

## Dr. K. R. Ramanathan

(Recipient of the I.M.O. Prize, 1961)

We are happy to note that the International Meteorological Organisation (I.M.O.) Prize for 1961 was recently awarded by the World Meteorological Organisation (W.M.O.) to Dr. K. R. Ramanathan, Director, Physical Research Laboratory, Ahmedabad. This is an honour not only to Dr. Ramanathan but also to Indian Meteorology, in the development of which he has played a notable part in the last 35 years.

The prize was instituted in 1956 out of the residuum of the funds of the old International Meteorological Organisation when it was converted in 1951 into the World Meteorological Organisation as a specialised agency of the United Nations. It is awarded every year in recognition of outstanding scientific work in the field of Meteorology and of services rendered to International Meteorological Organisations. It consists of a gold medal with the latin inscription "Pro Singulari erga Scientiam meteorologicam merito", a monetary award of 1200 U.S. dollars and a parchment scroll giving the citation of the award.

The prize awarded to Dr. Ramanathan is the sixth one, the five earlier recipients being Dr. Hesselberg (1956), Prof. C. G. Rossby (1957), Dr. E. Gold (1958), Dr. J. Bjerknes (1959) and Dr. J. Van Miegham (1960). These are names well known for their outstanding researches in Meteorology. India has reason to feel proud to have the name of one of its Meteorologists added to such a distinguished list of Meteorologists who have won the hall-mark of distinction and international recognition which the award of the I.M.O. prize signifies.

Dr. Ramanathan, who was born in 1893, was educated in Victoria College, Palghat and the Presidency College, Madras. He started his career as a Demonstrator in Physics in the Trivandrum College from 1914 to 1921. During this period he was also

appointed the Honorary Director of the Trivandrum Observatory. His interest in Meteorology started from that time and his first scientific paper in Meteorology was on the *Thunderstorms of Trivandrum* published in 1920. Later he carried out researches in Physics under the inspiring guidance of Professor C. V. Raman, first as a research scholar of the University of Madras (1921-22) and later as a lecturer in Physics in the University College, Rangoon (1922-25). His main fields of research in Physics were problems of molecular scattering of light in fluids and anisotropy of molecules in which he did outstanding work for which he was awarded the D.Sc. degree of the Madras University in 1923.

Dr. Ramanathan entered the India Meteorological Department as Meteorologist in September 1925 and after rendering 23 years of conspicuous and devoted scientific service retired from Government Service in 1948. During his service in the India Meteorological Department, he held many positions including that of Director, Colaba and Alibag Observatories; Director, Kodaikanal Observatory; Superintending Meteorologist; Deputy Director General and Officer on Special Duty. He officiated as Director General on two occasions.

Dr. Ramanathan's research work in the India Meteorological Department covered a variety of subjects. He also attracted around him a band of research workers who did valuable research work under his able guidance. Some of them are now holding responsible scientific positions both in India and abroad. His fields of research covered atmospheric and solar radiation, structure of the upper air over India, study of the Indian Monsoon, depressions of the Indian seas, general circulation of the atmosphere over India and neighbourhood, atmospheric ozone, terrestrial magnetism, seismology and

atmospheric optics in all of which he made notable contributions.

He was the first to publish a diagram showing the distribution of upper air temperatures over the world up to 25 km in summer and winter, incorporating in it the valuable sounding balloon data obtained at Agra. This diagram showed clearly the cold and high tropopause over the tropics and the marked inversion above the tropical tropopause. His memoir on *The General circulation of the atmosphere over India and its neighbourhood* was the first clear and comprehensive study of the subject and is considered to be a standard work of reference on the subject.

After retirement from the India Meteorological Department in 1948, Dr. Ramanathan took up the post of Director of the newly established Physical Research Laboratory, Ahmedabad, in which post he is still continuing. Dr. Ramanathan's research activities in the last 13 years since 1948 have been much more intensive and extensive than during his service in the India Meteorological Department and have been mainly concerned with distribution of ozone in the earth's atmosphere and its role in the general circulation of the atmosphere. The Physical Research Laboratory at Ahmedabad has now developed, under Dr. Ramanathan's direction, into an active school of research on the Physics of the ionosphere, Aeronomy and Solar-terrestrial relationships.

Dr. Ramanathan has held many distinguished national and international positions connected with scientific research in Meteorology and allied subjects. He was President of the Physics Section of the Indian Science Congress in 1939, when he delivered an address on *The Earth's magnetism and the Upper atmosphere*; Chairman, Atmospheric Research Committee of the Council of Scientific and Industrial Research, India (1953-56); Chairman, Cloud and Rain Physics Research Committee (1956- ); Chairman, Cosmic Ray Research Committee of the Department of Atomic Energy, India; Pre-

sident, International Association of Meteorology of the I.U.G.G. (1951-54); President, International Union of Geodesy and Geophysics (1954-57); President, Central Board of Geophysics (1957- ); President, International Ozone Commission (1960); President, Indian Meteorological Society (1959- ).

He is a Founder Fellow of the Indian Academy of Sciences and of the National Institute of Sciences of India and was elected an Honorary Fellow of the Royal Meteorological Society, London, in 1960. He has attended many international conferences and meetings and has travelled all over the world in that connection. He was President of the Rcme Assembly in 1954 and the Toronto Assembly in 1957, of the I.U.G.G. As member of the Indian National Committee for Oceanic Research established by the Government of India in 1960, Dr. Ramanathan is taking an active interest in the formulation of the Indian programme of meteorological work in connection with the International Indian Ocean Research Expedition (1961-64). He recently took an active part in the meeting held by the SCOR at Bombay to plan for the establishment of an International Meteorological Centre in connection with the meteorological work of the I.I.O.E.

At the age of 68, Dr. Ramanathan is still an active research worker at the head of an important research institution. His extraordinary energy and enthusiasm for research coupled with a cheerful and helpful disposition has been a source of inspiration to many younger scientists. He has been a member of the Editorial Board of this journal ever since its inception in 1950 and has taken considerable interest in the progress and growth of the journal. We are happy to publish a paper by him on "Water Vapour and Ozone in the Atmosphere and Stratospheric Circulation", in this issue of the journal.

We wish Dr. Ramanathan, who is the doyen of Indian Meteorologists, many more years of research activity in meteorology and allied subjects.