



The largest CSEB Dome is now wrapped with waterproofing layers

AVEI NEWSLETTER

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The Earth Institute began this year with steady progress on its major projects, including the successful completion of the 33m Krishnaganga dome in Gujarat. New consultancies and collaborations in Angola and Senegal further reflect the growing international interest in sustainable earthen construction.

This edition highlights our training activities, from regular on-campus and online courses to special programmes abroad, alongside a rich season of conferences, symposia, and public dialogues. Through lectures, workshops, presentations, and collaborative research across India, Europe, and North Africa, AVEI continues to contribute to global conversations on architecture and sustainability.

We invite you to share these developments with friends and colleagues interested in the knowledge and practice of earthen architecture.

Earthly yours,
The AVEI Team



Completion of the 33-metre diameter CSEB Dome at Shree Krishnaganga



Dome waterproofed in 6.5 weeks

Satprem, assisted by our master mason Venkatesh, completed the final phase of the Shree Krishnaganga Meditation Hall in Bhavnagar district, Gujarat, India, with the waterproofing and interior finishes of its 33-metre-diameter compressed stabilised earth block (CSEB) dome.

The finishing works commenced in mid-March, after the monsoon season, and were completed in 6.5 weeks of actual work by a team averaging 10 masons, supported by around 40 workers and guided by three supervisors.

The waterproofing system consisted of a 2.5 cm thick ferrocement layer made of a 1:3 cement-sand mortar, reinforced with two layers of fibre mesh, followed by a layer of lime plaster finished with a coat of lime milk.



Applying the lime plaster



Ferrocement layer with 2 coats of fibre mesh



With these final works completed, the meditation hall now stands as one of the world's largest compressed stabilised earth block domes, marking another milestone in the Auroville Earth Institute's ongoing research and development of earthen architecture.

A [timelapse video](#) documenting the entire construction process is available online.

Project archive: Follow the construction journey in [Newsletter Issues 52-56](#).



5th week: Applying the lime milk to fill the micro cracks



Finishing inside of the dome



Finished surface of the inside of the dome



Learning Through Practice: Redesigning the Dhammamalai Cloister Dome

Construction of the 18.2-metre-span cloister dome for the Dhammamalai Vipassana Dhyana Maiyam in Tiruvannamalai commenced at the end of January. A large template was installed along the diagonals of the meditation hall to control the geometry of the dome, and the construction of the four squinches began from each corner.

After approximately three weeks of work, settlement and shear cracks appeared in all four squinches. Although the Auroville Earth Institute has successfully built numerous cloister domes of this type – including spans up to 10 metres with a rise of only 1.2 metres – this project presented significantly different



Assembling the template on the diagonals



Starting a squinch



Squinches of the dome before dismantling



Shear cracks and settlement of the squinches



Extended slab reinforcement



Circular slab & springer beam casting

proportions, with an 18.2-metre span and a 4-metre rise. It became apparent that the squinches were behaving as plates rather than as shell structures.

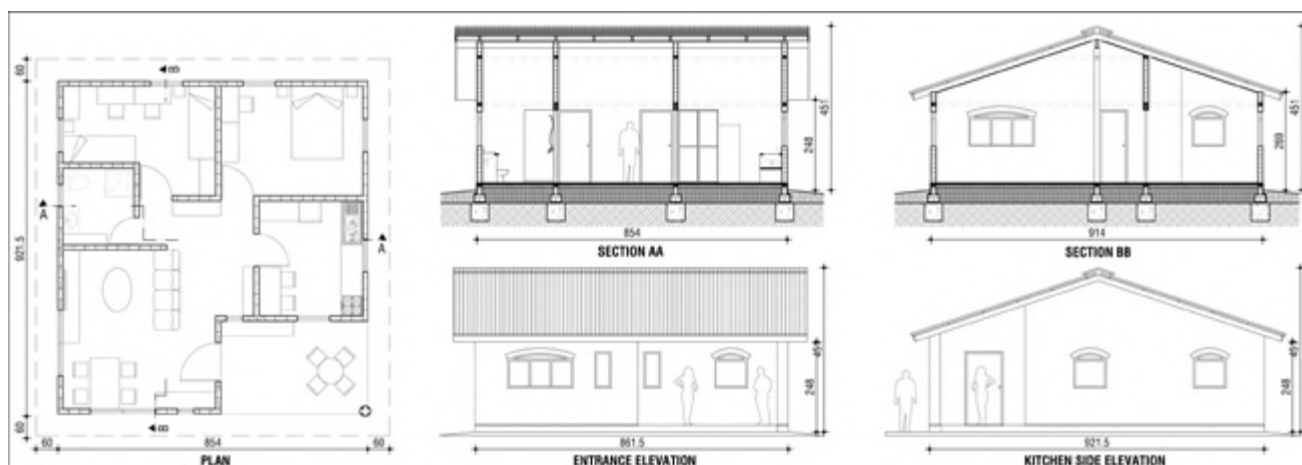
To better understand the structural behaviour, Satprem invited Mahesh Varma and his team to analyse the design using the Finite Element Thrust Line Analysis method that they had developed. Mahesh, who led the construction of the 85.15-metre-span Global Vipassana Pagoda dome, confirmed that the observed behaviour corresponded with the analytical model. Although both agreed that the completed dome would likely perform safely as a shell, the cracks observed during construction were structural in nature.

As a precaution, Satprem decided to dismantle the squinches rather than compromise the long-term integrity of the structure. A revised solution was developed using a circular dome of the same section, requiring the construction of an additional reinforced concrete slab – square externally and circular internally – to support the new geometry. The slab, designed by Mahesh Varma's team, was cast at the end of May, and construction of the dome is scheduled to resume in August following Satprem's return from China.

The clients fully supported the decision, recognising that ensuring structural safety must take precedence over construction progress. The experience has provided valuable insights into the behaviour of large cloister domes and will contribute to the continued refinement of AVEI's graphical design methods for optimising free-spanning earthen structures. ■



Demonstration House, Angola



Concept drawings for the prototype demonstration house

Satprem has been invited by Rui Fonseca of Congeral, a construction and engineering company in Angola, to support the development of compressed stabilised earth block (CSEB) technology for social housing projects in the country. Angola currently faces a housing deficit estimated at around 2.2 million homes, creating an urgent need for affordable, sustainable, and locally appropriate building solutions.

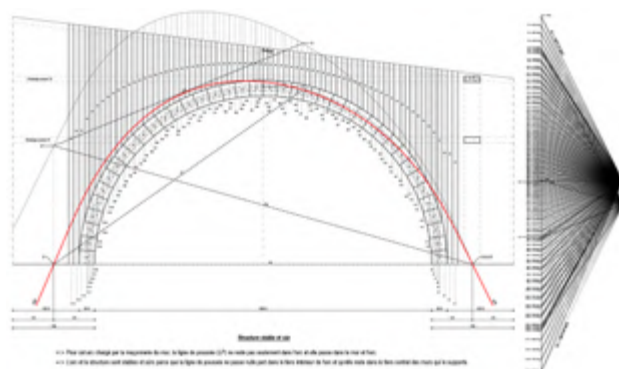
As part of this collaboration, Congeral has acquired Auram equipment from Auroville, and two of its architects have completed both AVEI's online CSEB design course and

the intensive CSEB training programme in Auroville. AVEI has also designed a prototype two-bedroom house, which Satprem is expected to help realise later this year.

Prior to construction, Satprem is scheduled to visit Angola in September to meet with governmental authorities, present the potential of CSEB technology, and explore opportunities for larger-scale housing initiatives. The collaboration represents a promising step towards addressing Angola's housing needs through sustainable construction and local capacity building. ■

Senegal Institut Mbacké

Satprem was commissioned by PEM Consult GmbH, a German consulting firm providing advisory and technical services for development projects, to review the design of the Institut Mbacké in Senegal, a project funded by the KfW Development Bank of Germany and proposed to be constructed with compressed stabilised earth blocks (CSEB).



Structural stability analysis of proposed arches

As part of the consultancy, Satprem evaluated the architectural and structural plans prepared by the Belgian firm Atelier Architecture Galand and provided technical recommendations. His review focused on the masonry bond pattern of one building, the workshop module, and a graphical analysis of the structural stability of the proposed arches. ■



Summary of Training Courses During January-July 2025

During the first half of 2026, the Auroville Earth Institute welcomed more than 190 participants from India and around the world through a range of on-campus and online training programmes, continuing its commitment to advancing the knowledge and practice of earthen architecture through education and hands-on learning.

The year began with a curated AVD Masonry Training Programme for 10 students as part of NASA India's initiative, continuing a long-standing collaboration in sustainable building education.

In February, 18 students from the Lycée Français de Pondichéry took part in the Elementerre programme, where they explored the science and principles of building with earth through hands-on demonstrations and experiments.

Later that month, AVEI welcomed 39 students from Germany through programmes organised by Michael and Benno Rothstein. The participants took part in practical workshops on Compressed Stabilised Earth Blocks (CSEB) and Arches, Vaults, and Domes (AVD).

Our regular on-campus training courses were held in March and June, attracting participants from India and abroad. We were especially pleased to welcome participants from Angola for the first time, marking the beginning of a promising new collaboration.

Alongside these activities, AVEI continued to offer online courses in AVD Theory, CSEB Design, and CSEB Theory, engaging 12 participants from across India.

The schedule for the next round of training courses can be found in the Colophon. ■



AVD Intensive - Group picture



AVD Intensive - Stability analysis studio



CSEB Intensive



Ferrocement Course



Elementerre Demonstration



Special Collaborative Programme at China Academy of Art, Hangzhou

The School of Architecture of the China Academy of Art (CAA) in Hangzhou, China, hosted a six-week interdisciplinary programme on earthen architecture from 11th June to 17th July, bringing together graduate students, researchers, craftspeople, and educators around the design and construction of permanent earthen structures on campus. Satprem Maïni and Laura Ulloa led the programme in collaboration with the School of Architecture, CAA.

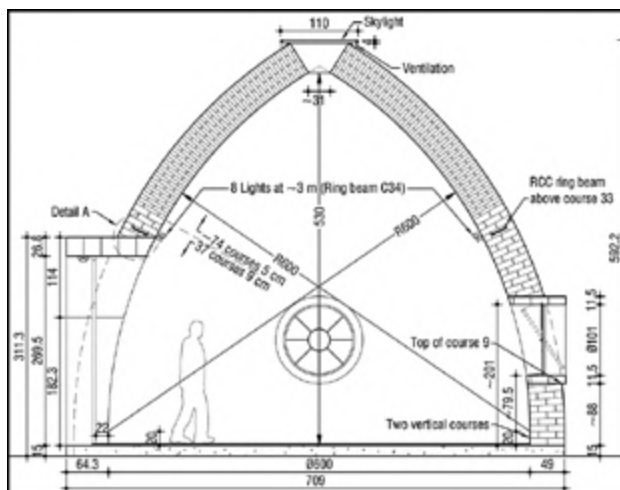
Architect Chen Lichao initially requested Satprem Maïni a programme similar to the training courses offered by the Auroville Earth Institute, covering the production and use of compressed stabilised earth blocks (CSEB), together with the theory and construction of arches, vaults, and domes (AVD). During the preparation of the programme, Architect Wang Shu, Dean of the School of Architecture and recipient of the 2012 Pritzker Architecture Prize, proposed that the course culminate in the construction of a permanent 6-metre-diameter equilateral dome on the university campus.

During the development of the project, architect and neural sciences researcher Laura Ulloa, founder of the [Bureau for Neural Architecture \(BfNA\)](#), joined the initiative. She expanded the programme with lectures exploring movement, embodied perception, environmental experience, and the relationship between architecture and the nervous system. The course consequently evolved into a six-week interdisciplinary programme entitled Introduction to Neural Earthen Architecture.

Neural Architecture is an emerging field at the intersection of neuroscience and architecture that investigates how built environments influence the nervous system, and how bodies, cultures, and



Group photo after completing the 6 m Equilateral dome with Lu Wenyu, Wang Shu, Satprem, Laura & visiting architects



6 m Equilateral dome section

social interactions shape spaces in return. Alongside the technical training, Laura developed a parallel research programme using structured questionnaires, reflective diaries, and cognitive mapping exercises to study how material production, collective construction, and the progressive inhabitation of earthen spaces influence embodied spatial experience and environmental perception.

The programme was prepared by Architect Chaochao Wei, who produced the CSEB during April and May using both an Auram Press 3000 designed by Satprem and a Chinese hydraulic press. His dedication and careful preparation were instrumental in ensuring the smooth running of the programme.



Twenty-five graduate students and two doctoral students first attended a three-day intensive course on the theory and production of CSEB, followed by a four-day course on the theory and design of arches, vaults, and domes. During the following four weeks, the students, working alongside local masons and workers, constructed the permanent 6-metre equilateral dome, three 2-metre-diameter domes, a vault, and a series of arches. These structures were conceived not only as construction exercises but also as spaces for gathering, reflection, and everyday use. The practical work was jointly supervised by Satprem and Laura.

At the end of June, around 60 undergraduate students participated in the programme in groups of ten, contributing to different stages of the construction while experiencing the educational process.

This collaborative programme, made possible through the vision of Architects Chen Lichao, Lu Wenyu, and Wang Shu; the meticulous preparation of Chaochao Wei; the commitment of the students, craftspeople, masons, and workers; and the close collaboration between Satprem Maini and Laura Ulloa, established the first educational framework for Introduction to Neural Earthen Architecture. The programme opens promising new directions for architectural education and research by bringing together earthen construction, neuroscience, and embodied spatial experience. ■



Laura Ulloa's lecture on Neural Architecture



Pointed dome construction integrating circular windows



Second site of multiple smaller AVDs



Satprem's sessions on AVD theory

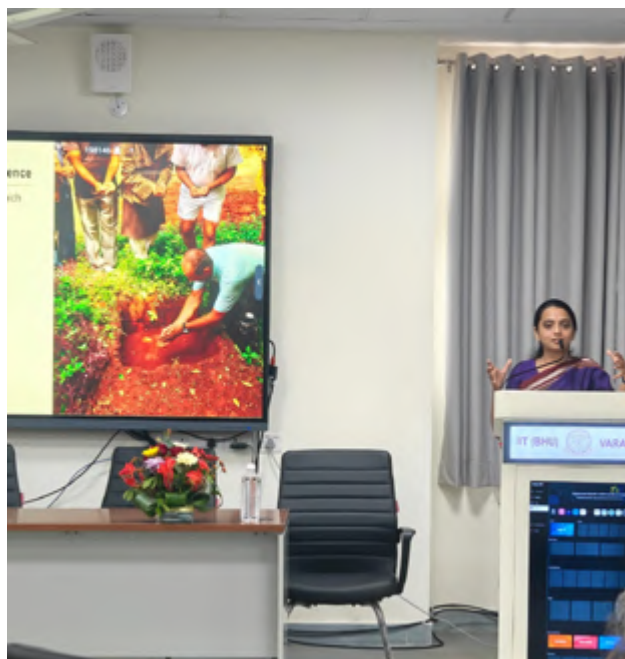


ACSF 15 Symposium: Myth and Placemaking, Varanasi

Earlier this year, Radhika presented her research at the 15th Annual Symposium of the Architecture, Culture, and Spirituality Forum (ACSF), held in Varanasi, India, in partnership with IIT BHU. Following an international call for abstracts, her paper, *Vāstu Śāstra: Ritual, Cosmic Ecology, and the Myth of Resilient Placemaking*, was selected for presentation within the symposium's "Cosmology, Ecology, Site, and Myth" session.

The symposium brought together architects, scholars, and practitioners from around the world to explore the theme of Myths and Placemaking, examining how cultural narratives continue to shape our relationship with place. Radhika's paper reconsiders resilience in architecture beyond its conventional material focus, highlighting the ritual, ecological, and cultural dimensions embedded within Vāstu Śāstra. By revisiting traditional Indic frameworks of relating to land and environment, the research proposes a shift from extraction toward consecration, offering insights for more meaningful and sustainable approaches to placemaking today.

The full paper is available on the ACSF website: <https://acsforum.org/vastu-sastra-ritual-cosmic-ecology-and-the-myth-of-resilient-placemaking/>



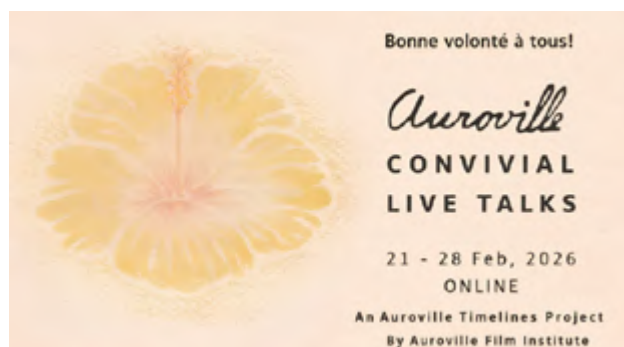
Radhika presenting her paper



ACSF presenters & attendees at the IIT-BHU campus

AV Convivial Live Talks

The Auroville Convivial Live Talks was a week-long international online gathering held from 21-28 February 2026. Conceived as an Auroville Timelines project and organised by the Auroville Film Institute, it invited participants to enter a shared space of dialogue around Auroville—its ideals, its challenges, and its continuing relevance in a changing world.





Bringing together speakers from Auroville and the wider bioregion, the symposium explored how the Auroville experiment engages with both the wounds of the world and its own ongoing successes, setbacks, and possibilities.

As part of the programme, Satprem presented an online talk entitled "Auroville: The City the Earth Needs, or the Earth the City Needs?" Drawing on 37 years of experience in Auroville and his work at the Auroville Earth Institute, he reflected on the potential for Auroville to be built entirely with earth through responsible resource management, demonstrating how local materials and ecological stewardship can inform a truly sustainable approach to building. ■

AVI Italia & Politecnico University of Milan

As part of a series of initiatives organised by Tara Rosa Eleonora, Founder and President of Auroville International Italia (AVI Italia), Satprem Maini was invited to Italy to share Auroville's experience in sustainable development and the work of the Auroville Earth Institute.

The seminar, *Awakening Sustainability: Integral Education, Indian Culture, and Sustainable Architecture for the Cities of Tomorrow*, was held at the Politecnico di Milano and brought together students, academics, and practitioners to explore alternative pathways towards a more sustainable future.

In his presentation, *Building with Earth for a Sustainable Future* and the Auroville Earth Institute, Satprem drew upon 37 years of experience in earthen architecture to demonstrate how stabilised earth technologies can contribute to resilient, resource-efficient, and human-centred cities. The session generated considerable interest among participants, with representatives from the Politecnico di Milano expressing their enthusiasm for future collaborations and the possibility of AVEI conducting courses for their students. ■



ID India Design Symposium

Radhika was invited to participate in the India Design Symposium 2026 panel discussion, *A Road of Realisations: Journey of the Sustainable Architect*, alongside architects and designers working across diverse fields of practice.

The conversation explored the many dimensions of sustainability beyond environmental performance, including its social, cultural, and economic aspects. Panelists reflected on



the realities of practice, discussing the challenges faced by architects who seek to work with appropriate materials, traditional knowledge systems, and community-centred approaches. Topics ranged from project economics and professional fees to the difficulties of sustaining values-driven practice within conventional industry frameworks.

Drawing from her work at the Auroville Earth Institute, Radhika shared insights on earthen architecture and the importance of reconnecting design with ecology, culture, and place. A recurring theme throughout the discussion was the gap between architectural education and practice, highlighting the need for learning environments that better prepare future architects for the complexities and opportunities of sustainable design. ■



Panel discussion at India Design

Turâb'26, Tunisia



From 5-7 June 2026, the National School of Architecture and Urban Planning (ENAU) in Tunis, Tunisia, organised the international colloquium Turâb'26: Experiences of the De-materiality of Earthen Construction, in collaboration with CRATerre and several Tunisian research laboratories. The three-day event brought together researchers, educators, and practitioners to exchange knowledge on contemporary earthen construction through the themes of The Poetics of Earth, Earth Engineering, and Innovation of Earth. The final day featured hands-on workshops at the Domaine Sainte Marie du Zit in Zaghouan.

Satprem Maini served as a member of the scientific committee and was invited as a keynote speaker. In his presentation, Pushing the Limits of Earthen Building with Stabilised Earth, he drew upon nearly four decades of experience at the Auroville Earth Institute to demonstrate how stabilised earth technologies can move beyond conventional

perceptions of earthen construction. Through projects such as the four-storey Vikas apartments in Auroville, the 15-metre-span vault of the Sharanam Rural Development Centre near Pondicherry, and the 33-metre-diameter dome of the Shree Krishnaganga Meditation Hall in Bhavnagar, he



illustrated the structural possibilities of compressed stabilised earth blocks (CSEB).

Reflecting on the increasing impacts of climate change—such as the torrential rains in Ouarzazate province, Morocco, which saw on 06. 09.24 a 170 mm rainfall in 24h—Satprem emphasised that earthen construction techniques must continue to evolve through research, innovation, and adaptation. During the workshop sessions, he also guided participants through soil identification methods and an introduction to CSEB technology, reinforcing AVEI's commitment to both knowledge-sharing and capacity building within the global earthen architecture community. ■



Satprem's keynote presentation



Workshop session on adobe vault by Satprem

Bouw met Aarde! Symposium, Rotterdam

The Bouw met Aarde! symposium in Rotterdam organised by Summum Engineering and Atelier Nomadic, brought together architects, engineers, researchers, students, builders, craftspeople, and earth-building enthusiasts to explore the role of earth in shaping more regenerative and resilient futures. Through lectures and interdisciplinary exchanges, the event highlighted the growing international interest in earth-based construction and the collective effort needed to transform contemporary building practices.

Representing the Auroville Earth Institute, Radhika Soni presented a lecture on Free-Spanning Techniques in Earthen Architecture, sharing insights from some of AVEI's most remarkable built works. Through drone footage of the 15-metre-span vault at the Sharanam Rural Development Centre and a time-lapse documenting the construction of the 33-metre-diameter



Radhika presenting the Free-spanning technique



Case-study presentation



End note panel discussion

dome of the Shree Krishnaganga Meditation Hall in Bhavnagar, India, she illustrated how decades of experimentation with compressed stabilised earth blocks (CSEB) have expanded the structural possibilities of earthen architecture. The presentation demonstrated that earthen construction can be both technically sophisticated and architecturally inspiring, offering resilient alternatives for the future of building.

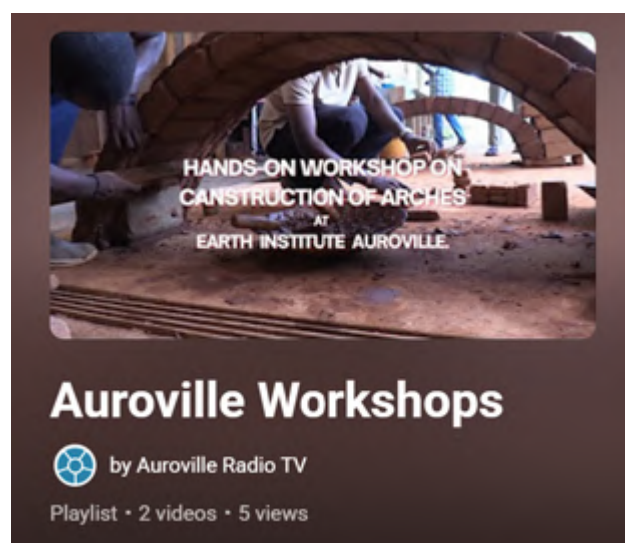
Radhika also joined the symposium's concluding panel discussion, where a small group of speakers from diverse disciplines reflected on the conversations, insights, and questions that had emerged throughout the event. Bringing together perspectives from across the built environment, the dialogue underscored that the transition towards sustainability is not solely a technical challenge, but also a cultural one—requiring collaboration, imagination, and a willingness to learn across disciplines. It was an opportunity to connect the threads of the day and leave participants with possibilities for rethinking how we inhabit the earth. ■

AVEI Training Featured by Auroville Radio

Auroville Radio has captured a series of short videos offering a glimpse into the hands-on learning experience at the Auroville Earth Institute. From rammed earth to arches, vaults, and domes, these snippets showcase the spirit of our training programmes and the participants who bring them to life.

We invite you to explore the playlist and discover the craft, innovation, and collaborative learning that define AVEI's approach to earthen architecture.

The videos are available on the Auroville Radio YouTube channel. Watch the playlist [here](#) ■



Auroville Radio YouTube page



AVEI on-campus training course schedule for 2026

March

2nd to 7th: CSEB Design
9th to 14th: CSEB Intensive
16th to 21st: AVD Intensive
23rd to 26th: Ferrocement

June

1st to 6th: CSEB Intensive
8th to 13th: AVD Intensive

September

31st Aug. to 5th: CSEB Intensive
7th to 12th: AVD Intensive
15th to 18th: Ferrocement

December

7th to 12th: CSEB Design
14th to 19th: CSEB Intensive
21st to 26th: AVD Intensive



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Colophon

AVEI online training course schedule for 2026

First Session

5th January to 31st January: AVD Theory
9th February to 7th March: CSEB Design
16th March to 28th March: CSEB Theory

Second Session

1st June to 27th June: AVD Theory
6th July to 1st August: CSEB Design
10th August to 22nd August: CSEB Theory

Third Session

5th October to 31st October: AVD Theory
9th Nov. to 5th December: CSEB Design
14th to 26th December: CSEB Theory

Register at: registration.earth-auroville.com