

Martin D. Raab

New York, New York

Nominated by New York Chapter AIA

Achievement in Research, Architectural Practice, and Service to the Profession

Sponsored by: George Lewis, FAIA Executive Director -- NY Chapter AIA

Achievement in Research: Martin Raab has specialized in designing research laboratories -- one of the most complex building types existent -- for 20 years. His seminal work in this field has advanced the way laboratories are thought of and consequently designed. His ideas also point to new concepts for planning and designing all high-technology buildings; these have broad applicability even for standard building types (especially as these grow more complex). Mr. Raab frequently writes and speaks on the subject of lab design.

Mr. Raab's work has primarily been focused on innovative building systems -- the primary generator of design concepts in buildings with such rigorous programmatic requirements. Models he has developed for lab arrangements, service delivery systems, room layouts, and most especially systems for enhancing flexibility, have become standards for contemporary industrial practice. He has explored, as probably no other architect has, the relationship between lab building organization, R&D work processes, and patterns of scientific idea exchange.

Achievement in Architectural Practice: Martin Raab's achievements in architectural practice are reflected in the prominence of Haines Lundberg Waehler, which as managing partner, he has helped lead since 1973. HLW will be 100 years old in 1985, and is New York's largest A/E practice. When Mr. Raab took the reins in 1973, HLW's staff had dropped to 120. His guidance allowed the firm to grow steadily throughout the "architectural recession" of the 1970's, to its present size of 280. Mr. Raab achieved this rededication of the practice by emphasizing high-technology building types and expanding, in depth and scope, the services offered by HLW.

Mr. Raab also led the drive to computerization at HLW. Under his direction HLW took an early lead in applying computers to word processing, marketing, programming and specifications writing. He also led HLW's dedication to CADD technology, and the firm now has one of the largest CADD systems in New York and the only one that integrates, architectural and engineering functions. The effects that all of these steps have had on efficiency and quality at HLW are profound, and offer significant lessons to the profession.

Mr. Raab also actively directed the development of HLW's standardized "design process" manual. This document presents extraordinarily detailed standard operating procedures that specify the kind of information that must be assembled and the analyses that must be undertaken before design concepts are generated. Such a system, is especially crucial for the design of complex, high-technology facilities.

Achievement in Service to the Profession: Mr. Raab's achievement in service to the profession includes leadership roles in the NYC/AIA as well as in promoting computer applications throughout the architectural profession. Mr. Raab led AIA committees that worked with the City of New York in developing Public Law 5 (regarding fire protection requirements) and Public Law 10 (regarding safety of ornament and brick work). Both of these local laws have received nationwide attention. Mr. Raab helped to limit the profession's liability under each. Mr. Raab led the Chapter's 10-year struggle with the city on fees and contract standards for public work. He also organized the NYC/AIA's computer applications committee, and served as its first chairman.

SECTION 2. NOMINATION

1. Martin D. Raab, of the New York Chapter and member of the AIA since
(name of nominee) (chapter assignment)

March 9, 1970, is nominated for Fellowship for notable contribution to the advancement of the profession of
(election date)
architecture in Research, Architectural Practice, and Service to the Profession
(category -ies; see Principles Underlying Advancement to Fellowship for a complete listing)

The nomination is made by:
(check and sign either A or B)

A. Vote of governing board of New York Chapter AIA
(name of component organization)

T.R. Williams
(signature and title of chapter president or secretary)

10.1.84
(date)

B. Individual corporate members and/or Fellows as follows:

Written Signature and Date

Typed Signature and Chapter

Written Signature and Date	Typed Signature and Chapter
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. The nominators designate the following member to be the sponsor of the nomination:

Name George Lewis, FAIA Executive Director NY Chapter AIA

Address 457 Madison Avenue, New York, NY 10022 Phone Number (212) 838-9670

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SECTION 3. PROFILE

(Additional sheets may be inserted, but please be concise.)

TYPEWRITING ONLY

1. Nominee's name: Martin David Raab

2. Nominee's mailing address: 9 Willow Place, Great Neck, New York 11021

3. Nominee's firm name and address: Haines Lundberg Waehler
2 Park Avenue, New York, New York 10016 Phone: (212) 696-8500

4. Nominee is registered or licensed to practice architecture in the states or territories of: New York, New Jersey,
Pennsylvania, Florida, Massachusetts, Texas, Illinois, Delaware, Connecticut, North Carolina,
Maryland

5. Nominee is engaged in the profession of architecture as: Managing Partner

6. Nominee's date of birth: October 1, 1932

7. Place of birth: Brooklyn, New York

8. Nominee's education:

A. High school, college or university, postgraduate school, etc. (in chronological order):

<i>Location</i>	<i>No. of Years</i>	<i>Year of Graduation</i>	<i>Degree</i>
Brooklyn Technical High School	4	1950	
Massachusetts Institute of Technology	5	1955	B.Arch

B. Scholarships received by nominee:

MIT Academic Tuition Scholarships 1952, 1953, 1954

9. Other data concerning nominee's record:

Tau Beta Pi. (Mass B.) 1954

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SECTION 4. RESEARCH

(Additional sheets may be inserted, but please be concise.)

1. List the projects in research undertaken by the nominee:

Project

Year

SEE ATTACHMENT A

2. Describe the nominee's achievements in research that are considered notable contributions to the advancement of the profession:

SEE ATTACHMENT B

3. List the significant awards, honors and recognition accorded by the Institute and other professional, governmental or civic organizations for the nominee's work in research:

SEE ATTACHMENT C

4. List the books or articles written by the nominee in connection with research:

Title of Book or Article

Publication Date

Publisher

SEE ATTACHMENT D

Martin Raab's research into laboratories, as a unique building type, has occurred in the context of professional practice. Significant assignments on which new design, engineering and/or programmatic concepts were developed include:

<u>Project</u>	<u>Location</u>	<u>Year of Completion</u>
Pharmaceutical Research Laboratory <u>Miles Pharmaceuticals</u>	West Haven, Connecticut	1985
Program for Telmex Research and Training Center <u>Telefonos de Mexico, S.A.</u>	Mexico City, Mexico	1984
Pharmaceutical Development Facility <u>Schering-Plough Corporation</u>	Kenilworth, New Jersey	1984
Flight Control Development Laboratory <u>United States Army</u>	Wright Patterson Air Force Base Dayton, Ohio	1983
Toxicology Facility Renovation and Expansion <u>Pfizer, Inc.</u>	Groton, Connecticut	1983
Safety Evaluation Facility <u>Ciba-Geigy Corporation</u>	Summit, New Jersey	1982
Computer Design Center <u>United States Army Computer Systems Command</u>	Fort Belvoir, Virginia	1982
Biomedical/Epidemiological Research Laboratory <u>United States Navy Bureau of Medicine</u>	Cairo, Egypt	1981
Program and Redevelopment Plan <u>The International Center of Insect Physiology and Ecology</u>	Nairobi, Kenya	1981

<u>Project</u>	<u>Location</u>	<u>Year of Completion</u>
<u>Research and Quality Control Lab Hoffmann-La Roche, Inc.</u>	Belvidere, New Jersey	1980
<u>Malcolm Toxicology Laboratory American Cyanamid Company</u>	Pearl River, New York	1980
<u>Blood Derivative Manufacturing Facility New York Blood Center</u>	Melville, New York	1980
<u>Facilities Evaluation and Master- Planning for R&D G.D. Searle & Company</u>	Skokie, Illinois	1980
<u>Petroleum Engineering & Technical Services Laboratory The Arabian American Oil Company</u>	Dhahran, Saudi Arabia	1979
<u>Aramco Master Plan for all Eastern Province Facilities total 6 billion in construction</u>	Eastern Province	1977
<u>Fire Research Technical Facility United States Department of Commerce National Bureau Of Standards</u>	Gaithersburg, Maryland	1977
<u>Night Vision and Electro- Optics Laboratory United States Army</u>	Fort Belvoir, Virginia	1977
<u>Wright Chemistry Laboratory Rutgers -- The State University</u>	Piscataway, New Jersey	1973
<u>Roche Institute for Molecular Biology Hoffmann - La Roche, Inc.</u>	Belvidere, New Jersey	1972

Martin D. Raab's achievements in research are marked by two decades of concentrated exploration and development of a single building type -- the research laboratory. Because this building type poses more rigorous organizational and servicing constraints, and also demands greater levels of flexibility, than virtually any other, Mr. Raab's solutions have particular value to the profession at this time, when even relatively conventional building types are becoming more complex.

For forty years, virtually all research laboratories had at their root, the same design partii. This rested on the concept of a lab-unit module -- a fully serviced cell that could be endlessly replicated to meet total building size requirements. The modular concept tended to produce long, narrow buildings -- cells were strung along double-loaded corridors, with service shafts (one to a cell) lining these circulation zones. This resulted in tremendous service system redundancy, great distances between building areas, and permanently fixed the placement of the central corridor throughout the life of a facility. This limited the flexibility and expandability of work spaces to a single dimension (width).

Although the services provided to this cell, and methods for stringing these cells together, have developed over time, Mr. Raab was the first architect to deeply question the cellular concept itself and to provide a successful alternative to it.

Mr. Raab developed, in contrast, the "open field" plan -- the concept of a large, dense block of space, free from all constraints except structural support. Using horizontal service delivery systems (in interstitial spaces, raised floors, or deep floor-ceiling sandwiches), services could be placed to meet initial requirements, and later added to or altered, in any way. Mr. Raab pulled out of the open field all vertical transportation elements (staircases, elevators, etc.) and permanently dedicated spaces (those with specific vibrational requirements, for example). Thus, the open field became a fully flexible zone not unlike the "loft space" typical of early office building construction. This change has dramatically altered the character of today's laboratories.

At the same time, that Mr. Raab developed this conceptual design change, he also explored the specific components that affect laboratory operation. His work here includes innovations in fume hood operation and placement, exhaust and ventilation systems, and energy conservation (traditional thermal considerations have little value in laboratories where air is generally introduced, circulated, and exhausted from the building at very high rates).

Mr. Raab has also analyzed R&D organizational patterns to enhance the integrity of scientific experiments. He has emphasized a strict relationship between lab work flows and spatial arrangements. The great flexibility of the open field plan allows the building to be reconfigured to maintain this work-flow relationship as experimental undertakings and standard procedures change. Mr. Raab has also reviewed a variety of prototypical relationships between R&D labs and scientific offices, again with an impact on productivity and scientific integrity. Similarly, Mr. Raab's buildings show great attention to break spaces -- particularly critical because much scientific advancement has, at its root, informal scientific discussion and because the laboratory environment is often unavoidably harsh. Typically he places these break spaces outside the "open field." There, he uses more varied forms, providing a pleasant experiential break for scientists and technicians.

Designing buildings for research, and developng design concepts for them, is a field not covered by a wide range of awards or honors. However, in light of the specialized nature of laboratory design, and the rarity of professionals qualified to lecture on the subject, recognition of Mr. Raab's achievements are evident by the many invitations he receives to speak:

Name of Lecture	Date	Sponsor
"The Lab of the Future"	March 1985 Scheduled	Scientific Apparatus Manufacturers Association
"Guidelines for Planning R&D Facilities"	May 1985 Scheduled	The Society of Research Administrators
"Laboratory Design"	May 1984 & February 1983	The Center For Professional Advancement
"Modern Laboratory Design and Energy Conservation"	March 1984	The Center for Professional Advancement
"The Latest Trends and Developments in Research Facilities and Laboratory Modules."	October & November 1983	Tradeline, Inc.
"Translation of Toxicology Science to Laboratory Design -- Perceptions of the Architect."	September 1982	National Association Of Life Science Industries
"New Design Concepts for Research and Production Areas."	June 1982	Tradeline, Inc.
"Planning Tomorrow's Research Facilities."	December 1981	Tradeline, Inc.
"Facility Planning for High-Tech Companies."	May 1981	The Society of Research Administrators
"Facilities Design."	January 1981	Research Triangle Institute
"New Directions in Laboratory Design."	November 1978	Society of Research Administrators
"Facilities Planning"	1970 academic year	Columbia Graduate School of Business Management

<u>Title of Book or Article</u>	<u>Publication Date</u>	<u>Publisher</u>
"Meeting New Demands in Research Facilities"	November 1984 (Scheduled)	<u>Research Management magazine</u>
<u>Toxicology Laboratory Design And Management For The 80s and Beyond</u>	1984	Karger
"Drug Research Laboratories Patterned on the Research Process"	February 1984	<u>Contract magazine</u>
"Top Management Gets Into Planning Strategy for New Facility"	February 1984	<u>Research & Development magazine</u>
"New Look in Lab Design: It's All About Open Space"	November 1982	<u>Industrial Chemical News magazine</u>
"Tomorrow's Toxicology Facility" Fall 1980		<u>Journal of The Society of Research Administrators</u>

In addition, Mr. Raab's preeminence in laboratory design elicited the following articles focused on his work:

"Guidelines For Planning Your New R&D Facility," Inside R&D, August 8, 1984.

"Engineering R&D Environments Improve Productivity," Mechanical Engineering, May 1983.

"Lederle's Toxicology Lab is Computerized Marvel," Chemical & Engineering News, January 24, 1983.

"Design Guidelines For R&D Facilities," Inside R&D, December 9, 1981.

"Bringing Laboratory Form and Function to 1980s Standards," Industrial Research & Development, April 1981.

"The Automated Research Lab," The New York Times, 1981.

SECTION 4. SERVICE TO THE PROFESSION

(Additional sheets may be inserted, but please be concise.)

1. List the offices and committees in architectural organizations occupied by the nominee and the period each was held:

Office or Committee and Its Origin
(e.g., AIA, state or chapter)

From

To

SEE ATTACHMENT E

2. Describe the nominee's specific achievements in the field of service to the profession that are considered notable contributions to the advancement of the profession:

SEE ATTACHMENT F

3. List the significant awards, honors and recognition accorded by the Institute and other professional, governmental or civic organizations for the nominee's work in service to the profession:

April 1984 -- Participated in a roundtable on "Balanced Architecture," sponsored by the AIA (national) in Washington, D.C.

Past Director of The New York Chapter of the AIA -- 1978-1980

Certificate of Appreciation -- NYC Mayor's Construction Advisory Committee - 1976

Village Architect -- Village of Great Neck Estates - 1970-Present

4. List the books or articles written by the nominee in connection with service to the profession:

Title of Book or Article

Publication Date

Publisher

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<u>Office or Committee and Its Origin</u>	<u>From</u>	<u>To</u>
Director, NY Chapter AIA	1978	1980
Established and chaired AIA NY Chapter Committee on Computers in Architecture	1982	1983
Chairman of the American Cancer Society NYC Division, Architects Division	1974	Present
NY AIA Chapter member of the Mayor's Construction Industry Advisory Committee	1974	1976
Represented the NY Chapter of the AIA in the Inter-professional Committee working with the City on the establishment of Public Law 10	1980	
Represented the NY Chapter of the AIA in establishing its position with regard to Public Law No.5	1974	
Chaired the New York AIA Chapter's Public Agencies Committee that worked with the Mayor's office of Construction, the Bureau of the Budget and the Comptroller's Office on fee schedule adjustment.	1975	1982

Mr. Raab's achievement in service to the profession include leadership roles in the New York Chapter of the AIA as well as extensive involvement promoting computer applications throughout the architectural profession. Mr. Raab also led committees that worked with the City of New York in developing Public Law No. 5 (which strengthens building fire protection requirements) and Public Law No. 10 (which mandates inspection and upgrading for safety of facade ornament and brick work). These two ordinances have received national attention, and have grave significance for professional liability. Mr. Raab coordinated the Chapter's professional comments on the wording of the new rules, limiting architects' liability under these laws.

Mr. Raab also led the Chapter's struggle with the City of New York on fee increases and contract standards for public work. This led to adoption of Schedule CS-29 resulting in a new fee schedule raising fees 8% for public work in New York. Mr. Raab organized the NY/AIA's computer applications committee, and served as its first chairman. Mr. Raab was a former director of the NYC AIA for two years. He also recently participated in the AIA (national) Roundtable on Balanced Architecture.

SECTION 4. ARCHITECTURAL PRACTICE

(Additional sheets may be inserted, but please be concise.)

1. List the positions held by the nominee and period each was held. It is important to describe the nominee's duties from the time he or she entered a firm to the present.

<i>Position</i>	<i>Duties</i>	<i>From</i>	<i>To</i>
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SEE ATTACHMENT G

2. Describe the nominee's achievements in architectural practice that are considered notable contributions to the advancement of the profession:

SEE ATTACHMENT H

3. List the significant awards, honors and recognition accorded by the Institute and other professional, governmental or civic organizations for work largely attributable to the ability of the nominee in architectural practice:

"An Architects Wonderland -- Architectural Practice in Saudi Arabia"	February 1977	Lecture sponsored by The NY Society of Architects
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4. List the books or articles written by the nominee in connection with architectural practice:

<i>Title of Book or Article</i>	<i>Publication Date</i>	<i>Publisher</i>
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SEE ATTACHMENT D

Position	Duties	From	To
HLW Draftsman	General Drafting & Design	9/16/57	5/59
HLW Project Architect	Project Design & Documentation	5/59	3/61
Meyer & Rasindorf - Project Architect	Project Design & Documentation	3/61	1/64
HLW Project Architect	Project Design & Documentation	1/64	2/68
HLW Designer	Project Concept and Design	2/68	5/68
HLW Project Manager	Overall Project Control	5/68	1/73
HLW Partner	Management of Research Design Group and Internal Operations	1/73	1/75
HLW Managing Partner	Management of Research Design Group and Internal Operations	1/75	1/77
HLW Senior Managing Partner	Management of Research Design Group and Internal Operations	1/77	Present

Martin Raab's achievements in architectural practice are indicated by the success and prominence of Haines Lundberg Waehler, which currently as senior managing partner, he has helped lead since 1973. HLW, which will be 100 years old in 1985, is New York City's largest architecture, engineering, and planning firm.

Computer Technology

Mr. Raab has directed the progressive automation of activities at HLW. Computers are applied at HLW for accounting marketing, programming, specifications, as well as CADD. HLW's CADD system, also installed under Mr. Raab's direction, ranks among the most sophisticated and sizable in the city. Mr. Raab not only selected the system and supervises its operation, but mandated a philosophy that guides its use -- including most notably a directive to employ trained professional architects and engineers - not dedicated "operators" - on the system. This has greatly expanded the usefulness of CADD documentation. Mr. Raab also directed the development of CADD operating procedures to allow the system to integrate and coordinate the work of all architectural and engineering disciplines. HLW is the only firm in the country to achieve this level of integration with CADD technology.

Strategic Planning

Mr. Raab was largely responsible for the rededication of HLW. Since Mr. Raab became managing partner, HLW's staff, has more than doubled and fee volume increased 5 times. Mr. Raab achieved this dramatic turnaround through emphasis on special service for high technology building types, and by expanding the service offerings of HLW to suit.

He has expanded the concept of the full-service design team for research laboratories, for example, to include management consultants and regulatory affairs specialists. (HLW is very likely the only architectural office in the United States with a chemist and pharmacist on its staff). The specialists Mr. Raab includes on his design teams also develop operating procedures for research buildings -- which can be at least as important to the effectiveness and safety of such a structure as the HVAC and other mechanical controls.

The significance of this expansion of services is two-fold: First, it increases the usefulness of architects to corporate clients, enabling them to serve as complex "building consultants" capable of assisting in all aspects of facility design and management, and second, it enhances the quality of the architectural product by accepting advice from specialists in many related scientific disciplines that are critically useful to -- but usually closed out of -- the design of technically complex structures.

(more)

Systems and Design Processes

In addition to his role as design director of all research laboratory projects, Mr. Raab carries primary responsibility at HLW for "internal operations." In this capacity, he has assumed full responsibility for developing systems to integrate HLW's wide range of services. Most significant in this regard is HLW's "Design Process," a detailed document that standardizes HLW's professional activities. It establishes extraordinarily detailed standard operating procedures -- including specifying what information must be collected before concepts are developed, and how and by whom these concepts are reviewed, to insure the accord of all discipline specialists before they are developed in detail. The importance of this document cannot be overstressed -- it quantifies our professional services both internally and externally and provides a system for ensuring interdisciplinary communication and timely review. The base-line of Mr. Raab's design process is an understanding of architecture as a service that, while at times abstract, must be definable both to guarantee consistent performance and to demonstrate the worth of services to clients.

SECTION 5. EXHIBITS (PHOTOGRAPHIC)

List the photographs which follow this page:

<i>Project</i>	<i>Location</i>	<i>Year of Completion</i>
1. Schering-Plough Corporate Headquarters (exterior)	Madison, New Jersey	1983
2. " " (exterior)	" "	"
3. " " (interior)	" "	"
4. " " (interior)	" "	"
5. " " (interior)	" "	"
6. Malcolm Toxicology Laboratory (exterior)	Pearl River, New York	1980
7. " " (exterior)	" "	"
8. " " (interior)	" "	"
9. Night Vision and Electro-Optics Laboratory (exterior)	Fort Belvoir, Virginia	1977
10. " " (exterior)	" "	"
11. " " (exterior)	" "	"
12. U.S. Navy Biomedical Research Laboratory (exterior)	Cairo, Egypt	1981
13. " " (interior)	" "	"
14. Roche Institute of Molecular Biology (exterior)	Belvidere, New Jersey	1972
15. " " (exterior)	" "	"

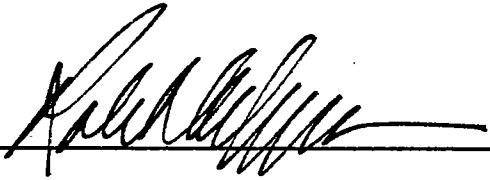
SECTION 5. DECLARATION OF AUTHORSHIP

The following certification must be signed by anyone in possession of full knowledge concerning EACH separate project illustrated in the photographs. This might be the chapter president, a member of the Executive Committee of the chapter, a partner of the nominee or even the nominee. In partnership, the signature of another partner would be most significant. Key the various statements below to specific exhibits.

The accompanying photographs show examples of work with which the nominee's connection was as follows:

- The nominee was solely responsible for the design.
- The nominee was largely responsible for the design. Night Vision and Electro-Optics Laboratory;
Malcolm Toxicology Laboratory
- The design was under the direction of the nominee. Schering-Plough Corporate Headquarters; U.S. Navy
Biomedical Research Laboratory; Roche Institute
For Molecular Biology
- The nominee's firm executed the design.

(If the above statements do not adequately describe the nominee's participation in any of the projects illustrated in the photographs, add a brief original statement[s] of authorship below.)

Signed  Robert A. Djerejian
AIA Title Managing Partner

Name of Nominee Martin D. Raab

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Part B. References

1. Mr. John Dixon, FAIA
Editor
Progressive Architecture
600 Summer Street
P.O. Box 1361
Stamford, CT

relationship to nominee: Classmate and friend

2. Mr. Alan Schwartzman, FAIA
Davis Brody and Associates
100 East 42nd Street
New York, NY 10017

relationship to nominee: Professional colleague

3. Mr. Herbert Oppenheimer, FAIA
Oppenheimer and Vogelstein
1001 Avenue of the Americas
Room 2401
New York, NY 10018

relationship to nominee: Professional colleague

4. Mr. Hugh D'Andrade
Senior Vice President
Schering-Plough Corporation
One Giralda Farms
P.O. Box 1000
Madison, NJ 07940-1000

relationship to nominee: Client

(more)

Part B. References

-2-

5. Dr. George Sutherland
Director of Research
American Cyanamid
Medical Research Division
Middletown Road
Pearl River, NY 10965

relationship to nominee: Client

6. Mr. Stuart K. Pertz
Director of Design
Haines Lundberg Waehler
2 Park Avenue
New York, NY 10016

relationship to nominee: Partner

7. Mr. William A. Hall, FAIA
William A. Hall & Associates
42 East 21st Street
New York, NY 10010

relationship to nominee: Professional colleague

Archivist's Note:

The photographic images for the Exhibits section of this Fellowship nomination are in the American Institute of Architects Archives, but have not been scanned in this file.