

Chapter 5

Physical Facilities for the Chemistry Department

A history of the Chemistry Department would be incomplete without describing the laboratories and buildings that support the chemistry program.

The instructional space and laboratories in 1913 were described in the catalog (Chapter 1). Located in the newly constructed Old Main building, the description made a point of including electricity, water, gas, compressed air and fume hoods for proper ventilation.



Photo of one of the early labs in Horan O'Donnell showing a simple distillation.

The first public notice of a new facility for the science departments was an article in the *Griffin*, the student newspaper in the January 29, 1937 issue, reproduced here.

“New College Building/Will Be Erected Soon

Announcement was made last Thursday that an extensive drive for funds is under way among the alumni of the college, the immediate objective of which is the erection of a new building in the near future. The recent bequest of Miss Marian A. Horan, involving cash and real estate amounting to over \$100,000, has given definite direction and impetus to the long cherished plan of the alumni to erect a new building.

According to Mr. John Carroll, '12, president of the Alumni Association, the proposed building will be in two sections; the first being a science section consisting of the Horan Physics and Chemistry laboratories, and the other of a recreation

center and auditorium dedicated to the memory of Rev. Francis X. Sindele, S.J., for thirty-six years a professor at the College.

The recreation center will include lounging rooms, offices for the student publications, the Griffin, the Quarterly and the Azuwur, and also rooms for the Glee Club, Student Council, Athletic Association, Dramatic Society, Sodality, Alumni Association and other organizations.

The auditorium, with a seating capacity of fourteen hundred, will be two stories high and will be used for the assemblies, debates, school plays, and lectures.

The site of the proposed structure will be on Hughes Avenue, southeast of the present college building.

"The expansion program is made necessary," said Rev. James P. Sweeney, S.J., President of the College, "by the greatly increased registration of the last few years. The present building originally designed to accommodate five hundred and fifty students, is now used by seven-hundred in the extension and graduate courses.

"Next September for the first time in its history the College will be forced to turn away qualified students because of lack of room."

The new building will increase the capacity of the College by five-hundred students inasmuch as the removal of the present laboratories will provide classroom space in the present building.

The erection of the new auditorium will permit the present auditorium to be converted into stockrooms that will enable the library to double the size of its reading room and to provide space for one hundred and twenty thousand volumes.

Mr. Carroll in an interview today outlined the plans for the alumni campaign and said: "This is what the Canisius alumni have been waiting for: a definite project around which to crystalize their willingness to work for a college with increased capacity to serve this community."

Outlining the plan of campaign, he said that of the eighteen hundred living alumni of the college, sixteen hundred live in Buffalo and Western New York. The Alumni have been divided into professional groups under group-chairmen. Already, before the drive has begun, a number of unsolicited contributions have been received by Joseph A. Wechter, of the class of 1900, treasurer of the campaign. The committee in charge of the Sindele Memorial Drive includes Rev. H.P. Laudenbach, general chairman; Dr. Francis E. Fronczak, Thomas C. Burke, Dr. Louis C. Manzella, Rev. William Martin, Francis J. Killeen, Charles N. Rider, Dr. Charles F. Horning, George J. Lenahan, Dr. John C. Brady, Frank A. Pfalzer, John A. Carscallen.

Asked to comment on the plans of the Alumni, Father Sweeney remarked: "It has been my policy not to expand the college until I had definite assurance that we would not be forced to go further into debt to finance the program. But I

have every confidence that the plan proposed by Mr. Carroll and his associates will solve our problems.”

For the Alumni of the college, the rallying point of the drive is their devotion to the memory of Father Sindele. Mr. Wechter, expressing the reaction of the typical alumnus, said: “To us, at least, Father Sindele was the incarnation of everything Canisius stands for. Because of him, we owe the college whatever of our time and money we can give. A campaign to erect a memorial to this beloved priest, educator, and fellow alumnus cannot fail.”

Father Sindele was the greatest benefactor the college ever had. Serving as professor for thirty-five years without any remuneration, he also contributed in money over thirty-five thousand dollars which he earned as a chaplain and as a lecturer.”

In hindsight, it is clear that the initial plans for the new building were never achieved. Originally planned to have two sections, the science section eventually became the final building. The Rev. Francis X. Sindele S.J. section was never constructed. Based on comments reproduced in the planning stages, the President was not willing to undertake additional debt. At the time of a national economic depression, it is reasonable to assume that funds were not raised for the Sindele addition.

The catalog of 1938-39 specifically mentioned the completion of Horan-O'Donnell Hall, to house the Chemistry and Physics Departments. An acknowledgement to the benefactors was also cited in the catalog.

“The President and Trustees of Canisius College wish to express their grateful acknowledgements to the following benefactors for their kind donations: The estate of Dr. William O'Donnell for a large bequest which has contributed greatly to the erection of the new Chemistry and Physics Building, and which will be named the Horan-O'Donnell Science Hall, in honor of Dr. O'Donnell conjointly with Miss Marian Horan, from whose estate the College received a large bequest acknowledged last year.”

The beginning and end of construction is noted in the Datelines catalog of the College.

December 19, 1938 Blessing of construction site and beginning of construction of Horan O'Donnell Science Building, made possible by large donations from Dr. William J. O'Donnell and Miss Marian A. Horan.

May 12, 1940 Dedication of Horan O'Donnell Science Building by Bishop John A. Duffy, D.D.



This photo shows the early construction stage for the Horan-O'Donnell Science Building. The houses along Hughes Ave in the background give a familiar appearance to the scene.

The building was opened during the Depression Era and the original design of the building was not fully implemented. Most notably, an elevator was not installed in the elevator shaft. The gray cinder block interior walls were not painted and the basement exit at the east end flooded after most heavy rains because of improper drainage.



This is a view from the back of the tiered lecture hall Room 109. The 120 seats were fixed to floor. The walls were unpainted cinder block and the track on the front wall would eventually support a projection screen. The photo presents a stark appearance.

Nevertheless, Horan O'Donnell Building served the two departments of Chemistry and Physics very well while the other science department, Biology, occupied the third floor of Old Main from 1937 to 1970. The Biology Department then moved to the Health Science Center at the corner of Delevan and Jefferson Streets.



An exterior view of the Horan-O'Donnell Science Building shows a parking lot at the east end (left). Photo is from the early 1950's before the Student Center was constructed (early 1960's)



This is an early view of the front (Hughes Ave.) side of the Horan-O'Donnell Science Building. The stands at the east end of the building were for spectators who attended football games in the Quadrangle before construction of the chapel (1953).

Renovations of Horan O'Donnell finally got under way in the 1960's when the interior walls were painted a light green. In 1976, the third floor analytical chemistry

laboratory (“Mr. Signeur’s lab”) was completely gutted and renovated with new laboratory furniture and fume hoods. The “balance room” that housed 24 analytical balances was converted to a faculty office/lab.



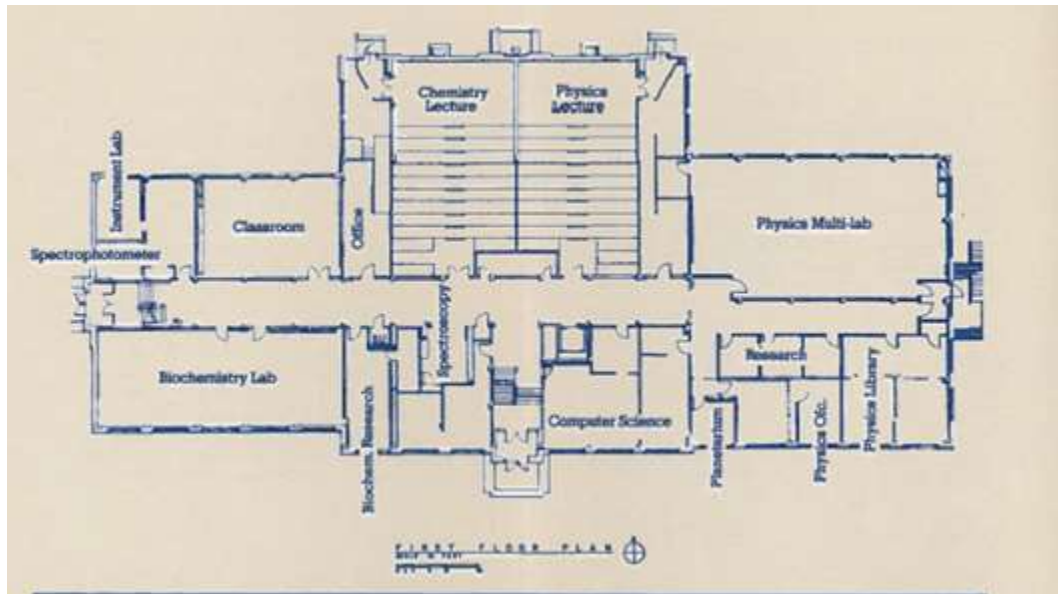
The third floor analytical lab (Mr. Signeur’s) was always kept in immaculate condition. The bench tops were oiled after every lab. Note the cabinets with the windows covered. Solutions of ions served as standards and “unknowns” were stored under security to be compared with “knowns”, also stored under security.



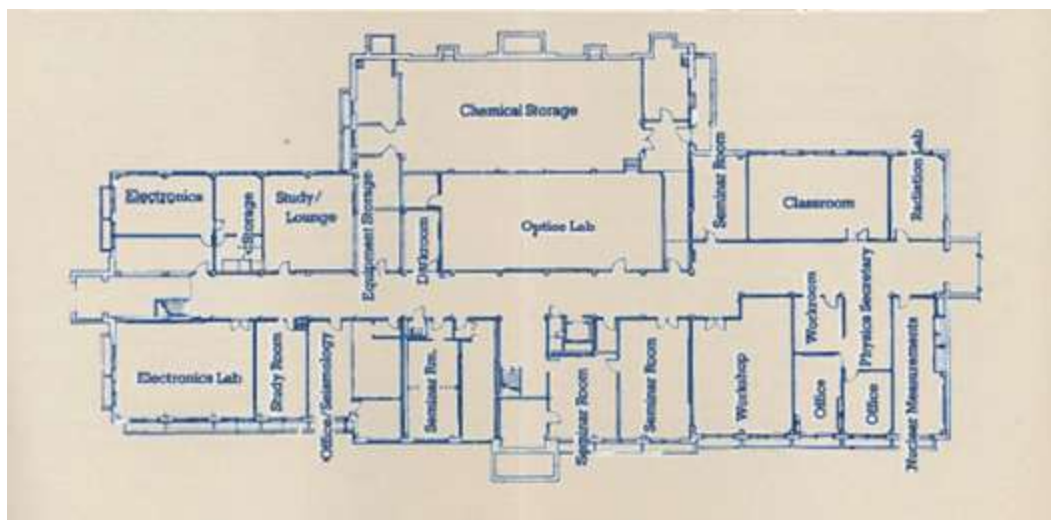
Room 204 on the second floor of Horan-O’Donnell was the Chemistry Library in the early days. Chemistry Journals and Chemical Abstracts were in the stacks as well as tables for library use. Its current usage is a computer room where literature is online.

In the early 1980's, extensive renovations of Horan O'Donnell took place, occurring over two years. Phase I was completed in the summer of 1983 and consisted of work on the exterior of the building. Included were replacement of exterior brickwork, roofing and flashings including the installment of larger roof drains and roof insulation. All the windows were replaced resulting in extensive energy savings. The cost of these renovations was \$470,000.

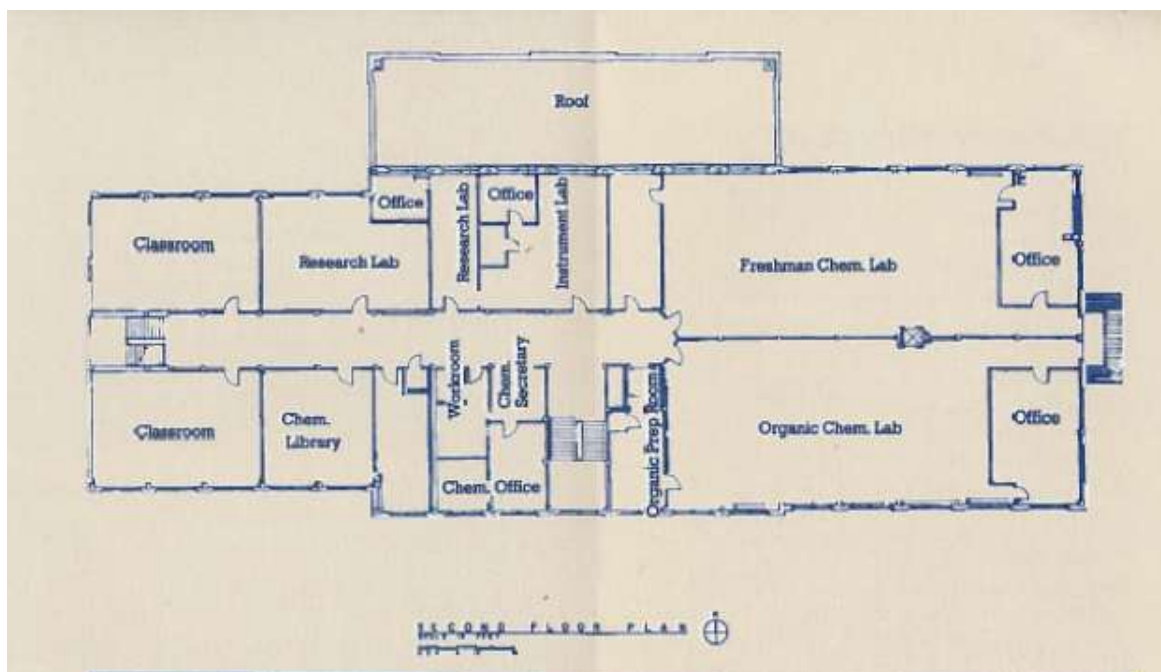
Phase II began in the spring semester of 1984. Classes were ended two weeks early and work was intense over the summer. The interior of the building was gutted in large part. At a total project cost of approximately \$2,000,000, interior space was reallocated, laboratories were modernized, new cabinetry and furniture was installed, floors and ceilings were replaced, an elevator was installed and improved heating, ventilation, electrical and plumbing services were accomplished. By the opening of classes for the 1984-85 academic year, Horan-O'Donnell was a completely new building. The completed floor plans for the building are given below.



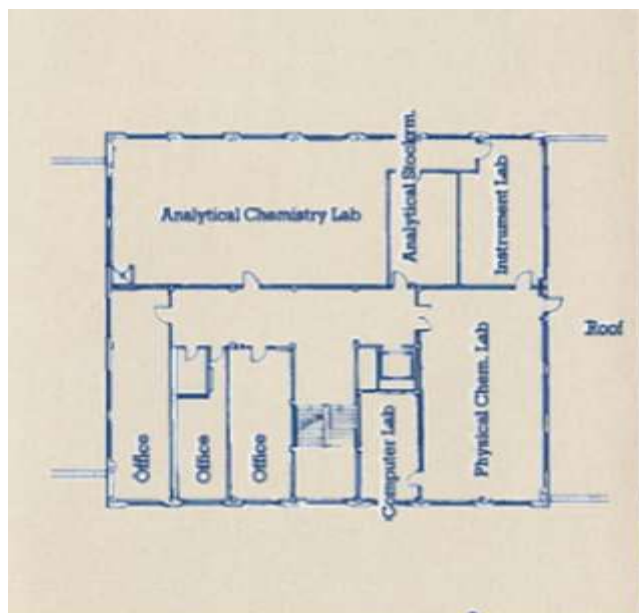
First Floor



Ground Floor-Physics Department



Second Floor



Third Floor

After nearly 30 years, the building still remains functional as a science building. Room designs have been modernized to accommodate instruments, to provide connectivity for computers, to introduce audio-visual aids for instruction and to provide air conditioning when it is needed. For over 75 years the Horan O'Donnell Science Building has served the Chemistry Department very well.

Laboratories and Instrumentation in the Science Building

A summary of the laboratories, equipment and instrumentation in the Chemistry Department relates an interesting story in itself in that it parallels the history of chemistry in the United States over the last hundred years.



Mr. Walter Stahrr and Mr. Austin Signeur prepare a demonstration for the general chemistry lab.

The early College catalogs make a point of itemizing the physical features of the laboratories and the equipment used in teaching courses and doing research. Chapter 2 quotes the 1913-14 catalog listing of equipment used in the laboratories. There is very little instrumentation and all of the equipment supports solution chemistry, qualitative and quantitative analysis. The traditional view of chemists working with beakers, flasks, Bunsen burners, and crucibles would clearly reflect the laboratory experience in the early days. The physical features of the laboratory featured running water, adequate ventilation, compressed air, and natural gas supply.

Instrumentation was slowly introduced into the laboratories into the 1950's. Analytical balances provided quantitative weight measurements precisely to four decimal places. Electrochemical instruments measuring pH (acid-base), conductivity and calometric values provided experiments for the advanced analytical laboratories. Gas manifolds in the physical chemistry laboratory allowed pressure-volume gas experiments but instrumentation was still minimal.



The Balance Room was an integral part of the third floor analytical lab. The Quantitative Analysis laboratory experiments were heavily dependent on precise weight determination on these balances.

In the Qualitative Organic Chemistry course, unknown compounds were identified with simple data (ex. Melting and boiling points, refractive index) and wet chemistry tests along with derivative compound reactions. Ultraviolet spectroscopy was available but of very limited use.

It was in the 1950's that instrumentation introduced by Herman Szymanski allowed Canisius to be an educational leader in the introduction of newer methods of organic chemical analysis at the college level. Infrared spectroscopy, gas chromatography and nuclear magnetic resonance were all major instrumental methods of analysis that were introduced at Canisius by 1960.



Dr. Herman Szymanski (left) and Dr. Robert Conley (right) are shown in front of the Baird Associates Infrared Spectrophotometer, one of the most important instruments in the department for teaching and research



Dr. Joseph Bieron gives instructions about the Varian A-60 NMR Spectrometer, one of the primary instruments in the department in the late 1960's.

Instrumentation

The department has invested more than \$1 million in state of the art instrumentation for use by students in laboratory courses and research projects. Representative major pieces of equipment currently available in the 2014-15 academic year include are listed in the Appendix.