

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC Irving Langmuir House

AND/OR COMMON

1176 Stratford Road

2 LOCATION

STREET & NUMBER 1176 Stratford Road

CITY, TOWN

Schenectady

NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

28th

STATE

New York

VICINITY OF

CODE

36

COUNTY

Schenectady

CODE

093

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input checked="" type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input checked="" type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME Harry R. Summerhayes

STREET & NUMBER

1176 Stratford Road

CITY, TOWN

Schenectady

VICINITY OF

STATE

New York

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, Registry of Deeds
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

Schenectady County Court House

CITY, TOWN

Schenectady

STATE

New York

6 REPRESENTATION IN EXISTING SURVEYS

TITLE None

DATE

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

CITY, TOWN

STATE

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input checked="" type="checkbox"/> _EXCELLENT	<input type="checkbox"/> _DETERIORATED	<input checked="" type="checkbox"/> _UNALTERED	<input checked="" type="checkbox"/> _ORIGINAL SITE
<input type="checkbox"/> _GOOD	<input type="checkbox"/> _RUINS	<input type="checkbox"/> _ALTERED	<input type="checkbox"/> _MOVED DATE_____
<input type="checkbox"/> _FAIR (unrestored)	<input type="checkbox"/> _UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Irving Langmuir House on Stratford Road in Schenectady, New York, is a 2½ story brick house. Built approximately 1900 in a general vernacular colonial revival style, the house is characterized by a terra cotta truncated hip roof with two dormer windows, almost complete symmetry of the windows and bays, a covered car port with a side entrance, and a columned porch over the front entrance with its paladian style door. A basic central hall floor plan is the principal feature of the interior. Although a large and pleasant house, the building in itself is of no particular architectural importance.

Irving Langmuir lived at 1176 Stratford Road from approximately 1919 until his death in 1957. There is thus a long and deep association between Langmuir and the property. At the present time Langmuir's son-in-law owns and lives in the house.

The integrity of the property is whole. The exterior has undergone no alteration since its construction. The interior is also exactly as it was during the Langmuir period.

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8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input checked="" type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1919-1957

BUILDER/ARCHITECT unknown

STATEMENT OF SIGNIFICANCE

Irving Langmuir was born into a prosperous Brooklyn, New York, family on January 31, 1881. On his mother's side the family proudly traced its ancestry to the Mayflower pilgrims. Langmuir received a quality education. After attending elementary school in Brooklyn, he accompanied his parents to Europe where he attended school for three years in Paris. Upon returning to the United States he entered the private Chestnut Hill Academy in Philadelphia for his secondary education. He then attended the Pratt Institute in Brooklyn before transferring to the Columbia School of Mines. Langmuir graduated from Columbia in 1903 with a degree in metallurgical engineering. As was the custom at the time for aspiring young physical scientists, Langmuir next went to Germany to pursue graduate work. He remained in Germany for three years and earned his Ph.D. in chemistry at Goettingen in 1906. When he arrived back in the United States he took a teaching position at the Stevens Institute of Technology. Langmuir taught chemistry at this school until 1909. He apparently did not enjoy teaching and wished to pursue research. When Willis Whitney, the father of the newly established General Electric Research Laboratory, told Langmuir that the lab would be engaged in both theoretical and applied research, Langmuir decided to move to Schenectady. He became a member of the General Electric Research Laboratory in 1909 and remained with General Electric until his retirement in 1950. After retiring, Langmuir continued to maintain his principle residence in Schenectady. He died August 16, 1957, while vacationing in Massachusetts.

Guy Suits, who as director of the General Electric Research Laboratory worked for many years with Langmuir, writes of him, "Few scientists, in either university or industry, have made as many, and as significant, contributions to scientific progress as did Dr. Irving Langmuir, the 1932 Nobel Prize winner in chemistry."*

*C. Guy Suits and Miles J. Martin, "Irving Langmuir," National Academy of Science Biographical Memoir Series, Vol. XLV, (Washington, 1974), p. 215.

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(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Farber, Eduard. Goent Chemists, (New York, 1961)
 C. Guy Suits and Miles J. Martin, "Irying Langmuir," National Academy of Science Biographical Memoir Series, Vol. XLV, (Washington, 1974).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one acre

UTM REFERENCES

A	1 8	5 8 8 3 6 0	4 7 4 0 7 6 0	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

James Sheire, Historian

ORGANIZATION

Historic Sites Survey, National Park Service

STREET & NUMBER

1100 L Street NW.

CITY OR TOWN

Washington

DATE

July 1975

TELEPHONE

202-523-5464

STATE

D.C. 20240

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL X

STATE _____

LOCAL _____

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

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CONTINUATION SHEET

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In his long career in research Langmuir pursued many directions and interests. His primary areas of research were:

1. 1906-1921: chemical reactions at high temperatures and low pressures;
2. 1911-1936: thermal effects in gases;
3. 1919-1921: atomic structure;
4. 1913-1937: thermonic emission and surfaces in vacuum;
5. 1916-1943: chemical forces in solids, liquids, and surface films;
6. 1923-1932: electrical discharges in gases; and
7. 1938-1955: science out-of-doors.

In each of these areas Langmuir made significant discoveries that were contributions to the physical sciences in general and chemistry in particular. Among his most noteworthy accomplishments were: 1) the discovery and detailed investigation of atomic hydrogen by contact of molecular hydrogen with hot tungsten filament, 2) the development of the basic approach to surface kinetics through his discovery that an absorbing surface has a catalytic effect in which a chemical reaction occurs in the absorbed film, 3) the creation of the term "plasma" to identify the fundamental nature of a volume of ionized gas essentially free of space charge, and, 4) cloud seeding or the use of solid carbon dioxide to induce rain.

Langmuir was a tireless worker who always worked with the assistance of only a few associates. Although his main interest was pure or basic research, he never lost sight of potential practical applications for his discoveries. In addition to his over 200 published papers he also held 63 patents to important technological principles and processes. Among them were the gas filled incandescent lamp, high vacuum electron tube principles, thoriated tungsten filament, atomic hydrogen welding, and the grid controlled arc.

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(Continued)

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CONTINUATION SHEET

ITEM NUMBER 8 PAGE 3

Langmuir illustrated as well as any single man the role and function of the individual scientist in industrial research. Although his first loyalty was always to the objective pursuit of disinterested pure science, he never forgot the interests and concerns of his market-oriented employer. With other General Electric scientists and engineers like William Coolidge and Charles Steinmetz, Langmuir proved that pure science discoveries could open up whole new areas of technological improvement and progress. In many respects Langmuir was an archetype of the scientist who helped pioneer the union of science and technology through the institution of the industrial research laboratory. That institution and the men who have worked in them, such as Langmuir, have played a significant role in the history of science in America and have done much to shape the contemporary social, economic, and cultural reality.

Langmuir was the recipient of most of the prestigious awards and honors that the scientific community bestows on one of its own. Among his prizes and medals were: the Nichols Medal (1915 and again 1920), the Gibbs Medal (1930), and the Rumford Premium (1921). In 1932 he received the Nobel Prize for chemistry. He served as president of the American Chemical Society in 1929 and as president of the American Association for the Advancement of Science in 1941. He received honorary doctorates from numerous universities, among them Harvard, Columbia, and Princeton. In the opinion of his peers and colleagues Irving Langmuir was one of America's most distinguished scientists during the first decades of this century.

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