

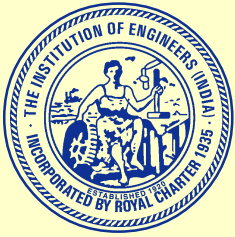
# Institution of Engineers (India)

T.N. STATE CENTRE

## BULLETIN

Chairman :  
Er. K.P. Ramanathan, FIE

Honorary Secretary :  
Er. D. Sundarasekaran, FIE



Vol. 15 : No. 3

June 2016

### From the Chairman's Desk....

Dear Engineers,

The environment is something we are very familiar with. It's everything that makes up our surroundings and affects our ability to live on the earth—the air we breathe, the water that covers most of the earth's surface, the plants and animals around us, and much more.



World Environment Day (WED) is celebrated every year on 5<sup>th</sup> June to raise global awareness to take positive environmental action to protect nature and the planet Earth. It is run by the United Nations Environment Programme (UNEP).

Environment is living things and what is around them. It includes physical, chemical and other natural forces. Living things do not simply exist in their environment. They constantly interact with it. Organisms change in response to conditions in their environment. In the environment there are interactions between plants, animals, soil, water, temperature, light, and other living and non-living things.

The word 'environment' is used to talk about many things. People in different fields of knowledge (like history, geography or biology) use the word differently. An electromagnetic environment is the radio waves and other radiation and magnetic fields. The galactic environment refers to conditions between the stars.

In recent years, scientists have been carefully examining the ways that people affect the environment. They have found that we are causing air pollution, deforestation, acid rain, and other problems that are dangerous both to the earth and to ourselves. These days, when you hear people talk about "the environment", they are often referring to the overall condition of our planet, or how healthy it is.

Environmental protection is a practice of protecting the

natural environment on individual, organizational or governmental levels, for the benefit of both the natural environment and humans. Due to the pressures of population and technology, the biophysical environment is being degraded, sometimes permanently. This has been recognized, and governments have begun placing restraints on activities that cause environmental degradation. Since the 1960s, activity of environmental movements has created awareness of the various environmental issues. There is no agreement on the extent of the environmental impact of human activity, and protection measures are occasionally criticized.

Academic institutions now offer courses, such as environmental studies, environmental management and environmental engineering, that teach the history and methods of environment protection. Protection of the environment is needed due to various human activities. Waste production, air pollution, and loss of biodiversity (resulting from the introduction of invasive species and species extinction) are some of the issues related to environmental protection. Environmental protection is influenced by three interwoven factors: environmental legislation, ethics and education. Each of these factors plays its part in influencing national-level environmental decisions and personal-level environmental values and behaviors. For environmental protection to become a reality, it is important for societies to develop each of these areas that, together, will inform and drive environmental decisions.

Keeping in view, the Institution of Engineers (India), Tamilnadu State Centre is celebrating World Environment Day on 6<sup>th</sup> June 2016 on the theme "Illegal Trade in Wildlife".

Thank you,

I will meet you again.

**Er K P Ramanathan**  
Chairman

## Talk on “Impact of Technology on Sports Equipment Materials”

30<sup>th</sup> April 2016



A technical guest lecture meeting was held on 30th April 2016 at 6.00 pm in IE(I), Tamilnadu State Centre auditorium. The topic of the day was on “Impact of Technology on Sports Equipment Materials”. Er K P Ramanathan, FIE, Chairman welcomed the gathering and introduced the Chief Guest Dr S Ramesh, FIE, Head of Department (Mechanical Division), KCG College of Technology, Chennai. Dr S Ramesh delivered the lecture on the above topic with power point presentation.

**INTRODUCTION:** Beginning of the Material Science - People began to make tools from stone - Start of the Stone Age about two million years ago. Natural materials: stone, wood, clay, skins, etc. The Stone Age ended about 5000 years ago with introduction of Bronze in the Far East. The Iron Age began about 3000 years ago and continues today. Use of iron and steel, a stronger and cheaper material changed drastically daily life of a common person. Age of Advanced materials: throughout the Iron Age many new types of materials have been introduced (ceramic, semiconductors, polymers, composites...). Understanding of the relationship among structure, properties, processing, and performance of materials. Intelligent design of new materials.

**THE ROLE OF ADVANCED MATERIALS IN SPORTS:** This write up addresses the role of advanced materials in sports. At the highest professional level, sports are a highly competitive occupation with millions of dollars depending upon fractions of a second or tenths of a centimeter. However, even the dedicated amateur is willing to invest a great deal of money to improve his or her performance. Thus, just as in other fields, the use of advanced materials in athletics can be justified if it leads to enhanced performance.

Just as in the transportation industry, the materials of choice for sports have shown a major evolution over the last 100

years. From naturally occurring materials such as wood, twine, gut, and rubber, we have progressed to high-technology metals, polymers and ceramics, and synthetic-hybrid materials including composites and cellular concepts.

In this write up, we first consider how sporting equipment is designed, drawing examples from a number of sports. We will examine in more detail how measurable (absolute) records have been impacted by these advanced materials.

The following areas are the real impact of sports material's evaluation.

- Factors While Designing Materials
- The Impact of Advanced Materials

**IMPACT OF NANOTECHNOLOGY ON SPORTING EQUIPMENTS:** Baseball bats, tennis and Badminton racquets, hockey sticks, Racing bicycles, golf balls/clubs, skis, Fly-fishing rods, archery arrows etc., are some of the sporting equipments, whose performance and durability are being improved with the help of nanotechnology.

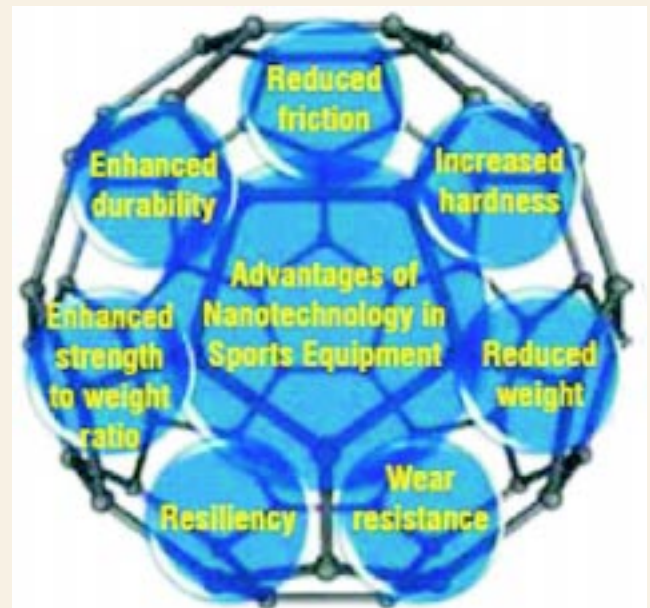


Fig.1: Nanotechnology advantages in Sports equipment  
(Image credit: Wikimedia Commons)

Er. K P Ramanathan, FIE, Chairman presented the memento to the Chief Guest Dr S Ramesh, FIE. Er D Sundarasekaran, FIE, Honorary Secretary proposed the vote of thanks. About 30 members participated in the program.

## 48<sup>th</sup> World Telecommunication & Information Society Day 2016 Theme: ICT Entrepreneurship for social Impact

17.05.2016



The 48th World Telecommunication Day was organized on 17th May 2016 jointly with IETE, Chennai Centre at IE(I), TNSC auditorium, Chennai.

**Shri S Ramaswamy**, Chairman, IETE, Chennai Centre welcomed the gathering and briefed the significance of the celebration and touched upon the history and development of World Telecommunication Union. **Col (Rtd) K S Chakravarthi**, Immd Past Chairman, IETE Chennai read the message received from Secretary General, ITU, on the occasion.

The role of ICT on the theme of the day “**ICT Entrepreneurship for Social Impact**” was very well explained to the audience by Guest of Honour **Shri G Narendra**, Head, Research Publications, ICT Academy of Tamil Nadu, Chennai. In his speech, he explained about the mobile revolution and society benefits.

**The Mobile Revolution:** The instances quoted above are just a fraction of how technology can help alleviate social problems. It is for these reasons that in recent years, social entrepreneurs have been stressing on using technology as part of their efforts at social innovation. Indeed, the fact that the mobile revolution has empowered the poor and the underprivileged more than others has been acknowledged by the UN (United Nations) which recently stated that there are more number of mobiles in the world than toilets or in other words, there are more chances of a person owning a mobile than he or she having access to toilets and sanitation. This means that technology

can indeed enable, empower, and encompass the masses in their quest for a decent income and a healthy life.

**Society Benefits:** Now consider if such use of technology comes to the aid of an underprivileged person setting up his or her own venture. Using mobile and internet technologies, not only can he or she aspire to reach a global audience thereby cashing in on the scale aspect but also offer a solution that is potentially cheaper and creates more value on a per unit of cost basis. Indeed, the example of entrepreneurs such as the Nobel Laureate and Bangladeshi social entrepreneur, Mohammed Yunus who empowered rural women in his country to finance their small businesses by extending them microcredit who in turn formed groups and reached scale and leading to innovation creating value point to how a combination of technology and social innovation can feed into each other and ultimately benefit society.

**Closing Thoughts:** Finally, the fact that you are reading this article on a portal that harnesses technology and globalization and is driven by innovation and entrepreneurship can be the best example of how ventures for both social and commercial causes can scale up and create value across the value chain.

The Chief Guest of the function was **Dr P Sivakumar**, Distinguished Scientist, Director, CVRDE, Ministry of Defence, GOI, Avadi, Chennai delivered the keynote address. He explained the role of ICT in the research and development of combat vehicles for the defence forces.

Felicitation address given by Dr M A Atmanand, Chairman, IEEE Madras Section, Shri K P Ramanathan, Chairman, Institution of Engineers, Tamilnadu State Centre, Shri J Balamurugan, EC Member, IET Chennai Network, Dr B Srinivasan, Chairman, Computer Society of India Chennai chapter & Shri N Thiagarajan, Council Member, Broadcast Engineering Society (I).

Members from all professional societies mentioned above attended the function. **Prof R Gayathri**, Honorary Secretary proposed the vote of thanks. About 80 members took part in this important function.



To

**The Honorary Secretary**  
The Institution of Engineers (India), Tamilnadu State Centre  
19 Swami Sivananda Salai, Chennai - 600 005

**Make your contributions  
(Minimum Rs. 1000/-) through this slip**

Dear Sir,

## CONTRIBUTION TO THE IEI-TNSC BUILDING DEVELOPMENT FUND

In response to your appeal, I/we enclose a Cheque/DD for Rs. .... (Rupees .....  
..... only) as my / our contribution to the Institution of Engineers (India), Building  
Development Fund.

Encl: Chq./DD No. .... Dt. .... for Rs. .... Yours faithfully,

From Address: .....

Memb. No. ....

### TECHNICAL PROGRAMME FOR JUNE 2016

**Lecture:** 6.00 p.m.

**Venue:** IE (I) Auditorium (*Unless mentioned otherwise*)

**Tea:** 5.45 p.m.

- 6<sup>th</sup> June 2016** **World Environment Day** on the theme “**Illegal Trade in Wildlife**”  
by **Dr S Ganapathy Venkatasubramanian**, Professor, Environmental Law and Management,  
Anna University, Chennai
- 24<sup>th</sup> & 25<sup>th</sup>  
June 2016** **Two days All India Seminar on “Make in India”** by **Er K S Ramalingam**, MIE, Co-opt Member of  
the Mechanical Engineering Division, IE(I), TNSC.
- 29<sup>th</sup> June 2016** Talk on “**Communication Technologies and Interfacing Techniques in Smart Grid**”  
by **Er V S Sriraja Balaguru**, M.E.,M.I.E., Assistant Engineer, TNEB, Chennai

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Posted on: 6<sup>th</sup> June 2016

Posted at: Egmore RMS (Patrika)

## Bulletin

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