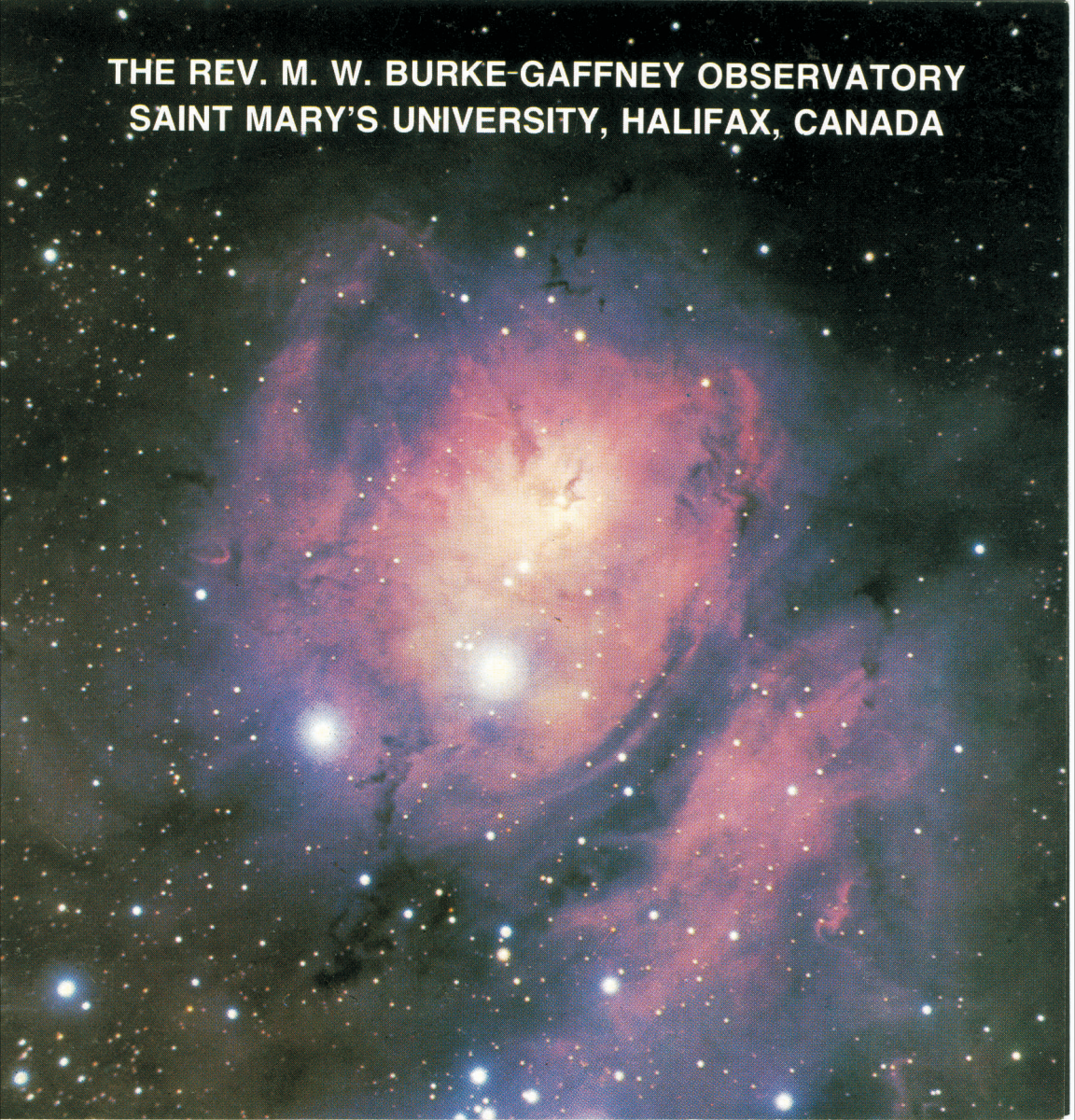
THE REV. M. W. BURKE-GAFFNEY OBSERVATORY
SAINT MARY'S UNIVERSITY, HALIFAX, CANADA



Reverend M. W. Burke-Gaffney, S. J.

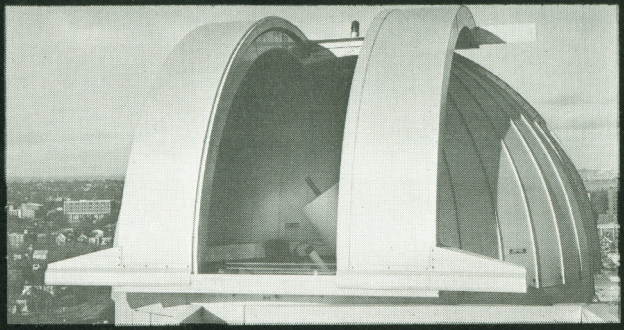
The Observatory at Saint Mary's University was named in honor of Reverend M. W. Burke-Gaffney, S. J. Born in 1896, Father Burke-Gaffney received his Ph.D. from Georgetown University in Washington, D.C. After teaching in Toronto and Winnipeg, he came to Halifax in 1940. At Saint Mary's he held the position of Dean of Engineering, and later, Dean of Science. Nova Scotia Technical College conferred an honorary Doctor of Engineering on Father Burke-Gaffney in 1955, in recognition of his great contribution to the students of Nova Scotia. His contribution to astronomy has been acknowledged by membership in the American Astronomical Society, International Astronomical Union, and the International Academy of the History of Science. After 25 years at Saint Mary's, the Board of Governors conferred on him the title of Professor Emeritus in 1965.

The Observatory was made possible by an anonymous benefactor who wished to honor Saint Mary's well-loved astronomer. It was completed in January 1972. The location of the Observatory is on the top of the 22-storey Ignatius Loyola residence. This location assures good accessibility for Saint Mary's students and for the community.

Astronomy at Saint Mary's

Saint Mary's offers a number of astronomy courses of interest to students and to the community. (1) An introductory course is offered as part of the Adult Studies Program, with no entrance requirements and no exams. (2) A full-credit course in introductory astronomy for the non-science student is taught on two evenings a week; this course appeals to many public school teachers and other members of the Halifax community. No background in mathematics or physics is expected. (3) Science students will find several undergraduate courses, ranging from an introductory course to advanced courses. (4) A Master's Program in Astronomy is being initiated in 1974. Admission to this Program requires a Bachelor's degree with a major in physics or mathematics. Master's students will be prepared for teaching science (e.g. in high schools, planetaria, museums of science, or elsewhere) or for pursuit of a Ph.D. in astronomy elsewhere.

For further information, contact The Director, Burke-Gaffney Observatory, Saint Mary's University, Halifax, Nova Scotia B3H 3C3.



The Telescope

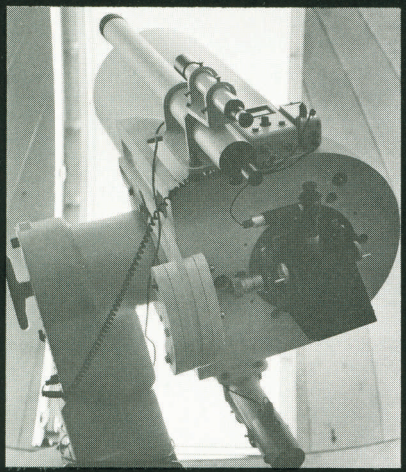
The Observatory's main instrument is an Ealing 16-inch Cassegrain reflecting telescope, the largest optical telescope in the Atlantic Provinces. Starlight is reflected from the concave aluminum surface of the main mirror (16 inches in diameter) to a smaller convex secondary mirror. The light is then reflected back down the tube of the telescope and through a 3-inch hole in the center of the main mirror, where it is brought to a focus to give a focal ratio of f/11. An eyepiece or measuring instrument can then be attached to the sturdy baseplate of the telescope. The telescope mounting is a German equatorial mount and the telescope is driven by a synchronous motor to compensate for the earth's rotation. This mounting permits continuous observing of celestial objects to permit exposures over a period of time. The rotating dome, in which the telescope is located, has two horizontally moving shutters which open about four feet, permitting observations to be made in any part of the sky. The Observatory also has several smaller reflecting and refracting telescopes.

Observatory Visiting Hours

Public tours are held every Saturday evening, beginning at 7 p.m. (9 p.m. in the summer), in room AC 152 on the first floor of the Ignatius Loyola residence. On clear evenings, the telescope will be used to observe planets or other interesting celestial objects. On cloudy evenings, a short lecture with slides will be given. School groups or other groups may be accommodated on evenings during the week, but reservations are required. No reservations are required for the Saturday evening tours.

Research and Instrumentation

Faculty members in astronomy at Saint Mary's are engaged in astronomical research as a means of teaching and to further our understanding of the physical universe. The 16-inch telescope is suitable for a wide range of research projects, the most important areas of data acquisition being photography and photometry. For photography, a special purpose camera with a guide eyepiece has been constructed which will permit photographs to be made in various colors. For photometry, or measurements of the brightness and colors of stars, a preliminary system is operating and a cooled UBVRI photometer is under construction. The latter will permit measurements to be made to the limit of sky brightness. A spectrograph is planned. Research under way includes photometric studies of several types of variable stars and a program on young clusters of stars, to study the early stages in the lifetime of a star.



Cover: A photograph of the Lagoon nebula (M8), taken at the Hale Observatory on Palomar mountain. This spectacular nebula is about 4500 light years from us and is one region in our Milky Way Galaxy where new stars are being born now.