

PREFACE

IAU Colloquium No. 47, sponsored by Commission 45 (Spectral Classification and Multi Color Photometry) and by Commission 25 (Stellar Photometry and Polarization) assembled at Vatican City 11 - 15 July 1978 to discuss the future of spectral classification studies. It honored the centennial of the death in Rome in Feb. 1878 of one of the pioneers of modern astrophysics: Fr. Angelo Secchi S.J.

The participants mourned the passing within a few months of the Colloquium of four colleagues, who were our fellows and companions in research.

Fr. P. J. Tresnor S. J. became Director of the Vatican Obs. in 1970. In 1976 after discussions with colleagues at Grenoble, he formulated the idea for this colloquium and served as its organizer until his unexpected death on 18 Feb. 1978.

Prof. D. Chalonge of the Institut d'Astrophysique enriched our knowledge of the spectrophotometry of stars especially in the near ultraviolet. He died in Nov. 1977.

Prof. A. D. Thackeray contributed to the earliest studies of stellar populations through spectral classifications. He died in Africa in an auto accident in March 1978.

Prof. G. Righini directed the Arcetri Obs. and for many years followed the pathways sketched by Fr. Secchi in solar physics. In Feb. 1978 he honored Secchi at the commemorative ceremonies at the Campidoglio in Rome; in May 1978 he died in Florence.

Within three weeks of the conclusion of IAU Colloquium No. 47, the author of the first paper, who approved the plans for holding the sessions at the Vatican and who welcomed us so warmly to our session in Rome, His Holiness Pope Paul VI died on 6 August 1978 at Castel Gandolfo. On 12 July we participated at what proved to be his last General Audience in Rome and we mourn the death of a true friend of Astronomical research.

The scientific sessions were held in the New Synod Hall of the Aula Nervi. At mid-morning on the first day of the colloquium a formal inaugural ceremony commemorated the centennial observance of the death of Fr. Angelo Secchi S.J. The formal illustrated lecture was hosted by the Pontifical Academy of Sciences and was presented by His Excellency H. A. Bruck, former Astronomer Royal of Scotland and Director Emeritus of the Edinburgh Observatory. Special representatives of the Secretariate of State of Vatican City State and of the Society of Jesus, Fr. Secchi's religious family, joined the participants of IAU Colloquium No. 47, those Pontifical Academicians present in Rome and Delegates of various Academies and learned societies in commemorating the centennial of Angelo Secchi. Fr. McCarthy introduced Prof. Edith A. Muller, Secretary General of the International Astronomical Union, who expressed the greetings of the Union and thanked the host organizations for their work and welcome. Fr. D. J. K. O'Connell S.J., President Emeritus of the Pontifical Academy and former Director of the Vatican Observatory introduced Prof. Bruck. Following the lecture Rev. Fr. Rovasenda O.P. Director of the Academy

expressed the thanks of the Academy and its guests for Prof. Bruck's lecture, which is reproduced as our second paper here. He then invited the participants. Academicians and their guests to a reception which followed in the main lobby of the Aula Nervi.

The scientific organizational details were planned and carried out by the Scientific Organizing Committee which worked under the Chairmanship of M. F. McCarthy S.J. of the Vatican Observatory. Other members of the S.O.C. for IAU Colloquium No. 47 included the following: Ch. Fehrenbach (France), R. Garrison (Canada), L. Gratton (Italy), B. Hauck (Switzerland), Nancy Houk (USA), C. Jaschek (France), E. Kharadze (USSR) and P. Keenan (USA).

A feature of the Secchi Colloquium was the work of a special Scientific Secretariate which assisted the S.O.C. during the meetings. These included the following: P. Cardon de Lichtbuer S.J. (SCV), E. Carreira S.J. (USA), G. V. Coyne S.J. (USA), C. Corbally S.J. (Canada), P. Eenens S.J. (Belgium), C. Moss S. J. (United Kingdom), F. Serlupi-Crescenzi (Italy).

Local details concerning housing and transportation of the participants as well as the social events of the colloquium were cared for by the Local Organizing Committee. J. Casanovas (SCV) was the chairman and he was assisted by P. Cardon de Lichtbuer S.J. (SCV).

There were three main social events during the colloquium. The first was a special visit to the original Observatory site at the Vatican: the Tower of the Winds, which now is the home of the Vatican Archives. The participants were welcomed by His Eminence Antonio Cardinal Samore, Archivist of the Vatican and by Monsignor Charles Burns, Assistant Archivist. Msgr. Burns showed the participants the Galileo documents and the famed Meridian Room.

The second event was a visit to the Observatory of Monte Mario. Here we were able to examine the collection of the writings of Fr. Secchi and to see some of the instruments he had used. After his death in 1878 the Secchi materials were transferred to the Observatorio Astronomico di Monte Mario. A splendid exhibition was prepared by Prof. M. Cimino, Director, and his colleagues; the visit terminated with a reception. offered by the Observatory.

The final social event consisted of a visit on 14 July to the Alban Hills. As is now known, the weakening state of health of Pope Paul VI, who with such warmth had welcomed us at his audience in the Sala Nervi, required a revision of his schedule and the beginning of his vacation at Castel Gandolfo was anticipated. Thus the visit to the Vatican Observatory and a reception in the Gardens of the Villa Barberini were cancelled. Instead, we visited several of the Roman "hill towns" and finally arrived at the southern rim of Lake Albano and enjoyed a country style dinner at Ristorante Miralago.

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Our thanks for help and cooperation in the planning and carrying out of the IAU Colloquium are owed to many. In addition to the persons listed above and to the participants listed on page we thank His Eminence Jean Cardinal Villot, Secretary of State for H.H. Pope Paul VI, for H.H. Pope John Paul I and for H.H. John Paul II for his help and guidance. We express our thanks also to the Substitute Secretary Archbishop G. Caprio and to Msgr. G. Re of the Secretariate of State of His Holiness. We thank the Governatorato of Vatican City State, the Villa Pontificia of Castel Gandolfo, the Director and Staff of Radio Vaticana and of Osservatore Romano, the President, President-emeritus and Executive Director of the Pontifical Academy of Sciences. To the Secretary of the IAU, Prof. E. A. Muller and to the Assistant Secretary Prof. P. A. Wayman our thanks for their aid and advice. To our colleagues of the Osservatorio Astronomico di Monte Mario and to the Laboratorio Astrofisico di Frascati our appreciation for their help. Aid in communication was given by Fr. John Leonard S.J. and Bro. G. Rusnighi S.J. of the Jesuit Curia in Rome, by Sig. L. Lori, Sig. Battistelli and Bro. L. Puhl of the Specola Vaticana, and by Bro. E. Babinski S.J. of the Jesuit Conference, Washington, D. C. and by Miss E. Bartoli of the Jesuit Guest Bureau in Rome.

We also acknowledge with gratitude grants to young astronomers for travel to IAU Colloquium No. 47 by the International Astronomical Union.

Special thanks are due for the hospitality afforded by the observatories of the editors which were most helpful as the manuscript was prepared in Rome (Vatican Observatory), Tucson (Univ. of Arizona) and Schenectady (Dudley Observatory). One of us (MFM) is grateful to his colleagues at the Jesuit Community of Georgetown University for hospitality offered him. Four persons have typed the manuscript: Mary Bongiovanni, Carole Vesely Barbara Epp and Kristina Philip. They are most deserving of our gratitude. In addition we acknowledge the assistance of E. Carreira S. J. of John Carroll University, Cleveland, Ohio for help with the photographic figures; to P. Cardon de Lichtbuer S.J. of the Vatican Observatory for assistance with translations; to D. J. K. O'Connell S. J. of the Pontifical Academy of Sciences for his help and advice in preparing the illustrations for this volume and to the Directors and Staff of the Vatican Press and Gregorian University Press for their careful and generous assistance.

M. F. McCarthy S.J.
A. G. Davis Philip
G. V. Coyne S.J.