

DEPARTMENT OF CHEMISTRY
CORNELL UNIVERSITY
ITHACA, NEW YORK 14853
U.S.A.

NEWSLETTER

Issue No. 26

March 1980

CHAIRMAN'S COLUMN

It is with pride and pleasure that I inform you of three new appointments to our faculty to take effect this fall and a promotion which became effective last November.

Dr. Bruce Ganem, who joined our faculty in 1974, was promoted to associate professor with tenure. Dr. Ganem is a synthetic organic chemist who is active in a number of areas. His recent efforts have concentrated on the total synthesis of maytansine and spermidine alkaloids as well as useful new reagents for epoxidation. Dr. Ganem came to Cornell after graduate study with Gilbert Stork at Columbia and a postdoctoral fellowship with William S. Johnson at Stanford. He was recently named a Camille and Henry Dreyfus Teacher-Scholar and he is also a fellow of the Alfred P. Sloan Foundation.

Professor John E. McMurry, at present at the University of California at Santa Cruz, will join us as a full professor. He is a synthetic organic chemist, noted particularly for his development of low-valent titanium reagents for reductive carbonyl coupling, and for his beautiful synthesis of aphidicolin. Professor McMurry has his Ph.D. from Columbia (1967), where he worked with Gilbert Stork. He has held an A. P. Sloan Fellowship (1969-71), has had an NIH Career Development award (1975-80), and was the chairman of the 1978 Gordon Research Conference on Natural Products.

Dr. Barbara Baird and Dr. David Collum will join us as assistant professors, of biophysical chemistry and synthetic organic chemistry, respectively.

Dr. Baird has her Ph.D. from our own Department, where she worked with Professor Gordon Hammes on chloroplast and mitochondrial coupling factors, and on the mapping of bound enzymes in membranes. She is at present a Damon Runyan-Walter Winchell Cancer Fund Postdoctoral Fellow in the laboratory of Dr. Pierre Henkart at NIH, where she has been doing exciting work on the recognition and binding of target cells by lymphocytes in the events that precede target-cell lysis.

Dr. Collum has also had an earlier Cornell connection. As an undergraduate biology major, he found his way to our Department and worked for some time in the laboratory of Professor Bruce Ganem, where he helped develop new methods of amide bond formation. He then went to Columbia, where he is at present, and where he has been working with Professor W. Clark Still, first on the synthesis of the C₁₈ cecropia juvenile hormone, and then on the very striking total synthesis of monensin.

We had the honor last December to be visited by a delegation of eight chemists constituting a Survey Group on Ultramicro Analytical Chemistry from the Peoples Republic of China. Professors George Morrison and Fred McLafferty, whom they had mainly come to see, were their hosts. They visited a number of university, government, and industrial laboratories in the United States. The delegation was led by Professor Chen Yao-Zu of the Institute of Organic Chemistry of Lanzhou University. Professor Morrison has written about their visit in an editorial in the February 1980 issue of Analytical Chemistry, of which (as we told you in our last Newsletter), he is the newly appointed editor.

Our colleague, and my predecessor as Department chairman, Professor Michael Fisher, has been honored with the award of the

1980 Guthrie Medal and Prize of the Council of the Institute of Physics (U.K.), in recognition of his outstanding contributions to the theory of phase transitions and critical phenomena. You may recall the mention in our last Newsletter of Dr. Fisher's having been invited to deliver the Bakerian Lecture to the Royal Society. That, too, was in recognition of his achievements in the theory of phase transitions. These honors have been long and richly deserved. We congratulate Dr. Fisher on them, and we appreciate the luster they add to our Department.

Two splendid and greatly appreciated gifts of instrumentation have come to our Department, both of them through the diligent efforts of Professor Fred McLafferty. The first was from Hewlett-Packard, a Model 5992 gas chromatograph/mass spectrometer for our undergraduate laboratories. Dr. James Serum, Marketing Manager for the Scientific Instruments Division of Hewlett-Packard, and a former director of our Department's mass-spectroscopy facility, made the presentation at one of our department lunch meetings in October. It is a magnificent instrument, and was put to immediate and good use in last term's Chem. 302 (organic/analytical laboratory), and Chem. 289 (physical chemistry laboratory for engineers). The second gift was from Bristol Laboratories in Syracuse. They generously donated two PDP-11 computer systems, which will be of the greatest value to us in our research programs. We are most grateful to Bristol, to their Dr. Andre R. Brillaud, Mr. Robert J. Wood, and Dr. Robert D. Brown, the latter a former postdoctoral associate of Professor McLafferty, who arranged that most welcome gift.

Our Department has been the beneficiary also of two very handsome personal gifts, matched by corporate donations. The first was by Mr. Everett C. Hughes, who had his Ph.D. from our Department in 1930. He has recently retired from his position as Vice President of Research and Development at SOHIO, and under that company's matching gift program they will match Dr. Hughes' contribution. Dr. Hughes had been a Ph.D. student with Professor

Emeritus J. R. Johnson, and his gift is given in Dr. Johnson's name. Dr. Hughes and Dr. Earl Peters, the Executive Director of our Department, have organized a campaign to establish a departmental instrumentation fund in Jack Johnson's honor. Our second gift, this one matched by the General Electric Company, came from Mrs. Mary Schuster Jaffe (Cornell chemistry major, A.B. 1937), of Cleveland Heights, Ohio. Mrs. Jaffe has for many years been employed as an Industrial Chemist for General Electric (Nela Park, Cleveland). Her contribution is toward the matching funds we are raising for the purchase of our new, high-field NMR. Mrs. Jaffe's first industrial position came about because of the special attention and training in microscopy given her, and other students, by Professor Clyde W. Mason. On behalf of our Department, I express our gratitude for the loyalty and support both these alumni have so generously given.

I will be at the ACS meeting in Houston taking part in the Kendall Award Symposium in honor of Howard Reiss. I look forward to seeing as many of you as can make it, at the Cornell mixer on Wednesday, March 26, at the Houston ACS Meeting. It will be at 5:00 PM in the Ponderosa Room at the Hyatt Regency. I will also attend the August ACS meeting in San Francisco where I am organizing a symposium on "Structure and Thermodynamics of Fluid Interfaces" for the Theoretical Chemistry Subdivision of the Division of Physical Chemistry. The Cornell mixer at the San Francisco meeting will give us still another chance to get together. And, as every year, you are invited most warmly to attend our Alumni Open House on June 13, 1:30-4:00 PM. The doughnuts, coffee, and nostalgia will all be in limitless supply.

B. Widom

BAKER LECTURES — BOOKS

Jack Dunitz's book entitled: X-Ray Analysis and the Structure of Organic Molecules, based on his Baker lectures here in the fall of 1976, has been published by Cornell University Press.

Gabor Somorjai's book entitled Chemistry in Two Dimensions: Surfaces, based on his Baker Lectures here in the fall of 1977, will be published by Cornell University Press this coming fall.

BIOPHYSICAL-BIOORGANIC NIH LECTURES

Sir Bernard Katz, a distinguished neurophysiologist, who is Professor of Biophysics at University College, London, will give the NIH lectures: Cellular and Molecular Mechanisms of Synaptic Transmission, on March 25, 26, 27 and April 1, 2, 3.

Professor Katz is a member of the Royal Society, the U.S. National Academy of Sciences and the Royal Danish Academy of Arts and Sciences. Among his many honors is the Nobel Prize in Medicine awarded in 1970.

CORNELL SOCIAL HOUR

ACS National Meeting

Wednesday, March 26, 1980

HYATT REGENCY
Ponderosa Room

Houston, Texas

5:00 PM

VISITING PROFESSORS

Andre S. Dreiding, presently Chairman of the Organic Chemistry Institute of the University of Zurich, Switzerland, is spending March and April in our Department as Visiting Professor. During this period, he will teach an abbreviated version of Chemistry 774, Selected Topics in Organic Chemistry. Professor Dreiding completed the M.A. in 1943 at Columbia University, and his Ph.D. at the University of Michigan in 1947 with W. E. Bachmann. He held a postdoctoral fellowship at the University of Michigan from 1947-49, and was an assistant professor at Wayne State University from 1949-54.

Michael P. Eastman, from the University of Texas at El Paso, is in residence during the 1980 spring term as a Visiting Professor teaching Chemistry 288, the physical chemistry course for non-chemistry majors. He completed his Ph.D. in 1968 at Cornell working with Professor J. H. Freed. He was a postdoc at Los Alamos Scientific Labs before joining the University of Texas as Assistant Professor in 1970. In 1976 he was recognized as Outstanding American Educator at the University of Texas, El Paso.

Thomas W. Bell joined the Department as a Temporary Assistant Professor for the 1980 spring term. His duties are in Chemistry 252, Elementary Experimental Organic Chemistry. Dr. Bell did his undergraduate studies at California Institute of Technology, Pasadena, and completed his Ph.D. in Chemistry at University College, London in 1980. At the end of the term, he will join Professor Meinwald as a Postdoctoral Associate.

Lauby's Recollections

THE NON-ACADEMIC PERSONNEL OF CHEMISTRY DOWN THROUGH THE YEARS (Cont'd)

In the August, 1978, Issue #23, of our NEWSLETTER I started to tell of the contributions of the non-academic staff of Chemistry. I reviewed the Morse Hall days and gave details of the extensive expansion accompanying the exciting move to the new Baker Laboratory in 1923. Continuing in the March 1979 Issue #24, the many outstanding front office and library individuals who helped keep Chemistry moving were remembered. I continue in this Issue by surveying the work of the shop, stockroom and reagent people, the lecture assistants, and the coordinating staff who have served so loyally down through the years.

Harry Bush presided over our machine shop from 1923 to 1957. He endeared himself to all professors engaged in experimental research by translating their ideas and rough sketches (often vague and lacking in practical detail) into workable, ingenious, and elegant pieces of custom-built apparatus. Students and postdocs learned to count on him for help.

Harry had an interesting career before he came to Chemistry. He got his training as an expert machinist at the Langs Engine Company which used to be on Green St. near the location of the Ithaca parking ramp is now. Langs built steam traction engines for agricultural and construction use. They later pioneered in servicing the rapidly developing automobile needs for the first three decades in the 1900's.

When the Wharton Motion Picture Company was using Ithaca and the Fingerlakes Region to produce spectacular adventure silent

movies in the 1910's they brought as leading lady, Pearl White of "Perils of Pauline" fame. Pearl, a hardboiled and uninhibited gal, startled the burghers and delighted the students. She sported a white Stutz Bearcat car which always attracted crowds when it was parked in front of the Ithaca Hotel. I recall seeing her emerge from the hotel one day to exchange snappy remarks with the onlookers as she got in her car. Harry Bush acted as her chauffeur and had great stories to tell of her insistence on burning up the roads around Ithaca in defiance of speed regulations. I have always found it difficult to picture mild-mannered Harry as chauffeur for the flamboyant Pearl White.

Bush came to our brand-new Baker Laboratory in 1923 to break in the new machine shop. After 34 years of continuous service he retired in July, 1957 and died September 11, 1957. I was fortunate to have his warm friendship throughout his years in Baker, going trout fishing with him in the Tompkins County streams and chatting with him as he sat in his chair in the shop. He often told of ice skate sailing to Aurora and back when the winters were colder and the lake froze over.

When Debye came to Cornell, he greatly valued Harry's expertise and kept him busy making light-scattering instruments and other elegant devices. The pair became fishing companions and Harry built an ingenious aluminum boat in two parts, one nesting in the other so Debye could get it in the trunk of his car. Harry was the only one in the Department to call Debye "Peter" to his face.

Bush was a slightly built, mild-mannered, cautious man. He once bought a five horse power outboard motor for fishing on Cayuga Lake. After testing it running for five hours in a garbage can, he took it home but then decided it did not have enough power to cope with high winds on Cayuga. So he traded it in on a seven horse power engine but never used this.

As experimental research became more and more sophisticated,

the work-load on the machine shop increased and a succession of additional machinists came to help Bush. Dana Green worked as a free-lance intermittently through the years on some of the grant-funded research projects. Dana was an excellent machinist, independent and somewhat temperamental, but he got along well with Harry. Professor Porter tells of the fine work Green did building the elaborate mass spectrometer so essential to Dick's research. Plagued by ill health for several years, Dana died in 1979.

Jesse Shoemaker was assistant to Bush before leaving for military service in 1942. He returned to Ithaca after the war to operate a sporting goods shop on Eddy Street.

Russ Gallagher replaced Shoemaker and is remembered as the most eccentric and unforgettable character ever to be in Baker. The Gallagher clan hailed from the Caroline Hills and the stories about Russ and his numerous relatives are legion. An experienced carpenter and a good machinist, he also was a licensed pharmacist, serving a stretch in the Navy as such. A generous, warm man to his friends, he was bull-headed and loud-speaking, and he developed strong antagonisms and towering rages when adversely criticised. Russ rolled his own Bull Durham cigarettes and was careless in dress. Essma Davis recalls that in his frequent visits to the front office to trade the latest gossip, his trousers appeared so insecure that she could not help but tell him "Russ, you are losing your trousers". Seeing Miss Bower at the far end of the corridor, he would shout out "Heigh Viv." What a vivid complex, character! He retired in 1952 and died in 1955.

Gene Cramer came to the shop in 1948 and is still active there, known to generations of graduate students and postdocs for his generous, good-humored help. Bob Jenkins replaced Gallagher in 1952. Both Gene and Bob have been helpful to me by recalling stories about Harry Bush and Russ Gallagher. Professor Bauer, who probably has used the machine shop facilities more than any other faculty member, has given me many interesting items.

The efficient operation of chemical stores and stockrooms has always been a concern of the Chemistry Department. Henry Feehan and Mr. Knapp moved in 1923 from the catacombs of the ruins of Morse Hall to Baker and joined Mr. Willsey there to get the operation going. The Sullivan brothers and the Holmans served their turns and later, Joe Frost had charge of Chem Stores. He sold me the relics of an Old Town canoe, minus keel, seats and canvas but with sound frame. I rebuilt it and used it on Cayuga for years. Shorty left Chemistry to deliver interdepartmental mail around the campus and is now living in contented retirement. Betty Goodrich, who took care of the General Chemistry stockroom, studied stenography and acted as secretary to Professor Albrecht until retiring in 1979.

With the building of the Olin Research Wing and the renovation of Baker Laboratory, an enlarged machine shop and chemical stores were relocated in the basement of the new research wing. An electronic stores and shop now occupy the space in Baker vacated by Chem Stores. Next to the machine shop there is a glass blowing shop in which Dick Moshier fashions intricate glass assemblies.

The preparation and placing of proper laboratory reagents for the large number of sections in General Chemistry is essential for the success of experimental instruction. In the earlier days we depended upon part-time undergraduates to handle this. Sometimes well done but often a faulty operation, it required considerable supervision. Ed McDaniels was the solution to this problem. He had first come to Baker in 1950 to substitute temporarily for Fred Morgan as lecture assistant. The next year Ed took on full-time responsibility for laboratory reagents. A very responsible, hard-working addition to our staff and interested in finding better ways to do the job, Ed soon had it well organized and under firm control.

I always looked forward to visiting Ed in his storeroom. A native of Ithaca, married to a woman from Dryden, and living in the

Caroline Hills, he would tell about the folklore of Tompkins County in his soft, slow drawling way. He became involved in local politics and left us in 1958 to serve as Highway Superintendent for the Town of Caroline. Three years of frustration in trying to do a good job in spite of petty politics turned him off of public service, and he gladly resumed the Chemistry reagent job, much to our satisfaction. He retired in 1968 and built a cozy one-story house on the Brooktondale Road where he and his wife, Bea, keep very busy with numerous hobbies. When I visited them recently they showed me their extensive garden and a most imposing array of canned fruit and vegetables. Ed has a basement shop where he demonstrated how he cracks hickory nuts in a vise to obtain whole kernels. Bea discovered that their artesian water supply is excellent for coloring glass with an iridescent amber coating, in the manner for which certain Slaterville springs are famous. She has established quite a business around this hobby. They both regaled me with stories about Russ Gallager.

The spectacular demonstrations featured in the lectures in General Chemistry have interested freshmen down through the years and returning alumni recall them clearly. George Caldwell, L. M. Dennis, and A. W. Browne were masters of showing informative experiments, and those of us who have succeeded them have carried on the tradition. To be effective, lecture demonstrations must be carefully designed, meticulously prepared and tested, and clearly presented. It is invaluable to have good assistance in this endeavor. In the early days students were used on a part-time basis to provide this service. With greatly increased numbers of students and more lecture sections, the need for a full-time expert assistant to help on a permanent basis became urgent. Freddy Morgan took over. Fred was also a noteworthy character. He originally came to Cornell as a student in the B. Chem Class of 1921. Becoming bored with the hard discipline of the intensive B. Chem curriculum, Morgan left Cornell to work for our local utility corporation. He later returned to Chemistry to take responsibility for maintenance

and distribution of special apparatus. Capable of good work, he was very temperamental. If you were in his favor he could be most obliging and helpful, but he gave a hard time to those who irritated him. Morgan was an obvious candidate when the full-time assistant position for the lectures was set up. Balding, rotund, and something of a showman, he did a fine job setting up and helping with the demonstrations. He became particularly adept at erasing the blackboards without eliminating material still needed. He left Cornell to go to Oberlin College to take care of non-academic needs of their Chemistry Department. Essma Davis remembers the pipe Morgan smoked and the tunes he could play on it.

Ed Sowers who succeeded Morgan was also a character in his own distinctive way. A graduate in Mechanical Engineering from Cornell, he had operated and retired from his own engineering business in Rochester. But he had always yearned to come back to Ithaca and become in some way associated with Cornell, money no object. He jumped at the chance to help with the Chemistry demonstrations and showed great interest in devising improvements. He was fond of using the small decrepit elevator running from the basement to the lecture preroom. Erratic in behavior, it finally trapped him between floors and there was considerable delay in getting him out. He was most upset when it was decided to discontinue operation of the elevator.

Ed developed a great sense of responsibility for seeing that the lectures proceeded well. I was touched when one day he proudly presented me with a very long collapsible fishing rod to use as a pointer on the large high screen. He had purchased this on his own initiative and with his own funds. Unfortunately, the rod was so limber that its point swayed too much to be effective. Ed was very disappointed when I had to go back to the more reliable thick bamboo pointer.

Professor Porter recalls the showmanship of Mr. Sowers when

the spectacular and highly popular thermit reaction was demonstrated. Ed would warn the students coming in to occupy only the seats back of the fourth row, arousing anticipation of something unusual. Having set up the thermit reaction with protective glass screens and equipped with a fire extinguisher, Ed would touch off the reaction and the fireworks would start. Sparks would fly and finally the white-hot molten iron would gush down into a wet sand mold. Some globules of molten iron would bounce down to the floor and Sowers would chase them with his fire extinguisher, producing a fog and cheered on by the students. It was a sad day when Ed had to retire because of age and ill health.

Another phase of the operation of our large courses in General Chemistry involves the enormous workload of planning for the recitation and laboratory sections, recording and reporting grades, and in making sure that the teaching assistants meet their obligations. In my early days on the faculty I had to supervise this work with the help of two instructors. There was no pre-registration, but for two days faculty representatives of all the departments of the University sat at tables in the Drill Hall to advise students at departmental tables. The system was efficient for unscrambling conflicts and it provided a unique opportunity for faculty-student contact and for faculty to get to know and visit with faculty from other departments. Following registration some of us had to work into the morning hours to get all set for the start of classes. More recently, pre-registration in various forms has replaced the Drill Hall sessions and computers are relied upon to help.

Relief from the large workload on the faculty of registration and record keeping in General Chemistry was finally given by employment of a full-time secretary. Mrs. Myrtle McIntyre initiated this position and set very high standards of performance. She was firm but friendly with students and kept the graduate teaching assistants well in line. Many of the latter remember her keen interest in their welfare and progress. Upon retirement, Mrs. Mc and

her husband bought a trailer and developed a schedule of wintering in Texas near Brownsville and summering in Ithaca. Since her husband died she continues to go, with her sister, to Texas for the winter and now lives in a condominium in Binghamton the rest of the year.

Mrs. Jean Storandt followed Mrs. McIntyre in the General Chemistry office and carried on this complex assignment most satisfactorily until her retirement. Her calm but firm temperament and interest in the work were appreciated by professors, teaching assistants and students.

This completes my story about the non-academic personnel of the Chemistry Department of Cornell down through the years. I undoubtedly have failed to mention other individuals who should be covered and there must be many anecdotes that should have been included. My earnest hope is that you who have been on the Cornell scene at one time or another will send me further material, especially pictures.

A. W. Laubengayer

ALUMNI REUNION

Chemistry Open House

Date:	Friday, June 13, 1980
Time:	1:30 PM — 4:00 PM
Place:	Baker Lab — Lobby
Hosts:	Professor A. W. Laubengayer and other faculty members
Refreshments:	Yes

Faculty Members

(Spring 1980)

A. C. Albrecht	B. Ganem	E. Peters
T. Bell *	M. J. Goldstein	R. F. Porter
J. M. Burlitch	E. R. Grant	L. Que, Jr.
B. K. Carpenter	G. G. Hammes	J. R. Rasmussen
J. C. Clardy	R. Hoffmann	S. Russo **
W. D. Cooke	P. L. Houston	H. A. Scheraga
A. S. Dreiding *	R. E. Hughes	M. J. Sienko
M. Eastman **	E. R. Lory **	D. A. Usher
R. C. Fay	F. W. McLafferty	B. Widom
M. E. Fisher	J. Meinwald	J. R. Wiesenfeld
J. H. Freed	G. H. Morrison	C. F. Wilcox

* Visiting
** Temporary

Emeritus Faculty

S. H. Bauer	F. A. Long
J. L. Hoard	A. W. Laubengayer
J. R. Johnson	W. T. Miller
M. L. Nichols	

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