

Major Accomplishments of Prof. Dr K. Mohankumar

As a University Professor

Dr. Mohankumar has **31 years of Teaching experience in postgraduate teaching**, In which he has completed **20 years as a University Professor Grade**. A highly dedicated teacher, mentor and efficient administrator, he motivated his students to strive for excellence. He has made outstanding contributions to the creation of teaching and assessment strategies that encourage critical thinking and continuous and independent learning by students. He has also shown his commitment to the University as a Professor, Researcher and Dean of Faculty, overall an exceptional leader, who is actively involved in innovative curriculum development in Atmospheric and Ocean Sciences.

As a Research Scientist

Dr. K. Mohanakumar is an Internationally reputed researcher in the field of Atmospheric Sciences. He possesses **42 Years of Research Experience** in the areas of the Middle Atmosphere, Stratosphere Troposphere Coupling, Monsoon dynamics and Climate Change. He has published more than **115 Research Articles** of high quality in very highly rated, peer-reviewed, international journals of great reputation. He has got invitations from various International Scientific Conferences all over the World. During the last 28 years, he **visited 28 Countries for Academic Purposes**, and presented more than 100 research findings, given Key Note Talks, Invited Lectures, Chairing of Scientific Sessions, etc.

As a Project Coordinator

Dr. Mohankumar brought worth **Rupees 30 Crores** Externally funded Research projects to the University from various funding agencies, like the Department of Science and Technology, Government of India, CSIR, UGC, ISRO, etc. In addition to the scientific merit, University also got infrastructure development, manpower development and Plan fund. By funding Rs 20 Crores for the ST Radar Project, CUSAT became the first University in India to receive this much support from the Department of Science and Technology.

As a Research Supervising Guide

He is an inspiring and encouraging Research Guide. He has already produced **Twenty Seven (27) Ph Ds** in the field of Atmospheric/ Climate Sciences. All these students are well placed. Out of the 27 Ph D holders, 5 are working as Scientists in ISRO (Department of Space), 4 as Scientists in IITM (Ministry of Earth Sciences), One Senior Scientist in NAL, CSIR (Ministry of Science and Technology), One Senior Scientist in NPOL, DRDO (Ministry of Defence), 3 as University Faculty CUSAT), Two Scientists in CWRDM, one Assistant Director, Centre Water Commission, (Govt of India) and the remaining are working abroad as Scientists in the USA, France, and Japan.

One **Foreign student** (Romain Laurent) from Laboratory for Atmospheric Dynamics, Paris, France, came to CUSAT and carried out his Master's Dissertation Thesis under the guidance of Prof K. Mohankumar in 2001. In addition, he guided Dissertation thesis of several students from CUSAT and other Universities for their M. Sc and M. Tech Degrees.

As an Author of Text Book (Won the International Award)

Using his wide experience in the field, Prof. K. Mohanakumar authored a textbook on “**Stratosphere Troposphere Interactions - An Introduction**”, published by the World’s top Scientific Publisher, **Springer**, which was selected as the best book of the year 2008 for the prestigious award of ASLI Choice for being *a comprehensive book on a unique aspect of atmospheric sciences* given at the 89th Annual meeting of the American Meteorological Society at Phoenix, Arizona, USA. This book is ranked high in all criteria upon which the books are judged: uniqueness, comprehensiveness, usefulness, quality, authoritativeness, organization, illustrations/ diagrams, and references. It is a valuable contribution to atmospheric science and is an excellent textbook for graduate-level teaching and research reference.

Considering the scientific importance of the Book, which is the first book published in this specific area, Russian Academy of Sciences, published this book in **Russian** for the benefit of the Russian Scientists and students. Recently, an Agreement has already signed for translating and publishing the Book on Stratosphere Troposphere Interactions, in the **Chinese language** by the Publishing House of Electronics Industry (PHEI), Beijing. This is really a unique recognition to Prof Mohankumar. In addition, **8 more scientific books/ monographs** of his contributions were published by International Publishers from Germany.

As a Scientific Advisor

Prof Mohanakumar has been nominated to various Scientific Advisory Committees of major decision-making bodies of Government of India institutions, such as the Ministry of Earth Sciences, Department of Science and Technology, CSIR, ISRO, etc. His expertise and experience is well appreciated.

As a University Administrator

Dr. Mohanakumar has got wide experience in various positions at the University. He worked as the Director of the School of Marine Sciences (the largest School of CUSAT underin which there are 5 Departments having PG Graduate programs and Research in the Lakeside Campus of CUSAT, Head of the Department, Director of Research Centres, Project Director of ST Radar Facility. He is also functioning as a Member of the Syndicate, Member of the Senate, Member of the Academic Council, Chairman of the Faculty, and Member of the Board of Studies at the University.

As the Dean of the Faculty

Considering his Academic Competence, the University has nominated Prof Mohanakumar, three times, as the Dean of the Faculty of Marine Sciences and Environmental studies. As the Dean, he has motivated Research Scholars and Faculty to research publications in high-standard scientific journals, and participation in International Conferences. Because of his constant encouragement and inspiration, research publications have shown a steep increase after he assumed charge as the Dean.

As an Institution Builder

Setup highly sophisticated ST Radar at Cochin. One of the most important contributions of Prof K. Mohankumar to the Indian Scientific community in the field of Atmospheric Science is the key role in establishing the state-of-art Stratosphere Troposphere Wind Profile Radar at Cochin, the gateway of the Asian Summer Monsoon.

From a state-controlled University system, he took on a challenging task with limited facilities and support, to set up a National Facility is really commendable and appreciable. This exemplary contribution will be an asset to the future scientific community.

Awards & Recognitions

INTERNATIONAL AWARDS

- **ASLI Choice Award** for the Book on *Stratosphere Troposphere Interactions An Introduction*, by **K. Mohanakumar**, published by **Springer, The Netherlands**, adjudged as the Best book of the Year **2008**.
- **SAARC Award** for Senior Scientists for the Excellence in Research Analysis and Outstanding Publications in Meteorology, in **2007**.
- **Commission of the European Communities Post-doctoral Research Award** in 1990.
- **NASA Post-doctoral Research Award** by the National Research Council, USA.
- **BOYSCAST Award** to carry out research in the field of Medium Range Weather Forecasting at Florida State University, USA.
- **Excellent Category Award** of the **Indo-French Project** by the Indo-French Centre for the Promotion of Advanced Research (CEFIPRA) in 2020.

NATIONAL AWARDS

- **National Award for Excellence in Atmospheric Science and Technology**, by the Ministry of Earth Sciences, Govt. of India 2022
- **H.H. Maharaja of Travancore's Gold Medal**, adjudging as the Best Research Scholar of the **University of Kerala in 1983**.
- **Best Research Paper Award** National Space Science Symposium, Pune, 1983.
- **Best Poster Presentation Award**, International TROPMET Conference, New Delhi, 2004

Distinguished Positions Holding in National Advisory Committees

- i. **Member**, Scientific Review & Monitoring Committee, **National Monsoon Mission, Ministry of Earth Sciences, Govt. of India**
- ii. **Expert Member**, Independent Review Committee-ACROSS, **Ministry of Earth Sciences, Govt. of India**
- iii. **Member**, Human Resource Generation Committee in Space Sciences, **ISRO, Dept. of Space, Govt. of India**
- iv. **Member**, Project Advisory and Monitoring Committee (PAMC), **Ministry of Earth Sciences, Govt. of India**
- v. **Member**, Scientific Advisory Committee, **Space Physics Laboratory, VSSC, Dept. of Space, Govt. of India**
- vi. **Member**, Scientific Advisory Committee, **National Atmospheric Research Laboratory (NARL), Dept. of Space, Govt. of India**

- vii. **Expert Member**, Independent Review Committee for the 12th Plan Programmes of IITM, **Ministry of Earth Sciences, Govt. of India.**
- viii. **Member**, Scientific Steering Committee for the Atmospheric Research Testbed Facility in Central India and Climate Reference Network, **Indian Institute of Tropical Meteorology, MoES, Govt of India.**
- ix. **Member**, Project Implementation Committee for the ST Radar at Calcutta, **Science Engineering Research Board, Dept of Science and Technology, Govt. of India**
- x. **Member**, Technical Committee for Wind Profilers for ARTF in Central India, **Indian Institute of Tropical Meteorology, MoES, Govt. of India**
- xi. **Former Member** (2012-2016), Program Advisory Committee, **Dept of Science and Technology, Govt. of India**
- xii. **Former Member** (2007-2011), Scientific Advisory Committee, **Centre for Mathematical Modelling and Computer Simulations, CSIR, Govt. of India**
- xiii. **Chairman**, Silver Jubilee Research Paper Award Committee, **Indian Institute of Tropical Meteorology, Pune**
- xiv. **Member**, Prof. R. Ananthkrishnan Award for Best Doctoral Thesis, **Indian Institute of Tropical Meteorology, Pune**

Panel Member of Research Advisory Committees

Scientific Advisory Committee Member, Space Physics Laboratory (SPL) Trivandrum, Vikram Sarabhai Space Centre, (ISRO), Department of Space, Government of India (2006-till now)

Scientific Advisory Committee Member, National Atmospheric Research Laboratory (NARL) Gadanki, Department of Space, Government of India (2018-till now)

Research Advisor, Central Marine Fisheries Research Institute (CMFRI) Cochin, Indian Council for Agricultural Research (ICAR), Ministry of Agriculture, Government of India (2006-2016).

Research Advisor, Central Institute for Fisheries Technology (CIFT) Cochin, Indian Council for Agricultural Research (ICAR), Ministry of Agriculture, Government of India (2006-2016).

Research Advisor, Naval Physical Oceanography (NPOL) Cochin, Defense Research and Development Organisation (DRDO), Ministry of Defense, Government of India (2006-2009).

Research Advisor, National Institute of Oceanography (NIO) Regional Centre, Cochin, Council for Scientific and Industrial Research (CSIR), Government of India.

Research Advisor, **National Centre for Earth Science Studies (NCESS), Trivandrum**, State Committee for Science, Technology and Environment, Government of Kerala (2006-2016).

Research Advisor, **Centre for Water Resource and Development Management (CWRDM), Kozhikode**, State Committee for Science, Technology and Environment, Government of Kerala (2010-2016).

Research Advisor, **Kerala Forest Research Institute (KFRI), Peechi**, Kerala State Committee for Science, Technology and Environment, Government of Kerala (2010-2016).

Fellowship/ Membership in National and International Bodies

- i. **Fellow** of the Indian Geophysical Union
- iii. **Teacher Member**, *Indian Academy of Science*, Bangalore, INDIA
- iii. **Member**, *American Meteorological Society (AMS)*, USA
- iv. **Member**, *American Geophysical Union (AGU)*, USA.
- v. **Member**, *Asia Oceania Geosciences Society (AOGS)*
- vi. **Life Member**, *Indian Meteorological Society (IMS)*
- vii. **Life member**, *Ocean Society of India (OSI)*
- viii. **Associate Member**, *Committee on Space Research (COSPAR)*, France]

Membership in Scientific Bodies

- i. **International Association of Geomagnetism and Aeronomy (IAGA)**,
Working Group : External Forcing of the Middle Atmosphere
- ii. **Solar Terrestrial Energy Programme (STEP)**
Working Group : Middle Atmospheric Forcing from above and Below &
Effects of Solar Variability in Regions Adjacent to the Earth's Surface.
- iii. **Stratospheric Processes on Climate (SPARC)**
Working Group : Stratosphere-Troposphere Interactions

Membership in Academic Bodies

Chairman, Board of Studies in Atmospheric Sciences, Cochin University of Science and Technology (2016-2019)

Chairman, Faculty of Environmental Studies, Cochin University of Science and Technology (2010- 2016)

Chairman, Faculty of Marine Sciences, Cochin University of Science and Technology (2006- 2009)

Member, Board of Studies in Atmospheric and Space Sciences, UN-affiliated Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), PRL, Ahmedabad (2010 - 2016)

Member, Faculty of Marine Sciences, Cochin University of Science and Technology (2006-2019).

Member, Academic Council, Cochin University of Science and Technology (2000-till 2019).

Member, Board of Studies in Atmospheric Sciences, Cochin University of Science and Technology (1996-till 2019)

Member, Board of Studies in Naval Science and Technology, Cochin University of Science and Technology (2010- 2019)

Seminars/Symposia organised

- Convener of the ***Seminar on Stratosphere-Troposphere Interactions*** (sponsored by WCRP, IAGA, IAMAS, CUSAT, CSIR, ISRO) during November 24-26, 1998 at Cochin
- Member of the Organising Committee for the ***National Seminar Climate Variability and Predictability*** held during September 18-19, 1996 at Cochin.
- Member of the Organising Committee for the Workshop on ***Dynamical Coupling in the Equatorial Atmosphere – Ionosphere System (DYCEAIS – 2002)***, from February 11-15, 2002 at Tirunelveli
- Co-Convener of the ***International Conference on Scale Interaction and Variability of Monsoon*** held on October 6-10, 2003, in Munnar, Kerala.
- Co-Convener of the ***National Space Science Symposium*** held at Visakhapatnam during February 2-7, 2006
- Co-Convener of the ***National Space Science Symposium***, to be held at Rajkot, February 24-28, 2010.
- Member of the Organising Committee for the ***International Conference on Climate Change and Environment (ICCCE)*** during Oct. 24-26, 2010 at Cochin
- Member of the Organising Committee for the ***International Workshop on Climate Change and Island Vulnerability (IWCCI)*** during Oct. 28-31, 2010 Workshop at Kadmat Island, U.T. of Lakshadweep.
- Member of the Organising Committee on the ***National Seminar on Indian NorthEast Monsoon - Recent Advances and Evolving Concepts (INMEREK-2011)*** from January 31-February 4, 2011.
- Convener of the Organising Committee for the ***Training School on Fundamental of Radars for Atmospheric Research***, January 07-25, 2013.
- **Convener** of the International Tropical Meteorology Symposium (**INTROMET-2021**). November 23-26, 2021, at Cochin, India