

# AVEI NEWSLETTER



*Ajanta, Cave 19, Chaitya gathering hall - 5th C.*

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This month will be a tip of the hat to some extraordinary artists working between raw earth and fired ceramics – with Jacques Kaufmann, Iliona Outram Khalili and Ray Meeker. And our good friends the Varma's, who have built the largest dome in the world in stone and lime!

We are also pleased to announce the recognition of the accomplishments of those we have worked with, such as Madeleine de Blic of Volontariat and Sarth Khare, current architecture intern.

Several training courses have occurred, both on the AVEI campus and during Satprem and Lara's visit to Aurangabad. And the recent Earth & Bamboo workshop has been stunningly documented by AV Consulting.

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 Visit to Mumbai & Aurangabad

### Global Pagoda

In mid-March, Satprem and Lara met Mahesh, Pallavi and N.R. Varma from Nandadeep Building Centre, the designers and master builders for of the world's largest masonry dome the Global Vipasana Pagoda in Mumbai. With its unsupported span of 85.15 m, the dome can easily be considered as the 8th wonder of the world, which has only been realized due to great advances in the science and construction of unreinforced masonry. The Varma's gave Lara and Satprem the engineer's and master builder's tour of the pagoda, which included the outside of the dome and even inside some of the inner chambers of the pagoda's semicircular, catenary, auxiliary and conical sections.

[www.earth-auroville.com/global\\_pagoda\\_en.php](http://www.earth-auroville.com/global_pagoda_en.php)



*View from the outside of the Global Pagoda*

### IIT Bombay

Satprem, Lara and the Varma's then visited the research and testing laboratory of Dr. Siddhartha Ghosh, Associate Professor in the Department of Civil Engineering at IIT Bombay. A structural engineer who specializes in probabilistic methods and earthquake risk reduction, Dr. Ghosh has pursued professional work

in the areas of structural dynamics, structural reliability, design of steel and RC structures, and retrofitting of structures. Currently, he teaches graduate and undergraduate courses, and supervises doctoral and masters research in the areas of performance-based seismic design, structural reliability, design of structural and cold-formed steel, analysis of masonry domes and arches, etc.



*Pallavi, N.R., and Mahesh Varma inside the meditation chamber of the Global Pagoda*

As part of the CEA lecture series of the Department of Civil Engineering, Lara gave a lecture entitled "Vaulted Masonry Structures: From research to implementation". The lecture presented the unique set of constraints in unreinforced masonry which bleed outside of the field of pure engineering (e.g. form, construction technique, sequencing, material and craftsmanship). It then went on to show prototype constructions using innovative methods to translate between structural design and construction.





Lara demonstrating the procedure to close an arch



Trainees working on a dome in the Aurangabad AVD workshop

After this, Dr. Mahesh Varma, the principle engineer of the Global Pagoda, who received his Ph.D in Civil Engineering from IIT Bombay, gave a lecture entitled "The Gnyanam Paramam Dheyam Arch at IITB: Proposal for a long life". Comparing typical RCC structures which deteriorate within 30 to 50 years and ancient masonry structures standing for 500 to 1000 years without distress, Varma called for a review

of current construction practices, structural forms, and materials to pave the path for future durable constructions. The lecture presented a proposal to reconstruct IITB's famous "Gnyanam Paramam Dheyam" arch in stone masonry and naturally eminent hydraulic lime mortars, with compression-only forms so as to last for centuries.

[www.civil.iitb.ac.in/~sghosh/](http://www.civil.iitb.ac.in/~sghosh/)

### Aurangabad Workshop

The group then travelled by train to Aurangabad and the next day, Satprem and Lara taught a 2-day workshop on the construction of arches, vaults and domes. This workshop, which was expertly organized by the team at Nandadeep Building Centre, brought together a wide range of students and professionals: including students of architecture and engineering, reputed local architects and engineers, local contractors and builders.

[www.nandadeep.org](http://www.nandadeep.org)

### AVEI in the Press

During Satprem and Lara's visit to IIT Bombay and Aurangabad, local Maharashtra newspaper Lokmat covered the AVD workshop given in Aurangabad in the 16th March edition. The whole text can be read in the e-paper here :

[epaper.lokmat.com](http://epaper.lokmat.com)



Manufacturing of naturally eminent hydraulic lime by Nandadeep Building Centre

## Visit from Jacques Kaufmann

At the end of February, the Earth Institute received a surprise visit from renowned French ceramic artist, Jacques Kaufmann. After his visit, Jacques presented a lecture on his work "From Material to Space" at Ray and Deborah Meeker's studio, Golden Bridge Pottery, in Pondicherry.

Jacques' work has a rare reach across the often separate domains of fired ceramic art and earth construction. He has worked with clay in a range of states, from vitrified to raw earth, and at a great range of scales, from the sculptural to the architectural, to what he calls "landscape ceramics". His work is extremely sensitive in conveying the ephemeral qualities of the medium clay in its many varied states, as well as the record of gesture in the hand of the maker. It might be said that his sensibility as an artist lies somewhere

between that of a sculptor and a bricklayer, who works to build poetic landscapes with hundreds of thousands of earthen objects.

Like Ray Meeker, he has been deeply moved by Nader Khalili's work on glazed fired houses. He has in the past built earthen buildings in Rwanda with CSEB and has traveled to see the use of clay and earth in various cultures. Presently, he is very active in China, working in collaboration with artisans, industrial companies, universities, and designers in the field of contemporary ceramics. He often appropriates aspects of both traditional and industrial knowledge and processes, along with obscure and poetic aspects of local constructive histories.

Among his many residencies, awards, and solo exhibitions, Jacques has taught in the ceramic departments at a number of academic institutions. Jacques is currently president of the International Academy of Ceramics (IAC), an international association

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devoted to the medium of clay. A UNESCO partner in the cultural sector, IAC's aims include: recognizing the scientific, educational and cultural issues of its many member countries, and fostering international dialogue and cooperation between professionals in the field of ceramics to encourage exchange between ceramic cultures. Its members include ceramists, potters, artists, designers, authors, collectors, gallerists, conservators, restorers, curators as well a number of prestigious institutions. ■

[www.aic-iac.org/en/member/jacques-kaufmann/](http://www.aic-iac.org/en/member/jacques-kaufmann/)

[www.aic-iac.org/en/](http://www.aic-iac.org/en/)



*Jacques Kaufmann surrounded by his materials (© AIC)*



*One of Jacques' recent installations (© AIC)*

## Visit from Iliona Khalili

Our second extraordinary surprise visitor, Iliona Outram Khalili, lists among the rare, female pioneers in earthen masonry vaulted construction. Iliona is an architect and master builder in earthen architecture, founding member of both Cal-Earth and New Earth (UK).

From 1991 to 2008, Iliona worked with the master earth architect Nader Khalili to establish Cal-Earth Institute in California, developing many innovations alongside him and their incredible team of builders. These include the Emergency Sandbag Shelter, which was awarded the 2004 cycle Aga Khan Award for Architecture, and a large number of artful constructions straddling the cultures of fired ceramics and earth construction. As Nader's



*Iliona, Lara, and Satprem visiting one of Ray Meeker's fired houses*

student, professional partner and wife, Iliona has made her mark as an artist and has carried on the spirit of their work together with New Earth (UK).

Making an impact in Nepal, Bangladesh, West Bengal, and Cyprus, to name a few places, she has served as architect and instructor, giving many workshops and

lectures in emergency earth-bag shelter and ceramic dome construction. She and her team are currently working on a project for Emergency Transitional Shelters in Nepal for earthquake survivors, and she has just completed a beautiful 'Ceramic dome: Tagore' in Kala Bhabana, Visva Bharati University, West Bengal.



## Ray & Deborah Meeker

In 1971, Deborah and Ray Meeker founded the Golden Bridge Pottery in Pondicherry, which has become an important center in the Indian ceramic movement. GBP has educated several generations of ceramic artists – including young Indian artists from all over the country, local Tamil youth and village potters – and has helped to build a bridge between traditional Indian clay

arts and contemporary arts practice abroad.

The pottery specializes in hand-made, wood-fired sculpture and pottery, some of which is inspired by traditional practices in Indian and Japanese art. Since 1985, Deborah has been running the production unit of exquisite decorative painted tableware. Ray's work has ranged considerably in scale: He started making fire-stabilized mud houses in 1987 in Auroville, including *Agni Jata*:

parabolic kilns built of raw clay and then fired in place. His recent work, large sculptural installations, reflect on themes of human consumption and environmental accountability. ■





Interior of a Rumi Dome (© Cal Earth)



Building with superadobe in post-earthquake Nepal (© New Earth)

New Earth (UK)'s philosophy is that "sustainability begins with a person". They offer hands-on education in sustainable living arts and architecture, demonstrating that it is through the act of people building together and by active contemplation of the natural world that one can come to understand what it means to live sustainably. Their innovative techniques draw from ancient traditions yet address urgent current needs, such as disaster-proof housing for communities affected by war and climate change. Inspired by the timeless mysticism of the great masters such as Rumi, Tagore, and others, their work embodies a spirit of collective/community construction, sustainable economy of means and artful mystery in the act of touching and firing the earth.

During Iliona's visit in early March, we visited together a number of Ray Meeker's fired houses, which were inspired by Nader's work.

We hope very much that she returns to teach for and with us in the future. ■

[www.new-earth.org.uk/](http://www.new-earth.org.uk/)

[www.akdn.org/akaa\\_award9\\_awards\\_detail3.asp](http://www.akdn.org/akaa_award9_awards_detail3.asp)

### Visit from Bee Rowan & Lime Applications

In the early part of February, Bee Rowan (one of the directors from British not-for-profit organization Strawbuild) visited the Earth Institute with Mita (coordinator of the Auroville Language Laboratory), and Das (close colleague and head structural engineer at INTACH Pondicherry).

Strawbuild promotes the use of strawbales for massive wall construction. It has succeeded in building up to two-story houses using these methods and their

members have consulted in projects around the world, with extensive recent construction work in Pakistan.

Bee, Mita, Das, Lara and Satprem discussed the use of lime stabilized earth for natural building in the Auroville and Pondicherry area as well as possible future collaboration initiatives to extend the viability of lime. They spoke of the nature of local materials and climatic constraints, the challenges finding quality lime products, and the need to improve knowledge in field testing methods and to invest in future research. They shared notes on past research studies in lime stabilized blocks and plasters as well as on historical recipes and applications of lime. ■

[www.strawbuild.org/](http://www.strawbuild.org/)

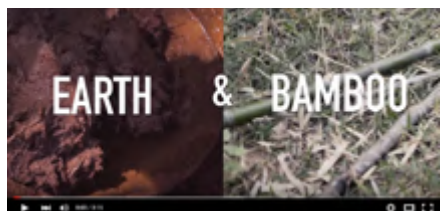
[www.intachpondicherry.org/](http://www.intachpondicherry.org/)

[www.aurovillelanguagelab.org/architecture.php](http://www.aurovillelanguagelab.org/architecture.php)



*Madeleine de Blic speaking to local school children (© Volontariat)*

### Earth & Bamboo Workshop Video



The latest Earth & Bamboo workshop held in February, co-facilitated by the Earth Institute and the Bamboo Centre and organized by Auroville Green Practices, was expertly documented by Vimal Bhojraj of Auroville Consulting. Through a series of poignant and sensitively captured images, this short film shows one student's first-person experience of the course and her journey in coming to know the materials of earth and bamboo.

Please watch this incredible three-minute film on our YouTube channel here:

[youtu.be/6gZXblo\\_og](https://youtu.be/6gZXblo_og) ■

### Pondicherry Heritage Festival 2016

The second annual Pondicherry Heritage Festival, organized by INTACH, People for Pondicherry's Heritage, and PONDYCAN, with sponsorship from the Government of Puducherry, was held from the 5th to 7th February.

Over the three days, speakers from throughout India brought diverse perspectives on the future of Pondicherry's built, natural, and cultural heritage. The panels were interspersed with performances by renowned performing artists and guided tours of sites around Pondicherry.

In the wake of the loss of such architectural icons as the Mairie building, we salute all the organizers and participants in this important effort to recognize and preserve Pondicherry's rich heritage in all its forms, particularly our colleagues at INTACH Pondy! ■

### Padma Shri Award for Volontariat

Madeleine Herman de Blic, founder of the Pondicherry-based humanitarian organization Volontariat, has been awarded the distinguished Padma Shri Award for Volontariat's tireless work for Pondicherry's most under-privileged social strata. Under her guidance, this dynamic organization has created numerous homes for street children and the elderly poor, opened a cloth factory employing people with leprosy and other disabilities, started a farm to provide food for those under its aegis, provided a platform for educational sponsorships for underprivileged youth, founded crèches and kindergartens for the children of working mothers and facilitated more than 130 heart surgeries for infants under 3 months old.

Madeleine has also been granted high honors from France and Belgium for her lifelong commitment to assist and educate the poor around Pondicherry: the French "Légion d'Honneur" and the Belgian "Ordre de la Couronne".

Over the past 20 years, the Earth Institute has had the opportunity to collaborate regularly with Volontariat, constructing the Shakti Vihara school in Pondicherry, doing renovation and extension work on other Volontariat buildings, and more recently building a small patio at the Volontariat farm (see Issue 15). →

The Earth Institute joins in congratulating Volontariat on this recognition of their extraordinary work from the Indian Government – including the entire team, Madeleine and Arnaud de Blic, Volontariat executive committee and staff and their dedicated network of international donors and supporters. We wish Madeleine and Arnaud all the very best at the Investiture Ceremony in April, which will be presided over by the President of India, Shri Pranab Mukherjee. ■

[www.volontariat-inde.org/](http://www.volontariat-inde.org/)



**VOLONTARIAT EN INDE**

### Photography Award for Sarth

The Earth Institute congratulates intern Sarth Khare for receiving a “25 under 25” award from Campus Diaries for his photography. This award was given to 25 individuals per field under the age of 25 who showed excellence in one of the four fields of writing, photography, visual art & design, and science & technology. The Grand Summit was held in Bangalore from the 12th to 13th March and facilitated interactions between the recipients and top Indian photographers, artists, writers, and entrepreneurs.

We look forward to following Sarth’s continuing journey of photo documentaries. ■

[campusdiaries.com/khariesarth](http://campusdiaries.com/khariesarth)

[500px.com/sarthkhare](http://500px.com/sarthkhare)

### New Team Member

The Earth Institute has welcomed a new team member!

#### *Julie Maman*

Traveling is a way to explore the world and its cultures. Working in another country is a mind opening experience that allows you to discover a new world. I come from Paris and I just graduated from Val-de-Seine School of Architecture.

A few years ago, I spent one year in Granada, Spain, within the framework of the Erasmus program. There, I discovered restoration and earth construction, two interests which brought me then to Rome, Italy.

The power of history and the complexity of this ever-changing city made me choose it as the site of my thesis project, and more particularly, the old and abandoned industrial city. Reusing and recycling building materials appeared as a very essential topic. How to build with used materials? Being one of the most polluting industries, how to manage to build an ecofriendly building?

I came to Auroville because it is for me an opportunity to participate in this huge laboratory. Here, in the Earth Institute, I found another way to design a project, thinking with the earth and for the earth, building with local materials. ■



*One of Sarth’s photos from a collection entitled “Unfinished City”*



**Recent Training Courses**

The Earth Institute conducted three weeks of training courses during the month of February: CSEB Design, CSEB Intensive, and AVD Intensive. The courses were attended by Indian and international students, including a group from the Modern Science & Arts University in Egypt. ■

**AVEI Training Course Schedule for 2016**

**April**

11th to 16th: CSEB Production  
18th to 23rd: CSEB Masonry

**June**

6th to 11th: Ferrocement  
13th to 18th: AVD Theory  
20th to 25th: AVD Masonry  
27th to 2nd (July): CSEB Design

**August**

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

**September**

5th to 10th: CSEB Production  
12th to 17th: CSEB Masonry  
19th to 24th: AVD Theory  
26th to 1st (Oct): AVD Masonry

**December**

5th to 10th: CSEB Intensive  
12th to 17th: AVD Theory  
19th to 24th: AVD Masonry

**AVEI Newsletter**

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*Daulatabad Fort, near Aurangabad - 14th C.*