

e-STRUCT

e-Newsletter of CSIR-Structural Engineering Research Centre

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The e-STRUCT newsletter showcases a journey of continued resilience in the quarter gone by, coupled with optimism for a better future through the scientific activities and myriad events that are part of day-to-day life on the CSIR-SERC campus. I am very happy to present Vol. 10, No. 1, 2026 issue of e-STRUCT. This edition showcases the varied skills of the CSIR-SERC community, highlighting our R&D pursuits, achievements, skill development initiatives, and other significant events & endeavours during January - March 2026.

The research highlights of this issue give a brief on the extensive investigations carried out by CSIR-SERC on RDSO standard composite bridge decks across various zones of Indian Railways, focusing on understanding real behaviour, addressing field issues, and ensuring structural safety and serviceability. The comprehensive structural assessment by CSIR-SERC represents a significant advancement in the evaluation of railway infrastructure. By integrating field instrumentation, full-scale testing, and advanced numerical simulation, the Centre has developed a robust framework for understanding real structural behaviour under operational conditions.

A two-day Research, Industry, Startup and Entrepreneurship (RISE) Conclave, was organized during 14-15 February 2026, which stood as a powerful testament to India's collective resolve to transform research excellence into real-world impact, in alignment with the national vision of Viksit Bharat 2047. A major highlight of the conclave was the vibrant startup expo, which witnessed the participation from over 140 startups and MSMEs built around technologies developed at CSIR-SERC, CSIR-CLRI and CSIR-CECRI.

As in earlier quarters, skill development programs and Jigyasa events were organized. CSIR-SERC participated in three exhibitions namely, Technology and Innovation Conclave 2.0, MSME Tech Connect 2026, National Exhibition-cum-Technical Event under Mission SANKALP and showcased its various technologies. A total of twelve papers were published in this quarter, of which ten were in SCI Journals and two in reputed Indian Journals. This has indeed been a challenging but eventful quarter and as always, we look forward to more exciting opportunities in future.

With best wishes,

Dr. N. Anandavalli

02.07.2026



RISE Conclave 2026

The two-day Research, Industry, Startup and Entrepreneurship (RISE) Conclave 2026, was organized jointly by CSIR-SERC, CSIR-CLRI and CSIR-CECRI, during 14-15 February 2026 at Chennai. In the conclave, Dr. Jitendra Singh, Hon'ble Union Minister of State for Science & Technology, Earth Sciences and MoS, PMO, Personnel Public Grievances, Pensions, Atomic Energy and Space, called for an Industry driven startup model and a decisive shift in mindset towards innovation-led entrepreneurship and job creation. He also highlighted that India's innovation ecosystem has matured to a stage where opportunity is fully democratized and accessible on a "mobile phone".

The inaugural session was attended by Dr. N. Kalaiselvi, Director General, CSIR & Secretary, DSIR, Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences, Dr. N. Anandavalli, Director, CSIR-SERC, Dr. K. Ramesha, Director, CSIR-CECRI and Dr. P. Thanikaivelan, Director, CSIR-CLRI. The programme also featured exchange of Umbrella MoUs between CSIR and academic institutions with their incubators, partnerships between CSIR laboratories and startups/industry.



The conclave stood as a powerful testament to India's collective resolve to transform research excellence into real-world impact, in alignment with the national vision of Viksit Bharat 2047.

A major highlight of the conclave was the vibrant Startup Expo, which witnessed participation from over 140 startups and MSMEs built around technologies developed at CSIR-SERC, CSIR-CLRI and CSIR-CECRI. The expo showcased cutting-edge solutions spanning multiple sectors, reflecting the growing strength of India's deep-tech startup ecosystem.



The two-day RISE Conclave 2026 culminated with closing remarks by Dr. K.J. Sreeram, Scientist-H, CSIR and Former Director of CSIR-CLRI, who reaffirmed the collective national resolve to foster a dynamic innovation ecosystem where research excellence, industry expertise, and entrepreneurial spirit unit to drive India's sustainable and inclusive growth.

Research highlights

Comprehensive Structural Assessment of RDSO Standard Composite Railway Bridges using Advanced Simulation, Instrumentation and Testing Protocols

Introduction

Steel-concrete composite bridge decks have emerged as a preferred structural system for railway bridges in India, owing to their high strength-to-weight ratio, construction efficiency, and superior structural performance. Standardized designs developed by the Research Designs and Standards Organisation (RDSO) have enabled widespread adoption of these systems across Indian Railways, particularly for spans ranging from about 12 m to 30 m and beyond. These bridges typically consist of steel I-girders acting compositely with reinforced concrete deck slabs, ensuring efficient load distribution and enhanced stiffness.

With the steady increase in freight demand, introduction of higher axle loads (such as 25T loading), and the push towards higher train speeds, the operational demands on these bridges have significantly increased. While the design provisions account for such loading scenarios, field observations from newly constructed and commissioned bridges have indicated variations in performance, prompting the need for detailed structural assessment. In this context, CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai, has undertaken extensive investigations on RDSO standard composite bridge decks across various zones of Indian Railways, focusing on understanding real behaviour, addressing field issues, and ensuring structural safety and serviceability. Figure 1 shows typical spans of the composite bridges investigated for East Central Railway.

Field Challenges in Composite Railway Bridges

One of the most prominent issues observed during the commissioning of composite bridges is the loss of camber in steel girders. Camber is deliberately introduced during fabrication to counteract dead load deflections arising from self-weight and the weight of the concrete slab. However, during field investigations, it has been consistently observed that the provided camber reduces significantly after deck slab casting and further during initial loading stages. This often results in a visibly sagged profile, which raises concerns regarding excessive deflection and possible structural inadequacy. In many cases, the observed deflections are within acceptable stress limits, indicating that the issue is primarily related to serviceability perception rather than structural safety. Nevertheless, it highlights the importance of understanding real behaviour rather than relying solely on design assumptions.

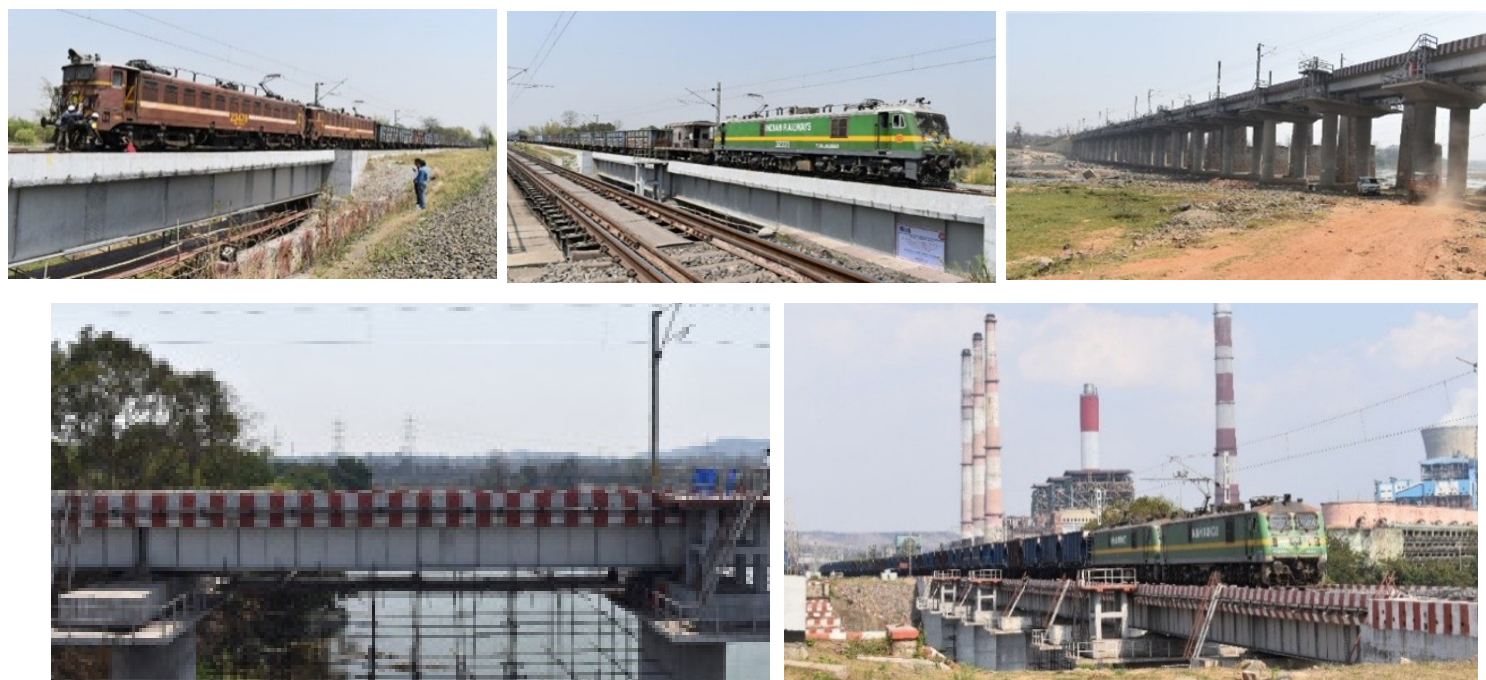


Fig. 1 Typical spans of the composite bridges investigated for East Central Railway

In addition to camber loss, several other challenges have been identified through field studies. Variability in deflection behaviour across similar span configurations has been observed, which can be attributed to differences in construction practices, support conditions, and material properties. In some instances, apparent excessive deflections were noted when measured visually, but detailed instrumentation revealed that these were within permissible limits when accurately quantified. Another important aspect relates to the steel-concrete interface behaviour. The effectiveness of composite action depends on proper shear transfer between steel girders and the concrete slab. While most bridges demonstrated adequate interaction, localized variations were observed, particularly near mid-span and quarter-span regions, necessitating careful evaluation. Additionally, boundary condition uncertainties, such as bearing stiffness, rotational restraint, and potential support settlements, were found to influence the overall structural response. Dynamic performance of composite bridges under moving train loads also emerged as a critical area of investigation. With increasing train speeds, concerns related to vibration, acceleration levels, and potential resonance effects have gained importance. Furthermore, long-term considerations such as fatigue behaviour under repeated loading cycles, durability of materials, and environmental effects were also addressed as part of the comprehensive assessment.

Integrated Methodology Adopted by CSIR-SERC

To address these challenges, CSIR-SERC has developed a systematic and integrated methodology combining field investigations, experimental studies, and advanced numerical simulation. The approach is adopted to capture the true structural behaviour of bridges under realistic operating conditions and to provide reliable inputs for decision-making. The assessment begins with detailed field inspection, including measurement of geometric parameters such as camber profile, alignment, and deflected shape. This is followed by non-destructive evaluation of materials using techniques such as ultrasonic pulse velocity testing and rebound hammer testing, which help assess the quality and uniformity of the concrete deck slab without causing damage.

Instrumentation forms a critical component of the assessment. Bridges are instrumented with strain gauges to measure stresses in steel girders and concrete slabs, displacement transducers (LVDTs) to record deflections at key locations, and accelerometers to capture dynamic characteristics. The instrumentation scheme is carefully designed based on preliminary analysis to ensure that critical regions of the structure are adequately monitored. Special emphasis is placed on capturing the deflection profiles in relation to the original camber, enabling a clear understanding of camber loss and its implications. Figure 2 shows instrumentation on a typical girder for strain, deflection, lateral displacement measurements.



Fig. 2 Instrumentation on a typical girder for strain, deflection, lateral displacement measurements

Field Testing under Realistic Conditions

A distinguishing feature of CSIR-SERC's work is the use of full-scale field testing using actual train formations, which provides a realistic representation of bridge behaviour under operational loading conditions. Static load tests are conducted by positioning loaded trains at critical locations along the span, enabling measurement of maximum deflections, stress distribution, and load-sharing characteristics between girders.

Dynamic testing involves running trains across the bridge at different speeds, typically ranging from low speeds to operational limits. These tests provide valuable data on vibration characteristics, acceleration response of the deck slab, and dynamic amplification effects. Additional test scenarios, such as tractive effort and braking conditions, are also considered to capture the full range of loading effects experienced by the bridge. The data obtained from field testing is processed using advanced signal processing techniques to extract meaningful parameters such as peak responses, damping characteristics, and frequency content. This data forms the basis for validating analytical models and to assess the structural performance. Figure 3 shows typical responses measured on the composite bridge under dynamic test cases.

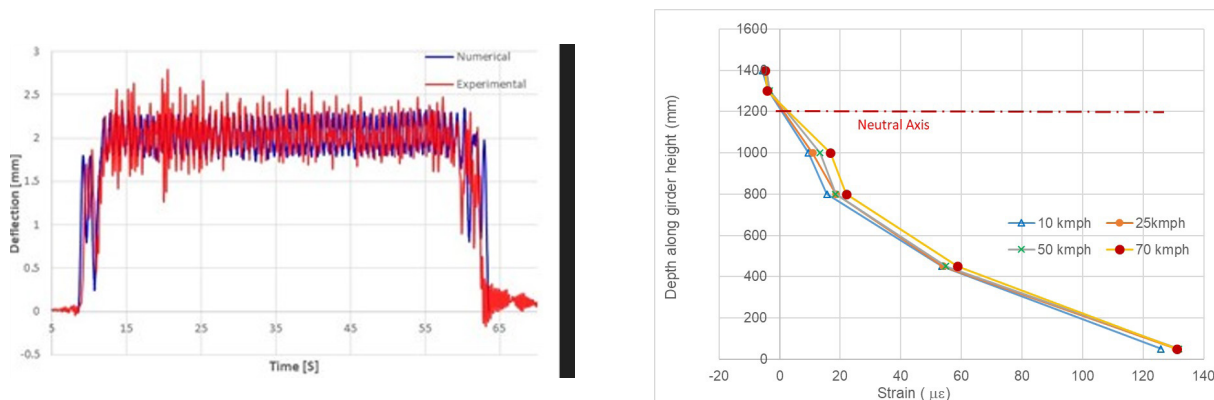


Fig. 3 Typical responses measured on the composite bridge under dynamic test cases

Advanced Numerical Simulation and Validation

Complementing field investigations, CSIR-SERC employs detailed three-dimensional finite element (FE) modelling to simulate bridge behaviour. The models incorporate all major structural elements, including steel girders, concrete slab, cross-bracings, and support conditions, along with realistic representation of composite interaction. A key aspect of the simulation is the inclusion of train-track-bridge interaction, which allows accurate modelling of dynamic effects due to moving loads. The models are calibrated using field-measured data, ensuring that the simulated responses closely match actual behaviour. This validation process is critical in building confidence in the numerical results. Once validated, the numerical models are used to evaluate bridge performance under enhanced loading conditions, including higher axle loads (such as 25T) and higher train speeds. This enables reliable extrapolation beyond field-tested scenarios and provides insights into the performance of the structure under future demand. Figure 4 shows numerical simulation for train-track-bridge interaction and comparison of deflection response of girder with field measured responses.

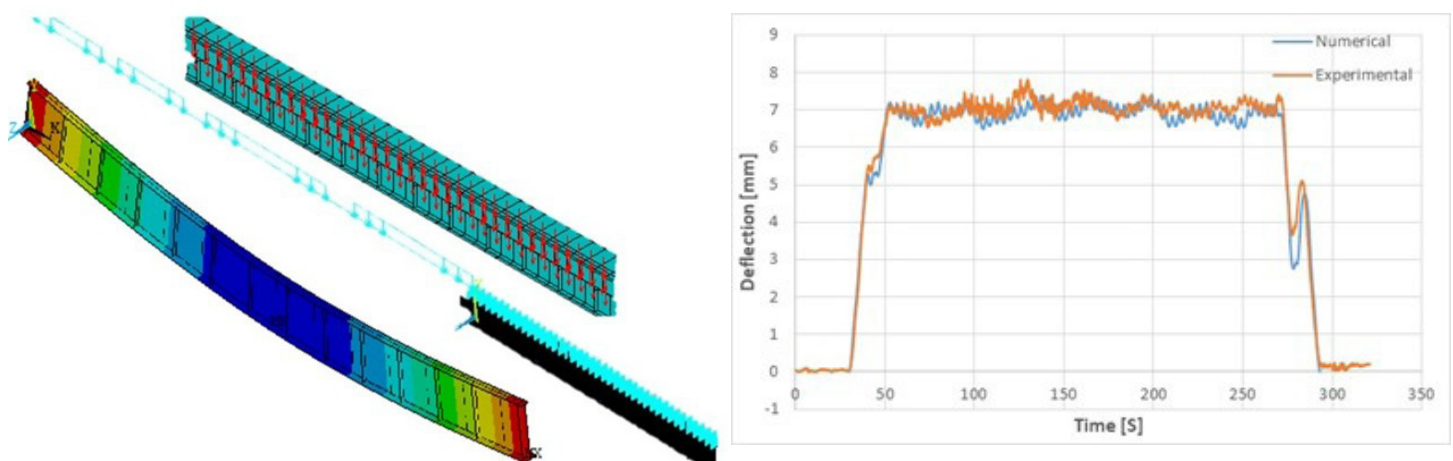


Fig. 4 Numerical simulation for train-track-bridge interaction and comparison of deflection response of girder with field measured responses

Major Projects Undertaken

- Detailed investigation of ambient vibration in stage - 1 cooling towers and Singara road bridge of NTPC-Kaniha
- Wind tunnel study on the super structure of warship models
- Quasi-static and dynamic testing at component and system level of a ground test vehicle of an urban aerial mobility aircraft for determination of steady and oscillatory loads
- Fatigue life evaluation of weldable cast manganese steel (WCMS) crossings using 60E1 rail profile of R-260 grade
- Evaluation of mechanical performance of concrete structural components reinforced with high strength steel rebars under static loading
- Condition assessment of RCC IDCT cooling tower units in stage - 1 (CT – 1A, CT-1B, CT-2A and CT-2B) of NTPC TSTPS Kaniha
- Assessment of structural adequacy of the bridge no. 196, Northeast Frontier Railway, Maligaon through numerical simulations and field investigations
- Design checking of the structural design components of road under bridge (RUB) at level crossing 33-B near Phulwari Sharif Station under Danapur Division of ECR
- Safety and strength assessment of extension platform at boiler APH floor 19.5 m elevation for NTPC Jhabua

Key Findings from Extensive Studies

The extensive investigations carried out across multiple composite bridge decks have led to several important findings. Loss of camber has been identified as a common occurrence during commissioning, primarily influenced by construction sequence and time-dependent effects. While this may result in noticeable deflection profiles, it is generally not indicative of structural inadequacy. Most bridges were found to perform satisfactorily under both existing and enhanced loading conditions, with stress levels within permissible limits. The composite action between steel and concrete was generally effective, ensuring proper load transfer and overall structural integrity. Dynamic studies indicated stable behaviour across a range of operating speeds, with no significant resonance effects or excessive vibrations. At the same time, the studies highlighted the importance of accurate field measurements in interpreting bridge performance. Visual observations alone may lead to conservative or misleading conclusions, particularly in cases involving camber loss or apparent deflection anomalies. Instrumentation-based assessment provides a more reliable basis for evaluating structural adequacy.

Engineering Recommendations and Solutions

Based on the findings, CSIR-SERC has provided a range of engineering recommendations aimed at improving the performance and assessment of composite bridges. These include refinement of camber provisions to account for construction stages and time-dependent effects, adoption of instrumentation-based validation prior to major decisions, and implementation of strengthening measures only when supported by detailed analysis. In cases where retrofitting is required, appropriate measures such as girder stiffening, improvement of composite interaction, and bearing modifications are suggested based on scientific evaluation. These recommendations are tailored to individual bridge conditions and are supported by both experimental data and numerical analysis.

Impact on Indian Railways

The contributions of CSIR-SERC have had a significant impact on the assessment and management of composite railway bridges in India. By addressing the key issues such as camber loss, deflection behaviour, and dynamic performance, the studies have enhanced confidence in RDSO standard designs and supported the safe implementation of higher axle loads and speeds. The integrated approach combining field testing and simulation has enabled more informed decision-making, reducing the need for unnecessary strengthening or replacement of bridge structures. Furthermore, the insights gained from these studies have contributed to the refinement of design and evaluation practices, ensuring better performance of future bridge systems.

MoUs

1. A memorandum of understanding (MoU) between CSIR-SERC and M/s. Ubifly Technologies Private Limited, Chennai, was signed on 14 February 2026, for the project **Quasi-static and dynamic testing at component and system level of a ground test vehicle of an urba aerial mobility aircraft for determination of steady and oscillatory loads.**

2. A memorandum of understanding (MoU) between CSIR-SERC and M/s. Merlin Automation Solutions Private Limited, Hyderabad, was signed on 14 February 2026, for the project **Development of onsite and offsite 3D printable concrete mix for commercial, architectural and residential project.**

3. Memoranda of understanding (MoUs) were signed between CSIR-SERC and the following academic institutions for **Academic and Research Collaboration**, during January - March 2026:

1. B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai
2. Amritha Vidya Peetham, Coimbatore
3. PSG College of Technology, Coimbatore
4. Karpagam Academy of Higher Education, Coimbatore
5. Shiv Nadar University, Chennai
6. SRM Institute of Science and Technology, Chennai
7. Hindustan Institute of Technology & Science - Hindustan Technology Business Incubator (HITS-HTBI), Chennai
8. Sri Venkateswara College of Engineering, Chennai
9. Vellore Institute of Technology, Chennai
10. Karunya Institute of Technology and Sciences, Coimbatore
11. Thiagarajar College of Engineering, Madurai
12. Shanmugha Arts, Science, Technology and Research Academy, Thanjavur
13. Hindustan Institute of Technology & Science, Chennai



4. A memorandum of understanding (MoU) between CSIR-SERC and M/s. InSolare Energy Limited, Ahmedabad, was signed on 16 February 2026, for the project **Establishing a framework under which CSIR-SERC shall provide testing, technical evaluation, validation and analytical support to InSolare for its proprietary renewable energy technologies, systems and structural components.**



Capacity development

Advanced Courses

- An advanced course on **Engineering of special concretes with focus on sustainability, rheology and microstructural characterisation (ESCOSURM 2026)**, was held during 7-9 January 2026. A total of sixty four participants participated in the course.
- An advanced course on **Recent advances in concrete technology and durability of concrete structures (RACTDCS 2026)**, was held during 21-23 January 2026. A total of twenty nine participants participated in the course.
- An advanced course on **Transmission and telecommunication towers: design, retrofitting and future trends**, was held during 4-6 March 2026. A total of twenty three participants participated in the course.



Jigyasa

One day Science Workshop

As a part of Vikshit Bharat - Scientific Contribution Initiative, CSIR-SERC jointly with Anna University and Ariviyal Sangam, organized the Ariviyal Thiruvizha - One Day Science Workshop - a grand workshop and competitions, on January 29, 2026, at the Anna University - BIT Campus, Trichy. The event was aimed to inspire and cultivate a passion for scientific exploration and innovation among school and college students. Prof. T. Senthil Kumar, Dean of Anna University - BIT Campus, Trichy, warmly welcomed the gathering and highlighted the importance of nurturing scientific curiosity among youth. Dr. S. Parivallal, Scientist-G and Advisor (M), CSIR-SERC, delivered the inaugural address and emphasized on the transformative impact of scientific research and innovation for the future. Several competitions including, quiz, technical paper presentation, and oratory, were organized for providing a platform to the students to showcase their knowledge, creativity, and communication skills. A total of 113 students from 15 schools and 173 students from 25 colleges participated in the competitions, making it a vibrant platform for young minds to engage with cutting-edge areas of science and technology. The event concluded with a formal valedictory session. Cash prizes, certificates of appreciation, and participation certificates were distributed to the student participants.



CSIR JIGYASA ATL Workshop - A two-day, CSIR JIGYASA ATL workshop was organized during 5-6 February 2026, exclusively for the students of the adopted schools in Coimbatore district of Tamil Nadu. Nine Scientists of CSIR-SERC & CMC and one Principal Technical Officer of CSIR-SERC visited the schools and delivered lectures on the topics related to basic science, latest scientific advancements and also witnessed the facility created under the ATL program. About 356 students and 16 teachers were invited to participate in the workshop. The following lectures were delivered during the workshop:

Government Higher Secondary School, Kembanaickenpalayam and Government High School, Marapalam, Coimbatore District

- Dr. S Parivallal, Scientist-G & Advisor (M), CSIR-SERC, delivered a lecture on ***Bridges in the journey of human civilisation***
- Dr. C. Bharathi Priya, Scientist-F, CSIR-SERC, delivered a lecture on ***Shakes and shapes: earthquake and structures***
- Dr. S. Sundar Kumar, Scientist-E, CSIR-SERC, delivered a lecture on ***Introduction to CSIR-SERC, CSIR JIGYASA ATL workshop, hands on session and earthquakes and buildings***
- Mr. R.D. Sathish Kumar, Principal Technical Officer, CSIR-SERC, delivered a lecture on ***Pathway to creativity and protection of intellectual property***
- Dr. V.P. Anand, Scientist-E, CSIR-CSIO (Chennai Unit), delivered a lecture on ***Role of AI in our day to day lives***

Palani Gounder Higher Secondary School, Pollachi and PSGG Kanya Gurukulam Higher Secondary School for Girls, Peelamedu, Coimbatore District

- Dr. S. Maheswaran, Scientist-G, CSIR-SERC, delivered a lecture on ***Introduction to CSIR-SERC, CSIR JIGYASA ATL workshop, hands on session and Intellectual Property Rights - an overview***
- Shri A.K. Farvaze Ahmed, Scientist-E, CSIR-SERC, delivered a lecture on ***The role of science in civil engineering***
- Dr. J. Prawin, Scientist-E, CSIR-SERC, delivered a lecture on ***Artificial intelligence and immersive technologies***



Student-Scientist Connect Programme at CSIR-SERC

A group of 100 students and 4 teachers from Cauvery International School, Manaparai, Dindigul District, visited CSIR-SERC, on 20-21 February 2026 as part of National Tamil Science Conference (NTSC-2026). The students, hailing from rural villages, gained hands-on experience and insight into various research projects undertaken by the institution. This event was organized under the guidance of Dr. N. Anandavalli, Director of CSIR-SERC, to encourage the students to be creative, innovative, and to achieve success by participating in science-related activities and events. Dr. S. Maheswaran, Scientist-G, spoke about the CSIR Jigyasa program, which aims to promote science and research among school students. The students expressed gratitude for the opportunity stating that it sparked their interest in science and research. The students also visited various laboratories of CSIR-SERC, interacted with the Scientists and had a glimpse of ongoing research activities of the center.

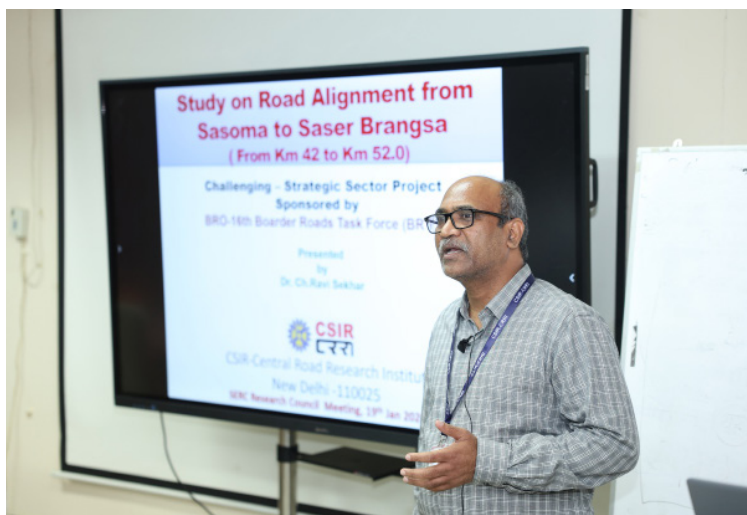
Participation in Exhibitions

- CSIR-SERC participated in the **Technology and Innovation Conclave 2.0**, held during 28-30 January 2026 at New Delhi. The conclave focused on AI for climate resilience, featuring AI-driven solutions from startups. Jointly organized by DSIR and APCTT-UNESCAP, the event showcased sustainable, tech-based solutions for environmental challenges. Dr. N. Anandavalli, Director, CSIR-SERC gave a presentation on **AI for climate action and resilience: CSIR-SERC's Role** at the conclave. The event brought together young researchers and innovators, policymakers, regulators, entrepreneurs and other key stakeholders from across the region.
- CSIR-SERC showcased its cutting-edge technologies at **MSME Tech Connect 2026**, held at IIT Hyderabad during 19-21 February 2026. The exhibition attracted a diverse audience, including Government officials, industry leaders, entrepreneurs, and students. Guest of honor Dr. Louise Boisen, Counsellor-IPR, Royal Danish Embassy visited the CSIR-SERC pavilion. Visitors showed keen interest in innovations such as the emergency retrieval system (ERS) for transmission line towers, concrete 3D printing, and multi-hit resistant protective booths, among others.
- CSIR-SERC participated and showcased three of its technologies, textile reinforced concrete prototyping technology for non-corrosive construction applications, eco-friendly geopolymers concrete blocks, emergency retrieval system (ERS) for power lines, in the national exhibition-cum-technical event under Mission SANKALP (Science and Advanced Networks for Knowledge-driven Action for Livelihood Promotion) at Dr. Ambedkar International Centre, New Delhi, on 18 March 2026, spearheaded by the Office of the Principal Scientific Advisor to the Government of India with the Department of Science and Technology serving as the nodal implementing agency.



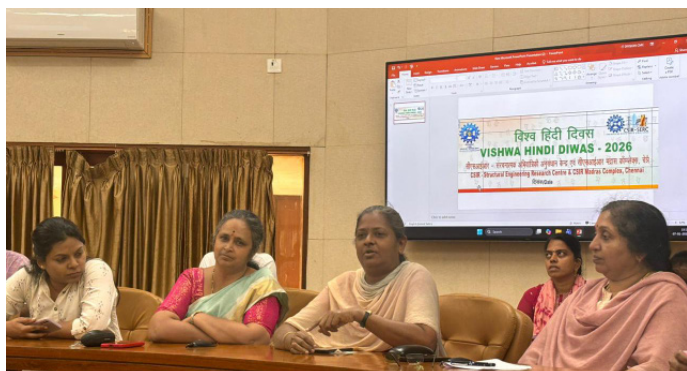
Special Lectures by Visitors

- Dr. Chalumuri Ravi Sekhar, Director, CSIR- Central Road Research Institute (CSIR-CRRI), Roorkee, and Member, Research Council, CSIR-SERC delivered a lecture titled **Study on road alignment from Sasoma to Saser Brangsa (from 42.0 to km 52.0)** on 19 January 2026, as a part of the CSIR-SERC Building Viksit Bharat Lecture Series.
- Prof. Madhu Bhaskaran, Distinguished Professor at RMIT University and a key member of the RMIT-AcSIR-ICMR collaborative team visited CSIR-SERC on 3 March 2026 and provided insights about RMIT strengths, potential collaborative PhD projects and ways to broaden CSIR/AcSIR-RMIT collaboration.



Events

Vishwa Hindi Diwas was jointly organized by CSIR-SERC and CMC on 7 January 2026. Various competitions were conducted to mark the occasion, wherein large number of staff participated with great enthusiasm.



Dr. N. Lakshmanan Memorial Quiz Competition

As part of National Science Day Celebrations, CSIR-SERC organized Dr. N. Lakshmanan Memorial Quiz Competition, exclusively for the students of Corporation of Chennai Schools on 27 February 2026 under the aegis of Jigyasa at CSIR Campus, The main aim of the quiz is to inculcate the aptitude for scientific research in young minds.



Forty-seven students from sixteen schools from all across Chennai actively participated in the screening test. Based on the screening test, the top six teams (three members per team) were selected for the finals. Dr. S. Sundar Kumar, Scientist-E, delivered a lecture on **About CSIR-SERC and student engagement activities**. After the lecture, the students & teachers visited various laboratories of CSIR-SERC, and the Scientists of CSIR-SERC demonstrated different experiments to the students. Students witnessed the demonstrations & participated actively in all the events and interacted with the scientists.

The quiz final was conducted on the same day and consisted of several rounds of science questions, including audio-visuals. Dr. N. Anandavalli, Director, CSIR-SERC, addressed the students and inspired them to pursue career in science. he participating students were enthusiastic, energetic and sportive and made the event a grand success. The prize-winning schools were awarded trophies and prize money during the National Science Day Celebrations of CSIR-SERC.

National Science Day Function was held at the CSIR Campus, Chennai on 6 March 2026. Dr. N. Anandavalli, Director, CSIR-SERC and Coordinating Director, CMC, presided over the function. Dr. K. Muthumani, Former Chief Scientist, CSIR-SERC, Dean (Retd.), SCE, VIT, Managing Director, Structflx, Principal Advisor, Centre for Urbanization, Buildings & Environment (CUBE), was the Chief Guest for the function.

Dr. Anandavalli, in her presidential address highlighted the impact of science and technology in our everyday lives and mentioned that the power of Science is to see the truth in it. She also mentioned that National Science Day theme of this year, i.e. **Women in Science: Catalysing Viksit Bharat**, aligns scientific advancement with India's vision of becoming a developed nation while recognising the role of women researchers and innovators. Dr. Muthumani delivered the National Science Day Lecture on **Beyond the Epicenter: Tales from an Earthquake Engine**, in which he gave a brief on earthquake and shared his journey in bringing out the Advanced Seismic Testing and Research (ASTaR) Laboratory in CSIR-SERC.



International Women's Day was celebrated at the CSIR campus on 17 March 2026. Mrs. Shanthi Nachiappan, Superintendent, Directorate General of Vigilance, South Zonal Unit, Chennai, was the chief guest of the function and Dr. Srimathy Kesan, CEO, Space Kidz India, Chennai, was the guest of honour. In connection with the celebration, various competitions were organized with active participation from staff members of the campus.



National Tamil Science Conference (NTSC 2026) was organized during 20-21 February 2026, jointly by CSIR-SERC and Ariviyal Sangam, Tamil Nadu, at CSIR-SERC, Chennai. The theme of the conference was **Sustainable Development in Science and Technology** and it provided a unique platform dedicated to promoting science, technology, and innovation through the Tamil language. This prestigious event brought together eminent scientists, academicians, industrial leaders, policy makers, and students to deliberate on the latest advancements in various scientific domains. The conference was designed to bridge traditional knowledge systems with modern scientific thought, highlighting the importance of Tamil as a medium for communicating science. It featured plenary talks, memorial lectures, invited sessions, oral and poster presentations, and cultural events, creating a holistic environment for intellectual exchange and cultural pride. NTSC 2026 hosted distinguished personalities from premier institutions, including CSIR, IITs, ISRO, and leading universities, who shared their vision for a Viksit Bharat through science. The sessions spanned across diverse disciplines such as physical and chemical sciences, life sciences, medical sciences, mathematics and agriculture, engineering and technology, earth, atmosphere and environmental sciences, and Indian knowledge systems integration.



Invited talks/lectures

- Dr. Prabhat Ranjan Prem, Scientist-F, delivered an online invited lecture titled **Sustainable Construction using Concrete 3D Printing**, in AICTE-ATAL sponsored online 6-day Faculty Development Programme on Innovations in Sustainable Infrastructure and Materials: Pathways to Net-Zero and Resilient Development, on 9 January 2026, organized by the Department of Civil Engineering, Chaitanya Bharathi Institute of Technology (Autonomous), Proddatur, Andhra Pradesh.
- Smt. R. Sreekala, Scientist-G, delivered an invited lecture titled **Disaster Risk Reduction-Strategies for Seismic Mitigation**, at the National Workshop on Hydro-meteorological Extreme Events in Himalayas (HEEH-2026), organized by CSIR-4PI, Bengaluru, during 15-16 January 2026.
- Dr. S. Parivallal, Scientist-G & Advisor (Management), delivered the keynote lecture titled **Materials, Monitoring and Mobility: CSIR-SERC's Role** at the National Workshop on Materials for Transportation on 18 February 2026, held at Gati Shakti Vishwavidyalaya (a Central University under the Ministry of Railways, Government of India), Vadodara.
- Dr. Amar Prakash, Scientist-F, delivered an invited lecture titled **Finite Element Modelling of Structures Subjected to Extreme Loads - Challenges Involved**, at the National Level Workshop on Finite Element Methods for Mechanical and Aerospace Structures (FEMMAS-2026), on 18 February 2026, at Hindustan Institute of Technology & Science, Chennai.
- Dr. A. Ramachandra Murthy, Scientist-G, CSIR-SERC, delivered a keynote lecture titled **Ultra High Performance Concrete - A Promising Candidate for Repair and Retrofitting Applications**, at the two day workshop on Next Generation Sustainable Concrete: Durability, Microstructure and AI Aspects, held on 5 March 2026, at Osmania University, Hyderabad.
- Dr. S. Bhaskar, Scientist-G, delivered an online invited lecture titled **Diagnostic Techniques for Corrosion Management**, at the virtual workshop on Advanced Corrosion Management and Durability Enhancement in RCC Structures, on 13 March 2026, organized by CII Corrosion Management Division.
- Dr. N. Anandavalli, Director, CSIR-SERC, delivered a **Technical Talk** at the Ocean Engineering Department, IIT (Madras), Chennai on 24 March 2026.

Honours/awards/recognitions/nominations/PhDs

- Dr. K. Sathish Kumar, Scientist-G, CSIR-SERC, was nominated as **Chancellor's Nominee** to the Selection Committee of Alagappa University, Karaikudi by the Hon'ble Governor of Tamil Nadu and Chancellor, for the period of three years from 19 January 2026.
- CSIR-SERC finished as **Runner-up** in Table Tennis (Women's Doubles Team Event), at 53rd Shanti Swarup Bhatnagar Memorial Indoor Final Tournament held at CSIR-NEIST, Jorhat, Assam, during 09-13 February 2026.

Paper publications

- SCI Journals - 10
- Reputed Indian Journals - 2