IEEE WOMEN IN ENGINEERING AFFINITY GROUP

IEEE PUNE SECTION

In Association with

SYMBIOSIS INSTITUTE OF COMPUTER STUDIES AND RESEARCH

SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY), PUNE, INDIA

2024 First IEEE International Conference for Women in Computing (InCoWoCo)

14-15, November 2024

Venue:

SYMBIOSIS INSTITUTE OF COMPUTER STUDIES AND RESEARCH
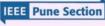
Atur Centre, Model Colony, Pune

Our Partners

2024 First   IEEE International Conference for Women in Computing

(InCoWoCo)

14 - 15, November 2024.

2024 First IEEE International Conference for Women in Computing (InCoWoCo 2024) was proposed as a global series and an annual flagship conference by IEEE WiE Affinity Group of IEEE Pune section. The series, started in the year 2024, has been planned to provide a common platform for researchers, especially women, from across the world to deliberate on broad understanding of computing concepts and its technical and business practices in the world of technological advancements.

The vision of INCOWOCO 2024 was to foster communication among researchers and practitioners working in a wide variety of the above areas in Engineering, Science and Technology. Potential number of women participants would gather at   INCOWOCO   to present research results, share visions and ideas, obtain updates on latest technologies and expand professional and social networking. The debut conference was held in HYBRID MODE, where participants can participate either in Online or Physical mode based on their convenience during 14-15, November 2024 with planned Pre Conference workshop and Inauguration on 13 November 2024.

Conference Scope

The conference aims to offer a great opportunity to bring together female professors, researchers and scholars around the globe, a great platform to deliver the latest innovative research results and the most recent developments and trends in Engineering, Science and Technology fields. The conference will feature invited talks from eminent personalities all around the world, pre-conference tutorial/workshops and referred paper presentations. The vision of InCoWoCo 2024 is to foster communication among researchers and practitioners working in a wide variety of the above areas in Engineering, Science and Technology. Potential number of women participants gather at InCoWoCo to present research results, share visions and ideas, obtain updates on latest technologies and expand professional and social networking. The conference will be held in Hybrid Mode.

The conference sought submissions from women (at-least one author should be a female in the paper) working in Industry, Government and Academia showcasing Offbeat Interdisciplinary Research Papers on practical as well as theoretical aspects of Engineering, Science and Technology which is covered by the scope of IEEE. Interdisciplinary

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papers which focus on Functional aspects of Computing, Implementation of Electronics Technology and Employing Communication Engineering are encouraged.

Conference Tracks

The conference received manuscripts for the following tracks

Track 1 – Applied Artificial Intelligence, Cyber Security and Data Science
Track 2 – Communication, Network, Hardware, High Performance Computing and Cyber Physical Systems
Track 3 – Technology for Banking and Finance
Track 4 – Computing Education and Research, Innovation and Entrepreneurship
Track 5 – Computing Medicine and Healthcare
Track 6 – STEM Leadership
Track 7 - Computing for Environmental Engineering and Climate Change

Conference partners

InCoWoCo 2024 is technically co-sponsored by **IEEE Women in Engineering Affinity Group Pune and IEEE Pune Section** and was **organized by the Symbiosis Institute of Computer Studies and Research (SICSR), Symbiosis International (Deemed University), Pune, Maharashtra, Indi**a. . The conference had collaboration from our sister institutions like **Symbiosis School of Banking and Finance e**specially for Track 3 and **Education Society, IEEE Pune Section.**

Conference Proceedings

The proceedings of InCoWoCo 2024 will be forwarded to IEEE for possible publication in the IEEE Xplore, the digital library of IEEE. The IEEE conference record of InCoWoCo 2024 is #64194.

Conference Statistics

The aggressive marketing strategies from the conference committee resulted in an overwhelming response. We have received 819 papers from across the world including countries like India, USA, UK, Australia, Malaysia, Sri Lanka, Turkey, Bangladesh etc.

- Total number of papers received.: 819
- Author Countries: India, China, UK, USA, Sri Lanka, Turkey, Malaysia
- Total Number of Accepted paper: 221
- Acceptance Ratio: 27% acceptance rate
- No. of registered papers: 140
- Sessions Held: 4 parallel Tracks, 25 sessions, 2 days, 2 keynotes, 1 panel discussion along with inauguration and Valedictory
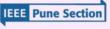
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- Chief Guest:Dr.Prerna Gaur, Director, NSUT, Delhi and First Female Chair Elect, IEEE India Council
- Panel discussion (with 6 panelists from India and abroad) on Harnessing AI for sustainable future _Innovation, Impact and Inclusion
- UN SDGs addressed by the InCoWoCo 2024 : 5, 9, 10

Conference Report : Session wise

Pre Conference Workshop

The IEEE International Conference for Women in Computing (InCoWoCo, 2024) began with a Pre-Conference Workshop on the topic "AI in Research," conducted by Dr Dhaval Maheta, a distinguished professor from Veer Narmad South Gujarat University (VNSGU), Surat, Gujarat. Held online from 9:30 A.M. to 1:00 PM, the workshop set the stage for a productive conference by equipping participants with insights into how artificial intelligence (AI) can enhance the research process, specifically in writing high-quality research papers. The workshop gave participants a comprehensive understanding of how AI-powered tools and techniques can be leveraged throughout the research lifecycle.

This workshop effectively demonstrated how leveraging AI tools can transform the research process, making it more efficient and impactful. Participants gained insights into advanced platforms such as Open Knowledge Map and Carrot 2 for visually mapping research areas and clustering information. Tools like Paperity AI and Globe Explorer AI showcased innovative ways to access open-access research papers and explore global academic trends. Software like Publish or Perish and Citation Gecko emphasised streamlining citation analysis and reference connections, ensuring a robust scholarly foundation. Elicit AI and Litmaps also highlighted AI's ability to identify emerging research opportunities and track developments in real time. Lastly, platforms like Teach Anything AI were introduced, offering personalised learning and conceptual clarity to aid researchers in mastering complex topics. By integrating these tools, researchers can enhance their productivity, improve the quality of their work, and confidently navigate the dynamic landscape of academic research

InCoWoCo 2024 Inauguration

The official event commenced with the Inauguration Ceremony on 13th November 2024 at the SIMS Auditorium, Khadki, Pune, marking the formal beginning of a significant academic and professional gathering. The ceremony brought together distinguished guests, faculty members, enthusiastic participants and students from SICSR and various institutes, creating an environment charged with inspiration and anticipation.

The event began with a warm welcome address by Anannya Srivastava and Apurva Agarwal, members of the SICSR IEEE Student Brand. They extended a heartfelt welcome to the distinguished guests and participants and emphasised the importance and relevance of the conference theme.

Following the welcome address, the ceremonial lighting of the lamp took place, accompanied by a soulful rendition of Saraswati Vandana. This symbolic ritual represented the pursuit of knowledge, wisdom, and enlightenment. The lighting of the lamp, a solemn and auspicious moment, marked the official commencement of the event, setting the

tone for the day's proceedings. The atmosphere was filled with anticipation, and the event was poised to inspire and engage participants in meaningful discussions.

The event proceeded with an introduction to the dignitaries, setting the stage for the inaugural address delivered by Dr. Rajashree Jain, General Chair of IEEE InCoWoCo 2024. Dr. Jain highlighted the conference's central focus on women's empowerment and gender equality, two critical themes aligned with the UN Sustainable Development Goals (SDGs). She emphasised the importance of women's full and equal participation in all areas of life, particularly in fields where their contributions have been historically underrepresented. She discussed the persistent cultural and societal barriers that women face while also celebrating the groundbreaking achievements of women in technology and computing, drawing inspiration from pioneering figures who have paved the way for future generations.

Dr. Jain also shared the impressive statistics surrounding the conference's paper submissions. Out of 819 submitted papers, 221 were selected based on their quality, with a 27% acceptance rate, of which 140 papers ultimately registered for the conference. These papers were scheduled for presentation across 24 sessions held in hybrid mode, with each paper having an author who is a woman. The inaugural address set a dynamic tone for the event, encouraging meaningful academic and technical exchanges.

The event proceeded with a Welcome address by Dr Jatinder Kumar R. Saini, Professor & Director of SICSR and Hon. Chair of IEEE InCoWoCo 2024. In his address, he paid tribute to his peers for their dedicated efforts in bringing the conference to fruition after nearly a year of planning and hard work. He emphasised the collaborative spirit and dedication that defined the journey of organising the event, which was not without its challenges

Dr. Saini warmly welcomed the dignitaries and delegations, acknowledging their roles in making the conference successful. He specifically highlighted the contributions of distinguished individuals. Prerna Gaur and Dr Neha Parashar, Director of SSBF, were monumental in the organisation of the event.

Dr. Saini also underlined the importance of such conferences in disseminating research findings that aim to improve society rather than just facilitating networking. He spoke about the necessity to break away from traditional formats, ensuring that the conference would not be just another routine event but a meaningful platform for innovation. He also expressed gratitude for the support received from various groups, which contributed to the organisation of the event.

Following this, a recorded message from Dr. Surekha Deshmukh, Chairperson of the Pune Section, was presented. Due to international commitments, Dr. Deshmukh could not attend in person, but her unwavering support for the conference was conveyed. Dr. Deshmukh's exceptional contributions, particularly in fostering industry relations and supporting students, were acknowledged with great respect. Although physically absent, her influence and presence were strongly felt as the audience listened to her message, which instilled a sense of connection, encouragement, and motivation for the continuation of the conference.

This was followed by an AV message from Dr. Kathleen Kramer, President of IEEE 2024. In her inspirational address, Dr Kramer emphasised the importance of the conference and its objectives, acknowledging the critical role such forums play in fostering knowledge sharing and collaboration within the global community of women in computing. Her words resonated deeply with the audience, highlighting the conference's mission to further innovation and support women's leadership in technology.

Next, Dr. Saini addressed the audience on behalf of Dr. Raman, whose prior commitments prevented him from attending the conference. The representative shared the Vice Chancellor's best wishes and blessings for the event, reinforcing the significance of the conference and its goals.

The proceedings continued with an address by Dr. Amar Buchade, Vice Chairperson of the IEEE Pune Section and General Co-Chair of IEEE InCoWoCo 2024. Dr. Buchade's address reinforced the conference's emphasis on collaboration, innovation, and mutual efforts within the engineering and academic communities. With his extensive experience in information security and standards, Dr Buchade highlighted the importance of data protection and cybersecurity in the context of technological advancements. As a PhD holder from the Government College of

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Engineering, Pune, and a dedicated member of the IEEE Pune Section, Dr. Buchade's contributions emphasised the balance between advancing technology and ensuring its responsible and ethical application, particularly in humanitarian and social impact initiatives.

Dr. Buchade's address further underscored the importance of the conference, which provided a platform for women researchers worldwide to explore computing concepts and their broader societal implications. The atmosphere was one of pride and accomplishment, as the event brought together professionals and academics committed to advancing women's leadership in computing. The sense of unity and purpose, along with the recognition of all those involved in organising the event, added a deep sense of significance to the occasion.

The proceedings were then followed by an address from the Guest of Honour, Dr. Tangaprakash Sengodan, Chief Executive of Diligentec Solutions. Dr. Sengodan reflected on both the challenges and successes encountered during the conference's organisation. He acknowledged that the journey to this first edition of the event had been a complex one, with limited preparation time and technical challenges impacting the approval process. Despite these hurdles, he emphasised the determination and commitment of the organisers and participants, particularly highlighting the requirement for at least one female author in every submitted paper—a challenge that posed significant barriers but ultimately led to impressive outcomes. Dr Sengodan also expressed his pride in the high quality of the papers submitted and the technical rigour maintained during the selection process.

The event also featured a special address by Dr. Prerna Gaur, a prominent academician, researcher and the Campus Director at NSUT in New Delhi. Dr. Gaur, a pioneer in electrical engineering and artificial intelligence, spoke candidly about women's empowerment in computing. She emphasised the importance of interactive collaboration and the need to ensure that women are given equal opportunities to contribute to the ever-evolving technology field. Dr. Gaur, whose career spans over three decades, has authored more than 200 research papers and held various leadership roles, including her recent election as the the first female Chair Elect of the IEEE India Council.

Her address underscored the significance of inclusivity in technology, reminding participants that initiatives like the IEEE Women in Enginering and InCoWoCO are crucial for increasing women's participation in STEM fields. Dr. Gaur's inspiring words brought attention to the progress made toward creating a more inclusive and diverse environment for women in technology, as well as the need to continue empowering women to take on leadership roles and shape the future of the field.

This was proceeded by the Felicitation of the Dignitaries. The first half of the event ended with a vote of thanks by Dr Priya Gole, the conference chair, who thanked everybody and suggested a vote of thanks to recognise the collaborations.

The first half of the event concluded with a heartfelt Vote of Thanks delivered by Dr. Priya Gole, the Conference Chair. Dr. Gole expressed gratitude to all the dignitaries, speakers, participants, and collaborators who contributed to the success of the event. She highlighted the importance of the partnerships and teamwork that made the conference possible, emphasising the collective effort to bring attention to key themes like women's empowerment, gender equality, and advancements in technology. Her vote of thanks served as a recognition of the collaborative spirit that defined the event, leaving the audience with a sense of appreciation and anticipation for the sessions ahead.

Cultural Programme

The second half of the InCoWoCo 2024 event proceeded with a vibrant Cultural night that took place on the evening of 13 November 2024 at Symbiosis, bringing to life the philosophy of "Vasudhaiva Kutumbakam" (The world is one family). Hosted by Nivedita Dodeja and Hrithika Kahol, this segment featured a series of captivating performances that blended India's rich cultural heritage with the spirit of modernit

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Event 1: Ganesh Vandana by Kushagra and Yuti
 The evening began with a soulful Ganesh Vandana, performed by Kushagra and Yuti from Symbiosis Institute of Computer Studies and Research (SICSR). Their performance, which invoked Lord Ganesha, the remover of obstacles, set a serene tone for the night. The audience was filled with a sense of positivity and calm, marking an auspicious start to the evening.

Event 2: Bharatanatyam by Rishita
 The next performance featured Rishita, who presented a beautiful Bharatanatyam dance. The Vandana honored gods and goddesses, symbolizing prosperity and wisdom. Rishita's performance captured the essence of devotion, showcasing intricate footwork, graceful movements, and expressive storytelling that took the audience on a spiritual journey.

Event 3: Semi-Classical Fusion Dance by SSBF Students
 The Symbiosis School of Banking and Finance (SSBF) students performed a semi-classical fusion dance, blending Kathak with contemporary dance. This performance beautifully embodied the harmony between tradition and innovation, reflecting how ancient art forms can inspire modern expressions while celebrating India's diverse cultural landscape.

Event 4: Lavani by Meera Gulab Sonwane and Group
 The evening concluded with an energetic Lavani performance led by Meera Gulab Sonwane. Lavani, a folk dance from Maharashtra, is known for its rhythmic beats, expressive storytelling, and vibrant energy. Meera Tai and her group delivered a spirited performance, reminding the audience of the significance of preserving intangible cultural art forms amidst globalisation. The dance celebrated community spirit and resilience, leaving the audience in awe of the power of folk traditions.
After the performances, the hosts, Nivedita Dodeja and Hrithika Kahol, delivered closing remarks, expressing their gratitude to the performers and the audience. They emphasised how the event celebrated the synthesis of tradition and innovation, reminding everyone of the Vasudhaiva Kutumbakam spirit. They invited the attendees for dinner, concluding the evening on a warm note of camaraderie and shared experiences.
The cultural segment of the event beautifully encapsulated the ethos of Symbiosis—honouring the past while embracing the future. By celebrating the richness of India's traditions and incorporating modern expressions, the event highlighted the importance of unity, progress, and inclusivity. The evening was a reminder that through shared cultural experiences, we can continue to innovate while staying grounded in our roots.

Day 1: Keynotes
More than 30, with a diverse representation of participants from different walks of research, academia, industry, and IEEE members, from countries such as the USA, Europe, and Asia Pacific, besides 20 different states of India.
The second day of the INCOVOCO 2024 welcomed participants with an energetic opening session, ably handled by Dr. Rajashree Jain. The session was a dynamic hub for sharing knowledge and inspiration and presented several insightful addresses from renowned figures in the field of computing.
 This with a warm welcome extended by Dr. Rajashree Jain to all the attendees explaining that "it is a very unique conference strictly focused on how technology, sustainability, and leadership intersect within the realm of women in computing." She stressed that the significance of this conference comes from being an IEEE flagship event for the Pune Section in 2024 and thanked the collaboration exhibited by Symbiosis Institute of Computer Studies and Research, IEEE Pune Section, and Women in Engineering Affinity Group. Dr. Rajashree Jain   then emphasized the

fact that the conference is historic in nature with the participation of all powerful female leaders working within the IEEE ecosystem.

Keynote: Ms. M. Jyothica Athawale:

Ms. Athawale is an engineer and leader who amazed the audience with her talk, which was based on the IEEE Computer Society's Technology Predictions Report.

She gave a nice outline of the careful process she went through to select, analyze, and rank these emerging technologies. This consisted of: Assembling a diverse team of experts from academia, industry, and government.Having broad criteria for review, including potential impact on humanity, predicted maturity, market adoption, and commercial viability. Applying strict grading and ranking methodology to emphasize the technologies. Ms. Athawale discussed the key findings of the 2024 report, which are going to see Generative AI dominating and advanced cybersecurity in the extremely networked world; miniaturization of medical devices is at the cutting edge of transformative technologies. The keynote draw attention to the interrelation between the technological progress and society needs, which rates remote healthcare solutions on very high level. Ms. Athawale continued speaking on so-called "megatrends"; there are three great trends that will follow in a row for the following years: sustainability, digital transformation and artificial general intelligence. Drove to the conclusion of the report's utility for different stakeholders, such as industry, government, academia, and professional organizations, in steering strategic investments and research directions

Recording of Mr. Deepak Mathur,VicePresident, IEEE MGA:

In a special recorded message, Mr. Deepak Mathur who is well reputed in IEEE ranks, wished all the very best to the organizers and participants of this conference. He appreciated the idea of specifically holding a women in computing conference as it would aid in promoting diversity in the technology sector. Mr Mathur brought out the spirit of cooperation driving INCOWOCO 2024 as it marshaled different organizations working towards one unity.

The session ended with a vote of thanks from Dr. Rajashree Jain. She thanked the keynote speakers for richly contributing their insights; She announced that at 5:15 PM, there would be an afternoon panel discussion on "Harnessing AI for Sustainable Futures." Hence, she urged them to actively engage themselves in the discussion for a thought-provoking enlightenment of how AI ultimately does solve world problems.

Panel Discussion Topic: Harnessing AI for Sustainable Futures: Innovation, Impact, and Inclusion

Overview:

As artificial intelligence (AI) continues to shape the future of various industries, its role in addressing the global sustainability challenges becomes increasingly critical. This panel discussion at the *International Conference for Women in Computing 2024* will explore the intersection of AI and sustainability, focusing on how AI technologies can be leveraged to promote environmental conservation, resource efficiency, and equitable solutions for a sustainable future. The panel will also address ethical concerns, ensuring inclusivity in the development and deployment of AI for sustainability.

Objectives:

1. To discuss the role of AI in achieving the United Nations' Sustainable Development Goals (SDGs).

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2. To examine AI-driven innovations in sustainability-focused industries such as energy, agriculture, and transportation.

3. To address the ethical and social implications of using AI for sustainability, with a focus on inclusivity and equity.

4. To explore best practices and policies that ensure AI supports sustainability without exacerbating inequalities or environmental degradation.

Panelists

Dr.Preeti Bajaj – Director General KIET group of Institutions, Ghaziabad, UP
1. Deepthi Setlur, Chief Technology Officer at Fruition Technology Labs and AquaVapor
2. Ms. Sadhana Attavar, Former Director at Visvesvarya Museum, Bengaluru
3. Dr. Neha Parashar, Director, Symbiosis School of Banking and Finance, Pune
4. Dr.Vishal Toro, Clean Energy Access Network (CLEAN), Pune

Panel Moderator: Dr.Dimple Pal, ITIL.BTG Sustainable Manufacturing Unit 1 at Tata Consultancy Services

Conference Valedictory

The conference valedictory was held at 2PM to 3.30PM in online mode on WEb Ex platform on 15 November 2024. Following was the schedule of the same.
Welcome address: Dr.J.R.Saini, Professor and Director, SICSR, Pune
Address by: Abhijit Khurpe, Secretory, IEEE, Pune
Address by: Mandar Bhawalkar, Treasurer, IEEE, Pune
Address by chief guest: Dr. R. D. Kharadkar, Director
G H Raisoni College of Engineering and Management Pune
Best Paper Awards Dr. Sarika Sharma
Vote of Thanks: Dr. Parag Kaveri

Conference Feedback

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Please share your valuable feedback

Legend: Least Dissatisfied · Dissatisfied · Neither Satisfied Nor Dissatisfied · Satisfied · Most Satisfied

How would you rate the overall experience of InCoWoCo 2024?
76 responses

Rating	Count
1	0 (0%)
2	1 (1.3%)
3	2 (2.6%)
4	25 (32.9%)
5	48 (63.2%)

Conference Gallery

Dr.Saini, General Chair, ICCOWOCO 2024, and Professor & Director SICSR, addressing during conference inauguration

Time: 13-11-2024 17:52
Note: INCOVOCO-2024

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