

# Newsletter

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Nehru  
Centre



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## Events At a Glance...

### Cultural Wing

To pay tribute to Mahatma Gandhi, the following play on his life and work will be presented

"Mahatma The Eternal Light"  
(English)

Date: Tuesday, 4th October 2016  
Time: 6.30 pm  
Venue: Nehru Centre Auditorium

### Library

#### Meet - the - author

Katie Bagli has written several story books for children, most of which are on various subjects of nature. In addition, she has also co-authored three books and has been writing for children's magazines as well. Besides writing, Katie also enjoys illustrating her own books. Katie Bagli will speak to the children on her new book *Catagroofus*.

Date: Monday, 17th October 2016  
Time: 10.30 a.m. to 12.00 p.m.

Venue: Hall of Harmony  
for children aged 5+

## Tribute to Dr. Homi Sethna

The yearly Dr. Homi Sethna's Memorial Lecture was organized on the 24th August 2016. Professor Jayant V. Narlikar of Inter University Centre for Astronomy and Astrophysics, Pune delivered a talk on the life of Dr. Sethna and his contribution to the field of science especially in the field of Nuclear Power.

Following are some excerpts from his talk.

In the opening remarks. Prof. Narlikar said "When Nehru Centre invited me to deliver the Sethna Memorial Lecture, I was pleased as this gave me the opportunity to pay my tributes to a man of science and technology who was an achiever without being in the public eye very often. As Chairman of the Atomic Energy Commission he was successor to a very illustrious man, Homi Jahangir Bhabha. Sethna had been a colleague of Bhabha from the early days of India's atomic energy programme.

Those who worked with Sethna recall that he was a taskmaster,

an extreme disciplinarian and a stickler for cleanliness who could be extremely brusque at times. The discipline, not surprisingly, was most visible on the days he was engaged in the very important operation of conducting India's first nuclear test in 1974 at Pokhran. P K Iyengar, a senior scientist and a key member of the team that conducted the entire operation PNE (peaceful nuclear explosion) later disclosed that Raja Ramanna who was the leading physicist at BARC in charge of the proposed PNE, and Sethna, were at ground zero, personally supervising the arrangements.

Again, the apocryphal take over telling us that Sethna actually came to Pokhran 48 hours before the experiment. He was reportedly in New Delhi meeting officials, presumably to ensure that all issues relating to the experiment were sorted out. It is said that some officials at the Prime Minister's Office wanted the test to be delayed. Iyengar recalled later that "Sethna telephone us at Pokhran and explained the situation. We said we cannot stop the test at this stage. He then met Mrs. Gandhi who gave the go-ahead." Tricky

contd. on page 2

though, the experiment was, its political fallout was going to be trickier.

My interaction with Homi Sethna was closer when the project of Nehru Planetarium came into existence, thanks to the initiative taken by Mr Rajni Patel. It came about when a large projector for a planetarium of 600+ capacity was imported to India. The machine was brought to the shores of India by the initiative of Mr P. J. Patel, a well known dealer in optics. I said “shores of India” instead of “into India” because in between stood the wall of Mumbai customs. As a commercial device it would have attracted huge customs duty. To get out of the problem, Rajni Bhai had an ingenious solution. He argued that the planetarium was basically an educational device and could claim exemption from duty if it was so projected to the customs. Indeed he made an offer to the importer: Donate the instrument to the newly established Nehru Centre and the latter would complete all the customs formalities and ensure that the planetarium was established.

The Nehru Centre was essentially Rajni Bhai's idea and the project stood for one of those few cultural oasis in the cultural desert of Mumbai. It was coming up slowly but surely and Rajni Bhai was quick to see that the planetarium could very well serve as the flagship of the project.

The planetarium project was completed and the ups and downs it encountered as it progressed. Rajni Patel and Homi Sethna were helpful in their different ways. Today the Nehru Planetarium is one of the 'musts' that any visitors have on their lists of what to do or see in Mumbai. We wanted it to be dynamic in character: that is, it should not be confined to stellar projections only

but each programme should have a story to tell of what is going on in the cosmos.

Those who interacted with Sethna in the environment of Nehru Centre saw how concerned he was with attracting bright young brains to science. I once conducted a science quiz here with Sethna as the Chief Guest. The teams participating came from secondary schools in Mumbai. It was not difficult to see that he was following the question-answer sequence closely, occasionally asking questions to clear his own doubts. To me today it does represent an ironical situation that as a scientist he would want as many young scientists as he could get for the month and prosperity of science, whereas his own Training School would recruit young talent for the progress of potentially destructive nuclear weapons.

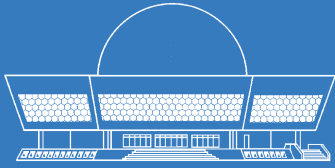
But donning his benign cap one saw him enjoying science at the Nehru Centre and the Nehru Planetarium. He was a stickler for time and would want you to keep to the prescribed time schedule. Delay was bad enough but finding excuses for it, he would consider even worse. For it brought in arguments for condoning inaction. Thus we on the Programme Committee had to be fully prepared to face any such googly bowling!

Homi Sethna tried to bring precision to whatever he was making. He was uncomfortable with vague statements While he would like to call a spade a spade, he would make sure that what he was being handed over was indeed a good spade. Working for him was indeed an experience to remember, and I wish I had more opportunities to interact with him. ■

### What Nehru said...

What do the 360 million people want? It is obvious enough that they want food, it is obvious enough that they want clothing, that they want shelter, that they want health. I suggest that the only policy that we should have in mind is that we have to work for the 360 million people, not for a few, not for a group but the whole lot, and to bring them up on an equal basis.

October 13, 1954



NEHRU PLANETARIUM

## SKY SHOW : 'Edge of Darkness'

### Timings

12 noon (Hindi) 1:30 pm Marathi)  
3:00 pm (English) 4:30 pm Hindi)

(MONDAY CLOSED)

### The Golden Ratio and the Centre of Mass

On 27th of August Professor Vijay A. Singh, Raja Ramanna Fellow, Centre for Excellence in Basic Sciences, Mumbai University, spoke on The Golden Ratio and the Centre of Mass. Following are the excerpts from his talk.

He said that the Greek letter  $\phi$  (phi) which represents an irrational number and is called the golden ratio is close to 1.61 and is a root of the quadratic equation  $x^2 - x - 1 = 0$ . This number is to aesthetics what  $\pi$  ( $= 3.14$ ) is to maths and physics. The origin of this number can be traced back to the Indian mathematician Virahanka (6th century AD) who found that it can be approached as a ratio of two successive numbers in the sequence 1,1,2,3,5,8,13 ... Each number in the sequence is a sum of two successive numbers and the ratio  $13/8 = 1.625$  which is close to the golden ratio.

It is a figure of merit for the fashion industry. The fashion multinational Bluebella has declared Scarlett Johansson to possess an almost perfect figure with Kim Kardashian being a close runner up – all on the basis of the golden ratio. It has been popularized by Dan Brown in his books. Apparently Leonardo da Vinci was enamoured of it. His Vitruvian man is proportioned as per golden ratio and so is Mona Lisa's face in the famous painting.

But when it comes to the sciences, golden ratio is seldom encountered and is a poor cousin to the ubiquitous ' $\pi$ ' or to ' $e$ ', the base of the Naperian logarithm. There are scattered occurrences such as in toy models of quasi-crystals or as the effective resistance of an infinite resistor network. But nothing universal, nothing as the saying goes "to write home about", until recently, that is.

He further said "Sometime back physicist Dr. Praveen Pathak from the Homi Bhabha Centre and I found that when a square of side  $b$  is excised from the edge of a larger square of side  $a$  then the centre of mass of the truncated square lies at the edge provided the ratio  $a/b = \text{golden ratio} = 1.61\dots$  I then remembered that while seeing a folk painting of Shiva in the Bhojpur region (Bihar) I was struck by the fact that the crescent moon which adorns Shiva's head resembles a circle removed from a larger circle. The ratio of the diameters of the two circles was close to 1.61, the golden ratio.

Back in Mumbai our calculations revealed another striking fact: such a circle will be balanced exactly at the edge. To our further amazement we found that not only the circle but all even sided polygons had this property. When a smaller self-similar polygon was excised from the larger polygon the latter would stand balanced on the edge only if the ratio of the sides of the two polygons was the golden ratio. For any other ratio the centre of mass (which indicates the balance point) is either inside the larger polygon or outside which implies that the polygon is unstable.

We next undertook an analysis of three dimensional structures such as the sphere and the cube. And also of the higher dimensional tesseract mentioned so prominently in the movie Interstellar. We have discovered a sequence of polynomials yielding a series of irrational numbers between  $\phi$  (1.61) and 2. These could be rightly called generalizations of the golden mean."

Circles and polygons have been around since time immemorial. But such a simple truth has gone unnoticed. But Prof. Singh says that "now we even have its natural generalizations rooted in physics."



Prof. Vijay Singh

# STAR CHART FOR OCTOBER 2016

## Use the Chart :

**Early month :** 10 p.m.  
**Middle month :** 9 p.m.  
**Late month :** 8 p.m.

The arrival of October heralds end of rainy season and start of season for astronomical observations .

The month October 2016 begins with series of lunar conjunctions with planets and stars which can be enjoyed soon after the sunset.

The New Moon is on 1st of October. It would be just possible to see thin lunar crescent above the western horizon on 2nd. On 3rd October lunar crescent can be seen 5°N of Venus. Two days later on 5th the Moon will be at the western end of Scorpius. And then on 6th it will be 3°N.

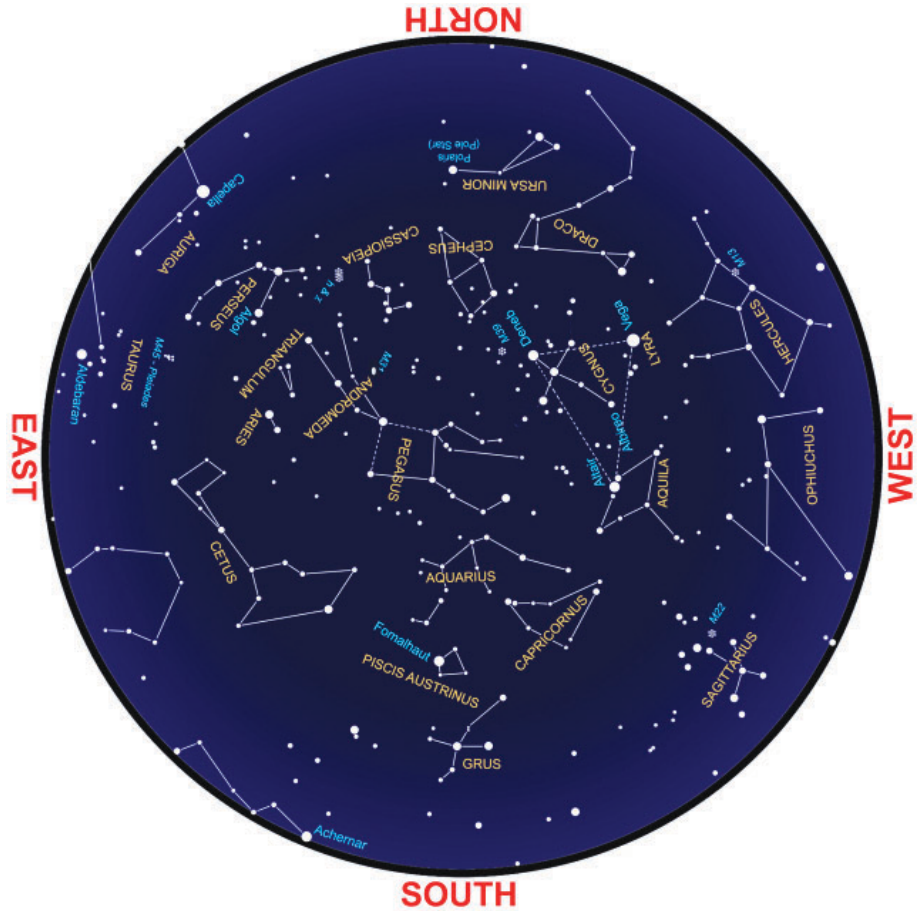
An imaginary line joining the Moon and Saturn will lead us to Antares or Jyestha. On 8th, a day before the first quarter, the Moon can be seen about 6°N of Mars.

Then on 18th of October, near full moon rises with Taurus constellation and it is moving towards Aldebaran (Rohini) and by early morning of 19th it is just about a degree from the star.

On 25th the Moon will be at 1.1°S of Regulus (Magha).

26th October provides Venus 3°N of Antares (Jayeshtha) forming triangle pattern with Saturn after sunset.

On 28th thin lunar crescent can be seen right above Jupiter.



The map shows slightly more sky than that will be visible from a given location. Thus the map can be used elsewhere in India at 21:00 hrs Indian Time. Hold the chart vertically before your eye and turn it until the geographical direction you are facing shows at the bottom of the chart.

## Phases of the Moon (timings in IST hh:mm)

New Moon (Amavasya)	First Quarter (Shukla Paksha Ashtami)	Full Moon (Poornima)	Last Quarter (Krishna Paksha Ashtami)
1 Oct., 05:42	9 Oct., 10:03	16 Oct., 09:53	23 Oct., 00:44

*(Disclaimer: The Indian names of the stars and planet, given in parenthesis for the purpose to remind the reader that India has a rich astronomical tradition. We do not subscribe to astrology.)*

# Cultural Wing

To pay tribute to Mahatma Gandhi,  
the following play on his life and  
work will be presented

## “Mahatma The Eternal Light” (in English)

**iu** IDEAS UNLIMITED  
Productions



Directed by **Manoj Shah**  
Written by **Ishan Doshi**  
Backdrop Paintings  
by **Atul Dodiya**  
Music by **Kanhaiya**  
Produced by **Janam Shah**  
Enacted by **Pratik Gandhi**

**Tuesday, 4th October 2016, 6.30 pm**  
**Nehru Centre Auditorium**

Entrance Cards will be available on Friday, 30th Sept. 2016  
from 10.30 am until availability from the Booking  
Counter of Nehru Centre Auditorium

## Review

### मराठी संगीत नाटक महोत्सव

Nehru Centre presented मराठी संगीत नाटक महोत्सव from 9th to 11th August 2016. The following three dramas were presented.

**Tuesday**  
**9.8.2016**

**गंधर्व गाथा**



**Wednesday**  
**10.8.2016**

**सौभद्र**



**Thursday**  
**11.8.2016**

**हे बंध रेशमाचे**



The dramas were well attended and appreciated by the drama lovers.

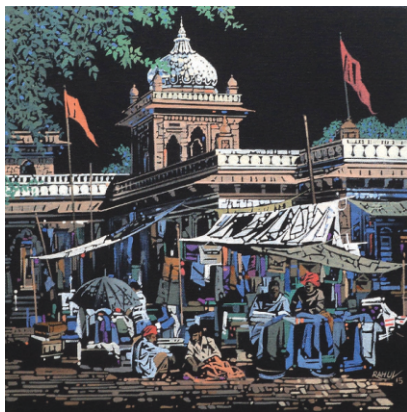
## Programmes for October 2016

**GOPAL NANDURKAR .  
RAHUL DESHPANDE**



Painting by Gopal Nandurkar

**Gopal** completed G.D.A. in Applied Art from Abhinav Kala Mahavidyalaya, Pune with First Class First rank. He is a freelance artist in the field of illustration and painting. He has co-authored series of books on art. His paintings are portraits and landscapes in all mediums.



Painting by Rahul Deshpande

**Rahul** has secured B.F.A. from Sir J. J. Institute of Applied Art, Mumbai. His works were selected for the book on best water colours from the world, published by U.S.A. He has many exhibitions to his credit. His paintings are landscapes and figurative works in all mediums.

**Tuesday 4th October to  
Monday 10th October 2016  
( AC Gallery )**

**SANTOSH GORIWALE**



Painting by Santosh Goriwale

**Santosh** has completed G.D.A. and A.T.D. in painting from Mumbai. He has exhibited his works in Mumbai and won awards. His paintings are abstract landscapes and compositions in acrylic and charcoal.

**Tuesday 4th October to  
Monday 10th October 2016  
( Circular Gallery )**

**TRUPTI DAHIBAVKAR .  
SATYAJIT VAREKAR .  
SANTAJI CHOULE**



Model by Trupti Dahibavkar installed at the Nehru Planetarium, Mumbai

**Trupti** obtained G.D.A. in Sculpture & Modelling from Sir J. J. School of Arts, Mumbai. She has done many sculptures for various institutions including for Nehru Planetarium. She works in various mediums.



Painting by Satyajit Varekar

**Satyajit** secured G.D.A. in Painting from Sangli. He has exhibited his works in many shows in Maharashtra. His works are figurative on rural life in acrylic and oil.



Sculpture by Santaji Chogule

**Santaji** has done G.D.A. in Sculpture & Modelling from Kolhapur. He has exhibited his sculptures in Maharashtra. He works in stone and metal.

**Tuesday 11th October to  
Monday 17th October 2016  
( AC Gallery )**

**MALTI MENON**



Painting by Malti Menon

**Malti** has secured Diploma in Screen Printing from Sophia College, Mumbai. Her paintings are compositions in oil on canvas.

**Tuesday 11th October to  
Monday 17th October 2016  
( Circular Gallery )**

**SANJAY KUMAR**



Painting by Sanjay Kumar

**Sanjay** completed B.F.A. in Painting from College of Art, Delhi and passed I.G.D., Maharashtra with 'A' grade. He has extensively exhibited his paintings all over India and won many prestigious awards. His paintings are in acrylic on canvas with compositions on nature in vibrant colours.

**Tuesday 18th October to  
Monday 24th October 2016  
( AC Gallery )**

**YOJANA DEHANKAR**

**Yojana** is an engineer by profession. She has been passionate about painting in oils on canvas. She has exhibited her realistic paintings in many exhibitions.

**Tuesday 18th October to  
Monday 24th October 2016  
( Circular Gallery )**



Painting by Yojana Dehankar

**PRAMOD PENDSE**



Painting by Pramod Pendse

**Pramod** is an Architect and Interior Designer by profession and also a renowned Perspective Artist. As an architect, he has captured beauty of

Landscape paintings and as an interior designer, commanded perspective drawings.

**Tuesday 25th October to  
Monday 31st October 2016  
( AC Gallery )**

**NEETA MAKWANA .  
MANISHA JETHWANI**



Painting by Neeta Makwana


**Neeta** has done A.T.D. from Mumbai. She has had some exhibitions here. Her paintings are figurative in acrylic on canvas.

**Manisha** has obtained Drawing & Painting course from Sir J. J. School of Art, Mumbai. She has held many exhibitions.

Her realistic paintings and landscapes are in water colour and charcoals.

**Tuesday 25th October to  
Monday 31st October 2016  
( Circular Gallery )**

**Announcement**  
To commemorate Pt. Jawaharlal Nehru's Birth Anniversary



**BAL-DISHA**  
An Exhibition of 15 Child Artists' works  
(10 Painters and 5 Sculptors)

**8th November 2016  
to 14th November 2016  
Nehru Centre AC Art Gallery**

## NEHRU CENTRE PUBLICATIONS

MUMBAI PAST &amp; PRESENT \* WITNESS TO HISTORY

\* REMEMBERING EINSTEIN \*

INDIAN ASTRONOMY A Source Book

EXPLORING THE UNIVERSE: The Planetarium Way

SCIENCE IN INDIA: PAST &amp; PRESENT

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\* GOVIND MALADKAR

13. NAGESH B. SABANNAVAR

14. NARAYAN L. SONAVADEKAR

15. "GURU-SHISHYA"

BABA GAJBAR &amp; GANPATRAO WADANGEKAR

16. D. G. KULKARNI (DIZI)

17. MILLENNIUM SHOW

(A Century of Art from Maharashtra)

18. BALAJI TALIM &amp; HARISH TALIM

19. S. L. HALDANKAR &amp; G. S. HALDANKAR

20. VINAYAKRAO P. KARMARKAR

21. GOPALRAO DEUSKAR

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2nd October is celebrated as Gandhi Jayanti, the birthday of Mahatma Gandhi, the Father of the Nation.

Listed below are some new books on the Mahatma available in the Nehru Centre Library.

*New Books on Mahatma Gandhi*

Sr. No.	Title	Author/s
1.	Gandhi: An illustrated biography	Pramod Kapoor
2.	My dear Bapu: Letters from C. Rajagopalachari to Mohandas Karamchand Gandhi, Devadas Gandhi and Gopalkrishna Gandhi	Gopalkrishna Gandhi Ed.
3.	Gandhi's religion: A homespun shawl	J.T.F. Jordens
4.	Gandhi before India	Ramachandra Guha
5.	Mahatma Gandhi and Prema Kantak: exploring a relationship, exploring history	Meera Kosambi Ed.
6.	The Cambridge companion to Gandhi	Judith M. Brown & Anthony Parel
7.	Timeless inspirator: reliving Gandhi	Raghunath Mashelkar
8.	The Mahatma and the poet: letters and debates between Gandhi and Tagore 1915-1941	Sabyasachi Bhattacharya
9.	The men who killed Gandhi	Manohar Malgonkar
10.	Gandhi and Ambedkar: a study in contrast	Ramashray Roy

**Meet - the - author**

Katie Bagli has written several story books for children, most of which are on various subjects of nature. In addition, she has also co-authored three books and has been writing for children's magazines as well. Besides writing, Katie also enjoys illustrating her own books. Katie Bagli will speak to the children on her new book Catagrofus.



Date: Monday, 17th October 2016

Time: 10.30 a.m. to 12.00 p.m.

Venue: Hall of Harmony

for children aged 5+

RSVP required : aratidesai@nehru-centre.org

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