

## **V. Ramanathan**

V. Ramanathan is a Distinguished Professor of Atmospheric and Climate Sciences at the Scripps Institution of Oceanography, University of California at San Diego. He is the founding director of the Center for Clouds, Chemistry and Climate, a NSF Science & Technology center. In the mid 1970s he discovered the greenhouse effect of CFCs and numerous other manmade trace gases. He correctly predicted in 1980 with R. Madden, that the global warming due to human activities will be detected by 2000. Using data collected during the Indian Ocean Experiment, he showed that Atmospheric Brown Clouds (ABCs) led to large scale dimming of the ocean and decreased monsoon rainfall. He followed this with a path breaking study with agricultural economists to show that ABCs and greenhouse gases were responsible for a 14% decrease in rice harvest in India. More recently, he pioneered the development of miniaturized instruments for light-weight autonomous unmanned aerial vehicles, UAVs, and conducted a successful campaign in the Arabia Sea by flying 3 instrumented UAVs stacked vertically. This campaign discovered the large heating of the air by soot in ABCs and led to the finding that the soot heating is contributing as much as global warming to the retreat of the Himalayan glaciers. He currently chairs the UNEP sponsored Atmospheric Brown Clouds Project with science team members from USA, Europe, India, China, Japan and many Asian countries.

Dr. Ramanathan is the recipient of many national and international awards, including awards election to the American Philosophical Society, the US National Academy of Sciences, the US American Academy of Arts and Sciences, the Pontifical Academy of Sciences (by Pope John Paul II), the Academia Europea and the Third World Academy of Sciences. He currently chairs the US academy panel that gives strategic advice to the US Climate Change Science Program which is a \$2B program in climate change research funded by 13 US Govt agencies.