

SIAM--Its First Three Years

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## SIAM—ITS FIRST THREE YEARS\*

## I. EDWARD BLOCK†

SIAM was conceived November 30, 1951 at a meeting of the Servomechanisms Section of the American Institute of Electrical Engineers at Chalfonte-Haddon Hall, Atlantic City. The idea was to form a professional organization for mathematicians in industry and government.

The first organizing meeting for the proposed society took place in December 1951 at Drexel Institute of Technology. Members of the organizing committee were I. E. Block, Donald B. Houghton, Samuel S. McNeary, Cletus O. Oakley, George W. Patterson III and George Sonneman. It was considered the society would be largely a local society. Several names were suggested—Society for Industrial Mathematics, Society for Applied and Industrial Mathematics, Industrial Mathematics Society.

One member of the committee reported there was an "Industrial Mathematics Society" in Detroit and proposed the new society should affiliate with the Detroit society. However, it was agreed to start independently, with the thought that a merger could be accomplished later if desirable.

There was discussion of the names suggested—Society for Applied and Industrial Mathematics seemed to be the most acceptable name. It was about to be adopted when Professor Oakley observed that a simple inversion of "applied" and "industrial" would provide an interesting acronym. Society for Industrial and Applied Mathematics was established as the name of the society, and SIAM was born.

The next two months. Much happened in the next two months. Philco Corporation agreed to incorporate SIAM, print promotional materials for it, maintain addressograph plates for members and promotion lists, and make mailings as necessary.

Drexel Institute of Technology agreed to hold the first three meetings in its "Picture Gallery," with refreshments. James W. Crease, President of Drexel at the time, indicated Drexel would help in any way it could to encourage the growth of SIAM.

The next four months. The organizing committee continued to be active. An initial program was organized for Spring 1952. The first meeting took place on March 17. The first speaker was W. F. G. Swann, Director of the Bartol Foundation of the Franklin Institute; the title of his presentation was *Mathematics*, the Backbone of Science. Dr. Crease introduced Dr. Swann to an audience of approximately 180.

The next two meetings took place in April and May. Speakers were Mina Rees on "The Role of Mathematics in Government Research," and William E. Bradley with the topic "Is it Mathematics?" Dr. Rees was at that time Director

<sup>\*</sup> Presented at the 20th Anniversary Meeting of the Society for Industrial and Applied Mathematics, held in Philadelphia, June 12, 1972.

<sup>†</sup> AUERBACH Publishers Inc., Philadelphia, Pennsylvania 19107.

of the Mathematics Branch of the Office of Naval Research, and William E. Bradley was Director of Research for Philco Corporation.

Formal establishment of SIAM. SIAM was incorporated in the State of Delaware on April 30, 1952. The purposes for which SIAM was formed are stated in its Certificate of Incorporation:

- To further the application of mathematics to industry and science.
- To promote basic research in mathematics leading to new methods and techniques useful to industry and science.
- To provide media for the exchange of information and ideas between mathematicians and other technical and scientific personnel.

By June 1952 the by-laws had been completed.

All the mailings used to announce SIAM meetings in the Winter and Spring, 1952, were also used to solicit members. As a result, SIAM membership began to grow.

Simultaneously the organizing committee nominated candidates for the Officers, Trustees, and Council of SIAM. It was also busily engaged in arranging meetings for the Fall. Elections were held in early Fall. The results of the election were announced on October 14 at SIAM's first annual meeting.

Officers elected were William E. Bradley, President; Grace M. Hopper, Vice President; George W. Patterson III, Vice President; Emil Amelotti, Treasurer; and I. E. Block, Secretary.

Trustees were Wroe Alderson, J. A. Benner, John W. Mauchly, Hans A. Rademacher and George S. Webster.

Councilmen were Raymond S. Berkowitz, H. W. Brinkmann, Alan C. Byers, Donald B. Houghton, G. Truman Hunter, Robert F. Jackson, Robert C. James, R. B. Kleinschmidt, Harold W. Kuhn, Samuel S. McNeary, John H. Ramser and Russell Remage.

**The Fall program.** The Fall program established the flavor that was to prevail in SIAM programs for the next year. It included presentations in operations research, filter theory and computer programming. Speakers were Glen D. Camp, Grace M. Hopper, C. West Churchman and Lotfi A. Zadeh.

First Council meeting. The first Council meeting of SIAM took place at the Moore School of Electrical Engineering, University of Pennsylvania, on November 19, 1952. The decision had already been made by the organizing committee that SIAM would have a journal. It was reported many papers had been promised for the first issue—on pole-zero theory, information theory, stochastic processes and the theory of value, noise measurement and spectral analysis, and inversion of high order matrices. It was agreed it was better to delay publication of the first issue until a set of papers could be assembled that exemplified the editorial policy that had been established—the journal should contain clearly written research and tutorial papers.

There were numerous recommendations for the journal, including:

- It should contain papers with wide appeal and results readily applicable to industrial problems.
- It should contain the kind of material ACM would publish if ACM had a journal.

In addition to the journal, it was decided there should be a SIAM Newsletter containing news of interest to SIAM members and selected tutorial papers presented at SIAM meetings.

Both a Programs Committee (R. S. Berkowitz)<sup>1</sup> and a Membership Committee (G. W. Patterson) had already been formed. Reports from them presented respectively the program for early 1953, and the status of SIAM membership—SIAM already had accepted 133 members.

Second Council meeting. The second Council meeting was held at the Moore School on December 17. Several new committees were established—By-Laws (H. W. Kuhn), Nominating (R. C. James), Publicity (J. H. Ramser), Arrangements (S. S. McNeary), Planning (G. M. Hopper), Publications (R. F. Jackson), and Soliciting (I. E. Block).

It was urged SIAM publish the *Newsletter* as soon as possible. The first issue of *SIAM Newsletter* was published in February 1953. About this time, mailing and distribution were moved from Philco to the Franklin Institute.

To this Council meeting, William E. Bradley sent word the pressure of daily business forced him to resign as President.

There were more recommendations, including that the planned SIAM Journal be merged with Mathematical Tables and Aids to Computation (MTAC). One of MTAC's editors proposed SIAM issue its own journal first and then discuss the possibility of merger. Another MTAC editor favored immediate merger. After some discussion, the Council decided the idea was not so favorable to SIAM, and agreed that further thought should be given to the idea.

Third Council meeting. The third Council meeting was held February 2, 1953 at the Moore School. The Publications Committee reported they were still soliciting manuscripts for the first issue of the journal but it appeared likely there would be enough manuscripts to go to press. However, some of the manuscripts would need to be rewritten to meet the requirements established by the editorial policy.

Council recommended that SIAM programs emphasize the mathematics rather than the field of application. Speakers should be informed of this policy at the time of invitation.

Fourth Council meeting. The fourth Council meeting was held April 22, 1953 at the Moore School. Four papers had been accepted for the first issue of the journal—including the first of a series of papers on automatic digital computers in industrial research, promised to SIAM by Clippinger, Dimsdale and Levin. There was also a paper by Hoffman, Mannos, Sokolowsky and Wiegmann that compared three alternative algorithms for solving linear programs. Two more papers were still required; it was expected they would be ready shortly.

<sup>&</sup>lt;sup>1</sup> Names in parentheses indicate committee chairmen.

At this meeting the Nominating Committee, already charged with the responsibility to propose a replacement for William E. Bradley, nominated Donald B. Houghton for President. The Council accepted the recommendation and the recommendation was passed to the Board of Trustees for approval. On May 12, the Board of Trustees accepted this recommendation of Council.

The start of sections. At the Philadelphia meeting of SIAM in November 1952, Anthony F. Bartholomay of Boston met with SIAM representatives to discuss his interests in starting a Boston/Cambridge section of SIAM. The idea was favorably received. As a first step, SIAM decided to sponsor meetings in the Boston/Cambridge area while a plan for section activity was prepared. Norbert Wiener spoke at the first of these meetings on "The Statistical Nature of Scientific Thought."

In August 1953 SIAM announced its interest in sponsoring sections. At the same time formal requests to SIAM to sponsor sections in the Philadelphia and Boston/Cambridge areas were being submitted by groups in these areas. These sections were formally approved in September. By the end of 1953 a Southern California section had also been approved, and sections were being started elsewhere.

**Seventh Council meeting.** The seventh Council meeting took place July 30, 1953 at Franklin Institute. The first issue of the journal was now being prepared for publication. There were still not enough papers for the second issue, although a number had been received that appeared to be suitable candidates.

The journal was being composed by Varitype on pages  $6'' \times 9''$ . There would be 1000 copies of the first issue, approximately 71 pages, at a cost of \$550. It turned out the printer selected to produce the journal had less experience with mathematical typesetting than he indicated. The commitment had been made, however, for the first two issues, and training was provided to the printer as required. Beginning March 1954, composition and printing of the journal were moved to Waverly Press in Baltimore.

The Program Committee reported plans for a joint meeting of SIAM and the Philadelphia sections of the Institute of Radio Engineers and the American Institute of Electrical Engineers on an engineering introduction to methods and applications in probability and statistics. These were planned for early Fall. Council authorized SIAM to spend up to \$150 as a full one-third participant in the series of lectures. As it turned out, registration fees fully covered the expenses.

The Council discussed a letter SIAM had received from the Detroit Industrial Mathematics Society inquiring what SIAM's attitude would be toward the formation of a national industrial mathematics organization from the various local groups in existence at the time. Several members of the Council indicated it was not desirable for SIAM to consider a merger or affiliation at that time, and it was important for SIAM to proceed with all haste in the formation of sections.

The last 1953 Council meeting. The tenth and last Council meeting of 1953 was held at the Moore School on December 23. It was agreed that SIAM's publications should accept advertising to help offset expenses, and that this advertising

should be conservative relative to advertising as a whole but more liberal than normally appearing in publications of the more pure mathematics societies.

By year-end 1953 SIAM had 6 corporate members and approximately 350 individual members. It had published 10 issues of the SIAM Newsletter and 2 issues of SIAM Journal on Industrial and Applied Mathematics; and had held 26 technical meetings, including section meetings. Application had been made to become an affiliate of the American Association of Advancement of Science, and three sections of SIAM—Boston, Delaware Valley, and Southern California—had been established.

The year 1954. During 1954, SIAM activities expanded considerably. Many more sections were established; four issues of the SIAM Journal and ten issues of the SIAM Newsletter were published. There were all the problems of maintaining society records, soliciting new members, collecting member dues and subscription fees, and fulfilling and mailing journals, newsletters, and announcements to members and subscribers.

During 1954 mailing and distribution became too great to do at the Franklin Institute, and it was let out to a commercial mailing organization. SIAM also had to hire full time the secretary that the Franklin Institute had donated, but space for her was still provided gratis by the Franklin Institute. It was not until 1958 that SIAM had to move to its own quarters. Drexel Institute of Technology agreed to provide space to SIAM—about 1,000 square feet on the third floor of an old house. SIAM moved in with two full-time paid secretaries and its inventory of journals and newsletters.

From here on, SIAM grew rapidly, from a society of about 400 members to one of about 3,600 members, and from a publication rate of about 400 pages per year to a rate in excess of 6,000 pages per year, including books and journals.

**Credits.** In the first two full years of SIAM—1952 and 1953—credits must be given to several corporations for the support they gave to SIAM:

- Philco-Ford Corporation—for legal fees and expenses of incorporation, all printing of forms and promotional materials, all mailings and maintenance of mailing lists, and SIAM's first accounting system.
- Drexel Institute of Technology—for meeting facilities and refreshments.
- Franklin Institute—for considerable secretarial time required by SIAM's President to conduct SIAM business, the composition and printing of the SIAM Newsletter, subscription fulfillment, and mailing newsletters and journals to subscribers and members.
- Burroughs, IBM, and the Eckert-Mauchly Division of Remington Rand (now UNIVAC) for donations totaling \$800 to start the publication of the SIAM Journal.