

Bio-data Resume
of
Dr. P.S.Chandramohanan Nair

Dr. P.S.Chandramohanan Nair is Senior Member of IEEE and presently Chairman of Educational Activities, IEEE Kerala Section. He is former **Director** of ANERT (Agency for Non-conventional Energy and Rural Technology), Govt. of Kerala and former **Principal** of Govt. Engineering College, Trivandrum. He was **Professor** of Electrical Engineering at College of Engineering Trivandrum.

He obtained Ph.D. from Centre for Energy Studies, I.I.T.Delhi and possesses vast experience in the area of Energy Management. He is founder office bearer and **former President** of the Energy Conservation Society (**ECS**). He is **founder President** of the Society of Energy Engineers and Managers (**SEEM**), the first Professional Society for Energy Engineers/ Managers in the country. He is a **Fellow** of the Institution of Engineers (India). He is Ex-officio member of a number of Government bodies/ committees. He was **Chairman, Board of Studies** in the Calicut University.

He has **68 technical papers** (out of which **33 are international**), a few books, a number of popular science articles and literary work, more than 80 radio and T.V. programmes, hundreds of invited lectures to his credit. He has produced many Ph.D.'s and presently seven Research Scholars are working with him. He has many innovations to his credit.

He received four Awards (all Premier Awards) from Govt. of Kerala:

1. **Best popular science book** for the work, *In Search of Energy Sources, 1990.*
2. **Energy Conservation Award 1997**, in the Writer/ Media person category.
3. **Energy Conservation Award 2004**, in the Research and Innovations category
4. **Energy Conservation Award 2011**, in the Research and Innovations category

He is the *first recipient of Prof. K.M.Bahauddin Award* for the **Best Engineering Teacher of Kerala**, presented to him by the Honorable Minister of Kerala in 2012.

His biography is included in many International biographical publications by publishers like Marquis, U.S.A.; International Biographical Centre, U.K.; American Biographical Institute etc.

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**Abstracts
of
Dr. P.S.Chandramohanan Nair**

1. Energy Management for Sustainable Development:

Global demand of energy is ever increasing due to the increase in population, changes in style of living and industrial development. In the context of diminishing natural resources and a worldwide increase in demand for energy, efficient and judicious use by all people will be needed if costs are to remain reasonable. Energy management in all walks of life can contribute to this goal in houses, farms, factories, cities, etc. It is also important to develop new and renewable sources of energy so that dependency on fossil fuels can be reduced. The talk covers comprehensive aspects of all these points and also provides tips for sustainable energy management.

2. Role of Renewable Energy in Energy Management:

Sustainable development is possible only if humanity draws its requirements from the ecological capital in a judicious manner keeping a close watch on trade-off between desired production-consumption levels by way of encasing on supportive capacity of a given eco-system within the assimilative capacities of the regional eco-systems. This type of carrying capacity based planning essentially requires integration of social expectations and ecological capacities. This talk discusses in brief what energy management is and how to utilize renewable energy resources and what the economic renewable energy sources are.

3. Alternative Energy Sources:

This talk focuses on paradigm shift from depleting conventional fossil fuels based economy to sustainable scenario with utilization of economic alternative energy sources. Various alternative sources are discussed.

4. Energy and Environment:

Energy related environmental problems increase day by day as energy consumption continues to go up. This talk mainly focuses environmental problems associated with production, transportation and utilization of energy resources, especially conventional energy sources which contribute major share of global energy usage today.

5. Solar Energy: Let us open our doors:

Deals with various techniques for economic utilization of solar energy – solar thermal and solar photovoltaic – and its applications.

6. Energy Audit: The systematic approach for energy conservation:

Energy audit is the key to a systematic approach for decision-making in the area of energy management. It enables breaking down the total energy consumption into all its components and helps in identifying the areas where maximum savings can be achieved. It also enables the base from which the extent of those saving can be measured. The talk focuses how energy audit is done in any organization.

7. Energy Audit – Case Studies:

Briefly describes energy audit methodology and presents illustrative case studies bringing out the benefits of energy audit.

8. Energy Efficient Buildings:

Today, the operation of buildings accounts for about one-third of the energy used by industrialized countries, and indirectly (in materials and construction) accounts for an additional amount. More efficient building designs are possible. Present technology permits improvements, both in retrofitting existing buildings and in new designs. Energy efficient buildings need not sacrifice comfort or esthetics. This talk presents the concepts behind construction of energy efficient buildings. It also describes the efficient usage of energy within the buildings.

9. Opportunities and Challenges in Power System:

Over the past century, the power systems grew from the single generator systems to interconnected systems. The interconnection expanded from local grids to national grids with international tie-lines and now advancing towards intercontinental tie-lines. It is true that the integrated operation of power systems provided many advantages. At the same time it brought in many challenges before the power system operating engineers. The power quality problems including that of harmonic pollution are also to be dealt with effectively.

With the advancement of electronics, computer technology, communication, I.T. etc., the power grid is becoming smarter day by day. With the new technologies leading to more automation, the power engineers may be relieved of a number of operations; but may not be relieved of challenges. Technological solutions exist for meeting challenges. And challenges are to be realized as opportunities to strive for more perfection.