

Years of Excellence Fax:+91 674 2725721, 2740326, Email : kit@ @kiit.ac.in; URL: www.kit.ac.in, wwwisc2012.com

(From L) Prof. Geetha Bali, General President, $99^{\circ}{ }^{\circ}$ ISC, Dr. Gretchen Kalonji, ADG for Natura Sciences,
UNESCO, Smt. Nirupama Rao, Ambassador of India to the US and Dr. D. Purandeswari, Union Miniter (State) for Human Resource Development at the inaugural ceremony of the First Women's Science


You educate a woman, she educates a family: Nirupama Indian Ambassador to USA, Smt. Nirupama Rao stressed on women's participation in science and technology. Inaugurating the first
ever Women's Science Congress, a ever Women's Science Congress, a
part of 99 th Indian Science Congress, at KIIT Stadium, she said, "You educate a woman, she
educates a family." The Indian diplomat appealed to the society for greater involvement of women in the social sphere of life. "No society can claim to be a part of modern
civilisation unless it provides an civilisation unless it provides an empowering women and give them equal opportunity," she said.

Expressing her concern over the fa
that the number of women scientists in our country was stil
minuscule, Rao questioned "Is it because of the institutions to which they belong discourage their
involvement in science?" Further involvement in science?" Further
asking why science streams remain
largely male dominated and why national science few women in decision-making positions in science establishments, the 1973 batch IFS officer advocated for greater presence of women in high-
profile institutions of science and profile instit
technology.
She termed gender-based disparity as a globally prevalent form of exclusion and said we could not afford to be chased with gender
blindness in the crucial field science blindness in the crucial field (science India's development. "It is rightly said that the absence of women in science implies a formidable and underused human resource," she
said. Quoting well-known scientist said. Quoting well-known scientist mid-career opportunities for women scientists who quit profession immediately after marriage and self-employmen
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Women's Science 03 Congress 03 Combating NBC
Threat

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All praises for KIIT by delegates By Belal Abu Horaira
Thousands of delegates and visitors
thronging the KIIT stadium and several thronging the KIIT stadium and severat
campuses of the kIIT University have campuses of the KIIT University have
appreciated the efforts put up by the appreciated the efforts put up by the
organisers for the 99th Indian Science organisers for the 99th Indian Science
Congress, considered as the Mahakumbh of scientists and technologists. While
well decorated KIIT campus is abuzz with well decorated KIIT campus is abuzz with
activities, glittering lights in the evening activities, giittering lights in the evening
and flower pots put along the footpath and liower pots put atong the footpath
Today's Programme
Women's Science Congress
Venue: Campus 6 Hall 5 9.00 am - 12.00 noon Panel Discussion

Animal Alternatives in Teaching and Testing 9.00 am- 10.45 amplenary Session Clean Energy from Renewable Sources
Venue: Campus 6 Hall 2 $9.00 \mathrm{am}-10.45$ amPanel Discussion Education for Sustainable Development 9.00 am- 10.45 amplenary session Agricultural Biotechnology Scientific
Regulatory \& Social Challenges venue: Campus 6 Hall 4 11.00 am - 13.00 pmplenary Session

Cancer stem cells
Venue: Campus 6 Hall 11.00 am-13.00 pmpanel Discussion S8T Policy Making and
tical Issues and Concerns sat Issues and Concerns
Venue: campus 6 Hall 4 $14.00 \mathrm{pm}-16.00 \mathrm{pm}$ Children's Science Congress Valedictory
Venve kiIT Stadum $16.15 \mathrm{pm}-17.00 \mathrm{pm}$ Women's Science Congress Valedictory
venue: Campus 6 Hall 5


## 'NKN revolutionised education and healthcare

Diksha Upadhyay

All subjects of networking are part nd parcel of Indian Education, said National Knowledge Network (NKN). He deliberated a lecture which was held through video conferencing on the topic "Nationa Knowledge Network (NKN)-An Instrument of Social Change" on the third day of the 99th Indian Science Congress.

He said the NKN addresses the education and health needs of the cuntry. .Nation needs to integral

## Emphasizing on the internet service

 provider (ISPs) and the high endservices which services which are only provided in
urban areas and the low end services are provided in semi-urban and rural areas, he said "In India
there are at least 200 scientific there are at least 200 scientific
laboratories and 600 institutions of higher learning which generate around 50,000 courses per hour."
He talked about how NKN provides
diferent solutions for education and ealthcare like the intensive interactions in all levels and libera Communication Technology (ICT) He also spoke on how NKN brings ogether the institutions which are inder various departments and

He said NKN is focusing on education, health and agriculture. In health front, Dr. Raghavan enlightened with the fact that NKN is providing with Digital Health,
modernizing public health sectors and said, "Healthy nation is a protective nation".
The main changes The main changes now seen in the
field of education, research healthcare, governance and farmcare are due to NKN, he claimed. He further spoke about the features of NKN which provides quality of service, security and wide
geographical coverage. "NKN has its geographical coverage. "NKN has its
collaboration with IITs and NITs and is connected with 160 medical colleges and medical centers," he added.

## 'Assistive technologies can help differently-abled' <br> Niharika Rai

Disability requires different kinds of technologies and there are many such technologies which are being developed that will revolutionize the world of differently able persons and will be helpful in creating a more inclusive society, said Dr. G. V. Ramaraju in his public lecture on 'Assistive Technologies for Differently Abled': Assistive technology uses assistive, adaptive, and rehabilitative devices to help the differently able people perform tasks that they were unable to accomplish or had great difficulty doing. It is useful for those with cerebral palsy or physical disabilities, cognitive disability speech and learning disabilities", explained Ramaraju. He emphasized that each diverse range of assistive technologies have the potential of bridging the gap and bringing down barriers which were earlier seen as inevitable for the differently-abled. "Our endeavour is to constantly search, identify, recognize and encourage such innovations in the field different and diverse abilities", he said.

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## Women's Science Congress

## BTV vaccine: A challenge in future

## Bhavna Achary

Research has centered on a molecular dissection of Orbiviruses, insect-vectored emerging pathogen of wild ruminants and livestock (with mortality reaching $70 \%$ in some breeds of sheep), Dr. Polly Roy from LondonSchool of Hygiene and
Tropical Medicine UK, said at the 'Women in Science session of the
Women's Science
Congress, a part of
the 99th Indian Science Congress.
BTV originated in South Africa in early 1900 and is currently endemic in most tropical and sub-tropical countries including India and other
south eastern Asian countries. thas recently had a severe economic impact on European agriculture. A recent major finding was the derivation of the hirst reverse genetics system for BTV (the
synthesis of infectious virus solely from synthetic genes), a technique long sought by researchers worldwide for this class of viruses. The ability to directly manipulate
the virus has opened a new window the virus has opened a new window
of opportunity to understand how the virus invades the host to cause disease.
Further, this breakthrough system has been exploited to produce an cycle (DISC) virus. In a recent vaccine trial study it has been shown that DISC vaccine is highly protective against virulent virus challenge in
sheep, she informed, adding that these vaccines represent economically feasible and safe vaccine sources for BTV and related viruses.
Indian soldiers at high altitude require scientific interventions
Diksha Upadhyay
The Indian soldiers require scientific interventions for sustaining inhabit terrains, asserted Dr. Sashi Bala Singh of
Defense Institute of Physiology and Allied Science at session of the firs ever Women's
Science Congress, Science Congress at KIIT University, She han Jary 5 at KIIT University. She has worked
substantially for contributing toward improvement in the quality of life of the soldiers deploved a at high altitude complain of anorexia, loss of appetite which leads to decrease in body weight. Another common complaint is the impairment in cognitive functions of the troops, a condition unique to
Indian Army as our soldiers are posted at extreme high altitudes Results from our study showed that mpairment in memory function is leading to neuro-degeneration in brain structures (hippocampus, cortex and striatum) involved in learning and memory", explained earning
she said their findings on changes in evoked potentials and altere hedonic matrix in soldiers deployed thigh altitude conditions have led for amelioration of hypobaria induced sleep disturbances and hypophagia in troops.
During my tenure at Leh, DIHA was registered in Limca Book of of having highest agro-anima technology Institute in the world. It also held a National Record for producing some of the larges gricultural crops in the country and or growing 78 different types
vegetation in one season", said
Dr Singh.
'Time to find ways to use women as resource for science and technology' Bhavan Meitei

The gender dimension of science and technology has become one the most important and debated issues worldwide. Over the past
thirty years, the United Nations General Assembly and UN Economic and Social Commission (ECOSOC) have emphasized issues related to nequalities, insufficiencies and disparities in the access of womento market. Various major international nitiatives on the subject have been undertaken; including the United Nations Decades on Women and has been directed towards the role of women in science and technology. Dr. Nirupama
Prakash, Head,


"The troops deployed at high altitude complain of anorexia, loss of appetite which leads to decrease in body weight. Another common complaint is the impairment in cognitive functions of the troops, a condition unique to Indian Army as our soldiers are posted at extreme high altitudes."

Department of Humanities and Social Science, Coordinator, JUIT
Centre for Women Studies, Jaypee University of Information Technology, Waknaghat, HP said this in her lecture 'Involving women in science and technology: an empowering 'Women for Science' lecture at 'Women or Science
session of Women's Science Congress at KIIT University. She said women are identified as seriously under-represented in science,
mathematics and engineering fields. mathematics and engineering fields.
They are an under-utilized pool of they are and resource that could contribute immensely towards the social and economic development of societies through participating in programmes. Women comprise more than half of the population of any society.
"The challenge is to find ways of changing the situation such that science and technod as a resource for Technology have been an integral part of Indian civilisation and
culture. Over the years Indian women have overcome the
raditional mindsets and have xcelled in professions like teachin argued Prakash.
nan Indian Science Academy (INSA) study in 2006 on "Gendered Science Trends and Analysis of Contributions
of Indian Women Scientists", taken w with a view of focusing of achievements and recognition of Indian Women Scientists, it has been pointed out that women reaching to
higher positions in their science higher positions in their science
careers are few and far between Even before they reach the point o choosing a career in science women have to make difficuli choices. Every year, girls do for etter than boys, in science and examinations.

In some institutions the majority o the toppers are girls, Prakash pointed out, while observing that
the declining number of girls who ollow through on their apparen aptitude for science at the schoo level is evident in the few women scientists at the top of the academic

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## Day 38 99th Indian Science Congress



## 'Spreading science in rural areas need of hour'

## havan Meite

ndia has marched ahead of others in has the best minds in the fields of science and technology, observed Director of Nitte Meenakshi Institute of Technology (NMIT), Bangalore Dr. N. R. Shetty. However, rural children Shetty was speaking at panel Discussion on 'Science Education in Rural Areas' at KIIT University on January 5 , the third day of $99^{"}$ Indian science Congress. He stressed on the need to create interest in science primary schools, especially in the rural areas.

Commending the Indian Science Congress Association for choosing said rural children were more responsible as compared to their urban counterparts. They do
household works and help parents in earning livelihood; and as a result
they get limited time to attend schools. A large number of them even drop out, he explained. Referring to lack of interest among the present-day students in basic
sciences, Shetty said this trend sciences, Shetty said this trend
needed to be reversed by infusing needed to be reversed by infusing
interest in basic sciences among students in their formative years of learning. Although India has made significant progress in the field of aerospace, nuclear energy,
automobiles, chemical engineering automobiles, chemical engineering, far less number of scientists than China in the field of science and technology, and the achievement is far less in comparison to China, informed Dr. Kambadur Maralidhar,
Professor of Delhi University Professor of Delhi University.
Underlining the need to produce more number of scientists and to
spread basicknowledge of science achieve development, he suggested that the first and foremost common

Rural children do household works and help parents in earning livelihood; and as a result get limited time to attend schools.
schools admitting everyone should be opened in neighbourhood in rural areas, while stressing that educatio shouldn't lead to inequality and create class distinction.
According to him, severa institutions were providing an
opportunity to children in urban areas to try out experiments in good
mobile laboratories but there is lack of infrastructure in rural areas, thus, giving rise to divide between the
rural and urban institutions. To improve this, he suggested, a woman village education officer should be appointed, who will help preserve rural scientifictradition and
knowledge, especially in the area of biodiversity related matters.
"Education of people in rural area should not change the socio-cultural milieu except social evil. Till primary stages children should be imparted Rural giris and women should be paid attention, especially in the health education", said MaralidharFor empowering and giving scientific knowledge, he also suggested big
 uneducated youth.

## Combating NBC threat

Diksha Upadhyay

In an age when weapons of war are scoming increasingly lethal, find solutions to effectively tackle the Nuclear-Biological-Chemical (NBC) threat for both armed forces and civilians. A Plenary Session was held at the $99^{-1}$ Indian Science subject. Chairing the session, Dr. W Selvamurthy, distinguished scientist and Chief Controller Research and Development, Government of India said that India will become third arideconomit power ater US an China by 2035.
warfare and terrorism have become a global threat today, he observed. "It is very important and rucial to confront these threats and keep nation prepared for future Under Nuclear effects, he focused on thermal, blast, radiation, flash and heat effects. He also laid emphasis on how India should be
prepared for biological threat for preserving biodiversity and for
fighting against problems like, anthrax, water and food contamination caused by it. He further spoke about DRDO's contribution on NBC defense preparedness in formulating of guidelines by NDMA and of din
technologies and equipments.

Dr. Sudarshan Kumar, Sc ' $G$ ', and Director, Centre for Fire, Explosive and Equipment Safety (CFEES), spoke on NBC Threat Preparation
and reminisced the horrifying nuclear effects on Hiroshima and Nagasaki due to the usage of powerful nuclear weapons. He explained how NBC threat was predominant in south Asia. He also
spoke about the actions of ORT spoke about the actions of QRT
which are detection evacuation and contamination. Kumar also spoke about the sensors made for NBC which are gas chromatograph, control console, pocket dosimeter.

Scientist and Director of Defense Bioengineering and Electromedica
Laboratory, Dr. V. . Padaki Laboratory, Dr. V. C. Padaki spoke on
respiratory management in NBC encounter'. He talked about the NBC respiratory mask which was developed by DRDO for protection and how this mask should be provided in large number and
should be of low cost as it was used in large amount by the army. Dr. M. P. Kaushik, Process Technology Development Division of Defense

Research and Development Establishment, deliberated on "Strategies to Combat ChemoTerrorism ${ }^{\text {. }}$. He gave the definition of Chemo- terrorism which is human, animals and plants'. He spoke about the differences of a
simple chemical froman intoxicated simple chemical from an intoxicated
one through physical, chemical one through physical, chemical
properties and different routes by which it enters the human body.


Fifth Science Communicators' Meet concludes by Nyopi Bomjen
The 5th Science Communicators' Meet - Vigyan Sancharak Sammelan (VSS) - on the theme 'Science and Technology for Inclusive Innovation-Role of Women' came to an end on January 5 . Prof. Chittaranjan Das, Chairman State Environment Impact Assessment Authority, Odisha highlighted the importance of taking science and technology to the rural women. He urged that
the innovative ideas used by women in their day-to-day life needed to be identified and the innovative ideas used by women in their day-to-day life needed to be
opportunities should be implemented with the help of science and technology.

Prof. Geetha Bali, General President, 99 " ISC said, "Women are great educators and that's why women can access the children and other women." The two day technical sessions were attended by around 25 scientists, professors and teachers from Amravati, Bangalore, Bhopal, Bhubneshwar, Chennai, Delhi, Jaipur, Kolkata, Kanpur, Nagpur, Patiala, Sagar. The participants
were presented withthe certificate of participation and mementos.

The delegates expressed the hospitality, the KIIT management was providing to them and invited speakers is world class. The visitors from India and abroad at the Indian Science Congress specially loved the food. "Besides the food, the arrangements for accommodation and travel are also the best. There are well and very happy with arrangement. We love it" said a press delegate.

Proper security arrangements also have been made at the venue and KIIT campus. On the other hand the foods are being prepared by nearly 10 caterers for at least 15000 delegates of the event daily. A scientist from Mexico Juliet Fierro said, "I believe it takes lots of work to organize an International event. Many things can go wrong. This year it was well organized as it went interesting and meaningful. I am grateful to all the people that made this event possible."

## Book Released

Union Minister of State for HRD Dr. Purandeswari released a book named, 'Women and Society - The Road to Challenge, edted by Pror. A. S. Kolaskar, Vice Chancellor, KiIT University and Prof. Motilaa Dash,
Director, Academics of Kalinga Institute of Social Sciences (KISS). in presence of Smt. Nirupama Rao, Indian Ambassador to US, Mrs. Geetha Bali, General President, 99 th ISC. The book published by the Oxford University press contains some thought provoking papers authored by some of the great women of contemporary India who have excelled in their
respective fields. There could not have been a better occasion or place than the Women Science Congress for the release of the title which would surely inspire and motivate women from all walks of life.

## Kalinga Samman for

 Gokulananda Mohapatra By Bikash Chandra Sahoo \& Bijayashree ParidaEminent educationist and writer Dr. Gokulananda Mohapatra received the first Kalinga Sammana for Popularising Science among common people. Governer of Odisha, Shri M. C. Bhandare gave away the award at the valedictory function held marking the 60th anniversary of UNESCO-Kalinga Prize at KIIT University on January 5, Mohapatra, a retired professor of Chemistry, has the distinction of being the first Odia novelist to write on scientific topics. The octogenarian has penned more than 70 science fictions and science books in Odia for children such as, Krutrima Upagraha, Pritibibahare Manisha, Candrara Mrityu, Nishabda Godhuli, Madam Curie, Nila Chakra Bala Sapare and many more. He has also received the Orissa Sahitya Academy Award for science literature and several other prizes including PK P Parija Samman.


Continued from $p 2$
Ramaraju explored the world of assistive echnologies and said that science could be demonstrated the working procedure of 'Sanyog' that is a icon based communication tool for persons with neuro motor disorders. It is currently in English, Hindi and Bengali Punarianni' is ICT based tool that will help teachers in assessing the progress of disable SAFA(screen assess for all) is one such tool that enables visually impaired people to access fformation on computer screen. This software available free of cost and anyone can
ownload it from website of Media Lab Asia Other tools are Shruti- Drishti, Naushikhar
edusat based channel, Shruti-speech based dusat based channel, Shruti-speech based dentification System.
xplaining the diversity of assistiv technologies he added that they were doin esearch on highly intuitive and advance echnologies like mind mapping, study skills, ymbol based and touch-typing software are under the process.


Shri M. C. Bhandare, Governor, Odisha, Shri Prafulla Samal, Minister, Tourism \& Culture, Odisha, Shri P. C. Ghadai, Minister, Finance, Odisha and Dr. T. K. Chandrashekar, Director, NISER on the concluding day of celebration of 60 th Anniversary of UNESCO Kalinga Prize at KIIT University.

