



IWSA NEWSLETTER

The Official Publication of the Indian Women Scientists' Association

Volume 53 Issue No. 1

ISSN 0972-6195

January – April 2026



IWSA and Inner Wheel Members at the launch of the book "Creating Learning Garden and Living Museum" at NESCO Convention Centre, Mumbai on 6-3-2026



Recipients of IWSA Scholarships with the chief guest Dr Geetanjali Sachdeva, donors, IWSA members and parents on 4-1-2026



Four-Day Capacity Building Workshop on Ecological Skills & Sustainable Practices from 31-1-2026 to 2-2-2026 at Vengurla by IWSA, Kolhapur branch

HIGHLIGHTS

Launch of the book "Creating Learning Garden and Living Museum - Biodiversity, Conservation and Sustainability"

VIGYAN YATRA (VY)- Reports of VY2, VY3 and VY4 covering 416 students in 5 schools, in rural Maharashtra

Article: Vaginal Hygiene: Practices and Clinical Implications

Women Go-getters: Stories of seven women who made us proud!

BRANCHES

Roorkee 1979, Hyderabad 1979, Pune 1980, Nagpur 1982, Kolhapur 1982, Delhi 1987, Kalpakkam 1987, Baroda 1988, Amravati 2010, Bengaluru 2018, Nellore 2018, Ajmer 2024

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From the Editor's Desk

Dear readers,

We are pleased to present the first Newsletter issue of 2026, covering the variety science outreach programmes from IWSA's Head Quarters and its branches. In the HQ, the new year started with the function for distribution of IWSA's merit-cum-means scholarship awards, where IWSA members, some teachers, award winning students, their parents, and the benevolent donors who instituted the scholarship in the memory of their loved ones, came together. The beautiful function with its warmth, good will and energy truly represented the spirit of IWSA. This was followed by a workshop on adolescent wellbeing, three more Vigyan Yatras, sixteen BRNS talks, science day and women's day programmes and many other events from branches and HQ. The details of all these programmes are covered here.



This issue contains a very practical and useful article on vaginal hygiene by Dr Santoshi Prabhu. Dr Seema Das, Jt. Secretary, IWSA HQ has shared the unique experience of her Himalayan trek, one of the most biodiverse and vulnerable landscapes in India. We are also happy to highlight the profile of seven women, who made significant achievements / were honored during this time. A beautiful poem by Dr. Susan Eapen, our senior member and Ex Trustee, expressing a profound view on continuity and connectivity of the whole universe as a single entity is also included. **We look forward to many more such creative inputs from you.**

We are trying to report all the important and exciting events happening in IWSA HQ as well as all the branches promptly in the respective issues and **will appreciate receiving regular updates after each event.** We request all to send **feedbacks so that our contents and presentation can be improved.** We would love to hear from you. The email for communication is iwsa.newsletter2123@gmail.com

--- Dr Dhanya Suresh

(dhanya.mangala@gmail.com)

Know your IWSA – Try this short Quiz and Feel Proud!

1. The **newest IWSA branch** established in 2024.
2. The theme of the **XVI Triennial Conference** and the branch which hosted it.
3. IWSA's programme encouraging **young school students to develop a deep understanding and interest in mathematics.**
4. One of the **Founder members of IWSA**, who was a pioneer in cancer research and was a recipient of **Padmabhushan.**
5. Programme conducted in 2025, **encouraging engineering students to build AI models.**
6. The **renovated Hall in IWSA HQ** is named after whom?
7. IWSA's **rural science outreach** initiative launched in 2025.
8. IWSA's initiatives towards **women empowerment.**
9. The branch which gives talks through **Knowledge and Awareness Mapping Platform (KAMP).**
10. The facility in IWSA, which allows **children to gain first-hand experience of nature.**

President's Message

Dear Members and Friends,

Greetings!

As we step into the first quarter of 2026, I am both pleased and proud to see our regular projects moving forward with sustained momentum. Initiatives such as the BRNS lectures, Vigyan Yatra, and Ganit Pratiyogita continue to inspire and educate. Our branches deserve special mention for working tirelessly towards our shared objectives. Some of them have demonstrated remarkable enthusiasm despite facing numerous challenges.

On 10th January, our Health Care Centre at HQ organised an interactive lecture-workshop on 'Promoting Health and Adolescent Well-being'.



Women Empowerment: We achieved a significant breakthrough by organising a specialized training course for the women inmates of Thane Central Jail.

This training was conducted by our ECCE team in the month of March. This crucial initiative aims to help them become emotionally and financially independent, ultimately paving the way for their successful reintegration into mainstream society.

Book Launch: On 6th March, we officially launched IWSA's new book on Biodiversity. We extend our heartfelt gratitude to Inner Wheel 314 for their generous support in making this publication possible.

We are thrilled to introduce several fresh segments in this newsletter edition to enhance your reading experience:

Science Poetry: A beautiful poem by Dr. Susan Eapen that masterfully explains the journey of a scientific element in a poetic style.

Adventure Chronicles: An exciting, first-person trekking experience.

Interactive Content: The newly launched IWSA Quiz to test your knowledge.

These new features were designed with you in mind. We would love to hear your thoughts on these additions and warmly welcome any suggestions you may have. Your input helps us make our newsletter more interesting, engaging, and informative.

Thank you for your continued dedication and support.

Dr Nootan Bhakal

Email: nootanbhakal@gmail.com

Reports from Head Quarters

Science Awareness Programmes

A.IWSA – BRNS Popular Science Lectures for Colleges

These lectures were conducted onsite at various colleges on the topics of their interest. The speakers were identified by IWSA. Students from FY BSc to MSc attended the lectures along with faculty. The audience was informed about IWSA and the college for each lecture. The lectures were followed by active discussions with the speakers.

1. Genome editing: The Future Genetic Engineering

Date: 27th January, 2026

Speaker: **Dr Rehna Augustine**, Centre for Plant Biotechnology & Molecular Biology, KAU, Thrissur
Venue: Dept. of Biosciences, MES College, Aluva, Kochi

Outreach : 120



Abstract 1: CRISPR-Cas9 is a genome-editing technology adapted from a bacterial immune system that enables precise, targeted changes to DNA. It uses a guide RNA to direct the Cas9 nuclease to a specific genomic sequence, where Cas9 creates a double-strand break. The plant's natural DNA repair pathways then introduce small insertions/deletions (via non-homologous end joining) to disrupt gene function, or precise sequence changes to alter traits with high specificity. In crop improvement, CRISPR-Cas9 accelerates breeding by creating desirable variation directly in elite cultivars, reducing the time required compared with conventional crossing. Because edits can be made without introducing foreign DNA, CRISPR-edited crops face simpler regulatory pathways than transgenic GMOs in India. The speaker presented the details of CRISPR-Cas9, a powerful, flexible platform for developing climate-resilient, nutritious and sustainable crops..

2. Bio Science Led Entrepreneurship for Bharat

Date: 6th February, 2026

Speaker: **Ms. Saloni Godbole Tewari**, Co-Founder, Occamy Bioscience Pvt. Ltd.
Venue: **DY Patil School of Biotechnology and Bioinformatics**, Navi Mumbai.

Outreach: 97



Abstract 2: India urgently requires bioscience-led entrepreneurship to propel its journey toward becoming a developed nation, or Viksit Bharat, by 2047. As the world's largest democracy grapples with challenges like food insecurity, climate vulnerability, and rural distress, biosciences offer scalable, sustainable innovations tailored to our agrarian economy and burgeoning population.

Backed with Government support - Funding, Women-led opportunities, AI encouragement fuelled by BIRAC, DBT schemes, and VC funding, opportunities are ready to be grabbed.

By fostering homegrown IP, skill ecosystems, and public-private partnerships, bioscience startups can generate millions of jobs, export bio-products worth \$100 billion, and ensure inclusive growth.

This talk outlined actionable pathways for bio scientists to build resilient enterprises, transforming India's challenges into global opportunities and a holistic approach towards making money while contributing to our country's progress.

3. Microbiome Revolution: From Diagnostic Insights to Life-Saving Therapeutics

Date: 17th February, 2026

Speaker: **Dr Varun Aggarwala**, Founding Faculty of Biomedical & Life Science, Artificial Intelligence and Data Science & Principal Investigator: Microbiome Therapeutics Laboratory, Jio Institute, Navi Mumbai, India

Venue: **Department of Microbiology, PTVA's Sathaye College (Autonomous)**, Vile Parle (E), Dixit Road, Mumbai

Outreach: 77



Abstract 3: The human microbiome has emerged as a cornerstone of modern medicine, fundamentally shifting our understanding of health from a human-centric model to a symbiotic one. This talk explored the current landscape of the microbiome industry, focusing on the trio of Diagnostics, Wellness, and Therapeutics. The speaker discussed the transition from simply "mapping" the gut to developing actionable interventions, including applications across skin and vaginal verticals, that demonstrably improve human health. A significant portion of this evolution is driven by clinical innovation. Drawing from his own research, the speaker discussed the efficacy of Whole Stool Faecal Microbiota Transplantation (FMT) and the "predictors of success" that determine patient response. Furthermore, the future of "precision probiotics," moving from crude FMT to Live Biotherapeutic Products (LBPs), was looked into. He also shared insights from their recent clinical trial highlighting how defined microbial consortiums are setting new standards for therapeutic predictability and scalability, moving beyond the limitations of whole stool FMT.

Attendees got a clear understanding of the current "state of the art" techniques and the vast professional opportunities awaiting the next generation of scientists in this rapidly expanding field.

4. Reigning Superbugs, useless drugs: What do we do?

Date: 24th February, 2026

Speaker: **Dr Roopa Viswanathan**, Infection Control Consultant, Founder and CEO, Qualilife Diagnostics, Mulund, Mumbai

Venue: **Dept. of Microbiology, Jai Hind College, Mumbai**

Outreach: 102



Abstract 4: The "silent pandemic" of anti-microbial resistance is one of the top 10 global health concerns which is challenging and reversing the gains of modern medicine.

Microorganisms are evolving in such a way that they are rendering the anti-microbial agents ineffective. Widespread abuse and misuse of antibiotics in humans, agriculture and animal husbandry have been linked to this phenomenon. Public awareness, global one health initiative encompassing synchronised interdisciplinary action amongst humans, environment and animals and strong antimicrobial stewardship practices may help in containing this menace. The speaker talked about these aspects in detail.

5. Breast Cancer in Young Women: Causes, Challenges and Therapeutic Opportunities

Date: 28th February, 2026

Speaker: **Dr Nandini Verma**, Asst. Prof. HBNI, Mumbai & PI, TMC-ACTREC, Kharghar

Venue: **Sophia College for Women, Mumbai**

Outreach: 75



Abstract 5: Breast cancer is a very heterogeneous disease with different pathology, progression and outcomes to treatment. Breast cancer in women of younger age represents a biologically aggressive and clinically challenging entity, particularly in India, where a disproportionately high fraction of patients presents at a young age. Young-onset tumours frequently display high-grade, genomic instability, metabolic rewiring, and enrichment of subtypes such as Triple-Negative Breast Cancer (TNBC). Pre-clinical and clinical investigations have identified the molecular drivers of early-onset disease, including defects in DNA repair (e.g., BRCA1-associated pathways), epigenetic reprogramming, redox imbalance, and altered lipid and iron metabolism. The work in ACTREC is focused on questions that how aggressive breast cancer cells gain drug resistance and metastatic capabilities. The speaker's lab had identified some early and sustained cellular and molecular reprogramming under the influence of chemotherapeutic drugs that can shape therapeutic responses in young TNBC patients. Their studies integrating patient-derived samples, functional assays, and translational models explore how iron metabolism, ferroptosis sensitivity, and reactive oxygen species dynamics-associated regulators influence tumour progression and recurrence risk. These ongoing efforts can help develop predictive biomarkers and AI-assisted risk models tailored to Indian cohorts. Beyond experimental biology, there are clinical challenges unique to young women-fertility preservation, treatment resistance, and survivorship. The speaker talked about developing translatable therapeutic options that can improve outcomes for young women with aggressive breast cancer through research, by connecting bench discoveries to patient-centred strategies.

6. Brain plasticity to improve concentration and to reduce attraction to social media

Date: **4th March, 2026**

Speaker: **Dr Baby Chakrapani**, Asst. Prof.,
Dept. of Biotechnology, CUSAT & Director,
Centre for Neuroscience (CUSAT)
Venue: **Dept. of Biosciences, UC College,**
Aluva, Kochi, Kerala

Outreach: 135



Abstract 6: In an age where screens are everywhere, many of us find ourselves scrolling longer than intended, feeling uneasy without our phones or turning to devices for emotional comfort. But what is happening inside our brains when digital use becomes compulsive? This lecture explored the science behind digital addiction, revealing how excessive screen time rewires the brain's reward pathways. We delve into the roles of dopamine—the “feel-good” chemical that keeps us scrolling- and serotonin, which governs emotional stability. When these neurochemicals fall out of balance, mood swings, anxiety, and emotional dependence on devices can follow. More importantly, we look beyond the problem to the solution. By understanding how screens affect brain chemistry, we can take practical steps to restore balance-through real-world connection, mindful technology use, and activities that naturally support emotional well-being. The talk conveyed that the solution is not in abandoning technology, but in reclaiming control and nurturing a healthier relationship with our digital lives.



I am a Planthopper, from the family **Dictyopharidae**.

We planthoppers are insects in the order Hemiptera, related to cicadas and leafhoppers. We are characterized by our specialized mouthparts, which we use to suck phloem sap from the plants. Many species, particularly in the related family Fulgoridae, have a distinctive often elongated snout-like head process. You may find my family anywhere in the world, with nearly 760 species, we are spread worldwide.

Photo and details by **Dr. Manisha Karpe**, IWSA member, HQ.
(Ruia College, Mumbai).

B. IWSA – BRNS Popular Science Lectures for Schools

These lectures were conducted onsite at various schools on the topics of interest as advised by the principal. The speakers were identified by IWSA. Students from classes- 8th Std to 12th Std attended the lectures.

1. Cyber Security

Date: 9th January, 2026

Speaker: **Shri Mallikharjuna Rao M**,
Tech C, ACTREC Tata Memorial
Centre, Kharghar

Venue: **S. S. S. Global School, D.S.
High School Campus, Sion, Mumbai**

Outreach: 175



Abstract 1: In today's digital world, data is the new currency, and cybercriminals are constantly finding new ways to steal, manipulate, or destroy it. Cybersecurity awareness is the practice of understanding online risks and knowing how to protect yourself, your devices, and your Data from cyber threats. The talk provided essential insights into cybersecurity awareness, types of threats, best practices, and legal frameworks in India. Examples were given about different types of Cyber threats, Common Password threats, Social Media frauds, AI driven frauds & complaint portals and helplines to stay safe online. Cybersecurity is a collective responsibility. Cybersecurity awareness is crucial in protecting data from cybercriminals. Understanding online risks and protective measures is essential. Cybersecurity is an ongoing habit and involves everyone. The talk emphasized that awareness is the strongest defense against cyber threats.

2. Warriors for Change

Date: 20th January, 2026

Speaker: **Ms. Samjucta Mokashi Rao**,
Partner, Environact Consultancy, Mumbai,
Research scholar, Ramnarain Ruia
Autonomous College, Mumbai

Venue: **Bright High School and Jr.
College, Bhandup West, Mumbai**

Outreach: 100



Abstract 2: This awareness session focused on educating the young generation about the environmental hazards that would create a great impact on their future. It highlighted how E-waste management at household level, i.e., '**at source**' segregation and channelized management can have a long-term impact.

3. Chemical Bonding and Molecular Structure: Foundations of Materials, Technology and Modern Applications

Date: 23rd January, 2026

Speaker: **Ms. Tullika Sinha**, Founder,
Encore, Mumbai

Venue: **New Horizon Public School, Sec-13,
Khanda Colony, New Panvel (E)**

Outreach: 110



Abstract 3: Chemical bonding and molecular structure form the fundamental basis of all matter, determining the physical, chemical and functional properties of substances. This lecture explored how different types of bonds- ionic, covalent and metallic- and variations in molecular geometry influence the behaviour of materials in the real world. Moving beyond purely theoretical definitions, the talk emphasized how atomic- level interactions shape everyday objects, from metals and plastics to semiconductors and energy materials.

4. From Science Fiction to Reality: AI and Robotics

Date: **12th February, 2026**

Speaker: **Ms. Sarala Margaret Mary**, Assistant Professor, Department of CSE (Data Science) A. P. Shah Institute of Technology, Thane, Maharashtra

Venue: **Green Valley English School, Diva, Thane Dist**

Outreach: 199



Abstract 4: Artificial Intelligence (AI) and Robotics are exciting technologies that are transforming the way we live, learn and play. From smart voice assistants and self-driving cars to robots that help doctors and astronauts, AI and robotics are becoming a part of our everyday lives. AI helps machines think, learn, and make decisions, while robotics brings these intelligent ideas to life through machines that can move, sense, and perform tasks like humans.

This talk introduced young minds to the fascinating world of AI and robotics in a simple and fun way. Ms. Sarala explained how these technologies work, where we see them around us, and how students can start learning about them even at a young age. Most importantly, it inspired students to be curious, creative, and responsible innovators who can use technology to solve real-world problems and build a better future.

5. Play and learn The Periodic Table

Date: **21st February, 2025**

Speaker: **Mr. Nikhilesh Nav Vigyan**, Scientific Officer F, Hydrometallurgy & Rare Earth Development Section, Materials Processing Division, Materials Group, BARC, Mumbai

Venue: **Adarsh English School & GSB Mandal's S. A. Pai Memorial School, Dombivli, Thane (Dt)**

Outreach: 128



Abstract 5: Many find chemistry difficult because they are learning it the wrong way. The periodic table is the Ka, Kha and Ga of chemistry not A, B, C of chemistry because it is well classified like a more refined Devanagari script in comparison to random English alphabets. Unless the pattern is unlocked, chemistry will be difficult. The session showed how to unlock the patterns and trends in the periodic table using card games.

6. Laser, the Wonder Ray of the 20th century

Date: **21st February, 2025**

Speaker: **Dr Lalitha Dhareshwar**, Retd. Head, Laser and Neutron Physics Division, BARC

Venue: **C P Goenka International School, Sector 5, Ulwe, Wahal, Navi Mumbai**

Outreach: 210



Abstract 6: The LASER beam, dubbed the ‘Wonder Ray’ of the 20th century, originated from Albert Einstein’s discoveries on the light-matter interaction. Its versatile properties have led to extensive applications, from surgical tools to telecommunication, integrating lasers into daily life. Invented by Theodore Maiman in 1960, solid-state lasers have advanced significantly, now covering wavelengths from infrared to X-rays. These lasers have been developed with ultra-short pulse durations leading to extremely high intensities. Notably, some lasers can replicate extreme temperatures similar to those in the sun. Laser scientists have received Nobel Prizes for their work in this field. This talk explored the basic principles of lasers and showcased practical optics demonstrations.

C. IWSA– BRNS “Science and Our Life” (SAOL) Series of Webinars

The following webinars were conducted online through Zoom platform during January to April 2026 under “Science and Our Life” (SAOL) Series.

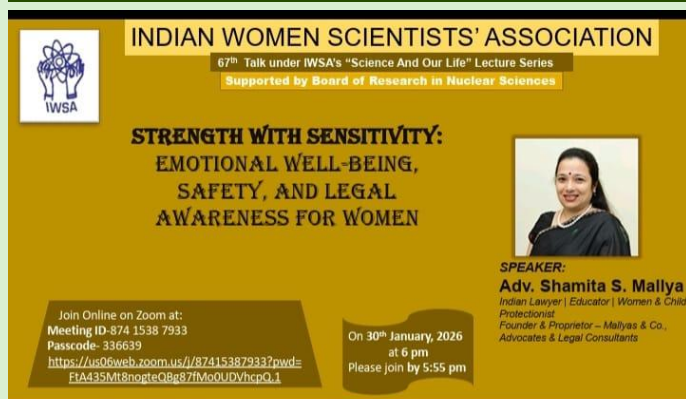
67th SAOL

Strength with Sensitivity: Emotional Well-being, Safety, and Legal Awareness for Women

Date: 30th January, 2026

Speaker: **Adv. Shamita S. Mallya**, Indian Lawyer | Educator | Women & Child Protectionist
Founder & Proprietor – Mallyas’ & Co., Advocates & Legal Consultants

Outreach: 30



INDIAN WOMEN SCIENTISTS' ASSOCIATION
67th Talk under IWSA's "Science And Our Life" Lecture Series
Supported by Board of Research in Nuclear Sciences

**STRENGTH WITH SENSITIVITY:
EMOTIONAL WELL-BEING,
SAFETY, AND LEGAL
AWARENESS FOR WOMEN**

SPEAKER:
Adv. Shamita S. Mallya
Indian Lawyer | Educator | Women & Child Protectionist
Founder & Proprietor – Mallyas & Co.,
Advocates & Legal Consultants

Join Online on Zoom at:
Meeting ID-874 1538 7933
Passcode- 336639
<https://us06web.zoom.us/j/87415387933?pwd=FlA4Smt8n0pte0Bgc87lMo0UDVhcnQ1>

On 30th January, 2026
at 6 pm
Please join by 5:55 pm

Abstract 67: This special session addressed the emotional, psychological, and social challenges that women face in both their personal and professional lives. It addresses key concerns such as domestic and workplace safety, relationship and marital conflicts, and the importance of understanding legal rights in a simple, accessible manner. The session also explored how and when to seek help without fear or stigma.

A core emphasis was placed on helping women navigate difficult situations with clarity, self-worth,

and dignity. Participants learnt about boundary setting, informed decision-making, and the delicate balance between forgiveness, standing one's ground, and knowing when it is wise to step away gracefully, without unnecessarily damaging relationships or families.

Rather than being a purely legal discussion, this session was about creating a safe, compassionate space for reflection and dialogue. It aimed to empower women with confidence, emotional strength, and practical guidance to protect themselves—both legally and emotionally—while maintaining inner peace, self-respect, and balance in their lives.

<https://youtu.be/n5o07bL1W-Q>

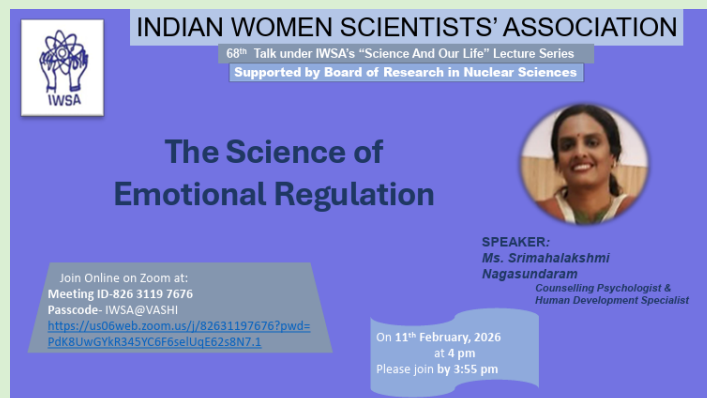
68th SAOL

The Science of Emotional Regulation

Date: 11th February, 2026

Speaker: **Ms. Srimahalakshmi Nagasundaram**, Counselling Psychologist & Human Development Specialist

Outreach: 39



INDIAN WOMEN SCIENTISTS' ASSOCIATION
68th Talk under IWSA's "Science And Our Life" Lecture Series
Supported by Board of Research in Nuclear Sciences

**The Science of
Emotional Regulation**

SPEAKER:
**Ms. Srimahalakshmi
Nagasundaram**
Counselling Psychologist &
Human Development Specialist

Join Online on Zoom at:
Meeting ID-826 3119 7676
Passcode- IWSA@VASHI
<https://us06web.zoom.us/j/82631197676?pwd=Pdk8UwGYR345YCF6seUqE62s8N7.1>

On 11th February, 2026
at 4 pm
Please join by 3:55 pm

Abstract 68: Emotional regulation is a fundamental life skill that shapes how individuals think, respond, connect with others, and cope with everyday challenges. Whether in learning, work, relationships, or personal growth, the ability to manage emotions effectively plays a central role in wellbeing and performance. This webinar explored emotional regulation from a psychological perspective, helping participants understand why emotions sometimes feel overwhelming and how they influence attention, decision-making, behavior, and motivation.

The session introduced key psychological concepts such as emotional awareness, stress responses, emotional reactivity, and self-soothing, explaining how everyday pressures can push people into states of anxiety, shutdown or impulsive reaction, using the ideas of emotional patterns experienced across life situations, including work stress, performance pressure, interpersonal conflict and change. Through relatable real-life examples, the webinar highlights practical ways individuals and leaders can support emotional balance—both in themselves and others—through simple, psychologically informed responses. Designed for a general audience across fields, the session bridges science and everyday experience, offering accessible tools to strengthen emotional regulation, resilience, and adaptive coping.

https://youtu.be/CUZ_0HvDJVg

69th SAOL

From the Lab to Life: Science Communication as a Second Career

Date: 14th February, 2026

Speaker: **Dr A. P. Jayaraman**, Past Chairman, National Centre for Science Communicators, India

Outreach: 23



INDIAN WOMEN SCIENTISTS' ASSOCIATION

69th Talk under IWSA's "Science And Our Life" Lecture Series
Supported by Board of Research in Nuclear Sciences



**From the Lab to Life:
Science Communication
as a Second Career**

SPEAKER:
Dr. A. P. Jayaraman
Past Chairman,
National Centre for Science Communicators,
India

On 14th February, 2026
at 6 pm
Please join by 5:55 pm

Join Online on Zoom at:
Meeting ID- 864 4678 1766
Passcode- IWSA@VASHI
<https://us06web.zoom.us/j/86446781766?pwd=p6WbecD1b5CcQ2RmeuPgZqQ0KBZdt9W.1>

Abstract 69: Science communication today has moved far beyond the simple transmission of facts. Contemporary theory emphasizes dialogue over dissemination, trust over authority, and social context over technical perfection. This talk situates science communication within these evolving frameworks, including public engagement models, narrative-based communication, and the ethical responsibility of scientists in an age of misinformation and technological anxiety.

Drawing from personal experience within the Department of Atomic Energy and later as a full-time science communicator, the speaker reflects on how rigorous scientific training enables credibility, clarity, and restraint in public communication. Special reference is made to the Indian tradition of people's science movements, particularly the work of KSSP, which demonstrated how science communication can strengthen scientific temper, democracy, and social development when conducted in the language of the people.

The talk proposes science communication as a natural and meaningful second career for senior scientists—especially women—transforming accumulated expertise into public wisdom. It argues that extending science into society is not a departure from research, but its most enduring legacy.

<https://youtu.be/uu8cFMixdVo>

70th SAOL

Economic Empowerment of Women through Application of Science & Technology for Food, Nutrition, Health & Livelihood Security

Date: 11th February, 2026

Speaker: **Dr Vijaya Khader**, Former Dean, ANGRAU, Hyderabad; Former PI, Food Technology, e-PG Pathshala; Former Chairperson, Task Force Committee on Biotechnology based programmes for Women

Outreach: 32



INDIAN WOMEN SCIENTISTS' ASSOCIATION

70th Talk under IWSA's "Science And Our Life" Lecture Series

Supported by Board of Research in Nuclear Sciences



SPEAKER:
Dr. Vijaya Khader

- Former Dean, Acharya N G R A University, Hyderabad
- Former Principal Investigator, Food Technology, e-PG Pathshala,
- Former Chairperson, Task Force Committee on Bio-Technology Based Programs for Women
- Convener of Hyderabad Branch, Indian Woman Scientist Association (IWSA)

Economic Empowerment of Women through Application of Science & Technology for Food, Nutrition, Health & Livelihood Security

On 24th February, 2026 at 6 pm
Please join by 5:55 pm

Join Online on Zoom at:
Meeting ID-853 8041 2684
Passcode- IWSA@VASHI
<https://us06web.zoom.us/j/85380412684?pwd=LXKEYLOZ9DtuxLGN9PpTqAngDmHNFn.1>

Abstract 70: Interventions utilizing various technologies have significantly improved food and nutrition in rural populations. Notably, malt-based foods have empowered rural women by creating entrepreneurship opportunities, thereby enhancing food security through increased income. Initiatives under the National Agricultural Technological Project have introduced value-added fish products and patented technologies like a low-cost ice cream freezer and a fresh fish vending table, benefiting women in Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu.

Additionally, food product development serves as an income-generating activity, particularly for illiterate women, contributing to improved child nutrition. Diversifying horse gram for human consumption and introducing amylase-rich supplementary foods have been favored for their nutritional benefits. Furthermore, red palm oil has been promoted to address vitamin A deficiency, and women's supplementary incomes positively influence family nutrition.

<https://youtu.be/Ce40Kios8aw>

D. Ganit Pratiyogita – Valedictory Function

Date: 17th January 2026

Chief Guest: **Dr Vaishali Veer, Education Inspector of South Mumbai Zone**

Guest of Honour- **Shri Vijay Shukla, Principal, AECS 3, Anushaktinagar**

Venue: **Soonu Naval Godrej Hall, IWSA, Vashi**

Outreach: 140

Twelve toppers from CBSE and fourteen from SSC boards, (studying in 6th, 7th and 8th standards) who procured the first, second and third positions in the IWSA Ganit Prati Yogita examination held on 30th November (CBSE) and 14th December (SSC) 2025 were felicitated with certificates and cash prizes. The function was attended by students, their parents, and teachers from AECS, Anushaktinagar as well as SSC board schools in Navi Mumbai. Many members and well-wishers of IWSA also attended the function. Dr Vaishali Veer, Mr. Vijay Shukla and other teachers congratulated and motivated the students.



Answers to the Quiz - Know your IWSA

1. Ajmer
2. Theme: Science and Technology of Natural Aromas for Societal Benefits and Women Empowerment, organised by Kolhapur branch
3. Ganit Pratiyogita
4. Dr. Kamal Ranadive
5. NANO R1 Challenge
6. Mrs. Soonu Naval Godrej
7. Vigyan Yatra
8. G M Abhyankar Day Care Centre and Jitendra Mafatlal Mehta Working Women's Hostel, ECCE course, Scholarship for girls pursuing science, Various workshops encouraging women to take up jobs / entrepreneurship.
9. Delhi
10. Learning Garden

E. “Vigyan Yatra,” (VY) the science outreach programme in Zilla Parishad Rural Schools

Second Vigyan Yatra- VY2 with theme “Water”

Date: 2nd February, 2026

Schools covered: ZP Schools at Apta and Chaavne

Volunteers: 6 IWSA members and 2 SYBSc (Chemistry) student volunteers from Rajiv Gandhi College, Vashi and a videographer

Outreach: 80 students (5th to 7th standards) and 3 teachers at Apta; 70 students (3rd to 8th Standards) and 3 teachers at Chavne.

Prior to this outreach, the interns underwent two days of intensive training at IWSA, which included familiarization with scientific concepts, sequencing of experiments, and handling of apparatus and materials. Their knowledge of Marathi greatly facilitated communication with students at both Zilla Parishad schools.

Apta is situated 40 kms from Vashi. The session in Apta began at 11.00 am with a Marathi poem on water, introducing the theme “Water – its properties and uses.” Students were introduced to the water cycle, sources of water, and river formation using simple DIY models. The three states of water and its role in digestion and excretion were explained using charts. Key scientific concepts such as pH, acids and bases, and the importance of hydration were demonstrated using kitchen materials and indicator papers. Five major properties of water were demonstrated through hands-on experiments:

Density and buoyancy: oil and water, ice floating, egg in salt water, peeled vs unpeeled oranges, hydrometer/lactometer. **Incompressibility:** water-filled balloons, syringe experiment, and a DIY hydraulic lift. **Surface tension:** floating pin, carrom seeds with soap, soap bubbles and films, water strider and mosquito slides. **Capillary action:** tissue absorption, coloured water transfer, glass tubes of varying diameters, spider lily flowers, and xylem tissue under a microscope. **Practical applications** were shown through a DIY rotating water sprinkler and a hydropower model lighting an LED. All concepts were explained in Marathi and Hindi.

Chaavne is near to Apta, 43 km from Vashi. The session again began with the Marathi poem on water. Considering the younger age group, simplified versions of key demonstrations were presented, covering the water cycle, digestion, pH, density and buoyancy, incompressibility, surface tension, capillary action, water striders, mosquito life cycle, and the DIY water sprinkler. The children followed the demonstrations with keen interest and expressed their appreciation individually.

Educational materials such as Books from the IWSA library and DAE publications on Sir C.V. Raman and Dr Homi Bhabha in Marathi were distributed along with seed pencils made from recycled paper to promote sustainability.

Conclusion

The second Vigyan Yatra successfully delivered interactive, hands-on science education using simple materials and local language, fostering curiosity, understanding, and enthusiasm for science among rural school students.

IWSA volunteers were Dr Lalitha Dhareshwar, Dr Suparna Kamath, Ms Tripta Tewari, Ms Sukhvinder Sandhu. Ms Subhashini and Ar Sonam Ambe.



Third Vigyan Yatra- VY3 with theme “Our earth – Soil, Water and Environment”

Date: 25th February, 2026

Schools covered: ZP Schools at Belavalli and Kharpada, Pen Taluka

Volunteers: 9 IWSA members

Outreach: 80 students (6th – 8th standards) at Belavalli and
80 students (6th – 8th standards) at Kharpada

This trip was organised as a part of the National Science Day outreach programme. The theme on which the experiments were based was “Our earth – Soil, Water and Environment”. The session began with an introduction of the theme followed by an introduction to Dr C. V. Raman and the significance of the National Science Day, celebrated on 28th February in honor of his discovery of Raman Effect. Reading out two poems on soil and water in Marathi set the tone of the day. This was followed by discussion on the **different layers of earth and their properties** and origin of the **magnetic field of earth**, which was demonstrated with bar magnets. Two engaging experiments were demonstrated-a levitating magnet experiment and A simple dynamo model converting wind energy into light.

Three states of water and the **water cycle** was followed by a demonstration of **electrolysis of water and separation into hydrogen and oxygen**. Importance of **rainwater harvesting**, **conservation of soil** on mountain slopes and **afforestation** were emphasized. The structural design and shape considerations involved in building bridges was explained on the basis of the highest strength offered by triangular sections which are used in all the bridges. The importance of vegetation around bridges was explained using a Tradescantia plant and this was used to introduce root systems.

Different types of soils and their properties were covered along with experimental determination of the water content. Chemical nature of the soil and its pH were discussed along with experimental determination of pH. This led to the introduction to indicators, along with demonstration of natural indicators, how colour of flower changes with soil pH, colour changes in vinegar, lime water etc which were exciting to the children. The essential soil minerals, importance of NPK, nitrogen fixation by leguminous plants were followed by microorganisms in soil, air, water and our bodies, both useful and harmful. The two key processes, absorption and transpiration in plants were discussed and the work of Dr J. C. Bose was referred to.

A short experiment was demonstrated to show how the percentage of potable water on earth's surface is just 0.3 to 0.5% of the total water on Earth which makes it extremely important that we conserve this pure potable water.

The beautiful connection between Nature and Mathematics was brought out through the Fibonacci sequence and Spiral patterns found in plants, and also in galaxies, tornadoes etc. The session concluded with discussions on water conservation and a demonstration of a water sprinkler, which the students thoroughly enjoyed. The working of this simple version based on Newton's third law of motion as well as how such a sprinkler for their fields can be made using inexpensive parts were explained to them.

DAE picture books in Marathi on scientists were distributed along with some books from IWSA library.

IWSA Members who participated in this trip are- Dr Lalitha Dhareshwar, Dr Srirupa Mukherjee, Dr Maitrayee Paul, Dr Seema Das, Ar Sonam Ambe, Ms. Bhuvneshwari, Ms. Tripta Tewari, Ms. Manashi Chakravarty, Ms. Aaria Nair (intern).



Fourth Vigyan Yatra- VY4 with theme “Air”

Date: 27th March, 2026

Schools covered: ZP School at Navgav, Alibag Taluka, Raigad (Dt)

Volunteers: 7 IWSA members and the group of Dr Chintamani Pai

Outreach: 100 students (2nd to 10th standards)

This school is under the **PM SHRI SCHOOLS (PM schools for Rising India)**. Theme of the Programme was **AIR**, focusing on explaining the properties, composition, importance, and applications of air through experiments, demonstrations, and interactive sessions.

Origin of Earth and the Atmosphere, different atmospheric layers, Importance of oxygen, oxygen cycle and the respiratory system in humans and animals were all explained and simple experiments were shown. Many engaging experiments using simple apparatus, balloons etc. were shown to demonstrate the **properties of air**.

Air pollution caused by human activities, causes, effects and prevention/reduction of air pollution, were elaborated and **role of air in pollination** was explained. **Measurement of Air and Wind** was demonstrated by using a **DIY barometer** (to measure air pressure) and an **anemometer** (to measure wind speed). **The importance of wind energy** and a working model demonstrating the **generation of electricity using wind energy (wind mill)** was shown.

Airborne Diseases and preventive measures for spreading of germs through air were discussed. **A skit on Respiration and Fermentation** was performed, involving the students. The session demonstrated how **air plays a vital role in helping our body derive energy from food**, using yeast as a model organism and other simple materials such as sugar and warm water. To enhance understanding, a role play was conducted depicting the metabolic pathways of food breakdown and importance of oxygen from air.

Dr Chintamani Pai explained **the principles of flight** and demonstrated how air enables airplanes to fly. He also showcased drones, and students enjoyed observing drone flights and understanding their principles.

Picture books on scientists such as Homi Bhabha, Marie Curie, and Vikram Sarabhai from DAE were donated to the school library and notebooks, pencils, and lozenges were distributed.

Conclusion: The Vigyan Yatra-4 programme was highly interactive and well-received by the students. It successfully combined theoretical knowledge with practical demonstrations, making science enjoyable. The initiative provided a valuable learning experience and fostered curiosity among rural students.

The volunteers for this programme: Dr Lalitha Dhareshwar, Dr Srirupa Mukherjee, Dr Maitrayee Paul, Dr Seema Das, Ms Vijaya Tilak, Ms Priya Jacob, Ms Tripta Tewari were the IWSA volunteers along with Dr Chintamani, Master Abhijit Singh and Master Shubham.



F. IWSA – Student Internship Programme

1. Title: **Green Auditing of IWSA's Learning Garden and Living Museum Project**

Institution: **V. G. Vaze College of Arts, Science and Commerce (Autonomous), Mulund East, Mumbai. Department of Botany**

Number of students: **4 (TY BSc students)**

Faculty Mentor: **Prof Jatin Vaity**

IWSA Coordinator: **Dr Paramjit Anthappan**

IWSA Mentors: **Dr Rita Mukhopadhyaya, Ms Vijaya Chakravarty, Ms Priya Jacob, Dr Yojana Singh, Ms Malathi Rao, Dr Sweedle Shivkar Prof Manminder Riyat (KBP College) and Prof Ruby Sara Roy (Bhavan's College)**

Duration: **16th December 2025 – 30th April 2026**

Abstract: The internship project was **aimed at** mentoring interns for the preparation of a green audit report of IWSA's Learning Garden set up in 2018. The primary goals of the audit were to assess current sustainability practices (water, energy, and waste), establish environmental baselines, and raise awareness among students and staff. The audit followed a three-phase process including **Pre-Audit Stage:** Defined the scope, targets, and protocols through stakeholder meetings; **Audit Stage:** Involved exhaustive data collection via site inspections, questionnaires, interviews, and reviews of documents like plantation lists and biodiversity registers; and **Post-Audit Stage:** Focused on analyzing data, identifying best practices, and formulating an action plan to address identified shortcomings.

The **pedagogy adopted** during the internship period combined fieldwork, guidance by invited expert mentors, visit to a green audited campus, onsite tests, samplings at Vaze college lab, literature search, and digital learning. **The learning outcomes** expressed by interns included knowledge enrichment and skill empowerment for scientific and cultural plant documentation. Besides their work highly appreciated and commended by the college authorities in terms of valuable experience and insights gained during their internship, which has significantly contributed to their academic and professional growth. **Impact outcome** included the contribution of an article on the green audit in an IWSA publication book entitled **Creating Learning Gardens & Living Museums-Biodiversity, Conservation & Sustainability**.



2. Title: **Scientific & Economic Aspects of Trees / Plants in Learning Garden**

Affiliation: **Karmaveer Bhaurao Patil College, Vashi (Empowered Autonomous),**

Number of students: **20 (SY BA students from Economics Department)**

Faculty Mentor: **Prof Pooja Dhayalakar**

IWSA coordinator: **Dr Paramjit Anthappan**

IWSA Mentors: **Ms Vijaya Chakravarty, Ms Priya Jacob, Ms Manik Gade, Dr Srirupa Mukherjee, Ms Malathi Rao and Dr Sweedle Shivkar**

Duration: **4th February 2026 – 28th March 2026**

Abstract: The internship/community engagement project was **aimed at** mentoring students for documentation of content pertaining to the scientific and cultural aspects of economically important trees and plants in a learning garden. This content after editing could be useful for building useful resources for education and community awareness. Around 80 different types of trees and plants were documented in 189 pages online and submitted for edits.

The **pedagogy adopted** during the internship period combined an educational tour around IWSA learning garden, literature search in IWSA and KBP libraries, digital Report writing and submissions. Besides students were exposed to relevant online IWSA organised talks by experts. **The learning outcomes** shared included scientific awareness of plants housed in our learning garden pertaining to their significance, growth conditions, uses, etc and empowerment for scientific and cultural plant documentation. The project added an exposure to interdisciplinary approach of science and economics, with future prospects for an online publication after review/edits.



IWSA in News

On International Day for Women and Girl Child in Science, **11th February 2026**

IWSA decodes 'science' behind empowering women in AI times

<https://www.freepressjournal.in/topnews/international-day-of-women-in-science-how-mumbais-iwsa-is-leading-indias-female-stem-revolution>

On **16th March 2026**, about IWSA's learning garden

Vashi's Living Rainforest: IWSA garden teaches biodiversity, conservation

<https://timesofindia.indiatimes.com/city/mumbai/vashis-living-rainforest-iwsa-garden-teaches-biodiversity-conservation/articleshow/129605917.cms>



Community Programmes

A. Indirabai Padhye Nursery School and Education Committee

1. Visits

ECCE trainees visited **Edistaa Preschool** and **Shraddhanand Mahilashram** on 8th January 2026, **Besant Montessori School**, Juhu on 29th January 2026, **Muktangan Schools** on 30th January 2026, **Teaching Aids Exhibition by Mumbai Mobile Crèche** at **Mancherji Joshi Hall**, **Parsi Colony**, **Dadar** and **Arya Vidya Mandir**, **Juhu** - **Navoditya Gyaan ka Utsav** on 31st January 2026, **Tridha School**, **Dongri** on 14th February, 2026, **Educational Training Centre for Disability (ETC)**, **NMMC**, Sector 31, **Vashi** on 16th March 2026.



2. Celebrations:

Nursery children celebrated **Sankranti** on 14th January 2026 by making kites, **Holi** on 2nd March by playing with flowers and **Gudi Padwa** on 18th March 2026 with dance, painting of Gudi and Puri Srikhand. Children also enjoyed a **pyjama party** on 31st January, (between 6 pm and 8 pm) and a **picnic** on 24th February, 2026 at **Baccha party** at **Satra Plaza**, **Palm beach road**.



3. Nutrition competition

A nutrition competition with the theme **"Nourish and Nurture: Rooted in Nutrition- Mom and Me"** was conducted on 9th February 2026. It was about creating balanced finger food for Mom and Toddlers. **Dr Madhuri Somany**, **Ms Sajai Mathew** and **Ms Somya Singh** were the judges.

4. Bal Sangopan Sevika course for women inmates in Thane Jail

Date: 9th March to 17th March 2026

Facilitators: **Prayas**, a Field Action Project of **TISS**

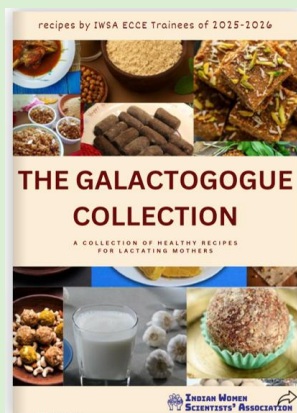
Beneficiaries: 16

This **Bal Sangopan Sevika** course was conducted by **ECCE** teachers and committee members successfully and the 16 inmates were awarded completion certificate. This was conducted so that they acquire some skills useful for employment later on in their life. The **ECCE** students helped in making the teaching materials. The coordination was done by **Prayas**, a field action project of **TISS** working in **Mumbai Jails**. An appreciation function was held on 6th April at **IWSA**, **Vashi**, where **Ms. Aruna Nimse**, **Ms. Reshma Bhoite** and **Ms. Priyanka Talegaonkar** from **Prayas** were felicitated and the contributions of **ECCE** students, teachers and all others involved from **IWSA** were acknowledged.



5. Summer Camp

Nursery teachers conducted summer camp from 16th April to 28th April. Five children attended. There were many activities such as yoga, motricity exercises, painting, art and craft work, fireless cooking, garden visits and many more interesting and exciting activities for the children.



6. Online flip book

This batch of the teacher trainees of the Early Childhood Care and Education (ECCE) programme brought out a recipe flip book with the help of an intern, Ms. Aaria Nair. Every recipe in this ebook has been curated keeping in mind that the child's well-being begins with the health of the mother. These recipes represent a shared tapestry, the trainees bringing the authentic flavors of their home states. This collection is more than a list of ingredients; it is a celebration of how different regions use local produce to nurture new mothers. This collection serves as a practical extension of their regional wisdom designed to support lactating mothers through the power of nutrition.

<https://heyzine.com/flip-book/72b94032a2.html>

7. Visit to Dakshinamurty Bal Mandir, Bhavnagar, Gujarat

Date: 3rd and 4th February 2026.

A seven-member team of ECCE educators visited **Dakshinamurti Balmandir**, one of the first preschool in India, established in 1920s by Shri Gijubhai Badheka, promoting child-centric education methods that are still relevant today. This was inaugurated by Kasturba Gandhi and the first Montessori Sammelan in India was held here in 1925. The campus houses a teacher's training centre also.

The IWSA team toured various classrooms to observe hands-on learning activities such as Science & Motor Skills, (age-appropriate science experiments and fine motor activities, such as zipping, lacing, and buttoning), and practical Life Skills (peeling and sorting groundnuts, cleaning methi leaves, and shelling peas. using a hand-pounder to make flour, preparing fresh buttermilk etc.). These activities underscored the school's commitment to developing fine motor coordination and life skills through joyful, everyday tasks. The IWSA team met with the Trust members, shared an overview of each other's projects and initiatives and discussed potential future collaborations. The team also visited Vinay Mandir, home to an Atal Tinkering Lab (a Gujarat Government initiative), which showcased the impressive scientific ingenuity of the students, with display of several sophisticated working models such as automated waste collection bins, speed-sensing devices and space rocket prototypes, an innovative, self-operated wheelchair designed to increase independence for the physically challenged etc.

On the second day, the team observed the Teacher Training programme, Integrated Child Development Services (ICDS) Anganwadi Operations, and visited the Agriculture/Horticulture institute.

The visit provided a profound look at their educational model. It also illustrated the fact that scientific temper begins with simple curiosity, and the strength of an educational programme lies in its local relevance and its people.



A. IWSA's G M Abhyankar Day Care Centre and Jitendra Mafatlal Mehta Working Women's Hostel

Celebrations

Hostel inmates celebrated **hostel day on 17th January 2026** with various cultural programmes. Prizes were given for sports, rangoli decoration and participation in the cultural programme. **Republic Day** was celebrated with flag unfurling at 9.00 am on **26th January 2026**.

DCC sports prizes were given on **7th January 2026**. On the same day, medicinal plants and their importance were explained to the DCC children. The children enjoyed a **pajama party** in the IWSA premises on **10th April 2026**.

Picnic for DCC children

Date: 19th February 2026.

The children from IWSA's Day Care Centre were taken on a picnic to CIDCO Garden, Mini Seashore, Vashi. A total of 20 children, along with day care centre staff and committee members, attended the well-arranged outing. The children especially loved the aviary section of the garden, where they saw different kinds of birds chirping and frolicking in their enclosures. Fun filled group games were conducted by the supervisor. The children also enjoyed play acting and sang along to a train song written by our member, **Snehalata Bhavsar**.

The highlight of the day was the toy train ride and the driver enthusiastically gave multiple rides, catching the enthusiasm of the children. It was heart-warming to see the cooperation among the children and how older children were helping the younger ones.



B. IWSA's Pirojsha Godrej Foundation Library

1. Story telling sessions in St. Jude India Child Care Centre

Date: 21st January 2026 and 24th April 2026

Beneficiaries: 20 children and 12 parents



The library team conducted a "read aloud story telling session" for the children at St. Jude India Child Care Centre, New Facility at ACTREC, Kharghar. 20 children along with 12 parents attended the session. Colour crayons and papers to express inherent creativity of the children were shared for follow up activity. They also donated 15 books on 21st January and 21 books on 24th April 2026 to the Centre. The session was appreciated by the children and the faculty.

C. IWSA's Murli Laj Chugani Health Care Centre

1. One-Day Lecture Workshop: "Promoting Health and Adolescent Wellbeing (PHAW)"

Date: 10th January, 2026

Duration: 8:30 AM to 4:30 PM

Venue: SNG Hall, IWSA, Vashi

Participants: 148



This workshop aimed to equip adolescents with essential tools for navigating the transition to adulthood and fostering a healthy, fulfilling life. Students from St. Mary's School and Sainath School, Vashi, BMN College, Matunga and students of IWSA's ECCE course attended this programme along with other IWSA members and guests.

Ms. Priya Jacob, coordinator of the programme steered the sessions. **Dr. Nootan Bhakal, President, IWSA**, welcomed the attendees and provided an overview of IWSA's initiatives.

Dr. Surekha Zingde, Trustee, IWSA, gave a glimpse of the Physical, Emotional and Social challenges adolescents have to navigate and how they can overcome them to move towards a life of wellbeing and a bright future. **Ms. Sushma Gaikwad, Centre Administrator, One Stop Centre (OSC), Parel**, highlighted government programmes addressing gender-based violence, women's rights, self-care, and safety. She emphasized the importance of fostering respect for women and girls from a young age, leading to everyone taking a collective pledge against child marriage. **Prof. Dr. Jagmeet Madan, Nutritionist and Consultant; President, National Nutrition Professional Council, NCAHP, INDIA (2025) and National President, Indian Dietetic Association** stressed the importance of balanced nutrition, including adequate protein, fiber, and fat intake, along with hydration and physical activity. She noted that healthy dietary habits during ages 10-18 significantly impact future health. **Dr. Santoshi Prabhu, Scientific Officer-G, Senior Consultant Obstetrician and Gynaecologist, BARC Hospital**, covered menstrual hygiene, fertility awareness, contraception, and the importance of the HPV. **Ms. Bhavya M. K., Scientist-C, Operational & Implementational Research, ICMR-NIRRCH**, addressed mental health, sexual and domestic violence, and provided information on helplines and support services available in Mumbai, including counselling and legal aid for survivors. **Dr. Anushree D. Patil, Scientist-F, Deputy Director, Senior Grade Head of Division of Clinical Research, ICMR-NIRRCH**, enlightened the participants about Polycystic Ovary Syndrome (PCOS), its increasing prevalence, symptoms, and long-term risks. She emphasized that early diagnosis is crucial for effective management and to prevent long-term complications. **Dr. Arjun Gurmeet Singh, Associate Professor, Head & Neck Oncologic Surgeon, Cancer Prevention Scientist, Tata Memorial Centre (TMC) – ACTREC**, highlighted the dangers of tobacco, vaping, and related products (Areca nuts / Betel nuts and Gutkha), linking their use to oral and oesophageal cancers. He advocated for the prohibition of tobacco sales through COTPA i.e., Cigarette and other Tobacco Product shops, to be banned near educational institutions to promote a nicotine-free environment.

Dr. Kalyani Patra (MBBS, DCH, PGDAP), Adolescent Health Clinic, MGM Hospital, Vashi shared insights from her experience in adolescent health, emphasizing the support provided at MGM Vashi Adolescent Clinic to help youth express their feelings and manage stress and emotional anxieties in total confidence.

In between these sessions, **BMN College Students (T.Y. BSc)** performed skits and conducted interactive sessions to raise awareness about the risks of alcohol, tobacco, and drugs, encouraging adolescents to make informed choices. To ensure participants understood how to overcome common adolescent challenges, every speaker used interactive questioning throughout their presentations. The successful workshop ended with positive feedback from the attendees and vote of thanks by Ms. Tripta Tewari.

D. IWSA's Scholarships Award Function

Date: **3rd January 2026**

Venue: **Soonu Naval Godrej Hall, IWSA, Vashi**

Chief Guest: **Dr. Geetanjali Sachdeva**, Director, National Institute for Research in Reproduction and Child Health (NIRRH, ICMR)

Total number of scholarships: **25**

Attendees: **90**



Along with the award winners, their parents, IWSA members and other invited guests were also present. After the welcome by **Dr. Dhanya Suresh**, Secretary, Scholarship committee and introduction of IWSA by **Dr. Nootan Bhakal, President, IWSA**, **Dr. Devaki Ramanathan, Secretary, IWSA Board of Trustees**, described the origin of the scholarship programme and its objective in supporting girl students to pursue science at all levels of education. **Dr. Yasmin Khan, Convenor, Scholarship Committee** introduced the Chief Guest, **Dr. Geetanjali Sachdeva**. She was felicitated with a potted plant and a book on the History of IWSA, published on the 50th Anniversary, by **Dr. Shyamala Bharadwaj**, Past-President and Trustee.

Dr. Smita Kekatpure, Treasurer of the Scholarship Committee, announced the award winners along with a brief description of the person in whose honour the award was constituted. Dr. Geetanjali awarded the certificates to the winners. During the awards distribution, if the donors or their relatives were present, they were invited to the dais to jointly give the award and to say a few words about the person in whose memory the award has been instituted. This year, 35 applications were received for Ph.D, 62 for M.Sc, 118 for B. Sc and 5 for paramedical scholarships. From these, three were selected for PhD (one each in Life sciences, chemistry and physics), six for MSc, sixteen for B.Sc, one for paramedical and four for inhouse ECCE. **Dr. Vibhav Sanzgiri** spoke about **Dr. Suresh Mahajan**, his own mentor and guide and motivated the students with his personal experiences. **Dr. Mahesh Zingde** spoke about his parents **Smt. Savitribai & Shri Datta Zingde**, who despite their humble status understood the importance of a good education and ensured that he and all his siblings were well educated. Two of the former Ph.D. awardees who could not come in person, had sent their messages regarding how the scholarship helped them, which were read out to the audience.

Following the distribution of the awards, the Chief Guest, **Dr. Geetanjali Sachdeva** delivered her keynote address and took the audience through the progress that our country has made since Independence and also reminded how the pace would have doubled if women, constituting half the population, could have contributed equally in this nation building process. She motivated the students and asked them to ensure that they would never give up their education even if faced with adverse conditions. The presence of **Dr. Sudha Padhye**, one of the founder members of IWSA, and her brief talk was truly an inspiration to all present. The function ended with a vote of thanks given by **Dr. Seema Das**, Co- Convenor of the Scholarship Committee and a session followed by high tea, and good interaction of the students with donors and other IWSA members.

E. IWSA's Publications

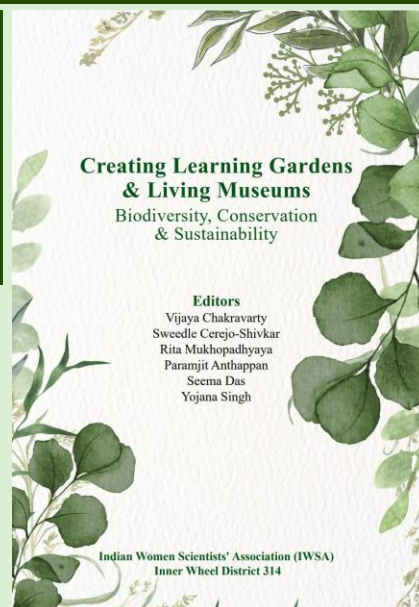
Publication of the Book entitled "Creating Learning Garden and Living Museum - Biodiversity, Conservation and Sustainability"

Date: 6th March 2026

Collaborator: Inner Wheel Club District (IWC) 314.

Venue: NESCO Convention Centre, Goregaon

Chief Guest: Shri. S Kadam, Chairman, Maharashtra Pollution Control Board



The book was a collaborative effort of IWSA as knowledge partners and Inner Wheel Club/ District (IWC) 314 as sponsors. The book launch programme called **Vasundhara**, with tag Recycle, Recharge and Respect Nature, was conducted by IWC members - **Dr. Shobha Ahuja** project chairman, **Ms. Lakshmi Singh**- district chairman and **Ms. Pallavi Choksi** - Co- chairman. IWSA Trustee, **Dr Lalita Dhareshwar**, President **Dr Nootan Bhakal** and Vice President, **Dr Suparna Kamath** were felicitated during the function, along with all the six IWSA editors of the book, **Ms Vijaya Chakravarthy**, **Dr Sweedle C Shivkar**, **Dr Rita Mukhopadhyaya**, **Dr Seema Das**, **Dr Paramjit Dolfy Anthappan** (in absentia) & **Dr. Yojana Singh**.

Shri. Siddhesh Kadam, Chairman Pollution Control Board of Maharashtra launched the book along with **Adv. Sushiben Shah**. Different cultural programmes from dance to fashion show using recycled clothes were presented. Several stalls were put up for support and various NGO activities displayed. IWSA members **Dr. Srirupa Mukherjee** and **Ms. Priya Jacob** were invited to judge the display of home gardens by IWC members. They were also felicitated.

The book, which showcases how gardens can be converted to effective classrooms and living museums, was well appreciated. Foreword for the book is given by **Dr. Pheroza Godrej**, Environmentalist and art historian and **Dr Anil Kakodkar**, Chancellor, Homi Bhabha National Institute & former Chairman, Atomic Energy Commission. The book with 250 pages has 5 chapters, each dedicated to a specific function of the garden. Many IWSA members and expert guest writers have contributed to the book. It also contains QR codes, which lead to more informative videos and write-ups.

The whole day programme of the book launch was as vibrant and inspiring as the book itself, successfully conducted by IWC members with active participation, learning enrichments and impact outreach towards the intended objectives.



F. Celebration of International Women's Day

Date: 9th March 2026

Chief Guest: Dr. Rita Mulherkar, Director, Samarthkrupa Lifesciences Pvt. Ltd, Pune, Former Scientific officer 'H' & Chairperson, Academics, ACTREC, Professor, HBNI

Attendance: 80

Dr. Smita Kekatpure, the coordinator of the programme, welcomed the gathering and reflected on the resilience and intellectual strength of women. **Dr. Surekha Zingde, Treasurer, IWSA Board of Trustees**, spoke briefly about the activities of IWSA, followed by **President Dr. Nootan Bhakal**, who highlighted the association's women empowerment initiatives, particularly the Thane Jail Project, an important outreach programme for skill development of women jail inmates.

Dr. Dhanya Suresh, EC Member, introduced the chief guest. The highlight of the programme was an insightful talk by the distinguished guest **Dr. Rita Mulherkar**. She described her own journey as a woman scientist, her role models, and the challenges faced by women in their professional journeys. She also spoke about ongoing innovations in medical science, including Autologous Regenerative and Human Platelet Lysate Therapies.

The celebration also featured vibrant cultural performances including the dance drama "Sau Saal Pehle" by the IWSA staff, a musical rendition, a poetry recitation, and a thematic presentation titled "Parivartan" by IWSA members. In addition to IWSA members, trustees and office staff, students from KBP College, Vashi, and Rajiv Gandhi B.Ed. College attended the event.



G. Visit to Gemmological Institute of India (GII)

Nine IWSA members, Dr. Nootan Bhakal, Dr. Shyamala Bharadwaj, Mrs. Madhu Pahwa, Dr. Srirupa Mukherjee, Mrs. Chayya Kelkar, Dr. Yojana Singh, Dr. Smita Kekatpure, Mrs. Sakina Gadiwala and Mrs. Malathi Rao visited GII, Bharat Diamond Bourse, Bandra Kurla Complex, Bandra (East), Mumbai, on 10th February 2026.

Dr. Anik Goswami welcomed the team and presented details on the 4C's of diamond, methods of identification of natural & synthetic diamonds, treated & untreated diamonds and included & non included diamonds. The HPHT & CVD methods of manufacturing synthetic diamonds & the process of extraction of natural diamonds were also described. He, along with Dr. P. Shastry, spectral analyst, answered all the queries.

IWSA members were taken around the Laboratories, where the checking, identification & grading of diamonds are done. Raman spectrometer and the synthetic diamond detection machine were shown and microscopic examination of diamonds was conducted. Dr. A.V.R. Reddy, CEO, GII joined later to discuss the work done at GII. He was presented IWSA's history book by President Dr. Nootan Bhakal. GII offers a 6 months Diploma / Certificate course in Gemmology. The visit was very interesting and informative and gave a glimpse of how advanced technology is made use of in the diamond industry.



Reports from Branches

Delhi

1. IWSA-BRNS Popular Science Lecture

Date: 29th January, 2026

Title: **Metrology for Quantum Technologies**

Speaker: **Prof. Venu Gopal Achanta**, Director, CSIR-National Physical Laboratory, Delhi

Venue: Dept. of Applied Physics, **Delhi Technological University**

Outreach : 120



Abstract: Metrology is the science of high-precision measurements. Scientific metrology forms the backbone for the quality infrastructure of any country as it helps establish the national primary standards for the SI units and their derived units. National metrology institute or the national standards laboratory sets these, maintains as well as disseminates them. Thus, all measurements in the country, especially related to legal metrology, need to be traceable to these standards. While Quantum metrology covers the new definitions of SI units in terms of various universal constants, the emerging quantum technologies, like quantum computing, quantum communication, quantum sensing, need metrology facilities. These will support the quality of our indigenous products and in testing our imports. This talk introduced metrology

and presented ongoing efforts towards developing metrology infrastructure, standards, and measurement methodologies to support the reliable deployment and scaling of quantum technologies.

2. National Science Day Lecture (online via KAMP)

Topic: **Metrology: Science of Measurements**

Date: 27th February 2026

Speaker: **Dr. Rina Sharma**, Former Chief Scientist (CSIR-NPL) & ex-convener, IWSA Delhi Branch

Outreach: 100



kamp
Knowledge Amplification through Metrology

National Science Day Lecture
METROLOGY: SCIENCE OF MEASUREMENTS

SPEAKER: DR. RINA SHARMA
Former Chief Scientist, CSIR-NPL and ex-convener, IWSA Delhi Branch

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Beauties in our Waterbodies

– **Painted Stork** and **Juvenile Black headed Seagull**

Photos by **Prof Dr Sushma Lehri**, Member, **IWSA HQ**, at Mini Sea Shore / Sagar Vihar, Vashi, Navi Mumbai

Hyderabad

Ganit Pratiyogita - Valedictory Function

IWSA Hyderabad Branch distributed the certificates to the prize winners of Ganith Pratyogita during the Science Day celebrations of DAE schools on **28th February 2026**, with the support of the school authorities. IWSA, Hyderabad Branch felicitated students from Class I - IX also, for participating in special activities throughout this Science Week such as roleplay, special assembly activities for popularizing various fields of science. etc. About **400 students** took part in the celebrations. Certificates to the prize winners from Bhavan's school were handed over to the school, requesting them to distribute the same at their convenience.



Kalpakkam

1. National Science Day Celebrations

Topic: **Understanding Basic Science**

Date: **28th February 2026**

Speaker: **Joseph Winston**, Head of the Remote Handling & Irradiation Experiments Division at IGCAR

Venue: **Atomic Energy Central School, Anupuram**

Outreach: **70**



70 students and teachers from all the Atomic Energy Central Schools and Kendriya Vidyalaya attended the Science Day celebrations. In his talk, the chief guest, Mr. Joseph Winston emphasised and encouraged students to cultivate curiosity and a questioning attitude. The programme concluded with the **distribution of prizes to the winners of Science Day collage and Tech-talk competitions**, held earlier in November.

2. International Women's Day Celebrations

Date: **8th March 2026**

Venue: **Sarabhai Auditorium, IGCAR, Kalpakkam**

Outreach: **350**



Dr. Thara Prabhakaran, Project Director, CAIPEEX, Indian Institute of Tropical Meteorology, Pune delivered a talk on "My Journey with Clouds".

Ms. Kirtanya Krishnamurthy, Motivational Speaker, Founder & CEO- MindFresh Training, Chennai delivered a talk on "Emotional intelligent in the age of AI and Automation".

STHREE awards were distributed to the students, who excelled in their higher secondary board exams from the neighbouring schools.

Kolhapur

1. Personality development training workshop

Date: 22nd January, 2026

Resource person: Ms. Bhagyashri Ranjit Salokhe

Venue: Gopal Krishna Gokhale College

Outreach: 42



The purpose of the workshop was to train young girls for confident and stress-free performance on stage.

2. Four-Day Capacity Building Workshop on Ecological Skills & Sustainable Practices

Date: 31st January – 2nd February 2026

Venue: Br. Balasaheb Khardekar College & Br. Nath Community Center, Vengurla

Number of participants: 75

This workshop was organised with the support from **Maaza Vengurla, conservation groups, and academic partners**. The programme aimed to combine ecological education, biodiversity conservation, and sustainable livelihood skills through practical training and field-based learning. Around **75 participants**, including students, alumni, nursery owners, and eco-entrepreneurs, took part.

The workshop focused on skill development in areas such as **floral designing, leaf manipulation art, terrarium setting, bonsai making, natural aroma preparation, mangrove nursery development, and bio-enzyme preparation**. It also promoted sustainability through an eco-exhibition featuring local eco-friendly products, endemic plant nurseries, mangrove saplings, creative recycling projects, and the distribution of **500 cloth bags** to reduce plastic use.

Field visits to **Kochare Wetland**, coastal areas, Bhagave beach, and the **Dungobachi Rai sacred grove** gave participants direct exposure to wetlands, mangroves, marine biodiversity, and conservation practices. In the presence of conservation experts, participants studied lianas, *Heritiera* species and the ecological importance of sacred groves and ecofriendly celebration practices. Shore Walk & Marine Study were guided by Marine Scientists, Dr. Vishal Bhawe (Associate Director, Srushti Conservation Foundation) and Mrs. Durga Thigale (Marine Conservation Educator and Consultant). Participants observed marine biodiversity, identified algae species and understood coastal ecosystem dynamics through direct field interaction.

An eco-entrepreneurship initiative, the launch of **“Shivsa 2” perfume**, which incorporated Surangi oil immersion, sesame oil, rosemary and bakul extracts, demonstrating sustainable product innovation using natural ingredients. Overall, the workshop strengthened ecological awareness, practical environmental skills, youth leadership, and community participation, while building a network of committed **Eco-Soldiers** for long-term conservation and sustainable development. The valedictory function was graced by **Dr. Tarnnum Mulla**, Assistant Director, Mangrove Ecology, Mangrove Foundation and **Hon. Rajan Girap**, Nagaradhyaksh, Vengurla.

The event received significant media coverage in the regional newspapers. The programme was widely appreciated for integrating academic learning, conservation awareness and community participation at the grassroots level in Vengurla.



3. Mangrove Cleaning Drive at Mandovi, Vengurla

Date: 14th February 2026

Venue: Mangrove belt of Mandovi, Vengurla

Number of participants: 75



This drive was conducted as an environmental conservation initiative organised by the **Forest Department** in collaboration with the **Mangrove Department, Vengurla, NSS Unit of Br. Balasaheb Khardekar College, Vengurla Nagarparishad, Swamini Self Help Group, and IWSA, Kolhapur Branch**. Held during the morning session, the programme aimed to restore the ecological health of the mangrove ecosystem, which had been affected by plastic waste and other non-biodegradable materials.

The drive focused on cleaning the mangrove area, spreading awareness about the ecological importance of mangroves, and encouraging coordinated action among government departments, educational institutions, and community groups. Before the activity began, officials briefed participants on the significance of mangrove conservation, safety precautions, and proper waste segregation.

Participants were divided into groups and assigned different sections of the mangrove belt for systematic cleaning. They collected plastic bottles, glass bottles, polythene bags, food wrappers, thermocol, fishing nets, and other waste trapped in the mangroves. The collected waste was later segregated for proper disposal.

The immediate outcome of the activity was the noticeable improvement in the cleanliness of the mangrove area at Mandovi. More importantly, the programme strengthened inter departmental coordination and enhanced awareness among participants and local residents regarding coastal conservation. Overall, the programme emphasised coastal conservation and collective environmental responsibility.

4. Science Day Special Educational Expedition

Date: 28th February and 1st March, 2026

Theme: Triple F – Farms, Flamingos, Film City

Number of participants: 75



This tour was organised as part of the Eco-tourism curriculum to give students practical exposure to sustainable living, biodiversity conservation, and the creative media industry. The tour covered three major learning spaces: Gavya Farms in Raigad, Thane Creek and its mangrove ecosystem, and Film City in Mumbai.

On the first day, students visited Gavya Farms, where they observed organic farming techniques, bio-enzyme preparation, cow dung-based products, and sustainable practices based on reduce, reuse, and recycle principles. The farm demonstrated how

traditional knowledge can support eco-friendly lifestyles.

A special moment was the felicitation of Dhruvi Mate as the Best Student of the Year. The vision of minimizing unnecessary needs, reducing greed, and promoting holistic learning, which align strongly with the goals of Mission LiFE, were emphasized during the trips. The group stayed in the IWSA hostel overnight.

On the second day, students explored **Thane Creek**, a **Ramsar Site** known for its biodiversity and seasonal flamingo migration. They learned about **mangrove nursery development, seed germination, ex-situ conservation, eight different mangrove species, and wetland protection**. The visit offered direct interaction with mangrove ecosystems and flamingo habitats. The tour concluded with a visit to **Film City**, where students gained insight into **film sets, shooting locations, and the role of creativity and technology in storytelling**. These types of trips are expected to bring about a behavioural change, inspiring the students to adopt eco-friendly practices like reduce, reuse and recycle. The tour also highlighted various eco-friendly livelihood opportunities, roles like naturalist, eco-guide, conservationist, and environmental educator. Overall, the tour successfully combined environmental education, conservation awareness, and creative exposure, while strengthening students' practical knowledge, teamwork, and connection with nature.

5. Surangi Festival- Demonstration of extraction unit & Business development initiative

Date: 10th & 11th March, 2026

Venue: Asoli Village, Vengurla

Expert Guidance: Dr Manjushree Deodhar, Retd. Prof. V G. Vaze College, Mumbai & Dr. V. K. Sharma

Number of participants: 75

Surangi is one of the most significant plants in the Konkan region, with highly fragrant flowers which possess medicinal and cosmetic properties. This festival highlighted the ecological, economic, and cultural importance of the Surangi plant. The aim of this festival was to create awareness about the plant's uses, encourage biodiversity conservation, and promote rural entrepreneurship and eco-tourism by showing how Surangi can be transformed into value-added products such as perfumes, aromatic oils, incense sticks, and natural cosmetics. This was part of a certificate course offered by Department of Chemistry, Botany and Rural Development of Br. Balasaheb Khardekar College, Vengurla, IWSA and Maharashtra state livelihood mission, Umed.

The festival was conducted over **two days** and combined nature-based learning with practical demonstrations. On **Day 1**, participants visited **Shetwada Homestay at Asoli** and the **Surangi grove at Bapuliwadi**, where they learned about the natural habitat of Surangi trees, their growth patterns, and the biodiversity of the surrounding ecosystem. The visit gave participants an opportunity to appreciate the natural beauty of the Konkan region and understand the need to conserve such plant resources. Traditional **Konkani cuisine** was also served to showcase local food culture and support rural tourism. Later, an awareness session was held at the **Asoli Mahila Sangh Centre**, focusing on the medicinal, cosmetic, and economic potential of Surangi flowers.

On **Day 2**, participants observed a practical demonstration of **aromatic oil extraction from Surangi flowers** using a solvent extraction method. They learned the step-by-step process of collecting flowers, extracting aromatic compounds, and producing Surangi essential oil.

Overall, the festival successfully connected **nature conservation, traditional knowledge, livelihood generation, and eco-tourism**. It showed how local biodiversity can become a source of sustainable development, especially for **women, youth, and rural communities** in the Konkan region.



Nagpur

1.Seminar

Topic: **Indoor Air Pollution - "Green Oxygen Cylinders"**

Date: 27th January 2026

Speaker: **Dr Saroj Desai**

Venue: **NEERI Modern School, Nagpur**

Outreach: 50

This programme was organised in collaboration with Pratibha Shakti Vidarbha and Rotary Club of Nagpur Four.

Dr Seema Somalwar, Convener addressed the students and explained the mission of IWSA. The representatives gave introductions of their respective organizations. The principal of the school presided over the function. The Expert speaker, Dr. Saroj Desai, explained how indoor air pollution can be minimized and how the percentage of oxygen can be increased by the use of some indoor plants -

- particularly plants like Chlorophytum, Peace lily, Sansevieria are known to cause increase in oxygen level, absorb CO₂, NO₂, xylene, formaldehyde etc. from air. These plants can therefore be safely kept at home. She demonstrated and explained to the students using live potted plants and also by PowerPoint presentation. Children took oath to conserve our environment, obey traffic rules and make conscious use of natural resources.



2. IWSA–BRNS Popular Science Lecture for Colleges

Topic: Career prospects in healthcare sector: Role of Science and Technology- Social and Environmental Sciences.

Date: 10th March 2026

Speaker: Dr Shilpa Paranjape, Chief medical officer, NEERI, Nagpur

Venue: Dept. of Computer application, Dr Ambedkar College
Outreach: 80



Abstract: The healthcare sector is transforming rapidly, driven by breakthroughs in science, technology and interdisciplinary research. Fields like Biology, Data Science, AI, Bioinformatics and Environmental Science are revolutionizing patient care, enabling advancements in vaccine development, precision medicine, and more. A student in these fields can bridge the gap between research and practical applications.



Science graduates have vast opportunities in clinical roles, biomedical research, public health, pharmaceuticals, management and allied health. One can design medical devices, develop novel treatments, or work in hospital admin- the possibilities are endless.

The best part is that one doesn't need a medical degree to contribute. Passion, vision, and a drive to improve lives are key. Even 'Nobel Prize' winners in medicine are often biologists! The speaker urged the students to be a part of the interdisciplinary and exciting future of healthcare.

3. Visit to Atomic Mineral Directorate for Exploration and Research

Date: 9th March 2026

Beneficiaries: 30



This visit to the Atomic Mineral Directorate was arranged as a part of International Women's Day celebrations. The introductory address by the Institute Director, Shri Bhaskar Basu was followed by an address by Convener of IWSA Nagpur. A detailed presentation outlined the Directorate's key activities, including the identification, evaluation, and augmentation of resources such as Uranium (U), Thorium (Th), Zirconium (Zr), Titanium (Ti), Lithium (Li), and Rare Earth Elements (REEs). These resources support various national programmes, along with ongoing survey and exploration efforts coordinated from the Hyderabad headquarters and seven regional centers across the country.

A second presentation highlighted the contributions of key historical and contemporary Women Scientists and Achievers who have shaped India's Scientific and Historical Landscape. This was followed by a visit to the laboratories, and a walkthrough of the museum. Dr. Anuradha Gadkari, Founder Member of IWSA, spoke about potential collaborative initiatives that can be aligned with IWSA's mission. The visit was coordinated and successfully organised by Dr. Smita Mule.

4. IWSA Vidnyan Rangoli Competition

Date: **28th March, 2026**

Venue: **NEERI Modern School, Nagpur**

Outreach: **30**

This Rangoli Competition was hosted as a part of the International Women's Day celebrations. The event brought together participants to creatively explore the theme "Conservation of Nature" through rangoli art, focusing on sub-themes: Water Conservation, Energy Conservation, and Conservation of Flora and Fauna. Thirteen talented women showcased their

artistic and scientific skills, presenting thoughtfully depicted vibrant rangoli designs.

Dr. Manisha Patil graced the event as chief guest, while Dr. Amisha Arora judged the competition. Best entries were awarded prizes, recognising their creativity and dedication to nature conservation. The event fostered a spirit of environmental awareness and celebration of women's contributions to science and art.



No one wants to go near this beauty - *Caralluma umbellata*

-- Photo and details from **Ms Sakina Gadiwala**, IWSA HQ (Amateur Nature Photographer, Hon. General Secretary, National Society of Friends of The Trees,



Buds



Partial flowering



Full bloom

This is a succulent with clusters of deep Red / Maroon, star-shaped flowers. The flowers are five-lobed with a velvety or hairy texture. The flowers produce an odor similar to that of rotten meat to attract flies for pollination. It requires 6-8 hrs of full indirect Sunlight. Deep watering once in 2 to 3 weeks is to be done, when soil is fully dry. It blooms in spring to Summer (March to May). For propagation cut 5-6 inches of healthy stem, dry it for 1-2 days and plant it in a well drain soil mix (cactus soil mix), preferably in a terracotta pot. This plant is edible and has medicinal uses.

Pune

1.IWSA–BRNS Popular Science Lecture for Colleges

Topic: **AI and Human Psychology**

Date: **10th March 2026**

Speaker: **Dr Mrunal A. Bhardwaj**, Professor,
Mahatma Gandhi Vidyamandir, Arts,
Science and Commerce College, Nashik,
Maharashtra

Venue: **Kusumagraj Seminar Hall, H.P.T.
Arts & R.Y.K. Science College, Nashik**

Outreach: 105



Abstract: Artificial Intelligence (AI) is rapidly transforming the way humans think, learn, and interact with the world. For Gen Z, who have grown up surrounded by digital technologies, AI has become a natural part of daily life, from personalized learning tools to intelligent assistants. While AI enhances efficiency, creativity, and access to knowledge, it also influences attention span, decision-making patterns, and social behaviour. The presence of AI in modern society is largely unavoidable, as it is integrated into education, healthcare, business, and communication systems. However, the key challenge is not whether AI should exist, but how it should be used responsibly and ethically. Proper guidance, digital literacy, and balanced usage can help individuals harness AI as a supportive tool rather than becoming overly dependent on it. Since the primary audience is students, it is essential to encourage awareness about how AI can support their academic growth while also preparing them for a rapidly evolving job market. Educational institutions must guide learners in using AI tools for research, problem-solving, and innovation without compromising originality and independent thinking. AI-driven mental health applications, counseling chatbots, and early detection systems can provide support and accessibility for many individuals. However, excessive reliance on technology, social media algorithms, and digital overload may also contribute to stress, anxiety, and reduced human interaction. Hence, the necessity of maintaining a balanced relationship between technology and human well-being was asserted by the speaker.

2. Celebration of Women's Day - The SPPU Start-up Talk Series: Conversations with Young Entrepreneurs

Date: **10th March 2026**

Chief Guest: **Dr Sheela Donde**, from IWSA HQ (Educator, former Head of the Department of Life Sciences and Biochemistry, St Xavier's College, Mumbai)

Venue: **Seminar Hall, Department of Microbiology at Savitribai Phule Pune University (SPPU)**

Outreach: 110

This programme featured talks by three young entrepreneurs, **Dr. Manasi Khasnis**, CEO of **Bio MarkIQ**, **Dr. Amita Deshpande**, founder of **reCharkha - The EcoSocial Tribe** and **Dr. Madhur Motwani**, founder of **Poshan**, recently honored by Prime Minister. **Dr. Neelima Rajurkar**, recipient of prestigious Women Scientist Award conferred by Indian Society of Analytical Scientists (ISAS) was felicitated in the function. **Ms. Pratika Kakad**, who got the Best Poster Presentee Award 2025 by the Association of Microbiologists of India (AMI) and Springer Nature was also honored.



Article

Vaginal Hygiene: Practices And Clinical Implications

Dr Santoshi Prabhu,

Department of Obstetrics and Gynaecology,
Bhabha Atomic Research Centre Hospital, Mumbai.

ABSTRACT

Vaginal hygiene is a key determinant of women's reproductive and sexual health. The vagina is a self-cleansing organ with a complex microbiome dominated by *Lactobacillus* species that maintain an acidic environment and protect against exogenous agents and infections. Despite this, many women practice inappropriate hygiene measures influenced by socio-cultural beliefs and commercial marketing. Practices such as vaginal douching, use of antiseptics, and fragranced products can disrupt the vaginal microbiota and increase the risk of bacterial vaginosis, pelvic inflammatory disease ⁽¹⁾, adverse pregnancy outcomes, and sexually transmitted infections (STIs). This article discusses normal vaginal physiology, evidence-based hygiene practices, harmful practices, life-course considerations promoting vaginal health.

KEYWORDS: Vaginal hygiene, vaginal microbiome, douching, bacterial vaginosis, clinical implications.

INTRODUCTION

Vaginal hygiene is frequently misunderstood and often equated with internal cleansing as vaginal douching. In fact, the vagina is self-cleansing, i.e. it cleans itself and internal cleaning is neither recommended, nor is it necessary. Cultural taboos, myths surrounding vaginal odour, and aggressive marketing of feminine hygiene products have contributed to the widespread use of practices that may harm vaginal health. Scientific evidence, however, supports the concept that the vagina requires minimal intervention to remain healthy. Inappropriate hygiene practices can disrupt the vaginal ecosystem, leading to infections and reproductive complications. This article aims to summarize current evidence on vaginal hygiene and provide guidance for maintaining vaginal hygiene across the life course.

NORMAL VAGINAL PHYSIOLOGY AND MICROBIOME

The healthy vagina maintains a dynamic yet stable ecosystem. The vaginal microbiome is predominantly composed of *Lactobacillus* species, which produce lactic acid and hydrogen peroxide, maintaining an acidic pH between 3.8 and 4.5. This acidic environment inhibits the growth of pathogenic bacteria, fungi, and sexually transmitted pathogens.

Estrogen plays a central role in maintaining vaginal health by promoting glycogen deposition in vaginal epithelial cells. Glycogen serves as a substrate for these lactobacilli, supporting their dominance. Factors such as antibiotic use, hormonal fluctuations, pregnancy, menopause, sexual activity, and hygiene practices can alter the vaginal microbiota, resulting in dysbiosis and infection.

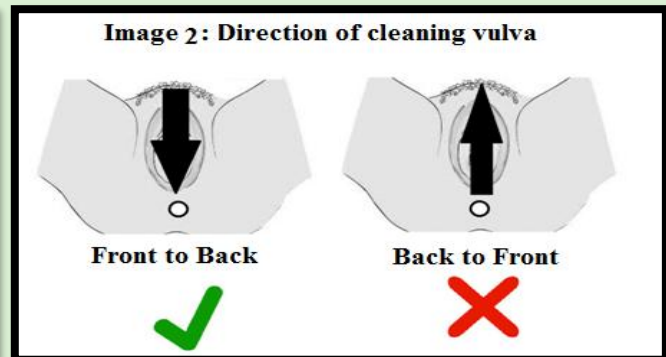
EVIDENCE-BASED PRINCIPLES OF VAGINAL HYGIENE

A) External Genital (Vulvar) Hygiene

Hygiene practices should focus on the vulva rather than internal cleaning of vagina. Recommended practices include:

- Washing the vulva with clean water; mild, unscented soap may be used if necessary
- Wipe gently and avoid vigorous scrubbing (**Image 1**)

- Cleaning once daily is sufficient for most women
- Over-cleansing can cause irritation and disrupt the natural barrier function of the skin.
- Wear breathable cotton underwear and avoid very tight garments.
- For management of pubic hair, trimming or clipping is preferred. Shaving, waxing or chemical depilatories must be used cautiously due to higher risk of skin irritation and infection.
- Direction of cleaning and wiping (**Image 2**) should be from front (urinary opening) to back (anal opening) and never vice a versa. This minimizes faecal or perineal bacterial transfer into the vagina.



B) Menstrual Hygiene

Proper menstrual hygiene is essential to prevent irritation and infection.

- Sanitary pads and tampons should be changed every 4–6 hours.
- Menstrual cups are safe when cleaned and used according to manufacturer instructions.
- Hands should be washed before and after changing menstrual products.
- Choice of menstrual product should be based on comfort, accessibility, and hygiene practices rather than perceived cleanliness.

C) Sexual Hygiene

Healthy sexual hygiene practices include:

- Urination after intercourse to reduce urinary tract infections.
- Condom use to prevent sexually transmitted infections.
- Avoidance of vaginal washing or douching before or after intercourse.
- The presence of semen may temporarily raise vaginal pH, but the vagina restores its acidic environment naturally.

HARMFUL VAGINAL HYGIENE PRACTICES

A) Vaginal Douching

This involves flushing the vagina with water or other solutions and is one of the most harmful hygiene practices. Numerous studies have shown strong associations between douching and bacterial vaginosis ^(2,3,4) leading to:

- Pelvic inflammatory disease (PID)
- Ectopic pregnancy
- Preterm labour and low birth weight
- Increased susceptibility to HIV and other STIs
- Douching disrupts the vaginal microbiota and facilitates ascending infections. Major health organizations strongly discourage routine douching.

B) Antiseptics, Deodorants, and Fragranced Products

The use of vaginal antiseptics, deodorant sprays, wipes, and perfumed washes can:

- Alter vaginal pH
- Cause chemical irritation and allergic reactions

- Mask symptoms of infection, delaying diagnosis
- No scientific evidence supports the routine use of these products in maintaining vaginal health.

VAGINAL HYGIENE ACROSS THE LIFE COURSE

A) Adolescence

Adolescents often experience anxiety about normal vaginal discharge and odour. Education should focus on:

- Understanding normal pubertal changes
- Menstrual hygiene
- Avoidance of unnecessary cleansing products
- Early education helps prevent harmful practices later in life.

B) Reproductive Age and Pregnancy

During reproductive years, hormonal changes and sexual activity influence vaginal health. In pregnancy, altered immunity and increased glycogen predispose to infections. Emphasis should be placed on:

- Avoiding douching and self-medication
- Seeking medical advice for abnormal discharge or odour
- Maintaining vaginal health during pregnancy is crucial to prevent adverse maternal and neonatal outcomes.

C) Menopause

Declining estrogen levels lead to increased vaginal pH, reduced lactobacilli, dryness, and irritation. Management should focus on:

- Vaginal moisturizers and lubricants
- Local estrogen therapy when indicated
- Avoidance of excessive washing

Symptoms should not be managed by increased cleansing, which may worsen irritation.

CONCLUSION:

The vagina is a self-cleansing organ that requires minimal external care. Evidence consistently demonstrates that internal cleansing practices, particularly vaginal douching, are harmful and increase the risk of infections and reproductive complications. Promoting simple, external hygiene practices and educating women about normal vaginal physiology can significantly improve reproductive health outcomes hence; evidence-based vaginal hygiene is strongly advocated.

ADDITIONAL READING

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About the Author: Dr. Santoshi Prabhu is a Consultant Gynaecologist and a Postgraduate teacher for DNB at Bhabha Atomic Research Centre Hospital, Mumbai. She has been an Assistant Professor at Dr. D.Y. Patil Medical College, LTMC-Sion Hospital, Seth GSMC-KEM Hospital and Associate Professor at K.J. Somaiya Medical College, Mumbai. She has been a Final MBBS examiner for Maharashtra University of Health Sciences and final DNB examiner, Appraiser at various teaching institutes. She is a recipient of prestigious Dr. D.M. Shah Prize, Dr. N.A. Purandare awards of FOGSI. She has been a Chairperson at MOGS conference and at All India Congress. She actively participates in Cancer Detection Camps, delivers lectures on women and adolescent health at various institutes and writes informative articles on women's health. Management of high-risk pregnancy is her special interest.

I Do Not Die, I Am Reborn

By Dr. Susan Eapen

I do not die — I drift beyond the veil,
A journey endless, neither frail nor vain.
My atoms sing a universal tale,
Born in the heart of stars, in light and flame.

Hydrogen first stirred when time began,
Thirteen billion years have passed since cosmic birth,
The echo of that primal surge still spans
The vast, unyielding fabric of the Earth.

Carbon, forged in ancient stellar cores,
Iron born in supernova's final cry,
Dispersed across the dark, eternal shores,
They form the dust from which all life will fly.

DNA, a code of wondrous art,
Twists, double helix, thread of life, and mind,
Each nucleotide is a vital part,
Of memories, of purpose, intertwined.

Molecules assemble, cell by cell,
Tissues form, organs pulse in silent grace.
An orchestra of atoms, none can tell
Where one begins, where ends the endless space.

Am I Prime Minister or a simple seed?
A beggar, a child, a doctor, or the air?
Each role I play fulfils the universe's need,
A transient mask I willingly wear.

These atoms—borrowed, ancient, endlessly—
Flow through microbes, plants, and human veins.
They knew the stars, the ocean, every tree,
And in their path, no true death remains.

When I dissolve, my body yields to dust,
Yet atoms do not vanish, nor expire.
They drift anew—renewed by cosmic trust,
Recycled in the universe's choir.

Perhaps reborn in chlorophyll's green breath,
Or woven into silicon's silent frame,
A star's new pulse, escaping cosmic death,
A microbe's spark, a quantum's hidden name.

I do not die —
I am the atom, the wave, the star, the seed,
Forever part of all that was, is, and will be.
I am reborn,
An infinite thread in the Universe's need...

(First published in Malankara Sabha English Quarterly
January – March 2026, page 42)



Dr. Susan Eapen retired from Bhabha Atomic Research Centre, Mumbai in the year 2011 as a Senior Scientist and Head of Plant Biotechnology and Secondary Products Section. Currently she is engaged in motivating scientific temper among faculty and students at Union Christian College, Aluva as an Adjunct Professor in Biosciences Group. She is a Past President and was a Member, Board of Trustees of Indian Women Scientist's Association and continuing her activities with IWSA, organising Symposia, Workshops, Webinars and other virtual activities remotely from Aluva where she has relocated in the year 2018. Dr. Susan is one of the pioneers in transgenic plant research and she is included in the world's list of 2% scientists in Plant Biology and Botany by Stanford University for the last 6 years continuously (2020-2025). Red Dot Foundation in partnership with the Office of the Principal Scientific Advisor to Government of India listed her among the top 75 Women in STEAM on 3rd March 2022 and felicitated her while we were celebrating 75 years of India's Independence. She is included in the book "SHE IS: women in STEAM" which deals with stories of women in Science, Engineering, Arts & Culture, and Mathematics.

Exploring Nature

Walking Through the Living Himalayas- Deoriatal–Chandrashila Trek

Dr. Seema Das

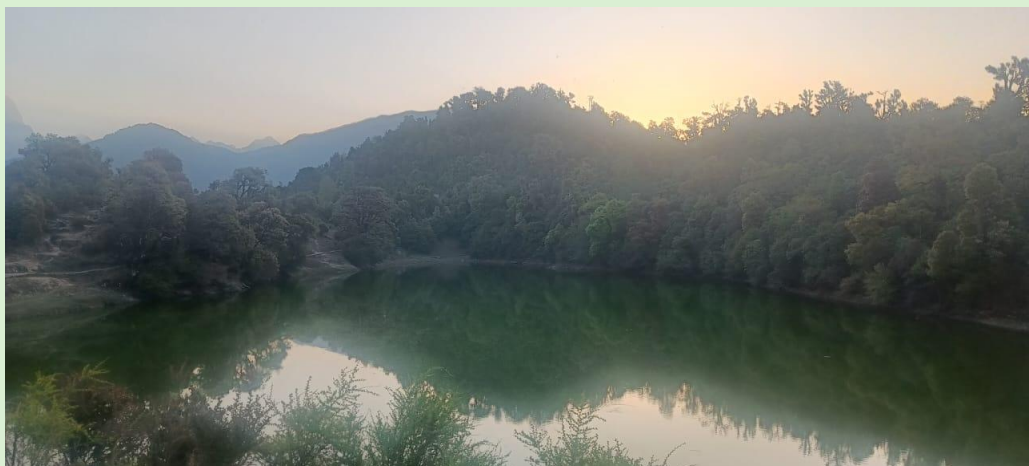
In April this year, I had the privilege of undertaking the **Deoriatal–Chandrashila Trek** in the Garhwal Himalayas of Uttarakhand with a trekking company. This was my first trek in India, the others-Annapurna Base Camp, Mount Everest Base Camp and Manasalu Circuit- being in Nepal. Although I am acquainted with the principles of biodiversity and conservation, experiencing the Indian Himalayan ecosystem firsthand was both humbling and enlightening. The trek was not merely a journey to a mountain summit; it was an immersion into one of India's most fragile and biologically rich landscapes.

Our adventure began with the drive from Rishikesh to the picturesque village of **Sari**, the gateway to the trek. As the road climbed steadily through deep river valleys, I was struck by the dramatic changes in vegetation with altitude. The mighty Alaknanda and Bhagirathi rivers, born in Himalayan glaciers, reminded me that these mountains are not only repositories of biodiversity but also the lifeline of millions of people across northern India.

The trek to Deoriatal passed through forests dominated by **banj oak (*Quercus leucotrichophora*)**, **rhododendron**, **maple and other temperate species**. We could see the scarlet blossoms of **Rhododendron arboreum**, locally known as *buransh*. The flowering trees attracted bees, butterflies and nectar-feeding birds, providing a vivid reminder of the intricate ecological relationships that sustain mountain ecosystems.

As someone deeply interested in biodiversity, I found myself observing not only the spectacular scenery but also the smaller details—the carpets of moss thriving on moist tree trunks, the lichens decorating ancient oaks, delicate ferns emerging from shaded slopes, and the rich humus layer created by decades of fallen leaves. These forests are extraordinary carbon sinks and natural water reservoirs. Their dense root systems stabilise steep slopes, reduce erosion and regulate the perennial streams that sustain villages downstream. Walking through them reinforced how closely ecological health and human well-being are intertwined.

The arrival at **Deoriatal** was unforgettable. The tranquil lake reflected the imposing Chaukhamba massif with astonishing clarity, creating a scene that seemed almost unreal. Surrounded by dense forest, the lake represents much more than scenic beauty—it is a vital freshwater ecosystem supporting aquatic organisms, birds and wildlife. The silence around the lake was broken only by birdsong and the occasional rustle of leaves, reminding me how rare such undisturbed habitats have become.



The following day took us through the forests to **Rohini Bugyal**, a beautiful alpine meadow nestled among towering trees. Bugyals are unique Himalayan ecosystems that flourish for only a few months each year, yet they support an astonishing diversity of grasses, herbs, insects and grazing wildlife. These seemingly simple

grasslands play an essential ecological role. They store water, support seasonal grazing and provide habitat for countless organisms specially adapted to high altitudes.

Throughout the trek, I was fascinated by the gradual transition from broad-leaved forests to more open alpine landscapes. Each few hundred metres of elevation brought subtle changes in vegetation, temperature and wildlife. Our trek leaders pointed out birds such as the Himalayan woodpecker and the brilliantly coloured Verditer Flycatcher, while signs of other wildlife reminded us that we were walking through the **Kedarnath Wildlife Sanctuary**, one of the most significant conservation landscapes in the western Himalayas.

Another striking observation was the resilience and adaptability of the mountain communities. Their traditional architecture, careful use of natural resources and deep respect for forests reflected generations of living in harmony with nature. It was a powerful reminder that conservation is not only about protecting wildlife but also about preserving traditional ecological knowledge and sustainable lifestyles.

The final ascent to **Chandrashila**, via the ancient Tungnath Temple, the highest Shiva temple in the world and one of the revered Panch Kedar shrines, tested our endurance but rewarded every effort. Standing at an altitude of over 12,000 feet, surrounded by an uninterrupted panorama of Himalayan giants—**Chaukhamba, Nanda Devi, Trishul, Kedar Dome, Kamet, Dunagiri and the Gangotri range**—was an experience beyond words. The immense sweep of snow-covered mountains conveyed both the grandeur and the vulnerability of the Himalayas. These glaciers, increasingly threatened by climate change, are the source of rivers that sustain agriculture, industry and human settlements across much of the Indian subcontinent.

The trek left me with a profound appreciation of the Himalayas as a living, interconnected ecosystem where forests, meadows, glaciers, rivers, wildlife and human communities coexist in delicate balance. It also reinforced my belief that every visitor has a responsibility to tread lightly, minimise waste, respect local culture and support conservation efforts.

As I descended from Chandrashila and later returned home to Mumbai, I realised that the greatest gift of the trek was not reaching the summit but gaining a deeper understanding of the extraordinary ecological richness of the Himalayas. The mountains had offered not only breathtaking vistas but also valuable lessons in resilience, interdependence and sustainability. The memories of the crimson rhododendrons, silent forests, crystal-clear streams and majestic snow peaks continue to inspire me, strengthening my commitment to conserving our natural heritage for future generations.



About the author: Dr. Seema Das is an academician and researcher with over 35 years of experience in teaching, research, and academic administration. A former Head of Department and Associate Professor in the Department of Life Science and Biochemistry at St. Xavier's College, Mumbai, she has made significant contributions to higher education through teaching, curriculum development, student mentorship, faculty training, and guiding undergraduate and postgraduate research.

She has several publications in reputed national and international journals and has served as Principal Investigator for multiple research projects funded by the UGC and the University of Mumbai.

Dr. Das has received several fellowships and awards, including the NET Junior and Senior Research Fellowships, the CSIR Research Associateship, the D. D. Kosambi Award (2019) for cultivating scientific temper through innovative curriculum delivery, and the D. D. Kosambi Teacher-Mentor Award (2020) for exemplary contributions to collaborative research, both conferred by CUBE, HBCSE. Currently associated with the Indian Women Scientists' Association (IWSA), headquartered in Vashi, Mumbai, she is actively engaged in its mission of taking science to the masses. Through lectures, seminars, workshops, exhibitions, and outreach programmes, she works to promote scientific temper among school and college students, with a special focus on environmental awareness.

A trekker by chance and a marathoner by choice, Dr. Das has completed the Annapurna Base Camp trek, the Everest Base Camp trek, the Manaslu Circuit in Nepal and the Deorital trek in India. She hopes to climb Mount Kilimanjaro in the near future. Cheerful and enthusiastic by nature, she aspires to be remembered as a dedicated educator, an inspiring mentor, and a lifelong learner.

IWSA Members: Honors, Achievements and Invitations

1. On **28th February 2026**, **Dr Asawari Rath** from HQ delivered an invited talk on the occasion of **National Science Day** at the **Institute of Science, Homi Bhabha State University** on the topic **"Women in Science: Catalysing Viksit Bharat 2047."**



2. **Yojana Sigh, EC Member, HQ** delivered an invited Guest Talk in Mithibai College, Vile Parle on **28th February 2026**. She was the chief guest for **science day celebrations at Dnyandeep School at Nerul** on the same day. A podcast by Dr. Yojana was also recorded and published by students of **Saviour Global School, Kharghar**. She also delivered a talk on **Atoms, Molecules and Uses of Atoms in NMMC school at Koparkhairane** on **31st March 2026**.



3. **Dr. Archana Sharma**, Member, HQ and **"Prime Minister Professor (2025)"** under ANRF in NIT, Raipur, received **IBC 24 Shakti Samman 2026** award on **23rd March 2026**. This is awarded to individuals who have overcome obstacles and have shown extraordinary courage in their respective fields. Event purpose is to celebrate women's empowerment.

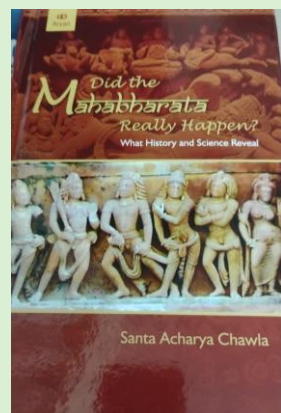


4. **Dr. Seema Das, EC Member** and **Dr. Smita Kekatpure, Member, HQ** were invited as panellists for an NGO internship Viva voce at **SIES School of Business Studies (SIES SBS)** on **12th February 2026**.

5. **Dr. Smita Kekatpure** represented IWSA HQ as a judge for the **science exhibition at Brighton School, Kalyan** on **28th February 2026**, on the occasion of **Science Day**. There were more than 70 models by students from Std. 1 to 11.



6. **Dr. Seema Purohit, EC Member, HQ**, was invited to deliver a talk on the topic, **AI for Environmental Sustainability** in the online **faculty development workshop and industrial training programme**, AI driven NLPs and LLMs conducted by Vivekanand Education Society's Institute of technology.



7. **Dr. Santa Acharya Chawla, Member, Delhi branch** published a book, **"Did the Mahabharata really happen? What history and science reveal"** on **15th March 2026**. This 184- page book, investigating the historicity and timing of the epic using scientific techniques such as archaeoastronomy, archaeology, paleogeography, geology, geochronology, satellite imagery, genetics, and available history is published by Aryan Book International.

8. **Dr Vijaya Khader, Convener, Hyderabad branch** participated in **Panel Discussion on "Discovery to Dialogue: Reimagining Science Communication for a Sustainable Future"** organised by

Academy for Science, Technology and Communication (ASTC) and the Eenadu Group Panel at the **National Conclave on "Lab To Society: Science Communication for Shaping Viksit Bharat @ 2047,"** at Bhaskara Auditorium, B.M. Birla Science Centre, Hyderabad on **8th January 2026**. Shri M. Venkaiah Naidu Garu, Hon'ble 13th Vice President of India, inaugurated the Conclave, and Dr. Soumya Swaminathan attended as the Guest of Honor. Dr.



Khader was invited to conduct an **interaction session with the students of Pallavi Model School, Tirumalagiri on 2nd February 2026**. and the importance of discipline, lifestyle, food habits, healthy eating, etc were covered. She also shared simple ways to overcome examination fear with confidence and positivity. Dr.



Vijaya Khader participated as a **panelist on the theme Investing in people to build an inclusive and nurturant Society in the National Conference on “Transforming the Rural Livelihood Landscape in India: Empowering Rural Communities through Investing in People, Planet and Prosperity (3Ps)”**, held at ICAR–NAARM, Hyderabad (19th - 20th February 2026). On 3rd March 2026 she presented “Short talks, Big impacts” to more than 1000 delegates from Asia-Pacific region. She also delivered an invited talk on **women’s nutritional disparity and community wellbeing at International Women’s Conference on Give to Gain - Women** held at Osmania University, Hyderabad on 25th March 2026 (70 PG students participated). She was **felicitated on International Women Day Celebrations on 6th March 2026 at FTCCI** (300 women participated).

9. **Dr. V. V. Vijayalakshmi, EC Member, Hyderabad branch** was the **Vice-Chairperson** in the core committee of the conference conducted by **ASTC and Eenadu, on the theme Lab to Society: Role of science communication in building Viksit Bharat@2047** on 8th January 2026. She was also a **resource person** in the Key-Note session of **3-Day International Conference on "Innovations in Medicinal Plants and Natural Products Research"** organised by R.B.V.R.R Women's College, Hyderabad, Telangana Medicinal Plants Board, Hyderabad and Society for Conservation and Resource Development of Medicinal Plants, New Delhi. The conference was represented by 13 countries to share their expertise. She was **elected as Fellow of Indian Academy of Biomedical Sciences at Birla Institute of Technology and Science, Goa** on 24th March 2026 (200 delegates attended).



10. **Dr. Mahtab S Bamji, Advisor, IWSA Hyderabad branch** delivered a popular lecture on **Nutrition Security- driver for health and national development** in the **Patels Women Entrepreneurs annual meet** on 29th March 2026 (150 Members attended).

11. **Dr. J. Padmaja Rambabu. Co-Convener of IWSA Hyd. Branch** was honoured by **All India Radio News Readers** on 4th January 2026, keeping



in view of her services to All India Radio as a casual news reader for more than three decades and her Association & passion towards AIR since her childhood.

12. **Prof. A. Uma Rao, member, IWSA, Hyderabad branch** was **felicitated by the Jawahar Lal Nehru Technological University, Hyderabad, as one of the Women Achievers, at the National Conference on “Women Leadership in STEM towards a Sustainable future”** on 25th March 2026.

13. **Dr. Gita Sharma, EC Member, IWSA Hyderabad Branch,** received the **Osmania University Award for Women of Excellence** on 26th March 2026. 350 delegates participated.



Women Go-getters

Ms. R. M. Nachammai- First Woman Chief Superintendent at the helm of a Functional Nuclear Power Plant in India

- by Ms. Supriya Bhanja

Maintenance Superintendent, Madras Atomic Power Station, NPCIL

India's nuclear power programme took its small step embarking upon a journey to be etched in history, during the year 1969, when THE FIRST REACTOR AT TARAPUR started its commercial operation.

The year 2026 turned out to be a land mark year in this steadfast journey on two accounts: when the world's oldest operating nuclear power plant (TARAPUR ATOMIC POWER STATION -1) started generating electricity after a 4-year hiatus of major refurbishment and **Ms. R M Nachammai**, scientific officer (SO) / H was designated as chief superintendent (CS) of Kaiga Generating Station (KGS) -3&4, the first woman to lead the operations, maintenance and engineering support divisions of an operational nuclear power plant in India. Quoting the famous poet Kahlil Gibran, "when you work you fulfill a part of earth's furthest dream, assigned to you when the dream was born", I am prompted to point out the striking simile (both born in the year 1969) between these two achievements, the Indian nuclear power programme has turned a new leaf which encompass a glorious journey in resilience, technical capability, commitment and dedication.



Ms. Nachammai is a graduate in Electrical & electronics Engineering from University of Madras, with a university rank in the year 1990. She belongs to the 2nd batch of NPCIL – Engineer trainees and completed her training from Nuclear Training Centre, at Madras Atomic Power Station (MAPS), Kalpakkam, topping the batch. After about one year in operation section, she joined the nuclear system group of Technical Services Unit, where she honed her skills under the tutelage of Sri S. Krishnamurthy (former ED(O), NPCIL), Sri M.K. Balaji (former site director- Kudankulam nuclear power plant) to name a few. With her tireless effort, intellectual capability coupled with strong determination, she assumed the position of Senior Technical Engineer (nuclear system) in the year 2011. She played an instrumental role in station's regulatory interface, coordination with design group for engineering modification, equipment qualification and streamlining various multidisciplinary activities. For her exemplary contribution in strengthening various aspects of nuclear safety pertaining to plant operation, she was bestowed with NPCIL special contribution award in the year 2010, 2014 & 2017. She assumed the responsibility of Technical Services Superintendent (TSS) of MAPS in the year 2023, where she led the team of engineers, physicists and chemists providing design support, regulatory clearance for the smooth operation of the station. She had played a pivotal role in finalizing the harmonized technical specification for station operation.

Before assuming the position of CS, KGS- 3&4, she held the position of TSS, KGS- 1&2 for about 9 months during the crucial phase of en-mass coolant channel replacement campaign. Her journey embodies the spirit of "never say die" attitude with strong work ethics and professional excellence.

Ms. Nachammai has made presentations in many forums at national level on safety of nuclear power & actively participated in public awareness campaigns. She has represented NPCIL in various international programmes.

She is a life member of IWSA and was part of the Executive Council of the Kalpakkam branch. Her contribution in popularising science and developing scientific temper has been noteworthy.

In NPCIL, with heavily skewed gender balance, Ms. Nachammai's rise to the position of CS is a journey of self-belief. It would inspire every young girl joining the power plant to dream big and not to get aspirations limited by so called social construct.

Prof. Shubha Tole: First Leader from the Developing World to Head the International Brain Research Organization



Indian neuroscience has reached a historic milestone with the election of **Prof. Shubha Tole** as the President of the **International Brain Research Organization (IBRO)**, the world's premier organization dedicated to advancing brain research and neuroscience education. Her election is particularly significant as she becomes **the first President from the developing world** to lead the global body, marking an important step towards greater representation and inclusivity in international scientific leadership.

Prof. Tole's appointment is a recognition not only of her outstanding scientific achievements but also of her unwavering commitment to mentoring young researchers, promoting ethical scientific practices, and strengthening neuroscience worldwide. Her leadership is expected to inspire scientists across Asia, Africa, Latin America, and other developing regions, demonstrating that excellence in research knows no geographical boundaries.

Prof. Tole began her academic journey with a Bachelor's degree in Life Sciences and Biochemistry from **St. Xavier's College, Mumbai**, in 1987. She then pursued her Master's and PhD at the **California Institute of Technology (Caltech), USA**, where she developed a strong foundation in developmental biology. After completing postdoctoral research at the **University of Chicago**, she returned to India in 1999 to establish her independent research laboratory at the **Tata Institute of Fundamental Research (TIFR), Mumbai**. She later served as the Dean of Graduate Studies at TIFR from 2019 to 2026.

Over the past two decades, Prof. Tole has emerged as one of the world's leading developmental neuroscientists. Her research seeks to answer one of biology's most fascinating questions: **How is the brain built during embryonic development?** Her laboratory has made pioneering discoveries on the genetic and molecular mechanisms that guide the formation of different regions of the mammalian brain, particularly structures involved in learning, memory, and cognition. These findings have significantly advanced our understanding of normal brain development and have provided valuable insights into developmental neurological disorders.

Her contributions have earned her numerous prestigious honours. These include the **Infosys Prize in Life Sciences (2014)**, the **Shanti Swarup Bhatnagar Award (2010)**, India's highest scientific honour for young researchers, and the **Research Award for Innovation in Neurosciences (RAIN)** from the Society for Neuroscience, USA, in 2008. She also received the **National Woman Bioscientist Award** from the Department of Biotechnology, the **Swarnajayanti Fellowship** from the Department of Science and Technology, and a **Wellcome Trust Senior International Fellowship**, which supported the establishment of her laboratory in India. In 2022, she was honoured with the **Bernice Grafstein Award for Outstanding Accomplishments in Mentorship** by the Society for Neuroscience, USA, recognising her exceptional contributions to nurturing the next generation of scientists.

Beyond her research accomplishments, Prof. Tole has been a passionate advocate for scientific integrity, diversity, and education. She is a Fellow of all three Indian science academies, has served as Chair of the Women in Science Panel of the Indian Academy of Sciences, and has conducted workshops on research ethics. Through outreach programmes in schools and colleges, and through her widely appreciated mentoring

blogs, she has inspired countless students and early-career researchers to pursue science with curiosity, excellence, and integrity.

As President of IBRO, Prof. Shubha Tole now assumes one of the most influential leadership roles in global neuroscience. Her historic election reflects the growing international recognition of India's scientific excellence and signals a future in which researchers from the developing world play an increasingly prominent role in shaping global science. Her remarkable journey stands as an inspiration to young scientists everywhere, reminding us that curiosity, dedication, and a commitment to excellence can open doors to leadership on the world stage.

Dr Smt. Vaishali Naik - Director of the Variable Energy Cyclotron Centre (VECC)

Dr Smt. Vaishali Naik has taken over as the first woman Director of the Variable Energy Cyclotron Centre (VECC) in Kolkata on February 1, 2026.

With a postgraduate degree from the University of Pune's Department of Physics, she joined the 33rd batch of Bhabha Atomic Research Centre Training School in Mumbai (batch 1989-90).

Early in her career at VECC Kolkata, her focus was experimental nuclear physics, specializing in spectroscopy of exotic nuclei. Later, she led multidisciplinary teams of physicists and engineers to build particle accelerators for the rare isotope beam (RIB) facility in partnership with Indian industry.

Key achievements include the design & development of an Electron Cyclotron Resonance (ECR) ion source, a heavy-ion Radio Frequency Quadrupole (RFQ) Linac, and a novel gas-jet ECR technique. These developments enabled the first successful production of rare isotope beams at VECC's RIB facility. As coordinator of the ANURIB project, she prepared the detailed report for a next-generation accelerator at VECC's new Rajarhat campus, centered on a proton cyclotron for R&D on nuclear properties of short-lived nuclei and medical isotopes via RIB techniques.

Recipient of the DAE Scientific and Technical Excellence Award (2006) and Group Achievement Awards (2010, 2012), she has over 100 publications in nuclear spectroscopy and accelerators including a book she co-authored, titled *Rare Isotope Beams: Concepts and Techniques* (CRC Press, 2022). Dr Naik is passionate about cinema and listening to Hindi, Marathi and Bangla songs.



Padma Shri Award (2026): Dr Armida Fernandez Neonatologist and Paediatrician



Armida Fernandez (born in 1942) is an Indian neonatologist and paediatrician, who drastically cut infant mortality. She is known for establishing Asia's first human milk bank at the Lokmanya Tilak Municipal General Hospital (Sion Hospital) in Mumbai in 1989. In 2026, she was awarded the Padma Shri, India's fourth-highest civilian honour, for her contributions to medicine.

Fernandez joined the Lokmanya Tilak Municipal General Hospital (Sion Hospital). In 1977, she became the head of the Department of Neonatology. During her tenure, she observed high mortality rates among infants whose mothers could not breastfeed

due to illness or other complications. At the time, infants were often fed commercial formula or cow's milk, which frequently led to infections.

In 1989, she founded Asia's first human milk bank at Sion Hospital. The facility was designed to collect, pasteurize, and store donated breast milk to provide essential nutrition to premature and vulnerable infants. Despite initial scepticism from the medical community regarding the safety and cultural acceptance of donated milk, the initiative proved successful in reducing infant infection rates at the hospital.

After retiring from Sion Hospital, in 1999, Fernandez founded SNEHA (Society for Nutrition, Education and Health Action), a non-profit organization focused on improving health outcomes for women and children in urban slums. In 2000, Fernandez she was chosen as the president of the Indian Academy of Paediatrics in Mumbai.

The Government of India recognised her pioneering work in neonatology and public health by awarding her the fourth highest civilian honour of Padma Shri in 2026.

She was awarded the Fellowship of the Indian Academy of Paediatrics (FIAP) in the year 2005 and the Ashoka Fellow (Unites States) in 2004.

https://en.wikipedia.org/wiki/Armida_Fernandez

Padma Shri Award (2026): Dr Shubha V Iyengar **For her contribution to aerospace technology**



Dr. Shubha V Iyengar is one of the Padma Shri awardees this year, recognised in the field of science and engineering. At 71, the honour caps a career that mirrors India's own scientific journey since independence, built on public institutions, long-term research, and indigenous innovation.

A former distinguished scientist at the CSIR–National Aerospace Laboratories (NAL), Dr. Shubha led the development of Drishti, India's first indigenously built runway visibility-measuring instrument. Today, Drishti is installed at major airports across the country and is used by both civilian aviation authorities and the Indian Air Force, significantly improving aviation safety.

Dr. Shubha joined NAL in 1974 after securing first rank in both her BSc (Honours) in Physics and MSc degrees from Central College, Bengaluru. Her interest in science, she has said, was shaped early

on by her father, who strongly believed that women should pursue higher education and encouraged her to complete a PhD. She lost him while she was still an MSc student but carried forward his wish through her work.

The youngest of nine siblings, Dr. Shubha credits her family as her backbone. Over a career spanning more than four decades, her work cut across science, engineering, and national service, something she described as being collectively recognised through the Padma Shri. Even after retirement, she continues to advise institutions whenever called upon.

Dr. Shubha's most visible contribution is Drishti, a system designed to measure runway visibility during landing and take-off—critical moments in aviation, especially during fog, smog, and heavy rain.

Before Drishti, India depended on imported runway visibility instruments from countries like Finland and Australia. These systems were expensive, difficult to maintain, and slow to repair. The lack of indigenous technology also meant that spare parts had to be imported, often causing long delays during breakdowns.

Developed at NAL in collaboration with the India Meteorological Department (IMD), Drishti changed that equation. The instrument is highly sensitive and can predict visibility as close as four metres near the ground, following international standards. If poor visibility is detected, pilots can be alerted in advance to take necessary precautions.

In 2014, Drishti was installed Delhi's Indira Gandhi International Airport. Delhi, considered one of the toughest airports in the world for visibility due to winter fog, became a crucial testing ground. The system performed reliably even under these extreme conditions. Since then, Drishti has been deployed at many more airports across the country, with plans for wider adoption nationwide.

Dr. Shubha V Iyengar's work does not just help planes land safely in low visibility. It stands as proof that long-term public research, when supported and sustained, can make the nation safer, more self-reliant, and technologically confident.

<https://www.timesnownews.com/lifestyle/people/padma-awards-2026-meet-shubha-v-iyengar>

Padma Shri Award (2026): Kollakal Devaki Amma G - for her efforts towards reforestation



Devaki Amma, a forest conservationist popularly known as "Vanamuthassi", hailing from Alappuzha district, received the Padma Shri in recognition of her contributions to forest conservation and environmental preservation. She transformed the barren coastal land of her homestead into a thriving forest ecosystem through individual effort and dedication. Over the past four decades, she has nurtured Kollakal Thapovanam, a five-acre homestead forest that now shelters more than 3,000 trees and a rich diversity of indigenous, medicinal, and rare plant species. Her work stands as a remarkable example of citizen-led biodiversity conservation and sustainable land restoration.

Born on 19 August 1934, Smt. Devaki Amma was actively involved in agriculture, cultivating paddy, gingelly, coconut, and vegetables. A serious car accident in 1980 caused a severe leg injury that restricted her mobility and brought farming activities to a halt. During her recovery, she began planting saplings on the sandy land, which was used for the post-harvesting activities. What began as a personal effort gradually evolved into a lifelong commitment to afforestation and ecological care. She depends on traditional knowledge and close observation of soil and climate conditions for growing the plant saplings.

Through mulching, organic manuring from home cattle, careful retention of leaf litter, and thoughtful water management, she improved the quality of coastal sandy soil. Two ponds within Thapovanam have been maintained to ensure year-round water availability, contributing to groundwater recharge, preventing saltwater intrusion, and supporting aquatic life. The increasing tree cover has helped moderate the local microclimate, reduce heat intensity, and improve overall environmental stability in the surrounding area. Today, Kollakal Thapovanam functions as an ex-situ conservation repository for several rare and endangered plant species native to Kerala. The forest provides habitat for numerous birds, butterflies, and small fauna, creating a balanced ecosystem within a homestead setting. Students, researchers, and nature enthusiasts visit the site to understand sustainable afforestation practices and biodiversity conservation at the grassroots level. Smt. Devaki Amma has encouraged schools, colleges, and households to cultivate native and medicinal plants by providing seeds and seedlings, thereby strengthening community awareness about environmental responsibility.

Smt. Devaki Amma has received several national honours, including the Indira Priyadarshini Vrikshamitra Award (2003). She was conferred the Nari Shakti Puraskar in 2018 in recognition of her contribution to creating a coastal forest. She received the Vanamitra Award, Bhoomimitra Award, State Biodiversity Award (Green Individual), and other environmental commendations from the Government of Kerala. She was also featured by The Better India in 2019 as one of the "10 Heroes Saving Us All," recognising her four decades of dedicated environmental service.

She has inspired thousands of people across the state to adopt tree planting and biodiversity protection as a personal responsibility. Her work demonstrates that consistent individual effort can contribute significantly to environmental protection, climate resilience, and carbon neutrality.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2265055®=48&lang=2>

Rouble Nagi - Global Teacher Prize Winner in 2026



Rouble Nagi is a pioneering educator from India, dedicated to making learning accessible to the most marginalised communities. Over the past two decades, she has established more than 800 learning centres across over 100 underserved communities and villages, reimagining abandoned walls as interactive educational murals that spark curiosity and engagement. These centres cater to children who have never attended school by starting structured learning and guiding them into mainstream education. The centres also support children already enrolled in school, providing remedial education, emotional safety, and creative enrichment. Rouble has been named the winner of the GEMS Education Global Teacher Prize, a Varkey Foundation initiative organised in collaboration with UNESCO. Rouble, who over the last two decades has helped to bring more than one million children into the formal education system through the use of art, was selected from over 5,000 nominations and applications from 139 countries and was announced as the winner.

Central to Rouble's work is her innovative concept of "**Living Walls of Learning**." She transforms abandoned walls into open-air, interactive murals that teach literacy, numeracy, science, hygiene, history, environmental awareness, and social responsibility. These murals are not decorative artworks, but open-air classrooms that draw children into learning, engage parents, and turn entire neighbourhoods into partners in education.

Rouble Nagi was born in 1980 in Jammu & Kashmir and did undergraduate studies in political science and later studied fine art at the Slades School of Fine Art in London. She has also studied European Art at Sotheby's, London. She is married to Mumbai-based businessman **Saahil Nagi**.

Rouble Nagi founded the Mumbai-based **Rouble Nagi Art Foundation (RNAF)**, a non-profit NGO focusing on community development, women's empowerment, and educating underprivileged children across India. Paint Dharavi (2016) and "Misal Mumbai" are initiatives of this foundation in Mumbai. The main aim of Misal Mumbai is not to only colour/beautify the walls, but to connect to people through Art, bring a positive change in their mindset regarding all aspects of life. Rouble travels extensively across India, working directly with children in the learning centres and mentoring the teachers who lead them. She has recruited and trained more than 600 volunteer and paid educators, creating a scalable model that meets children where they are – academically, socially, and economically. Her classrooms often operate in the most challenging conditions, shaped by poverty, child labour, early marriage, irregular attendance, and a lack of basic infrastructure. Rather than seeing these realities as barriers, Rouble designs education around real life: flexible schedules for working children, hands-on learning using recycled materials, and practical skills that demonstrate immediate value to families. As a result, her programmes have reduced dropout rates by more than 50% and significantly improved long-term school retention.

Alongside her work in education, Rouble is an internationally recognised artist and urban renewal pioneer. Through the **Rouble Nagi Art Foundation and Rouble Nagi Design Studio**, she has created more than 850 murals and sculptures and exhibited in over 200 shows worldwide. A member of the India Design Council, she was the first artist invited to exhibit at the Rashtrapati Bhavan Museum, with her work selected for the President of India's permanent collection. Her honours include the Jijamata Award, GR8 Award, MAP Noble Artist Award, and the HELLO! Urja Award. She is the author of the book, *The Slum Queen*, released in 2022, which talks about her work in slums and villages in India.

Rouble plans to use the \$1 million prize money to build a Skilling Institute, offering free vocational and digital literacy training to help transform the life chances of millions more marginalised children and young people. Her work affirms that teachers matter and they are the most powerful force for progress in our world.

https://en.wikipedia.org/wiki/Rouble_Nagi

- Compiled by **Dr. Susan Eapen, Dr. Shyamala Bharadwaj and Dr. Dhanya Suresh**



IWSA
G M Abhyankar
Day Care Centre

Where Every Child Grows, Learns and Shines

A Safe, Happy and Nurturing Home Away From Home

Time: 7.30 am to 7.30 pm

Age: 6 months to 13 yrs for Girls and 10 yrs for boys

Premises: Clean and spacious play area

Staff: Well trained, loving and caring staff.

Activity: Dancing Singing, Drawing, Creative craft, Clay modelling, nurturing plants and Story telling .

Facility for Dropping and Bringing the children from school is available.

Dancing

Creative Craft

Drawing

Clay Modelling

Nurturing Plants

Contact: 86578665479

Happy Children... Bright Future! ♥

Indian Women Scientists' Association
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Bom. Pub. Trust Act 1950 Reg. No. F-2931 (BOM) 19/7/73
Under Sec. 12A of the Income Tax Act 1961 No. INS/13431/24/2/80

Cert. No. Dt. 11/6/2008
No. DIT(E) MC/80-G/1634/2007
ITO(TECH)(EXEM)
NITI Aayog ID: MH/2017/0173875

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Published by Dr Nootan Bhakkal, President, IWSA, Plot No.20, Sector 10A, Vashi, Navi Mumbai 400703.
Editor Dr Dhanya Suresh