Park ('94)**, is currently doing postdoctoral research at Lawrence Berkely National Laboratory with Garrison Sposito. The research is based on using computer simulations (molecular dynamics, Monte Carlo calculations, and *ab-initio* calculations) to study the behavior of water in clay mineral soils. He obtained his Ph.D. in chemistry from Loyola University of Chicago under Professor Fitch, after obtaining his M.S. degree here at EMU working for **Maria Milletti**. He expressed his desire to thank the faculty and staff members here at EMU for the fine job they did in preparing him for his career in chemistry!!!

**Heather Smith ('94)** co-authored an article in *Analytical Chemistry*, Jan. 1, 1998.

**Darryl Wahlstrom ('89)** writes to tell us that he is teaching chemistry at Ann Arbor High School.

**Minghoa Zhou ('90)** is now working for Canton Analytical Labs.

Remember, we're here to help people like you succeed in life. We know that we're a success when we hear that you're a success. So please let us know what you're up to. If it's convenient, we recommend that you advise us through our Chemistry Alumni Web Page:

[www.emich.edu/public/chemistry/chmhome.htm](http://www.emich.edu/public/chemistry/chmhome.htm)

Our Webmaster is alumnus **Don Schoolmaster**.

## Faculty Activities and Awards

A number of faculty have news to report since last year's edition of the departmental newsletter.

**Michael Brabec** obtained funding for the Molecular Biology Research Facility through an REF grant. Mike also received an Alumni Association Teaching Excellence Award. Congratulations!!!

**Stephen Brewer** was very busy in the last year giving presentations and writing papers. He presented a talk at Anachem/Society for Applied Spectroscopy Symposium held at the Burton Manor in Livonia. The talk was titled

“Sample Introduction for Analysis of Volatile Organic Compounds in Soil and Water by Fast Gas Chromatography.” This talk described work done in conjunction with Professor Richard Sacks at the University of Michigan and former EMU students **Uma Balasubramanian** and **Carrie Leonard**. At the conference, **Hua Fen Liu** and **Narendra Meruva** also presented posters co-authored by Dr. Brewer. Steve presented a talk at the Midwest Universities Analytical Chemistry Conference in October on “Getting Samples into a Fast GC--Quickly.” He was co-author on three talks given at Pittcon 98 in New Orleans. He has submitted an invited paper to the Council on Undergraduate Research Quarterly, describing his experience doing collaborative work with a large research institution (U of M). Another paper, this one dealing with GC sample preparation, was submitted to *Analytical Chemistry* with **Carrie Leonard**, **Hua-Fen Liu** and **Richard Sacks** as co-authors. In the area of service to EMU, he was elected as a member of the Collegium for Advanced Study Executive Committee. All this and he still found time to successfully beg for money through the Graduate School Research Award Funds.

**Ellene (Nina) Contis**, continues on in her position as Interim Associate Dean in the College of Arts and Sciences.

**Julie Frentrup** has been busy working with Prentice-Hall Publishing Company, from which she has three new editing contracts coming (a page proofing, a manuscript proofing and a test bank update). She is also the new editor of the Michigan Horticultural Society Newsletter and is a Board Member of that organization. On a more personal note, her husband **Mark Frentrup** holds a 4.0 GPA as he nears the end of his second year in the Law School at Wayne State.

**Deborah Heyl-Clegg** published a review article with **Steve Schullery** in *Current Medicinal Chemistry*. The paper points out “Developments in the structure-activity relationship for the  $\delta$ -selective opioid peptides of amphibian skin.” She also had a second paper published in *Bioorganic and Medicinal Chemistry*, with co-authors **Steve Schullery**, **Tasneem Mohammedshah**, **Hafida Makhoulouf**, **Eleanor Marks**, **Benjamin Wilenkin**, **Sharleen Escobar** and **Carol Mousigian**. Two of her graduate students presented papers at the Fifteenth American Peptide Symposium held in Nashville, TN last June. **Mohamed Salamoun** presented “Peptide Inhibitors Amalase Based on Tendamistat Employing Essential Binding Elements,” and **Guzin Dogruyol** presented “Novel Hydrophobic Amino Acid Replacements in the C-Terminal Tail of Deltorphins I and II.” Debbie was successful in obtaining financial support from both the Graduate School Research Support Fund and the REF

Fund. And on the home front, a new addition to her family is expected very soon, and may have already arrived by the time you read this!!!

**Arthur Howard** was busy traveling this year with the help of a World College Travel Award and a Provost's Travel Award to attend the XVIth International Heterocyclic Conference. He returned to EMU with a new idea: using microwave ovens as an energy source in organic synthesis. Don't laugh - a new one from Sears costs less than a pH meter!

**Vance Kennedy** co-authored a paper in *J. Am. Chem. Soc.* He was awarded a Provost's New Faculty Award to study phthalocyanine compounds. He is the new library liaison.

**Maria Milletti** served on (and then retired from) the Science Facilities Planning Committee. This committee has been charged with devising a science and mathematics curriculum which will serve EMU for the next ten to fifteen years. She attended the New Traditions workshop Madison, WI. There was an addition to her family as well....a new turtle named **Boris**.

**Elva Mae Nicholson** served on the Science Facilities Planning Committee.

**Ross Nord** attended the New Traditions workshop in Madison, WI.

**Steve Pernecky** received a Faculty Research Fellowship to develop a biological assay to determine whether the oncoprotein bcl2 expressed and purified from bacteria is functionally active. **Jaime Predmore** and **Beatrice Wanji** presented at the 1998 Society of Toxicology meeting in Seattle, WA. He and **Jose Vites** held a workshop to help chemistry students identify and prepare applications to graduate schools. On a personal note, this summer he and his wife celebrated the first birthday of their daughter **Grace Lauren Pernecky**.

**Don Phillips** continued in his tradition as the Chemical Magic Show coordinator. This summer he went on an extended trip to Norway. Just ask to see the pictures - they're excellent!!

**Krish Rengan** published a paper in the *Journal of Radioanalytical and Nuclear Chemistry*. He was also the recipient of a Provost's Travel Award.

**Steve Schullery** continued running molecular and quantum mechanics calculations for the department, using the Hyperchem computational package. These and other calculations have been beneficial to **Maria Milletti**, **Deborah Heyl-Clegg**, **Vance Kennedy**, and emeritus

professor **Mas Yamauchi**. He had a paper titled "Short Range Solvation Patterns of Pentachlorophenol, Triethylamine, and Their Reaction Products by Cyclic Ethers in Cyclohexane" accepted for publication in the *Journal of Molecular Structure*. The co-authors on this paper were professor **Ron Scott** and students **Sister Mary Josepha Van Camp**, **Shawn Morris**, **Annamarie Mudge**, **Richard Points**, and **Jodi Knight**.

**Ron Scott** (see first page article)

**Don Snyder** was a faculty consultant at the College Board Advanced Placement Reading in Chemistry held at Clemson University in June. He presented an invited talk on "Amino-bis-Phosphonic Acid Derivatives as Non-Halogenated Flame Retardants at the 29th Central Regional ACS Meeting in Midland, MI in May. Don was very successful again this year in terms of obtaining grants. He is in the second year of a three year proposal titled "Photonic Sensors and Sensing Systems," which was funded by the State of Michigan/Eastern Michigan University Research Excellence Fund. He also received a grant for \$42,000 from the NSF Major Instrumentation Program to purchase multi-angle laser light scattering equipment. And he obtained Graduate School Research Funds. He is also pleased to announce his promotion to Associate Professor!!!

**Wade Tornquist** is currently the Department Head for Chemistry.

**José Vites** participated in the College for a Day program. He also helped initiate a new interdisciplinary course at EMU called "Moving America."

**Stewart Work** and Don Bennion represented EMU at a benchmarking study of Learning Outcomes Assessment conducted by the American Productivity and Quality Center in Houston, TX. The Kickoff meeting was November 20-21 1997 and additional meetings will be held in February and June of 1998. Don Bennion will present a talk on "Using the Assessment EXPO to Communicate Assessment Successes to Faculty and Staff" at the North Central Association annual meeting in Chicago in March of 1998.

*Did we leave something out? Make a mistake? The editors would appreciate hearing from present and past faculty, staff, students, and friends of the Chemistry department concerning new jobs, careers, degrees conferred, marriages, anecdotes, or other life-affirming events. Feel free to provide us with ideas for upcoming newsletters as well.*

*Please write*

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