Retirement of Ron Caple

After a forty-year tenure in the Department of Chemistry, Professor Ron Caple retired in spring 2004. His legacy covers excellence in organic synthesis research, devoted commitment to students, far-reaching collaborations with colleagues in foreign countries, a consuming dedication to sports and personal challenges, and an eclectic but affable sense of humor.

Ron grew up in International Falls, graduated from St. Olaf College with a B.A. in Chemistry and Math, and received an M.S. and a Ph.D. in Organic Chemistry from the University of Michigan. After an NSF Postdoctoral Fellowship at the University of Colorado, he came to UMD in 1965 to start a career of distinguished teaching, inspiring research, and whirlwind travel, leaving a trail of maverick stories and unconventional happenings that will linger on for many years. He has also been a Visiting Professor numerous times at Moscow State University and at the Zelinsky Institute of Organic Chemistry in Moscow.

His excellence in teaching has been recognized by several awards, including UMD Outstanding Teacher (1968), Horace T. Morse Award (1970), and induction into the Academy of Distinguished Teachers at the University of Minnesota (2000).

In his research, Dr. Caple mentored about 30 graduate and countless undergraduate students. He was generous with his time, served in various capacities on the Council of Undergraduate Research, and is remembered for his cooking on the grill during the Summer Undergraduate Research Program picnics. His research in organic synthetic chemistry is recognized worldwide, and his scientific publications number more than 90, including one scholarly book, “Organic Synthesis - The Science Behind the Art,” published by the Royal Society of Chemistry, Cambridge, UK.

continued on page 4
Greetings From the Department Head

Dear Friends and Graduates of UMD Chemistry,

The excitement is growing as we anticipate the opening of the James I. Swenson Science Building this fall. It will be the culmination of many years of planning and hard work by countless dedicated individuals. We are eager to realize the teaching and research promise that this facility holds and watch our students flourish educationally and personally. The grand opening of this magnificent building is scheduled for September 16, 2005.

Our department is getting “younger” every year. Three assistant professors arrived at UMD this fall; they are Venkatram Mereddy (Reddy), Victor Nemykin, and Tatiana Sergeeva. Dr. Mereddy also has responsibilities in the new Pharmacy Program at UMD. These fine additions to the department are featured on page 6.

In addition, Professor Ron Caple retired at the end of spring semester 2004. He is a much-loved faculty member whose forty-year tenure at UMD is distinguished by excellence, commitment to students, international collaborations and humor. Ron’s former students and colleagues are invited to honor his superb contributions with a gift to the Casmir Ilenda Award for Outstanding Undergraduate Research fund. (Cover Story)

We celebrated the achievements of several faculty and students this year: Viktor Zhdankin (Chancellor’s Award for Distinguished Research), Paul Siders (UMD Outstanding Faculty Adviser Award), Jim Riehl (University of Minnesota McKnight Presidential Leadership Chair), Nick Vidor (American Society of Pharmacognosy Undergraduate Student Research Award) and Julie Glasscock (Darland All-American Scholarship for 2004-05). (Pages 13 and 18)

We are very grateful to Mrs. Dorothy Passer for her generous support of our graduate students. She has established the Moses Passer Graduate Fellowship in Chemistry in honor of Dr. Moses Passer, her late husband and former faculty member of this department. This fellowship will recognize excellence in graduate student research and enhance the research mission of the Chemistry Department. (Page 5)

Science is a global effort and the activities of the faculty reflect this in numerous ways. One of the most exciting developments this past year was the very successful offering of a new course, Analytical Chemistry Applied to Environmental Problems in Eastern Europe, at the University of Wroclaw, Poland, in August (pages 10-11). We will offer this course again in Wroclaw during Summer 2005.

Finally, and on behalf of my colleagues, I want to thank all of you who have supported us through gifts and pledges over the past year. Your generosity allows us to pursue the highest standards of teaching and research, and to help our students be successful. There are many opportunities for you to partner with us and I invite you to consider those that are listed on the enclosed envelope. If you would like to discuss other ways to support the department, please contact me or Tricia Bunten, CSE Director of Development (tbunten@d.umn.edu, 218-726-6995).

Keep in touch; the welcome mat is always out.

With warm regards,

Bilin P. Tsai
Professor and Head
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Faculty Award Winners 18
Ron’s international connections are quite unique. During his numerous visits to Moscow he became fluent in Russian. His many friends in that country opened doors to such formidable places as the Institute of Physiologically Active Compounds (which the CIA had difficulties in penetrating) and the guest room of a diplomatic compound in Alma Ata which previously accommodated the former President Bush. He initiated several exchanges between Russia and UMD, participated in the Organic Division of ACS Task Force on the Former Soviet Union, lead an NSF group to Russia, and took part in the U.S. Civilian Research and Development Forum on the Former Soviet Union. He was recognized in Russia by Honorary Doctorate degrees from the Russian Academy of Sciences and from the Chemistry Faculty of Moscow State University and an Honorary Professorship at the Petrozavodsk State University. He also won a Science Competition Prize of 1,000 rubles from the Soviet Academy of Sciences. Several times he was plenary lecturer in Russia and invited lecturer in Vietnam and Cuba. He also served as co-advisor for Ph.D. candidates from the Universidad De Pinar del Rio in Cuba. His kindness and generosity to his foreign friends are exemplified by such actions as carrying a wheelchair on his trip to Russia, delivering a used computer to Cuba, or sponsoring a Vietnamese high school exchange student.

Ron has always been an avid athlete, playing football and hockey at St. Olaf, organizing tag football between faculty and students at UMD (until they broke Dr. Poe’s leg), joining faculty-student volleyball and broomball games, and taking every opportunity to cross-country ski, even after a recent hip replacement operation. And the numerous fishing stories connected with Ron Caple include even hooking a loon.

Walking past Professor Caple’s office is always an experience. The room is decorated with rugs, banners, plaques, and souvenirs from places he visited. And the bulletin board is at least half in Russian, with clippings from Petrozavodsk newspapers, posters from Moscow, and notices from other corners of the former Soviet Union. Nowadays, the bulletin board has new additions, announcing various activities of the Pre-Pharmacy Club and advice and exhortation to pre-pharmacy students. And that is because our “retired” Professor is still active in advising more than half of the 200-plus pre-pharmacy students. In addition, he still has funds from a PRF grant for at least two more years of research, a luxury that he cherishes with a twinkle in his eye. He also intends to keep up his contacts with Russia, Cuba, and Vietnam.

Thus it seems that his office will be occupied for a little longer, chemistry faculty will continue to get notes signed “POH” (which the initiated know stands for “RON” in Cyrillic), and his telephone answering message will continue to be partially in Russian. And he will always be a willing listener and an eager partner in sharing stories.

Ron Caple’s commitment to undergraduate research and student success are hallmarks of his career. On the occasion of his retirement, we invite you to help us honor his contributions by making a donation to the UMD Casmir Ilenda Award for Outstanding Undergraduate Research. Dr. Ilenda is a 1969 Chemistry graduate who worked in Ron’s lab and whose own gift to the department several years ago established an award for the best undergraduate research presentation. With so many students participating in research in the department, your gift will allow us to expand this outstanding award program and recognize excellence in more UMD students.
Moses Passer Graduate Fellowship In Chemistry

In honor of the late Dr. Moses Passer, former American Chemical Society director of education and UMD professor of chemistry, his widow, Dorothy Passer, has endowed the Moses Passer Graduate Fellowship in Chemistry at the University of Minnesota Duluth. This fellowship will recognize excellence in graduate student research and enhance the research mission of the chemistry department.

Born in Poland on January 30, 1917, Moses Passer was brought to the United States by his parents as a child and grew up in Rochester, New York. He attended the University of Rochester, from which he graduated in 1945 with a B.S. in chemistry, and Cornell University, which in 1948 granted him a Ph.D. in organic chemistry. In 1952-53, he conducted postdoctoral research in polymer chemistry with C.S. Marvel at the University of Illinois.

Moses Passer had two professional careers. The first career, 1948-64, was at the University of Minnesota Duluth as assistant professor, associate professor (1954), and professor of chemistry (1960). During his last 10 years at UMD, he also directed the Duluth section of the Minnesota Peat Research Project and was a member of the Minnesota peat mission to Russia. In 1964, Passer accepted an appointment as educational secretary of the American Chemical Society in Washington, D.C., and, the following year, initiated the ACS Short Courses program at the 1965 spring national meeting. The short courses captured the imagination of the ACS community and were an instant success.

Dr. Passer was in charge of American Chemical Society educational activities from 1964 to 1987. When he joined the ACS staff, these consisted of career services, student affiliates, and the Committee on Professional Training. By 1987, ACS educational activities encompassed a broad spectrum of novel and effective programs designed to make chemistry accessible to every audience. These ranged from pre-high school science projects for parents and children, through a rich variety of activities at the high school, college, and university levels, to a wide array of in-person and media lifelong continuing education offerings for practicing professionals in the chemical sciences. Indeed, the continuing education programs became models for scientific societies both in this country and abroad. The rapid growth of the ACS education sector during Passer’s tenure is illustrated by the fact that more than 90 percent of the educational activities available at his retirement were developed under his leadership, and the education budget grew five times as fast as the ACS overall. Interestingly, none of this growth constituted a drain on ACS resources – much of it derived from programs such as continuing education, which were financially self-sustaining, or from programs supported by grants and contributions from non-ACS sources such as foundations.

In 1993, at a national meeting of the American Chemical Society, Moses Passer was honored with a symposium in his name, co-sponsored by the ACS Division of Chemical Education and the Society Committee on Education. This symposium was in recognition of Passer’s contributions to science and chemical education during the more than two decades he served on the ACS staff.

Also in 1993, the ACS Division of Chemical Education announced the Passer Education Fund. This fund was established by Moses and Dorothy Passer to help improve the teaching of the chemical sciences by providing grants to chemistry and chemical technology teachers at undergraduate institutions. The grants support participation in continuing education courses in subject matter directly related to teaching.

Moses Passer received the District of Columbia Institute of Chemists Honor Scroll in 1977. He was a member of the Council of Engineering and Scientific Society Executives, Sigma Xi, and the Cosmos Club. He was also a fellow of the American Institute of Chemists and of the American Association for the Advancement of Science. Dr. Passer was the author or co-author of papers in Engineering Education, Industrial and Engineering Chemistry, Journal of Chemical Education, Journal of Polymer Science, and Journal of the American Chemical Society. Moses Passer died at his home in Washington on January 10, 1999.
Dr. Venkatram R. Mereddy, known familiarly as “Reddy,” is UMD’s second faculty member to hold a joint appointment as Assistant Professor in the Departments of Chemistry and of the Pharmaceutical Sciences (Dr. Rumbley was the first, last year). Reddy received his Ph.D. in 1996 from the Indian Institute of Technology in Kanpur, India, for work on asymmetric synthesis via chiral acetals. He spent 3 years as Research Associate at Purdue University and an additional 4 years at the Herbert C. Brown Center for Borane Research, also at Purdue. His 4-pronged research goals cover new synthetic methods and reagents, especially in the design of highly functionalized synths to incorporate several synthetic operations in one unit; stereoselective total synthesis of anticancer substances based on natural products analogues; novel antifolates as antibacterial and antineoplastic agents; and targeted drug delivery systems. He teaches higher-level courses in organic synthesis and medicinal agents.

Dr. Victor N. Nemykin came as Assistant Professor to the Department of Chemistry in the fall of 2004. He received a Ph.D. from the Institute of General and Inorganic Chemistry in Kiev, Ukraine, for his work on the optical properties of mixed-ligand lanthanide phthalocyanines. He did additional studies on different macrocycles, such as porphyrins, and organic intermediate dyes to determine their optical and catalytic properties, with potential applications to photodynamics of cancer. After a stint of 2½ years in Japan at Tohoku and Nihon Universities, he spent 3½ years as Research Associate at Duquesne University where he studied the mimicking of O-atom transfer reactivity in different Mo-containing enzymes and analogue systems. His current teaching duties are in Honors General Chemistry and graduate courses.

Dr. Tatiana Sergeeva has returned to UMD as Assistant Professor to teach various organic courses. She had left her previous appointment as Research Associate in the Natural Resources Research Institute, working on the synthesis and analysis of natural products, for a postdoctoral position at the University of Florida in sunny Gainesville to synthesize and study organofluorine compounds. Tanya received her Ph.D. in Organic Chemistry from Moscow State University in 1985. Her dissertation dealt with selenium monoketo ylides in the synthesis of heterocyclic systems. She spent several tours as Research Associate in Leicester, Great Britain; Madrid, Spain; and Moscow, Russia. Her research experience spans synthesis, analysis, and characterization of various organometallic compounds with import to the environment, biological activity, and illnesses. She enjoys her teaching duties and is looking forward to potential collaborative research with other faculty.

Dr. Alan Oyler returns to the Department of Chemistry as an Adjunct Professor after a successful career at Johnson and Johnson Pharmaceutical Research and Development, L.L.C., in Raritan, New Jersey. As a Senior Research Fellow at “J&J,” he lead the team of chemists through the research activities necessary to bring new drugs through the pipeline from discovery, Phase I, II, and III clinical trials and, ultimately, on to New Drug Application (NDA) filings with the Food and Drug Administration (FDA). At UMD, Alan is helping to develop working relationships with pharmaceutical companies to support ongoing activities in the Chemistry Department and the School of Pharmacy directed to drug discovery and development.
Over the past three years, readers of *Transitions* have followed the construction of this magnificent new science facility. We will soon realize our vision of a laboratory building that will expand undergraduate research opportunities, encourage more research collaborations between chemists and biologists, lead to the development of new experiments in the teaching laboratories and support a safer environment for teaching and learning, and scholarship. Those of us who were in the building this fall saw an open, welcoming, technically superior and well designed space.

Some of you may be aware that the building was severely vandalized in November, but with strong and committed campus leadership, hard work and the recognition that this facility will play an essential role in our science programs, we will be able to move into the building this summer and to offer a full curriculum of courses and conduct research in Fall 2005. We know that our students are as excited as we are because they appreciate the opportunities this building will create for them.

Some of you may be interested in the building’s “specs.” It will house ten chemistry and six biology teaching labs including general chemistry and general biology. The research wing will have sixteen research labs with several specialty research support rooms for culturing cells, radioisotope analysis and variable temperature experiments. In addition, students will find rooms for computation, study, office hour assistance and group work. The first floor foyer will provide an excellent venue to present our undergraduate research projects, faculty and graduate student publications and teaching initiatives.

I hope you can feel the excitement this building generates and that many of you will have the opportunity to visit the Swenson Science Building in the coming years. Our modern, forward-thinking, student-centered building will serve and shape our educational mission for years to come.

A special thank you to those of you who have sent gifts to the Chemistry Excellence Fund. Your generous gifts will further the vision of science we are committed to pursue.
<table>
<thead>
<tr>
<th>Name</th>
<th>Advisor</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>Nathan Aalderks</td>
<td>Ron Caple, Venkatram Mereddy</td>
<td>Syntheses of Folic Acid-Carboranyl Conjugates for Boron Neutron Capture Therapy</td>
</tr>
<tr>
<td>Charleen Balcer</td>
<td>Matt Andrews</td>
<td>Characterization of Genes Expressed in the Heart of a Hibernating Mammal</td>
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<tr>
<td>Brent Bastian</td>
<td>Robert Carlson</td>
<td>Nucleophilic Reagents for Isoprenoid Synthesis</td>
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<tr>
<td>Rachel Beukema</td>
<td>Raj Karim</td>
<td>The Effects of Betulin on IFN Production by HSV-1 &amp; HSV-2 Infected HEP-2 Cells</td>
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<tr>
<td>Matthew Brichacek</td>
<td>Robert Carlson</td>
<td>Nucleophilic Reagents for Isoprenoid Synthesis</td>
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<tr>
<td>Daniel Delf</td>
<td>Viktor Zhdankin</td>
<td>Preparation of Amino Acid Derived Benziodazoles</td>
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<tr>
<td>Julie Glasscock</td>
<td>Jon Rumbley</td>
<td>Residual Native-Like Structure in Unfolded Cytochrome c</td>
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<tr>
<td>Jennifer Goodell</td>
<td>Ron Caple, Venkatram Mereddy</td>
<td>Syntheses of Folic Acid-Carboranyl Conjugates for Boron Neutron Capture Therapy</td>
</tr>
<tr>
<td>Tara Jameson</td>
<td>Robert Carlson</td>
<td>Nucleophilic Reagents for Isoprenoid Synthesis</td>
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<tr>
<td>Alida Johnson</td>
<td>Raj Karim</td>
<td>The Effect of Benzoboroxole and Derivatives, and Hypervalent Iodine Compounds Against Different Species of Bacteria</td>
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<tr>
<td>Rashad Karimov</td>
<td>Viktor Zhdankin</td>
<td>Preparation of Novel Pentavalent Iodine Reagents</td>
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<td>Henry Kostalik</td>
<td>John Evans</td>
<td>Plasma Polymerization of a Polyethylene-like Film</td>
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<tr>
<td>Pam Lensing</td>
<td>Ron Caple, Venkatram Mereddy</td>
<td>Syntheses of Folic Acid-Carboranyl Conjugates for Boron Neutron Capture Therapy</td>
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<tr>
<td>Sarah Miller</td>
<td>Cecilia Giulivi</td>
<td>Changes in Hexokinase Kinetics and Substrate Affinity by Exposure to S-nitrosoglutathione</td>
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<tr>
<td>Joyce Sayers</td>
<td>Raj Karim</td>
<td>The Effect of Benzoboroxole and Derivatives, and Hypervalent Iodine Compounds Against Different Species of Bacteria</td>
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<tr>
<td>Nicole Settergren</td>
<td>Jon Rumbley</td>
<td>A Study of the Sequence and Structure of Cytochrome c</td>
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<tr>
<td>Lucas Temme</td>
<td>Cecilia Giulivi</td>
<td>Effects of Protease Inhibitors on the Degradation of Mitochondrial Proteins Using Western Blot and HPLC-fluorescence Detection</td>
</tr>
</tbody>
</table>
Twenty students participated in the UMD Department of Chemistry 2004 Summer Undergraduate Research Program (SURP). Research grants, the Swenson Family Foundation, the McNair Program through the College of St. Scholastica, and departmental resources provided student support and money for supplies, chemicals and equipment.

Each student worked on a research project for ten weeks. Faculty in the Departments of Chemistry and Biology supervised the projects. In addition to working on their research projects, students attended an orientation and safety training program, prepared and displayed research posters for the SURP Poster Fair and wrote final reports at the end of the program. They played volleyball, soccer, and baseball, had three picnics and met informally on other occasions.

**Paul Kiprof, Director, SURP 2004**
In August, Dr. Richard Markuszewski traveled to Wroclaw, Poland, to conduct a course for 24 UMD students, in conjunction with Polish faculty from the University of Wroclaw. The 4-credit course, “Analytical Chemistry Applied to Environmental Problems in Eastern Europe,” was taught in English, and was acceptable as an alternative to the regular quantitative analysis course at UMD required for a chemistry minor. The location was particularly advantageous because of the area’s historical mining and metal industries with the associated environmental concerns.

The connection with Wroclaw arose through Dean James Riehl, who has had an ongoing collaboration with several colleagues at the Institute of Chemistry at the University of Wroclaw. It was their desire to initiate a program with this analytical course.

The university, founded by Austrian emperor Leopold, celebrated its 300th anniversary in 2002. The ornate and historical halls of the main building, located on the Odra river, reflect these origins. There are several plaques, photographs, and other memorabilia connecting the university to such famous names as Fritz Haber, Max Born, Wilhelm Bunsen, and Johannes Brahms. Wroclaw, with a population of over 600,000, is Poland’s fourth largest city, and dates back to the 7th century with recorded history from the 10th century on. The history of Czech, Austrian, Prussian, German, and Polish influences is visible in Wroclaw’s many churches, museums, and parks.

The UMD students received several hours of lectures on Polish language, history, and culture as an introduction to the program. Their dorm accommodations were comfortable, local transportation by bus and tram was cheap, and the local population was friendly and helpful. The students especially enjoyed spending evenings at the old market square. And at the end of the program, the most surprising comment was “Gee, I wish we had another week!”
To present a full semester’s worth of material in a little over a 3-week period the schedule had to be demanding, with 3 hours of lecture in the morning and 3 hours of lab in the afternoon, every day. But the students worked hard, enjoyed the course, and performed admirably. The topics covered included the classical acid-base, equilibria, redox, and complexometric methods, as well as numerous instrumental approaches. The students even analyzed local soil, plant, and water samples.

They especially enjoyed the field trips and excursions. One such trip took them to a copper mine and electrorefining plant. To watch molten copper being poured from a 6-ton crucible was a very impressive experience. And to see the chemical enrichment and final refinement to obtain 99.99% pure copper was a vivid way of demonstrating the principles learned in general chemistry. It was also an eye opener to find out that Poland is now the world’s fourth largest copper producer.

A 3-day trip to Krakow, the former capital of Poland, was probably the highlight of this program. The students toured the medieval royal castle Wawel; entered the famous underground salt mine at Wieliczka with its multitude of historical, religious, and whimsical carvings, statues, and chambers chiseled out of rock salt; paid a surprise visit to the pharmaceutical museum (with some items on display attributed to Copernicus); and experienced the somber site of Auschwitz. The rest of their time was spent as gawking tourists in the central market square.

During the second week of the course, UMD’s Chancellor Martin visited Wroclaw, met with the Rector of the University of Wroclaw, and signed an agreement of mutual cooperation and exchange. The rector reciprocated by visiting UMD in December to follow up on potential programs of collaboration. Both universities are excited about the possibilities of expanding into other areas and developing further ties in the future.
2003 – 2004 Department of Chemistry Awards

**Swenson Family Foundation Scholarship for Academic Excellence**
Lindsey Bade, Eagle Lake, MN
Jonathan Benson, Duluth, MN
Neil Brummond, Fairmont, MN
Neil Brummond, Fairmont, MN
Timothy Nickell, Barronett, WI

Nicole Reardon, Alvarado, MN
Ashleigh Shelton, Spooner, WI
Kathleen Thompson, Circle Pines, MN
Ashley Woodford, Watertown, SD

**CRC Freshman Chemistry Award for Excellence in General Chemistry**
Nicole Reardon, Alvarado, MN
Marie Foss, Ramsey, MN

Alyssa Skoglund, Brooklyn Park, MN
Sara Frederickson, Ramsey, MN

**Achievement in Organic Chemistry (ACS) Award**
Maggie Amdahl, St. Paul, MN

**Undergraduate Analytical Chemistry Award**
Nicholas Hanson, Esko, MN

**James H. Maguire Scholarship**
Matthew Brichacek, Little Falls, MN
Henry Kostalik, Coon Rapids, MN
Nicholas Vidor, International Falls, MN

Tara Jameson, Stillwater, MN
Amber Seys, Duluth, MN

**HyperCube Scholar Award**
Matthew Brichacek, Little Falls, MN

**Bayer Award**
Julie Lenci, Virginia, MN
Brooke Mussetter, Two Harbors, MN

**Lake Superior Section of ACS Outstanding Senior**
Erin Letzring, Herbster, WI

**The American Institute of Chemists Outstanding Senior**
Erin Peterson, Ashby, MN

**Larry C. Thompson Inorganic Chemistry Award**
Kimberly Schoonover, Bemidji, MN

**F. B. Moore Academic and Leadership Award**
Stephen Brose, Cass Lake, MN
Bobbi Jo Eckel, Long Prairie, MN

**Biochemistry and Molecular Biology Outstanding Senior**
Erin Peterson, Ashby, MN
Elizabeth West, Buffalo, MN

**Casmir Henda Award for Outstanding Undergraduate Research**
Stephen Brose, Cass Lake, MN
Elizabeth West, Buffalo, MN

**Special Recognition for Leadership**
Nicholas Hoxmeier, Vadnais Heights, MN
2003 – 2004 Department of Chemistry Awards

**Departmental Honors**
Katherine Almendinger, Hill City, MN
Stephen Brose, Cass Lake, MN
Brittany Dahl, Beach, ND
Bobbi Jo Eckel, Long Prairie, MN
Lindsay Elmquist, Hibbing, MN
Melanie Fearing, Andover, MN
Nicholas Hoxmeier, Vadnais Heights, MN
Corey Olson, Moorhead, MN
Erin Peterson, Ashby, MN
Kimberly Schoonover, Bemidji, MN
Brandon Shelton, Spooner, WI
Amanda Smith, Iron, MN
Elizabeth West, Buffalo, MN

**John C. Cothran Memorial Fellowship**
Beau Barker, Waseca, MN
Robin Beck, Browerville, MN
Dmitry Litvinov, Perm, Russia
Eric Castro, Tegucigalpa, Honduras
Darlington Danso, Ghana, West Africa
Zilan Xiao, Changsha, Hunan, P. R. C.
Alexey Koposov, Reutov, Russia
Sushma Kumaran, Maharashtra, India
Vyacheslav Boyarskikh, Yekaterinburg, Russia

**CSE Outstanding Graduate Teaching Assistant**
Robin Beck, Browerville, MN

**Chemistry Outstanding Graduate Teaching Assistant**
Keely Pearson, Duluth, MN

**Commendation for Outstanding Work as a Graduate Teaching Assistant**
Eric Castro, Tegucigalpa, Honduras
Sushma Kumaran, Maharashtra, India
Mike Donahue, Duluth, MN

Nick Vidor, senior Biochemistry/Molecular Biology and Cell Biology double major, received an American Society of Pharmacognosy (ASP) Undergraduate Student Research Award in 2004. This award consists of funding to pursue his research on “Evaluation of Natural Products for Anti-Cancer Activity” under the direction of Chemistry Assistant Professor Leng Chee Chang. Mr. Vidor is from International Falls, MN. He has received a number of awards from UMD, including the Department of Chemistry 2004 Summer Undergraduate Research Program fellowship, a UM Undergraduate Research Opportunities Program award, the James H. Maguire Chemistry Scholarship and the Department of Biology Enbridge Energy Partners Scholarship. Nick and Dr. Chang presented their research at the International Congress on Natural Products Research in Phoenix, Arizona, in August 2004.

Julie Glasscock, senior Chemistry and Biochemistry/Molecular Biology double major, received the Darland All-American Scholarship for the 2004-05 academic year. This scholarship program was established by Regent Emeritus Richard L. Griggs in honor of Provost Emeritus Raymond W. Darland. Scholarship criteria are academic achievement and leadership contributions to UMD.

Ms. Glasscock is from Plymouth, MN and has been involved in three research projects at UMD. She will present her undergraduate research at the Invertebrate Neuropeptide Conference in Chaing Mai, Thailand, in January 2005. Julie is working with Biology Assistant Professor Anna Rachinsky on this project.
# 2004 Graduating Seniors

## Current Plans

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gregory Botzet</td>
<td>Continue Education</td>
</tr>
<tr>
<td>Stephen Brose</td>
<td>Food Science Graduate Program, University of Minnesota</td>
</tr>
<tr>
<td>Shannon Cunningham</td>
<td>Continue Education</td>
</tr>
<tr>
<td>Brittany Dahl</td>
<td>Employment, Pharmaceutical Sales, Aventis Inc.</td>
</tr>
<tr>
<td>Andrea Delorme</td>
<td>Employment, English Instructor, Berlin, Germany</td>
</tr>
<tr>
<td>Lisa Duchene</td>
<td>Continue Education, Applying to Pharmacy School</td>
</tr>
<tr>
<td>Bobbi Jo Eckel</td>
<td>Genetics, Cell Biology and Development Graduate Program, University of Minnesota</td>
</tr>
<tr>
<td>Lindsay Elmquist</td>
<td>Environmental Health and Safety Graduate Program, University of Minnesota</td>
</tr>
<tr>
<td>Adam Ettl</td>
<td>Employment, Viromed, a subsidiary of LabCorp</td>
</tr>
<tr>
<td>Melanie Fearing</td>
<td>Chemistry Graduate Program, University of Minnesota</td>
</tr>
<tr>
<td>Shelly Hemp</td>
<td>Employment, Technologist, Cytogenetics Laboratory, Mayo Clinic Clinical Laboratory</td>
</tr>
<tr>
<td>Nicholas Hoxmeier</td>
<td>Northwestern College of Chiropractic Medicine</td>
</tr>
</tbody>
</table>

## First Row (Left to Right): Elizabeth West, Melinda Marthaler, Andrea Delorme, Lisa Duchene

## Second Row (Left to Right): Gregory Botzet, Corey Olson, Justin Kruger, Katherine Almendinger, Kimberly Schoonover, Brittany Dahl

## Third Row (Left to Right): Adam Ettl, Nicholas Hoxmeier, Stefanie Suckow, Erin Letzring, Lindsay Elmquist, Melanie Fearing

## Fourth Row (Left to Right): Brandon Shelton, Stephen Brose, Bobbi Jo Eckel, Erin Peterson
## 2004 Graduating Seniors

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justin Kruger</td>
<td>Chemistry Graduate Program, University of Minnesota Duluth</td>
</tr>
<tr>
<td>Erin Letzring</td>
<td>Employment, Musher Guide, Running Dog Sledding Tours, on Norris Glacier near Juneau, Alaska for one year, then continue education</td>
</tr>
<tr>
<td>Melinda Marthaler</td>
<td>Employment, Error Analyst, Target Corporation</td>
</tr>
<tr>
<td>Joseph Martin</td>
<td>Unknown</td>
</tr>
<tr>
<td>Corey Olson</td>
<td>Volunteer Work, Acres of Love Orphanage, Johannesburg, South Africa</td>
</tr>
<tr>
<td>Erin Peterson</td>
<td>Medical School, University of Minnesota Duluth</td>
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<td>Kimberly Schoonover</td>
<td>Medical School, University of Minnesota Duluth</td>
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<tr>
<td>Brandon Shelton</td>
<td>Oceanic and Atmospheric Science Graduate Program, University of Wisconsin Madison</td>
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<tr>
<td>Amanda Smith</td>
<td>Chemistry Graduate Program, University of Minnesota Duluth</td>
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<tr>
<td>Elizabeth West</td>
<td>Medical School, University of Minnesota</td>
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### TRANSITIONS....means moving on, for some!

Pictured (left to right) are Gilles Muller, who accepted a position at San Jose State University, Ron Caple, and Rita Lazareva, who returned to the Zelinsky Institute of Organic Chemistry in Moscow. Not pictured are Peter Kebbekus who was accepted as a student into the Medical School at UMD and Cecilia Giulivi who left for the University of California at Davis.
2004 Graduate Students Completing the Masters Program

**Name**

Beau Barker  
Robin Beck  
Vyacheslav Boyarskikh  
Eric Castro  
Sushma Kumaran  
Tina Kane Lindgren  
Dmitry Litvinov  
Edward Tutu  
Leon Weckwerth

**Current Plans**

Ph.D. Program, University of Minnesota Twin Cities  
Employment, Ecolab, Twin Cities  
Ph.D. Program, University of Utah  
Ph.D. Program, University of Minnesota Duluth  
Ph.D. Program, University of Missouri, Columbia  
Employment, Mayo Clinic  
Ph.D. Program, Brigham Young University, Utah  
Ph.D. Program, Texas A & M University  
Continue Education

**Left to Right:** Eric Castro, Leon Weckwerth, Vyacheslav Boyarskikh, Beau Barker, Dmitry Litvinov, Sushma Kumaran

**Not Pictured:** Robin Beck, Tina Kane Lindgren, Edward Tutu
Department of Chemistry Honors Program

Front Row (Left to Right): Jeff Willging, Nicholas Hoxmeier, Stephen Brose, Maggi Engen, Maggie Amdahl, Kimberly Schoonover, Gina Palmiscno, Nicholas Vidor

Middle Row (Left to Right): Julie Lenci, Brittany Dahl, Melanie Fearing, Lindsay Elmquist, Nathan Dahl, Renee Griffith, Charleen Balcer, Katherine Almendinger, Elizabeth West, Amber Seys

Back Row (Left to Right): Brandon Shelton, Jacob Moe, Henry Kostalik, Matthew Brichacek, Lucas Temme, Bobbi Jo Eckel, Jason Dauffenbach, Tommy Bastian, Anna Malin

The Honors Program of the UMD Department of Chemistry is designed to provide outstanding Chemistry majors and Biochemistry/Molecular Biology majors an opportunity to develop the ability to function as independent and competent research workers, to encourage them in their study of and interest in Chemistry or Biochemistry/Molecular Biology, and to aid in their transition from student to scientist.

There has been renewed interest in our Honors Program over the past several years, such that there are now 38 sophomores, juniors and seniors who participate. Although the formal minimum grade point average is 3.25, the cumulative “group average” has hovered around 3.75. The expectation is for each student to engage in about a year and a half of meaningful research with a faculty advisor and present the results at a formal seminar setting such as the Minnesota Academy of Sciences Undergraduate Symposium.

Department of Chemistry Honors Program Members 2003-2004

Seniors:
Kathryn Almendinger
Stephen Brose
Brittany Dahl
Bobbi Jo Eckel
Lindsay Elmquist
Melanie Fearing
Nicholas Hoxmeier
Corey Olson
Erin Peterson
Kimberly Schoonover
Brandon Shelton
Elizabeth West

Juniors:
Charleen Balcer
Brent Bastian
Rachel Beukema
Matthew Brichacek
Nathan Dahl
Jason Dauffenbach
Julie Glasscock
Renee Griffith
Tara Jameson
Henry Kostalik
Sara Maus
Michael McGinn
Carrie Nowling
Gina Palmiscno
Joseph Schowalter
Amber Seys
Nicholas Vidor
Nan Yang

New Members:
Maggie Amdahl
Tommy Bastian
Maggi Engen
Julie Lenci
Anna Malin
Jacob Moe
Lucas Temme
Jeff Willging
**Faculty Award Winners**

**Dr. James P. Riehl,** Professor of Chemistry and Dean of the College of Science and Engineering, received the McKnight Presidential Leadership Chair in October. This is one of five newly created and very prestigious chairs at the University of Minnesota to recognize extraordinary scholarly achievements and leadership. Jim is a native of Philadelphia and earned a B.S. in Chemistry from Villanova University and a Ph.D. in Chemistry from Purdue University. After a postdoctoral fellowship at the University of Virginia, he joined the faculty at the University of Missouri-St. Louis. In 1992 he received the St. Louis Award of the American Chemical Society for his “outstanding contributions to the chemistry profession.” In 1993 he became Chairman of the Department of Chemistry at Michigan Technological University and in 2000 he was appointed to his current position at UMD. Dr. Riehl has published over 90 research papers and is recognized by the international scientific community as an expert in the use of optical spectroscopy to probe the structure of chiral molecules. His special area of expertise in the measurement and interpretation of luminescence from chiral compounds has resulted in productive collaborations with scientists from Poland, Japan, France, Switzerland and the United Kingdom.

**Dr. Paul D. Siders,** Associate Professor of Chemistry, received the UMD Outstanding Faculty Adviser Award for 2004. Dr. Siders came to UMD in 1986, following a brief appointment at Florida Atlantic University. He also held Research Associate positions at Argonne National Laboratory and at the Radiation Laboratory of Notre Dame University. He earned a Ph.D. from the California Institute of Technology and a B.S. from the University of Wisconsin–Whitewater. At UMD, Paul has taught mainly undergraduate and graduate physical chemistry courses. In 2000-2001, he served as Department Head. Paul’s research in various areas of theoretical physical chemistry involved 7 graduate and 14 undergraduate students, and he has published about 20 scientific papers. Paul finds teaching fascinating and is grateful for the kindness of faculty colleagues who recommended him for this advising award.

**Dr. Viktor V. Zhdankin,** Professor of Chemistry, was the recipient of the 2003-2004 Chancellor’s Award for Distinguished Research. Viktor was born in Sverdlovsk, Russia, and received his M.S. (1978), Ph.D. (1981), and Dr. Chem. Sci. (1986) degrees from Moscow State University. After serving as Senior Research Fellow and Head of Research Group in the Department of Chemistry of Moscow State University, he moved to the University of Utah in 1990 as Instructor of Organic Chemistry and Research Associate. In 1993, he joined the faculty at UMD. Professor Zhdankin is one of the world’s most renowned experts in the organic chemistry of hypervalent main group elements, focusing on the development and application of new reagents for organic synthesis based on polyvalent iodine compounds. His 170+ refereed research papers are widely cited by organic chemists worldwide. He serves on the editorial boards of several international journals and is a member of the Japanese Forum on Iodine Utilization. His previous awards include the prestigious national fellowship from the Camille and Henry Dreyfus Foundation.
Thank You

We deeply appreciate your support over the past year. Your financial gifts enhance our undergraduate and graduate research programs and recognize excellence in our honors students and graduating seniors.

Transitions 2004

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