

Formation and early years of the AAPM

G. D. Adams

University of Oklahoma, Health Science Center, Oklahoma City, Oklahoma 73101

This vignette recites significant steps leading to the formation of the AAPM and transpiring in the developments of the first decade, approximately. Persons involved, dates, and places are recognized. A table summarizes the progression of events. This recitation ends with the term of Kereiakes, the last President to be elected by the Board of Directors from its own membership, and with the move of the annual meeting time to mid-summer.

The formation of the American Association of Physicists in Medicine was sparked by the confluence of two forces, one internal, the other external. The internal force was the frustration experienced by physicists in biological and medical pursuits; in substance, we were not being recognized as competent professionals. The external force was a proposal to form an international organization related to medical physics. The Hospital Physicists Association, an existing society (in the UK), had initiated the proposal and was actively carrying it forward. The success of the formative effort was due to some remarkable circumstances and the synergism of many medical physicists. The scenario follows.

Sheffield, 3 April 1958. H. Miller, then President of the Hospital Physicists Association, wrote on behalf of the HPA to R. Loevinger. He summarized correspondence initiated in 1957 by W. S. Moos and continued with S. Benner, F. Wachsmann, and the HPA regarding the possibility of forming an International Federation of Biological and Medical Physics. He proposed an inaugural meeting adjacent to the IX International Congress of Radiology, Munich, 1959. Loevinger agreed to sample the opinions of local physicists.

Bethesda, 17 May 1958. It had been unusually warm that day. The working conference on Cooperative Studies in Radiation Therapy had been struggling all day in the Stone House. Most of those assembled there by the NIH Radiation Study Section were therapists, six radiation physicists were included to advise regarding dosimetry. After dinner, various groups at the Kenwood maintained informal contact, discussing topics from those of the Conference to many digressions. The conversation and the atmosphere were both warm, not heated. After some time, an invitation to talk while walking (for some exercise) was accepted only by three physicists—W. K. Sinclair, J. S. Laughlin, and G. D. Adams.

The talk during the walk at first ranged widely but soon focused on circumstances of concern to all three. In the nation there were a noticeable number of physicists who had chosen to leave the halls of academic physics for the byways of biology and medicine. These people were thought to have developed a unique viewpoint, to be in a position potentially capable of making a major contribution to society. Yet the potential was being realized all too slowly, if at all. An attempt was made to identify the barriers involved and to sketch an attack. One barrier was recognized as communication; a frontal attack was needed. It seemed that physics

in biology and medicine had no professional identity and that a national organization might speak for the profession in a louder voice than all the individuals, singly.

San Francisco, 20 May 1958. Loevinger had arranged to have the International Federation matter discussed on this date at a regular meeting of the San Francisco Bay Area Dosimetry Seminar. Adams added the substance of the walk talk. The discussion there ended with three agreements:

(a) An international organization should be of national societies, not of individuals.

(b) No national organization in the US existed to represent physics in biology and medicine.

(c) A wider sampling of opinion should be examined before evaluating the worth to be derived from the effort needed to organize a new Society.

R. Loevinger, E. A. Edelsack, and G. D. Adams were designated by the Bay Area group to construct a proposal for discussion purposes, particularly for the evaluation of (c), above. A proposal to create a national organization was constructed—it was mailed on 6 June for comment to the physicists who had met at the Stone House and it was presented 17 June to the SF Dosimetry Seminar. A revised version was mailed 14 July to a nationwide list of 129 physicists. Seventy-three replies were received: 51 for, 8 against, and 14 undecided. Many names were added to the list of those potentially interested.

Los Angeles, 20 June 1958. W. K. Sinclair had carried his copy of the first proposal for a national organization to a meeting of the Society of Nuclear Medicine. The issue was discussed there with 12 others (Appendix I). Consensus: A national professional association should be formed with objectives similar to those of existing local medical physics groups. Three operational concepts were recommended: a) the effort should be continued by a Steering Committee, b) this Committee should be comprised of regional representatives across the nation, and c) a general organizational meeting could be held during the time of the RSNA annual meeting, in November. W. S. Moos, on behalf of the Radiation and Medical Physics Society of Chicago, offered assistance in making the necessary physical arrangements and also a tentative agenda for the November meeting. W. K. Sinclair sent a summary of this meeting, reaching San Francisco in time to be added to the 14 July mailing. G. D. Adams volunteered his services as Interim Secretary of the proposed steering committee—there were no other volunteers.

San Francisco, 10 September 1958. The 14 July mailing contained a reply sheet for indicating attitude toward a national organization, for recording possible attendance at the RSNA meeting, for suggesting names of additional physicists, and for comments (of which there were many). Well over $\frac{2}{3}$ of the replies favored formation (the ultimate score: 51 yes, 8 no, 14 undecided). The judgement was made to continue forcibly toward a November organizational meeting. The proposed steering committee (Appendix II) had been expanded beyond the 20 June proposal; by letter this date these were asked to serve.

San Francisco, 25 September 1958. All of the steering committee have accepted. Loevinger, Edelsack, and Adams have continued with the formulation of critical questions and the framework of a constitution. On this date, this material was sent to the steering committee for comment.

San Francisco, 6 November 1958. Detailed replies from 10 members of the steering committee have been received and combined. A summary of activities has been prepared; 235 were mailed to the expanded mailing list, inviting all to the organizational meeting. The preferred name for the organization at this date was the American Association of Physicists in Biology and Medicine.

Chicago, 16 November 1958. Twelve of the Steering Committee met in the VA Research Hospital to prepare for the organizational meeting. R. K. Clark (Chicago Medical Physics group) and O. du Temple (American Nuclear Society) were also present. The Committee was overwhelmingly in favor of forming an organization, one concerned primarily with the professional needs of the members. The scope was not so easy. Just radiological physics, or swing through center to include medical physics, or continue to biological physics and biometrics? C. Braestrup's motion was adopted ie, that the temporary name be American Association of Physicists in Medicine. A series of proposed functions (Appendix III) was identified for presentation at the organizational meeting, an agenda was adopted, and a slate of nominees for the first Board of Directors was agreed upon.

Of somewhat more than passing interest, Mr. Du Temple stated his belief that the prestige and impact of a Society of specialists depend foremost on what it gives to the scientific community. Thus, we were in error to exclude scientific considerations from our purposes. Nevertheless, we did not then believe that another scientific forum was needed.

Chicago, 17 November 1958. The General Organizational Meeting was called to order at 2 p.m. in the main lecture room, University of Chicago Downtown Branch. The Steering Committee had selected G. D. Adams to be Chairman and L. E. Preuss to be Recording Secretary for both the Committee and the Organizational Meetings. The history of the situation was summarized, the minutes and report of the Steering Committee were read, the floor was opened for discussion. An hour and a half later, no strong objections to the sense of the Steering Committee report having been heard (in fact, the only action was to amend one of the proposed functions), the Chair called for a vote on formation of the Association under the temporary name. This was unanimously affirmative—no abstentions. Next, the Temporary Constitution (Appendix IV) was adopted, with

none opposed and two abstentions.

The Temporary Constitution called for management of the affairs of the Association by a Board of 12 Directors, including three Officers (Chairman, Vice-Chairman, and Secretary-Treasurer). The principle of area representation, adopted originally for the Steering Committee, was continued in the slate of nominees submitted for Directors. Alternative area nominees were proposed from the floor in three instances. Those not contested were approved *en bloc*; all present participated in the selection for the three areas with alternative nominees. The Board of Directors being a representative assembly, the membership at this first meeting determined that the Officers of the Association should be elected by the Directors and from their own group (Appendix V). An informal count from the rostrum showed 52 persons present. A signature page was circulated and was returned with 48 entries (Appendix VI).

Munich, 31 July 1959. On this day, just following the IX ICR, 89 representatives from 20 nations met to explore the advisability of forming an International Organization in Medical Physics. The HPA played the leading role in organizing the agenda and inviting participants to chair the sessions and to present views on relevant topics. A summary report on this meeting is to be found in *Physics in Medicine and Biology*, Vol. 4, pp 223–237, 1960. At the end, those present approved a motion to form the International Liaison Committee on Medical Physics, which Committee was to link medical physicists and this through national societies where they exist.

Chicago, 16 November 1959. The second Annual Meeting of the Association, same location as first. Between the first two Annual Meetings, the Board of Directors had six meetings. In addition to many paragraphs of discussion, of expression of opinion and position, certain actions of consequence were taken.

- (1) Redetermination that the Officers should be elected by and from the Directors.
- (2) Representation authorized for the Munich talks regarding the proposed International Federation.
- (3) A Constitution Committee was selected and, in part, instructed:
 - (a) The Board of Directors should be renamed Executive Board, the Chairman should become President, and the Vice-Chairman, Vice-President.
 - (b) The Executive Board should be a representative assembly, one representative for ten members.
 - (c) All Board members should serve one-year terms, the President not being eligible for reelection.
 - (d) The nomination committee should be the President plus two members-at-large appointed by the President.
- (4) The Board assumed the authority to increase its own size—naming J. S. Laughlin to assist in writing the Constitution and L. H. Lanzl to increase Chicago area representation. The joke of the day centered on our first letterhead (Appendix VII), which

TABLE I. Selected highlights of AAPM development

Date	President	Publications	Affiliations	Major Committees	Events
17 Nov 58	Adams	First professional questionnaire	Munich, after IX ICR: International Committee of Medical Physics	Constitution Teachers Conference, with ACR "Physics Training Programs for Residents in Radiology"	General organization meeting (temporary constitution) Constitution ratified
7 Dec 60	Sinclair	First edition of <i>The Medical Physicist</i>	Stockholm, after Biophysics Congress: start of organizing Int. Org. of Pure and Applied Biophysics		Placement Service starts Scientific sessions advocated
27 Nov 61	Hale	PMB support adopted. Syllabus: <i>Radiologic Physics for residents in radiology</i>			First scientific sessions
29 Nov 62	Williams	First U.S. editors for PMB: Sinclair, Rossi, Evans	Under Nat. Acad. of Sci.: U.S. Nat. Com. on Med. Phys. to adhere to Int. Org. of Med. Phys.	First Scientific Committee	
21 Nov 63	Webster	AAPM sponsorship of PMB starts with Vol. 9		Enter SCRAD (subcommittee on radiation dosimetry)	First Honorary Member: Otto Glasser Membership Certificates proposed; Competition for AAPM logo
4 Dec 64	Laughlin	IOMP becomes affiliated Commission of IOPAB	Harrogate: I ICMP meeting	Now, four scientific subcommittees	Physicists with doctorate and ABR boards eligible for full membership in RSNA AAPM incorporated 10 Nov 65
3 Dec 65	Shalek	SCRAD: Protocol for electron beam dosimetry	II ICMP officers selected by USNCMP		First mid-year (summer) topical meeting; Madison
3 Dec 66	Lanzl	<i>Quarterly Bulletin</i> starts, editor: Kereiakes	AAPM is AIP Affiliated Society		D. W. Kerst is Hon. Member. Symposium, <i>High Energy Radiation Dosimetry</i> , with N.Y. Acad. of Sci. Radiological Physics Center approved.
2 Dec 67	Cameron			Future arrangements committee	San Francisco, Topical Symposium, "Physics of Diagnostic Radiology." Annual meeting not in RSNA hotel, still in Chicago
7 Dec 68	Gorson	<i>Quarterly Bulletin</i> Editor now Vickers	II ICMP held in Boston Sec.-Gen. is Webster AAPM is Charter Member of Alliance for Eng. in Medicine and Biology		Burlington, VT, First Dosimetry Summer School Annual meeting to be in summer but continue RSNA collaboration
6 Dec 69	Kereiakes	<i>Quarterly Bulletin</i> published by AIP. <i>Problems in Physics for Radiology Residents</i>			Last President elected by Board from Board members. Washington DC: First summer annual meeting "Mid-year" meeting now with RSNA
15 Jul 70					

bore the names of all Directors. A dot was used to separate in the list these two Directors added after the General Organizational Meeting. It was asked, "Why are these listed below the black ball?"

- (5) The first committee was formed to investigate possible collaboration with the American College of Radiology in an area of common interest—educational activities relating to radiological physics.

At the Annual Meeting, the primary activity and concern related to the report of the Constitution Committee. The proposed Constitution was examined minutely, amended slightly, and generally held to be ready in principle for mailing to the membership for approval. (However, the revised seventh draft was not mailed for approval until 5 July 1960). Of prime organizational interest, the representatives to the Executive Board from groups accepted as Local Chapters should be determined by the Chapters; members at large should elect their representatives separately. The final action of the Meeting was to re-elect the existing Board of Directors for a second year *en bloc*. The Chair recorded a change in attitude of many attendees—in 1958 comments were in terms of "your Society;" in 1959 it was "our Society."

Chicago, 5 December 1960. The Third Annual Meeting. The Board has needed three meetings this year. Since the members retained the same Board, the Directors retained the same Officers. L. E. Preuss had not anticipated a second term as Secretary-Treasurer but C. S. Simons graciously served as Acting Secretary. Committee activity increased, some with notable results.

- (1) W. K. Sinclair generated and distributed a "Questionnaire on Professional Activities"—he also analyzed the returns. The summary was distributed.
- (2) J. S. Krohmer agreed to undertake the Placement Service for the Association (and served it well for many years).
- (3) Diagram and Data Schemes. R. Loevinger opened a direct communication link with the HPA. E. W. Webster and G. D. Adams participated on an in-

ternational panel convened by the IAEA. This effort resulted in the eventual publication of isodose determination information and three atlases.

- (4) The first result of collaboration in education with the ACR was the jointly sponsored "Panel Discussion of Physics Training Programs for Residents in Radiology," held 5 December 1960 as an adjunct to the RSNA annual meeting. Much more was to follow.

The Secretary recorded the Charter Membership roll of 132 names at 4 December 1960 (Appendix VIII). The Constitution was approved; the mail ballot returns were 72 "aye" and 2 "no". In point of humor, the term of G. D. Adams as President was nearly 65 hours long; it started just after 8 p.m. on 4 December 1960 (when the Secretary announced the ballot summary) and ended at about 12:45 p.m. on 7 December 1960 with the election of W. K. Sinclair as the second President.

The first Executive Board would consist of 14 persons representing the 132 Charter members, 5 regional and 9 members at large (Appendix IX). This first Board under the permanent Constitution appointed members to three standing committees (Membership, Regional Organization, and Professional Ethics) and seven *ad hoc* committees (Constitutional Review, Professional Liability Insurance, Placement Service, Diagrams and Data Schemes, Teacher's Conference, Professional Information, and Local Arrangements), whereupon we were off to the bureaucracy races.

To close this reading of our history, it may be of interest to note some of the highlights of our existence prior to recent times, see Table I.

The combined effort and accomplishment of vigorous people, at first by the score and later by the hundred, is manifold larger than the space available here. Where to stop was a problem, too. The move to the summer annual meeting was chosen as representing a major action of independence. This omits mention of many other items, such as the development of the Council form of committee structure, the introduction of the Coolidge award and the election of W. D. Coolidge as Honorary Member, and the steps leading to publication of *Medical Physics*. But then, another historian will need a goal, too.

APPENDIX I. MEETING IN LOS ANGELES, 20 JUNE 1958.

Persons participating in discussions with W. K. Sinclair

R. M. Adams	M. A. Greenfield	J. A. Hidalgo	E. Siegel
G. L. Brownell	E. W. Hackney	R. Loevinger	R. S. Yalow
R. C. Granke	H. R. Haymond	W. S. Moos	A. A. Yalow

APPENDIX II. STEERING COMMITTEE

G. D. Adams	R. O. Gorson	J. S. Krohmer	L. E. Preuss
R. M. Adams	M. A. Greenfield	J. F. Marvin	C. S. Simons
N. A. Baily	J. Hale	W. S. Moos	W. K. Sinclair
C. B. Braestrup	R. Loevinger	J. Ovadia	R. S. Yalow

APPENDIX III. SEVEN FUNCTIONS FOR THE AAPM

- (1) Represent the membership in intercourse with government agencies and other organizations.
- (2) Consider problems of professional competence, including certification.
- (3) To the extent that specific technical needs are not met elsewhere:
 - (a) Establish standards (e.g., dosimetry).
 - (b) Recommend techniques or procedures (e.g., radioisotope).
 - (c) Compile and publish useful data.
 - (d) Foster conferences.
- (4) Maintain a placement service, and a membership and specialty roster.
- (5) Provide for exchange of ideas.
 - (a) On a local scale, by encouraging the formation of active local groups.
 - (b) On a national scale, by holding an annual meeting, probably with some other organization.
- (6) Stimulate interest and promote training in physics in medicine.
- (7) Aid the dissemination of information on the role of physics in medicine.

APPENDIX IV. TEMPORARY CONSTITUTION

NAME—American Association of Physicists in Medicine.

OBJECT—To promote the advancement of all branches of physics as they may be related to biology and medicine; to secure and to maintain high professional standards for scientists in these fields; to serve the professional interests of those so engaged.

AFFILIATION—The Association shall be independent at its inception, but the question of affiliation shall be explored.

MEMBERSHIP—Scientists are eligible for membership if they are now principally engaged in some application of physics to medicine or biology, and if they meet one of the following requirements:

degree in physical science	minimum years experience in Physics in Med. or Biol.
Ph.D.	1
M.A. or M.S.	2
B.A. or B.S.	3

MANAGEMENT—The affairs of the Association shall be administered during the period of validity of this document by a temporary Board of 12 Directors, including a Chairman, a Vice-Chairman, and a Secretary-Treasurer. This Board shall specifically be responsible for the construction of a permanent constitution and for appointing such committees as are deemed necessary.

Having read the Temporary Constitution of the American Association of Physicists in Medicine, I hold myself to be eligible for membership and by submitting this form together with \$5.00 I do hereby apply for Charter Membership.

Date _____ Signed _____

APPENDIX V.**ELECTED EXECUTIVE BOARD, UNDER TEMPORARY CONSTITUTION**

G. D. Adams, Chairman	C. B. Braestrup	J. F. Marvin
R. S. Yalow, Vice-Chairman	M. A. Greenfield	W. S. Moos
L. E. Preuss, Sec-Treasurer	J. Hale	W. K. Sinclair
	J. S. Krohmer	E. W. Webster
	R. Loevinger	

APPENDIX VI.

Persons signing attendance roster
AAPM GENERAL ORGANIZATIONAL MEETING, 17 NOVEMBER 1958

G. D. Adams	R. Golden	R. S. Landauer, Jr.	L. E. Preuss
R. M. Adams	R. O. Gorson	L. H. Lanzl	H. E. Seeman
N. A. Baily	P. F. Gustafson	R. Loevinger	G. Shapiro
L. Chandler	J. Hale	M. K. Loken	C. S. Simons
A. Cole	A. Haldo	J. F. Marvin	W. K. Sinclair
E. F. Conti	R. H. Haynes	A. McCrea	E. E. Stickley
A. R. Dawe	J. F. Herrick	M. L. Meurk	R. W. Swain
F. B. deFriess	M. Hodara	R. O. Mooney	E. W. Webster
W. D. De Vore	L. E. Jacobson	V. C. Moore	L. A. White
J. Durlacher	C. J. Karzmark	W. S. Moos	P. Wootton
L. Du Sault	W. R. Konneker	D. G. Oldfield	K. A. Wright
R. Garrett	J. S. Krohmer	A. L. Orvis	R. S. Yalow

APPENDIX VII.

DIRECTORS

G. D. ADAMS
CHAIRMAN

R. S. YALOW
VICE-CHAIRMAN

L. E. PREUSS
SECRETARY-TREASURER

C. B. BRAESTRUP
M. A. GREENFIELD
J. HALE
J. S. KROHMER
R. LOEVINGER
J. F. MARVIN
W. S. MOOS
W. K. SINCLAIR
E. W. WEBSTER

•

L. H. LANZL
J. S. LAUGHLIN

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE

OFFICE OF SECRETARY-TREASURER
 HENRY FORD HOSPITAL
 DETROIT 2, MICHIGAN

APPENDIX VIII. CHARTER MEMBERS

G. D. Adams	M. Dauer	J. Hale	F. X. Masse
R. M. Adams	W. D. DeVore	A. A. Halko	W. Mauderli
J. H. Anson	W. C. Dewey	H. S. Hayden	J. K. Mayer
S. Aronow	J. E. Durlacher	H. R. Haymond	A. L. McCrea
N. A. Baily	L. A. deSault	R. H. Haynes	M. L. Melton
L. M. Bates	E. A. Edelsack	J. F. Herrick	M. L. Meurk
H. A. Bevis	W. H. Ellett	J. M. Heslin	T. G. Mitchell
J. N. Bierly	E. W. Engelman	G. J. Hine	R. T. Mooney
H. Blatz	R. D. Evans	M. Hodara	V. C. Moore
J. Blizard	A. Feldman	A. Jacobson	J. M. Morgan
C. B. Braestrup	T. Fields	L. E. Jacobson	W. S. Moos
G. L. Brownell	E. F. Focht	C. D. Janney	C. J. Mott, Jr.
G. W. Callendine	T. R. Folsom	W. R. Konneker	I. T. Myers
B. H. Cameron	A. L. Forsaith	J. S. Krohmer	C. E. Newton, Jr.
J. C. Carlson	F. B. deFriess	D. B. Kusner	D. G. Oldfield
V. G. Castro	M. Fried	H. C. Lanz	A. L. Orvis
L. Chandler	R. Garrett	L. H. Lanzl	J. Ovadia
R. K. Clark	R. Golden	H. V. Larson	L. Pape
A. Cole	P. N. Goodwin	J. S. Laughlin	W. T. Powers
C. J. Collica	R. O. Gorson	R. Loevinger	L. E. Preuss
K. R. Corey	M. A. Greenfield	M. K. Loken	R. S. Quick
K. E. Corrigan	E. N. Grisewood	W. J. MacIntyre	E. H. Quimby
R. F. Cowing	A. W. Hackney	S. J. Malsky	J. Rivera

C. V. Robinson	C. S. Simons	O. Tamuzs	K. D. Williams
W. C. Roesch	W. K. Sinclair	M. S. Tausig	M. M. D. Williams
H. H. Rossi	W. E. Siri	E. R. Testa	E. D. Witherell
R. J. Schulz	L. Stanton	J. W. Thomas	P. Wootton
N. E. Scofield	R. E. Steele	E. Tochilin	K. A. Wright
R. J. Shalek	E. E. Stickley	J. C. Trump	A. A. Yalow
G. Shapiro	L. A. Strait	K-C Tsien	R. S. Yalow
E. Siegel	R. W. Swain	S. J. Vacirca	V. E. Yoder
W. Siler	G. E. Swindell	E. W. Webster	

APPENDIX IX. FIRST BOARD, PERMANENT CONSTITUTION

W. K. Sinclair	G. D. Adams	<i>Area Representatives</i>	
President	N. A. Baily	C. B. Braestrup	NYC
J. Hale	J. S. Krohmer	E. E. Stickley	NYC
Vice President	L. H. Lanzl	R. S. Yalow	NYC
C. S. Simons	L. S. Preuss	G. L. Brownell	Boston
Secy-Treasurer	M. M. D. Williams	E. W. Webster	Boston