



# National Museum of Health and Medicine

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## Otis Historical Archives

### OHA 105

#### Bahr/Electron Microscopy Society of America Collection

**Date of Records:** 1956-1984

**Size:** 18 Boxes

**Background Note:** The Electron Microscopy Society of America was established following the first National Conference on the Electron Microscope, which met in Chicago in November 1942. The original charter established R. Bowling Barnes of the American Cyanamid Co. as President, Albert F. Prebus of Ohio State University as Vice President, V.K. Zworykin of Princeton and O.S. Duffendack of the University of Michigan as Directors, with M.C. Banca as Secretary-Treasurer. The society was formed to advance the science of electron microscopy and aimed to provide the means for distributing technical information through publications, to distribute reprints of technical work of those interested, to compile a bibliography of all work related to the subject, and provide opportunities for workers in the field to meet and discuss their problems, techniques, and results.

**Series/Scope and Content Note:** This collection combines the professional records of Dr. Gunter F. Bahr, chairman of AFIP's Department of Cellular Pathology, with additional records from the Electron Microscopy Society of America (EMSA) and also details Bahr's role in obtaining microscopes for the Museum. The collection includes correspondence; photographs; manuals; journals such as *Norelco Reporter*, *Scientific Instrument News*, and the *Microscopy Society of Canada Bulletin*; the EMSA bulletin; meeting proceedings; pamphlets and manuscripts on microscope history; and biographical information on scientists.

#### **SERIES 001: HISTORICAL BACKGROUND AND EMSA MEMBERSHIP MATERIAL**

This series includes material on the early history of EMSA including original by-laws, constitution, and certificate of incorporation of EMSA, along with material on the history of electron microscopy more broadly. The series outlines membership from its inception through the mid-1980s.

#### **SERIES 002: EMSA MEETINGS AND CORRESPONDENCE**

This series includes material from EMSA annual meetings in 1946 and the thirty-year period from 1954 through 1984; executive and general council meeting materials; minutes from annual business meetings and executive council meetings; educational materials; and EMSA-related correspondence (1957-1973).

#### **SERIES 003: AFFILIATED MEETINGS AND ORGANIZATIONS**

This series includes material from a wide range of conferences, congresses and organizations affiliated with EMSA, covering the period from 1962 to 1982.



## **SERIES 004: ELECTRON MICROSCOPY SCIENTISTS, REPORTS AND PUBLICATIONS**

This series includes biographical and publication information on some of the key figures involved in the early history of EMSA and electron microscopy along with unpublished and published reports and articles from internal and external sources including extended runs of the *EMSA Bulletin*, *Microscopical Society of Canada Bulletin*, *Norelco Reporter*, *JEOL NEWS*, and *Scientific Instruments*. Additional journals and reprints provide extensive documentation of the history of electron microscopy from the early 1950s to the 1980s.

## **BOX AND CONTENT LIST**

### **SERIES 001: HISTORICAL BACKGROUND AND EMSA MEMBERSHIP MATERIAL**

#### **Box 001:**

- 00001: History of EMSA
- 00002: History of Electron Microscopy
- 00003: Certificate of Incorporation of EMSA
- 00004: EMSA By-Laws
- 00005: EMSA Brochure
- 00006: EMSA Charter Members
- 00007: EMSA Yearbook (1943)
- 00008: EMSA Membership Nomination Form
- 00009: EMSA Elected Officers, 1956-73
- 00010: EMSA Nominees, 1957-71
- 00011: Directory of EMSA Members, 1967-69
- 00012: Directory of EMSA Members, 1970-71
- 00013: EMSA Election Correspondence, 1970-72
- 00014: EMSA Appointments, 1971-72
- 00015: Directory of EMSA Members, 1973-76
- 00016: Directory of EMSA Members, 1979, 1983, 1985-86

### **SERIES 002: EMSA MEETINGS AND CORRESPONDENCE**

#### **Box 002:**

- 00001: EMSA Annual Meeting, 1946



- 00002: EMSA Annual Meeting, 1954
- 00003: EMSA Annual Meeting, 1956
- 00004: EMSA Annual Meeting, 1957
- 00005: EMSA Annual Meeting, 1958
- 00006: EMSA Annual Meeting, 1959
- 00007: EMSA Annual Meeting, 1960
- 00008: EMSA Annual Meeting, 1961
- 00009: EMSA Annual Meeting, 1963
- 00010: EMSA Annual Meeting, 1964
- 00011: EMSA Annual Meeting, 1965
- 00012: EMSA Annual Meeting, 1966
- 00013: EMSA Annual Meeting, 1967
- 00014: EMSA Annual Meeting, 1968
- 00015: EMSA Annual Meeting, 1969
- 00016: EMSA Announcements, 1969-70
- 00017: EMSA Annual Meeting, 1970
- 00018: EMSA Annual Meeting, 1971
- 00019: EMSA Annual Meeting, 1972

**Box 003:**

- 00001: EMSA Annual Meeting, 1973
- 00002: EMSA Annual Meeting, 1975
- 00003: EMSA Annual Meeting, 1976
- 00004: EMSA Annual Meeting, 1977
- 00005: EMSA Annual Meeting, 1979
- 00006: EMSA Annual Meeting, 1980
- 00007: EMSA Annual Meeting, 1981
- 00008: EMSA Annual Meeting, 1982
- 00009: EMSA Annual Meeting, 1983
- 00010: EMSA Annual Meeting, 1984
- 00011: EMSA Committees
- 00012: EMSA Meeting Procedures



- 00013: Minutes of EMSA Annual Business Meetings, 1942-1963 (Microfiche)
- 00014: Executive Council Meeting, 1962
- 00015: Executive Council Meeting, 1963
- 00016: EMSA Reports, 1970-72
- 00017: General Council Meeting, 1971
- 00018: Executive Council Meeting, 1971
- 00019: General Council Meeting, 1972
- 00020: Executive Council Meeting, 1972

**Box 004:**

- 00001: EMSA U.S. Tariff Commission Investigation, 1971-72
- 00002: Diamond Knife Committee, 1972-73
- 00003: Executive Council Meeting, 1973
- 00004: Minutes of EMSA Council Meeting, 1973
- 00005: Minutes of EMSA Executive Council Meetings, 1942-74 (Microfiche)
- 00006: Minutes of Meetings, Executive Council, 1976
- 00007: EMSA Education Materials [1 of 2]
- 00008: EMSA Education Materials [2 of 2]

**Box 005:**

- 00001: Correspondence—Bahr, 1963-85
- 00002: Correspondence—Bahr, Undated
- 00003: Correspondence—EMSA, 1957-60
- 00004: Correspondence—EMSA, 1962
- 00005: Correspondence—Employment Referral Bureau of EMSA, 1962
- 00006: Correspondence—EMSA, 1963
- 00007: Correspondence—U.S. Treasury Department, 1964-65
- 00008: Correspondence—EMSA, 1967
- 00009: Correspondence—National Medal of Science Nominations, 1969
- 00010: Correspondence—EMSA, 1970
- 00011: Correspondence—EMSA, 1971
- 00012: Correspondence—EMSA, 1972



00013: EMSA Proceedings and Meetings Correspondence, 1971-72

00014: Correspondence—EMSA Presidential Scholarship, 1972

00015: Correspondence—Burton Medal, 1972

00016: Correspondence—EMSA, 1973

### **SERIES 003: AFFILIATED MEETINGS AND ORGANIZATIONS**

#### **Box 006:**

00001: 5<sup>th</sup> International Congress on Electron Microscopy, 1962

00002: Yearbooks—The New York Microscopic Society, 1964

00003: European Regional Conference on Electron Microscopy, 1964

00004: Yearbook—The New York Microscopical Society, 1964-65

00005: 6<sup>th</sup> International Congress for Electron Microscopy, 1966

00006: Royal Microscopical Society Centenary Conference, 1966

00007: Washington Society for Electron Microscopy Symposium, 1970

00008: EMSA Local Affiliated Societies, 1970

00009: Latin American Congress for Electron Microscopy, 1972 [1 of 2]

00010: Latin American Congress for Electron Microscopy, 1972 [2 of 2]

00011: Directory of the American Society of Cell Biology, 1977

00012: New York Microscopical Society Centennial Yearbook, 1977

00013: Directory of FASEB Members, 1977-78

00014: 9<sup>th</sup> International Congress on Electron Microscopy, 1978

00015: 68<sup>th</sup> Meeting of the International Academy of Pathology, 1979

00016: Microscopical Society of Canada 7<sup>th</sup> Annual Meeting, 1980

00017: Center for Electron Microscopy: Information, Policies and Procedures (1982-83)

### **SERIES 004: ELECTRON MICROSCOPY SCIENTISTS, REPORTS AND PUBLICATIONS**

#### **Box 007:**

00001: Ruska, Ernst

00002: Knoll, Max



- 00003: Borasky, Ruben
- 00004: von Borries, Bodo [1 of 4]
- 00005: von Borries, Bodo [2 of 4]
- 00006: von Borries, Bodo [3 of 4]
- 00007: von Borries, Bodo [4 of 4]

**Box 008:**

- 00001: Report of Committee on Resolution, 1944
- 00002: Rudenberg v. Clark, 1947
- 00003: Operating Instructions for Porter-Blum Microtome, 1958
- 00004: Report of Examinations, 1970-71
- 00005: Background: Radiation Safety Committee Report, 1972
- 00006: Report of Radiation Safety Committee of EMSA, 1972
- 00007: Evaluation of Elektros Model STEM 101, 1973
- 00008: Micrographs and Evaluation of ETEM-101 and Philips 300, 1974
- 00009: Report: Biomedical Applications of High Voltage Electron Microscope, 1977
- 00010: William Ladd Visit to Museum 1980

**Box 009:**

- 00001: Fernandez-Moran, Humberto: "Crymicroscopy and Outlook" (1982)
- 00002: Fernandez-Moran, Humberto: "Advances in Electronics and Electron Physics" (1984)
- 00003: Fernandez-Moran, Humberto: Misc. Reprints (1964-85)
- 00004: Fernandez-Moran, Humberto: Supplemental Material w/ Correspondence
- 00005: Photocopied German Manuscript: "The Effect of Osmium Tetroxide and Potassium..."

**Box 010:**

- 00001: *EMSA Bulletin*, 1971
- 00002: *EMSA Bulletin*, 1972
- 00003: *EMSA Bulletin*, 1973
- 00004: *EMSA Bulletin*, 1974
- 00005: *EMSA Bulletin*, 1975
- 00006: *EMSA Bulletin*, 1976



00007: *EMSA Bulletin*, 1977

00008: *EMSA Bulletin*, 1978

00009: *EMSA Bulletin*, 1979

00010: *EMSA Bulletin*, 1980

00011: *EMSA Bulletin*, 1981

00012: *EMSA Bulletin*, 1982

00013: *EMSA Bulletin*, 1983

**Box 011:**

00001: *EMSA Bulletin* (1984)

00002: *EMSA Bulletin* (1985)

00003: *Microscopical Society of Canada Bulletin* (1976-78)

00004: *Microscopical Society of Canada Bulletin* (1979-81)

00005: *Microscopical Society of Canada Proceedings* (Annual Meetings 1974-77)

00006: *JEOL NEWS: Electron Optics, Instruments/Applications* (1972-85)

**Box 012:**

00001: *Norelco Reporter*, Vol. 1-3 (1953-56 bound set)

00002: *Norelco Reporter*, Vol. 4-6 (1957-59 bound set)

00003: *Norelco Reporter*, Vol. 7-10 (1960-63 bound set)

**Box 013:**

00001: *Norelco Reporter*, Vol. 11-15 (1964-68 bound set)

00002: *Norelco Reporter*, Vol. 17(1-2); 18(1-2); 19(1); 20(1-3); (1970-73)

00003: *Norelco Reporter*, Vol. 21(1); 22(1); 23(1-3); 24(1); 25(1-3); (1974-78)

00004: *Norelco Reporter*, Vol. 26(1-3); 27(1-3 and 1EM); (1979-80)

**Box 014:**

00001: *Norelco Reporter*, Vol. 28(1-2 & FEG); 29(1-3); (1981-82)

00002: *Norelco Reporter*, Vol. 30(1-3 & 1EM-2EM); (1983)

00003: *Norelco Reporter*, Vol. 31(1EM-2EM, 2XR, 3EM); 32(1EM-2EM, 1XR); (1984-85)



**Box 015:**

- 00001: *Scientific Instruments*, Vol. 1-4 (1956-59 bound set)
- 00002: *Scientific Instruments*, Vol. 5-8 (1960-63 bound set)
- 00003: *Scientific Instruments*, Vol. 9-13 (1964-68 bound set)
- 00004: *Scientific Instruments*, (1962-67 duplicates)
- 00005: *Scientific Instruments*, Universal Chamber Manual
- 00006: *Scientific Instruments* Reprints
- 00007: *Scientific Instruments/RCA Ads and Catalog Material*

**Box 016:**

- 00001: "Electron Microscopy and Paint Technology" (1960)
- 00002: *American Journal of Clinical Pathology* (1962)
- 00003: Bibliography of Electron Microscopy—Advertisement (1963)
- 00004: *Current Developments in High Voltage Electron Microscopy* (1969)
- 00005: *Electron Microscope News* (1969-71)
- 00006: *Research/Development* (1972)
- 00007: *Handbook of X-Ray Safety for Electron Microscopists* (1973)
- 00008: *Pressdienst Wissenschaft* (1974)
- 00009: *Electron Microscope Society of India* (1977)
- 00010: *Biologie Cellulaire (Wilhelm Bernhard)* (1978)
- 00011: *Journal of Electron Microscopy* (1979)
- 00012: *Proceedings of the Royal Microscopical Society* (1979)
- 00013: *Rassegna* (1983)
- 00014: *Technology Illustrated* (1983)
- 00015: *Micron and Microscopica Acta* (1984)
- 00016: Articles/Reprints/Clippings (1944-1968)
- 00017: Articles/Reprints/Clippings (1969-85)

**SERIES 005: PHOTOGRAPHS AND IMAGES**

**Box 017:**

- 00001: Museum/AFIP Donations, 1968-85 (includes photographs)



00002: Miscellaneous Microscopic Images and Equipment

00003: Electron Microscopy Audio-Visual Resources

00004: Electron Microscope Assembly Drawings (AEI EM-7 High Voltage Microscope)

00005: Photographs

1. Eli F. Burton
2. Fernandez-Moran, Ray, Hart, Watson, et al
3. E.F. Burton Memorial Meeting (1948)
4. Ernest F. Fullam
5. Mark Gettner
6. Group Photo of First National Conference on Current Developments in High Voltage Microscopy (1969)
7. Honor Students Seeing EM at Work (1962)
8. John J. Kelsch
9. Microtrabecular Lattice
10. George E. Palade
11. Keith R. Porter
12. Daniel Pease
13. Ernst Ruska
14. Perry Smith, James Hillier and A. Zworykin
15. Ladd-Toronto Electron Microscope
16. High Vacuum Microscope at AFIP
17. RCA Microscopes
18. RCA Ems at 1967 EMSA Meeting
19. SEM Pictures of Nylon
20. AFIP Group
21. Zeitner, Nixon, et al
22. Sheila Roberts and RAdm. R.A. Roberts
23. Zeitler and Engles
24. Cerebrospinal Fluid and Disease Agents
25. Famous Scientists
26. Bahr Giving Lecture
27. German Equipment



28. Arrival of Russian Microscope

29. Unidentified Negatives

30. Unidentified Buildings

00006: Second Regional Conference on Electron Microscopy in the Far East and Oceania (1965)

**Box 018:**

00001: Photograph: The E.F. Burton Memorial Meeting, Election, 1948

00002: *Life* magazine (2/7/49) with article "Thinnest Slice" and Electron Micrographs

00003: Poster-size Ad for U.S. Steel featuring a million volt electron microscope

00004: Fernandez-Moran Electron Microscopy Material

1. John Scott Medal Certificate
2. Oversized photo reprint: "A New Microtome With Diamond Knife" (1956)
3. Oversized photo reprint: "A Diamond Knife for Ultrathin Sectioning" (1953)
4. Oversized photo reprint: "Diamond knife literally cuts anything—even molecules" (1963)
5. Misc. Micrographs

00005: Selected Micrographs—Property of Professor H. Fernandez-Moran (1950-85)

1. Electron Micrograph of Connective Tissue
2. Atomic Lattices in Asbestos Chrysotile Filament
3. Low Temperature Electron Microscopy with High Field Superconducting Lens
4. Cryo-electron Microscope with Sketch of Superconducting Lens
5. Preliminary Sketch of Miniaturized Cryo-electron Microscope
6. Electron Micrographs
7. Luster Rocket Project
8. High Voltage Electron Micrograph

**Box 019 (OVERSIZED):**

1. EMSA tape #65: An Interview with Sir Charles Oatley, 8/14/80
2. EMSA tape #64: An Interview with Cecil Hall, 8/14/80
3. Techniques for Electron Microscopy in Human Tissues

Related Materials in Other Collections:

4. Instruction Book for Electron Microscope EMU-3G (2 copies)



5. The NYSEM International Bibliography of Electron Microscopy, Vol. I & II
6. Scanning Electron Microscopy of Human Reproduction Vol. 4., ed. by E. Hafez
7. *Transactions of the American Crystallographic Association*, Vol. 13, 1977
8. The Moon through the Microscope
9. Transmission Electron Microscopy of Metals by Gareth Thomas
10. Electron Microscopy 1956