Passive solar design refers to the use of the sun’s energy for the heating, cooling and day-lighting of living spaces. The application of solar passive design principles can contribute significantly to the reduction of a building’s operational energy demand (electric and non-electric). Passive design is practiced throughout the world and has been shown to produce buildings with low energy costs, reduced maintenance and high comfort. A well-designed passive solar home can substantially reduce a building’s energy demand.
THE ISSUE

Buildings consume large amounts of raw materials, energy and water and at the same time produce immense quantities of waste and pollution. Having a long life span, buildings do have a long lasting and continuing effect on people and the environment. According to the UN-Habitat (2011), approximately 75 percent of the building stock in developing countries in 2050 will be built in the next 35 years. This makes the building sector a particular issue in terms of sustainability.

Energy is used throughout the lifecycle of a building; embodied energy of the construction material, construction related energy demand, energy for building operation and maintenance and finally energy for demolition of the building.

The single largest use of energy in buildings has been attributed to either heating or cooling. Climatic conditions along with rising income levels, changing lifestyles as well as inappropriate urban and building design have increased the demand for maintaining an optimum temperature in buildings. According to the IPCC (2007) report, buildings have the largest potential of any sector for reducing greenhouse gas emissions, estimated at 29 percent by 2030. Hence, it is vital that building design and construction methods are re-evaluated.

The seminar will teach passive design strategies for planning and architectural design with a main focus on three tropical climatic zones (hot-humid, hot-dry and composite). The following questions will be addressed.
• How can we design settlements and buildings respecting solar passive design principles?
• How do we evaluate and understand micro and macro climate of the building site?
• How can we find appropriate design strategies for various climatic conditions?
• How can solar passive principles be used meaningfully in dense urban areas?
• How can we communicate the benefits of solar passive design to clients?
• How can we optimize building energy demand through simulation?

Tentative topics: understanding climate (macro and micro climate), understanding climate change, appropriate site evaluation and planning (building orientation and function, strategies for natural lighting and ventilation, building materials and finishes, landscaping and water bodies etc.)

Who will participate?
We invite professional architects who have an interest to plan and design using solar passive design principles. This is a limited capacity, highly interactive event that requires active participation of all attendees.

**BENEFITS**

• Learn and apply basic solar passive design principles
• Interact with distinguished experts
• Peer to peer exchange and learning
• Introduction to appropriate building materials and finishes
• Learn about good practices through case studies
• Site visits to structures in Auroville
FACILITATORS

Ms. Suhasini Ayer-Guigan  
Principal Consultant, Auroville Design Consulting

Suhasini has over 20 years of experience in sustainable design, green building practices and planning. She is the founder and principal architect of the Auroville Design Consultants since 1988. She is co-recipient of the Hassan Fathy Award for ‘Architecture for the Poor’ in 1992 and recipient of the Design Share Award for educational buildings in 2003 and 2005. She holds a bachelor’s degree in Architecture from the School of Planning and Architecture, New Delhi.

Mr. Sanjay Prakash  
Principal Consultant, SHiFt (Studio for Habitat Futures)

Sanjay Prakash, B. Arch., A.I.I.A., is an architect with a commitment to energy-conscious architecture, eco-friendly design, people’s participation in planning, music and production design. Over the years, he has integrated all his work with the practice of new urbanism and sustainability in his professional and personal life. His area of practice and research over the last 34 years includes passive and low energy architecture and planning, hybrid air-conditioning, autonomous energy and water systems, bamboo, wood and earth construction, community-based design of common property, and computer-aided design.

Prof. Arvind Krishan  
Professor Emeritus AMITY University, Noida.

Prof. Arvind Krishan is an architect-structural engineer with a Master in Architecture from University of Washington USA, Masters in Structural Engineering and Ph.D in Energy Efficient Architecture from Indian Institute of Technology –Delhi, India. He is the former Dean, Head Department of Architecture, School of Planning and Architecture, New Delhi, India. Currently he is Professor Emeritus AMITY University, Noida.

He is a leading architect in the country in the field of ‘Green Buildings’ - Climate Responsive / Energy Efficient Architecture having designed projects of diverse nature and magnitude in India and abroad. His professional work is supported by intense research in the field of Climate Responsive/ Energy Efficient Architecture, funded through various national and international agencies: EUROPEAN UNION, BRITISH COUNCIL, GOETHE INSTITUTE, ENEA, MNRES etc. He is recipient of prestigious JEFFREY COOK AWARD 2010 award. His professional and research work is widely published as research papers / journals. The book: Climate Responsive Architecture by Arvind Krishan et. al published by McGraw Hill has been published in English and Chinese languages. The book enjoys wide use in academics/research and professional in India and abroad.
SCHEDULE

Day 1 – Thursday, 26th March 2015
09:00 – 10:00  Registration
10:00 – 11:00  Welcome and Program Introduction
11:00 – 11:15  Tea break
11:15 – 12:15  Understanding Climate and Climate Change
12:15 – 13:30  Lunch
13:30 – 15:00  Master Planning based on Solar Passive Design Principles
15:00 – 15:30  Tea break
15:30 – 17:00  Building Design based on Solar Passive Design Principles
20:00   Dinner event

Day 2 – Friday, 27th March 2015
10:00 – 11:00  Introduction to Design Exercise
11:00 – 11:15  Tea break
11:15 – 12:15  Design Exercise
12:15 – 13:30  Lunch
13:30 – 15:00  Design Exercise
15:00 – 15:30  Tea break
15:30 – 17:00  Site Visits (Library, Centre for Indian Culture, Dhania’s house Verite etc.)

Day 3 – Saturday, 28th March 2015
10:00 – 11:00  Design Presentation and Evaluation
11:00 – 11:15  Tea break
11:15 – 12:15  Design Presentation and Evaluation
12:15 – 13:30  Lunch
13:30 – 15:00  Case Studies and Best Practices
15:00 – 15:30  Tea break
15:30 – 17:00  Program Summary and closure
COLLABORATORS

Auroville Design Consultants
Auroville Design Consultants provide consultancy for institutional/ commercial/ residential and campuses planning and architectural design. Consultancy is also provided to architects and developers in the area of sustainable planning, design and building practices.

Auroville Consulting
We provide strategic planning, design and monitoring services for corporate and government initiatives to realize ecologically and socially responsible habitats and campus development. Using an interdisciplinary approach we are capable of dealing with complexity, a dynamic environment and of viewing the same challenge from multiple perspectives. Founded in 2010, Auroville Consulting is a business unit of the non-profit organization Auroville Foundation, set up in 1991 by Government of India.
REGISTRATION

Registration fee  Rs. 14,000 per person

*Includes three lunches, two dinner, materials and facilitation for all activities, and all taxes. Accommodation costs are not included. All meals are vegetarian. Alcohol is not permitted in Auroville guest houses.

Registration will be closed once the limited capacity of 25 participants is filled. Registration will be confirmed after receipt of the payment. We cannot refund your payment if you cannot attend for any reason, but you can transfer your registration to another person in writing before 22nd March 2015. If a facilitator is unavailable, then we will substitute the relevant activity with a similar one.

In case of cancellation of the programme from our side, fees will be refunded within 10 days.

LAST DATE FOR REGISTRATION: 22nd March 2015

Registration Contact
Kshitij Abhishek
Auroville Green Practices/Auroville Consulting
SaraCon Campus, Kottakarai Plaza, Irumbai Post, Auroville 605111, Tamil Nadu
PAYMENT

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Payment Option 2
Online payment at: http://www.agpworkshops.com/make-payment

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Auroville Consulting
Auroville Green Practices Workshop
SaraCon Campus,
Kottakarai Plaza,
Irumbai Post, Auroville 605111
Tamil Nadu, India
ABOUT AUROVILLE

Auroville wants to be a universal town where men and women of all countries are able to live in peace and progressive harmony above all creeds, all politics and all nationalities. The purpose of Auroville is to realise human unity.” Auroville is an international community with over 2000 people from around 40 different countries. Founded in 1968, Auroville is based on the vision of The Mother and is endorsed by UNESCO and the Government of India as an ongoing experiment in human unity. Aurovillians are constantly experimenting with new ideas and solutions in areas of education, arts & crafts, community building, new economy and sustainability. One of the unique aspects of research in Auroville is the fact that many ideas are put into practice. Over the years, Auroville has won international acclaim for its efforts in social and environmental sustainability. Auroville is located 8km from Pondicherry, 3 hours drive from Chennai city/airport (150km) along the scenic East Coast Road (ECR) and 8 hours by an AC sleeper bus from Bangalore (350km).

Auroville Green Practices

Auroville Green Practices aims to bring together various stakeholders to envision future townships that offer a habitat that is ecologically, socially and economically nurturing.