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குமரி அறிவியல் பேரவையின்
ஆகாயம் அணியின் இளம் விஞ்ஞானிகள் பயிற்சி



குமரி அறிவியல் பேரவையின் ஆகாயம் அணியின் இளம் விஞ்ஞானிகள் அணித்தலைவி ரேஷ்மாரதி தலைமையில் நாகர்கோவில் தேசிய அறிவியல் ரயில் வண்டியின் கண்காட்சியை பார்வையிட்டு பயிற்சி பெற்றனர். அணியின் விஞ்ஞானி இங்கர்சால் விளக்கமளித்தார். அறிவியல் பேரவை அமைப்பாளர் முள்ளஞ்சேரி மு.வேலையன் வழிகாட்டி ஆசிரியை ஜாஸ்மின். ஆகியோர் கலந்து கொண்டனர் பிரபஞ்சப்பிறப்பின் ஆய்வு, நானோ தொழில்நுட்பம் ஜீன்ஸ், ஆர்.என்.ஏ, டி.என்.ஏ நுட்பங்கள் , மனித மனம் செயல்படுதல் எதிர்கால பூகோள சவால்கள், தொழில் நுட்பங்கள், விண்வெளி ஆய்வு பிரபஞ்ச நிகழ்வுகள் விண்வெளி அறிவியல் தொழில் நுட்பங்கள் போன்ற பல்வேறு அறிவியல் நுட்பங்கள் தெரிந்து கொண்டனர்.

The Sparkling White Sciencexpress features over 300 large-format visual images, 150 video clips and multimedia exhibits. The exhibition coaches provide information on...

ON THE WAY TO THE BIG BANG



Coach 01

On the Way to the Big Bang

Why are the laws of nature the way they are? Did all the forces descend from one elemental force? Why did the world not disperse as light during the Big Bang, instead of forming stable matter? How did the universe expand to its current size? What holds the world together? What determines its speed? What factors define the universal constants that determine our universe?

NANOCOSMOS



Coach 02

Nanocosmos

The Nanocosmos is providing the physical, chemical and material science-related foundations for better, more compact and less-expensive future products. Technical applications are born from the micro-milling machine and ideal catalytic converter. How can we specifically influence the properties of materials? Can we build computers that work with light? Which laws govern the quantum world?

BUILDING BLOCKS OF LIFE



Coach 03

Building Blocks of Life

The cells are the building blocks of life and they develop into tissues and organs in our body. How are the form and function of life's building blocks connected? How can we technically put nature's structural principles to use? Which cellular defects lead to disease? The macromolecules are important in cellular functions of our body and are carriers of information. The processes in living cells can be understood through the interaction of macromolecules.

FROM GENE TO ORGANISM



Coach 04

From Gene to Organism

Which programs control the development of life? How did the diversity of life's forms arise? How does the cell use the information encoded in the genome to fulfill its function? How DNA controls the gene expression? How do genes interact in networks, and what influence do external factors exert? How can the natural control system be used for new therapy forms? Can we reprogram body cells? Why do we age?

ARCHITECTURE OF THE MIND



Coach 05

Architecture of the Mind

How does the brain function? How the interaction of the neurons controls each of the body's functions, allows thoughts, perceptions, memories, feelings, and also movement and communication through transmitting signals? The cause of many neurological diseases lies in defects in genes that play a role in development. How most of the genetic diseases affect the nervous system? Can we repair our brain?

THE WORLD OF SENSES



Coach 06

The World of Senses

When we smell, speak, hear, feel, think, make plans, move or learn, extremely complex processes- 'neurons and their interaction' -are at work in our brain. How does the brain use the different information to produce an image of the world and the insights into brain? What is consciousness? What individual differences determine our self? Does the 'Sixth Sense' exist? Is there a fixed pattern in which a person experiences sleep?

TECHNOLOGIES OF THE FUTURE



Coach 07

Technologies of the Future

Sensors help to understand what holds the world together and how processes occur in space or in living cells. They are of molecular proportions, are accurate and function on basis of atomic and quantum phenomena. Only 'Mathematical methods' help in understanding the organizational principles of nature and complex networks. How to cope with the increasing volumes of data and complexities of science? How to use computers to recognize patterns effectively?

FRONTIERS OF SCIENCE



Coach 08

Frontiers of Science

This coach has new exhibits on the themes 'Planet Mars' and 'Space Exploration'. Panels on research being carried out by some Indian institutions are also displayed. An added attraction is demonstration of the interactive sky programme 'Stellarium'. In addition, there is an interactive kiosk for Science Quiz and another for Exploration of Earth.

GLOBAL CHALLENGES



Coach 09

Global Challenges

Feeding people, keeping them healthy and providing them with energy are true global challenges. What are the molecular causes of diseases? How to make customized medicines? The new ideas for generating energy have started research in nuclear fusion of H_2 in He , development of technologies for generating H_2 , Plasma, artificial photosynthesis and innovative materials for powerful fuel and solar cells. Can we secure sustained development?



Spaceship Earth

Life on earth is only possible because of the complex coexistence among land eco-systems, oceans, atmosphere and the substances that circulate among them. How can we preserve earth's protective systems? Micro-organisms help in sustenance of the biosphere and the earth as a whole. How do the raw materials for life circulate within the planet? How can we better predict natural disasters and ensure the balance of eco-systems?



Our Home in the Cosmos

How does the sun work? What does its magnetic activities look like? How are the highly-charged particles heated and dispersed in powerful pulses? Which energy transformations result in the heating of the sun's corona and emission of the solar wind? How and what is the influence of sun on the Earth? How has the formation and development of stars and planets taken shape to its present state? The researchers are trying to trace life on other planets.



The Universe

The origin of universe-how and when did the universe take shape and its evolution to present state. Scientists and researchers are trying to understand the cosmic processes and what happens behind the horizon of black holes and galaxies. What are the unknown aspects of the universe? What are black holes? What is 'Dark Matter'? How is 'dark matter' and 'dark energy' dispersed throughout the universe?



Science and Technology in India

This part is divided into sections showing the glorious legacy of India, India Today and Tomorrow in Science and Technology. Other attractions are India's achievements in IT, Biotechnology, Space and Nanotechnology, besides film shows on topical issues. It also features an exhibition on Planet Earth.

The 'Joy of Science' Lab

The 'Joy of Science' Lab of VASCS is a hands-on activity area where participants perform activities and experiments in Physics, Chemistry, Biology, Mathematics and Electronics. Over 50 exciting experiments and activities based on high school curriculum, facilitated by Science Communicators, are performed here.



Partners



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