

Commemorative History of the Agricultural and Food Chemistry Division

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FOUNDING AND HISTORIES

The Agricultural and Food Chemistry Division has had a proud history of fostering scientific research from its founding date of December 30, 1908, as one of the five original divisions organized by the American Chemical Society, until the present time. The Division's history has been documented in various forms and styles. The earliest published history, located to date, was written in 1959 by the 1950 Division Chair L. E. Clifcorn (1). This article contained a list of officers from founding until 1958. Later in the same journal volume pictures of most of the Past Division Chairs through 1960 can be found (2). A list of officers from 1959 through 2002 is given in Table 1. The next published history of the Agricultural and Food Chemistry Division is found in Chapter 10 of the *Century of Chemistry* published by ACS (3). Although an author of this chapter is not designated, the list of contributors indicates that Richard J. Magee was the author. The next division history is a 1983 75th Anniversary Commemorative article by John P. Zikakis titled "Agricultural and Food Chemistry: Accomplishments and Perspectives" (4). Next, a divisional history was published in the *1988 Directory of Members and Divisional History*, Division of Agricultural and Food Chemistry, ACS, edited by Mir N. Islam. Most recently, Robert J. McGorin, as part of a *Division Membership Directory* that was widely circulated but not officially published, wrote a divisional history in 1998. Each of these resources is acknowledged, especially the 1998 history, which, because of its recency, has been used by the author in compiling this commemorative history.

DEVELOPMENT, BREADTH, AND PUBLICATION AWARDS

The Division of Agricultural and Food Chemistry has a breadth of interests and disciplines that covers the wide spectrum of biotechnology, nutrition, fertilizers, insecticides, fungicides, rodenticides, herbicides, fermentation, crops, flavor, and food technology. To cover this diversity of interests, the Division has been actively engaged in the sponsorship of symposia, international conferences, and a wide range of books on these topics. Many of the over 250 symposia programmed by the Division have been cosponsored by other divisions in the Society. Ten International Flavor Conferences have been sponsored by the Division, starting in 1978 with a conference in Athens, Greece, under the leadership of George Charalambous. Successive conferences were held in 1981 at Athens and 1983 at Corfu, Greece. The 1985 conference held in Rhodes, Greece, was on "Shelf Life of Foods and Beverages". Subsequently, the conferences were held in Porto Carras, Greece

(1987), Crete, Greece (1989), Samos, Greece (1992), and Cos, Greece (1994). The 9th International Conference held in 1997 at Limnos, Greece, was a memorial Flavor Conference in tribute to George Charalambous for the leadership given to these conferences during his lifetime. The 10th International Flavor Conference, Second George Charalambous Memorial Symposium, was held in 2001 at Paros, Greece. Proceedings of the conference are to be published by the Royal Society of Chemistry. An 11th conference is currently being organized for 2003, also to be held in Greece. These symposia and international conferences have resulted in over 125 books being published. To recognize the major effort put forth by the editors of these books, the Division instituted two publication awards in 1994. The 700 Club Award recognizes those editors whose books have sold over 700 copies, whereas the Platinum Club Award recognizes editors whose books have sold more than 1000 copies. These awards consist of an engraved plaque presented to the book authors at the Division's annual awards banquet.

SUBDIVISIONS

Over the years the breadth of the Division has resulted in the formation of many subdivisions. These subdivisions played an important part in our diversified activities. Our spirited paternal enthusiasm provided to offspring subdivisions the freedom to grow and prosper so that upon maturity they could become independent divisions. One of the earliest was the Fermentation Subdivision formed in 1946 and chaired by C. S. Boruff. In 1961, it was given an independent status and became the Division of Microbial Chemistry and Technology. The Pesticide Subdivision was formed in 1950 with J. S. St. John as its first Chair. In 1968 this subdivision became the Division of Pesticide Chemistry. In 1985, its name was changed to Agrochemicals. Thus, we can take great pride that the Division of Agricultural and Food Chemistry fostered the formation and development of two new great Divisions in the American Chemical Society.

Even though there was some loss of Division membership with the separation of each subdivision, the loss was soon made up by the continued healthy growth of the parent Division. In 1975 our membership stood at 1245 with 191 affiliates. Today our membership is more than double that number and is still growing. Two subdivisions provide these members with a variety of topic areas. Subdivisions are formed and their focus is shifted in response to emerging research areas within agricultural and food chemistry. The Flavor Subdivision was

Table 1. Officers of the Division of Agricultural and Food Chemistry 1959–2002

year	Chair	Chair-Elect	Secretary–Treasurer ^a	
1959	F. M. Strong	L. W. Hazelton	J. H. Nair III	
1960	L. W. Hazelton	L. S. Stoloff	R. W. Thomas	
1961	L. S. Stoloff	J. S. Sylvester	R. W. Thomas	
1962	J. S. Sylvester	H. E. Robinson	J. W. Van Valkenburg	
1963	H. E. Robinson	F. E. Deatherage	J. W. Van Valkenburg	
1964	J. W. Van Valkenburg	J. F. Mahoney	F. L. Kauffman	
1965	J. F. Mahoney	L. Lykken	F. L. Kauffman	
1966	L. Lykken	F. L. Kauffman	J. H. Nair III	
1967	F. L. Kauffman	D. MacDougall	R. J. Weir	
1968	D. MacDougall	K. Morgareidge	R. J. Magee	
1969	K. Morgareidge	I. Hornstein	R. J. Magee	
1970	I. Hornstein	E. L. Wick	R. J. Magee	
1971	E. L. Wick	S. J. Kazeniak	M. E. Mason	
1972	S. J. Kazeniak	G. E. Inglett	M. E. Mason	
1973	G. E. Inglett	R. J. Magee	M. E. Mason	
1974	G. E. Inglett	R. J. Magee	M. E. Mason	
1975	R. J. Magee	R. Teranishi	G. Charalambous	
1976	R. Teranishi	M. E. Mason	G. Charalambous	
1977	M. E. Mason	R. E. Feeney	A. Pour-El	
1978	R. E. Feeney	G. Charalambous	A. Pour-El	
1979	G. Charalambous	R. L. Ory	C. J. Mussinan	
1980	R. L. Ory	I. E. Liener	C. J. Mussinan	
1981	I. E. Liener	A. Pour-El	C. J. Mussinan	
1982	A. Pour-El	S. Nagy	C. J. Mussinan	
1983	S. Nagy	J. R. Whitaker	C. J. Mussinan	
1984	J. R. Whitaker	I. Katz	C. J. Mussinan	
1985	I. Katz	J. P. Cherry	C. J. Mussinan	
1986	J. P. Cherry	J. P. Zikakis	C. J. Mussinan	
1987	J. P. Zikakis	J. Finley	C. J. Mussinan	
1988	J. Finley	M. Phillips	C. J. Mussinan	
1989	M. Phillips	T. Acree	C. J. Mussinan	
1990	T. Acree	C. J. Brine	C. J. Mussinan	
1991	C. J. Brine	G. Fuller	C. J. Mussinan	
1992	G. Fuller	R. A. Scanlan	C. J. Mussinan	
1993	R. A. Scanlan	R. J. McGorin	C. J. Mussinan	
1994	R. J. McGorin	D. J. Armstrong	C. J. Mussinan	
1995	D. J. Armstrong	C.-T. Ho	C. J. Mussinan	
1996	C.-T. Ho	S. J. Risch	C. J. Mussinan	
1997	S. J. Risch	H. E. Pattee	C. J. Mussinan	
1998	H. E. Pattee	R. Rouseff	C. J. Mussinan	
1999	R. Rouseff	M. J. Morello	S. J. Risch	C. J. Mussinan
2000	M. J. Morello	M. Tunick	S. J. Risch	C. J. Mussinan
2001	M. Tunick	F. Shahidi	S. J. Risch	C. J. Mussinan
2002	F. Shahidi	C. Frey	S. J. Risch	C. J. Mussinan

^a Split in 1999.

founded in 1965 with Irwin Hornstein as Chair. Through the years this subdivision has held many flavor workshops and done much to financially support the Division. At the Boston meeting in 1998 a symposium titled “Flavor Chemistry: 30 years of Progress” honored this cornerstone subdivision. Roy Teranishi, Emily Wick, and Irwin Hornstein, the subdivision’s founders, chaired this symposium. A large majority of the subdivision’s Past Chairs were in attendance, attesting to the key role this subdivision has played. The Food and Nutritional Biochemistry Subdivision [which represented a merger of the Food Biochemistry Subdivision (formerly the Protein Subdivision created in 1970 with George Inglett, Chair) and the Nutritional Chemistry Subdivision (established in 1977 with Lawrence Rosner, Chair)] was founded in 1983 with John Milner, Chair. The Agricultural and Natural Products Chemistry Subdivision (formerly the Agrochemicals Subdivision) was founded in 1982 with Robert Ory, Chair. In 1987 the Food Safety Subdivision was established with William Moats, Chair. The latter three subdivisions were merged into the Functional Foods and Natural Products Subdivision in 2001.

AWARDS

Each year the Division presents several awards. Premier among these awards is the Agricultural and Food Chemistry Divisional Award. This award was established in 1971 and has been continuously sponsored by International Flavors and Fragrances, Inc. It was established to recognize and encourage outstanding contributions to pure and/or applied agricultural and food chemistry. The first recipient was Dr. A. L. Elder, who accepted the award at the 166th meeting of the Society in Chicago, August 1973. For the first time in 1981, the award was given to a distinguished international scientist, Dr. Hisateru Mitsuda from Japan. The award consists of a \$3000 honorarium, an engraved plaque, and a travel subsidy to cover the expenses of the awardee for attending the ACS Meeting at which it is presented.

The Division has always endeavored to support the education of those interested in agricultural and food chemistry. To encourage this, in 1980, the Division announced the establishment of the Award for Excellence in Undergraduate Research in Agricultural and Food Chemistry. The purpose of the award

is to encourage undergraduate research in the fields of agricultural and food chemistry and to recognize students doing outstanding work in these areas. A maximum of two awards may be presented each year. The award provides \$500 in cash, an engraved plaque, and a maximum of \$750 in expenses to attend the Fall National Meeting of the American Chemical Society and present a paper on his/her research. The first recipient of this award was Michele Bronstein at the 182nd meeting of the Society in New York City, August 1981. In 1986 the Division established the Award for Excellence in Graduate Research. Four finalists are invited to attend the Fall Society meeting and present a paper on their research. The winner is selected from these finalists and receives a \$750 cash award and an engraved plaque. All finalists receive up to \$1000 to cover meeting attendance expenses. The first recipient was Charles Belunis. In 1989, the Division established the Donald A. Withycombe Fellowship. In 1998, a second fellowship was established, the George Charalambous Fellowship. The first Withycombe Fellowship was presented to Sharon X. Chen. The first Charalambous Fellowship was presented to Bradley J. Swenson. In 2001 a third fellowship, sponsored by Haarmann and Reimer, was established, the Roy Teranishi Fellowship. Roy passed away in December 2000. Each fellowship recognizes a beginning graduate student and consists of an engraved plaque and \$2500.

The Young Scientist Award, established in 1992 and sponsored by Kraft Foods, Inc., recognizes the contributions of young scientists to agricultural and food chemistry. The award consists of \$1000, an engraved plaque, and a maximum of \$1500 for expenses for the awardee to attend the Fall National Meeting of the American Chemical Society and present a paper on his/her work to the Agricultural and Food Chemistry Division. The first awardee was Dr. Shelly Schmidt.

At the 1987 meeting in New Orleans, we instituted the Division of Agricultural and Food Chemistry Fellow Award. This award is presented to members of the Division who have made outstanding scientific contributions to the field of agricultural and food chemistry. The award consists of an engraved plaque presented at the annual divisional award dinner. To date, 37 individuals have received this award or ~1% of the division membership.

To recognize distinguished service to the division, the Distinguished Service Award was established in 1984. This award recognizes substantial and sustained service to the Division over a period of at least 10 years. This award consists of an engraved plaque presented at the annual divisional award dinner. To date, 33 individuals have received this award.

THE JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

In addition to many ACS journals available to the members, the *Journal of Agricultural and Food Chemistry* has predominantly served our members and members of the Agrochemicals Division. At the beginning of our commemorative span, Philip K. Bates served as distinguished editor and had since 1965. In 1982, Irvin E. Liener became the editor and served until 1999. During these years the journal increased significantly in number of articles published and the number of associate editors increased from one to two. One of the major accomplishments of Dr. Liener's tenure was the decrease in time from article submission to print. At the end of his tenure the average time was about 29 weeks. In 1999 Dr. Liener stepped aside and James N. Seiber assumed the editorship. With this change the number of associate editors increased to four and in 2002 a fifth will be

add. Several members of our Division serve on the Editorial Advisory Board. Since the change in Editors the size of the Advisory Board has gradually increased from 12 to 23 between 1999 and 2001. In 2002 the board will increase to 28. Growth in the journal over the past 25 years is shown by the increase in pages published. In 1977 1452 pages were published and in 2001 the number will grow to over 6000 pages. The Division is also involved in the publication of a newsletter, *The Cornucopia*. It is published two times yearly and distributed to all members free of charge. In 1995, *The Cornucopia* was cited as an outstanding activity of our Division.

PIONEERING HORIZONS

With the many activities of the Agricultural and Food Chemistry Division receiving public attention and interfacing with the new media, it was felt necessary to pioneer setting up a public relations group to improve the image of the Division. Harry Prebluda served as the first Chair of Public Relations from 1973 to 1980. It was at that time that our Division was first represented on *CHEMTECH's* Advisory Panel, and representation from the division continued until the journal was discontinued in 2001. The interest in a published directory was an outgrowth of the dynamic membership activity to coordinate efforts to have the entire division participate and help out in the affairs of the society. John Zikakis succeeded Harry Prebluda and was responsible for publishing the first edition of the membership directory. The second edition, edited by Mir Islam, was published in 1988. Recent privacy concerns have placed the publication of a third directory on hold.

In the early 1980s the American Chemical Society watched the arrival of Biotechnology as a multidisciplinary science. The "art" of biotechnology has its roots in early civilization with the manipulation of the growth and bioprocessing of microorganisms for the enhancement of food products, that is, cheese and beer. In the late 1970s a new dimension was added to this manipulation process, the successful transfer of a DNA sequence from one organism into the genome of another organism by sophisticated genetic engineering techniques. This set the stage for a future genomic revolution. This was soon identified as biotechnology and quickly led the way to production of useful recombinant proteins for food and health. The media as well as business and political figures soon added hype and hope to this new arena of science. Great expectations of commercial values from pharmaceuticals and agricultural products were identified. Our Agricultural and Food Chemistry Division leadership realized that new and evolutionary food and agriculture products would eventually result from biotechnology. To some this was simply biology at its finest, but to some members in the leadership of ACS came the recognition that molecular biology was based on a core discipline of chemistry. ACS moved to capture part of this new scientific wave and to try to make sure that the focus of the Society was global enough to gain and retain members in this rapidly expanding arena. It was clear to the Society staff that the best approach was in organizing a broad, multidisciplinary symposium covering hot research from the Divisions. The ACS meeting staff also knew that (1) listing all papers under Biotechnology, (2) listing in the front of the program, (3) guaranteeing meeting in easily accessible rooms close together and the exhibit area if possible, and (4) providing press exposure would result in excellent recognition for the members, Divisions, and ACS. With this emergence of biotechnology the Society wanted potential attendees to be able to look at the program and "come to the meeting". Hence, under this model and with the support of our Division, Marshall

Phillips led the formation of the Biotechnology Secretariat and served as Chair of the Secretariat for the 1985–1988 period. In 1986 at Anaheim, under his programming, a four-day symposium brought together 15 ACS Divisions with the topic “The Impact of Chemistry on Biotechnology”. More than 70 papers were presented in this symposium. Ralph Hardy received the 1986 Sterling B. Hendricks Memorial Lecture Award from ARS, USDA, for his contribution in the area of nitrogen fixation and delivered the keynote speech, “Agricultural and Food Biotechnology Products and Process: The Next Opportunity”. Financial support was provided by the Divisions as well as by a grant from the Committee on Science. The proceedings were published by ACS Books and over 2200 copies were sold. The royalties were returned to the participating Divisions. Since this beginning the Biotechnology Secretariat and the Division of Agricultural and Food Chemistry have cosponsored symposia at least once each year. ACS Presidential Symposia on food biotechnology were held in 1999 and 2000 in which the Division took a leading role.

The Division has traditionally supported symposia related to food safety. In response to growing awareness of food safety from the public, industry, and academic community, a new Food Safety Subdivision was formed at the New Orleans meeting in 1987. Forefront symposia such as “Food Safety: Chemistry and Public Policy” presented at the Washington, DC, meeting in 1992; “Natural Toxins” and “Fumonisin in Foods”, both presented at the 1995 meeting in Anaheim, CA; and “Chemistry and Biology of Food Allergens” at the 1998 meeting in Boston, MA, represent the goal of the subdivision to sponsor state-of-the-art symposia on the chemical aspects of food safety. Other typical issues discussed include safety related to chemical changes in processing, toxic residues, and other antinutrients found in the food supply. The Agricultural and Natural Products Chemistry Subdivision founded in 1982 and the Food and Nutritional Biochemistry Subdivision founded in 1983 have also presented symposia at the forefront of emerging issues, for example, typical issues such as dietetic and dietary pharmacodynamic lipids (1985), bioavailability of micronutrients (1981–1986), dietary fibers: physiological effects, new advances and physicochemical properties (1978; 1989), β -glucans: biotech-

nology and nutrition (1990), food phytochemicals for cancer prevention (1992), safety aspects of flavors and foods produced by genetically modified plants and organisms (1994), wine composition and health benefits (1995), natural antioxidants in foods and biological systems (1997), and chemistry and health benefits of caffeinated beverages (1999).

AN OUTSTANDING DIVISION

Our division has maintained the superior performance standards set up by our predecessors. The National ACS Subcommittee on Divisions acclaimed our division as best by far in enthusiasm, mission orientation, and imagination. In 1986, 1991, and 1995, the Agricultural and Food Chemistry Division received Outstanding Division Awards from the ACS “in recognition of outstanding services to each member and for meritorious contributions to the chemical profession and public understanding of the fundamental importance of chemistry to mankind”.

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