Form No. 10-300 (Rev. 10-74)

THEME: Americans at Work
SUBTHEME: "Science and Invention"

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED
DATE ENTERED

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

__NOT FOR PUBLICATION

CITY, TOWN: Schenectady __ VICINITY OF

CONGRESSIONAL DISTRICT: 28th

STATE: New York CODE: 36

COUNTY: Schenectady CODE: 093

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	X OCCUPIED	__AGRICULTURE	__MUSEUM
X BUILDING(S)	X PRIVATE	__UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	X PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		X NO	__MILITARY	__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, ETC.: Registry of Deeds

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
X EXCELLENT	__DETERIORATED	X UNALTERED	X ORIGINAL SITE
__GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR (unrestored)	__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 venacular 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.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION	
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	X SCIENCE	
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE	
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN	
__1700-1799	__ART	__ENGINEERING	__MUSIC	__THEATER	
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION	
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)	
		__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 ancestory 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, "Irving 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

	ZONE	EASTING	NORTHING
A	18	588360	4714769
B			
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

DATE
July 1975

STREET & NUMBER
1100 L Street NW.

TELEPHONE
202-523-5464

CITY OR TOWN
Washington

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

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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Irving Langmuir House, New York

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 contribuitions 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 tungstun 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 spare 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 prosesses. 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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Irving Langmuir House, NY

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 recipiant 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.