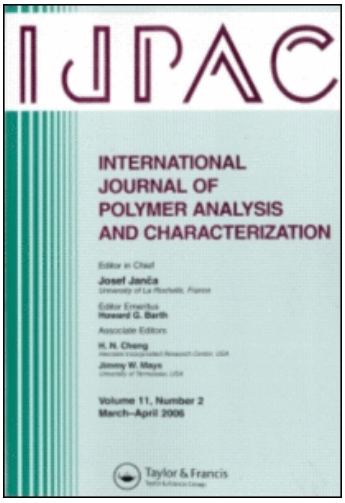

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ISPAC and Dr. Howard G. Barth

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INTRODUCTION

The 20th International Symposium on Polymer Analysis and Characterization (ISPAC-2007) was held at Agios Nikolaos, Crete, Greece on October 1–3, 2007, with Professor Nikos Hadjichristidis responsible for organizing the meeting. At the outset of the symposium, we celebrated ISPAC's 20th meeting and Dr. Howard G. Barth's 60th birthday. This brief article documents that celebration.

THE HISTORY OF ISPAC

In early 1986, Dr. Howard Barth, a group leader at the Hercules Incorporated Research Center, and Dr. Sadao Mori, a professor at Mie University, Japan, discussed the needs of scientists who were involved in the analysis and characterization of polymers. There appeared to be two groups of scientists working in this field: analytical chemists involved primarily in developing methodologies for the analysis of polymers and polymer scientists who were concerned with polymer characterization. Each of these groups tended to have its own meetings and, because of

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the wealth of knowledge both groups of scientists represented, Howard and Sadao concluded that there should be a permanent symposium focusing on polymer analysis and characterization.

Howard consulted with several scientists in the United States, UK, and Canada, and Sadao had discussions with some scientists in Czech Republic (Czechoslovakia at that time) and Germany (East Germany at that time) when he visited these countries in the fall of 1986.

This led to them establishing the International Symposium on Polymer Analysis and Characterization (ISPAC) in 1987. The purpose of ISPAC is to bring together both analytical chemists and polymer scientists on an international level to present recent advances and promote discussion in the area of polymer analysis and characterization. ISPAC also provides participants with an opportunity to establish contacts, a function important to the health and growth of any science.

The first ISPAC meeting was held at the University of Toronto, Canada, on June 2–3, 1988 and was chaired by Dr. Stephen T. Balke. As seen in Table 1, ISPAC meetings have now been held every year since that time in many different countries: the USA, Canada, Europe (Czech Republic, Greece, France, UK, Italy, The Netherlands, and Germany), and Japan. Next year the meeting will be in Wilmington, Delaware, USA, and after that Czech Republic and then Korea.

The initial Governing Board consisted of 11 scientists: S.T. Balke (Canada), H. G. Barth (USA), G. C. Berry (USA), J. V. Dawkins (UK), G. Gloeckner (Germany), J. Janča (Czechoslovakia, now in France), N. Hadjichristidis (Greece), P. Kratochvil (Czechoslovakia, now Czech Republic), S. Mori (Japan), P. Munk (USA), and M. Rinaudo (France). Subsequently, 7 governing board members have

Table 1. ISPAC meetings

• 1988 – Toronto, Canada	• 1998 – Santa Margherita, Italy
• 1989 – Austin, U.S.A.	• 1999 – La Rochelle, France
• 1990 – Brno, Czechoslovakia	• 2000 – Pittsburgh, U.S.A.
• 1991 – Baltimore, U.S.A.	• 2001 – Nagoya, Japan
• 1992 – Inuyama, Japan	• 2002 – Univ. Twente, The Netherlands
• 1993 – Crete, Greece	• 2003 – Baltimore, U.S.A.
• 1994 – Les Diablerets, Switzerland	• 2004 – Heidelberg, Germany
• 1995 – Sanibel Island, U.S.A.	• 2005 – Sheffield, UK
• 1996 – Oxford, UK	• 2006 – Oak Ridge, U.S.A.
• 1997 – Toronto, Canada	• 2007 – Crete, Greece
2008 – Wilmington, U.S.A.	2009 – Zlin, Czech Republic
2010 – Korea	

been added to the board and 3 have retired. Thus, the ISPAC Governing Board now contains 15 members. Each year, a governing board member is responsible for organizing the ISPAC meeting. Meeting details are provided at the ISPAC website (http://www.chem.cmu.edu/ispac/).

THE ISPAC MEETING FORMAT

The format of an ISPAC meeting consists of invited lectures and poster presentations over a period of three days. Each meeting has five or six sessions and each session includes a discussion period at the end. In the discussion period the session presenters are together on stage, and invariably a lively verbal exchange ensues. In addition to the regular sessions, a one-day short course on polymer analysis and characterization is also scheduled. The short course provides an introduction to various topics in polymer analysis and characterization as well as additional opportunities for discussion.

PUBLISHING AND THE INTERNATIONAL JOURNAL OF POLYMER ANALYSIS AND CHARACTERIZATION

The proceedings of ISPAC-1 were published in the *Journal of Applied Polymer Science, Applied Polymer Symposia*, volume 43 (1989), ISPAC-2 in volume 45, ISPAC 3 in volume 48, ISPAC-4 in volume 51, and ISPAC-5 in volume 52.

However, in general, publications in the area of polymer analysis and characterization were dispersed amongst many analytical-related journals and a variety of polymer science publications. This made it difficult for researchers to access the literature and for authors to reach the appropriate audience. To meet this need, the *International Journal of Polymer Analysis and Characterization* (IJPAC)was established. The first volume appeared in 1995 with Dr. Barth as the Editor-in-Chief. In 2005, Dr. Janča replaced Howard in that position.

Thus now ISPAC is entering its third decade of meetings and is accompanied by its own journal dedicated to polymer analysis and characterization. This progress would not have been possible without Howard Barth.

DR. HOWARD G. BARTH

Howard received his B.A. (1969) and Ph.D. (1973) from Northeastern University in Boston, working with Professor Barry Karger. He then

Figure 1. Dr. Howard G. Barth.

worked in clinical chemistry at Hahnemann Medical College in Philadelphia. In 1974 he joined Hercules Incorporated and started to develop a number of novel chromatographic methodologies that enabled him to successfully characterize water-soluble polymers. He served as a group leader in the Hercules Analytical Division during 1983–88, where he managed a group of analytical scientists involved with separation science and particle size analysis, while at the same time carrying out notable research himself. In 1988, he joined DuPont as a senior research associate of the Corporate Center for Analytical Sciences at the DuPont Experimental Station in Wilmington, Delaware. At the DuPont Company, he worked in three main areas of polymer analysis and characterization: the most dominant was size exclusion chromatography (SEC) but high-performance liquid chromatography and particle size analysis were also his research areas.

His publications on the SEC of water-soluble polymers were important early contributions. In 1980–82, for example, he published studies on the analysis of water-soluble cellulosics,[1] pectins,[2] and hydrolyzed plant proteins[3] while proposing practical SEC procedures for water-soluble polymers [4]and methods for characterizing SEC columns for their analysis.[5–6] His interest in the SEC of water-soluble polymers continues to the present time with his latest publication again examining the use of deuterium oxide for characterizing columns for aqueous SEC.[7] However, in addition to continuing work on the SEC of water-soluble polymers,[8] we also see more effort by him to understand what is happening in SEC, with attention to non–size exclusion effects,[9] universal calibration,[10] and hyphenated polymer separation techniques.[11]

Furthermore, Howard developed a very strong interest in SEC detectors, and his critical reviews and comparisons of them were very useful to all of us who were (and still are) struggling with the use of SEC detectors.[12–16]

Over his career, in addition to his scientific work, Howard is probably best known for his review articles.[17–40] In particular, he was either a primary author or a coauthor for 20 very comprehensive reviews published in *Analytical Chemistry* between 1982 and 1998.[21–40] These reviews examined column liquid chromatography,[21–24]particle size analysis,[25–30] size exclusion chromatography,[31–35] and the theory and methodology of liquid chromatography.[36–40]

In addition to his many scientific publications and presentations, Howard also worked very hard to organize symposia and to publish collections of papers from many authors. These include books on particle size analysis (1984),[41] methods of polymer characterization (1991),[42] and hyphenated techniques (1994, 1995).[43,44] Finally, in 1999 he published a monograph with Sadao Mori entitled *Size Exclusion Chromatography*[45] directed at helping analysts to consider the fundamentals in using SEC for practical problems to obtain correct results.

With this unique background highlighted by an extremely extensive and comprehensive effort to help develop polymer analysis and characterization, particularly SEC, it was very natural for Howard to seek out a scientist in a completely different part of the world, Sadao Mori, and establish ISPAC. Howard's experience in critical reviews of research in polymer analysis and characterization also made him an excellent choice for the first chair of the organization. His viewpoint was invaluable in identifying the topics of most current interest and the best speakers. Also, Howard's outstanding managerial skills and fine sense of humor contributed greatly to the success of ISPAC. It meant that the meetings became occasions where excellent speakers talk about "cutting-edge" science in such a way that even newcomers to the specific topic gained from the lectures and everyone is encouraged to participate in discussions. An important additional attribute is that the meetings are designed to include many opportunities to socialize with fellow scientists and share knowledge at beautiful locations. The meetings are small, somewhere between 100 and 140 registrants. The organizer is a governing board member who knows the area exceptionally well. So, dining and social programs are invariably exceptional too.

CONCLUSION

So, looking over the past years, each ISPAC meeting has had its own character, but all have been very interesting, educational, and enjoyable. The ISPAC Governing Board is determined to continue the success

begun by Howard and Sadao. As mentioned earlier, ISPAC is now preparing for its 21st meeting in Wilmington, Delaware. It is being organized by Dr. H. N. Cheng (Hercules Incorporated), our newest governing board member, in collaboration with Dr. Patricia Cotts of DuPont. We invite your comments and suggestions, and, most of all, we hope that you can attend ISPAC-21 and participate!

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