

Veerabhadran Ramanathan

Distinguished Professor, Scripps Institution of Oceanography, University of California at San Diego;

Dr. Ramanathan discovered the greenhouse effect of Chloro-fluoro-carbons (also known as freons used as refrigerants) in 1975. Along with R. Madden, he predicted in 1980 that global warming would be detected by 2000. In 1989, he led a NASA study that used satellite instruments to show that clouds had a large global cooling effect. He led an international field experiment in the 1990s that discovered the widespread Atmospheric Brown Clouds (ABCs) over S. Asia, which have devastating health and climate impacts. He developed light weight unmanned aerial vehicles to track pollution plumes from S. Asia, E. Asia and N. America. His most recent discovery is that mitigation of short lived climate pollutants (black carbon, methane, ozone and HFCs) will slow down global warming significantly during this century. This proposal has now been adopted by the United Nations and 30 countries including USA and a new coalition, called as the, Climate and Clean Air Coalition is implementing mitigation actions for short lived climate pollutants. He now leads Project Surya which is mitigating black carbon and other climate warming emissions from solid biomass cooking in S. Asia and Kenya and is documenting their effects on public health and environment. He has now embarked on the most ambitious effort of his career: India-California Air Pollution Mitigation Program sponsored by the World Bank and endorsed by Governor Jerry Brown. ICAMP will, adopt California's field tested methodologies reduce soot and particulate emissions from vehicles in India. He is now focusing on the plight of the bottom 3 billion people who will suffer the worst consequences of climate change and developed a new approach called as The Two Worlds Approach in which he is showing how the top one billion for their own self interest should provide clean energy access to mitigate the effects of climate change.

In 2013, he was awarded the top environment prize from the United Nations, *the Champion of Earth for Science and Innovation* [www.unep.org/champions]. He has won numerous other prestigious awards including the Tyler prize which the top environment prize given in the US; the Volvo Prize; the Rossby Prize and the Zayed prize. He has been elected to the US National Academy of Sciences, American Philosophical Society, the Pontifical Academy by Pope John Paul II and the Royal Swedish Academy of Sciences.

He is now serving in Pope Francis' Council for the Pontifical Academy of Sciences; and UNESCO awarded the Climate and Policy professorship at TERI Deemed- University in New Delhi, India. He co-organizerd a 2014 historic Vatican meeting on “ **Sustainable Humanity, Sustainable Nature**” of social and natural scientists, philosophers and policy makers. He briefed Pope Francis in person on the highlights of the meeting and on the heels of this briefing, Pope Francis has issued powerful statements about being good stewards of the planet.