New Chair

After three years as Department Chair, on July 1 Dr. R. Peter King stepped down for reasons of health, and Dr. Jan D. Miller has agreed to serve the Department in this capacity.

Under Dr. King’s able leadership the department made some first steps into using the internet for teaching. Increasingly, class materials are on-line and accessible to the students from anywhere. Two professional development courses were actually taught entirely by internet to students scattered around the globe, and a new graduate course, MetE 6500, Advanced Thermodynamics and Modeling of Chemical Systems, will be offered on-line this fall to our students.

Antoine M. Gaudin Award

Dr. R. Peter King was presented the Antoine M. Gaudin Award at the 2002 SME meeting “for his seminal contributions to mineral liberation in mineral processing.”

Dr. King graduated in chemical engineering from the University of Witwatersrand in Johannesburg, South Africa, and received a Ph.D. at the University of Manchester in England. He lectured at the Universities of the Witwatersrand and Natal. From 1967 to 1973 he established and led Mintek’s research group at the University of Natal, where he pioneered the development of models and simulators for industrial flotation circuits.

From 1975 to 1990 he held the Chamber of Mines’ chair of minerals process engineering at the University of the Witwatersrand, before joining us here at the University of Utah.

A Message from Dr. Jan D. Miller, Department Chair

Dear friends:

Congratulations to Dr. Saskia Duyvesteyn and her husband Mark upon the birth of their daughter Evalien July 17, 2002. Saskia will be the new editor of the Mellow Met Newsletter. We are shifting publication of the newsletter to the summer.

We are pleased to report some major donations to the Department. Prof. Weibai Hu (MS 1949), who passed away March 21, 2001 at the age of 78, left his estate to the department to set up a fellowship for Chinese graduate students.

A generous donation from the estate of Catherine Singer last year set up the Catherine Singer Memorial Scholarship Fund, providing scholarships for undergraduate or graduate students in Metallurgical Engineering.

A special thanks to all who have made donations this past year. We need your continued support.

It was with some trepidation that we awaited the 2002 Winter Olympics. Some of our students had to find temporary housing when the Residence Halls were vacated for the athletes. Media organizations set up broadcast facilities on the roof of our building. The department issued badge holders to everyone to keep their university ID visible at all times. Students were advised to get any research supplies they might need ahead of time. Since the Salt Lake Organizing Committee was using of a number of parking lots, parking became tighter than ever, although this eased slightly when the University light rail line opened in January and immediately exceeded ridership projections. There was discussion of the building entrances being locked 24 hours a day and a phone being installed at the door so delivery people could call to be let in.

Our dean, Dr Frank Brown, decided against locking the building during the day. Some faculty, students, and staff took advantage of the extended semester break to make trips. Others took time off to attend events. The only excitement, such as it was, was that a few people were made late to work by the slow process of all cars entering campus being searched, and a couple of students working late at night got asked for their identification by a security officer making rounds.

Repairs to the fume hoods this spring actually proved far more disruptive – some students’ research was interrupted for weeks.

Dr. Mike Free continues to successfully organize high school recruitment. Again this year we sent letters introducing our department to several thousand students who had expressed an interest in studying science or engineering at the University of Utah. We are expecting a freshman class next year of about twenty – excellent by recent standards. A number of students have told us that the piece of shape memory alloy we enclosed really caught their imagination.

One student confessed that it was only after she decided to major in metallurgical engineering that she learned her own grandfather had been a professor in our department many years ago. So if you know any young people who have an interest in science or engineering, tell them about metallurgy – and that you
ISOMMP 2001

During August 15 to 17th the department was host to a unique gathering of an international group of some 25 visitors – research colleagues and ex-students of Prof. H. Y. Sohn. They were here to attend ISOMMP 2001 – a mini international symposium on Metals and Materials Processing organized to celebrate a major milestone in Prof. Sohn’s life, his 60th birthday. Travelling from Japan and Korea, Sweden, Chile, Mexico and of course various parts of the United States, their presence showed their deep respect and friendship for Prof. Sohn.

Attendance at this symposium was by invitation only. Faculty and students on campus also took advantage of the technical content by attending papers of interest. The symposium started with welcoming remarks by Senior VP David Pershing and Dean Frank Brown as well as Mr. M. Ji representing Utah State Governor Mike Leavitt.

There were four topical sessions – Process Metallurgy Fundamentals, Process Developments, Materials Processing and Process Technology applications, demonstrating the breadth of scientific endeavor that Prof. Sohn’s research has touched. The presentations were excellent and encompassed recent and future trends. The “family” atmosphere to the sessions allowed for a free and informative exchange. The final session included the most awaited talk – Prof. Sohn’s recollection of his “scientific journey”. A very touching gesture was that from Prof. Sohn – following each presentation and Q&A, he recollected his association with the speaker.

The lighter moments were provided at the banquet attended by the visitors and the department faculty. Stories, some clouded by the many intervening years, drew many a laugh. Unfortunately, Prof. Sohn was not able to draw his ex-students into a friendly test of endurance. Professor and Mrs. Miller leading the group in singing “Happy Birthday” rounded out the evening.

The camaraderie, sharing of stories, renewing old and making new acquaintances and the exchange of ideas at sessions, was thoroughly enjoyed by all who attended. It was suggested that similar mini-meetings be considered in the future also. Well maybe when Prof. Sohn turns 70!!

The invited colleagues of Prof. Sohn who were able to attend were Prof. Ramana Reddy (Univ. of Alabama), Professors Dave Robertson and Mark Schlesinger (Univ. of Missouri-Rolla), Prof. Yang-Ki Hong (Univ. of Idaho), Professors C. Yamauchi and M. Sano and Dr. M. Tanahashi (Univ. of Nagoya, Japan), Prof. K. Itagaki (Tohoku Univ. Japan), Prof. Roberto Parra (Univ. of Concepcion, Chile), Prof. Eric Eddings (Univ. of Utah), Prof. S. Seetharaman (Royal Institute of Technology, Sweden), Prof. Pat Taylor (Univ. Of Tennessee), and Dr. Yan-hui Yang (Kennecott, Utah). Among the many ex-students of Prof. Sohn, those in attendance were Prof. Rafael Padilla (Univ. of Concepcion, Chile), Prof. Yoon-Bong Hahn (Chonbuk National Univ. Korea), Prof. Hyun Soo Yang (Chonnam Univ., Korea), Dr. Kang-In Rhee and Dr. Joon Soo Kim (Korea Inst. of Geoscience and Mineral Resources, Daejeon, Korea), Prof. Manuel Perez-Tello (University of Sonora, Mexico), Dr. Xiao-li Wang (Kennecott, Utah), Ms. Kirsi St. Marie (REI, Utah) and Dr. Pinakin Chaubal (Ispat Inland, Indiana). Prof. Sohn’s current students, Mr. Ali Al-Hashemi and Ms. Marijanka Savic, also attended.

Yours sincerely,

Jan D. Miller
New Faculty Member

Dr. Zhigang Zak Fang joined our department March 4. He received an MS in Materials Science and Engineering from Beijing University of Iron & Steel Technology, November 1984, and Ph.D. in Materials Science and Engineering from the University of Alabama, Birmingham, December 1990, on the subject of diffusion controlled coarsening.

He was the Director of Materials R&D 1997–2001, and Manager of Materials Research, 1994–97 at Smith Tool, Smith International, Houston, Texas; Adjunct Professor, Department of Materials and Mechanical Engineering, University of Alabama 1999–2002; Senior Materials Engineer, R&D, RTW, Greenfield Industries, Alabama, 1990–94; Research Fellow, Delft University of Technology, The Netherlands 1986–87; and Assis Professor of Powder Metallurgy, Beijing University of Iron and Steel Technology, Beijing, China, 1984–86.

Dr. Fang’s research interests are in physical and mechanical metallurgy, materials, novel powder processing, and joining, coating, and materials characterization.

Department Research

Dr. Michael Free’s research group has continued to investigate corrosion and electrodeposition phenomena this past year. Investigations of pulsed-electroplating of metal matrix composite coatings have resulted in an improved understanding of the factors that determine the volume fraction of particles in such coatings. Studies of corrosion inhibition using surfactants have increased our understanding of the relationships between surfactant aggregation and corrosion inhibition. New mathematical models are being developed to quantify the effects of surfactant functional group, hydrocarbon chain length, and solution environment on cathodic and anodic reactions that affect mild steel corrosion inhibition.

Professor J. D. Miller’s group continues to have research activities in the areas of hydrometallurgy, environmental technology, surface/colloid chemistry, and particle technology.

In the area of hydrometallurgy, research programs in cyanide recovery/destruction (with Profs. Hupka, Halbe, and Chatwin), magnetic activated carbon (with Dr. Duyvesteyn), and heap leaching (with Dr. Lin) are in progress. Interest continues in the recovery of lithium from the Great Salt Lake. By way of example, considerable advances have been made in the practice of heap leaching. Technical progress was revealed in the recent “International Technical Meeting on the Development of Copper Bioleaching Technology” sponsored by Compañía Minera Zaldivar (CMZ) and held in Antofagasta, Chile, 12-14 March 2001, during which time heap leaching at CMZ was reviewed. Discussion at the meeting with Carlos Garcia (PhD, Metallurgical Engineering, 1994) indicated that further advances in copper recovery at the CMZ operation would require an improved understanding of the heap leaching system. In this regard a research program has been initiated in Miller’s group to meet this objective using an advanced diagnostic technique, namely high-resolution 3D X-ray microtomography (XMT), together with advanced simulation of flow through a packed bed of particles. These results, under the supervision of Dr. Lin, will be coupled with the results from more traditional column leach experiments and solution chemistry considerations in order to identify appropriate heap leaching conditions for improved copper recovery. It is expected that the results from this research program will help to reveal the preferred particle size distribution and heap height which must be established based on a balance between mineral exposure, solution application rate, and time of leaching. Of course the heap leaching chemistry phase will be guided by the mechanics of the system and will help to clarify the reagent demand/schedule, the solution application procedure, and heap design.

The research is quite an exciting program because the 3D characterization/analysis of mineral exposure and heap structure to be done by X-ray computed tomography has never been done before. It is intended to determine to what extent the rate and ultimate recovery is limited by:

* Mineral exposure/liberation
* Transport phenomena
* Chemistry

For example, it is expected that the ultimate copper recovery will be established from the mineral exposure/liberation analysis by XMT. The results of the research should be quite significant as preliminary results suggest.

With respect to environmental technology, research programs focus on wastewater treatment and materials recycling (waste tires, waste plastics and waste paper). Dr Jan Hupka has been actively involved with the environmental technology program this past year and will continue to be involved in 2002.

Much of the research in the area of surface/colloid chemistry is directed toward applications in mineral flotation. Significant fundamental and/or practical contributions have been made in soluble salt flotation (trona), semisoluble salt flotation (phosphate), and sulfide flotation (auriferous pyrite) using surface spectroscopic techniques and AFM procedures. In addition to the progress in flotation chemistry, research in this area has led to new research initiatives in nanotechnology in an attempt to control and design surface templated nanostructures. Efforts continue to be made to acquire a sum frequency generation (SFG) spectrometer to give more detailed in-situ information regarding the structure of water and surfactants at interfaces.

Finally, in the area of particle technology, the most significant research is the utilization of our unique cone beam X-ray microtomography facility. The facility has now been in operation for slightly more than one year and has done as much as expected when it was first designed. 3D images of opaque multiphase systems are routinely obtained with a resolution of at least 10 microns. In this regard one new research effort is 3D flow simulation through packed particle beds and porous structures using advanced Lattice-Boltzmann (LB) simulation techniques. In addition, improved 3D shape analysis for irregularly shaped particles is being considered using micro CT and some simulation techniques being developed in our laboratories.

Dr. H. Y. Sohn’s research group has started a large industrial project for metal powder synthesis. Undergraduate students David Harding and Michael Oja started with the preparation work before Dr. Zhijing Zhang, a Postdoctoral Associate, joined us in November. We recently added Sadegh Firoozy, a graduate student, to the project. Another postdoctoral associate will soon be added to the team. We are in the process of installing an IC plasma reactor system (50 or 100 kW) for this work.

Last fall, Ali Al-Hazemi, an engineer with SAVIC Technology Center, Saudi Arabia, arrived to start his Ph.D. program with Dr. Sohn in the area of alternative ironmaking.
On–Line Degree Program

The more we have looked into doing an on-line Master of Engineering degree, the more complicated it has become. While still interested in pursuing the idea, we don’t know when (or if) we will be able to actually offer such a program.

Comparing our records to the alumni association’s this year, we discovered some additional graduates from the 1920s! Our alumni number 815. New graduates include:

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<th>Program Status</th>
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<tr>
<td><strong>B.S. Degree</strong></td>
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<tr>
<td>George Jared Forgey . . . . . . S’01 Justin David Fuller . . . . . . S’02</td>
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<tr>
<td>David Philip Harding* . . . . . . S’02 Jerod Wayne Parkison . . . . S’02</td>
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<tr>
<td>Michael Lorenzo Snow* . . . . . . S’01 Andrew Ezekiel Wessman S’01</td>
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| **M.S. Degree** |
| Imad Barsoum . . . . . . . . . . U’02 Parijat Bhatnagar . . . . . . . . . . S’01 |
| Byung Sang Choi . . . . . . . . F’01 Padmabhushana R. Desam U’01 |
| Suraj Jain . . . . . . . . . . . . S’01 Ewelina Mutkowska [Env.E.] U’01 |
| Marcin Michal Niewiadomski . . S’01 |
| Ph.D. Degree |
| Nakorn Srisukhumbornchavi U’01 Mehmet Tarakci . . . . . . . . . . U’01 |

Student Recognition

**2000–01 Awards.** The Best Teaching Assistant was Nakorn Srisukhumbornchavi. Nakorn was the T.A. for Met.E. 5260/6260 Fall Semester 2000 and Met.E 1620 Spring Semester 2000. Students described him as easily approachable and said he gave good feedback on homework. Nakorn received a Ph.D. in Summer 2001 under the direction of Dr. Guruswamy, on “Development of Highly Magnetostriuctive Fe-Ga and Fe-Ga-Al Alloys,” and accepted a position at Kung Mongkut’s University of Technology Thonburi in Bangkok, Thailand.

The Graduate Seminar Award for best student presentation went to Shankar Srinivasan. Shankar presented a seminar on “Fatigue of Beta-Titanium Alloys” on January 10, 2001. This award is based on evaluations filled out by the audience. Shankar got an overall average score of 93 out of 100. He is from Bangalore, India and studied with Dr. Chandran. He defended his PhD dissertation, “Role of Crack Nucleation vs. Propagation on the Fatigue Behavior of Ti10V-2Fe-3Al beta Titanium Alloy,” in April 2002 and is working at the Argonne National Lab in Illinois while he makes corrections.

The 2001 winner of the Oblad Medal of Excellence cannot have been a surprise, since Michael L. Snow has previously been our Outstanding Freshman, Sophomore, Junior, and then Senior Student. Mike’s Senior year g.p.a. was 3.73, and his overall g.p.a. was 3.80. He works for Boart Longyear in Salt Lake. He received the Walmart, Cooper-Hansen, and Kennecott Scholarships. He graduated from Bountiful High School and was a member of the ASUU Student Senate for the year 2000–01.

Our outstanding Junior Student was David Phillip Harding. David’s Junior year g.p.a. was 3.89, an improvement over the previous year’s 3.88, which earned him the Outstanding Sophomore Award. He worked for Dr. King and Dr. Schneider here in the department. He received the Newmont Metallurgical Services Scholarship and the President’s Scholarship with National Merit Honors his freshman year, along with the Outstanding Freshman Award, the Healy Scholarship his sophomore year, and a two-year Copper Club Scholarship for his Junior and Senior years.

The Outstanding Sophomore Student was Jeffrey Winterton. Jeff’s 2000–01 g.p.a. was 3.93. He graduated from Davis High School and works at Fine Auto Craft in Salt Lake. He got an Honors at Entrance Scholarship, a Joe B. Rosenbaum Scholarship, and a Jackling Scholarship. He has received the Lloyd E. Malm Memorial Award for Chemistry and a University of Utah Presidents Award. He has been a member of the Dean’s List for several semesters, and he is a member of the university’s Honors Program.

The Award for Outstanding Freshman Student for 2000–01 went to Jeffrey Winterton. Taylor graduated from East High School with a 3.667 g.p.a. He received Honors at Entrance plus the American Metal Climax Foundation Scholarship, and his g.p.a. for his first semester at the U was 3.42.

Ewelina Mutkowska was awarded Third Place in the Master Category for her poster presentation at the Air & Waste Management Association 2000 Annual Conference Student Program. Ewelina came to us from the Technical University of Gdansk, Poland, and received her MS in Environmental Engineering with Dr. Miller.

Ronel du Plessis received the 2001 International Precious Metals Institute Student Award, presented at their annual meeting in Tucson in June, for her research on Precious Metal Recovery by Sulfide Mineral Flotation. This award included a prize of $2,500.

**2001–02 Awards.** Ronel’s exceptional research proposal also led to her selection as a 2001–02 University of Utah Graduate Research Fellow. This award is $10,000, plus tuition. Ronel is from South Africa and is doing her doctoral studies with Dr. Miller.

The Outstanding Senior Student Award and the 2001–02 Oblad Medal for Excellence in Metallurgical Engineering were awarded to David Harding, who earned a senior year g.p.a. of 3.9 and a cumulative of 3.886. David was a finalist representing the state of Utah in the national Rhodes Scholarship selection for 2002 and also the College of Mines and Earth Sciences valedictorian. At the 2001 SME Annual Meeting in Denver, Colorado, he was presented a $500 cash award and certificate as the Undergraduate Division Winner of the 2000 SME Outstanding Student Paper Contest for his paper, "Mineral Identification Using a Scanning Electron Microscope.” He served as Treasurer for the Operation Smile Student Association, raising funds for cleft-palate and cleft-lip surgery in third-world countries. David started work this summer on an M.S. degree under the direction of Dr. Zak Fang.

Jeffrey Winterton received
the teaching of a suite of Pre-Engineering courses. He has an entering students program for engineering students who are not engineering majors. He is the Director of Pre-Engineering. He coordinates the Materials Engineering at the University of Texas at El Paso, where teaching and research are conducted in the residence halls.

Robert Corson received the Teaching Assistant Award for 2001–2002 for his work as T.A. for Met.E. 1620, Fall Semester 2001. Student comments included “I really liked his helpfulness and willingness to work with us,” and “Thank you for providing so much help outside of class. I felt that you were available and very willing to provide extra help.” Rob is originally from Chatham, New Jersey. He got his BS from BYU, and is studying for his Ph.D. under the direction of Dr. Guruswamy.

The 2001–2002 Award for Best Student Presentation went to Manish Kumar Sharma. Manish presented a seminar on “Corrosion Inhibition Using Surfactants” December 5, 2001. Manish got an average score of 90.27 out of 100. Manish is from Jaipur, Rajasthan, India, and is studying for his M.S. with Dr. Free.

Congratulations to all our students for their scholastic achievements!

International Visitors

International visitors to the department this year include:

Dr. Mehmet Celik, Visiting Professor with Dr. Miller (June–July 2002), Istanbul Technical University, Turkey.

Mr. Lukasz Hupka, with Dr. Miller (June-Sep 2001), Gdansk, Poland.

Dr. Young Ha Hwang, Visiting Professor to Prof. Sohn’s lab (Nov 01–Mar 2002), a Lt. Colonel in Aero Technical Research Institute of Korean Air Force, to carry out research on creep and failure behavior of fighter jet engine turbines.

Alumni Activities

Let us know what’s going on in your life — fill out the alumni activity questionnaire at the back of the newsletter.

Robert W. Bartlett (BS ‘53, PhD ‘61) has retired. He is still skiing, still trying to play golf, plays bridge, is a director of a small environmental services company, does a little bit of consulting, and travels — Spring, Portugal, Mexico, Scotland, and a Mediterranean cruise in 2000–01. He was elected to the National Academy of Engineering, and among many other awards received the Turner Award of the Electrochemical Society, AIME’s 1985 McConell Award, the Wadsworth Award from SME, and the TMS Extractive Metallurgy Technical Award. He worked as a U.S. Navy Ordnance Engineering Officer, Lt. (jg), Washington, DC, ’53–56; research scientist at Ford Aerospace, Newport Beach, California, ’61–65; Assoc. Prof., Stanford University, ’67–74; President, Hydrotek Mining, Pershing County, Nevada, ’73–76; Ceramic Group Leader & Materials Mgr, SRI International, Menlo Park, California, ’77–80; Hydrometallurgy Manager, Kennecott, SLC, Utah, ’74–77; V.P., Anaconda Minerals, Tucson, ’80–87; and Dean, College of Mines and Earth Resources, University of Idaho.

David A. Reese (BS ’59) works for David Reese, Inc., in Los Angeles, California, where he describes his duties as “Clean restrooms, accounts payable, accounts receivables, sales, manufacturing.” His previous positions include Manager Technical Sales, Operations Manager, Vice President, and General Manager. He has one wife, four children, and five grandchildren.

Timothy E. Moss (BS ’60, MS ’62) is a consultant with the United Methodist Church General Board of Discipleship. He held a series of positions at Inland Steel Company before retiring as Manager of Quality in January of 1994. He has four children and four grandchildren.

Walter Fisher (BS ’64) is a Professor of Metallurgical & Materials Engineering at the University of Texas at El Paso, where he is the Director of Pre–Engineering. He coordinates the “entering students program” for engineering students who are not academically prepared to enroll in an engineering major. The program currently has 950 students. He created and supervises the teaching of a suite of Pre–Engineering courses. He has worked as a Research Metallurgist for the U.S. Bureau of Mines, SLC, ’70–73; a Research Metallurgist and Mining Industry Liaison at the Arizona Bureau of Mines/University of Arizona, Tucson, ’73–78; Dept. Chair, Asst. Dean, & Director of Pre–Engineering, University of Texas at El Paso, Dept. of Metallurgical & Materials Engineering, ’78–present. He has received the U.T. System Chancellor’s Award for Outstanding Teaching, 1990; the Distinguished Achievement Award for Teaching Excellence, University of Texas at El Paso, 1999; the Distinguished Alumni Achievement Award, New Mexico Tech, 2000; and the Distinguished Achievement Award for Service to Students, University of Texas at El Paso, 2001.

Ronald E. Robbins (MS ’66) is Sr. Manager of Engineering at Raytheon Electronics in El Segundo, California, where he manages a group of materials and process engineers.

Kisoon Park (PhD ’66) does watercolor painting and reads about evolutionary biology. Before retiring he was CEO of Perkem Technology, Inc., in Charlotte, North Carolina (now a part of DSM, NV of The Netherlands), from 1987 to 1996. In 1996 he received the Entrepreneur of the Year Award (North Carolina), sponsored by Ernst & Young, USA Today, and NASDAQ.

J. Brent Hiskey (BS ’67, MS ’71, PhD ’73) received the Milton E. Wadsworth Extractive Metallurgy Award from SME “for his leadership in research and education in the fields of heap and dump leaching, electrowinning and electrorefining of base and precious metals.” His lecture was entitled “Hydrometallurgy: A Global e-Learning Opportunity.” He is the associate dean for Research and Administration, College of Engineering and Mines, and professor of Materials Science and Engineering at the University of Arizona, where his current research activities include gold- and silver-leaching and recovery and extractive metallurgy of complex copper ores. Before 1984 he was the manager of metallurgical research at Kennecott’s Process Technology Center, and has held research positions with US Steel and Alcoa and been an assistant professor in metallurgical engineering at the New Mexico Institute of Mining and Technology.

Mike Nelson (BS ’75) is an Associate Professor in the University of Utah Department of Mining Engineering. From 1994 to 1999 he was Director of Research and Process Engineering at
EIMCO Process Equipment Company – it was a great job, but required too much travel.

Joe Milbourne (MS '79) works in Houston as a consultant, after finishing a contract with Cominco as project manager of bio-
ydrometallurgy. He continues to do the odd project for TeckCominco. Currently he is working with Bateman Engineering
on a process for removing ferric iron from copper electrolyte using a process that he is patenting. He believes the process is quite
robust and compared with others is very simple. He is constantly
amazed by the number of Utah graduates he comes across! He
had the pleasure of addressing his son’s 6th grade science class
on the topic of how mining provides so many items we take for
granted in our daily lives. All were interested, at least as much as
a 6th grader can be, and perhaps several will move into metallurgy.

Don Scott Bird (BS '78) is the Manager of Kennecott’s Copperton Concentrator.

Jaime Sepulveda (MS ’78, PhD ’82) has been appointed Vice
President of Latin America for Moly-Cop Grinding System, an
Anglo-American subsidiary with headquarters in Santiago, Chile.
As part of his new responsibilities, he will lead a corporate
technology exchange group.

Abe Dayani (BS ’80) is president of Refining Systems, Inc.,
Las Vegas, Nevada, manufacturing precious metal products –
rods, sheets, wires, foils, shots, tubing, discs, and custom-
fabricated sputtering targets. The company’s inquarts are used as a
collector in the fire assay process, and sold to the mining
industry in the U.S., Canada, and South America.

Dr. Ximeng Zhu (PhD 1984), Research Associate Professor,
Department of Metallurgical Engineering, University of Utah, retired
June 2002.

Avimanyu Das (Ph.D. ’94) reports to us from Calcutta, India,
where he is now Assistant Professor at the Regional Engineering
College, Durgapur, WB, India. He teaches and is involved in
research, specializing in transport phenomena, and extractive
metallurgy. Courses he currently teaches are Nonferrous Extract-
tive Metallurgy, and Heat and Mass Transfer. Previous to his
position at the Regional Engg. College, Avimanyu was Lecturer and
later Assistant Professor at the Indian School of Mines.

Kendall Oliphant (BS ’97) worked for Asarco, Inc. at the Ray
Complex in Hayden, Arizona, as a process engineer in the SX/EW
department, focusing primarily on solvent extraction. After three
years, he moved back to Utah to get an MBA at Brigham Young
University and expects to graduate in August 2002. Here in Utah
he has worked on a few small business ventures, including his
current endeavor as co-owner of ROC Capital, Inc., a business
consulting firm. He and his wife Megan have two children, Sarah
(5) and Peter (2). Actually, Sarah should also be considered a Met.E. alumna -- as an infant, she attended several metallurgy
classes with Kendall in his senior year! He and Megan sing in an
capella group called e-merge.

Arthur Yakumo (BS ’98) is an Engineer Driver Inflator Design
Engineer at Autoliv ASP in Ogden, Utah.

Heidi Petersen Bastian (BS ’99) married Clint Bastian June
10, 2000, and they have a beautiful daughter named Jaylee, born
Valentines Day, 2001. After graduating from the U she worked as a
Process Owner/Quality Specialist for plating at OC Tanner, and
is presently busy as a mother and wife.

Amlan Datta (PhD ’99) is working at James Hardie Building
Product in Fontana, California. His daughter has become quite
active (read, “naughty”!!) and keeps them busy all the time.

In Memoriam

Donald DeGrey Tuft (BS ’60) died of ALS (Lou Gehrig's
disease) Sunday, January 6, 2002. He loved the outdoors, played
piano and Kokopelli flute, and painted with oils. He was born
August 30, 1929 in Santa Ana, California, to Charles DeGrey Tuft
and Georgia Lucile Andreasen. He was raised in Monroe, Utah,
until his mother’s death, whereafter he lived with his father in Los
Angeles. He graduated from Santa Monica HS and served on
aircraft carrier USS Boxer until 1953. While attending college in
Cedar City he met his wife, Merradon Iverson. After graduating
from the University of Utah with a degree in Metallurgical Engineer-
ing, he worked at US Steel’s Geneva plant and Kennecott’s Bergen
mine division. He owned and operated a Kentucky Fried Chicken
in Orem, and in Fillmore he worked for UDOT and Sunrise
Engineering. He is preceded in death by his parents and wife
Merradon, and is survived by sons Charles Duane Tuft of Dallas,
Texas; Alan Deon Tuft and daughter-in-law Kristeen Tuft, Fillmore,
Utah; and grandchildren Ambrosia, Camilla, Alexander, Travis,
Robyn, Nikki, Aubrey, and Tiffany Deon.

Cristine Wadsworth Blanck, daughter of Dr. Milton E.
Wadsworth and Mirian Bailey Wadsworth, died at home April 25,
2001 of cancer. Cristie was born August 8, 1945 in Atascadero,
California and grew up in Salt Lake City, attending Granite High.
She briefly attended the University of Utah before transferring to
Boston University, graduating in 1968 with a degree in secondary
education. She and her husband, Dr. George Thomas Blanch Jr.,
moved back to Utah in 1971, settling in Ogden in 1973. From
1977 to ‘86 Cristie taught English at Weber High School. She
received a Master of Education Administration in 1987 and a Ph.D.
in ’89 from the University of Utah. She worked as assistant
principal at Bountiful H.S. 89-90; asst principal, Northridge H.S.
‘90-94; principal, Fairfield Jr H.S., ’94-99; and coordinator of
secondary school staff development, Davis County School District,
‘99-01. She received the Weber State College Alumni Board’s
Most Influential Teacher of the Year Award, the BYU Alumni
Board’s Award for Excellence in High School Teaching, the State
Sterling Scholars Most Influential Teacher of the Year Award, and
the NUCC Leadership Award in Curriculum Development and
Implementation. She is survived by her husband and their three
children, James Thomas Blanch, Sarah Elizabeth Blanch, and Dr.
Jonathan Wadsworth Blanch, her parents, and her five sisters, Dr.
Kathryn Davis, Jane Lyman, Amy Wadsworth, Leslie Wadsworth
Smith, and Margaret Morrison; and preceded in death by an infant
daughter, Laura Elizabeth Blanch, born prematurely in 1969.
Donations may be made to the Dr. Cristine Wadsworth Blanch
Scholarship Fund, Developmental Office, Weber State University.

Our condolences also to the families and friends of:

Douglas H. Pack (PhD ’50) of Salt Lake City.

Ernest Blessing (BS ’37) of Salt Lake City.

Paul S. Duletsky (MS ’66) of Frisco, Colorado.

Give Us a Hand – Accreditation Questionnaire and Donations

U of U BS graduates: If you did not fill out
the accreditation questionnaire last year,
please help us by doing it now –
especially 1985-2001 grads.

For those who received a Bachelor’s degree from our depart-
ment, enclosed with this newsletter is a questionnaire relating to
information that the ABET Accreditation team will require. I would
be most grateful if as many of you as possible could take the time
to complete the questionnaire as fully as possible and return it to
us by October 2002 using the enclosed business-reply envelope, or
if you prefer, you may complete it on-line via our Department
website at www.mines.utah.edu/metallurgy/.
The State Legislature has cut the U's budget three times this year. (Cross your fingers it will quit being “so far.”) Donations to the department may be made using the enclosed card and (from U.S. addresses) business-reply envelope, or by credit card at the University's secure website, www.ugive.utah.edu. Please designate the specific program or thing you wish to support (hopefully, that's us!).

Faculty and Staff
The department support staff are our Office Support Coordinator, Mrs. Karen Haynes, Administrative Secretary Kay Argyle, Technician Mr. Jim Davis, and Ms. Dorrie Spurlock, who works with Dr. Miller. In February the department celebrated Kay’s 20th year of employment at the University of Utah, with the presentation of a silver necklace with the U’s logo.

Research faculty and staff include Mr. Bartosz Dabrowski, Research Associate; Dr. Jakub Nalaskowski, Postdoctoral Fellow; Dr. Zhoro Nikolov, Postdoc; and Dr. Jiang Tao, Visiting Researcher, in Dr. Miller’s group; and Dr. Zhigang Zhang (Dec 2001-Mar 2002), Postdoc with Dr. Sohn.

The 2000–01 recipient of the Mellow Met Award for Excellence in Teaching Metallurgical Engineering was Dr. Michael L. Free. Students gave him a perfect 4.0 on his course evaluations for Met.E. 5600/600 Spring Semester 2000 and Met.E. 5700/6700 Fall 2000. The students said he was a very good instructor and had enthusiasm for the class and what he was teaching—and they would take other classes from him in the future.

The 2001–02 Mellow Met Award went to Dr. Peter King for his course Met.E. 5670/6670, Spring Semester 2001. Students praised him as a very good lecturer.

Dr. H. Y. Sohn delivered an invited talk at the Szekely/Muchi Memorial Symposium held in June 2001 at Nagoya University, Japan. He will be delivering a plenary lecture at the Third International Sulfide Smelting Symposium held in conjunction with the 2002 Annual TMS Meeting in Seattle.

The faculty now totals twenty-four, which includes five research, six adjunct, and four emeritus appointments.

<table>
<thead>
<tr>
<th>faculty</th>
<th>title, phone, &amp; email</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Gerald Byrne</td>
<td>Professor Emeritus <a href="mailto:jgbyrne@mines.utah.edu">jgbyrne@mines.utah.edu</a></td>
</tr>
<tr>
<td>William D. Callister</td>
<td>Adjunct Professor <a href="mailto:bill.callister@mcc.utah.edu">bill.callister@mcc.utah.edu</a></td>
</tr>
<tr>
<td>Ravi Chandran</td>
<td>Associate Professor 801/581-7197 <a href="mailto:ravi@mines.utah.edu">ravi@mines.utah.edu</a></td>
</tr>
<tr>
<td>Terry Chatwin</td>
<td>Adjunct Associate Professor 801/581-6348 <a href="mailto:terrance.chatwin@mcc.utah.edu">terrance.chatwin@mcc.utah.edu</a></td>
</tr>
<tr>
<td>Weol D. Cho</td>
<td>Research Associate Professor 801/581-6278 <a href="mailto:wdcho@mines.utah.edu">wdcho@mines.utah.edu</a></td>
</tr>
<tr>
<td>Saskia Duyvesteyn</td>
<td>Assistant Professor 801/585-5900 <a href="mailto:saskia@mines.utah.edu">saskia@mines.utah.edu</a></td>
</tr>
<tr>
<td>Zhigang Zak Fang</td>
<td>Assistant Professor 801/581-8128 <a href="mailto:zfang@mines.utah.edu">zfang@mines.utah.edu</a></td>
</tr>
<tr>
<td>Michael L. Free</td>
<td>Associate Professor 801/585-9798 <a href="mailto:mfree@mines.utah.edu">mfree@mines.utah.edu</a></td>
</tr>
<tr>
<td>Siva Guruswamy</td>
<td>Professor 801/581-7217 <a href="mailto:sguruswa@mines.utah.edu">sguruswa@mines.utah.edu</a></td>
</tr>
<tr>
<td>Douglas Halbe</td>
<td>Adjunct Professor 801/582-3655 <a href="mailto:dhalbe@aol.com">dhalbe@aol.com</a></td>
</tr>
<tr>
<td>Susan L. Halgedahl</td>
<td>Adjunct Associate Professor 801/585-3963 <a href="mailto:shalg@mines.utah.edu">shalg@mines.utah.edu</a></td>
</tr>
<tr>
<td>John A. Herbst</td>
<td>Research Professor 808/324-6100 (Hawaii) <a href="mailto:john.herbst@jah-net.com">john.herbst@jah-net.com</a></td>
</tr>
<tr>
<td>Jan Hupka</td>
<td>Research Professor 48-58-347-1791 (Poland) <a href="mailto:jhupka@chem.pg.gda.pl">jhupka@chem.pg.gda.pl</a></td>
</tr>
<tr>
<td>R. Peter King</td>
<td>Professor 801/585-3113 <a href="mailto:rpking@mines.utah.edu">rpking@mines.utah.edu</a></td>
</tr>
<tr>
<td>Chen Luh Lin</td>
<td>Res. Assoc. Prof. 801/585-5309 <a href="mailto:clin@mines.utah.edu">clin@mines.utah.edu</a></td>
</tr>
<tr>
<td>Jan D. Miller</td>
<td>Ivor Thomas Professor and Chair 801/581-5160 <a href="mailto:jdmiller@mines.utah.edu">jdmiller@mines.utah.edu</a></td>
</tr>
<tr>
<td>Ferron A. Olson</td>
<td>Professor Emeritus 801/581-3107 <a href="mailto:rajamani@mines.utah.edu">rajamani@mines.utah.edu</a></td>
</tr>
<tr>
<td>C. H. Pitt</td>
<td>Professor Emeritus 801/581-3107 <a href="mailto:rajamani@mines.utah.edu">rajamani@mines.utah.edu</a></td>
</tr>
<tr>
<td>R. K. Rajamani</td>
<td>Professor 801/581-3107 <a href="mailto:rajamani@mines.utah.edu">rajamani@mines.utah.edu</a></td>
</tr>
<tr>
<td>Terry Ring</td>
<td>Adjunct Professor 801/581-5491 <a href="mailto:hysohn@mines.utah.edu">hysohn@mines.utah.edu</a></td>
</tr>
<tr>
<td>Claudio L. Schneider</td>
<td>Research Assistant Professor <a href="mailto:cschneid@mines.utah.edu">cschneid@mines.utah.edu</a></td>
</tr>
<tr>
<td>Hong Yong Sohn</td>
<td>Professor 801/581-5160 <a href="mailto:jdmiller@mines.utah.edu">jdmiller@mines.utah.edu</a></td>
</tr>
<tr>
<td>Milton E. Wadsworth</td>
<td>Distinguished Professor Emeritus 801/585-3556 <a href="mailto:mwads@mines.utah.edu">mwads@mines.utah.edu</a></td>
</tr>
</tbody>
</table>
You may visit us at our website, http://www.mines.utah.edu/metallurgy.

If any of you, especially those living and working locally, would be interested in receiving notices of our weekly graduate seminar, we can send these by email or by fax (local calls only; it must be a dedicated fax line). To get on our distribution list, contact Kay by phone (801) 581-6386, fax 581-4937, or email argyle@mines.utah.edu.

Send address updates to argyle@mines.utah.edu or metallurgy@mines.utah.edu. On-line transmission of the newsletter is an option if you provide us with an email address.

The faculty and staff wish you a prosperous year and hope you will visit us when the opportunity arises.

Yours,

Saskia Duyvesteyn
Asst Professor of Metallurgy