In this Autumn Edition...

- What happened in Koffolt Lab:
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- Special concern:
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- Department activities:
  Softball league, golf outing, camping and picnic

ChESS would like to thank everyone who helped
making this Autumn Edition: Dr. Jan, Kathleen, Lori,
Abdu, Yiqing, Kara, Regis, Bill, Vishal, Rick, Turgut,
Rama and our guest writer Chris Irvin.
Department News

General News

A GREAT BIG WELCOME TO THE NEW GRADUATE STUDENTS & OUR NEW DESIGN ENGINEER, CHRIS GECIK!!!

1943 Class Reunion  
1943 Class Reunion a great success and the alumni were quite impressed with all of new technology. Also, Mike Kukla was presented a plaque for his hard work and dedication to the Chemical Engineering Department.

The Class of 1943 celebrated its 55th year reunion on September 11. The reunion was

Alumni Society of ChE at OSU  
Alumni Society of ChE at OSU An Alumni Society has been formed for the Department of Chemical Engineering here at Ohio State. Ron Harris, Class of 1961 is the first President. The Society has had two meetings. So far the attendance has been very good. The Board of Governors has been elected and a working constitution has been approved. Committees have been formed for the various upcoming activities. Two students are members of the Board of Governors, one from ChESS (Zhiqing Lin) and one from the AIChE Student Chapter (Jim Holder). Kathleen is the Department Liaison to the Committee. Ron Harris is doing a wonderful job of getting things organized. The Society will be on probation for two years. The Director of Alumni Societies has met with us and attended a meeting. Information about the Society will be linked to the Department’s home page. Many of the activities will be opened to students. The Society plans to be very active. Should you wish to attend as an observer, please let Kathleen know.

Welcome Dr. ChiHae Yang  
We would also like to welcome Dr ChiHae Yang from Otterbein College who will be working here at OSU with Dr. Rathman for the next year on her sabbatical.

The Senate updates proposal to double Federal Reserve Funding by 2009  This proposal would increase non-defense research funding annually by 2.5% above inflation for the next 12 years for 14 federal agencies. For more information about this bill go to: http://thomas.loc.gov/ & enter 8.2217 in the "search by Bill" sections.

Group News

Dr Rathman's Group  

Dr. Koelling & Dr. Lee's Groups  
Dr. Koelling and Dr. Lee presented at the 14th

Also, congratulations to Dr. Jim Lee who has received funding from the Office of Research through the Interdisciplinary Research Seminars program competition. Dr. Lee's series will address Frontiers of Polymer and Composite Engineering & Science. Another congratulations to Dr. Koelling, who has been promoted to Associate Professor with Tenure.

**Dr. Zakin's Group**  

**Dr. Yang's Group**  
Tong Ma presented a paper at the 216th ACS National Meeting on Aug. 24, 1998 in Boston, MA. His presentation topic was "Human Tropoblast Tissue Engineering ECM Formation, Cell Proliferation, and Differentiation in 3-D Culture Systems". This is a cooperative project with Dr. Douglas Kniss from the OSU Medical School. Tong Ma is now conducting research in the hospital.

**Dr. Fan's Group**  

### Degrees Received

The following students have defended their research topic successfully & received their M.S. degree spring or summer quarter of 1998:

- Julia Bednarz (Dr. Yang), Yani Angun (Dr. Rathman), Leander Richards (Dr. Brodkey),
- Kristina Bailey (Dr. Brodkey), Arie Scott (Dr. Koelling), Likun Zhang (Dr. Yang), Mark Elkowitz (Dr. Tomasko),
- Raja Chatterjee (Dr. Bakshi), Suresh Ramachandran (Dr. Davis), and Sermin Top (Dr. Bakshi)

The following students have earned their PhD:

- Andrew Goodaker (Dr. Davis), Wen Li (Dr. Lee), David Miller (Dr. Davis), Hung-Tzu Chiu (Dr. Lee), Liping Sun (Dr. Chalmers), Xiudong Sun (Dr. Lee)

If there is any news we left out, please feel free to email Janine at lawrence@che.eng.ohio-state.edu and we will be sure to include the information in the next edition of the Filter Press.
"Up-To-Date"

By L.-S. Fan

I suggested to the newsletter staff that we might create a corner where I or any faculty member could contribute to the newsletter to increase the dialogue between faculty and ChESS. The response was enthusiastic, so below is my contribution.

I would like to begin by thanking ChESS members for their wonderful assistance during the last year with department activities in connection with student and faculty recruiting, class reunions, and special visitor presentations, among others. These types of events are very important to the Department and your assistance is very much appreciated, especially since ChESS members have always done such a splendid job. I regard graduate students as our partners in many of the Department functions. Our success in these areas reflects the quality of our students.

I hope to contribute to this and future ChESS newsletters by keeping graduate students up-to-date on the latest happenings in the Department. I have provided copies of our 1998 ChE Department Annual Report and will provide ChESS with copies of the newsletter to the alumni for your information. The Department is currently undergoing a major transition. Over the next two years we expect to hire five additional faculty members and expand the staff. We are in the final processes of appointing another machinist to help with the increased research activities in part due to the establishment of the new NSF Center for Advanced Polymer and Composite Engineering (CAPCE), the Ohio Board of Regents (BOR) Fine Particle Consortium, and the BOR Biotechnology Consortium. We are planning to hire additional administrative staff so that our graduate services can be augmented.

Our graduate program is also in a state of transition. Prof. Zakin recently had a proposal funded by the Administration that will provide funds for our faculty to visit U.S. universities for recruiting purposes. While we are enjoying the rich cultural diversity in the Department, we also hope to increase the number of domestic students. Beginning with students entering the program this academic year, the curriculum has been streamlined to reduce the number of course hours required to 58, giving more core courses, and greater flexibility in the students’ choice of tech-elective courses along with input from faculty advisers. The faculty is also considering changes to the PhD qualifier exam to allow for measurement of student potential in research in addition to course work. Faculty have come to the decision that we will be primarily admitting graduate students interested in pursuing the PhD.

I would like to encourage everyone to participate in the Department Tea Time. This is an ideal opportunity for faculty and student research groups to interact. Faculty will attend whenever their schedule permits, and Lori is working with ChESS to make substantive changes to this Department activity to engender greater participation. Please feel free to express your ideas or concerns to either Prof. Zakin or myself.

I wish you all a successful and productive 1998 academic year.
Graduate Teaching Assistant

— By Zhiqing Lin

GTA News

• About 14 graduate students in our department attended the 1998 University TA workshop—International TA program. Kara McCloskey served as a mentor for general session and Zhiqing Lin served on the panel of undergraduate and ITAs on classroom experiences.

• ITA consultant program is a pilot program initiated by the office of Faculty and TA Development at OSU. Our department is one of the four department participating this program. This program is undergoing evaluation this quarter. Dr. Li Tang is the current supervisor while Dr. Chris Stanley was the first supervisor. Dr. Li Tang is an Instructional Development Specialist at the Office of Faculty and TA Development of The Ohio State University and joined the office in December 1993. Tang holds an Ed.D. in Higher Education from University of Akron (1993). She provides extensive individual consultations to faculty and ITAs in a variety of disciplinary areas. She is currently supervising the ITA development program, GTA Teaching Consultants, and oversees its implementation in four departments that have large numbers of ITAs: Chemical Engineering, Computer and Information Science, Mathematics, and Physics.

• Congratulations to the following ChE Department outstanding TA award winners:

  ◊ Autumn 1997: Ali Scott (ChE 760) and Julia Bencarick (ChE 200)
  ◊ Winter 1998: Zhiqing Lin (ChE 801) and Steve Tong (ChE 200)
  ◊ Spring 1998: Kristina Bailey (ChE 523) and Lee Richards (ChE 762)
  ◊ Summer 1998: D.J. Lee (ChE 630) and Mike Timko (ChE 630)

Reference:

Unit Ops from Both Sides of the Fence

By Michael T. Timko

This summer, Tim Denison and I joined the ranks of an elite group of Ohio State chemical engineers whose recent members include Mark Elkovitch, Kara McCloskey, and Virginia Pankratz. What is it that we share in common with these three students, you might ask. Well, in addition to our shared ability to make it to an 8:30 class after a few too many beers at BW3's, all four of us have been both students and TA's for Chemical Engineering 630, Unit Ops. It's an experience that I for one wouldn't trade. Even though I've been at this fine university for a long while (longer than most anybody except perhaps Mr. Mike Elsas), it is my experiences from Unit Ops that will last longer than any of my other memories of being a chemical engineer at Ohio State.

Whether it was cursing the day that distillation was invented, or coaxing a student to use verbs in their sentences, Unit Ops has a way of bringing out the best (and sometimes the worst) in both students and TA's alike. Five weeks working in a group with the same 3 or 4 people compounded with 10+ hour lab days and pressures equivalent to those found in a supercritical fluid extractor can do that to a person. Say what you will, though. Despite the fact that labs may be too long and often may not work properly (except for adsorption, which was perfect every time), the heat can be unbearably, and group members may not always understand the meaning of the word "group", no class is more important to the development of our students than Chemical Engineering 630. Bar none. No questions and no doubts.

So what is it that makes Unit Ops such an important class? Students don't learn how to solve differential equations nor are they taught the fundamentals of distillation. Previous classes should provide the academic background for Chemical Engineering 630. Instead, students gain the skills necessary to apply their knowledge. They learn procedures for bench and pilot scale experiments. They learn how to communicate both in writing and in presentations. But most important, they learn how to work in a group of people who may or may not be their close friends. They learn their personal strengths and how to maximize the strengths of their fellow group members. The intensity of the class demands nothing less than reliance on your group. For many, that's a tough lesson to learn. I speak from experience. Just ask my former group members.

As a TA, I enjoyed watching groups grow and develop friendship form (and sometimes break), and (most of all) students learn to think. I now realize how hard it is to encourage truly independent and creative thought; it's no mean feat to challenge a student without demoralizing him or her. And nothing is more rewarding than helping a student understand. What does the Langmuir isotherm really mean? Why does bubble size affect mass transfer? What is the minimum fluidization velocity of a gold fish? What would happen if you put washing detergent into a filtration slurry? The TA's for Unit Ops have individual contact with no less than 25 students (perhaps as many as 50). The instruction that the TA's give determines the direction of the class. If you're a poor TA, then your students will perform poorly. If you dedicate yourself to your job, you will see a difference.

Chemical Engineering 630 is a great class. I don't know the curriculum of other majors as thoroughly as I know ours, but I can't imagine a class that is more important to its students in any department. But the question is, can Unit Ops be improved? Nothing is perfect, and even a good product can be refined. My answer is a resounding yes. And to whom does the burden of the responsibility fall? To you, the reader, and to future graduate students. Anyone that TA's Unit Ops can improve the class by preparation, dedication, and concern. How can you expect your students to care if you do not? Let your students see how important the class is by your teaching. Challenge, reward, instruct, and above all educate. Finally, remember how important the class is to the education of our students and never underestimate your importance to the class. Take the word of someone who has been both a student and an instructor for Chemical Engineering 630.
Dear Kara,

I’ve noticed that despite our department’s awesome Haz-Op committee, many students continue to leave unlabeled containers lying around. I have also seen students walking in the halls and touching elevator buttons while still wearing gloves. Could you please give a discussion addressing some of these issues?

— Concerned with Contamination

Dear Concerned,

Thank you for bringing this topic forward. You are justified in your concerns about students wearing gloves outside their laboratories. For the student deciding to put others at risk, listen up! It is absolutely against OSHA lab standards (29 CFR 1910.138): “Gloves may not be worn outside the laboratory. This is important to limit the spread of contamination and possible skin exposure to unprotected persons who may unknowingly touch objects (such as door knobs, elevator buttons, telephones, etc.) that have been contaminated by a person wearing contaminated gloves outside of the laboratory.” This practice of keeping gloves in the laboratories also goes for lab coats and other personal protective equipment (PPE). If you are not thinking that the gloves you wear are relatively clean and thus, you are not really creating any contamination problems when you choose to step outside the lab with them on, then I am here to tell you that the question of whether or not the gloves are actually contaminated is irrelevant. Others who see you wearing the gloves don’t know what toxic, cancer-causing, etc. chemicals you may be spreading around and can (and obviously do) judge from this particular student’s letter) become very anxious upon spying any person wearing gloves outside the lab. To quote something that my Dad said during conversations with one of his Shorin-Ryu Karate students, “I don’t care whether your motives were improper or not, it is the appearance of impropriety that is often just as damaging.”

Just in case I still haven’t convinced you to take laboratory and chemical handling safety seriously, a friend of mine has commented to me that he has “seen OSHA fines up to $1,000 for things such as a small leak in an autoclave or even an unlabeled beaker of water. Although OSHA rarely visits universities, once they have a reason to pay a visit, they continue to do so forever.” Since I am not a chemical safety expert, I will also give you a list of phone numbers and web sites that you may call or browse if at any time you have questions regarding chemical safety, waste disposal, personal protective equipment, or emergencies. For those of you new to this department, there is a safety seminar, Chemistry 685, that will be offered this winter quarter. All of you are required to take this course.

Web Sites:
- http://www.chemistry.ohio-state.edu/safety/safety.htm
- http://www.chs.ohio-state.edu

Phone numbers:
- John Herrington, Chemical Safety Coordinator’s Office 292-6379
- John Herrington, Chemical Safety Coordinator’s Beeper 9405-5075
- Hazardous Waste Specialists Beeper 9405-5076
- Environmental Health and Safety (EHS) 292-1284

Helpful Hints:
- Do not store chemicals or apparatus in the fume hood (unless setting up experiments for use in the hood)
- Keep fume hood sash at the lowest possible position
- Keep laboratory doors closed
- Wear appropriate Personal Protective Equipment (PPE)
- Don’t wear gloves or other PPE outside laboratories
- Read Material Safety Data Sheets (MSDS) for a chemical before working with it
- Label and date all flasks, beakers, and other containers for short-term storage and use
- Cylinders must be stored and used in upright position
- Cylinders must be secured with belts or chains
- Always depressurize gas systems after use
- Do not leave experiments running unattended, but if absolutely must, have an emergency shut-down procedure clearly posted.
- Transport cylinders on an appropriate handcart or truck
- Do not store flammable gases near oxidizers
- Do not smoke or use any flames near flammable gases
- Keep electrical wires away from sources of heat, flame, water, or oxidizing agents
- Do not eat, drink, or apply cosmetics in the laboratory.

Letters to Dear Kara may be submitted directly to Kara’s mailbox or to any ChESS member. Please choose any issue that you need advice on. Confidentiality will always be maintained and it is suggested that you don’t sign your real name.
NEARBY NEWARK, OHIO

by Christine M. Irvin

Newark, Ohio, the county seat of Licking County, offers something special for everyone and it is only an hour’s drive from Columbus.

There are several ways to get to Newark. If you go on Route 16 east, you’ll be sure to see the giant Longaberger basket (shown in photo). The “basket” is the new Longaberger corporate office. The building is seven stories high and each “handle” weighs 75 tons. Even though the company does not give guided tours of the building, visitors are permitted to step into the lobby (which looks like the lobby of a grand hotel) and to take photos of the outside of the building.

Taking 70 east and exiting onto Route 79 north will get you through the shopping districts of both Heath and Newark. If you like to shop, this is the place to be. Check out the many specialty shops and allow extra time to browse through Indian Mound Mall.

Speaking of the Indian mounds, history buffs won’t want to miss the Newark Earthworks, a set of three earthworks built by the Hopewell Indians. The three sites are called Moundbuilders Earthwork, Octagon Earthwork, and Wright Earthwork. Moundbuilders Park, on Route 79 just north of the mall, includes the Great Circle - an embankment 1200 feet in diameter with walls 8-14 feet high - and a museum dedicated to prehistoric Indian art. Call 740-344-1919 for more information.

Antique and glass collectors will want to visit the National Heisey Glassware Museum at 169 West Church Street. The museum, which showcases glassware made by the former A.H. Heisey & Co., is open to the public. Admission is $2 for adults and children under 12 get in FREE. A 20-minute video can be viewed that tells the history of Heisey Glassware. To get there, take Route 79 North to the Main Street exit. Turn right off the exit ramp. Follow Main Street to 5th Street and turn left. The museum is on the left. Call 614-345-2932 for more information.

If you exit from 70 east onto Route 13 north you’ll be in the area of Dawes’ Arboretum. Nature lovers will enjoy strolling the center’s 1,149 acres of plants and exhibits. The center includes a Japanese Garden, Dawes Lake, the Education Pond, and the Crab Apple Collection. The center is located at 7770 Jackstown Road SE. Special events are held at the arboretum throughout the year. Call 800-44-DAVES for more information.

Plan a day trip to nearby Newark, Ohio. You’ll be glad you did.

Editor’s words: We are honored to invite Chris to write “My Spare Time” column for The Filter Press. Christine M. Irvin is a freelance writer. She has had articles published in publications such as at Home in Columbus, curiousity columbus, Highlights for Children, and Challenge magazine. She is also an Associate Editor of a small, local publication called Adventures in Storytelling Magazine, as well as the Vice President of the Creative Arts Institute, a non-profit organization dedicated to promoting storytelling in all its forms. Christine lives in Columbus, OH with her husband, Bill, and her three children.

Food Stand

Garlic World

Garlic, Allium sativum is neither a spice, herb, nor vegetable, but it can be used as all three! A member of the Lily family, the garlic plant produces pungent bulb that is composed of flavorful cloves. Garlic has long been used as a seasoning, germicide, and medicine. Its juice contains antibiotic oil, allin, which has been credited with having a myriad of medical benefits including the ability to lower blood pressure. It’s among the most ancient of cultivated plants and can be enjoyed in many ways. The biggest garlic in size is called Elephant Garlic, which is the mixture of garlic and onion.

Garlic braids and wreaths can be used as decoration. The “World’s Longest Garlic Braid” is in the store of “Garlic World” in Gilroy, just sixty-five miles south of San Francisco and forty-five miles of Monterey. California garlic, the variety used in making braids and wreaths, is harvested between late June and mid-August. It is a labor-intensive effort, as the roots and the stems must be clipped by hand. Each braid is hand-woven in the European tradition that was started centuries ago. Started from 1979, thousands of garlic enthusiasts have flocked to Gilroy’s annual Garlic Festival.
Oh, Camping!

By Yiqing Wang

Before I went camping, I imagined several times about lying on the ground, listening to the chirping birds and the whispering winds, and feeling the peacefulness that the woods had to offer under the moonshine.

However, I was surprised when we got to the camping site – Deer Creek. There were so many people, especially many kids. The campsite was just like a noisy city in the woods. A man told us he had camped out there for two months but he emphasized and said that, "... it had been ONLY two months". The question rose in my mind, what is so exciting about camping? My curiosity plunged to the sky.

As we arrived there, we pitched the tents and fired up the grill for some BBQ. It was amazing that Zhiqing and Rama bought lots of delicious food with limited money. After lunch, we rushed to the beach. No one could resist the invitation of the beautiful sunshine and cool water in a hot summer afternoon. We swam, played beach balls and watched Rama the "shamu" do stunts in the water. Two hours flew past us so quickly. Hey, nothing comes easy; there is either pain before pleasure or vice versa. Nevertheless, the vice versa was the case; some of us had severe sunburns.

After spending some exciting time at the beach, we split into two groups. One went golfing and the other went horseback riding. From Rama’s words, the golf outing went quite well. They teed off well on nice sunny afternoon. The golf course did not have much to offer in terms of difficulty. The greens and the fairways were not well maintained. Moreover, they had problems locating the balls. It was quite impossible due to the tall grass near the roughs. Despite the problems, I could only hear them cheering and praising each other on their wonderful strokes. I was in the second group together with Zhiqing, her family, Bill and my husband Chao. Because we were all non-experienced riders, we asked for slower and gentle horses. A girl gave everyone a white card with a horse’s name on it. An old man, called Franky, came up to us and explained the tricks involved on how to handle a horse. He changed Zhiqing’s card because that horse was not an easy one to control. He looked at our cards and nodded that these were all gentle horses. Although being nervous, I was comforted a little by his words. Suddenly, Bill showed his card to Franky and asked a question seriously; “Could you give me a slow horse?” Franky was very nice; he comforted Bill and promised him that it was a gentle AND a slow horse.

When the journey began, everyone saddled up very carefully. The horses rode through the paths between cornfields and stopped several times to have their dessert – corns. After a while, we got familiar with the riding and wanted the horses to run. That would make the trip more exciting. For several times, Bill called me loudly: “Hey! See, I can make the horse run!” He pulled the classic trick by kicking the horse but unfortunately, nothing happened. It was indeed a VERY slow horse.

Let me describe the scene, which I was totally fascinated by during that invaluable moment. The endless fields of corn, the warm red sun setting at the margin of the blue sky, several young girls riding on the bare backs of horses, a troop of people with huge diversity riding on the backs of slow horses – this is not something you can see everyday.

When we came back to our campsite, the golfers had been back for a while. Raashina could not resist showing us the chicken she had marinated. That just made us a little guilty. We had a long dinner. You bet, Raashina’s grilled chicken was something that I would not miss for the world. After dinner, we had a little talent show. Zhiqing sang a song titled “the half moon is rising”, which announced the beginning of dusk on our first camping night. The topics were too diverse to follow. We talked about the funny things that happened in the department and shared the interesting stories from different cultures. Rama impressed us with his Chinese song “what to ask for in my life”. Although he did not know the meaning of the words, no one could deny what he sang was a Chinese song. Why did Rama learn a Chinese song? (Guess?) To our surprise, no mosquito attacked anybody that night. We gathered around the blazing campfire and kept talking until 2 o’clock in the morning.
I crawled into my tent and fell a sleep like a baby without being disturbed by anything. In the morning, Vishal told us that there were raccoons ransacking our campsite and littered trash everywhere. Fortunately, I was fast a sleep exploring my dreamland.

You can not imagine how a trip will be until you have tried it. You can not imagine what life will be until you own it.

I would like to say thanks to CHES, especially Zheng and M9 for their enormous efforts to organize this activity.

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Abdu's Movie Review

Rounders

By Abdu Bunch

What is this movie about?
This movie is about a guy played by Matt Damon who is struggling to put himself through law school. He used to be a high stakes poker player but when he loses all the money that he and his girlfriend had saved he promises to never play again. He keeps his promise until his best friend gets out of jail. His best friend is a cowardly scumbag who owes some dangerous people a lot of money. Matt Damon's character really wants to help his friend, but the only way he can get a lot of money very quickly is to start playing poker again. So he puts his relationship with his girlfriend and his possible law career in jeopardy to help out this scumbag. His life goes downhill from this point until the end of course.

Did this movie seem believable?
This movie seemed believable to me primarily because it did not end in the typical storybook fashion where every loose end is tied up and all the major problems are resolved and the main character does the smart thing. Matt Damon's character is addicted to playing poker but he is also very good at it. So at the end he does not stop playing, he takes a risk and does what his heart tells him to do.

How was Matt Damon's performance?
Matt Damon gave another good acting performance but there are a lot of similarities between the character he plays in this movie and the character he played in "Good Will Hunting". Both characters are intelligent good guys who's friends influence them to get involved in negative situations. Both characters also need advice and guidance from someone to help them resolve things.

Are there any other well known actors in this movie?
Yeah, Martin Landau plays a law professor who gives advice to Matt Damon's character and John Malkovich plays a Russian poker player.

Out of 4 stars what rating do you give this movie?
I give this movie three out of four stars. If you liked "Good Will Hunting," then you will probably like this movie.

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Happy Halloween!
The Mo' Dogs - '98 ChE Softball Team
by Regis Geisler (Mo' Dogs' captain)

The ChE softball team, a.k.a. the Mo'Dogs, finished the 1998 regular season with a winning record of 4 wins and 3 losses, and placed 4th among eight chemistry league teams. The Mo'Dogs' roller coaster season started quickly, with victories in each of the first two games. Unfortunately, this was followed by three heart breaking losses, all of which were extremely close and competitive games. However, the team displayed its heart by finishing up the regular season strong when they defeated the eventual #3 and #2 teams in successive weeks. While riding this high the Mo'Dogs advanced to the third round of the playoffs before bowing-out of the double elimination tournament. The team showed great resiliency and desire throughout the season and should be extremely proud of their accomplishments. The future looks bright indeed for the Mo'Dogs.

Dr. Koelling crushes his 7th dinger of the season, making him the undisputed home run king.

Dr. Tomasko demonstrates proper batting technique with a nearly perfect level swing.

Janine strikes a pose for the Topps baseball card photographer.

The ace of pitching staff, Dr. Zalan, shows why he deserves the Cy Young award. Here he delivers a strike right down the middle of the plate.
More pictures of the '98 ChE Softball Team...

Turgut patiently waits for his turn to bat, while Pr. Tomasko and Mark Elkovitch discuss strategy.

Jeff and Regis cool down after a scrimmage. Austin 3:16 says the Mo Pugs are number one. And that's the bottom line, cause stone cold said so.

Rama works diligently at improving his swing while on deck.

First Annual ChE Dept. Golf Outing

On a beautiful Sunday afternoon of October 11, the Chem. Eng. Dept. held the 1st annual golf outing at Raymonds Memorial Golf Course. Lori, Vishal, Turgut, Jose, Regis, Rama, Rajeev, DJ and 3 undergrads, Jim Holder, Brian Collect, and Chad Laubenthal, showed their hidden talent over 18 challenging holes. It was a great hands-on opportunity to learn how the dimples on golf ball break the boundary layer, the effect of Magnus force on a spinning golf ball, ...
1998 Autumn Picnic

The Chem. Eng. Dept. had the ChESS annual autumn picnic on Saturday, September 26, at the Sharon Woods Metro Park. Faculty, staff, graduate students, and their significant others enjoyed great food and activities. Dr. Bakshi and Vishal fought through a competitive game of water balloon tossing with patience and skill, and won the 1st place. In the volleyball tournament, the polymer group (Dr. Koelling, Hua Wang, Vishal, Ming Li, Jose and Regis) defeated the fluidization team (Dr. Fan, Himanshu, Santhosh, Luo, Carl, Jeff and DJ) in the final. ChESS thanks everyone who participated and made this year’s picnic success, especially, Janine and Denitra for their time and effort.

Perfect follow through

Luo trying to block Dr. Koelling’s spike... maybe not???

Volleyball champs showing off their prizes

Better catch that water balloon, baby!!