



THE

CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XLV

SEPTEMBER, 1989

NUMBER 6

Diamond Anniversary



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Hope L. Bober Jeanette S. Hamilton
Bhim S. Dhingra

June 1st 1914¹⁹

To the Council of the American Chemical Society.

Gentlemen:

We the undersigned, members of the AMERICAN CHEMICAL SOCIETY, desire to form a Local Section of said Society for the benefit of those members who reside in *Baltimore, Md. and vicinity.*

We, therefore, hereby request the Council of the AMERICAN CHEMICAL SOCIETY to authorize the formation of a Local Section to embrace the territory *in the state of Maryland lying north of a straight line drawn through the city of Laurel Md. To be known as the Maryland Section with headquarters at Baltimore, Maryland.* in accordance with the provisions of the Constitution of the Society.

N.R. Guadalupe

J.H. Shrader

Frank M. Boyles

C. Hassel

S.F. Aerie

L.C.W. Frazer

Wm. Casparich

V. Gumpshant

W.D. Hummer

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Conrad Ziegler Jr.

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B.P. Van Gundy

G. Boyle Thomas

W. A. Jones

E. M. Smith

Wm. Maynard

Samuel D. Wiley

J. Rich Holland

Richard H. Meade

Approved by the Council.

Secretary.

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DIAMOND ANNIVERSARY CELEBRATION



J. PETER GRACE

DATE AND TIME:

Saturday, September 23, 1989
7:00 p.m. 'til 12:00 midnight

PLACE:

Sheraton Inner Harbor Hotel
300 South Charles Street
Baltimore, Maryland

ACTIVITIES:

Social Hour with Open Bar
Poster Session
Dinner
Program
Presentation of The Maryland
Distinguished Leadership Award
to J. Peter Grace, Chief Executive
Officer of W. R. Grace and Co.,
Inc., a talk by Mr. Grace, and
presentation of certificates to
new fifty-year ACS members.
Dancing

RESERVATIONS:

These are being handled by
Ron Erickson
Nova Pharmaceutical Corp.
6200 Freeport Center
Baltimore, MD 21224
Reservations were requested by
August 18, but seating may
still be available. For infor-
mation call Ron at 563-6162.

J. PETER GRACE

J. Peter Grace was born on May 25, 1913 in Manhasset, Long Island, New York. He graduated from Yale University in 1936 and he immediately joined W. R. Grace and Company. He became Chief Executive Officer of W. R. Grace in 1945 and Chairman in 1981. He remains Chief Executive Officer to this day; he has held this position longer than any other CEO of a major United States industrial concern.

Under Mr. Grace's leadership, W. R. Grace has evolved from a Latin American and steamship line heritage into a leading international specialty chemical company with worldwide interests in energy, manufacturing and service businesses. Today, the company's operations include more than 250 plants, 150 offices, 425 sales units and 100 warehouses. Its interests are spread through 42 states, the District of Columbia, Puerto Rico and 44 foreign countries.

Mr. Grace has served three presidents in advisory capacities. Under President Eisenhower, he was a member of the International Development Advisory Board and he authored a report entitled "An Economic Program for the Americas." President Kennedy appointed him chairman of the Commerce Committee for the Alliance for Progress, which sought to promote increased United States investment in Latin America. President Reagan appointed him chairman of the President's Private Sector Survey on Cost Control in the Federal Government, which became known as the Grace Commission. He coordinated the work of 160 American corporate leaders and 2,000 volunteers who sought to root out inefficiency, waste and mismanagement in the federal government. The commission's final report contained 2,478 recommendations to save the government 424.4 billion dollars over a three-year period. Mr. Grace authored a book, "Burning Money: The Waste of Your Tax Dollars" as a result of his work on the Grace Commission.

Mr. Grace has been awarded honorary degrees by twenty-one colleges and universities. He serves on the board of directors of twelve companies, including two for which he is chairman of the board. He is a member of the Development Committee of the National Bureau of Economic Research, Inc. and a trustee of the United States Council for International Business. He has received decorations from the governments of Chile, Columbia, Ecuador, Panama and Peru for service to these countries, as well as many other awards and honors.

OUR 75TH ANNIVERSARY

by Kristine Kirk, Luke Goembel and Ernie Silversmith

We all enjoy celebrating birthdays and anniversaries each year. The ones that are divisible by ten are special, but the ones divisible by twenty-five are EXTRA-special. Since 1989 marks the 75th anniversary of the Maryland Section, we're taking time out for a gala celebration on September 23. The last celebration of this magnitude was the 50th, back in 1964. It was held at the Southern Hotel (which was at Light and Redwoods Streets and no longer exists) and cost the princely sum of five dollars per person (including a cocktail, dinner, gratuities and dancing). The tariff is a bit higher this year, and we won't even speculate about the price for the 100th anniversary dinner!

Let us take this opportunity to look at the beginnings of our Section, and then to focus attention on the last 25 years. (An extensive historical summary was published in 1964.) We have dug into the archives, picked the brains of people who have been members of the Section for a while, and written to many colleges, industrial laboratories and government-supported laboratories within the Section's boundaries.

ACKNOWLEDGEMENTS

No event like the celebration on September 23 is possible without the help of many people and institutions. John and Susan Lever led the whole effort, and they were ably assisted by a committee consisting of Alvin Bober, C. Jelleff Carr, William White, Joseph Topping, Paul Carter, Ron Erickson, Steve Everett, Melvin Miller, F. Timothy Parr and Ernest Silversmith. The following companies and institutions provided financial support; the list is complete as of June 19:

Ace Glass Company
Alcolac Corporation
Battelle Corporation of Havre-de-Grace
Catalyst Research Corporation
Gascoyne Laboratories, Inc.
W. R. Grace and Company
J. M. Huber Company
McCormick and Company, Inc.
Nova Pharmaceutical Co.
Perkin-Elmer Corporation
Quest International Flavors U.S.A., Inc.
Rainin Corporation
Westinghouse Electronic Systems Group

An historic compilation such as this one also requires help from many people. First of all, high marks go to Edward Hoshall who, in 1963, was appointed by Chairman Samuel Goldheim to be the first archivist of the Maryland Section. He spent endless hours, poring through musty files at ACS headquarters, gathering information about the Section's first fifty years. He published this in pamphlet form in 1964 (we can lend it to anyone who would like to read it). We have used much of Colonel Hoshall's material in updating this history.

In addition, we thank the following persons, who provided historical material about their places of work:

Diane D. Allen (Howard Community College)
Nordulf Debye (Towson State University)
George C. Farrant (Catonsville Community College)
Luke Goembel (The Johns Hopkins University)
Patrick Hoffman (McCormick and Co., Inc.)
Donald Hoster (Community College of Baltimore)
Shree Iyengar (Anne Arundel Community College)
Maria Kristine Kirk (College of Notre Dame of Maryland)
Werner H. Kirsten (Frederick Cancer Research Facility)
Sharon L. Morell (University of Maryland Baltimore County)
Harold A. Neufeld (Frederick Community College)
Louis C. Portis (Maryland State Police Crime Laboratory)
Francis Ptak (Gascoyne Laboratories)

Charles Rowell (United States Naval Academy)
Roosevelt Shaw (Morgan State University)
Alan A. Schneider (Catalyst Research)
Mary Ellen Schultz (Maryland State Laboratories)
Ted Stockus (Analyte Laboratories and Phase Separations Science, Inc.)
Dan Tauber (Villa Julie College)

In addition, Howard Cohen, Ted Stockus and Suzanne B. Roethel provided data on the number of members in the Section for each year since 1964, and Rene Muller saw to it that news about the anniversary got to the general public.

OUR ROOTS

Simple arithmetic tells us that the Maryland Section was founded in 1914, but its roots go back even further. The American Chemical Society (ACS) itself started in 1867 in New York, but it served mostly chemists in the New York area. Therefore, in 1881, chemists in and near Washington (including Baltimore) seceded and formed the Chemical Society of Washington (CSW). In 1892, these and several other groups of chemists decided to form a truly national ACS. Harvey W. Wiley was elected the first president on December 28, 1892. The original New York-oriented ACS became the New York Section, while the CSW became known as the Washington Section, retaining the name CSW as a dual designation.

By 1911, the chemists in and near Baltimore decided that it was time to form their own organization (travel to monthly meetings in Washington must have been quite an undertaking in those days). A group that included Ira Remsen founded the Baltimore Branch of the Washington Section. The archives contain a letter from W. W. Skinner, President of the Washington Section, to W. B. D. Penniman, another of our Section's founding fathers, dated April 4, 1911, which states, "...we in Washington would not want to put anything in the way of the Baltimore Chemists' forming an organization as would best suit your needs." On March 3, 1911, Ira Remsen, President of Johns Hopkins University, offered the use of Hopkins Hall for the Baltimore Branch's meetings. The friendly secession was complete.

By 1914, the upstarts from the Baltimore area felt that full section status was in order. A petition (reproduced herein) was sent to ACS's national headquarters, asking that a section known as the Maryland Section be founded. The Board of Directors of the ACS approved the request on September 21, and the petition was signed by ACS President Theodore W. Richards and Secretary Charles L. Parsons on September 23. (As you can see, our 75th anniversary celebration is being held on exactly the right date.) This was one of two noteworthy things that Dr. Richards did in 1914; he also won the Nobel Prize in Chemistry!

The minutes of the very first meeting of the Maryland Section are also reproduced here. You can see that all of the officers elected at that meeting were also signers of the petition. W. B. D. Penniman, the Section's first chairman, was the founder of a consulting firm that still exists. It is now known as Penniman and Browne, Inc. Frank Boyles was the secretary for several years; all of the minutes in 1914-1916 were written in his excellent handwriting, so even today we have clear, legible records of those early years.

The Section had about 70 members in 1914 and in 1989 it has 1,740. The year-by-year membership is shown in the accompanying plot; most of us would like to have stock that performs that well! In 1962 we passed the 1000 mark and thus achieved "Large Section" status. And 1985 was the best year of all, as membership went up by a stunning 163 persons compared to 1984.

Eight of our current members joined the ACS in 1939, so they become Fifty-year Members this year. This distinguished octet, who will receive certificates at the September 23rd celebration, consists of:

C. Jelleff Carr	Stanley Paul McColgan
Mary H. Fletcher	Clare L. Milton, Jr.
Robert L. Fox	Paul Stamberger
H. Clifford Grant, Jr.	Carl A. Zapffe

Hopkins Hall - Oct. 10-1914. 10/10/14

First meeting of the Maryland section of the American Chemical Society, called to order by C. P. Van Gundy at 8:30 P. M. announced the granting of a ^{social department} charter by the directors of the American Chemical Society.

Moved and passed that the constitution and by-laws of the Baltimore Branch, with such changes as are necessary, be adopted as the constitution and by-laws of the Maryland section.

Election of Officers:

Nominations for Chairman, W. B. D. Penniman and C. Glaser.

W. B. D. Penniman elected.

Vice-chairman, J. C. W. Frazer.

Secy + Treas., F. M. Boyles.

Members of executive committee -

C. P. Van Gundy; J. B. Thomas; J. H. Shrader nominated -

^{Oct 10-1914}
C. P. Van Gundy + J. H. Shrader elected.

As the Hopkins Club will no longer allow the Society to hold its smokers there - the executive committee was instructed to look into the matter and arrange for some place to hold the meetings and smoker in the future.

Dr. Chas. Glaser presented a paper on "The Catalytic decomposition of Boron Chloride by Copper" which was discussed at length.

Following this was a general discussion on the substitution of fish oil for Linseed oil, the detection of fish oil in Linseed oil etc.

A vote of thanks was tendered to Dr. Glaser for his able paper.

Meeting adjourned at 10 P. M.

Attendance 31

F. M. Boyles Secy.

CHAIRMEN SINCE 1964

Chairmen preside at the Section's monthly meetings, having lined up the speakers while they were Chairmen-elect. They also convene and chair meetings of the Executive Committee and coordinate, guide, initiate and/or direct other things that the Section does. Obviously, they are important in the Section's success and history, so those who have served since the 50th anniversary are listed below. They come from academe, from industry and from government laboratories. However, the list includes only one black chairman and two women; let us hope that this situation will improve in the next 25 years.

1964	Arthur J. Emery, Jr.
1965	George M. Steinberg
1966	F. Marion Miller
1967	William H. Stahl
1968	F. Timothy Parr
1969	Harold Delaney, Joseph Cogliano
1970	Joseph Cogliano
1971	Richard J. Kokes
1972	Joyce J. Kaufman
1973	Yale H. Caplan
1974	Donald E. Jones
1975	A. Allen Bednarczyk
1976	John L. Kolbe
1977	Ernest F. Silversmith
1978	James Leslie
1979	Howard J. Cohen
1980	Melvin P. Miller
1981	Elwin C. Penski
1982	Merle Eiss
1983	Charles Rowell
1984	Nolan Phillips
1985	Harold Klapper
1986	Thomas Bitterwolf
1987	Alvin Bober
1988	William E. White
1989	Joseph Topping

EDITORS OF THE CHESAPEAKE CHEMIST

No organization can function without communication. And, since 1945, our Section has been blessed with an excellent organ for accomplishing just that. Volume I, Number 1 of the Section newsletter which came out in the spring of 1945, was labeled "The Chesapeake?" Directly under this partial name, members of the Section were asked to "suggest a name for this monthly newsletter of the Maryland Section." The question was settled by September, 1945; Volume 1, Number 2 appeared with the name *The Chesapeake Chemist* emblazoned across the top, superimposed (as it is to this day) over a map of the Chesapeake Bay. (The boat and fish were added in 1956, and the bridge first appeared in 1978.) Alas, there is no record of who suggested the winning name. The September, 1945 issue simply states: "*The Chesapeake Chemist* is the name of the venture in journalism that has been undertaken by the Maryland Section. The name seems to locate us geographically and to indicate our sponsorship; it is simple and has enduring dignity." Well put!

Putting out such a publication is a difficult, time-consuming and often thankless task. The Section is fortunate to have had a series of hard-working, dedicated and able editors. They are:

1945-1953	Belle Otto
1953	J. L. Straughn
1953-1954	Stephen S. Hubard
1954-1958	Giles B. Cooke
1958-1961	Ray C. Crippen
1961-1962	F. Timothy Parr
1962-1963	Melvin P. Miller and Norbert M. Zaczek

1963-1967	Kenneth S. White
1968-1970	James Leslie
1971-1973	William G. Galetto
1974-1976	Howard J. Cohen
1977-1979	Eli Freedman
1980-present	Raymond C. Petersen

You can see that the incumbent editor has served the longest term of all. Ray truly earned the 1988 Section Service Award!

AWARDS

The Maryland Section sponsors or co-sponsors a number of awards in order to promote and recognize outstanding achievement in chemistry as well as meritorious service to the Section.

One of the most prestigious awards in the United States is the Remsen Award, which has been co-sponsored by the Section and The Johns Hopkins University since 1946. It goes each year to an outstanding chemist from anywhere in the world, in recognition of major research accomplishments. No fewer than thirteen Remsen winners have also won Nobel Prizes. These great scientists, with the years in which they won the Remsen Award and Nobel Prize, respectively are: Vincent du Vigneaud (1954, 1955), Willard Libby (1955, 1960), Melvin Calvin (1957, 1961), Robert B. Woodward (1958, 1965), Herbert C. Brown (1961, 1979), George Porter (1962, 1967), Harold C. Urey (1963, 1964), Marshall W. Nirenberg (1967, 1968), Har G. Khorana (1968, 1968), Charles H. Townes (1972, 1964), Henry Taube (1975, 1983), William Lipscomb (1976, 1976) and Ronald Hoffman (1980, 1981). All the Nobel Prizes were in Chemistry except those won by Drs. Nirenberg and Khorana were in Physiology and medicine while that of Dr. Townes was in Physics.

Since 1962, a member of the Section has received the annual Maryland Chemist of the Year Award. This award recognizes excellence in research, teaching, administration or a combination of two or all three of these areas.

The Section also presents a Service Award each year to a member who has worked diligently on section activities over a number of years. This award has been given annually since 1980.

Perhaps even more important are the awards for students that the Section gives. The number of American students that go into chemistry and other sciences has been decreasing at an alarming rate in the last fifteen years, so it is vital that we encourage students to consider careers in science and to recognize and reward those who excel.

According to the historic compilation issued at the 50th anniversary, the Maryland Section has, in the past, issued certificates to winners at the Baltimore Science Fair. However, the student award program really shifted into high gear in 1978, when annual awards were first given to college students. This effort, led by Maria Kristine Kirk and Donald Hoster, recognizes the outstanding chemistry student at each two- and four-year college within the Section's boundaries. The award consists of a certificate, a one-year subscription to a journal and a dinner at the Section's annual Chemical Education meeting.

In 1983, Michael Zapf started the first of several award programs aimed at the pre-college level. In that year, the Section began to participate in the annual Science Fair that is sponsored by the Kiwanis Club. We provide judges, distribute awards and actually provide some of the awards, including savings bonds, plaques, certificates and dinners at the Chemical Education meeting. In 1985, the Section began to give an annual award to the outstanding high school chemistry teacher in the section. This teacher receives cash, a plaque, dinners and useful materials (e.g., calculator, glassware) contributed by Hewlett-Packard, Scientific Products or Curtin-Matheson Company. And, in 1988, we began providing judges and awards for the annual Chemathon that is held at the University of Maryland College Park. It attracts about 200 high school students and teachers from Maryland, Virginia and the District of Columbia.

These are some highlights of our history as a section of the ACS. But there can be no ACS without chemists, and most chemists need workplaces in order to do their chemistry. These places are vital in the Section's history, and some of them have given us highlights of their last 25 years.

CHEMISTRY IN INDUSTRIAL AND GOVERNMENT LABORATORIES, 1964-1989

Hopefully, the eight companies and government agencies that responded to our questionnaire are typical of those who employ many of our members. All those companies and institutions have shown significant growth in size and/or profitability. A few didn't even exist in 1964, nor did their products!

Growth in Staff, Budgets and Sales

If these companies are indicative of the rest in our Section, the 58% increase in the Section's membership since 1964 does not begin to reflect the tremendous increase in the amount of chemistry being done in our region. For instance, the Maryland State Laboratories (Department of Health and Mental Hygiene) has doubled its staff since 1964 to its current size of 322 employees. An even more dramatic increase has taken place at McCormick & Co., Inc.; the McCormick laboratories employed 10 researchers in 1964, and now there are five times that number.

Equally impressive are increases in some companies' sales and some agencies' budgets. The State Laboratories had a budget of about one million dollars in 1965; this year their budget is estimated at eleven times that amount. Sales for Catalyst Research have grown twelvefold since 1964 to 24 million dollars in 1987.

Many companies have moved to larger facilities since our Fiftieth Anniversary. Gascoyne Laboratories (in downtown Baltimore since 1887) has moved to the Holabird Industrial Park and has opened another branch on Caton Avenue. McCormick has expanded and renovated its Hunt Valley Industrial Park facility, and the Maryland State Laboratories has moved from 23rd Street to its present Central Laboratory on Preston Street. Catalyst Research has recently completed a second major plant in Owings Mills, and in 1985 the Maryland State Police Crime Laboratory moved into new 3.5 million dollar quarters at the Pikesville Barracks.

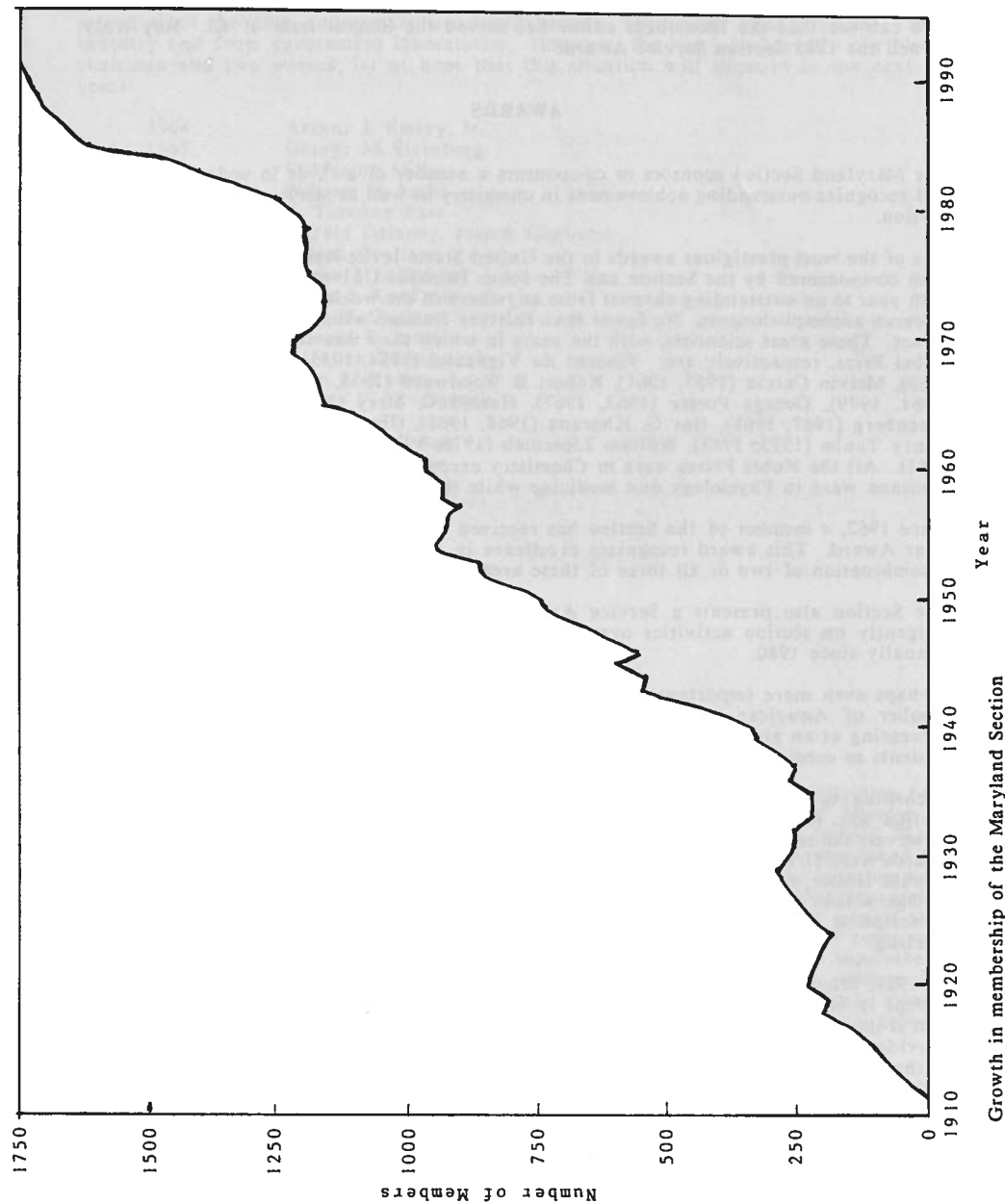
New Companies and New Lab Facilities

Several government laboratories and firms in the Section did not even exist in 1964. The Frederick Cancer Research Facility opened in 1972 on the site of the old Fort Detrick. It is owned by the federal government but is now operated by five different companies. One of these, Bionetics Research, Inc., employs 160 people, including 95 scientists, who are carrying out basic research on the causes and biology of cancer. They work in areas such as cell replication mechanisms, oncogenes, gene expression and the structure of gene products of retroviruses, including the AIDS virus.

Another newcomer to the Section, Analyte Laboratories, has become a leader among analytical chemistry laboratories since it opened its doors in 1983. It carries out classical analyses as well as protocols set up by the Environmental Protection Agency. Analyte shares its quarters with Phase Separations Science, Inc., which applies modern chromatographic techniques to analyses for environmental monitoring and for a variety of industries, such as paint and textile.

Advances in Products and Techniques

Of course, the sort of chemistry being done has, in general, changed significantly in the last 25 years, as new products and techniques have been developed. The State Police Crime Laboratory did little more than handwriting, fingerprint, ballistic and polygraph analyses before 1972. Now it applies chemistry to analyze trace evidence, practices toxicology, and is planning to use genetic DNA testing of body fluid and tissue samples to aid in crime investigations. In 1964, the sole product of Catalyst Research was their thermal battery (used by the military), which is still the energy source in many strategic and tactical weapons. Eight years later, the company's lithium-iodine battery revolutionized the pacemaker industry by extending the life of pacemakers from two to ten years. Now, over 90% of all pacemakers manufactured use Catalyst Research's technology. The Company's batteries are also used in watches (in which the battery is guaranteed for six years) and computers (where they provide backup power for memories). In the last 25 years the company has branched into other fields of research and manufacture, including instruments for the detection of various gases and even mining communication equipment. Phase Separation Science, Inc. specializes in very sophisticated gas chromatographic techniques. Gascoyne Laboratories, Inc. has added



state-of-the-art gas chromatography, mass spectroscopy and inductively coupled plasma, as well as many others, to its offering of analytical methods. McCormick was one of the first food companies to use gas chromatographic analysis of food and favor products; it was doing so at the time of our Golden Anniversary. GC/MS (1972) and HPLC (1974) were added, as were more sophisticated analytical techniques. The Frederick Cancer Research Facility carries out structure elucidation through X-ray crystallography, macromolecule folding drug-receptor interactions and on-and-on into the realm of high technology.

There have been many more changes and events of interest in chemical industry and government laboratories in the Section. We have presented the highlights of the eight organizations mentioned in this article, hoping that they are representative of the chemical profession in our region. The profession is surely healthy in Maryland; we can only hope that things will go as well in the next 25 years as they have in the past 25.

CHEMISTRY AND ACADEME, 1964-1989

Like the chemical industry, the key descriptors for the academic area of chemistry during this 25-year period were GROWTH and CHANGE. With the arrival of the "baby boom" on college campuses in the Maryland Section, most chemistry departments expanded and some new departments were created to meet the increased need for courses and programs. To staff these programs, chemistry faculties have grown and changed focus, as new fields of chemistry have developed.

Chemistry Faculty in the Past 25 Years

Towson State University's faculty exemplifies the growth common to chemistry departments in the Section. With just one part-time instructor in 1946, the faculty now totals 14 full-time professors and 6-8 part-time instructors. At University of Maryland Baltimore County, a three-member department has grown in the last quarter century to a faculty of 16. Many faculty members in our Section have been honored for excellence in research and teaching. Just to name a few, Catherine Fenselau was awarded the Garvan Medal; David Roswell received the Maryland Chemist of the Year Award; and Ernest Silversmith received the E. Emmet Reid Award for Outstanding Teaching in Chemistry in 1987.

Typifying our mobile society, faculty members have come and gone, to new accomplishments in other positions or at other sites of teaching and research. David Roswell, a former chairman at Loyola College, is now Dean of the College of Arts and Sciences, while Bob Caret now occupies the Provost's Office at Towson State University instead of the chairman's office. Sister Mary Vincent Callahan, long-time chair at the College of Notre Dame of Maryland, wears two hats at the Catholic University of America: professor and hazardous materials officer. Catherine Fenselau is now chairman at the University of Maryland Baltimore County. The faculty at the United States Naval Academy also has a new look, as more young professionals have joined the contingent of senior faculty and naval officers.

Chemistry Facilities Since 1964

Long-established chemistry programs at the College of Notre Dame of Maryland and Loyola College moved into new, well-equipped laboratory and classroom facilities, CND's Knott Science Center (1967), and Loyola's Donnelly Science Center (1978) and Knott Hall (1989). With the opening of its new Science Complex in Fall 1989, Morgan State University continues its rich tradition as a source of well-prepared chemistry graduates. In the 57-year history of Morgan's Chemistry Department, at least 33 of its graduates have earned Ph.D.'s and 44 have M.D.'s. While Remsen Hall, one of the oldest buildings on the Homewood campus, remains the hub of study and research at Johns Hopkins University, the completion of Dunning Hall in 1966 doubled the space available to the chemistry department. Smith Hall (1965) and a wing added in 1975 provided new quarters for the chemistry program at Towson State University, formerly Towson State College. In 1971, Mount Saint Agnes College merged with Loyola College, closing the doors of the Mount Washington campus and creating a coeducational college at the Charles Street location. And St. Joseph's College, a women's college in Emmitsburg, closed in the 1970's.

To meet the increasing demand for chemists, new chemistry programs came into being. Twenty-five years ago, the United States Naval Academy first offered chemistry as a formal major as an alternative to the general engineering degree. On an average, 23 midshipmen graduate annually from the ACS-certified program. Towson State University graduated its first chemistry majors in 1966, although chemistry courses had been offered for 20 years previously. In that same year, the first class of 700 undergraduates was enrolled at the University of Maryland Baltimore County, where the total enrollment is now 9,500.

At the two-year colleges during these years, chemistry enrollments swelled, course offerings increased, and new buildings were constructed. Anne Arundel Community College celebrated its 25th anniversary in 1987 and Frederick Community College experienced the largest enrollment in its history in 1989. Catonsville Community College, created in 1957, opened its new science facilities in 1965. The science department at the Community College of Baltimore also occupied its new building in that year. Chemistry laboratories in the new High Tech Building at Howard Community College are scheduled to open in Fall 1989.

Chemistry Programs Change to Meet New Needs

Like the world at large, chemistry programs at undergraduate and graduate institutions experienced inflation in costs, as well as in enrollments. Graduate tuition at Johns Hopkins University rose from \$300 per year in the 1950's to \$11,000 in 1988, while stipends increased from \$600 to their current value of \$10,000 annually. The price of tuition and fees at undergraduate schools rose in similar fashion over the last 25 years. Let's not project the cost of a college education in 2014!

As chemistry made quantum leaps in theory and practice, the educational institutions in the Maryland Section revised and expanded their course offerings to provide state-of-the-art experiences for their students. University of Maryland Baltimore County has moved to the cutting edge in research with the start of doctoral programs in biochemistry (1978) and in chemistry (1985) and the opening in 1989 of the NSF-supported "Center for Structural Biochemistry," home to a \$1.4 million tandem mass spectrometer. Johns Hopkins University continues to draw graduate students from around the world, the focus of research expanding from areas such as fireflies and chemiluminescence to pioneering work in the study of metal ions in biological systems, synthesis (e.g. of sydnonones), active site mapping of protease enzymes, and ionic and electronic collision phenomena. Like all chemistry programs in the region, Towson State University trains its students on a wide array of instruments, which are also available to local industries through its Instrument Services Program. Personal computers have proliferated on every campus for a multitude of educational and research applications.

Two-year schools continue to offer a range of unique and timely programs, like the biotechnology program at the Community College of Baltimore. Chemical laboratory technician programs may be taken at Howard Community College and Villa Julie College, while Catonsville Community College has an option in hazardous materials/waste management.

Graduates of chemistry programs in the Section have gone on to productive and sometimes illustrious careers as chemists, teachers and professors, chemical engineers, physicians, dentists, lawyers, entrepreneurs, and others.

New Ventures in Science Education

In the last 10 years, in recognition of the crisis in science education, many institutions in the Maryland Section responded with programs for both science students and science educators. Courses for non-science majors have flourished on undergraduate campuses. Middle and high school students can participate in workshops like the Science Information Day and the Chemistry Instrumentation Workshop at Towson State University, or the Expanding Your Horizons Workshop sponsored by the College of Notre Dame of Maryland. Outstanding chemistry students from area high schools vie on an exam administered by the Maryland Section for a spot on the ACS-sponsored national team competing in the International Chemical Olympiad. Many chemistry students belong to ACS Student Affiliate Chapters at their schools, participating in seminars, field trips, and other professional and social activities.

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Chemistry faculty participate in the Maryland Academy of Sciences Programs for gifted and talented students and serve as science fair judges. Along with many others, Linda Sweeting of Towson State University has worked with both the Section and National Women Chemists Committees in programs to encourage women to pursue careers in chemistry. Science teachers in local school systems are kept up-to-date through programs at Morgan State University, University of Maryland Baltimore County, Loyola College, Towson State University, and the College of Notre Dame of Maryland. To generate public interest in science, Howard Community College has a monthly science seminar series featuring topics like "The Immunology of the Aging Process" and "The Chemistry of Sweet Taste." It is hoped that these various efforts will encourage many talented young women and men to become the chemists of the future.

CONCLUSION, AND A CHALLENGE

Obviously, we have come a long way since our humble beginnings in 1914. Our current membership of 1,740 attests eloquently to the fact that chemistry is alive and well in the Maryland Section. This is mainly due to the ability of Maryland chemists and chemical institutions to keep up with their rapidly changing discipline.

Let us have a memorable 75th Anniversary Celebration. And then, let us go back to work on September 25th and make Maryland chemistry even better.

LEADERSHIP AWARD TO J. PETER GRACE

The ACS Maryland Section's 75th birthday celebration will be highlighted by the presentation of The Maryland Distinguished Leadership Award to J. Peter Grace, Chief Executive Officer of W. R. Grace & Co., Inc. since 1945.

The citation accompanying the award was not available at press time, but the award obviously recognizes the very major contributions made by the Grace company to chemistry in the region served by the Maryland Section and salutes Mr. Grace's exceptional tenure of leadership.

CHANGES OF ADDRESS

It is not necessary to notify The Chesapeake Chemist of address changes. We get our mailing labels each month from the ACS, so if you inform the ACS of your address change, we will automatically receive the correct label.