



## STEMLAND NEWSLETTER

The children take responsibility for their learning and plan their goals. They work individually, in pairs, or in peer groups and ask for support from facilitators when they need it. This self-directed learning is based on Sri Aurobindo's first True principle of education (Aurobindo, 1910); "Nothing can be taught". With younger children, we work on real-life projects that impact their surroundings. We believe a nurturing environment can support a child's learning. Its sister organization C3STREAM Land Designs offers youth an opportunity to learn, grow, work, and teach so that youth can volunteer in STEM Land and support themselves financially by working in technology. [Read more]

Recently AVI USA supported a short film to help people understand STEM Land. Please see the video and share it with others. [Click here] Looking back the year, we see how we grow, how youth associate with STEMLand grow, and how children grow.



### ABOUT STEM (SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS) LAND

STEM Land is a rural tech center currently located in two outreach (Isai Ambalam and Udavi) schools in Auroville and supporting such centers in other locations in and around Auroville. Children and youth come to STEM Land for their Mathematics, EVS, and Science classes. They learn Mathematics, Electronics, 3D-Printing, Programming, Mindstorms (Robotics), strategic game puzzles, and much more.

### ANNOUNCEMENT

**STEMland is very happy to announce its new startup/initiative of Mathegramming.**

**Online mentoring for Mathematics through programming, electronics and leadership Responsibility, Rigor, Results**

## The Board of Studies (BOS) meeting for B.Voc with Pondicherry University:

C3steamland Design has been running a residential 1 year “Masters” program called Becoming and Being a Shifu (Master) program for a couple of years. This program supports those who have completed an undergraduate degree in any field to learn skills, competencies, and inner capacities through a hands-on individual mentor-driven program. This program is not officially certified by any university, but over the last couple of years has become extremely successful. Most of the students who graduated from the program joined us and continue to create this learning environment for others. It got us thinking about why we should wait for youth to waste 3 or 4 years in undergrad when they don't seem to have developed much. An opportunity presented itself to partner with AIAT (Auroville Institute of Applied Technology) to start a recognized undergraduate course affiliated with the Pondicherry university. The exciting part of the B.Voc Bachelor of Vocation programs was that we were allowed to design our own syllabus that was applied and holistic. [Read more]

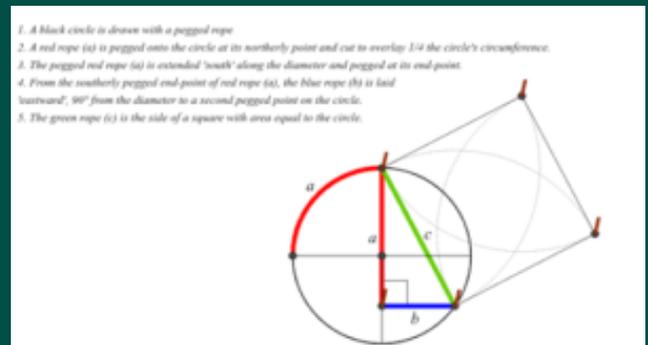


## BHARATHA TIRTHA II- International conference on Indian knowledge systems by IIT Kharagpur.

BHARATHA TIRTHA II- International conference on Indian knowledge systems was organized by IIT Kharagpur. Dr. Sanjeev Ranganathan, founder of STEMLAND was invited to present and he presented on the topic of Rajju ganit (string geometry, cord geometry).

He demonstrated briefly the concept of squaring the circle can be done using the Rajju ganit method. Using the rope, a circle, and a square of the same area can be constructed and observed.

Some other interesting topics that were presented at the conference were trigonometry in Ancient India and how that led to many discoveries and applications [Read more]



## Continued learning and breaking silos:

At C3STREAM land we have sessions of continued practice of Radical Transformational Leadership sessions every Thursday within our group as well as being open to people from outside.

These sessions help us break our silo work in the groups and projects we work on and give us an opportunity to have deeper conversations with others.

Though we had done the exercise many times each time it gives us an opportunity to reflect and learn about ourselves. We thought of the qualities of a person we deeply admire. Based on that values we create a new narrative of introducing ourselves to everyone. [Read more]

## Sri Aurobindo 150th celebration talks with Aurovillians: Sanjeev

As part of the 150th Sri Aurobindo's birth Anniversary, On the 24th of August 2022, Dr. Sanjeev Ranganathan had a live talk with the Aurovillians in Savitri Bhavan. Dr. Sanjeev Ranganathan is the executive of the Isai Ambalam school, Sri Aurobindo International Institute of Educational Research (SAIIER), and RTL Academy. He received his Ph.D. in Electronics from Columbia University in New York City. He is motivated by his growth as a human being and supports the same in others.

Sanjeev is the recipient of the Lewis Winner award for best paper at ISSCC. He also volunteered for Asha for Education in various capacities and interacted with over 100 NGOs in India working on education. He has worked at Silicon Labs, NXP, ST-Ericsson, and Aura Semiconductor and has built chips used by over a billion people.



He addressed the Aurovillians with his inspiring talk by quoting his life instances with the guidance of Mother and Sri Aurobindo. While volunteering for Asha for Education he perceived Education's purpose is not to just fit in something but also about standing out. It brought him to Auroville in 2000. He started working on alternative education. He focused on how are we going to support the next generation to do something unique. . [Read more]

### **STEMland youths excel in CII PUDUCHERRY INNOVATION CONTEST 2022**

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the growth of the industry in India, partnering with industry and government alike through advisory and consultative processes. CII Puducherry Innovation Contest organized in partnership with Atal Incubation Centre, Pondicherry Engineering College Foundation is an ideal platform for the Students and Startupreneurs of Puducherry to showcase their innovative ideas, proof of concept, and prototypes.

The event is structured through a 3-stage process that involves application shortlisting, online presentations, and a Pitch round. Boot camps, personal mentoring by Industrialists, and guidance by AIC are the salient features of the contest. Winners of the contest will get an opportunity to take their ideas to next level in the Atal Incubation Centre, PECF, and an opportunity to avail of seed funding.



The energetic youths of STEMland Vikinesh. R, Mugilan.M, and Punithavel.M from the Acharya College of Engineering and technology as the team participated in CII Puducherry Innovation Contest 2022 and presented their project "SALTWATER LAMP" and got selected for the finals of the Pitch round. They worked on this project to address the problems encountered by the fishermen and the public during disasters.[Read more]

### **Yoga class for Shifuians**

Becoming and Being a Shifu (Master) program focuses on developing skills, competencies, and inner capacities in graduates through a 1-year residential program. Muthu kumari, a yoga and healing therapist, had offered that she can do yoga classes for our team members. I thought it will be useful for the Shifuians and asked them if they were interested. Seven of them were interested and Muthu Kumari was happy to come on campus and offer the sessions. So far six sessions have been conducted. One of our employees has also joined the class.

The goal of this session is to introduce the asanas for good mental health, physical health, and well-being. Muthu Kumari expects that after a few sessions when people will master these asanas, they will be able to do these as part of their daily routine.

Shifuians were able to learn Asanas, Surya namaskar, and Pranayama. [\[Read more\]](#)



### **Last school students visit STEMLand:**

On the 14th of July students from the Last school, Auroville visited STEMLAND. The forty students accompanied by the teachers enjoyed their afternoon session by exploring STEMLAND.

The visit session was facilitated by Dr. Sanjeev Ranganathan and the team of STEMLAND. The session started with a few minutes of concentration meditation and a few words about what we stand for, a casual talk on the similarities and differences between the last school and STEMLAND. Students had to choose any two stalls they can spend time on. Some of them wanted to explore all the activities. [\[Read more\]](#)



### **A session about the life of Sri Aurobindo**

As part of the 150th Sri Aurobindo's Anniversary, On the 4th of August 2022, Smt. Sundaravalli, an ardent devotee of Mother and Sri Aurobindo lives in Chennai along with her friend Vijayalakshmi visited STEMLand and had a session with STEM teachers. [\[Read more\]](#)

### **English Class**

As part of the continued learning program at STEM land, we took two courses "Grammatically correct English: writing and speaking" and "Advanced English course" along with other teachers and staff of SAIER. Sessions were held twice a week from 4:00 p.m. – 5:30 p.m. on Mondays and Fridays. The course was an offering of SAIER and will be free of charge to the participants.

This was an intensive course that required homework ranging from 15 minutes to half an hour. The teacher for the course is Miss. Vizsla had many years of experience teaching English. [\[Read more\]](#)



## Shifuians visit Sadhana Forest

Becoming and Being a Shifu (Master) program provides opportunities for the students to explore and integrate with Auroville. As part of this exploration, we visited the Sadhana Forest community last Friday. Every Friday the community offers a tour, screens a documentary, and serves a vegan organic dinner. [\[Read more\]](#)



## Engagements of Isai Ambalam get featured in Teacher plus magazine

Teacher Plus is a magazine, created in 1989 aimed primarily at the schoolteacher. It is a forum within which teachers can raise their concerns, discuss ideas, and share and update their knowledge. Teacher Plus discusses alternative ways of thinking and doing within the context of the Indian classroom while recognizing the constraints that most teachers face, day to day. In addition, it aims to foster a sense of community among teachers, of being a part of an important group of change agents. It draws from a large pool of contributors from across India, persons with experience in varied aspects of education, from primary school teaching to tackling board exams to the place of art and craft in learning, to child development and classroom management. Each month brings the reader a mix of thought-provoking features and hands-on activities that can be adapted for use in most classrooms.

In the May- June 2022 edition of Teacher Plus magazine an article on the engagements of Isai Ambalam school gets featured on the topic “Life can offer science lessons”. The article addresses the partaking of children in three themes – Water, Food, and India and democracy. [\[Read more\]](#)



## Christmas Fair at Udavi

Udavi school organized the Christmas fair on December 24th, 2022. Udavi invited Isai Ambalam school children to collaborate with them to have stalls to have some fun games, in addition, the children were invited to participate in the fair. Both isaiambalam and udavi school children made projects with the help of STEMLand and exhibited them in the fair. [\[Read more\]](#)





### Shramadhan at Isai Ambalam

The word Shramadhan means labor (Shram) and donation (Dhaan). Shramadhan means a voluntary contribution by the person towards community welfare involving physical effort. To incorporate that quality in the students, Isai Ambalam school organized a cleaning activity on the new school ground on the 29th of August, Monday. All the school teachers and students from 5th to 8th grade participated in this activity. Everyone assembled on at 8.30 am on campus and started cleaning the school ground. Volunteers from STEM Land, Shifuians also joined the cause. Each of them took a small area and started cleaning along with the children. This activity incorporated the qualities of community building, voluntary contribution towards community welfare, and Self-growth. [\[Read more\]](#)



### Fish hanging using Scrap cardboard

Children from 5th grade performed a craft using scrap materials like cardboard boxes of laptops. Fish is considered a good omen and is often presented for luck and wealth. This craft is from a series of hangings in a fish shape. It's bright and exclusive. It brings calm to the workspace. It has a hook at the back to hang on the wall. Generally, Fish brings lots of positivity, it is said that fish takes away all evil in them and gets lots of positivity. The children enjoyed doing this activity. This activity emphasized the creativity of children. [\[Read more\]](#)



### Cycle Safety light

For quite a long time (a year and a half), kids in the electronics lab have been working on breadboard circuits which they build and then dismantle. They built quite a few circuits this way working with LEDs, Opamps, comparators, 555, microphones, speakers, etc. We found that generally one in 20 kids to whom the circuits were introduced become interested to come regularly to the lab in the evenings at the expense of their free time which they usually use to play. A visitor from Austria expressed surprise that any kids at all turned up at the lab at the expense of playtime. [\[Read more\]](#)

## Learning electronics with Table fan

Children explore and learn new things during sleepovers. As a part of this, students from the 6th,7th, and 8th grades worked on an inoperative table fan and gained knowledge of repairing it and making it work. Sanjeev facilitated the activity and was accompanied by the energetic team of Pratap and Sundaresan. It was an hour session.

First, they started with a theoretical explanation of what it is and how to handle the tools with precautions. They acquired the skills of choosing the right tool for the right application. They worked the tools such as different types of screwdrivers, spanners, and testers. They gain an understanding of looking for specificity to different types of screws. [\[Read more\]](#)



## Warli Art

The great Warli art is a form of tribal art mainly created by tribal people in the northern region of the Sahyadri Range, which comprises cities like Jawhar, Palghar, Dahanu, Talasari, Mokhada, and Vikramgarh of Palghar district, in India.

The most important aspect of the painting is that it does not depicts mythological characters or images of deities, but depicts social life. Warli paintings often depict a wide range of scenes and occasions. This art form uses basic geometrical shapes to represent nature.

Warli art can be related to Mathematics on the basis of the geometric shapes and lines used in it. The Warli art is 2 dimensional with no perspective or proportion. It is simple and linear with maximum use of triangular shapes.



The majority of Warli Art is based on geometrical mathematics. The basic geometric shapes used in these rudimentary wall paintings are a circle, a triangle, and a square. These shapes represent various elements of nature. Their observations of nature inspired them to create geometrical circles and triangles. [\[Read more\]](#)



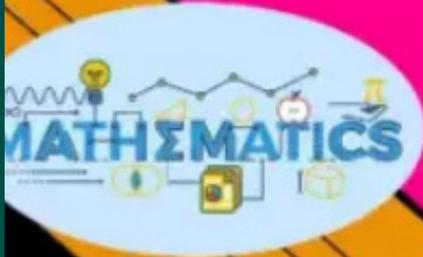
Contributions towards STEM land can be directed towards Auroville Unity Fund with a note for STEM land and mail it to

Dr. Sanjeev Ranganathan,  
STEM land Udavi School, Auroville,  
Edayanchavadi, Tamil Nadu - 605101

All donations are 100% tax-deductible in India.

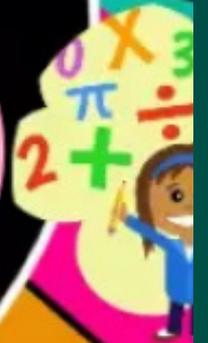
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Winners will be featured in NewsLetter



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needed*

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initiative for mathematics  
through programming,  
electronics and leadership.



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innovative, creative and collaborative space