

AVEI NEWSLETTER



A close up of the finished Rammed Earth Stele

IN THIS ISSUE

- AVEI Open House page 2
- UNESCO Delhi Director Visits Earth Institute page 5
- Rammed Earth Stele page 6
- The Bridge page 8
- TERRA 2016 Conference Proceedings Published page 9
- Pauline Sémon Visits page 9
- CAPTerre Training Courses in Algeria page 10
- Lime Plaster Demo for Joy of Impermanence page 11
- Muthiah's Exhibition at Kala Kendra Art Center page 12
- New Team Members page 12
- AVEI Training Course Schedule for 2018 page 14

The Earth Institute has been abuzz with activity during the 50th anniversary of the foundation of the international township of Auroville. For two days, the Earth Institute opened its campus to visitors with hands-on stations, earth science demonstrations, and exhibitions. The rammed earth stele, composed of soils from around the world, was completed with the participation of many visitors and community members.

Lara and Satprem traveled to Algeria to conduct CSEB and AVD workshops. They have returned to continue with the numerous training courses taking place on campus before the summer heat sets in.

Now the team is focusing on completing the work at Sharanam and gearing up for several important conferences that will be taking place this summer.

Please feel free to share this newsletter with your friends and colleagues as we spread the knowledge of earth architecture to the world!

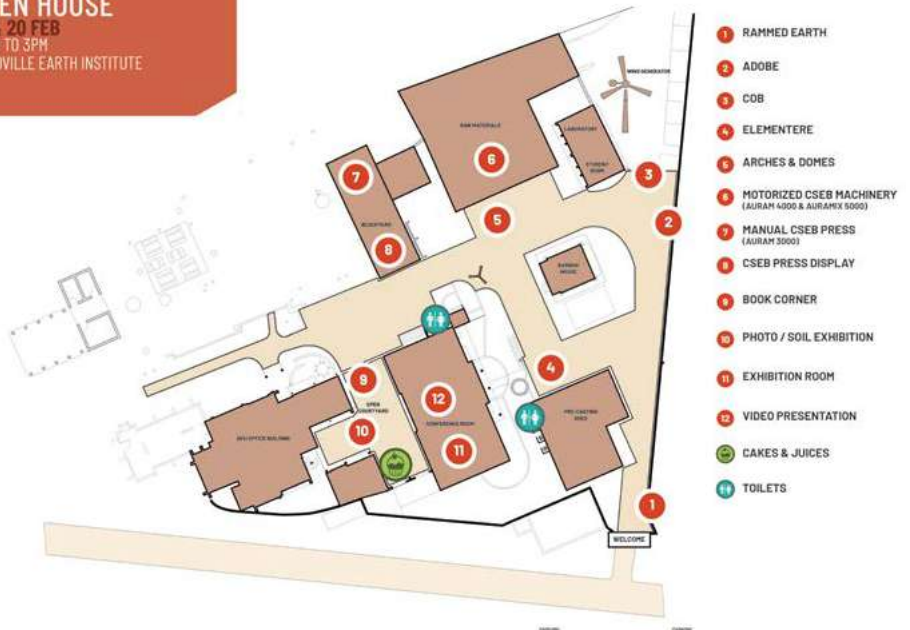
Earthily yours,
The AVEI Team

AVEI Open House

On 19th & 20th February, in honor of Auroville's upcoming 50th Anniversary, the Earth Institute hosted its first ever open house. The event featured hands-on earth technique demonstration stations (including rammed earth, adobe & cob, arches & domes, and CSEB), a display of the full range of Auram manual presses for CSEB, a photo exhibition of the Earth Institute's work, and the Elementerre demonstration.

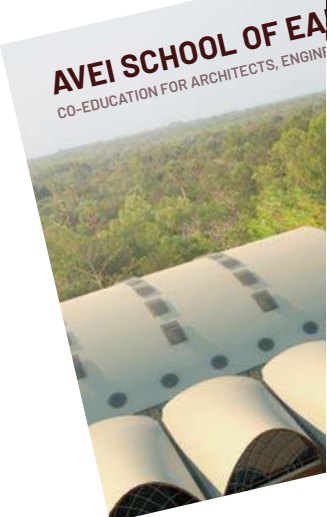
This was also the occasion for the release of the revised AVEI trifold and single-fold brochures, redesigned by Muthiah, and the new AVEI School project booklet, designed by Lara.

OPEN HOUSE
19 & 20 FEB
10AM TO 3PM
AUROVILLE EARTH INSTITUTE



Over two days, the open house was attended by more than 350 people, representing a diverse mix of Aurovilians and visitors, with some traveling to Auroville only to take part in the hands-on stations. In light of the success of this event, the Earth Institute hopes to offer more open-campus events in the future. ■

Updated AVEI brochures and new AVEI School project booklet



ABOUT THE EARTH INSTITUTE

The Auroville Earth Institute (AEI) is a non-profit organization specializing in the research, development, promotion and transfer of earth-based building technologies, among the most cost effective, low carbon, low embodied energy solutions for sustainable development.

Over the last three decades, AEI has become one of the world's top centers for excellence in earth architecture, working in 38 countries to promote and disseminate knowledge in the construction of sustainable habitats. Our work has garnered 55 awards: 4 international and 11 national awards. We offer various services and provide consultancy to a wide range of different stakeholders in India and abroad, through active design and construction projects, training courses, seminars, workshops, manuals and documents.

EARTHEN BUILDING TECHNOLOGIES

Our research aims to make extensive use of raw earth as a building material, maximizing the use of local resources for energy saving, eco-friendly and sustainable technologies. R&D focuses on minimizing the use of steel, cement and other high embodied energy building materials.

Building technologies developed by AEI include:

- Stabilized Rammed Earth Foundations and Walls
- Compressed Stabilized Earth Blocks (CSEB)
- 10 models for the production of 10 different blocks
- Composite Combed/round and hollow CSEB with RCC
- Composite Beams (Stabilized CSEB with RCC)
- Earth Mortars, Plasters and Alternative Stabilizers (Biomechanical mix of lime and sand)
- Alternative Waterproofing with Stabilized Earth (Soil sand, cement, lime, alum and sand)
- Arches, Vaults and Domes with CSEB

Today, our campus is being laboratory showcasing three decades of applied research, entirely constructed with stabilized earth from the foundations to the waterproofing.



OPEN HOUSE
19 & 20 FEB 10AM TO 3PM
EARTH INSTITUTE

ARCHES & DOMES ■ Hands-on earth building
RAMMED EARTH ■ Soil science demos
ADOBE ■ Earth machinery
CSEB ■ Block making
COB ■ Exhibitions
 ■ Juice & cake stall

Auroville Earth Institute
UNESCO CHAIR EARTHEN ARCHITECTURE
2nd entrance CSR campus, Auroshipam, Auroville. 0413-262-3330





Dania and Pragati, with the help of Ravi and Venkatesh, ran the rammed earth station, where they explained the mechanics of rammed earth and gave visitors the opportunity to try handling the rammer.



Ayyappan and Satprem gave information to visitors about CSEB production and the Auram machinery.



Shobhit and Muthiah manned the adobe and cob station, with the assistance of Ramalingam, where visitors could try mixing the soil mixture with their feet, forming the adobes in the wooden molds, or sculpting part of a cob wall.



Four Auroville soils were carefully sieved and displayed to show their composition according to grain size.





Isis gave the full Elementerre demonstration to groups of visitors, taking them through the series of experiments to reveal the properties of granular material that make earthen construction possible.



Photos of Earth Institute projects over the years were exhibited in the courtyard, along with a display of Earth Institute publications and a selection from the over 2,700 books in the AVEI library.



Lara explained the theory and practice of building arches and domes at the AVD station, giving visitors the opportunity to try their hand on the segmental dome or a small arch with the help of Venkatesh, Raji, and Mani.



UNESCO Delhi Director Visits Earth Institute

On 28th February, Mr. Shigeru Aoyagi, the Director and UNESCO Representative to India, Bhutan, Maldives and Sri Lanka, visited Auroville on the occasion of the 50th anniversary.

During his stay in Auroville, he visited the Earth Institute. Lara gave a presentation entitled "Auroville Earth Institute School of Earthen Architecture", outlining the Earth Institute's current educational activities, the crucial need for expanded training programs in earthen construction in India and abroad, and the Earth Institute's aim to provide accredited degree programs for masonry craftsmen, technicians, architects and engineers. Mr. Aoyagi's visit offered an interesting opportunity for discussion about UNESCO's Sustainable Development Goals and UNESCO's role in promoting educational endeavors through programs like the UNITWIN/ UNESCO Chair network.



The UNITWIN/ UNESCO Chair network promotes international inter-university cooperation and networking to enhance institutional capacities through knowledge sharing and collaborative work. This includes the UNESCO Chair of Earthen Architecture, Constructive Cultures, and Sustainable Development, which was created at CRAterre (Grenoble, France) in 1998. The Earth Institute is the Representative and Resource Centre for Asia of this UNESCO Chair of Earthen Architecture.

<http://www.unesco.org/new/en/newdelhi/>

<https://en.unesco.org/unitwin-unesco-chairs-programme>

http://craterre.org/enseignement:chaire-unesco/?new_lang=en_GB ■



Shri Modi Visits Auroville

On 25th February, in honor of Auroville's 50th Anniversary, the Indian Prime Minister Shri Narendra Modi came on an official visit to Auroville. He visited Savitri Bhavan, Matrimandir, and gave a speech

to assembled Aurovilians and other well-wishers at the Sri Aurobindo Auditorium in Bharat Nivas. Representatives of several of the different sectors and activities of Auroville were able to meet the Prime Minister.

<https://www.auroville.org/contents/4419> ■



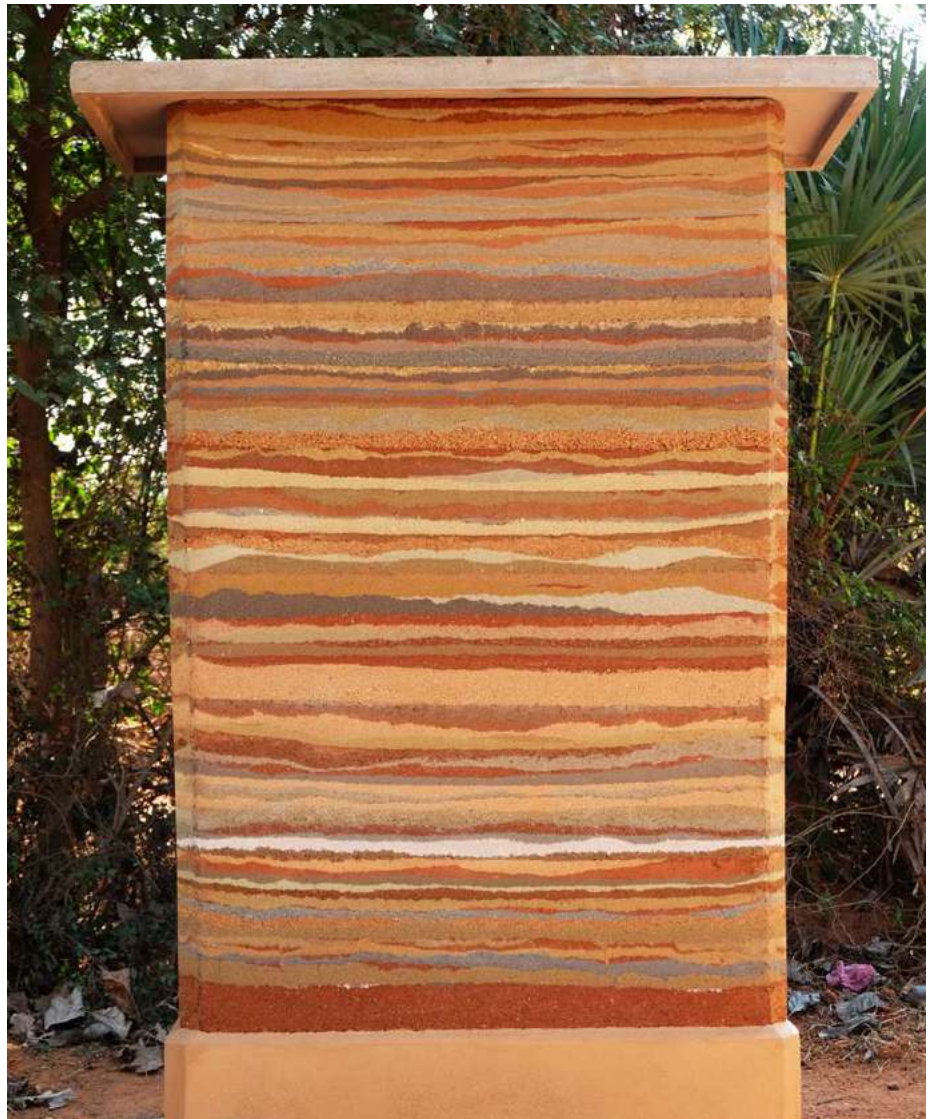
Rammed Earth Stele

by Isis Roux-Pagès

On 28th February 1968, after the voice of the Mother read the Charter of Auroville, the soils of 124 nations and 23 Indian states were placed by youth into a marble urn. This inaugural ceremony celebrated the birth of Auroville from the barren, red sunbaked earth...

Fifty years later, not far from there, soils from 90 places around the world were gathered once again to build an earthen stele, commemorating Auroville's anniversary. Auroville Earth Institute partnered with the Unity Pavilion and The Bridge conference in order to make this contribution for the 50th anniversary celebrations – a material testimony of the collective experiment of Auroville.

People from very different backgrounds were called to collaborate, not only in the participatory building process, but also in the worldwide collection of soil. In October 2017, our "call for soils" was sent out to all the guesthouses and homestays of Auroville so they could relay our request to their guests. Auroville International chapters were also notified, as well as our wide network of Earth colleagues and friends. Over the following months, we received these soil samples, by post or delivered to our institute by guests and AV friends.



The completed rammed earth stele, including soils collected from 30 countries.

It was already beautiful in the early stage to feel the enthusiasm that this project generated! All together, we received more than 90 samples, coming from 30 countries: Australia, Austria, Belgium, Bhutan, Brazil, Canada, Chile, Colombia, Denmark, France, Gambia, Germany, Hungary, India, Iran, Italy, Jordan, Korea, Lithuania, Luxembourg, Mexico, Netherlands, Spain, Sweden, Switzerland, Tibet, Tunisia, Turkey, United Kingdom and USA.

Meanwhile, the construction team prepared a one-of-a-kind rammed earth formwork: a formwork made with two 12mm thick glass panels, in order to see and





Inauguration day of the Rammed Earth Stele at Unity Pavilion



control the layers of colored soil! A sample wall was constructed using this transparent formwork at our Institute, while all the team members gathered to prepare the soil samples under the supervision of Ayyappan. It goes without saying that we learned a lot about soil composition!

The construction of this 1 meter wide stele finally began at the end of February in the Unity Pavilion entrance garden, over a period of several days. As a side event to The Bridge conference, it offered an informal point of gathering for attendees before and after the sessions. A lot of them demonstrated sincere interest and helped us to build, resonating strongly with the symbol of all these soils coming together. This vibrant community feeling was at its apex on the inauguration day, when every participant was asked to pour a handful of soil into the formwork, before the rammed earth was begun. The whole Earth Institute team was there to answer questions and to share their love for the earth. All of us hope now that this multicolor stele will be a lasting symbol of our aspiration to unity.



Finishing touches...

The Bridge

One of the fascinating events of Auroville's 50th Anniversary was a one week interactive workshop – an experimental collaborative research encounter – called The Bridge: Auroville and the World. The Bridge brought together researchers and practitioners from India and abroad in the meta-fields of education, society & economy, environment, and city art & culture, with the aim to discover the potential of the living laboratory in Auroville and to foment interdisciplinary research collaboration.

The Earth Institute hosted The Bridge for a morning of discussion on 'unending education', with Satprem giving a presentation on the educational initiative and approaches of the AVEI School of Earthen Architecture.

After a series of presentations by visiting researchers, Lara also participated in a lively panel discussion facilitated by respected architect Sanjay Prakash. Covering the topics of 'Harmony with Nature in the Anthropocene', 'Re-thinking the Ecological Crisis', 'Harmony in Social Action' and 'Collaboration for Community and Climate Resilience', the discussion explored new forms of collectivity, redefining the artificial separations between individual, social and environmental systems.

<http://thebridge.auroville.org/>



TERRA 2016 Conference Proceedings Published

The proceedings for the XXIIth World Congress on Earthen Architecture, Terra 2016, were published this month, including an article written by Satprem and Lara entitled "27 Years of Applied Research at the Auroville Earth Institute". Edited by our friends Thierry Joffroy, Hubert Guillaud and Chamsia Sadozai, this work documents some of the valuable outcomes of Terra 2016, which was held 11-14 July 2016 in Lyon, organized by CRAterre under the aegis of the ISCEAH Committee of ICOMOS International and within the framework of World Heritage Earthen Architecture Programme of UNESCO (WHEAP).



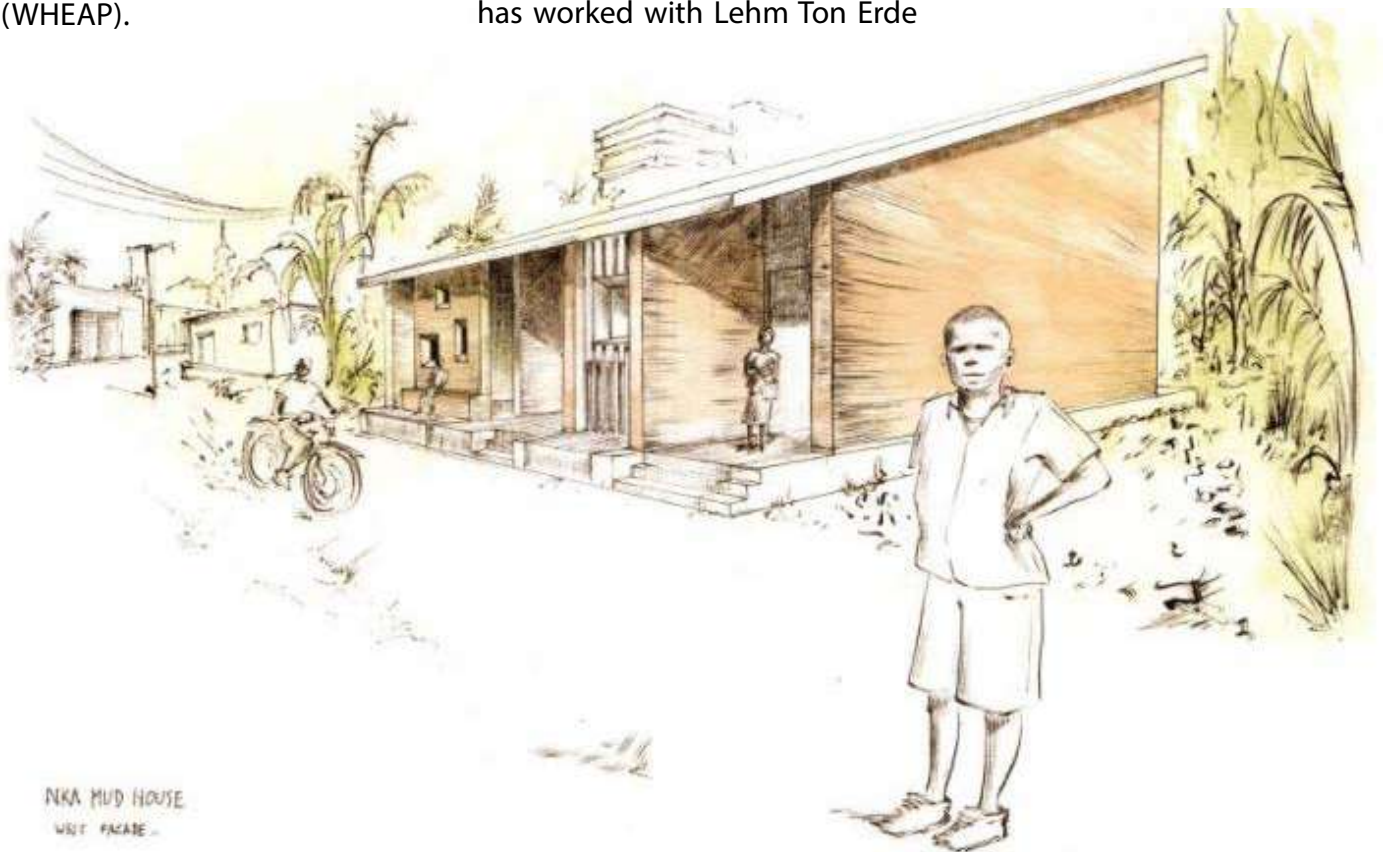
Pauline Sémon Visits

In mid-March, Pauline Sémon, a French architect, illustrator, and graphic designer, visited the Earth Institute. Pauline specializes in earthen construction techniques, particularly *pisé*, and has worked with Lehm Ton Erde

Martin Rauch and Anna Herringer, as well as on projects around the world, such as a rammed earth oven in Turkey and an adobe home in Mexico. We first met Pauline while translating the first French edition of Dominique Gauzin-Müller's *Architecture de Terre d'Aujourd'hui*. Pauline was the graphic designer and illustrator for the book, including its cartoon inserts that describe soil testing and the different earth building techniques.

During her visit to the Earth Institute, Pauline visited the Sharanam site, the rammed earth stele at the Unity Pavilion, and met with our team. Her amazing work can be viewed on her website here:

<http://www.p-sem.com> ■



One of Pauline's beautiful illustrations of earthen construction

CAPTerre Training Courses in Algeria

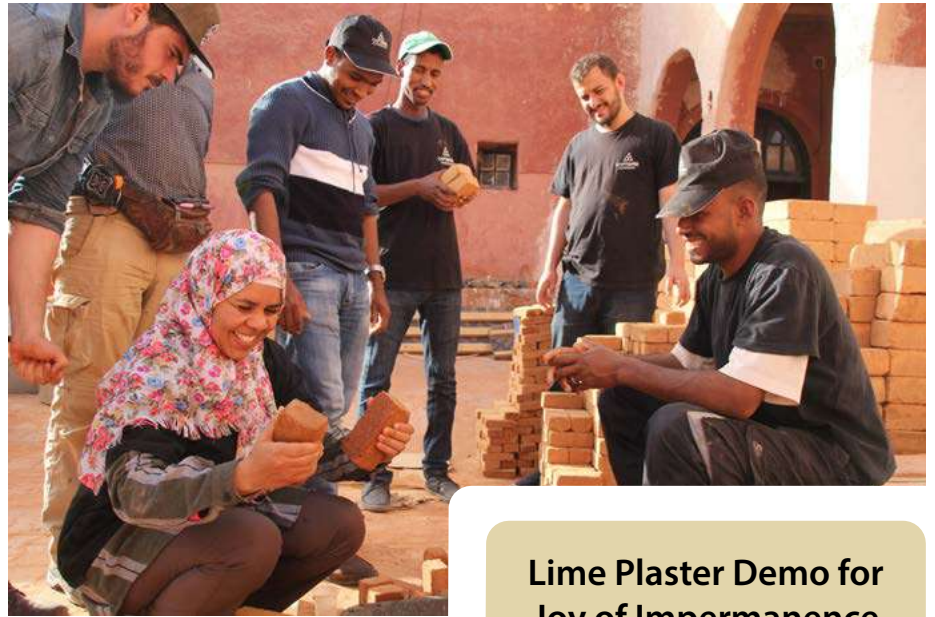
In March, Satprem and Lara participated as trainers for the PROFAS C+ program in Algeria, a capacity building program for the technical team of CAPTerre, the Centre Algérien du Patrimoine Culturel Bâti en Terre. PROFAS C+ is a French-Algerian partnership program between CAPTerre and CRAterre-ENSAG, organized in the framework of the UNESCO Chair Earthen Architecture.

Satprem led a one week course on CSEB production, which focused on the selection and modification of soils in a desert region with excessive quantities of fine sands and salt content. Lara led a one week intensive course on the theory and construction of arches, vaults and domes. This was the first full course that she has taught in French, and could not have accomplished this without the patience and positive energy of the CAPTerre team.

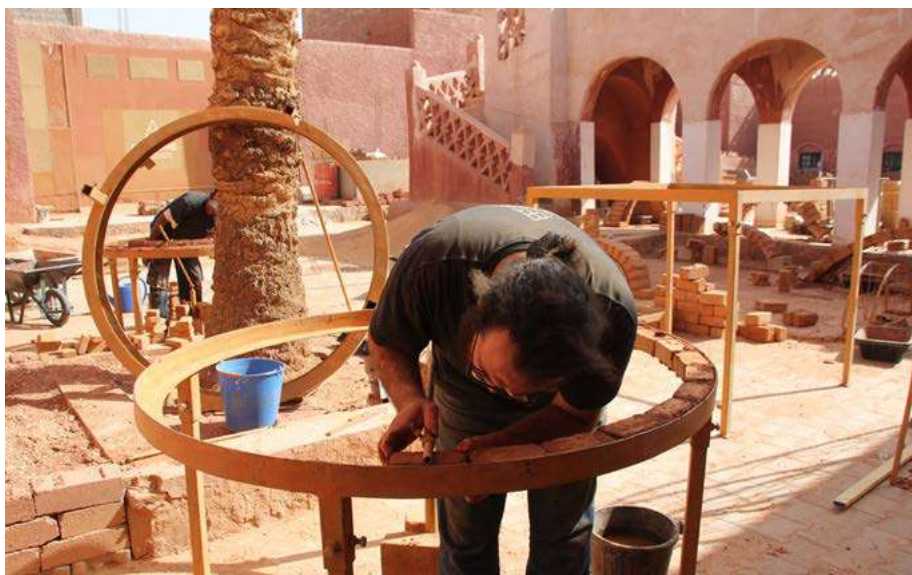
As part of this program, CRAterre has organized a number of other courses on the scientific, technical and methodological fundamentals of earthen architecture and the conservation of earthen architectural heritage. These training programs are being held at 'Oasis Rouge', a historic adobe building which is the seat of CAPTerre in the desert of Timimoun, Algeria. ■



Teaching CSEB and AVD courses in the courtyard of CAPTerre



Lime Plaster Demo for Joy of Impermanence



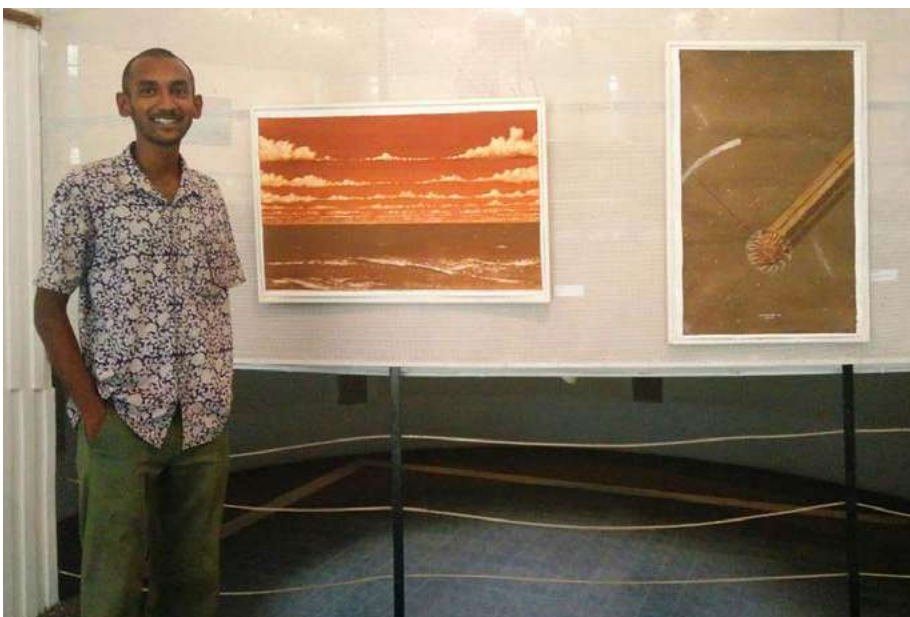
Joy of Impermanence (JOI), a self-built housing initiative started in Auroville by a group of youth in a spirit of sustainability, self-sufficiency, and diminished material ties, received site permission for their housing project and has now commenced construction on the first homes. JOI is beginning to work with the “superadobe” construction technique that employs walls of geotextile tubes filled with earth, often for domed structures. Xavier Colombet, a superadobe practitioner who trained at CalEarth, has led the JOI team in building the first of these domed structures. On 23rd and 30th March, Satprem and Lara led a demonstration of lime stabilized soil plaster for the JOI team, for the plastering of the exterior walls. In exchange, Xavier has offered to give a short training session for the AVEI team on superadobe, which will take place in the coming weeks.

<https://www.youthlink.org.in/copy-of-the-hive-project> ■

Muthiah's Exhibition at Kala Kendra Art Center

This March, AVEI's graphic designer Muthiah Kasi exhibited his paintings at Kala Kendra Art Center in Auroville, in "Dhi", an exhibition of young artists. Muthiah's recent work explores the colors and textures of soil through his experiments in earth-based paints, in which he has combined varying hues of soils and lime with different chemical binders. These experiments have resulted in rich earth tones, applied on canvas and black paper, in his sensitive, thoughtful explorations of the great Indian philosophers and the evolution of life.

In this current exhibition, he has displayed four tableaux, "Connected We Are", "The Blueprint", "Just Be", and "The Churning of the Primordial Soup". He is continuing to grow this collection and to expand his usage of earth-based paints. We look forward to seeing his further studies!



Muthiah with two of his paintings

New Team Members

The Earth Institute has welcomed four new team members!

Najat

My name is Najat Zakham and I am from Yemen. From 2004 to 2008, I worked as a physics teacher in the Mojamaa Kamaran Secondary School in Hodeida, Yemen. In 2013 I worked for 4 months as a lecturer on the physics of building materials at Sanaa University Faculty of Engineering in Yemen. Currently, I am a Ph.D. student in Morocco in the Department of Physics at the University Mohammed V Faculty of Science in Rabat, Morocco. My PhD thesis is in the field of Mechanics & Materials, on the subject of "Thermal Comfort of Earth Buildings: Modeling Thermal Behavior of Compressed Earth Blocks as a Function of their Cement and Water

Content". I have research residency at the Auroville Earth Institute for one year.

Dorjay

Jullay means hello in Ladakh! My name is Tsewang Dorjay from the eastern part of Ladakh. I have my B.Com from Leh EJM College, in Ladakh. In 2008, I failed a few subjects in 10th Standard, and so I got admission into SECMOL.

Basically, SECMOL is an NGO which is mostly run by the students themselves. The students learn by doing there and also through the volunteers from different countries around the world. To get admission into SECMOL, students have to fail and drop out of the mainstream schools. Then they get another chance at SECMOL.

In that one year at SECMOL, I learned how to speak in English, basic science and math, Ladakhi history, all building my confidence. So I got really interested by SECMOL. I did not want to leave this campus, but I had to go on for further studies and after one year, I passed 12th Standard in Leh.

Then I got admission in college, but from July I again got a chance to stay in SECMOL for more than two years, which was far more productive in my life. After graduating, I joined the Passive Solar House Design Course at SECMOL. Actually this is a two-year course and in the last year I have learned some basic construction, draw-
→

ing, and design principles for a passive solar house. And we practiced some hands on at our own campus. So now this is our second year running, so I went to Bhuj, Gujarat for a two-month internship and now I am doing an internship here at Auroville Earth Institute for a month and a half. I am enjoying learning day by day new ideas and many more. So after this course I would like to become a green builder, which is very essential nowadays. Thanks a lot!

Tsephel

Hi, this is Kunzang Tsephel from Ladakh. I am practicing vernacular architecture and learning about solar and earth construction. I have completed a one-year theoretical course at SECMOL and now I have been doing internships outside of Ladakh since three months. Before I came to Earth Institute, I was doing an internship in Mumbai at an architecture firm called Studio Mumbai for two months. And now I am here in Auroville for one month.

I have finished my 12th grade and joined a college, but I wasn't meant for college and so I stopped and joined the SECMOL course. It's been an amazing journey learning about earth. Now here in Earth Institute, I'm having a great experience with CSEB, which I learned about and made back in SECMOL, but here I am amazed by the precise work that has been done and also the different shapes for different uses in construction. So I really love that.

J.P.

My name is Jigmat Padma (J.P.) and I am from a place in Ladakh called Kemgyam. I studied until 11th Standard and then I joined SECMOL for the one-year foundation course. After that one year, I volunteered on the Artificial Glacier project and then I worked with my friend to build a resort for him. We built four rooms with rammed earth, without any expert mason. After that experience, I felt that I can also build my own house and started learning about how to build houses. A year later, SECMOL started a course called Solar and Natural Building Course and I joined. This two-year course changed a lot in my life by changing my perspective, and I feel that it was a great experience and opportunity. Now I want to do work for my village to improve the villagers' lives. ■

Recent AVEI Training Courses

The third Bioclimatic Earth design workshop, co-taught by Omar and Lara, concluded on 5th February. This two-week course was attended by students from all over India, as well as abroad. The final design projects, responding to the climatic contexts of Bangkok (Thailand), Kyoto (Japan), Trivandrum (Kerala, India), London (UK), Montreal (Canada), and Prescott (Arizona, USA), were presented for a review panel composed of Lara, Omar, and Auroville architects Ganesh Bala and Peter Anderschitz .

After a break for the 50th Anniversary festivities, training courses have resumed with CSEB Design, CSEB Production, and CSEB Masonry. Forty eight students came to the Earth Institute during these three weeks of training courses, from →



Students designing their design solutions for the Bioclimatic Earth Design Workshop

many different Indian states as well as Spain, Singapore, Germany, Italy, Portugal, Canada, Yemen, and Switzerland. Training courses will continue into April with the AVD Intensive course. ■

AVEI Training Course Schedule for 2018

April

2nd to 7th: AVD Intensive
16th to 30th: Bioclimatic Earth

June

4th to 9th: Ferrocement
11th to 16th: AVD Theory
18th to 23rd: AVD Masonry

July

2nd to 7th: CSEB Design
9th to 14th: CSEB Production
16th to 21st: CSEB Masonry
23rd to 6/08: Bioclimatic Earth

September

3rd to 8th: CSEB Production
10th to 15th: CSEB Masonry
17th to 22nd: AVD Theory
24th to 29th: AVD Masonry

October - November

8th to 13th: Ferrocement
22nd to 5/11: Bioclimatic Earth
12th to 17th: Wind Generator

December

3rd to 8th: CSEB Intensive
10th to 15th: AVD Intensive

AVEI Newsletter
Issue 38 - March 2018
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A dry laid CSEB wall and carved poured earth concrete done by Lara for the AVEI Open House