

# Augustana

Augustana College  
Sioux Falls, SD  
57197

## Department of Chemistry Alumni pHilter

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### Spring 1997

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#### Current chemistry staff

Duane Weisshaar	Analytical, Dept Chair
Gary Earl	Organic, Industrial
Milt Hanson	Organic, Polymer
On leave Interim and Spring 1997	
Marty Lindbeck	Inorganic, Phys Sci
Arlen Viste	Inorganic, Physical
Roy Kintner	Organic, Emeritus
Betty Viste	Safety, Stockroom

#### E-mail address and Phone

Write or call us!

dew@inst.augie.edu	605-336-4812
earl@inst.augie.edu	605-336-4811
mhanson@inst.augie.edu	605-336-4815
lindbeck@inst.augie.edu	605-336-4814
viste@inst.augie.edu	605-336-4813
kintner@inst.augie.edu	805-493-3684
kintner@robles.callutheran.edu	
bviste@inst.augie.edu	605-336-4827

#### Midwest Regional ACS Meeting

Held in Sioux Falls for the first time, November 6-8, 1996, at the Ramkota Inn, hosted by the Sioux Valley ACS Section.

Three posters were presented by Augustana chemistry students and staff. The program was listed in *C&EN*, 74(37), 46-49 (Sept 9, 1996).

**L. Husebo**, K. Prater, J. Cavaleri, R. Bowman, Femtosecond Laser Spectroscopy of Xanthione.

Lars Husebo is a senior at Augustana, from Oslo, Norway, planning on graduate study in chemistry next year. He did this research with Prof. Robert Bowman at the University of Kansas during Summer 1996.

**M. Person**, A. Viste, Oxidation of Thiophosphate to Phosphonosulfonate (3-) Ion  $[\text{O}_3\text{PSO}_3]^{3-}$ .

Mike Person is a senior at Augustana, from Sioux Falls, planning on graduate study in chemistry next year.

**R. Leininger**, A. Viste, MO Study of Phosphonosulfonate (3-) Ion  $[\text{O}_3\text{PSO}_3]^{3-}$  and Related Species.

Rachel Leininger is a senior at Augustana, from Sioux Falls, planning a medical career.

## *NSF Grant: Gary Earl*

Last August I got word that we had received a **NSF/EPA grant** for \$115,000 covering a project that relates very close to work I was doing in industry: "Preparation of More-Biofriendly Quaternary Ammonium Compounds and their Decomposition to Useful Reagents". The granting agency is a cooperation between NSF and EPA on a Partnership for Environmental Research. When I saw the announcement, I knew I had a project that fit very closely. The stipend will support three students for ten weeks of summer research during the Summers of 1997 and 1998 and four students for Summer 1999. In addition, we received funds to renovate our old Hitachi NMR, converting it into a FT unit with new control unit and computer. The equipment funds require a 50% match, and Augustana has kindly supported the first part of the conversion, which took place December 6 and 7. This technology comes from **Anasazi Instrument Co** of Indianapolis. We hope to complete the conversion with a C-13 probe and also other nuclei later. We have 50% of the funds to do so from the NSF grant.

## *New First-year Students*

The department is rejoicing in the arrival of 14 new chemistry majors for Fall, '96. They include **Jennifer Bjergaard** (SF Lincoln), **Matt Bovee** (Andover, MN), **Andrea Carlson** (Beresford, SD), **Catherine Dempster** (SF Washington), **Jeff Homann** (Sturgis, SD), **Les Lawrence** (SF Roosevelt), **Erin Lee** (Fargo South), **Paula Maxfield** (Hill City, SD), **Beth Meyer** (Storden, MN), **Laura Nathan** (Woodbury MN), **Drew Paulson** (Cherokee IA),

**Jennifer Reitz** (SF Lincoln), **Troy Taylor** (APO, Germany) and **Erika Wenkel** (Mankato, MN). Bjergaard, Dempster, Lawrence and Reitz started in Organic I! We are renewing our recruiting efforts for next year, so if you know of any potential chemistry majors, please direct them our way, or let us know and we will contact them individually.

## *Summer Research*

During the past two Summers, students who were assisting summer lab sections have been also conducting research part time. The theory is that the assistant will prep for their lab, assist the students, tutor in the off hours but spend theoretically half-time doing research with one of the faculty in the department. This past Summer, four chemistry majors were involved in the assisting/research positions, **Janelle Uilk, Jason Schwans, Nichole McKee and Jill Johnson**. As an example of the work that was done and the impressions that this experience made on the students, Jason Schwans worked with Dr. Weisshaar on a project involving "**Optimizing a Polymer for use in Voltammetry without a Supporting Electrolyte.**" Jason was interviewed about his impressions of the Summer Research opportunity and said: "This was my first chance to explore a project when the answer had not already been discovered! I found it to be a nice blend of teaching and research, something like I might expect in graduate school next year. I had a great opportunity to start a project, get it off the ground in the Summer and then continue working on it both the Fall and Spring semesters this year." We plan to continue giving students this opportunity as well as the full-time summer research on the NSF grant.

## *1996 Seniors*

**Preston Arndt** (Echo, MN) is attending medical school at the University of Minnesota, Duluth.

**Jon Arnold** (Sioux Falls, SD) is a graduate student in chemistry at the University of Iowa, Iowa City, IA.

**Melissa Fossum** (Lennox, SD) is working in Sioux Falls. She has applied for Med Tech school for next year.

**Jason Laumer** (Lennox, SD) is a graduate student in chemistry at the University of Illinois, Champaign-Urbana, IL.

**Jon Outland** (Rapid City, SD) is a graduate student in business at the University of Illinois, Champaign-Urbana, IL.

**Lars Peterson** (Lander, WY) is attending medical school at Creighton University, Omaha, NE.

**Brett Simpson** (Sioux Falls, SD) is a graduate student in chemistry at Iowa State University, Ames, IA.

**Scott Tremain** (Fremont, NE) is a graduate student in chemistry at Iowa State University, Ames, IA.

## *Scholarships 1996*

Gifts from alumni and friends have provided several scholarships especially for chemistry majors. This year's recipients were:

**Chemistry Department Endowed Scholarship** (gifts from chemistry alumni) went to Mike Person, a senior from Sioux Falls, SD.

**Viste Chemistry Scholarship** (memorial to Arthur E. Viste and Edith Kehret Viste) went to Kjersti Laumer, a senior from Lennox, SD. **Gary E. Garrett Memorial Scholarship** went to Jill Johnson, a senior from Spearfish, SD.

**John Saetveit Memorial Scholarship** went to Janelle Uilk, a junior from Pipestone, MN.

## *Gifts in Kind from Businesses*

We thank two businesses for recent contributions of useful Gifts in Kind.

This Fall the Chemistry Department received a variety of things from **Corning Clinical Labs** (Sioux Falls, SD) as they prepared to move their operation to Omaha. These include two filter colorimeters, two heating blocks, an orbital shaker, a hotplate-stirrer, three magnetic stirrers, a Beckman Electrolyte Analyzer, a variety of glassware, stirring bars, and some sodium hydroxide.

**Buck Scientific** (Norwalk, CT) donated several IBM Instruments accessories for our FTIR spectrometer. These include a Variable Angle Specular Reflectance Accessory, a Temperature Controlled Gas Cell, a Controllable Chamber, an Evacuated Heat Chamber, and two Vacuum Chambers for Praying Mantis Diffuse Reflectance Accessory.

## *The John A. Froemke Chemistry Lecture*

The Froemke Lectures evolved from a day-long visit to the chemistry department during the 1982-83 academic year by Dr. Milton Andrus ('61) of 3M Labs. His seminar, as well as a discussion with faculty and students, was well received. The lecture was named The John F. Froemke Chemistry Lecture in recognition of the many contributions and long service (1930-1964) given to the college, not only by John Froemke, but also his wife Mary. The initial lecture was on November 10, 1983, just two days before John's 90th birthday. This event was intended to be an annual event, but we had a lapse of a few years, however, we are now back on the annual track. This event is supported by an endowment fund. Featured speakers include:

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|---------|---|
| 1983-84 | Gilman Veith, 1966, EPA Laboratories, Duluth, MN.   |
| 1984-85 | Deanna Oliveira, 1961, 3M Co, St. Paul, MN.   |
| 1985-86 | Erwin Reiman, 1964, Biochemistry, Medical College of Ohio, Toledo, OH.                      |
| 1986-87 | Ron Medrud, 1956, Chevron Research, Richmond, CA.   |
| 1987-88 | James Arshem, 1962, US Patent and Trademark Office, Washington, DC.                         |
| 1988-89 | Robert Myklebust, 1958, NBS/NIST.   |
| 1993-94 | Paul B. Olson, 1944, retired from 3M Co., St. Paul, MN.<br><b>Froemke Centennial event.</b> |
| 1994-95 | Elaine C. Barber, 1969, Datastrip Group, Inc. CT.   |
| 1995-96 | Lori (Mortvedt), 1980, and Gary Klopff, 1979, Monsanto Chemical Co., St. Louis, MO.         |

## *Ten years ago*

It doesn't seem that the folks in the class of '87 have been gone for ten years. I guess that it is true of most of the classes that leave here. I asked the class of 1987 to summarize what has happened to them since their graduations. They are scattered from coast to coast and doing interesting stuff. This was a class of nine students and their replies are below.

### **Jim Beck**

After graduation from Augustana, I obtained a BChEng from the U of Minnesota in 1988. I then began working for Dow Corning Corporation (a joint venture between Dow Chemical and Corning Glass to pursue the chemistry of silicon) in Midland, MI. I started in Process Engineering where we worked to improve polymerization processes throughout the company, specifically related to sealant polymers and high consistency rubber polymers. From there I moved into product development, working on development and manufacturing of fluorosilicone high consistency rubber. Early in 1996, I moved back to Process Engineering to work on new product commercialization. It has been interesting and challenging. In 1987, I married Ann Hodges (an SDSU grad) and we have two children, Travis (8) and Sarah (2). As with most parents, almost all of our spare time is taken up with them (3701 Green briar Terrace, Midland, MI 48642).

### **Dan Dixon**

After graduation, I entered the Molecular Biology and Biochemistry Dept at Northwestern University in Chicago, IL. In 1991, the lab I was in moved to the U California-Davis in the Department of Microbiology. I received the Ph. D. In Molecular Biology and Biochemistry from

Northwestern in 1993. My thesis work focused on the biochemical mechanism of genetic recombination in *E. Coli*. For the last three years. I have been a post-doctoral fellow in Human Molecular Biology and Genetics Program at the University of Utah in Salt Lake city. I'm working on the control of gene expression of the inducible prostaglandin H synthase gene. I am engaged to Mary Moore and we are planning an October 4th wedding. (ddixon@corona.med.edu)

### **Kirsten Henjum**

Editor' note: I received no reply from Kirsten. Her last known address was 1701 River Loop 1, Eugene, OR 97404. I sure hope that the nasty flooding that hit Oregon in Late December didn't directly effect her.

### **Paul Limburg**

I attended the Mayo Medical School and after obtaining the MD, I continued in the Mayo Graduate School of Medicine with an Internal Medicine Residency and a Gastroenterology Fellowship. (*Editor's note: Paul spent some time in Barrow, AK, studying intestinal parasites in native peoples.*)

This will begin in July 1997 and last 2-3 years. As part of this program, I will obtain a Masters of Public Health. Perhaps more exciting news in my marriage to Cora Method on May 13, 1995. We have no children yet. (Limburg.paul@mayo.edu)

### **Christine (Mah) Sherwood**

After graduating from Columbia University in 1988 with a BS in Chemical Engineering. I departed from the field completely and went to work for Citibank. I worked there for 5 years learning a lot about the business world and the credit card industry. I went to chase Manhattan Bank for 2.5 years working in the same industry and am now back at Citibank as

a Vice President in the Marketing department for the Credit Card Division. (I've lived in NYC for over 10 years already!)

The highlight of the year was my marriage to Dr. Peter Sherwood on June 15, 1996. Peter is continuing his post-doctoral research at Columbia University in the field of genetics. (christine.sherwood@citicorp.com)

### **Eric Munson**

Eric is an Assistant Professor of Chemistry at the University of Minnesota. He just received an NSF Career Grant which provides funding for his research for the next five years. He just returned from Washington, DC for a conference and is going to the Experimental NMR Conference in Asilomer, CA, next. He has been invited back to Texas A & M, where he got his PhD, to represent a former student who has gone into academics for their graduate student week-end. His specialty is solid-state NMR. He has 6 graduate students, one post-doc, and a handful of undergrads. He married Christina Huber on March 14, 1992 and Benjamin was born to them March 14, 1993. Eric and Chris are expecting another child. In November 1996, Eric organized a symposium in NMR for the Midwest Regional ACS meeting which was held in Sioux Falls.

(munson@chemsun.chem.umn.edu)

### **Jim Parker**

To sum up what Anne and I have been doing for the last ten years: We moved to Redondo Beach, CA where Anne taught English as a Second Language and I spent my time training and racing bicycles. I spent the better part of three seasons racing for Swill and French teams, while also racing in the Western US. In '91 I hung up the bicycle and started thinking about going to medical school. I'll never forget coming back to

Augie to talk to Arlen Viste about going to medical school. He said, "... some of my students go on to careers in science, some go to medical school."

We moved to Rochester, MN in the summer of '92 and for the next four years I studied the art of medicine at Mayo. Anne taught school for a couple of years and then took the opportunity to get a degree in dance at the U of M. We are now in St. Paul where I'm in my first years of an Emergency Medicine residency at St. Paul Ramsey Medical Center and Anne is staying home with our four month old daughter, Audrey.

(James.S.Parker-1@tc.umn.edu,  
jpark600@aol.com)

#### **Natalie Paul Frerichs**

Natalie attended Washington University, St. Louis and obtained a BS in Chemical Engineering in 1989. Currently she works as a chemist/engineer for Earth Technology in Alexandria, VA. In 1990, she married John Frerichs, '86, and they have a boy, Reese (2). She is expecting another child in February. (571 North West, Alexandria, VA 22314)

#### **Jim Thomas**

I graduated from Washington University in 1987 with a BS in Chemical Engineering. I went to work for McDonnell Douglas in St. Louis as a Material and Process Engineer after graduation. In 1992, I completed an MS in Chemical Engineering/Material Science. My work allows me to travel a great deal. In 1995, I completed a three year assignment in Madrid, Spain. Currently I am in an R&D position developing automated processes for composite part manufacture. The applications for the new technology will be both commercial and military. On a personal note, I just bought a house so I seem to be spending all of my spare time working on

home projects. (Jthomas4@mdc.com, 13032 Twin Meadows Ct., St. Louis, MO 63146)

### ***Other Alumni Updates***

**Oliver McKinney '47** retired from Phillips Petroleum Company about 10 years ago. He recently had an aortic valve replacement and a pacemaker installed. He is fully recovered and enjoying retirement. Oliver would like an address for Vic Hoft, '47 if you know it. The Augie Alumni office has lost track of him. His e-mail address is 76750.3517@compuserve.com.

**John S. Angelos '49** retired in 1993 and moved to Saratoga to be closer to his grandchildren and also to fly fish the Upper North Platte River. The North Platte is a designated blue ribbon trout stream. He retired after 15 years with Exxon Coal and Minerals, finishing at Gillette, WY, as lab supervisor in their Central Coal Laboratory. Prior to that he spent 27 years with the Great Western Sugar Company as the senior research chemist in their Process Development Laboratory in Loveland, CO.

**Jewell Arvin Severson '49** retired and is trying to live on a retirement income. He lives in Bremerton, Washington.

**Merlyn J. Petersen '52** is retired but remains active. He is a strong environmentalist and as he walks every day he cleans up the streets and highways. He helped start the D.A.R.E. program in the local school district in Fort Madison. A year ago they vacationed in Hawaii.

**Robert Myklebust, '57** plans to retire from the Surface and Microanalysis Science Division of N.I.S.T. about the end of 1996 and do some consulting. E-mail address: robert.myklebust@nist.gov

**Norm Rokke '65** has been on the faculty of the University of Stuebenville in Ohio for 18 years. He has been teaching computer science but in the fall of 1996 will begin teaching organic chemistry full time.

**Richard Reding (RJ) '72** recently returned to Sioux Falls and is the Executive Director of the South Dakota Health Care Association. The association represent the majority of nursing homes in South Dakota and is affiliated with the American Health Care Association. He is also a lobbyist for the association. His wife, Noreen, is the school nurse at Lincoln High School in Sioux Falls. They have a son, Jay, who is a freshman at Washington High and a daughter, Anee, who is a fourth grader at John Harris Elementary.

**Gary Famestad '78** and his wife, Roberta, have a daughter named Grace. He is working for Medical X-Ray Center as a diagnostic radiologist. He finished his residency at Michigan State University in 1987 and finished a fellowship in angiography/interventional radiology at University of New Mexico in 1989.

**Jody Klaassen '88** is now living in Minneapolis. He is a Senior Research Scientist with SVT Associates and is working on laser problems. He is trying to perfect a blue laser to replace the red laser currently used to read CD ROMs etc. His e-mail address is: klaassen@svta.com.

**Susan Lyman '89** received her Ph.D. in molecular and cell biology from the University of California, Berkeley, on May 20. She will continue her studies in a post-doctoral program at the Scripps Research Institute at La Jolla, CA.

**Jeffrey Jeremiason, '90** is completing his Ph.D. at the University of Minnesota in Civil Engineering with an emphasis in Environmental Engineering, with thesis defense January 30, 1997. Jeff says that most of the Ph.D. students graduating from his advisor's group have undergraduate degrees in Chemistry, and that students with degrees in Chemistry have a big advantage over the engineering students who enter his group. E-mail addresses: jeremiason@santel.net or jeremiason@aesop.rutgers.edu

**Steve K. Johnson '91** is a graduate student in analytical chemistry at Iowa State University in Ames, Iowa. E-mail address: sjohnso@iastate.edu

**Scott Lichty '91** graduated from USD School of Medicine in May 1995 with his M.D. He is a resident at the Family Practice Center in Sioux City, IA. He and his wife, Susan, had a baby boy on December 12, 1995. His name is Benjamin Scott.

**Jeanne Pfaff, '91** finished her PhD in Chemistry in August 1996 at the University of Minnesota. She is now Assistant Professor of Chemistry at Winona State University (MN), where she is an environmental analytical chemist. E-mail address: jpfaff@VAX2.Winona.MSUS.EDU

**Terri (Lubben) Falker, '92** was married August 17, 1996 to John Falker, a graphic designer. They live in Edina, MN and she teaches at Cretin-Derham Hall High School in St. Paul. In the summer of 1996, Terri spent eight weeks at ISU and did x-ray crystallography on a DOE grant. This fall she will begin a PhD program in Science Education at the U of Minnesota. In her spare time she has been singing in the Minnesota Chorale.

**Dan K. Ostlie '92** will finish med-school at USD in May (1996). Then he is off to South Bend, IN, for Family Practice and Sports Medicine Residency. He married Lisa Rollag (SDSU) on June 8, 1996 in Sioux Falls.

**Christie Reimer, '93** is in her fourth year of medical school and planning an Internal Medicine residency. E-mail address: creimer@sunflowr.usd.edu

**James Sands, '93** became engaged to Karis Lawlor in November 1996. Jim is nearing the end of his studies at Penn State and beginning to search for his next position. New address: 521 Orlando Ave, State College, PA 16803. E-mail address: james@plmsc.psu.edu

**Lynda Rasmussen '94** is in her third year at Pacific University College of Optometry. Her e-mail address is rasmussl.pacificu.edu

**Shawn Sweeney '95** started grad school in biology at SDSU. He has a daughter named Caitria Anne.

## *E-mail Addresses of Alums*

Here are some additional Internet e-mail addresses of Chemistry alumni. This is a supplement to the listing in the Spring 1996 newsletter, and to those listed elsewhere in this Spring 1997 newsletter. Please send us additions and corrections.

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| 74 | Ruel Eneboe<br>reneboe@charlie.usd.edu<br>ruel.eneboe@rde.sdserv.org |
| 90 | Brian D. Lamp<br>blamp@sunflowr.usd.edu                              |
| 95 | Matt Jorgenson<br>mljorgen@aol.com                                   |

## *Molecular Modeling*

We are currently doing Molecular Modeling using three types of software. With **Spartan 4** we carry out calculations of geometry, molecular orbitals, molecular vibrations, or molecular mechanics, and display the results visually in X windows or on a high function terminal, using the IBM RS/6000 computer. **Gaussian 94** can be run independently or through an interface with Spartan. Although Gaussian 94 does not provide graphical output itself, the hybrid approach through the Spartan interface facilitates visualization of Gaussian 94 results. **HyperChem** runs on a PC, and overlaps with functionality with Spartan. We are currently in the process of upgrading HyperChem from version 4 to 5, and have two copies. Although a bit pricey, all three of these types of molecular modeling software are useful in providing molecular insight. We use them in Physical Chemistry II (Chem 302) and selected other courses. For example **Quantum Chemistry** (Chem 381, Advanced Physical Chemistry) is being taught in Spring 1997. Students will make good use of the software in these courses.

## *Other Software Highlights*

Currently we use quite a bit of interesting software in the Chem Department. An excellent curve-fitting tool is **Minsq** (MicroMath Scientific Software, Salt Lake City, UT), a DOS product which has evolved into **Scientist**. **Mathcad** and Mathcad Plus, currently version 6, provides an excellent, integrated set of mathematical tools in a Windows environment (MathSoft Inc., Cambridge, MA). Sample uses are for numerical integration and for numerical solution of differential equations such as the radial equation of the hydrogen atom.

**Isis Draw** (Molecular Design Ltd) is one of the handy tools available for drawing molecular structures, and is currently available free for academic and personal use.

## *Web Pages and URLs*

On the World Wide Web, the official Augustana home page is at URL (Uniform Resource Locator) <http://www.augie.edu>. This has links to a variety of other pages around the College. An unofficial page which also has a number of useful links is at URL <http://inst.augie.edu>. The Chemistry Department home page is at URL <http://inst.augie.edu/~viste/>. This includes links to Web pages for several of our alumni. If you have a home page and would be willing for us to provide a link to it from our departmental home page, please let us know your URL.

A few other URLs, related to some of the software mentioned above, may be of interest.

<a href="http://www.wavefun.com/">http://www.wavefun.com/</a>	Wavefunction and Spartan home page.
<a href="http://www.gaussian.com/">http://www.gaussian.com/</a>	Gaussian home page.
<a href="http://www.hyper.com/">http://www.hyper.com/</a>	Hypercube and HyperChem home page.
<a href="http://www.mdli.com/prod/ioffer.html">http://www.mdli.com/prod/ioffer.html</a>	Isis Draw free offer.
<a href="http://www.mathsoft.com/">http://www.mathsoft.com/</a>	MathSoft and Mathcad home page.
<a href="http://www.micromath.com/">http://www.micromath.com/</a>	MicroMath home page.

*1997 Alumni File Update*

**What's v (nu) With You?**

**Date** \_\_\_\_\_

**Name** \_\_\_\_\_

\_\_\_\_\_ **Class Year** \_\_\_\_\_

Fill us in on what's happening in your life. New address? Married? Children? Change employment? Further education? Degree? Hobbies? Trips? Awards? Prospective student to recommend for Augustana? Etc.

Mail to: Arlen Viste  
Department of Chemistry  
Augustana College  
Sioux Falls, SD 57197-0001