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# Foreword

The Chemical Heritage Foundation and the American Society for Information Science convened the first conference on the history and heritage of science information systems in October 1998. The conference, which examined the historic roles of the chemical sciences and of chemists in the development of information systems, among many other topics, greatly benefited from the energy and generosity of one chemist and information scientist, Eugene Garfield.

Gene Garfield stands in a long line of chemists and information innovators. That line begins with Robert Boyle and the organization of the Royal Society and its *Philosophical Transactions* in the seventeenth century and Antoine Lavoisier and the reform of chemical nomenclature and the creation of the *Annales de chimie* late in the eighteenth century. In more recent times chemical giants like Wilhelm Ostwald and J. D. Bernal have been great visionaries of science information systems, while other chemists like James W. Perry and Frederick A. Tate have taken the lead in designing and using increasingly sophisticated automated systems. In Gene Garfield's case the very products of his enterprise are of immediate use to the historian of science as well as to the scientist. *Current Contents*, the *Science Citation Index*, and other similar tools from the Institute for Scientific Information (ISI) allow the historian to identify the members of schools of thought and trace the growth of these schools and the growth of whole fields of science.

It was through a mutual interest in these quantitative measures of science, scientometrics, that I first met Gene when we both became involved in 1970 in the effort to launch the Society for the Social Studies of Science (4S). The list of winners of the 4S's Bernal Award that he initiated is a group of sociologists and historians worthy of Nobel Prizes, including such luminaries as Derek Price and Robert K. Merton. Gene has also proved to be an enthusiast for a more traditional kind of history: the biographical memoir. In addition to four thousand *Citation Classic* bibliographical commentaries, he often chose to use the editorials in *Current Contents* to honor great scientists, including pioneer information scientists—about whom little or nothing had been written. The references cited in Gene's paper in this volume can only hint at the extensiveness of his own historical writings, which are posted on his home page at <http://garfield.library.upenn.edu/index.html>.

To involve others in his love for information science and its history, Gene has funded a growing web of activities at the Chemical Heritage Foundation. CHF's Eugene Garfield Fellowship in the History of Science Information has stimulated numerous oral histories of information science pioneers and a chronology of chemical information science. Gene also generously supported the CHF/ASIS conference, which in turn gave rise to this volume to serve as inspiration for future historical and policy-oriented research.

*Arnold Thackray, President*  
Chemical Heritage Foundation  
30 July 1999

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## Preface

The Conference on the History and Heritage of Science Information Systems, held 23–25 October 1998, in Pittsburgh, Pennsylvania, brought to fruition the efforts of a wide variety of people. Over the last few years a small band of enthusiasts has determinedly pursued the history and heritage of science information, even though there was little support and only rare appreciation of this historical enterprise. Scholars working abroad or those outside the field of information science—such as the few historians of science and technology who had approached this field in their investigations—received even less support (monetary or otherwise). These individuals usually found themselves isolated geographically from like-minded individuals or separated by disciplinary boundaries. The original purpose of the conference was to bring together as many of these dedicated people as possible to share with each other their research, insights, and knowledge. The conference organizers also seized the opportunity, unusual in most historical exercises, of inviting the historical figures themselves—pioneers in the automation of science information—to contribute papers or simply bear witness to the past in the form of brief reminiscences. This volume shows, I believe, just how marvelously eclectic was the conference, how stimulating was the exchange of views, and what exciting opportunities for future research exist.

Among information scientists, the origins of this conference go back to the decision by the American Society of Information Science (ASIS) Foundations of Information Science Special Interest Group to reformulate the group as the *History* and Foundations of Information Science and to organize special sessions at annual meetings. The new group requested funds from ASIS to identify and document the contributions made by the pioneers of information science in North America over the last hundred years. Supported by ASIS, I was able to compile the desired information and build a Web database ([www.asis.org/Features/Pioneers/isp.htm](http://www.asis.org/Features/Pioneers/isp.htm)). It became a much bigger job than I ever anticipated, but at the same time, it also became a labor of love. Meanwhile, Boyd Rayward, Michael Buckland, and Trudi Bellardo Hahn launched a series of editorial projects to construct historical bibliographies and bring together history papers in the field—most recently Buckland and Hahn's *Historical Studies in Information Science* (1998).

I came into contact with historians of science and technology, particularly those of the chemical persuasion, and their desires for a conference as a result of my calling Eugene Garfield, one of the preeminent pioneers of information science. I called him to find out more about the disposition of his papers and the archives of the Institute for Scientific Information. He told me that he had recently done an oral history interview with the Chemical Heritage Foundation (CHF). A call to Mary Ellen Bowden, senior research historian at CHF, led not only to information about Garfield's oral history interview but also to the discovery of Gene's imaginative and generous decision to launch, through CHF, the Garfield Fellowship in the History of Science Information. A few months later I was CHF's first Garfield Fellow (1997–98).

*Robert V. Williams, Coeditor*

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# Acknowledgments

In his stimulating “an idea every day” approach to leadership, Arnold Thackray, president of CHF, had formulated ideas for a conference on the history of science information long before I arrived at CHF headquarters. He soon had me developing a plan and forming a planning committee. I was fortunate to entice key researchers and proponents of the history of information science to serve on the committee that planned the conference and peer-reviewed submitted papers: Michael Buckland, Colin (“Brad”) Burke, Toni Carbo, Irene Farkas-Conn, Eugene Garfield, Trudi Bellardo Hahn, and Boyd Rayward. My thanks to all their efforts. I would also like to mention the CHF staff members who lent their expertise to the committee—Mary Ellen Bowden, Leo Slater, Marie Stewart, and Arnold Thackray—and Dick Hill, executive director of ASIS, who, as an ex-officio member, smoothed the way in all areas related to hotel and other meeting arrangements. The committee worked diligently for a full sixteen months before the conference, meeting irregularly in Philadelphia and regularly via conference calls.

My work as the Garfield Fellow, which involved conducting oral histories as well as preparing chronologies of chemical information and information science and technology, drew upon the energies of the entire CHF staff. When I returned to my “real job” of full-time teaching, the challenge of supporting these endeavors over time and distance became immeasurably more difficult. I particularly wish to acknowledge the CHF staff members most directly involved in planning, scheduling, and arranging the conference: June Bretz, Laura Myers, Janine Pollock, Marie Stewart, and Monica Womack.

Converting conference papers into published papers required the knowledge and wisdom of my two coeditors, Trudi Hahn and Mary Ellen Bowden, who served as the linchpin for this effort; a corps of copyeditors, led by CHF’s Shelley Wilks Geehr and Patricia Wieland; and the cheerful cooperation of our authors in making requested revisions.

Finally, historical enterprises usually suffer from a lack of funding. But in our case we received additional generous support from the Eugene Garfield Foundation, as well as from CHF and the National Science Foundation. Without the support of these organizations the conference might never have happened nor might these proceedings reach the wider audience in whom we wish to kindle a pride in the history and heritage of science information, a desire to preserve essential documents and artifacts, and—at least among a few readers—the desire to analyze and write about that past.

*Robert V. Williams, Coeditor*  
Chair, Conference Planning Committee  
University of South Carolina, College of Library and Information Science

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# Contributors

***Geoffrey C. Bowker***

Associate Professor  
Graduate School of Library and Information Science  
University of Illinois at Urbana-Champaign

***Mark D. Bowles***

Graduate Student  
Case Western Reserve University  
Cleveland, Ohio

***Michael Buckland***

Professor  
School of Information Management and Systems  
University of California, Berkeley

***Susan A. Cady***

Group Leader  
Administration, Planning and Advancement Services  
Lehigh University Information Resources  
Bethlehem, Pennsylvania

***Bernadette G. Callery***

Museum Librarian  
Carnegie Museum of Natural History  
Pittsburgh, Pennsylvania

***James M. Cretsos***

Retired  
Cincinnati, Ohio

***Bernd Frohmann***

Associate Professor  
Faculty of Information and Media Studies  
University of Western Ontario  
London, Ontario

***Eugene Garfield***

Chairman Emeritus  
Institute for Scientific Information  
Publisher  
*The Scientist*  
Philadelphia, Pennsylvania

***Ruggero Giliarevskii***

Professor and Head  
Informatics Theory Department  
All-Russian Institute for Scientific and Technical  
Information (VINITI)  
Moscow, Russia

***Thomas Hapke***

Subject Librarian for Chemical Engineering  
Technical University  
Hamburg-Harburg, Germany

***Robert M. Hayes***

Professor Emeritus  
University of California, Los Angeles

***Madeline M. Henderson***

Retired  
Mechanicsville, Maryland

***Thomas P. Hughes***

Professor Emeritus  
Department of History and Sociology of Science  
University of Pennsylvania, Philadelphia

***Florence H. Kvalnes***

Librarian  
Corporate Information Science  
Central Research and Development  
E.I. DuPont de Nemours  
Wilmington, Delaware

***Timothy Lenoir***

Professor  
Program in History and Philosophy of Science  
Stanford University  
Palo Alto, California

***Bruce V. Lewenstein***

Associate Professor  
Departments of Communication and  
Science and Technology Studies  
Cornell University  
Ithaca, New York

***Herbert Ohlman***

Retired  
Mount Pleasant, South Carolina

***Jill O'Neill***

Writer  
Institute for Scientific Information  
Philadelphia, Pennsylvania

***Pamela Spence Richards***

Professor  
School of Communication, Information, and  
Library Studies  
Rutgers University  
New Brunswick, New Jersey

***Takashi Satoh***

Professor  
University of Library and Information Science  
Tsukuba, Japan

***Helen Schofield***

Chemistry Librarian and Honorary Lecturer  
University of Manchester  
Institute of Science and Technology  
Manchester, United Kingdom

***Robert W. Seidel***

Professor, History of Science and Technology Program  
Department of Chemical Engineering and  
Materials Science  
University of Minnesota, Minneapolis

***Jacqueline Trolley***

Director, Corporate Communications  
Institute for Scientific Information  
Philadelphia, Pennsylvania

***Jana Varlejs***

Professor  
School of Communication, Information, and  
Library Studies  
Rutgers University  
New Brunswick, New Jersey

***Paul Wouters***

Researcher, Nederlands Instituut voor  
Wetenschappelijke Informatiediensten  
Amsterdam, Netherlands