

SLS Newsletter

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The e-news letter published by the Society of Life Sciences. Through this official publication, the activities of society and achievements of its members are highlighted. For research paper/review, the Society of Life Sciences publishes a regular U.G.C. Approved and Peer Reviewed Biannual Journals.....**National Journal of Life Sciences and Life Science Bulletin.**

mission

The mission of the Society of Life Sciences is to help make science based information more relevant in societal planning and public discourse. The Society aims to build a dynamic, interactive, global community of researchers to promote logical scientific excellence by providing a framework in which the various disciplines of the field can convene, collaborate, assimilate and advocate.

vision

The vision for the Society of Life Sciences is to promote communication in the field for the advancement of research and technology to improve the quality of life. Society recognizes that diversity drives innovation, excellence and new discoveries and endeavours to achieve this scientific philanthropic mission through collaborations, scientific meetings, publications, outreach and other activities that raise public awareness.

Report of 4th Annual Session of Society of Life Sciences

Allahabad

THE LAND OF SANGAM

Dr. Rashmi Singh
Editor-in-Chief

Dr. A.K. Verma
Executive Editor of this issue

Dr. Pragya Khanna
Managing Editor

Government P.G College, Saidabad, Allahabad (U.P.) organized a National Conference on "Ecological Imbalance: A threat to flora, fauna, economy and human survival and 4th Annual session of The Society of Life Sciences" on 22nd-23rd September, 2017 at Vigyan Parishad auditorium Allahabad. This National Conference was jointly organized in Association with the Society of Life Science, Satna (M.P.), National Environmental Science Academy (NESA) New Delhi and Environment & Social Development Association (ESDA), New Delhi. Prof. Ashish Joshi, Principal Government P.G College, Saidabad, Allahabad was Patron while Dr. Ashok kumar Verma was the Organizing Secretary of this Conference.

This National Conference was inaugurated by Prof. Rita Bahuguna Joshi, Honorable Minister for Tourism, Women, Family and Child Welfare, Govt. of U.P.; Prof. Rajendra Prasad, Vice Chancellor, Allahabad State University, Allahabad; Prof. Javed Ahmad, President NESA New Delhi; Dr. Shivesh Pratap Singh, Secretary Society of Life Sciences; Dr. Jitendra Kumar Nagar, General Secretary ESDA, New Delhi were present as Guest of Honor. The key note Speaker was Prof. U. C. Srivastava, Emeritus Scientist, General Secretary NASI and former Professor, University of Allahabad.

More than 300 participants from ten states of our country participated in this National Conference. Important speakers and Chairpersons were Prof. Bechan Sharma and Prof. A.K.Pandey, Dept. of Biochemistry, University of Allahabad; Prof. Krishna Kumar, Dept. of Zoology, University of Allahabad; Prof. S.M. Prasad, Dept. of Botany, University of Allahabad; Prof. Mohd. Arif, Scientist DRDO; Prof. G.P. Sinha and Dr. A.N. Shukla, Botanical Survey of India, Allahabad; Dr. Madhulika Singh, CSJM University, Kanpur.

Some fellow members of Society of Life Sciences, Dr. A.K. Srivastava (Jhansi), Dr. B.S.Chandel (Kanpur), Dr. Ramesh Chandra Tripathi (Chitrakoot), Dr. Reetesh Kumar Khare (Lalitpur), Dr. Ratnesh Kumar Soni and Dr. Anju Verma (Gyanpur), Dr. Atul Kumar Mishra and Dr. Pankaj Tandon (Kanpur), Dr. Pradeep Kumar (Muhammadabad) actively participated and made Conference a grand success.



Guests during the Valedictory function were Dr. Priti Gautam, Joint Director, and Dr. Mahendra Ram, Ex. Director, Department Higher Education, Govt. of U.P and Dr. V.C. Srivastava Ex. Head Zoology Department, CMP Degree College Allahabad.

In the Valedictory function, the Society of Life Sciences honored Life Time Achievement Award to Dr. V.C. Srivastava Ex. Head, Department of Zoology, CMP College Allahabad. while Dr. Ashok Kumar Verma, Head, Department of Zoology, Govt. P.G. College Saidabad, with Prof. Baba Jadhav Senior Scientist Medal for their research contribution in the field of Life Sciences.

Three Best Oral Presentations in Senior Scientist section and two Best Oral Presentation in young scientist section were awarded during Valedictory function. Three best posters were also awarded in Young/Junior Scientist level. Prof. Bechan Sharma, University of Allahabad; Dr. Shailendra Tiwari, Asst. Director, Higher Education and Dr. Shubha Srivastava, KN Govt. P.G. College Gyanpur Bhadohi, Dr. B.S. Chandel, DBS College, Kanpur Dr. Sri Prakash, KAPG College Allahabad, Dr. Amita Pandey, CMP Degree College, Allahabad were judges of the oral and poster presentation.



Dr. V.C. Shrivastava

Ex-Head, Dept. of Zoology, CMP College, Allahabad (U.P.)

Life Time Achievement
Award

Dr. Ashok Kumar Verma

Head, Dept. of Zoology, Govt. P.G. College Saidabad, Allahabad (U.P.)

Prof. Baba Jadhav
Senior Scientist Award

SLS Awards

Best Oral / Poster Presentation Awardees (Young/Senior Scientist)

SLS Awards

Name	Subject	Awarded As
Ms. Meenakshi Rathore Department of Botany Govt. Degree College, Manikpur (U.P.)	Impact of <i>Argemone mexicana</i> of the floristic diversity of Allahabad and Kaushambi District of U.P	Senior Scientist I Best Oral Presentation Award
Dr. Sunita Arya Department of Zoology D.G. Post Graduate College Kanpur (U.P.)	Green growth and green technology for sustainable development: Food and health Security	Senior Scientist II Best Oral Presentation Award
Dr. Pooja Gupta Botanical Survey of India Allahabad (U.P.)	Floristic assessment of Lichen diversity in the state of Assam India	Senior Scientist III Best Oral Presentation Award
Vineet Kumar Singh Botanical Survey of India Allahabad (U.P.)	Over exploited medicinal plant resources of Parvati Aranga wildlife sanctuary and adjacent Tikari forest area Gonda U.P	Young Scientist I Best Oral Presentation Award
Ms. Archana Rai Dept. of Microbiology, SHUATS, Allahabad (U.P.)	Synergistic effect of plant growth promoting rhizobacteria (PGPR) and vermicompost on the growth of Chili (<i>Capsicum annum L</i>)	Young Scientist I Best Oral Presentation Award
Mohd. Danish College of Fisheries, G.B. Pant University of Agri. & Technology, Pantnagar (U.K.)	Assessment of genetic diversity in <i>Labeo gonius</i> using SSR marker in two different reservoirs of Uttarakand	Young Scientist I Best Poster Presentation Award
Abhishek Sharan MNNIT, Allahabad (U.P.)	Response of freshwater microalgae towards the exposure of Cobalt oxide nanoparticles.	Young Scientist II Best Poster Presentation Award
Ms. Anu Mishra JNKVV, Jabalpur (M.P.)	Comparative analysis of immunocompetence status of insects of road side and domestic gardens f Jabalpur M.P	Young Scientist III Best Poster Presentation Award



Award Ceremony



**Life Time
Achievement**
Dr. V.C.Srivastava



**Prof. Baba Jadhav Senior
Scientist Award**
Dr. A.K. Verma



**Senior Scientist
Best Oral Presentation Award I**
Ms. Meenakshi Rathore, Manikpur (U.P.)



**Senior Scientist
Best Oral Presentation Award II**
Dr. Sunita Arya, Kanpur (U.P.)



**Young Senior Scientist
Poster Presentation Award II**
Abhishek Sharan, Allahabad (U.P.)



**Young Scientist
Poster Presentation Award III**
Ms. Anu Mishra (Jabalpur)



**Senior Scientist
Oral Presentation Award III**
Dr. Pooja Gupta, Allahabad (U.P.)



**Young Scientist
Best Poster Award I**
Mohd. Danish, Pantnagar



**Young Scientist
Oral Award I**
Vineet Kumar Singh, Allahabad (U.P.)



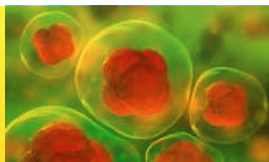
**Young Scientist I
Best Oral Award**
Ms. Archana Rai, Allahabad (U.P.)



Dr. Shivesh Singh Addressing at Valedictory Session



Prof. Javed Ahmad, addressing at Inaugural session



UNDERSTANDING STEM CELL RESEARCH

By

Dr. Wahied Khawar Balwan

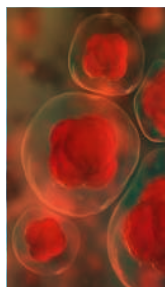
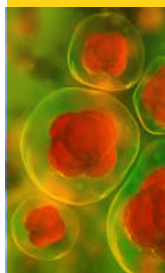
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Until quite recently, it was believed that the human body could not regenerate neurons. We could grow new skin and blood cells to replace those we lost, but nerve cells that died were gone forever. Then, 20 years ago, embryonic stem cells were discovered in mice. In 1998, stem cells were isolated from a human embryo. Today many hope that these so called universal cells (stem cells) hold the key to treating perhaps and even curing neurological disorders and many other diseases as well. Stem cells are special kind of cell from an embryo, foetus or adult, capable of renewing itself under certain conditions and of becoming specialised cells that make up the different tissues and organs of the body. In dictionary 'stem' means the main ascending (going up) stalk of a plant, similarly, there are main cells that grow through time, a main stem from which other stem can branch out from. Stem cells are special cells that have the ability to divide for an indefinite period and can give rise to a wide variety of specialized cell types. This ability, known as developmental plasticity, is a common feature of fertilized eggs and early embryonic cells (blastomeres). A fertilized egg is totipotent, has the highest degree of developmental plasticity and can give rise to all of the body cells. Blastomeres have decreased level of plasticity and can only give rise to all body cells. Blastomeres have decreased level of plasticity and can only give rise to a limited range of cell types and are therefore called Pluripotent. As development progresses, individual cells can give rise to only a few cell types before assuming the final form of a specialized cell that can only give rise to other cells of its kind, hence are called multipotent.

Stem cells may be isolated from embryos, umbilical cords (pluripotent) and adult tissues (multipotent). Stem cells grow and divide indefinitely when placed in culture. This power and versatility of these cells to produce different cell types has application in cell therapies viz. Parkinson's disease, Alzheimer's disease, cardiovascular disease, spinal cord disorders and some cancer. Leukemia, a cancer affecting white blood cells, can be treated by replacing the cancerous cells with stem cells programmed to differentiate into healthy white blood cells.

Stem cell research is focused on embryonic stem cells, adult stem cells, therapeutic cloning and induced pluripotent stem cells. The ultimate stem cell is the fertilized egg which can give rise to an entire organism consisting of hundreds of different kinds of cells. Human, mouse and amphibian blastomeres from two or four cell embryos also retain their totipotency and are good embryonic stem cells. Mammalian embryonic stem cells are obtained exclusively from the inner cell mass of a blastocyst (with or without killing the embryo), and when placed in cell culture they can differentiate into many kinds of cells representing all three embryonic germ layers. However, once the association between the inner cell mass and the trophoblast is disrupted, the embryonic stem cells cannot develop into an embryo.

Embryonic germ cells can also be collected from the gonadal ridge (located in the fetuses' lower mid-back) of 9-12 week old fetuses (killed during abortion). Cells in this area form the gonads of the adult which produce the germ cells (eggs or sperms). However, these cells and hence are less desirable in stem cell therapies.

Adult stem cells are collected from adult tissues or organs. The first Adult stem cells when cultured differentiate into a small range of cells representing one or two germ layers, in contrast to the Embryonic stem cells which can differentiate into a wide variety of cell types, representing all germ layers, however, they can be stimulated in vitro into a wide variety of cell types representing mesoderm, neuroectoderm and endoderm, the three fundamental germ layers. The Adult stem cells, hence, can also be called multipotent adult progenitor cells.

Blood isolated from human umbilical cords is an excellent source of Adult stem cells. Moreover, these umbilical cord stem cells have a developmental plasticity equal to that of embryonic stem cells. Umbilical cord blood banks are established by collecting blood from newborn infants in case the child should ever need stem cell therapy. The existence of Adult stem cells is extremely important since they resolve the ethical problems that are associated with the harvesting of Embryonic stem cells and it solves the problem of tissue rejection. Adult stem cells can be obtained from other organs, such as the pancreas, liver, which allow the production of a wider variety of cell types.

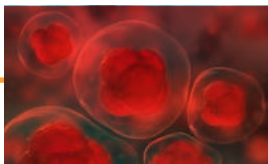
Medical Applications

Stem cells can be used to treat and possibly cure a wide variety of diseases. Diseases are treated by introducing whole human cells into the body in order to restore the patient's health. The exception is induced pluripotent stem cells, stem cells produced using gene therapy.

Cardiovascular Disease

It is caused by a chronic reduction in the blood supply to the heart leading to a cardiac infarction or heart attack. If the extent of damage is less, the heart could be weakened but still functional. Conditions like dilated cardiomyopathy, coronary syndromes, arrhythmias, hypertensive heart failure are reversible. However, serious obstruction of the coronary arteries leads to the death of the cardiac muscle. At present, the only treatment for the massive and normally irreversible cardiac failure, not leading to death, is an organ transplant. Scientists are trying to develop an alternative cell based therapy using embryonic stem cells, adult stem cells and induced pluripotent stem cells.

Autogenic (from the patient) adult stem cells isolated from their own bone marrow when injected into the heart of patients, develop a tissue consisting of some cardiomyocytes and vascular structures. However, most of the injected adult stem cells fail to differentiate into functional cardiomyocytes but a very modest improvement of cardiac function is observed due to the secretion of growth factors and other substances from the adult stem cells. Moreover, the macrophages eat up the transplanted cells also as they try to clean up the damaged cardiomyocytes in the scar tissue after a heart attack. Use of embryonic stem cells has ethical problems in addition to the problems of production of teratomas and the induction of graft-versus-host-disease, since the embryonic stem cells would be allogenic (not from the patient), induced pluripotent stem cells usage also has problems as they must be induced to a partially differentiated state before being injected into the patient. More precise methods are needed for directed differentiation in order to produce very homogenous cell populations and also to screen, and remove undifferentiated cells.



Diabetes is a chronic metabolic disorder that destroys the body's ability to utilize glucose, the uptake of which is regulated by a hormone called insulin that is produced by the β -cells of pancreas. Patients with Type-1 diabetes (insulin-dependent diabetes) have complete lack of insulin, while patients with Type- 2 diabetes (insulin-resistant diabetes) have too little insulin or their bodies do not use insulin effectively which may result in too high levels of insulin of blood. In Type-1 diabetes, β -cells lose the ability to manufacture and release insulin, leading to a buildup of glucose in the blood. A chronic elevation of blood glucose levels results in inappropriate glycosylation (addition of sugar to proteins) of many proteins in the blood, including haemoglobin. Diabetes is currently treated with daily injections of purified insulin but it does not cure the disease or remove the long-term threat of kidney failure or the other associated complication. Stem cells are being used to cure the disease by directing the differentiation of cultured embryonic stem cells into β -cells that secrete insulin. But unfortunately, teratomas develop and risk giving the patient cancer, which may not be treatable. Adult stem cells and induced pluripotent stem cells are also being tried in this regard with the aim to return them to the patient in the hope that they will colonize the pancreas, thus curing the disease.

Immune Deficiencies

The immune system combats invading microbes with its enormous population of white blood cells mostly in the form of B-cells, T-cells and macrophages. B and T-cells are lymphocytes that develop in the bone marrow and thymus respectively. B-cells attack microbes indirectly by producing antibodies. T-cells control and coordinate the immune response by releasing cytokines that recruit macrophages and B-cells. Macrophages are phagocytic blood cells that eat the invading microbes. A combination of stem cells and gene therapy is being used to cure immune deficiencies. The bone marrow from affected patients is extracted and transferred with hematopoietic stem cells and then reimplanted into the patient with the aim of developing a functional immune system.

Leukemia

Leukemia is a cancer of blood cells. It affects white blood cells only and can arise in either lymphoid cells (lymphocytic leukemia) or myeloid cells (myelogenous leukemia). The disease has two forms namely acute and chronic. Acute leukemia progresses very quickly and usually destroys the patient's immune system. Chronic leukemia progresses much more slowly and even though the leukocytes are transforming, they retain some of their normal functions, so the immune system is not destroyed so quickly or so completely. The standard treatment involves radiation and chemotherapy which kill the cancerous cells. Extreme forms of this therapy involve the complete destruction of bone marrow with radiation therapy, after which the patient receives new bone marrow from a suitable donor, which is very difficult to get. Stem cell therapy is now used to treat all forms of leukemia with autologous transplants, thus removing the need to find bone marrow donors. Stem cells, isolated from bone marrow of the affected patient are induced to differentiate into white blood cell precursors and then grown in culture to increase their numbers. Once these cells are collected, the patient's cancerous bone marrow is destroyed and the stem cell derived blood cells are returned to the patient in order to reconstitute a healthy, cancer free bone marrow.

Liver Disease

Liver converts ammonia to urea which passes out of our bodies in urine. The production of urea depends on the liver enzyme ornithine trans carbamylase. If this enzyme is defective, blood levels of ammonia increase rapidly, resulting in coma, brain damage and death. Hematopoietic stem cells isolated from the patient and stimulated to differentiate into liver cells can be reintroduced into the patient. These partially differentiated stem cells will colonize the liver and produce enough liver enzyme to cure the disease. These bone marrow derived stem cells can effectively rescue experimental liver failure and contribute to liver regeneration.

Alzheimer's Disease

Alzheimer's Disease is a neurological disorder/neurodegenerative disease affecting the central nervous system which leads to a progressive loss of memory, language and the ability to recognize friends and family, it is often related to a biochemical or neurotransmitter defect believed to be caused by a combination of genetics, lifestyle and environment. With this disease the brain actually shrinks as more of the brain cells die off. The central nervous system is divided into the cerebrum, called the hippocampus is important for coordinating memory functions. This disease mostly begins in the hippocampus/cerebral cortex and also in certain sub-cortical regions. During the early stages some damage occurs to the brain but not enough to produce outward signs of the disease. Over a period, it spreads to many areas of the cerebrum leading to the confusion and loss of memory that accompany the disease. Defects in the genes associated with the disease lead to the extensive death of neurons that is characteristic of this disease. Stem cells stimulated to differentiate into neurons and glia cells, and injected directly into the brain are thought to repair the damage to the brain.

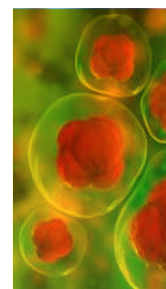
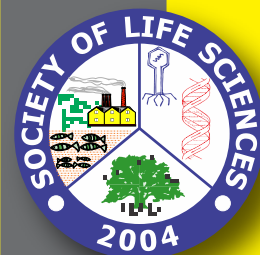
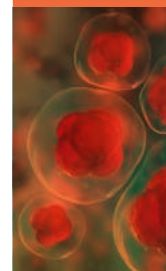
Parkinson's Disease

Parkinson's Disease is a neurodegenerative disease affecting neurons in the area of the brain called the substantia nigra that results in tremors, muscular stiffness, and difficulty with balance and walking. Dopaminergic neurons (neurons producing a neurotransmitter called dopamine) in the substantia nigra are damaged in this disease. Since the neurological damage caused by the Parkinson's disease is restricted to one region of the brain, stem cell therapy may be successful in treating this disease. Preclinical research has shown that it is possible to isolate stem cells that can be stimulated to differentiate into dopaminergic neurons. Injection of these neuronal stem cells into affected mice relieved some of the disease symptoms, particularly the loss of motor control that is characteristic of this disease. However, non-motor symptoms like olfactory dysfunctions, cognitive impairments, sleep dependently along with motor symptoms have also been reported.

Conclusion

Studying stem cells has great social issues associated with it. Scientists are interested in using stem cells to grow whole organs in the laboratory that could be used to replace defective organs. It is feasible to do this and it will go a long way towards relieving the chronic shortage of organ supplies for transplant surgery. However, it is extremely difficult and would take more than 20 years to produce a functional organ. Stem cell therapy holds the potential for curing terrible diseases. It offers hope to those paralyzed by a spinal cord injury and someday it may be used to reverse the ageing process.

Embryonic stem cells are isolated from two-to-five day old human embryos which do not survive the harvesting of the stem cells, and many people believe that it is highly immoral to kill a human embryo for its cells. Scientists prefer embryonic stem cells for medical therapies because they possess a high degree of developmental plasticity and when injected into experimental animals the damage is repaired best. However, it is difficult to control the growth of these cells and these may form cancerous tumors called teratomas. Immune rejection is a very serious problem with embryonic stem cell therapy, since these cells are not related to the patient. Adult stem cells are isolated from adult tissues such as bone marrow and from umbilical cord blood. Induced pluripotent stem cells are produced in the laboratory by reprogramming skin cells taken from the patient needing treatment, and thus there is no threat of immune rejection with these cells or with adult stem cells. The use of embryonic stem cells is very controversial, whereas the use of adult stem or induced pluripotent stem cells is not.



Any error in this manuscript is silent testimony of the fact that it was a human effort

-Author-

Glimpses of 104th ISCA - Tirupati 2017



Proceeding regarding Global Meet of Biologists 2016 (containing 36 review and original articles of Life Sciences) was published as a **Special Issue of National Journal of Life Sciences 13(3)2016** in December 2016. Dr. P. Nagaraj Rao, Professor, Department of Zoology, Osmania University, Hyderabad & Fellow member of SLS was one of the Chief Editors of this NJLS Special Issue. This Special Issue of National Journal of Life Sciences 13(3)2016 was released during 104th Indian Science Congress at S.V. University, Tirupati (3-7 January, 2017) by Dr. Ashok Kumar Saxena, Past General President ISCA; Prof. B.B. Kaliwal, President Section of Animal, Veterinary and Fishery Sciences and Dr. Vijay Laxmi Saxena Past, General Secretary of ISCA.



Honored by sharing the dais with Prof. D. Narayana Rao, General President of 104th ISCA-Tirupati, and Dr. Achyuta Samanta, Elected General President for 105th ISCA-Imphal.



Award & Felicitation

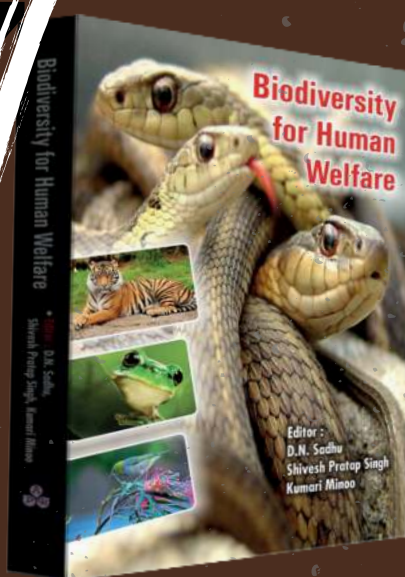
Dr. Shivesh Pratap Singh have honored by G.D. Bhalerao ZSI prestigious Gold medal 2017 during Inaugural function of 29th All India Congress of Zoology & International Symposium on "Culture Based Fisheries in Inland Open Waters" at ICAR-Central Inland Fisheries Research Institute, Barrackpore, Kolkata (W.B) on 9 June 2017 by Chief Guest Dr. J.K. Jena, Deputy Director General (Fishery Sciences) Indian Council of Agricultural Research, New Delhi. The International Symposium was organized in collaboration of Zoological Society of India (ZSI) Bodh Gaya (Bihar) from 9-11 June, 2017



Dr. Shivesh Pratap Singh, Chief editor Njls & LSB was felicitated and honour by Chief Guest of Inaugural function Prof. P.P. Chellathurai, Vice Chancellor Madurai Kamraj University, Madurai and Prof. B.D. Joshi President, Indian Academy of Environmental Sciences Haridwar in presence of Coordinators of Conference Dr. M.G. Ragunathan (Chennai) and Dr. P.C. Joshi (Haridwar) during "National Conference on Biodiversity Conservation and Costal Management (NCBCCM)" organized by Department of Zoology, Vivekananda College, Agasteeswaram, Kanyakumari (T.N.) in association with Indian Academy of Environmental Sciences, Haridwar (Uttara Khand) on 10-12 Aug. 2017.



PREFACE



Book Release Biodiversity for Human Welfare

Biological diversity - or biodiversity refers to the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes. Therefore, it is crucial for the functioning of ecosystems which provide us with products and services without which we couldn't survive. Biodiversity gives us much more than the normal resources. We depend on it for our security and health; it strongly affects our social relations and gives us freedom and choice.

Biodiversity is the provider of ecosystem services. These services are the transformation of natural assets (soil, plants and animals, air and water) into things that we value. They can be viewed as provisioning such as food and water; regulating, for example, flood and disease control; cultural such as spiritual, recreational, and cultural benefits; or supporting like nutrient cycling that maintain the conditions for life on Earth. Ecosystem 'goods' include food, medicinal plants, construction materials, tourism and recreation, and wild genes for domestic plants and animals.

Biodiversity is everywhere. It occurs both on land and in water, from high altitudes to deep ocean trenches and it includes all organisms, from microscopic bacteria to more complex plants and animals. Although many tools and data sources have been developed, biodiversity remains difficult to measure precisely. According to the Millennium Ecosystem Assessment, the total number of species on Earth ranges from five to 30 million and only 1.7–2 million species has been formally identified. But we do not need precise figures and answers to devise an effective understanding of where biodiversity is, how it is changing over space and time, what are the drivers responsible for this change, its consequences for ecosystem services and human well-being, and the available response options.

Unlike foods and other products that we buy in supermarkets, many ecosystem services have no price tag attached to them. This means that the importance of biodiversity and natural processes in providing benefits to people is ignored by financial markets. If the full economic value of these services was taken into account in decision-making, the degradation of ecosystem services could be significantly slowed down or even reversed. This is what the Economics of Ecosystems and Biodiversity (TEEB) study is working towards. The study aims at developing mechanisms to assess the value of nature, drawing attention to the global economic benefits of biodiversity and highlighting the growing costs of its loss. IUCN plays a central role in this work.

The results of the earlier studies have demonstrated clearly that the economic value of biodiversity and ecosystems is significant but still poorly recognized and inadequately reflected in public and private decisions. In order to build support for and guide efforts to reduce ecosystem degradation and halt biodiversity loss, more



The book entitled **Biodiversity for Human Welfare** (ISBN 978-93-81842-29-4) edited by Dr. Shivesh Pratap Singh, Dr. D.N. Sadhu and Kumari Minoo, published by Ayushman Publication House, New Delhi, released during Inaugural function of National Conference on 'Challenges and Emerging Trends in Biotechnology and Herbal products' jointly organised by Govt. Autonomous P.G. College Satna & Deendayal Research Institute, Sponsored by Science and Engineering Research Board (A statutory body under DST, Govt. of India) on 4-5 March 2017. Prof. K. B. Pandeya, Vice Chancellor, Nehru Gram Bharti Allahabad was Chief Guest and Dr. Niraj Kumar, Executive Secretary NASI, was Special Guest of National Conference and Principal Dr. Satyendra Sharma presided over the Inaugural function.

information and wider understanding is needed of the local and global benefits of ecosystem services, and of the full costs of restoration and conservation.

There are twenty articles/reviews of present book "Biodiversity for Human Welfare" are very much important in the present context of conserving our resources. Thus, I hope that to going through these scientific reviews, the readership and concerned policy makers/stake holders would have a satisfaction of sparing their time for a worthwhile reading.

Wishing you all a fruitful year of conservation attempts.

Dr. Shivesh Pratap Singh
Chief Editor (NJLS & LSB)

Congratulations'

Govt. Autonomous P.G College Satna (M.P.) started to publish interdisciplinary refereed journal Vindhya Research Journal (ISSN 2395 3993) from 2015. The Vindhya Research Journal (ISSN 2395 3993) is a National level journal devoted to rapid publication of original research and reviewed articles in all disciplines. The journal is published Triannual in English and Hindi languages. The aim of journal is to publish useful and informative papers that will be of valuable to Arts, Commerce and Science scholars. Chief Editor of Vindhya Research Journal (VRJ) is Dr. Shivesh Pratap Singh, Professor & Head Zoology Department, Govt. Autonomous P.G College Satna; Chairman, Board of Studies, A.P.S. University Rewa & Executive member, Zoological Society of India.

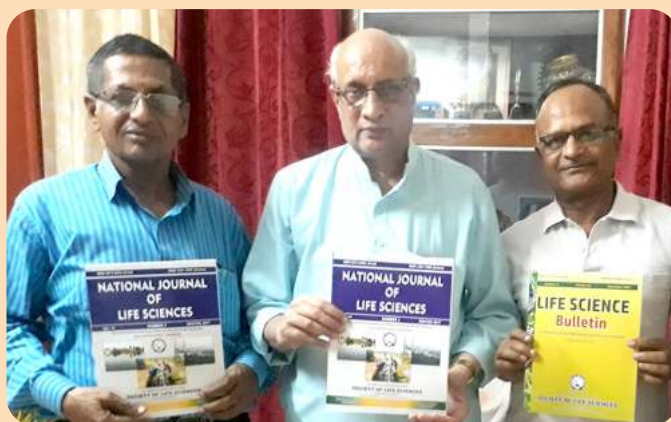


Dr. Pramod Verma

Director General
M.P. Council of Science &
Technology, Bhopal
&

UGC Representatives

of Autonomy Extension Boards at
Govt. Autonomus PG College,
Satna (M.P.)



Dr. Ravindra Kanhare

Vice Chancellor,
M.P. Bhoj Open University, Bhopal
&

Dr. Arvind Deshmukh

President, Microbiologists Society
of India, promoting National
Journal of Life Sciences (NJLS) &
Life Science Bulletin (LSB) 2017.





Workshop on SOFT SKILL DEVELOPMENT for attaining professional excellence in Science 21-22 Feb. 2017

Workshop on “Soft skill development for attaining professional excellence in Science”, was jointly organized by BER Chapter NASI and Govt. P.G. College Satna on 21-22, February, 2017. The two days workshop objective was to develop soft skills in College teachers for attaining excellence in Science. Invited speakers was Prof. P.K. Chhonkar, IARI Adjunct Faculty, Ex-Head & Professor, ICAR Emeritus Scientist, Past President, Indian Society of Soil Sciences, Delhi. It was attended by large number of PG students, Research scholars, faculty members of Nagod, Amarpatan, Maihar, Waidhan, Rewa, Panna and Satna Colleges.



साफ्ट स्किल का विकास आज की आवश्यकता: प्रो. छोनकर

स्वशासी महाविद्यालय में साफ्ट स्किल डेवलपमेन्ट पर कार्यशाला आयोजित





Workshop on Entrepreneurship & Hands-on Training for **SKILL DEVELOPMENT** 15-16 Nov. 2017



Workshop on

"Entrepreneurship & Hands-on Training for Skill Development",

basically proposed to sensitize and motivate the youngsters on various facets of entrepreneurship.

Workshop was jointly organized by The National Academy of Sciences, India (NASI) & Arogyadham, Deendayal Research Institute (DRI), Chitrakoot at Udyamita Vidyapeeth, DRI, Chitrakoot on November 15-16, 2017.



Inaugural address was given by the Chief Guest, **Prof. N.C.**

Gautam, Vice Chancellor,

Mahatma Gandhi Chitrakoot

Gramodaya Vishwavidyalaya,

Keynote address was given by **Prof.**

V.P. Kamboj, Formerly Director, CDRI,

Lucknow and Presidential address was

given by **Prof. Manju Sharma**, Advisor, New Initiatives, NASI & Former Secretary to Govt. of India, New Delhi.





Workshop on

Entrepreneurship & Hands-on Training for SKILL DEVELOPMENT

15-16 Nov. 2017



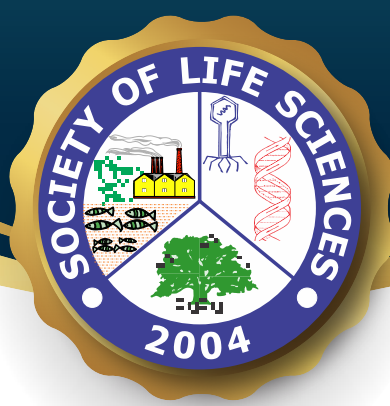
Prof. Shivesh Singh, Secretary NASI-BER Chapter gave brief sketch about various activities being carried out at DRI (on which the participants were imparted guidance/ training).

Dr. Rohit Srivastava, Department of Biosciences & Bioengineering, IIT, Mumbai, Dr. Purnima Sharma, Managing Director, BCIL, New Delhi, Dr. Rajesh Saxena, Senior Principal Scientist, MPCOST, Bhopal, Prof. C.K. Dwivedi, Mohd. Mashkooor, Dr. Aditi Srivastava (NASI), Dr. A.F. Rizvi (IASc, Allahabad), Prof. Rashmi Singh (Govt. College Satna), Dr. Rajesh Dubey, Dr. I.P. Tripathi, Dr. R.C. Tripathi, Mr. Abhishek Singh, Dr. R.S. Negi, Shri Naththu Kushwaha, Dr. R.L.S. Sikarwar, Dr. Manoj Tripathi, Shri Manoj Saini, Dr. Vijay Pratap Singh, Mr. Ram Prakash Sharma (Chitrakoot) were some of resource persons & Coordinators of training sessions. Before initiating the training/ demonstration, the coordinators of respective groups introduced the theme (concept) of the respective activity/ process and after elaborating on the methodology, demonstration was made. The training/ demonstration sessions were coordinated by Ms. Archana Pant, Young Women Scientist, NASI. More than eighty Post Graduate science students of Satna and Students of Lucknow, Varanasi and nearby areas were participated and benefited from this workshop.



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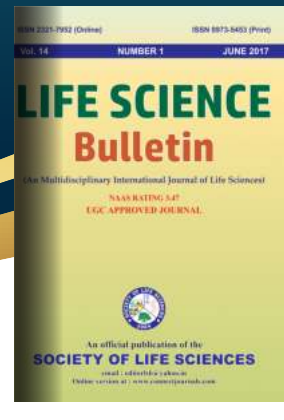
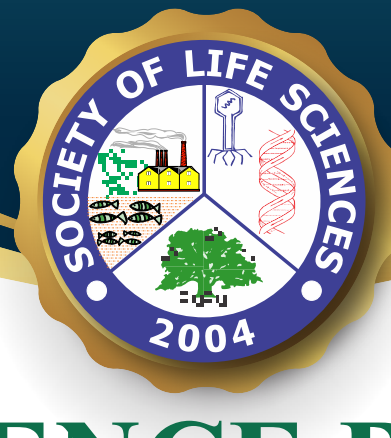
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