

UC Davis

Department of Food Science and Technology Newsletter

Volume 1, Number 2

Fall - Winter, 1989

Chairman's Column

This Newsletter issue is dedicated to Professor Bernard S. Schweigert who died on October 7, 1989. Chairman of our department for over seventeen years, he was a giant among food scientists, scholar, educator, masterful administrator, leader, friend. He will be deeply missed. The heart of this newsletter, both literally and poetically, is an eight page tribute to Dr. Schweigert starting on page 7.

For most of those years as chairman, Dr. Schweigert worked toward establishing a Ph.D. in Food Science at Davis. Those efforts were successful, and we are recruiting students for a fall 1990 start date.

Life at Davis is going on, in spite of our loss of Dr. Schweigert and the Bay Area earthquake. Faculty, students and alumni continue to chalk up awards. Particularly significant is the Distinguished Teaching Award to Michael Lewis.

Food engineer John Krochta did join our faculty this spring as anticipated in the last newsletter. Bob Pearl "retired" this summer. Other staff changes are brewing, but they are not yet official so we must wait until next time to elaborate.

Thanks to alumni who responded to the survey in the last issue. Your comments contributed to discussions at a faculty retreat this fall and are being studied more extensively by the recently appointed Departmental Teaching Committee.

The retreat itself, our first in over 20 years, was a historic event. Discussions on teaching, extension, graduate programs and future directions generated enough ideas to keep us busy for awhile.

At the retreat we decided that what a food scientist is is what a food scientist does. Toward that end we have provided a list of faculty publications for the last 18 months. With this, and annual updates, we hope to keep you informed about what we are up to. Thanks to Carol Cooper for compiling this list, and to others on our staff for making this newsletter happen.

All of us at Davis send you special greetings, as Dr. Schweigert used to say. We do wish you a joyous holiday season.

- Larry Merson



Bernard S. Schweigert

1921 - 1989

Bernard S. and Alta Schweigert Food Science Award Scholarship

In 1987 the Bernard S. and Alta Schweigert Food Science Award Scholarship was established at a symposium honoring Dr. Schweigert for his contributions to the field of food science. The scholarship is presented annually to a UC Davis Food Science student. Contributions to this award can be made in care of the Department of Food Science and Technology, University of California, Davis, CA 95616.

Food Science Ph.D. Gains University Approval

The final hurdle has been cleared, and if all goes as planned, UC Davis will begin accepting students for the Ph.D. in Food Science for Fall Quarter, 1990. Anyone interested in pursuing a Food Science Ph.D. at Davis should contact Peggy Royale, Graduate Group Secretary, Department of Food Science and Technology, University of California, Davis, CA 95616; (916)-752-1415.

Faculty Awards

Wade Brant has been elected to the World's Poultry Science Association's International Poultry Hall of Fame. He is one of five Americans from a total of 25 recipients worldwide who were selected at the World Poultry Congress in Nagoya, Japan. Dr. Brant was also honored at the annual IFT meeting. He received a \$500 prize for recruiting 23 new members.

John Whitaker celebrated his 60th birthday at the ACS Division of Agricultural and Food Chemistry's annual awards banquet in Miami Beach where he was presented the division's 1989 Distinguished Service Award. At the same ACS meeting, Walt Jennings was honored by a special symposium, "Analytical Methods in Agriculture and Food Chemistry - A Tribute to Walter G. Jennings," which included papers by many of his former students.

The American Frozen Food Institute honored Bob Pearl's 40 years of service to the food industry at its 1989 Western Frozen Food Convention in Monterey, CA.

IFT Charter Member George Marsh was honored during the Institute's 50th anniversary celebration activities.

The Committee on Sensory Evaluation of Materials and Products of the American Society for Testing and Materials named Rose Marie Pangborn a "Pioneer" in the field of sensory evaluation. Howard Schutz (Consumer Food Science) and Maynard Amerine (Viticulture and Enology) were honored as "Founders" in the field. Also, UC Davis was presented an institutional award "in appreciation of collective contributions as a founding organization" in the area of sensory evaluation.

The Northern California Section of IFT presented a Special 50th Anniversary Commemorative Award to Bob Price for his outstanding record of teaching and training people in food science and technology. Bob was honored for his 15 years of service to the seafood industry as well as his contributions to IFT and NCIFT.

Faculty Service

Ericka Barrett recently served on a review panel to evaluate project proposals for USDA in Washington, D.C.

John Bruhn completed a term as an elected member of the Board of Directors of the American Dairy Science Association.

The Nutrition Division of IFT elected Chris Bruhn Secretary/Treasurer for 1989-90. She is also chairing a statewide advisory committee concerning public education with respect to food safety. This year the committee will focus on consumer concerns about pesticide safety.

Gideon Zeidler recently completed his term as IFT Food Engineering Division Chair. Kathryn McCarthy was elected a Member-at-large of the division for 1989-92.

The California Dairy Foods Research Center has named Walt Dunkley the Assistant Coordinator of the Center.

George York and Chris Bruhn were appointed members of the Blue Anchor advisory council which will provide guidance for Blue Anchor's new fresh fruit marketing quality assurance program.

Bob Price is 1989-90 Chair of the Northern California Section of IFT. He is also Vice-chair of the IFT Continuing Education (Short Course) Committee and Chair of the William Cruess Award Jury.



Michael Lewis

Michael Lewis Honored by UC for Teaching

Michael Lewis was one of four UC Davis faculty members to receive a Distinguished Teaching Award in June 5 ceremonies. This Academic Senate award is among the campus' highest honors. Dr. Lewis was praised for "his articulate, stimulating, meticulously organized, and energetic lectures," as well as his distinctive sense of humor. Dr. Lewis is best known for his courses on malting and brewing science, which are unique among American Universities. In addition to his classroom activities, Dr. Lewis was recognized for his University contributions in various administrative posts.

The teaching award was accompanied by a cash award which Lewis and the department may use to improve teaching at UC Davis. Dr. Lewis' most recent project to improve classroom effectiveness included the development of a set of 1000 slides to use in teaching food science to non-majors in the general education course FS&T 2. He received grants from the Instructional Improvement Program and Instructional Media to fund this project.

Extension Dairy Technologist Position Approved

Our department has recently been allocated a position for an extension dairy technologist. We are in the process of developing a position description and will begin recruiting soon. If you are interested in receiving the position announcement when it is developed, contact R.L. Merson, Department of Food Science and Technology, University of California, Davis, CA 95616.

Pfizer, Inc. Award to Tom Richardson

Tom Richardson, Peter J. Shields Professor of Dairy and Food Science and Director of the California Dairy Foods Research Center, was selected to receive the 1989 Pfizer, Inc. Award. This award, consisting of \$1500 and a plaque, was presented to Dr. Richardson in August at the Annual Meeting of the American Dairy Science Association in Lexington, KY. The award was given in recognition of Dr. Richardson's outstanding research accomplishments in the areas of cheese and cultured dairy products.

Dr. Richardson's balance between long-range fundamental and applied research has made, and continues to make, an impact on the cheese industry. His pioneering research contributions include the application of immobilized enzyme technology to milk systems, which has improved understanding of the milk coagulation process, casein micelle assembly, and stability. He has shown leadership and foresight in applying low temperature ultrafiltration, thermal treatment of milk, and genetic engineering techniques to modify and manipulate milk composition. Such regulated modification to control desired cheese attributes (e.g., meltability and stretchability), will enable development of novel cheeses and will have substantial effects on cheese-making and cheese properties.

On a practical side, his research has demonstrated the effectiveness of benzoyl peroxide in eliminating cholesterol oxidation products in cheese made from milk that contained these oxidation products. His work identifying certain microorganisms rather than raw milk contamination as the source of false positive tests for alkaline phosphatase in some French and Mexican-type cheese has helped both the cheese industry and consumers' concerns about nutrition and safety. He holds several patents on processes for improved utilization of cheese whey, including nonfood uses of lactose such as polyurethane foams and thermosetting adhesives.

Staff News

Sharen Chaffin has accepted an administrative assistant position at the Campus Writing Center. Sharen began her career with FS&T ten years ago as the departmental receptionist. **Heldi Fisher** from Viticulture and Enology has assumed Sharen's position as secretary to George York. **Ann Sandoval**, former program assistant with Bob Pearl, is now an administrative assistant in Mechanical Engineering.

Shelly Martinez has joined the storeroom staff, replacing **Luanne Lott** who moved to Bakersfield. Shelly came to FS&T from the Campus Housing office.

Special Performance Awards were presented to **Andy Anderson** (shop), **Karen Jo Hunter** (Cruess office) and **Diane King** (Cruess office). **Carol Cooper** (library) received a Citation for Excellence, and **Al Wilson** (shop) and **Teri Wolcott** (SRA) received A&PS Achievement Awards. The Dean's Office honored **Ernie Burton** (pilot plant) with a special technical A&PS employee award for outstanding service and achievement.

Pam Tom (SRA) received a Staff Development Award which helped fund her travel to the 1989 IFT annual meeting.

Chris Howland, assistant to Bob Feeney, has taken a position with the UC Medical Center in Sacramento.

Congratulations to **Anita Davis** (business office) and **Rocky Garcia** who were married last spring! Congratulations are also in order for **Pam Carpenter** (IMR and business office) and **Larry Garcia** on their September 24 wedding!

Service awards have been recently presented to the following staff:

Bruce Frost	10 years
Anita Garcia	10 years
Leah Thomas	10 years
Chris Howland	15 years
Mary Miranda	20 years
Karen Strack	20 years

Food Tech Club Officers for 1989-90

President	Melissa Mantong
Vice-President	Lucietta Leung
Secretary	Pojjane Paniangvait
Treasurer	Roger Lee
NCIFT Reps	Gina Pilhofer Myung Yi
Membership	Kyle Sasahara
GSA Reps	Harjanto Halim Cathrine Simoneau
Publicity	Jill Michaelsen Michelle Miscisin Mercedes Lopez

Student Internships

Internships enable students to obtain relevant food industry experience while they are still in school. They also provide technically competent workers and an opportunity for employers to review potential employees. If your company is interested in offering an internship, contact **Nancy Tibbitts** at the Career Planning and Placement Center, 916-752-2861.

Companies which have provided internships during 1989 include:

Anheuser-Busch Co., Inc.

Malcolm McDonald - brewing intern
Attila Plasch - brewing intern

Blue Diamond Growers

Kimberly Hashimoto - research and development

Contadina Foods

Susan Larrabee - research assistant
Crystal Cream and Butter Co.

Charlea Weaver - lab technician

General Mills Inc.

Myung Yi - product development

Gilroy Foods Inc.

Morgan Sanders - production supervisor, garlic seed line

Golden Grain Co.

Margaret Nipp - lab assistant, product development

Kal Kan Foods, Inc.

Janet Choi - new technology summer intern

State Department of Education

Pamela Saltzman - child nutrition consultant assistant

Student News

Tim and Denise Taylor are the proud parents of a daughter, **Elaine Jeanette**, born August 15. All three are doing well! Denise recently finished her M.S. with **Rose Marie Pangborn**, and **Tim** is working on his Ph.D. with **Paul Singh**.

The IFT Student Association has appointed the following UCD students to positions for the 1989-90 terms: **Brian Farkas** - Representative to IFT Program Committee; **Janet Tietyen** - Chair of Graduate Research Paper Competition. Janet was elected student representative to the IFT Nutrition Division also.

Miang Lim received honorable mention in the IFT Student paper competition in Chicago. Miang, who spoke on "Modes of Cryostabilization of Actomyosin by Solutes," is completing her Ph.D. with **David Reid**.

With help from NCIFT and the Food Tech Club, over 20 UCD students attended the Chicago IFT meeting last June.

Alvin Berger, graduate student with **Bruce German**, has received a \$15,000 USDA Fellowship. His research concerns acyl specific incorporation of dietary fatty acids into mouse phospholipids.

Doug Muhleman, FS&T Alumnus Receives UC Award of Distinction

Doug Muhleman has been selected the youngest alumnus to receive an Award of Distinction by the College of Agricultural and Environmental Studies. He was one of eleven recipients honored for their contributions to the college at the First Annual College Celebration on September 20. Doug rose to the rank of resident brewmaster with Anheuser-Busch seven years after receiving his M.S. degree under **Michael Lewis**. By his performance with that company, Doug is credited with paving the way for other UCD graduates, forty of whom have since been hired by Anheuser-Busch, and for motivating the company to provide internships and gifts to support UCD's brewing program.

B.S. Schweigert Invitational Golf Tournament Held

Under breezy and sunny skies, the B.S. Schweigert Invitational was played at Davis Municipal Golf Course on Saturday, May 20, 1989. Sponsored and directed by the Food Science Graduate Student Association with help from the Food Tech Club, this social tournament (hopefully to become an annual event) was a resounding success. Only positive remarks were received by the tournament committee, a slight excess of wind, sun and insects notwithstanding.

Played under a partners scramble format, 18 pairs belted away for the title and the chance to see their names engraved on the tournament cup. Top honors went to the team of **Wade Brant** and **John Lea** with a round of 71, five over par. The two were paired together the day before the tournament as both of their previous partners cancelled.

Only one stroke behind **Brant** and **Lea** was the team of **Juh-Won Suh** and **Sang Oh**; both teams played the final seventeen holes in five over par. Scores were spread between 71 and 106. The most sizzling golf was played by the team of **Janet Tietyen** and **John Reynolds**, who, although finishing six shots off the pace, birdied holes 7, 9, and 10!

Unofficial high scorers on the laughter index, wind-carried and spotty recording to be sure, were the foursome of **Diane King**, **Karen Strack**, **Rafael Jimenez-Flores** and **Chuck Huston**. Special thanks to **Anita Garcia** for her help in setting up the tournament at the course.

- The Tournament Committee

Picnic Day
April 21, 1990

Recent Graduates

B.S. Degrees Awarded

Consumer Food Science

Ruth Patricia Calkins
Lorraine Frances Eger
Denise Gulli - Pomology Dept., UC Davis
Michele Yaffee - graduate student,
Nutrition Dept., UC Davis

Food Biochemistry

Gwen L. Bemis - graduate student,
Food Science Dept., UC Davis
Lisa-Yuan Cheng
Peter C. Dea
Teresa A. Erickson
Kimberly H. Hashimoto - Pepsi-Co.,
Emeryville, CA
Nancy J. Kehrli - United Airlines,
Food Service
David R. Pauly
Marcia Sherry

Food Science

Randy Charles Anderson
Diana Lynn Beymer - Lucky Stores,
Los Angeles, CA
Linda Chan
May-May Chan - ophthalmology school,
Boston, MA
Claire Chou
Kristine Noelle Engstrom
Ardeshir Haerizadeh
Pui Sze Bess Ho, graduate student,
Food Science Dept., UC Davis
Mary Kenny
Ann Yi-chun Kuo
Louise Fen-Yu Lee
Sharon Fay Leong
Lucille Lim
Anthony Michael Ng - Pepsi-Co.,
Emeryville, CA
Lynn Tamiko Nishimura
Shirley Yu-Wen Niu
Gayle Lisa Parquer
Ann Marie Peters, Kraft Foods
Deborah Kay Richardson
Rhonda Rae Ristow - Guirlani USA
(food importers), Fresno, CA
Paula Ann Siroky
Susan Bic Fai Tam
Mimi Jeanette Wagoner - Marzetta
Peppers, Sonoma, CA
Duane Charles Ware - medical laboratory,
Vacaville, CA
David Allen Woodward

M.S. Degrees Awarded

Jon William Bell

Food Science (N. Haard)
Effects of on-board handling on
nucleotide determination of quality in
fresh and frozen albacore tuna
(*Thunnus alalunga*).
Simplot Aquaculture, Caldwell, ID

Kevin Evans

Agricultural Engineering (R.P. Singh)
The freezing of foods under surface
boiling boundary conditions.
Frito Lay, Dallas, TX

Teresa del Carmen Flores

Food Science (J. Whitaker)
Study of the subunit structure of
 α -amylase inhibitor from red kidney
beans (*Phaseolus vulgaris*).
Institute de Aloya, Guanajuato, Mexico

Nina Kay Heinzinger

Food Science (E. Barrett)
Studies of hydrogen sulfide production
by *Salmonella typhimurium*.
Ph.D. student, UC Davis

Mon-Hsi Hsu

Food Science (R.P. Singh)
Physical and thermal properties of
pistachio.
Manager of food processing,
Los Angeles, CA

Suh-Fon Hwan

Food Science (E. Bandman)
The degradation of desmin and alpha
actinin in postmortem bovine
semitendinosus muscle.

Hong Ji

Food Science (R. Bernhard)
Effect of microwave heating on
pyrazine formation in model systems.
Ph.D. student, UC Davis

Kent William Kantz

Food Science (V. Singleton)
An estimation of polymeric
polyphenols in wines and grape
extracts.
Hess Collection Winery, Napa, CA

Michelle Colette Kok

Food Science (D. Reid)
The effects of freezing and frozen
storage on the status of fish tissue.
Beatrice/Hunt-Wesson, Fullerton, CA

Kuen Lee

Food Science (R.M. Pangborn)
Perception of irritation from ethanol,
capsaicin, and cinnamyl aldehyde via
nasal, oral, and retronasal pathways.

James Opet

Food Science (R.M. Pangborn)
The effect of caffeine, ethanol and
sucrose on temporal perception of
menthol.

Pojjane Panlangvatt

Food Science (G. Russell)
Antioxidant and paramagnetic
properties of model Maillard
browning systems.
Ph.D. student, UC Davis

Heather Jane Pyle

Food Science (A. Noble)
Effect of ethanol, tartaric acid and
sucrose on perceived bitterness of
caffeine in model solutions.
Robert Mondavi Winery,
St. Helena, CA

Tal Sendovski

Food Science (C. Ough)
Factors affecting urea level in
commercially fermented wines.
Golan Heights, Israel

Thomas Howard Shellhammer

Food Science (R.P. Singh)
Monitoring the shelf life of cottage
cheese through a time-temperature
indicator.
General Mills, Minneapolis, MN

Denise Elaine Taylor

Food Science (R.M. Pangborn)
Time-intensity and response surface
applications to hedonic response in
chocolate milk.
New mother!

Ursula Joyce Thiem

Food Science (M. O'Mahony)
Modifications of sensory difference
tests.
Clorox, Pleasanton, CA

Mary Monica Winkler

Food Science (B. German)
Noninvasive quantification of lipid
and water in food using magnetic
resonance imaging.
M&M/Mars, Hackettstown, NJ

Ph.D. Degrees Awarded

Rafael Jimenez-Flores

Agricultural and Environmental
Chemistry (T. Richardson)
Cloning and expression of bovine
 β -casein in *Saccharomyces cerevisiae*.
SRA IV, FS&T, UC Davis

Jatal Dharmappriya Mannapperuma

Agricultural Engineering (R.P. Singh)
Thawing of foods in humid air.
Post-doc, Ag. Engr. Dept., UC Davis

Robert Allen McKnight

Agricultural and Environmental
Chemistry (T. Richardson)
Cloning and mutagenesis of bovine
 α_{s1} -casein cDNA and cloning and
expression of bovine α -lactalbumin
cDNA.
NIH, Bethesda, MD

Joo-Won Suh

Microbiology (C. Price)
Genetic organization of the *Bacillus*
subtilis spc- α -operon.
School of Pharmacy, University of
Wisconsin, Madison

Magdalena Sofia Tamura

Engineering (J. Henderson)
Helical screw rheometer for on-line
viscosity measurement of liquid
suspensions.
Kraft, Glenview, IL

Chao Wu

Agricultural and Environmental
Chemistry (J. Whitaker)
Study of proteinase inhibitors from
beans.
Post-doc, FS&T, UC Davis

Alumni News

Robert Farris (BS '37) 45 yr. dairy industry career included 32 yrs. at Borden; was Asst. President of Darigold, served 2 years as Washington State Dairy Council president. Now retired, he has volunteered for 6 International Service Corps projects to assist dairy companies in Egypt, Costa Rica, Jordan, Taiwan, Ecuador and Yemen.

Dean Larson (2 yr. dairy cert. '51) Looking forward to retiring from dairy industry in about 3 years. USAF Food Inspector ('51 - '55), worked for Foremost Dairies ('55 - '70), lab supervisor at Danish Creamery Assn. in Fresno since 1970. BS in Dairy Industry, Cal State Fresno in '76.

Arnold Demain (PhD '54) Finishing 20 year career at MIT as Prof. of Industrial Microbiology in the Biology Dept. He was Dr. Phaff's second graduate student (Bor Luh was the first), and studied yeast polygalacturonase.

Matias Fernandez Diez (MS '63) Is "still alive and working, folks." Director of Fat and Derivatives Institute in Sevilla, Spain, where he studied table olive technology for 37 years. "Now, I am the boss, and a lot of bureaucratic work takes most of my time. . . unfortunately."

John T. Nakamura (BS '59) Serving as Governor Deukmejian's Representative for Agriculture in Washington, D.C.

Phillip Reyes (PhD '63) Biochemistry Professor, Univ. of New Mexico. His wife Jean ('60 UCD graduate) is a systems manager for Applied Technology Assoc. Two sons graduated from UC: Jeffrey (Davis '84) and David (San Diego '87). Youngest, Timothy, is at UC Santa Cruz.

Omar Gurses (MS '66) Faculty, Ankara, Turkey. Daughter is undergrad in Middle East Technical Univ. Architecture Dept. His wife is a home economist and agricultural engineer for the Ministry of Energy and Natural Resources in Ankara.

Anthoula Sullivan (BS '68) Program specialist for State of Nevada Welfare Division. Earned MS in Home Economics at the Univ. of Nevada, Reno, in 1988.

Cathy Granville Walchak (BS '70; MS '72) Manager, sensory and statistical services for Nabisco in East Hanover, NJ. Busy enjoying work and family life, caring for Erin (6), Kimberly (4) and Bradford (1 1/2).

Jack Cooper (BS '71; MS '73) Director of Environmental Affairs, National Food Processors Assn., Wash., D.C. Has been with NFPA since 1974. Recently elected a fellow of IFT; on IFT executive committee.

Antonio Garrido-Fernandez (PhD '72) Head of Food Biotechnology Dept. and Vice-director at Instituto de la Grasa in Sevilla, Spain, where he has worked since 1969. Became Research Prof. in 1984 and

is trying to maintain a relationship with UCD by promoting stays of his institute's post-graduate students with FST faculty at UCD. Worked with Dr. Vaughn in 1972-73 and with Dr. Miller in 1981.

Agustim Olano (PhD '72) Researcher, Instituto Fermentaciones Ind., Madrid, Spain. Studying lactose modifications and interactions during heat treatment of milk.

Ricardo Garcia (MS '73) Head, Food Technology Section, Central American Research Institute for Industry in Guatemala, Guatemala.

Karen Fritts Ehler (BS '74; MS '75) Received JD degree (UCD '79) and has been in private practice as an attorney in Woodland, CA since then. Her husband is on the UCD Entomology faculty and they have 2 children.

Eric Johnson (BS '76; MS '78) Earned ScD at MIT. Asst. Prof., Dept of Food Microbiology and Toxicology, Univ. of Wisconsin, Madison. Is enjoying the opportunity of studying with two emeritus professors, Edward J. Schantz and Hiroshi Sugiyama, who together have over 80 years of experience in botulism research. He "sure misses the yeasts of Davis!"

Tim Tennyson (BS '76) Worked for Lawry's Foods. Completed integrated program of PhD in Clinical Psychology and MA in Theology in 1984. His practice is in Newport Beach, CA.

Andi Chen (MS '76; PhD '83) Prof., Food Science Dept, National Chung Hsing Univ., Taichung, Taiwan, ROC. Teaching courses in advanced food processing, sensory evaluation, packaging, freezing, and instrumental analysis of foods. Her research interests are fruit and vegetable processing, role of enzymes in food quality and correlation of sensory with instrumental and chemical analyses. Current research projects are determination of blanching index of frozen vegetables, improvements of frozen vegetable color and texture, candied fruit quality improvement, development of sugar-free candied fruits and identification of off-odor related compounds in Paochung tea.

Christl Helntz (BS '77; MS '79) Research scientist, Blue Diamond Growers, Sacramento, CA. Product development and sensory evaluation work. Married and has two daughters.

Guadalupe Gutierrez (MS '77) Vice-President, Mezquital del Oro, S.A. "In our home town of Hermosillo, Mexico, we have formed a group of Davis alumni and would like to have some formal relationship with UCD, as well as with other Davis groups in Mexico and other countries."

Diane Barrett (BS '78) MS at Univ. of Wisconsin, Madison under Daryl Lund. Food science consultant in Indonesia 4 1/2 years on USAID and World Bank-funded

projects. Began PhD at Cornell in 1985. Expects to graduate fall 1989; seeking a position in Africa!

Sergio Revah (MS '78) PhD ('86) in France at the Universite de Technologie de Compiègne. Prof., Universidad Autonoma Metropolitana in Mexico City studying cheese flavor production and solid state fermentation for enzyme production.

Günter Mathels (visiting scientist '81-'83) with Drs. Whitaker and Feeney. Worked for a West German fruit processing company before joining Dragoco Flavors and Fragrances, West Germany, in 1986. Head of 'Evaluation of Flavors and Raw Materials' dept. within the flavor division.

Rene Peralta Rodriguez (PhD '82) Principal research officer, Centro de Investigacion en Quimica Aplicada in Saltillo, Mexico. Working on process development for chemical industry, stability testing of pharmaceuticals in solid form and thermal properties of foods, modelling sterilization processes and bulk sterilization of particulate foods.

Lucina Lampila (post doc '82-'85) Superintendent of the Virginia Seafood Agricultural Experiment Station in Hampton, VA.

Lori Rothman (MS '83) Recently joined Jacobs Suchard (formerly Brach Candy) in Chicago as product performance manager to start a sensory evaluation department.

Oscar Serrato (BS '83) Vice President of Finance, Mezoro, Hermosillo, Mexico. Obtained MBA at the Univ. of Arizona.

Lance Lee (BS '84) Left MJB Company and earned MBA from Santa Clara Univ. Tax accountant at Ernst & Young CPA.

Gary Mar (BS '85) Recently earned DDS from Univ. of Southern California in Los Angeles. He plans to begin a general dentistry practice in Orange County, CA.

Olivier Eymery (visiting scholar '85-'86) Food technologist with Marks and Spencer in Paris, France. He has "an interesting and challenging job that gives me the opportunity of traveling all over Europe . . . but leaves me very little time to enjoy the so-called Parisian life!!!"

Lucinda Styne Wittenberg (BS '86) Scientist, Clorox Technical Center, Pleasanton, CA. Still enjoying her job at Clorox after three years. She and husband Tom just bought a house in Oakley.

Susan McHale-Crippen (BS '86) "I've been married for 2 years to Dave Crippen (MS '85). We live in Washington State. Dave is general manager and winemaker of Covey Run Winery. I'm QC manager of a Safeway processing plant which produces fruit juice concentrates, bottled juices, dressings, breaded fish, peanut butter, vinegar, syrup, lemon juice, and margarine. We are having a great time in the Yakima Valley."

Maisie Wong (BS '86) Sensory research analyst, Avon Products, Suffern, NY. In Creative and Functional Fragrance category conducting employee panels, home use tests and consumer tests for all fragrance-related products. Completed perfumery courses (Society of Cosmetic Chemists). Involved in descriptive analysis panels.

Gordon Wang (BS '87) Graduate student working for Masters degree in Business at UC Berkeley.

Judith Lynn Novy (BS '88) Was a 'praktikant' in Sweden at NORDRECO for 4 months. Hopes to assume a permanent sensory analysis position in the states.

Alan Bakalinsky (PhD '89) Accepted a faculty position at Oregon State Univ. in Corvallis in the Dept. of Food Science and Technology as an applied yeast geneticist.

Alumni Survey Results

Thanks to all of you who returned the alumni questionnaire in the previous newsletter. We received 134 responses: 103 from alumni in the food industry, 22 in non-food careers, and 9 retired. Sixty-two of the respondents received their last degree from Davis within the past 10 years; 72 received degrees prior to 1979.

Major job categories of the 103 food industry respondents were: 22 in research and development, 17 faculty members, 13 quality control, 11 sensory specialists, 5 technical sales and service, 5 students, and 5 viticulture and enology.

To the question "Did you feel like a food scientist when you left Davis?" 92 said "yes", 20 "no", and 5 "partly". Some "no" responses indicated they felt more like enologists, food microbiologists, food technologists, geneticists, or sensory scientists, depending on their area of specialization.

Most alumni (107) said their food science education here prepared them to communicate effectively with other food scientists. We received 4 "no" responses and 11 "partly".

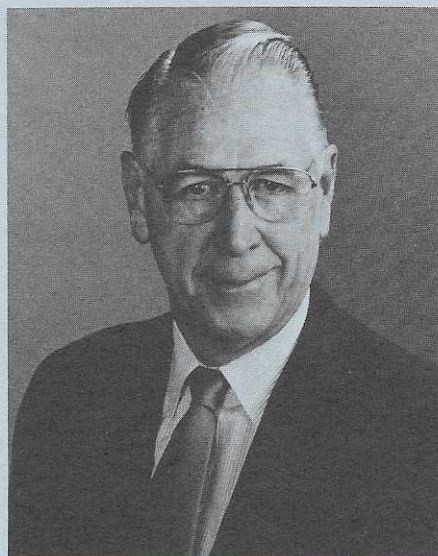
To the question "Did you leave Davis with the information necessary to quickly become functional in your job?" 91 responded "yes", 11 "no" and 11 "partly".

Many alumni stressed the value of internships to obtain practical experience and help prepare graduates for the "real world." Thirteen people indicated that more emphasis on communication skills (both written and oral) would have been helpful. Nine responded that management skills and teamwork training would have been an asset. Several felt they would have benefitted from more exposure to food laws and regulations.

Your comments will be taken into consideration as the faculty review our curriculum. We appreciate the personal, supportive, complimentary remarks many of you added, and have passed them on to specific faculty members.

Whitney MacMillan is Liquid Sugars Distinguished Visitor

Whitney MacMillan, Board Chairman and CEO of Cargill, Inc., spent Nov. 6-7 at UC Davis as a Liquid Sugars Distinguished Visitor. His schedule included a seminar presentation and meetings with faculty and graduate students in the Graduate School of Management and the Departments of Agricultural Economics and Food Science.



Bob Pearl

Bob Pearl "Retires"

Over 200 members of the fruit and vegetable industry honored Bob Pearl at a retirement dinner on July 13 at the Hyatt Regency Hotel in Sacramento. Bob began his UC career as a farm advisor in Sutter County, in August, 1947, after completing his BS in Plant Science-Agronomy at UC Davis. He joined the Food Science and Technology Department in 1958 as an Extension Food Technologist. In that capacity he has been a liaison between the California fruit and vegetable processing industry and the University of California and has developed numerous short courses and workshops for the food industry.

Bob's "retirement" should actually be called a "career change" because following a European vacation he is on callback with our department a small percentage of time. In addition, Bob will work 30% for University Extension as Director of Educational Services for the Food Industry where he will continue developing short courses and workshops. If you have suggestions for topics, Bob would appreciate hearing from you. His phone number is 916-757-8692, and his address at University Extension is University of California, 1441 Research Park Drive, Davis, CA 95616.

Upcoming Events

NCIFT Student Recognition Meeting and Banquet Jan. 23

This annual event features an afternoon of food science faculty and student talks. An evening banquet pairs students with industry members and honors scholarship recipients. Dinner speaker Bob Peterson of Western Environmental Health Associates will discuss food safety issues. For more information, or to sponsor a student for dinner, contact Carol Cooper, Food Science and Technology, University of California, Davis, CA 95616; (916)-752-1467.

Food Processors' Sanitation Workshop at Santa Nella

UC Cooperative Extension, the Food Processors' Sanitation Association and various food trade associations will present the Food Processors' Sanitation Workshop Jan. 31 - Feb. 1, 1990, at the Santa Nella Holiday Inn. Topics include microbiology, pest management, sanitary design, handling toxic compounds, and employee motivation. Contact Joan Byers, Food Science and Technology, University of California, Davis, CA 95616; (916)-752-1478.

Freezing Technology Short Course February 6-9 at UCD

A course for frozen food and allied industry personnel will be held Feb. 6-9, 1990. Topics include raw material selection and handling, principles of refrigeration, blanching and enzymes, storage, handling, packaging, sanitation, microbiological standards, laws and regulation, and factors affecting quality. Contact Sharon Munowltch or Bob Pearl, University Extension, University of California, Davis, CA 95616; (916)-757-8899.

Western Dairy Industry Conference March 27-28

The Western Dairy Industry Conference will be March 27-28, 1990 at UCD. Product safety, ingredients, and a cottage cheese clinic are among scheduled items. Contact Shirley Rexroat, Food Science and Technology, University of California, Davis, CA 95616; (916)-752-2191.

Western Food Industry Conference March 28-29

UCD will host the Western Food Industry Conference March 28-29, 1990. Topics will include regulations, chemistry, modified atmospheres, microbiology, ingredients, enzymes, and surviving company reorganization. Contact Pamela Tom, Food Science and Technology, University of California, Davis, CA 95616; (916)-752-3837.

With Special Good Wishes
A Celebration of the Life of Bernard S. Schweigert
1921 - 1989

Following is a transcription of the Memorial Service which was held for Bernard S. Schweigert at the University Club on October 22, 1989. Italicized remarks and readings were made by Larry Merson.

* * *

Welcome everyone. We are glad that you are here. We have come this afternoon to give thanks for Bernard S. Schweigert. And to remember him.

This is an awkward time in the service when we all come in sad and unsure of what is going to happen. It has been a hard week for everyone with the earthquake and we are all feeling a lot of emotions. Let me reassure you that all of these emotions are okay. The ancient poet in Ecclesiastes wrote these words:

*There is a time for everything,
And a season for every activity under
heaven:
A time to be born, and a time to die,
a time to plant and a time to uproot,
a time to kill and a time to heal,
a time to tear down and a time to
build up,
a time to weep and a time to laugh,
a time to mourn and a time to dance,
a time to scatter stones and a time to
gather them,
a time to embrace and a time to
refrain,
a time to search and a time to give
up,
a time to keep and a time to throw
away,
a time to tear and a time to mend,
a time to be silent and a time to
speak,
a time to love and a time to hate,
a time for war and a time for peace.*

*All the emotions given to man are
all right. There will be tears today
because we have come together to mourn
his death and to be together in our sadness
in missing Bernie.*

*But we have also come in hope, and
to give thanks for Bernie's life; to
celebrate his life. And in that there will
be laughter through the tears.*



*In spite of his public life, Bernie was
a private man. I am hopeful that in this
hour we will learn more about him and
his history and his family. And that his
family, in turn, who are here with us
today, will appreciate more what Bernie
did in his professional life and how much
we loved him.*

*In a moment we will have speakers
who will lead us in remembering Bernie.*

*But first let us start with a quiet time
- a time of reflection for your private
thoughts. After a while I will close the
time by asking a blessing on our time
together.*

*Heavenly Father,
We thank you for the life of Bernie
Schweigert. As you gave him to us to
share for awhile, now we give him back to
you. We thank you for this time to share
together. May your Spirit be with us in
this place, blessing the speakers as they
share with us, blessing the listeners as we
receive your comfort, and blessing the
family as they see the love you had for
Bernie. We ask in Jesus' name. Amen.*

* * *

*For most of us at the University,
Bernie's life was the University. This
may have been too narrow a view, but I
think that is what most of us thought.*

*When Bernie died, Acting Dean of
the College Robert Webster, who until
this year was a department chairman
himself, notified the campus with the
following announcement:*

*We are all saddened by the death of
Professor Bernard Schweigert on Saturday,
October 7th. Bernie provided excellent
leadership to the Department of Food
Science and Technology for seventeen
years, being the dean of department chairs.
He also provided much appreciated advice
to the Dean and to other administrators on
the Campus. He will be missed very
much.*

*Another person who knew Bernie's
campus life very well is Chet McCorkle.
Chet, who is now a professor in
Agricultural Economics, was formerly
Vice President of the University. Chet
was the Dean who recruited Bernie to
Davis in 1970. He and Bernie became
good friends, and Chet will share some of
those experiences with you now.*

*Bernard S. Schweigert, Professor of
Food Science and Technology, served the
University of California with distinction
for twenty years.*

*He was attracted to UC Davis from
Michigan State University to chair the
Department of Food Science and
Technology at a time when its faculty had
agreed that a leader of his stature and
temperament was critically needed. Not
only the Department, but the campus and
the entire University of California
benefitted from their wise choice.*

*To merely review his many
contributions to this University would
not do justice to Bernie.*

*To state that he was the epitome of
an academic leader in two major
universities - which he certainly was -
fails to convey adequately the robustness
of his spirit, the intensity of his drive,
and the insatiable nature of his desire to
help humankind. These were his true
hallmarks.*

Accepting the assignment as department chair demonstrated his willingness to tackle challenging assignments. His success over an eighteen year period is a tribute to his ability to accomplish positive compromise and his intense commitment to accomplish what he believed to be in the best interests of his students, faculty and staff.

In addition to departmental affairs, Bernie played a major role in shaping the University's Sea Grant Program and the Institute of Marine Resources, both University-wide activities that needed his style of leadership. The Food Protection and Toxicology Center - an organized research unit - made significant advances under his guidance in the 1970's.

His leadership style might best be characterized as "leading by doing." As chair or director of any program he invariably became deeply involved in the *substance*, not just the *process*.

His insatiable intellectual curiosity and concern for people demanded no less.

The pride he took in his teaching, his long-standing interactions with former students, and his willingness to talk with his current students at any time, irrespective of other pressing claims on that time, reflect the high priority he placed on the intellectual development of young people.

Much of Bernie's success with faculty, students and administrators can be attributed to his never failing to recognize the contributions of his colleagues, his staff, and his students to whatever success was achieved.

Bernie's role as a critic - always constructive, always fair, always with the University's best interests uppermost - resulted in his appointment or selection to a number of policy committees of the College, the Campus and the Academic Senate. The Research Policy Committee, the Food Policy Committee, the International Agricultural Development Committee, the Nutrition Center Task Force, the Executive Committee of the Academic Senate, the Committee on Formula Funding for Research, and the College Executive Committee are selected examples.

He was never selected for, nor appointed to, an assignment in the University as a defender of the *status quo*! He expressed his views clearly and forcefully. He struck directly at the heart of an issue. He was respected for these qualities even by those with whom he would disagree.

His ability to quickly establish a common level of understanding and

communication with almost anyone on any issue, irrespective of discipline or level of scientific sophistication, contributed significantly to his success in the University of California. He initiated interchange with faculty in a broad range of disciplines as a means of keeping in touch with the Campus. Lunch with Bernie here at the Club was an experience many of us in this room thoroughly enjoyed.



Lunch with Bernie at the Club

His interests spanned the spectrum of food and human nutrition, leading to his active participation in a number of graduate and undergraduate teaching and research groups on campus. To each he brought the rare perspective of one who:

(1) supported the most rigorous of academic standards for research and teaching

(2) appreciated the problems of applying sophisticated science in modern technological processes, and

(3) understood the business environment in which decisions are made regarding research and development and adoption.

These same talents, breadth of interest, and ability to communicate enabled Bernie to be one of the campus's most active and effective links to the world of business and government.

This bilateral synergism was of enormous value to the College and the University, and it will be sorely missed since this commodity is in very short supply.

Dr. Niven will be commenting on Bernie's many professional accomplishments, activities and awards, but I would like to mention just one. His sixteen years as a member of the Board of Directors of Universal Foods Corporation in Milwaukee, Wisconsin,

gave him one of his greatest opportunities to satisfy his burning desire to participate actively in the food industry. He saw this as an important step toward increasing the food industry's awareness at all levels of the need to give as much attention to nutritional quality of food products as they did to product safety and sensory qualities.

Those same human qualities and talents that made Bernie an effective University leader were equally appreciated and needed in the corporate boardroom.

Dr. Schweigert's presence at the University of California, Davis for twenty years made a lasting and positive difference in several teaching and research programs. The new Ph.D. program in Food Science is a tribute to his persistence. He opened doors to some key off-campus constituencies and encouraged his colleagues to join him in exploring new opportunities.

But what those of us whose lives were touched so personally by Bernie will remember most is that genuine interest, that care, that concern for our well-being that he had for each of us as individuals - whether we were students, faculty, staff, associates or friends - it didn't make any difference to Bernie.

We are all better persons for having been privileged to walk - or maybe "run" is a better term - with Bernie through his career at the University of California.

- Chet McCorkle

* * *

Yesterday Dianne Schweigert received the following letter:

Dear Mrs. Schweigert:

I am so very sorry to learn of the death of your husband, Bernie. His many friends and associates in the campus community join me in extending sincerest sympathy to you and your family.

Although I did not have an opportunity to know Bernie well personally, I enjoyed my conversations with him and very much knew of his fine reputation. Bernie was a most impressive leader and scholar. His many contributions to research, teaching, and community service will always be remembered and will assist many generations to come. Everyone who knew him, as well as the community-at-large, has suffered a great loss.

With sincerest sympathy,
Theodore L. Hullar
Chancellor

That reputation went far beyond the University of course. In fact in the congregation today are people from all

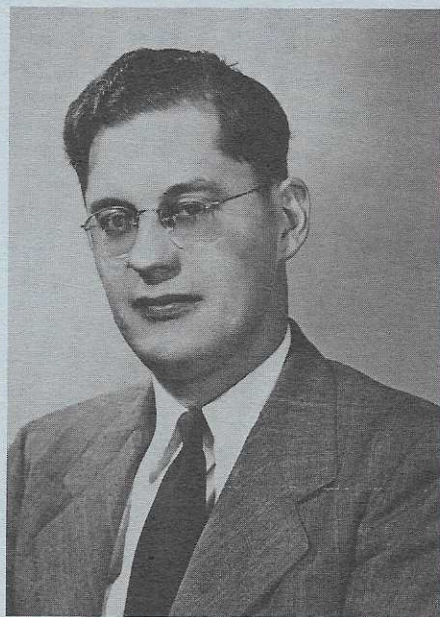
over the world. Cal Willey is here from IFT and two people from Universal Foods that Chet mentioned. We have received telegrams and flowers from Japan and across the nation.

* * *

Here to tell us today about Bernie's professional life beyond the University of California is Dr. Charles Niven. Charlie is a long-time friend of Bernie, and I'll let him tell you more about that himself.

Today my heart is heavy, for we have lost a close and dear friend whom I had known and respected for over four decades. On the other hand, I'm sure that all of us who knew Dr. Schweigert are very grateful and proud for the privilege of knowing and working with this most remarkable man.

I first became acquainted with Bernie in 1948 when he became a fellow staff member at the Meat Research Institute Foundation, the University of Chicago. He was Chief of the Biochemistry and Nutrition Division, while I was Chief of Microbiology. Because of our similar backgrounds and mutual interests, we frequently pursued research projects jointly. This was, indeed, a most rewarding experience for me.



B. S. Schweigert, 1949

The first several years at the Foundation were the formative years of our professional careers. We both held faculty positions in the University, and had several graduate students pursuing advanced degrees under our supervision. Further, we had to share the responsibility with our wives of raising our very young children. Our families

were, however, able to visit each other occasionally on a social basis.

Eventually both of us, along with Dr. D. M. Doty, were promoted to senior administrative positions in the Foundation, as well as becoming professors in our respective departments in the University. The new positions, although rewarding, were very taxing. The three of us, however, worked together very well. When we encountered a particularly difficult problem we frequently retired to the golf course in the late afternoon. Invariably, by the time we reached the eighteenth green we had agreed upon a solution to the problem at hand. As you know, Bernie's eyesight was not the best, and as a result, he would frequently yell on the tee, "Where'd it go, where'd it go?"

After 14 years at the Foundation Bernie accepted a position at Michigan State University as Chairman of the Department of Food Science and Nutrition. I preceded him to California, and by coincidence we again became near neighbors.

As you know, Bernie received his Ph.D. at the University of Wisconsin under the tutelage of the famous biochemist, Professor Conrad Elvehjem who later was promoted to President of the University. Dr. Elvehjem was an amazing individual who was untiring in his research endeavors, as well as in training students. I am certain that Bernie acquired many of Elvehjem's characteristics. Bernie always encouraged and respected excellence among his students and associates. On the other hand, he had little patience for mediocrity. He displayed unusual ability to gain one's respect.

During our 14 years together in Chicago as associates we had many rewarding experiences. We worked together, we played together, we conducted research together, we organized technical meetings and symposia together, we published together, we laughed together, and we cried together. Now he is no longer with us, but the influence he had on his friends and acquaintances and his contributions to society will endure for generations to come.

Just as God's love for us is eternal, our love and affection for this intellectual giant will persist for a long time to come.

- Charles F. Niven, Jr.

* * *

The next person on the program is Bernie's sister Beatrice May. She goes by Bea and she will tell us something about his roots and about being his little sister. For many of us this will be a side of Bernie we didn't know before.

I bring you greetings, sympathy and appreciation from all five of Bernie's siblings, and especially do I bring this message to you, Dianne and your daughters Kim and Susan; to you Jim and your wife Diane; and to you, John and Donna, and to the four grandchildren. Never in my wildest dreams as we grew up in northern Wisconsin would I have imagined that I would someday be at the University of California in Davis sharing our humble beginnings with such a distinguished group in honor of my brother Bernie. I would like to share his roots with you. (I have a special kinship with Bernie because of our initials -- BS and BM.)

Bernie's family of origin consists of a brother, Gerry, who with his wife Milly pioneered as a certified producer of hybrid seed corn in northern Wisconsin; sister Eileen, a farmer's widow living near Madison, Wisconsin; sister Irma, a lace artist and teacher in Cincinnati who with her husband Gerry, a consulting engineer are also here today; next came Bernie; then me - Bea - Beatrice, 4 years younger - I live in Madison with spouse Harold, a retired engineer - he's here today also; and little brother Fred - who with his wife Jean lives in Minnesota. Our father who farmed all his life, died in 1966 at 82 years of age and our mother in 1984 at age 90.

A Horatio Alger story is how I often think of Bernie - a from rags to riches story. I'd like to share that with you - you already know the riches part - his legacy to the Food Science Industry.

Bernie's life began on March 29, 1921 in a little farmhouse near Alpha, North Dakota, in Golden Valley County, in the southwest part of the state near the Montana border. He was the fourth of six children - 3 boys, 3 girls. Our parents are John Sylvester (that's where the S of BS Schweigert comes from) and Barbara Louise Schweigert. Our dad had only a sixth grade education, had worked the lumberjack camps of northern Minnesota, and at the time of Bernie's birth had been homesteading in North Dakota since 1906. Dad was a staunch German Catholic. Our mother was of Swiss-German Lutheran descent, a rural school teacher, and quite a prim lady. They met in North Dakota while she was visiting friends there.

From our father we learned how to enjoy life, appreciate the outdoors, love people, have a sense of humor, and how to play a wicked game of euchre or Schöffsough.

Our mother was 10 years younger than Dad - and how the two loved to dance - but it was from her that we got the intense yearning to get an education - to better ourselves - to be more than a farmer - and that we were capable and could do better than others. Our parents were a unique combination - perhaps this gives you an insight into the strong Schweigert work ethic.

In 1922 when Bernie was just a year old, after years of crop failure due to grasshoppers, army worms, hail and drought, the Schweigerts moved from North Dakota to Weyerhauser, Wisconsin - on a 160 acre farm - mostly untillable - the place my brother Fred and I were born. Here it was that Bernie trudged the 1 3/4 miles to a one room, one teacher country grade school, helped grub the stumps from the land, picked rocks. Along came the great depression of the 30's; the Schweigerts lost that farm. We moved again to New Auburn for a year and hence on to Bruce, Wisconsin (population 548 - still the same today). Bruce is located about 100 miles due east of Minneapolis-St. Paul. Our family of 8 existed on the earnings of a herd of 9 Holstein dairy cattle and 80 acres of farmland. More rocks to pick, more beans for the canning factory to harvest, more land to clear for the tillage. Here again it was walking 1 1/2 miles to another one room country school - working on the farm - but we added the sport of fishing to our itinerary - in the Chippewa River - a love Bernie continued

to foster. And it was during these years that I recall the team approach entering into Bernie's life --I was a member of the team, reluctantly at times, which often consisted of repairing the farm fences - Bea carrying the wire stretcher, Fred the staples and hammer, and then handing the proper tools to Bernie, the team captain, to use. Or the Winter Woodpile Project - Fred and I carrying the split pieces of wood over to Bernie who would carefully place them, split side down, in neat tiers for our winter fuel. Bernie somehow had the knack, even then, to make us feel privileged to do the go-fering as he did the organizing. At this stage of his life his nickname was "Farmer."



High school graduation, 1938

On to Bruce High School - where as no surprise to you he graduated as class valedictorian in 1938 - a class of 24. Here he got introduced to the joys of running water, indoor plumbing, electricity, earning real money in the NYA post-depression program for needy students and gained the nickname "Prof" - very prophetic, I think. He loved his studies, he thirsted for knowledge, he loved talking, giving orations - he acted like he knew it all - and led us to believe him for he truly believed in himself. And it was in these high school walls that I was known as Bernie's little sister and all that entails - to be an excellent student, clever wit, and hard worker. No school buses for us in those days - we lived 8 miles from town so we all worked for our room and board in town or rented housekeeping rooms so that we could attend schools. It was also at this time that our oldest brother Gerry was in the CCC camps, sending 25 of the 30 dollar monthly salary home to feed us children and to supplement the family budget - and

our sister Eileen worked at housework in the Twin Cities of Minneapolis-St. Paul for a weekly wage of \$1.50 - or in a rug factory for \$12.00 weekly, sending part of it home.

Another family pioneer, sister Irma, graduated from high school a year before Bernie and had now entered the University of Wisconsin in Madison. It was with her enthusiasm and assistance that BS enrolled there also - never to return to the rugged northern Wisconsin - never again to pick rock or beans - but to make a name for himself in the world. He worked his way through the University of Wisconsin - farm work, hybrid seed corn work, lab work, teaching assistants, etc. Again I became Bernie's little sister as I enrolled in the Home Ec School - then also under the College of Agriculture. I clearly remember him taking me on a tour of the Biochem Building, and saying to Dr. Conrad Elvehjem, "There is someone here I'd like you to meet, Dr. Elvehjem, a future Home Economist." And how he loved the DTS - the Delta Theta Sigma - his Ag fraternity on campus.

Here it was on the University of Wisconsin campus that another team member came into the picture when he married a fellow grad student, Alta Goede, on September 25, 1943. They had 44 years of marriage. Although they began their married life in a dark basement apartment near campus, never again did they have to return to those frugal days - but Bernie remembered them and thought it never hurt anyone else to experience those meager beginnings. Alta and Bernie were a team totally dedicated to his career. On May 23, 1945, James Bernard joined the team - and on August 5, 1946, John Frederick. Another son, Joseph Daniel died in infancy. This was the team that went on to Texas A&M, the American Meat Institute in Chicago, to Michigan State, and finally here to your great institution at Davis.

What all happened in those years of his career is a blur to me - but there are others here who can document it well. Bernie's career was an all-consuming effort of his whole family - although Little League coaching and school board activities crept in at times. As siblings, we saw little of BS and family those years - we knew they were doing great things as Mom forecast - and my dad commented, "That boy could have bought a farm up here in northern Wisconsin with all the money he spent on school." There was the occasional visit when it coincided with a professional meeting or family vacation - letters at Christmas, and then in these later years we had a family

