



100 Years of Pittsburgh Chemistry

*The Pittsburgh Section,
American Chemical Society*

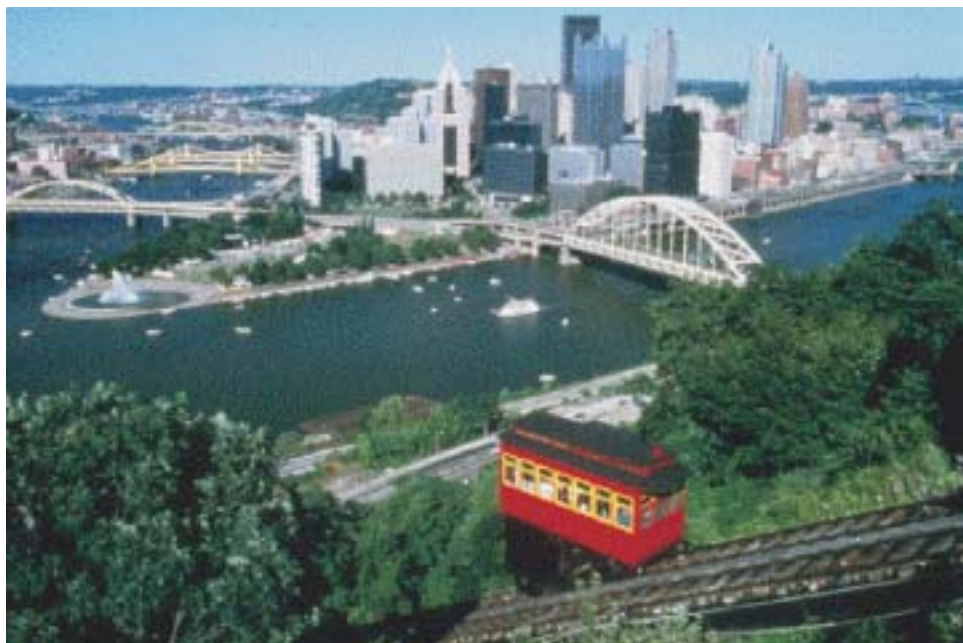


Photo by Jeff Greenberg



100 Years of Pittsburgh Chemistry The Pittsburgh Section, American Chemical Society

Introduction

Europeans entered the area more than 300 years ago, intent on trade with the native Indians and on controlling transportation routes to the West. The following colonial years brought extensive trade but involved wars between British and French interests as well as with the native Indians. As control became more certain, permanent settlers established homes and farms, trade and agriculture expanded and the value of natural resources was slowly recognized. Coal replaced wood as the area's major fuel when the iron and steel industry grew to be the main focus of Pittsburgh area industry. Silica sand with soda ash and limestone led to glass manufacture, abundant forests supplied fuel for whiskey production. Rivers provided not only transportation but water for processes that required it. Ultimately supplies of oil and natural gas provided fuel and materials for new industries.

New industries were based on chemistry made possible by available materials. They brought trained chemists to the area and led to the establishment of colleges, universities, and training schools to supply industrial needs. By the start of the 20th century, the number of active chemists in the area justified formation, in 1903, of the Pittsburgh Section of the American Chemical Society. It's Golden Anniversary was celebrated in 1953 with special programs that included publication of a commemorative book prepared by Chester G. Fisher, then Chairman of the Board of the Fisher Scientific Company. A portion of that excellent record follows in the next section.

The First Fifty Years

“It all began with those strange clouds of smoke over the little settlement at the head of the Ohio almost 200 years ago. Travelers heading West found them strange enough to note in their journals, those clouds of smoke in a country where the only common fuel was wood.”

“Who could know that those coal fields were the Pittsburgh Seam that underlies parts of four states, the most valuable single mineral deposit in the world? But because it was the City of Coal, Pittsburgh could become the City of Iron ... of Steel And subsequently the World Center of Analytical Chemistry.”

“Today, the era of mining, metallurgical and chemical activity ushered in with those clouds of smoke has yielded to a new era, one ushered in with another cloud of smoke, this time over Alamogordo. The Pittsburgh Section of the American Chemical Society spans the years between the two eras, between carbon and carbon-14.”

“In its early days, the Section was the after-hours forum in which the pioneer mill chemists swapped shop-talk and evolved the analytical methods later to be adopted throughout the world. The “Carbon, Sulfur & Silicon Section,” we called it then.”

“It was the rise of the steel industry that really attracted professional chemists to the area; a landmark was the first steel laboratory established in 1875 in conjunction with the opening of the Edgar Thomson works”

“By 1880, Pittsburgh scientists were able to set up the Engineers Society of Western Pennsylvania, with a foundation broad enough to include chemists and everyone else interested in the natural sciences. Of 450 members in 1892, 34 organized a chemical “section” ...”

“When Pittsburgh was selected (as) host to the (American Chemical) Society in 1902, there were now fewer than 57 ACS members within 70 miles of the town; ... Thus it was that on a snowy evening in February – the third – 1903, 18 chemists got together ... to draw up plans for a Pittsburgh Section (of the ACS).”

“Membership mushroomed. Soon, there were 135 men and ... one girl chemist. One night, when less than a year old, the Section took up arms against the contaminated water supply that was giving Pittsburgh and the City of Allegheny (today Pittsburgh’s North Side) the highest typhoid death rate in the civilized world. Twin resolutions (in favor of sand filtration) were sent to the mayors and councils (of both cities). The resolutions ... led to the adoption of filtration by the two cities, and, within four years, the entire water supply had become acceptable. Typhoid .. vanished. It is only fitting that it should be a Section chemist (Harry Van Osdall Churchill of Aluminum Research Laboratories) who catalyzed another revolutionary treatment to the water supply – fluoridation to prevent tooth decay.”

“(Later) the immediate job before the Section was the war (WW I). Columbia’s Dr. Marston Taylor Bogert ... set forth the “research and development work expected of chemists in war time,” and laid problems such as combating of poisonous gases before the Section. Actually, the Chemical Warfare Service began in the Pittsburgh Section... (After the first German gas attacks), the General Staff asked Col. R. F. Bacon, Director of Mellon Institute to assemble personnel for a “front-lines” AEF (American Expeditionary Force) research laboratory in France and deputized C. G. Fisher (author of these reports) to equip it. .. we were soon producing in drums what the Germans made only in flasks.

... the first gas masks used on the Western Front (April 22, 1915) by the British forces were made from models created in Pittsburgh by Mellon Institute’s James B. Garner. In addition, the Gas Defense Division of the Medical Department developed a gas mask equal to that of any belligerent, so that American troops soon were supplied exclusively with American masks. This was largely due to two Section members: Bradley Dewey of the Sanitary Corps and George Burrell of the Bureau of Mines. Col. Burrell ... had initiated helium work at the Bureau early in the war. In his work with natural gas, he found that gas from the Petrolia Field in Texas contained an unusually high 0.90% of helium. By the time the armistice was signed, 45,000,000 cubic feet of the precious non-flammable stuff was available for kite balloons and dirigibles.”

“ ... for about a decade, 1911-1921, the radium center of the world was a five-minute walk from Mellon Institute. Here, at the corner of Forbes Street and Meyran Avenue, on the fourth and fifth floors of the Flannery Building, three section members, Glenn Kammer, Henry Koenig and

Charles Viol, crystallized over half of the radium produced in the entire world, and it was here that the first radium anywhere was produced commercially. Mme. Curie came to town in 1921 to receive an LL.D. from the University of Pittsburgh. Radium eventually killed .. Kammer, Koenig and Viol but their work made possible the cure of thousands of cancer patients.”

“February 1918 saw the first issue of THE CRUCIBLE, a labor-of-love of editor John O’Conner of Mellon Institute who was not a chemist. He was assisted by his secretary Jennie Herron who kept the publication alive while the editor was working for the government in Washington.”

The post-World War I years were active in the formation of new organizations that continue to mark the Pittsburgh chemical community. One is certainly the Mellon Institute. It’s origin is recorded in “A History of the Chemistry Department at the University of Pittsburgh”, published to mark the 125th anniversary of the Chemistry Department. “By sheer chance, Andrew W. Mellon was given a book written by Robert Kennedy Duncan of the University of Kansas entitled “The Chemistry of Commerce”. In the last chapter Duncan emphasized the value of research for industry, and outlined a plan to demonstrate it. If a company sponsored a fellowship at a university to work on its problems, it would learn the value of research. In return, the research fellow would have the advantage of financial support and of learning some of the practical problems of industry. Andrew W. Mellon and his brother Richard B. Mellon were intrigued by the idea. The consequence was that in 1911 Dr. Duncan joined the University of Pittsburgh to organize a Department of Industrial Research. It was so successful that in 1913 the Mellon brothers converted it into the Mellon Institute of Industrial Research and School of Specific Industries. In 1913, this was combined with the Department of Chemistry to form a School of Chemistry, with Raymond F. Bacon, Ph.D. from the University of Chicago and then Director of Mellon Institute, as Dean.” The Institute went through several reorganizations, mainly with the University of Pittsburgh but, in 1967, merged with Carnegie Institute of Technology to form Carnegie-Mellon University. It’s impressive home, the “Greek temple” – on Fifth Avenue, was begun in 1930, built during the depression and dedicated in 1937. At the time of its construction, the excavation of 100,000 cubic yards of earth, was the largest in Pittsburgh history.

The most lasting development during the depression and following years was what has become Pittcon, an international conference administered entirely by volunteers of two scientific societies organized to focus on aspects of analytical chemistry. The Society for Analytical Chemistry of Pittsburgh (SACP) was founded in 1942 by analytical chemists to promote science education and contacts among analytical chemists. It became, in 1945, the analytical division of the Pittsburgh Section of ACS but later returned to independent status.

The second society, the Spectroscopy Society of Pittsburgh (SSP), was formed in 1946, to advance use of spectroscopy as well as education. Both societies held conferences during their early years but, in 1950, merged to hold The Pittsburgh Conference & Exposition on Analytical Chemistry and Applied Spectroscopy, first in Pittsburgh, later in Cleveland and other locations. The national and international reputation of the Conference, now known as Pittcon, annually attracts thousands of enthusiastic analysts, making it the largest annual conference in its field.

The Pittsburgh Award recognizes “those who have rendered distinguished services to chemistry in this area”. The award is given annually to a person selected by a committee of the Section. Recipients of the award are listed in an addendum.

Quoting C. G. Fisher, “By 1936, the Section had grown in size beyond its founders’ original hopes... To recapture the early work-a-day sessions for members in the same fields, it sanctioned the first formation of Divisions: Analytical and Industrial; Biological and Organic; Physical and Inorganic, and, later, Chemical Education.” Analytical, Biological/Organic, and Physical/Inorganic have moved on to homes in other societies or academe but Chemical Education remains part of the Section. New divisions of Polymer Chemistry, Energy Technology, and Environmental Chemistry were added to a changing list that includes other groups noted later.



The Second Fifty Years

As the first fifty years of the Pittsburgh Section was a period of growth, the second fifty years have seen change and even contraction. The most serious influence was reduction, in the 1980s and 1990s, of much of the manufacturing base that supported many chemists and Section activities. Intense competition, often from foreign concerns, led to closing of many of the steel mills in the area and loss of their chemical jobs. Other corporations reorganized, closed or were closed. The Gulf Oil Company became part of Chevron, closing its large research facility in Pittsburgh that later became associated with the University of Pittsburgh. Its name remains in the Gulf Building in downtown Pittsburgh and in the orange circle still used by some service stations owned by other interests. The Westinghouse Electric Company sold, closed or reorganized some divisions, eliminating much of its research. US Steel reorganized through several names and has entirely withdrawn from commercial chemical operations. The Koppers Company was sold circa 1985 to Beacer, a British corporation that has since reorganized. The name remains as Koppers Industries and on the Koppers Building in Pittsburgh.

There were bright spots. PPG added to its interests in glass, coatings, and resins. ALCOA continued to operate one of the largest metals research laboratories in the US. In 1995, Bayer Corp., the American subsidiary of the German multinational, regained US rights to the name it had lost after World War I after operating as Mobay, then Miles. The name Bayer replaced those names as well as others used by smaller subsidiaries. It has expanded in polymers and chemicals with headquarters in Pittsburgh and in pharmaceuticals, the latter centered in West Haven, CT. Other foreign concerns established offices, although few involved active research. The Regional Industrial Development Corporation listed 150 research and development laboratories in its publication Pittsburgh Research – Key to Tomorrow issued during the 1960s but that number fell in following years. Research and Development in the area were strongly affected by the economy and trends toward fields less interested in hiring chemists.

Analysis and physical measurements continued to grow during these years as new methods became available. Computer controlled instruments made possible measurement of chemical, physical and biological properties in routine studies of legal, medical, and environmental questions, quickly and at high accuracy. The growing importance of analytical

instruments attracted crowds that exceeded 34,000 to the Pittsburgh Conference, later known as Pittcon, in New York, 1990, and Chicago, 1996. The Pittcon Societies, SACP and SSP, work closely with the ACS Section to advance education and understanding of the chemical sciences. .

The fall in the traditional industrial chemistry that supported the Section for many years was balanced by increases in academic programs. At the University of Pittsburgh, extensive chemistry-related programs were added, not only in the Department of Chemistry but in Material Science and Engineering, Chemical and Petroleum Engineering, Biotechnology and Bioengineering and in Biological Sciences. Other research takes place in the Medical School and in hospitals associated with the university. The increasing emphasis on biological research has been striking, leading, at some universities, to addition of “Chemical Biology” to Chemistry Department titles. Although that has not happened in Pittsburgh, the broader areas of interest have brought new faculty members and new research fields. Research at the University now has a flexible structure that often emphasizes cooperative programs involving several departments. Faculty members are no longer purely chemists but often combine skills in chemistry, biology, engineering and other fields.

A new chemistry building, later named the Chevron Science Center, was dedicated at the University of Pittsburgh in 1974, bringing together activities scattered across the campus. Special programs were established. In 1984, the Surface Science Center was dedicated with John T. Yates, Jr. as Director. Peter Wipf directed a new Combinatorial Chemistry Center formed in 1998. And in 2000, the Center for Molecular and Materials Simulations was established under the direction of Kenneth Jordan.

Research at Carnegie Mellon grew with the merger of Mellon Institute and Carnegie Institute of Technology 1967. The Greek Temple home of Mellon Institute still carries that name although the “Sponsored Research” of the Institute, initially a separate program, has been integrated with the Chemistry Department. “Excellent research is carried on in polymer science, organic and materials chemistry, bio-inorganic chemistry, green chemistry, biophysical chemistry, spectroscopy, nuclear chemistry, and theoretical and computational chemistry.” Chemistry has a strong partner in the Department of Chemical Engineering.

Duquesne University, third of Pittsburgh's research universities, in 1994 established the Bayer School of Natural and Environmental Sciences bringing together four departments: Chemistry and Biochemistry, Biological Sciences, Physics, and the Center for Environmental Research and Education. The Bayer School coordinates a wide range of courses and research in these fields and has led to significant faculty and program increases.

The chemical sciences have been strengthened at four-year colleges in Western Pennsylvania, providing a source of trained chemists. High quality research is now conducted at many of them, preparing students for graduate study as well as industrial positions. In addition, two-year courses are offered at Community Colleges to prepare students for further study or work situations.

A unique vocational program for training of chemical laboratory technicians was established 10 years ago at the Bidwell Training Center to prepare students with limited academic backgrounds for laboratory work. The Chemical Laboratory Technician program includes 1-year of lecture and laboratory training. Those completing the course receive an Associate Degree (an Occupational Degree in Specialized Technology). The course is the only accredited program of its type in Pennsylvania and has provided technicians for many of the large research laboratories in the area. The Bidwell program led to formation, in 1994, of the Western Pennsylvania Technician Affiliate Group as a new topical group of the Pittsburgh Section.

Federal coal and energy research has been an internationally respected part of the chemical science community throughout most of Pittsburgh Section history. The Pittsburgh Experiment Station was established in 1910 by the Bureau of Mines, then a part of the Department of the Interior. The Coal Research Center was located in Bruceton, 12 miles south of Pittsburgh and included an experimental coal mine as well as laboratories. Later, in 1946, Synthesis Gas Research began in Morgantown, WV, 65 miles from Bruceton. After several reorganizations and name changes, the two centers were combined in 1996 as the Federal Energy Technology Center (FETC). It became the National Energy Technology Laboratory (NETL) in 1999, a new National Laboratory of the Department of Energy.

Coal research over many years included coal liquefaction and, after World War II, studies of the German Fischer-Tropsch process for convert-

ing synthesis gas to clean fuels. The work concerned the OXO reaction in studies that still continue. Irving Wender, a retired Director of the center, received the American Chemical Society's Award in Petroleum Chemistry for his part in the work (that did not involve petroleum). Emphasis at the National Energy Technology Laboratory (NETL) is on the supply of low cost energy using environmentally favorable processes.

The Pittsburgh Section began its second fifty years in 1953 with 1653 members. That number grew to 2297, thought to be its historic high, in 1969. Membership remained near 2000 until 2001 when poor economic conditions and reductions in some industrial laboratories caused a fall to the present 1830. The number of topical groups had become seven on the Golden Anniversary of THE CRUCIBLE in 1967. Chemical Education and Polymer Chemistry continue to be active; many Analytical Chemistry activities are carried on by the Pittcon Societies. Coal Technology and an Environmental Group search for a mission. Biochemistry, Organic Chemistry and the Physical/Inorganic Groups have disappeared, their functions becoming parts of other organizations or university programs. Additions included the Technician Affiliate Group and merger with a long-term independent organization, The Pittsburgh Chemists Club. Its hope of attracting the large number of retired chemists living in the area is slowly being accomplished through varied technical and cultural programs. At the recommendation of Mordecai Treblow, long active in national ACS affairs, recognition dinners for 50-year members were moved to the ACS Chemists Club in 2001. A Women's Chemists Committee is planning activities within the section.

During its second 50 years, the section has hosted several meetings sponsored by the national ACS. In 1966 as part of an experiment of the national society, Pittsburgh held part of a national meeting. The other sites were Phoenix and New York City. The experiment was not successful and the idea was abandoned. The section has also held Central Regional Meetings in 1993 and, of course, 2003. It has been recognized for Outstanding Performance in 1992 and 1993 and has received Phoenix Awards for National Chemistry Week programs seven times, in 1991, 1992, 1995, 1996, 2000, 2001, and 2002.

Two members of the Pittsburgh Section have served as members of the national Board of Directors. They are: Mordecai Treblow and, today, C. Gordon McCarty.

THE CRUCIBLE, newsletter for the Pittsburgh Section, Pittcon Societies and area universities celebrated its Golden Anniversary in 1968 with publication of a special issue. It opens with this greeting from the first issue in 1918.

Greetings! Members of the Pittsburgh Section of the American Chemical Society. THE CRUCIBLE greets you out of its heart of hearts and hopes that you are glad to see it. THE CRUCIBLE is very happy to have been brought into existence. It knows that it is one of the signs of the times - the dawn of a new day for the chemist. It hopes to play a small part as the interpreter of that new day to the people of the Pittsburgh District.

The 50-year editor, James V. Kennedy, continued ... "And so, with this ebullient greeting, a tradition was born to members of the Pittsburgh Section."

The Section continued to show enthusiasm and vigor. A Pittsburgh chemistry tradition was begun in 1979 when Virginia W. Fisher and members of the Pittsburgh Section Education Group and faculty of the University of Pittsburgh and CMU organized the first Pittsburgh Chemistry Olympics. The annual Olympics combined laboratory experiments with a written test and were directed at generating skills and enthusiasm in high school students. Competitions were first held in Category I (students of first year chemistry) and Category II (second year chemistry). In 1986, Category III (organic chemistry) was added. Support for the program was provided by the Pittcon Societies, SACP and SSP, as well as the universities and ACS Section. Beginning in 1986, Leonard Messer donated cash awards for the winners. Other support was given by Burrell Scientific Co., Fisher Scientific Co. and the Bayer Foundation. The Olympics were first held at the University of Pittsburgh, then at CMU starting in 1981. They have since returned to Pitt.

The Pittsburgh Chemistry Olympics led to the International Chemistry Olympiads. Beginning in 1984, the U.S. Air Force Academy had become the site of a rigorous training program, with the most highly rated selected for U.S. representation in the international competition. Qualified students were chosen by examinations prepared by Dr. Marjorie Gardner, representing the national ACS, and Dr. Bodie Douglas of the University of Pittsburgh and their committee. Several Pittsburgh area students were sent to the Air Force Academy with two chosen for the International

Chemistry Olympiad. Seth Brown of Taylor Alderdice High School in Pittsburgh competed in the International in 1984 in Frankfurt, Germany. In 1993 David Hutz of Fox Chapel High School received a silver medal in competition in Italy.

Virginia Fisher's long-time dream became reality when the National ACS selected the Pittsburgh Section to host the 1992 International Chemistry Olympiad together with the Washington D.C. Section. The proposal was presented by Ms. Fisher, Ray McAfee, Chair of the Pittsburgh Section, and W. Richard Howe of the University of Pittsburgh. The International Olympiad highlighted the second 50 years of the Pittsburgh Section as students from 33 countries participated in the competition and in social and cultural activities. The Chemistry Olympics are described by Virginia Fisher in a book "History of the Pittsburgh Chemistry Olympics" and a paper in the Journal of Chemical Education, 58, 720 (Sept. 1981).

The Pittsburgh Section's Committee on History, Landmarks and Archives proposed to the National ACS that the site of the first commercial aluminum refining by the Hall process be recognized as a National Historical Chemical Landmark. The electrolytic process had been developed by Charles Martin Hall at Oberlin College but was implemented in Pittsburgh where financial support was available. The Pittsburgh Reduction Company was organized by Alfred E. Hunt and was the start of ALCOA. The site on Smallman Street was accepted by the ACS as a National Landmark and a plaque awarded to ALCOA and the Pittsburgh Section in 2001. The site is close to downtown Pittsburgh.

The Pittsburgh Section covers a large area of Southwestern Pennsylvania. To support its outlying areas, the section has sponsored Pittsburgh Section On-the-Road programs when universities and colleges find travel to Pittsburgh activities difficult.

Support of the ACS Student Affiliate program has been emphasized by the Pittsburgh Section for many years. The ACS Student Affiliate program began in 1937 with 190 undergraduate affiliates and seven chapters. There are now more than 7500 affiliates and 950 chapters in the US and Puerto Rico. The University of Pittsburgh Chapter was installed in 1939, Duquesne University in 1942 and CMU in 1952 (although Carnegie Tech earlier had active members).

Pittsburgh Section Student Affiliate activities are directed by Theodore Weismann of Duquesne University. Groups are active at colleges and universities in Southwestern Pennsylvania and adjoining areas of Ohio, West Virginia and Maryland. A consortium of Student Affiliate groups at approximately 25 colleges and universities in the region have held a Meeting-in-Miniature for the past 19 years that, this year, will be part of this Regional Meeting. National ACS Awards recognizing programs as Outstanding, Commendable, or Honorable Mention have been made to a long list of area colleges and universities for many years. Awards for 2001-2002 were made to 12 institutions.

The section has always placed importance on programs for undergraduates. Pitt and Duquesne conducted undergraduate research sessions during the late forties and early fifties. Emphasis is on assisting undergraduates in professional development through programs at national and regional meetings and through career education materials.

Much of the strength of the Pittsburgh Section lies in its cooperative efforts with SACP, SSP and other organizations. The Tripartite (ACS, SACP, SSP) Symposium is held annually on an important subject chosen by a joint committee of the three organizations. It aims to focus on topics not covered elsewhere and provide funding to attract leaders in the field. The three societies also cooperate in National Chemistry Week.

After 100 years, where is the Pittsburgh Section and what is its direction? The smoke that defined the area is mostly gone and the rivers are much cleaner. Efforts to remove the remains of past heavy industry continue. Chemistry has changed. We no longer practice "wet analyses" and younger chemists have little idea of the slide rule. We depend heavily on computer aided research and instruments using methods developed in physics and physical chemistry laboratories. The science has become a combination of old fashioned chemistry with physics, engineering, and, increasingly, biology and medicine. The American Chemical Society and similar organizations are working to adapt to the new conditions but the change is rapid and difficult. I can't predict where the Pittsburgh Section will be in another 100 years but it will be very different. Chemical, in fact technical, education will include computer science and broader environmental aspects. Some of our scientific organizations will probably merge or dissolve. The years will be exciting.

John K. Backus, August 27, 2003

Selected 100th Anniversary References

Aluminum Industry and ALCOA

1. "Aluminum" in Three Volumes, edited by K. R. Van Horn
Vol. I Aluminum, Properties and Physical Metallurgy
Vol. II Design and Application
Vol. III Fabrication and Finishing
American Society for Metals, Metals Park, Ohio
2. "From Monopoly to Competition", "The Transformation of ALCOA 1888-1986"
George David Smith
Cambridge University Press
3. "R&D for Industry, a Century of Technical Innovation at ALCOA"
Bettye H. Pruitt
Cambridge University Press
4. "The Aluminum Industry"
Frary, Jeffries and Edwards
ALCOA in 1930s

Virginia W. Fisher "History of the Pittsburgh Chemical Olympics – Pulished privately

Virginia W. Fisher "Journal of Chemical Education, 58, 720 (Sept. 1981)

"A History of the Chemistry Department at the University of Pittsburgh"

THE CRUCIBLE, Golden Anniversary: 1918-1968

"Vision, Venture and Volunteers – 50 Years of History of the Pittsburgh Conference
on Analytical Chemistry and Applied Spectroscopy

Judith Wright 1999

Robert R. Rothfus, "The History of Chemical Engineering at Carnegie-Mellon University"
The University of Pittsburgh, 1882

Joseph F. Rishel, "The Spirit that Gives Life"
The History of Duquesne University, 1878-1996

Pittsburgh Research – key to tomorrow: Regional Industrial Development Corp.
Of Southwestern Pennsylvania, circa 1960s



Recipients of the Pittsburgh Award

of the Pittsburgh Section of the ACS

1933	Ralph E. Hall	1934	Charles E. Nesbit	1935	No Award
1936	Andrew W. Mellon	1936	Richard B. Mellon	1937	Francis C. Frary
1938	George H. Clapp	1939	Edward R. Weidlein	1940	Alexander Silverman
1941	Webster N. Jones	1942	Charles G. King	1943	Junius D. Edwards
1944	Leonard H. Cretcher	1945	John C. Warner	1946	William P. Yant
1947	Chester G. Fisher	1948	Henry H. Storch	1949	Harry V. Churchill
1950	William A. Hamor	1951	William A. Gruse	1952	Homer H. Lowry
1953	Paul H. Emmett	1954	Paul D. Foote	1955	George D. Beal
1956	Robert F. Mehl	1957	Alfred R. Powell	1958	Max A. Lauffer
1959	Frederick D. Rossini	1960	Robert B. Anderson	1961	Earl A. Gulbrandsen
1962	Klaus H. Hoffman	1963	Harold P. Klug	1964	Henry S. Frank
1965	Foil A. Miller	1966	Earl K. Wallace	1967	R. R. Friedel
1968	Irving Wender	1969	W. Conard Fernelius	1970	Tobias H. Dunkelberger
1971	Paul C. Cross	1972	Edmund O. Rhodes	1973	W. Edward Wallace
1974	Bernard Lewis	1975	John A. Pople	1976	Edward M. Arnett
1977	Frederick Kaufman	1978	George Jeffrey	1979	Ronald Bentley
1980	G. Arthur Webb	1981	Robert B. Carlin	1982	Ivy McManus
1983	Robert Feller	1984	Gerald L. Carlson	1984	Leonidas Petrakis
1985	Kurt C. Schreiber	1986	W. Keith Hall	1987	Jerome L. Rosenberg
1988	Aksel A. Bothner-by	1989	Johannes F. Coetzee	1990	Herbert L. Retcofsky
1991	Bodie E. Douglas	1991	Bruce M. LaRue	1992	Andrew G. Sharkey Jr.
1993	Konrad M. Weis	1994	Guy C. Berry	1995	Gerd Leston
1997	Virginia Fisher	1997	David M. Hercules	1998	John T. Yates, Jr.
1999	Theodore J. Weismann	2000	Kenneth D. Jordan	2001	Krzysztof Matyjaszewski
2002	Sanford A. Asher	2003	C. Gordon McCarty		

100 Years of Chairs of the Pittsburgh Section of the ACS

1903	Alexander G. McKenna	1937	Gerald J. Cox	1971	Thomas J. Hardwick
1904	Harry E. Walters	1938	Charles Glen King	1972	W. D. Johnston
1905	George P. Maury	1939	Lloyd H. Almy	1973	G. P. Cunningham
1906	Joseph H. James	1940	Earl K. Wallace	1974	Denton M. Albright
1907	Joseph H. James	1941	James N. Roche	1975	I. R. McManus
1908	Joseph H. James	1942	John C. Warner	1976	Jack W. Hausser
1909	Horace C. Porter	1943	Helmuth H. Schrenk	1977	Bodie E. Douglas
1910	James O. Handy	1944	William A. Gruse	1978	Gerst A. Gibbon
1911	John K. Clement	1945	Harold K. Work	1979	Leon Petrakis
1912	Walter O. Snelling	1946	Robert N. Wenzel	1980	S. Charles Caruso
1913	George D. Chamberlain	1947	Herbert E. Longenecker	1981	Gerd Leston
1914	Raymond F. Bacon	1948	Gilbert Thiessen	1982	Gerald Carlson
1915	Arno C. Fieldner	1949	J. Paul Fugassi	1983	W. Dale Richey
1916	Karl F. Stahl	1950	R. R. McGregor	1984	Edgar L. McGinnis
1917	George A. Burrell	1951	Bernard F. Daubert	1985	Robert E. Witkowski
1918	Samuel R. Scholes	1952	Edmund O. Rhodes	1986	Diane Wakefield
1919	Rufus E. Zimmerman	1953	Earl L. Warrick	1987	Bruce M. LaRue
1920	E. Ward Tillotson	1954	Hugh F. Beeghly	1988	Thomas C. Ruppel
1921	Henry C. P. Weber	1955	T. H. Dunkelberger	1989	E. Ray McAfee
1922	James O. Handy	1956	John R. Bowman	1990	Steven H. Peterson
1923	Edward R. Weidlein	1957	Foil A. Miller	1991	Richard S. Danchik
1924	Alexander Silverman	1958	Gordon H. Stillson	1992	Mildred B. Perry
1925	Warren F. Faragher	1959	Robert B. Anderson	1993	John K. Backus
1926	Clarence J. Rodman	1960	Earl A. Gulbransen	1994	Raymond A. Kramer
1927	William A. Hamor	1961	Robert B. Carlin	1995	Barbara E. Johnson
1928	Alexander Lowy	1962	George W. Gerhardt	1996	Albert A. Caretto Jr.
1929	Edward E. Marbaker	1963	Harold P. Klug	1997	Guy C. Berry
1930	J. Clyde Whetzel	1964	Robert A Friedel	1998	Karl F. Schoch Jr.
1931	Leonard H. Cretcher	1965	John J. McGovern	1999	Theresa L. Brna
1932	Harry V. Churchill	1966	W. C. Fernelius	2000	Sheila W. Hedges
1933	William P. Yant	1967	Robert S. Bowman	2001	Brian R. Strohmeier
1934	T. George Timby	1968	Kurt C. Schreiber	2002	Mark E. Bier
1935	Charles S. Palmer	1969	Paul C. Cross	2003	Myron W. Shaffer
1936	Chester G. Fisher	1970	Richard E. Hein	2004	A. Kay Bilal



Left - Bidwell Director Michelle Blanken at the registration table of 2001 NCW

Below - 2001 NCW Coordinator V. Michael Mautina and his committee



Left - Attila Pavlath, President of the National ACS, presents plaque recognizing commercialization of the Hall process as an ACS National Historic Landmark to Robert Slagle, Executive Vice President of Human Resources and Communication, ALCOA



Right - P.J. Pique at the SACP Table of 2001 NCW



Left - Old Bureau of Mines Building in Pittsburgh (Oakland)



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