

# THE GATEWAY



## **BULLETIN OF THE ROTARY CLUB OF BOMBAY**

## From the President's Desk



t was a matter of honour to have met and interacted with Dr. A. S. Kiran Kumar, Chairman, ISRO. The space programs undertaken

by him and his great team of achievers, makes us all proud to be Indians.

The Bhavishya Yaan Annual day gave a true sense of achievement. It was great to see our BY top rankers secure admissions in colleges like Jaihind, Ruparel and Sydenham on their own merit. The performances were excellent, and the confidence with which the children presented themselves too was amazing. Attending the function made me feel very proud to be a Rotarian of the Rotary Club of Bombay.

With health and education being a priority, I am very appreciative of the work done by our Rotarians, and am happy to know that that the e-learning project for Bhavishya Yaan will be implemented in all five Municipal schools by next week

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## India's Gateway Into the Future

s the Chairof the Indian Space Research Organization (ISRO), I would like to thank the Rotary Club of Bombay for bestowing this honor upon me, and also for recognizing the relentless work put in by the organization in



Mr. A. S. Kiran Kumar, Chairman, Indian Space Research
Organisation (ISRO) being felicitated with the 'Late
Sohrab Godrej Award for Science and Technology - 201516', by Art-historian, Environmentalist and writer,
Dr. Pheroza Godrej, and President, Dr. Mukesh Batra

bringing about the use of space technology for the development and the progress of our country.

Way back in 1957, when the first satellite was put into space by Russia, who were then competing with America to demonstrate their power and capability, we had Dr. Vikram Sarabhai who was looking at how this new space technology could be used for development in our country. It was his vision that India should be second to none, in the application of advanced technology to address the problems of man and society, which have been the driving force at ISRO.

He was able to convince his friends in America, Russia, France, and Germany,

and brought them to agree that carrying out upper atmospheric research in the Tunga equatorial site would benefit the global community. Therefore, on November 21st 1963, for the first time rocket was launched into

space for atmospheric research. Soon after Dr. Sarabhai planned an experiment, the like of which had never been done before any where in the world! In 1975, for about a year, borrowing an Advanced Technology Satellite or ATSF built by the Americans, ISRO demonstrated broadcasting capability equivalent to today's Direct-to-Home (DTH) or Direct-to-Community Sets as it was known then. Thus, proving to the government that space technology could be used for quickly transmitting information to the entire nation.

This however, also gives you an idea of the progress that we have made, i.e. in 1963, when we launched the first satellite, everything was borrowed

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## **Forthcoming Events**

- August 16, 2016 No Weekly Meeting
- August 23, 2016 Ms. Meera Borwankar D.G. BP R&D Fearless Policing: An Art & Science
- August 30, 2016 Mr. Sanjay Bhatia, Chairman, Port Trust of India 'How I Used Yoga to Improve Productivity In Large Organizations'

from other countries; but for the Mars Mission in 2013, right from the rocket, the satellites, the commanding systems, etc., everything was developed indigenously in the country.

Today we have completed 137 missions. Out of this, 82 are spacecraft missions for remote sensing, navigation, communication, etc., and 55 are launch vehicle missions as we are now able to provide a very credible launch vehicle for the world's satellites. We have had 39 Polar Satellite Launch Vehicles (PSLVs), Geo Stationary Launch Vehicles (GSLVs); and are working towards reducing the cost of access to space by introducing the Reusable Launch Vehicle (RLV), which provides reliable and on-demand space access. In fact, our last PSLV-C34 mission was an interesting one, as 20 satellites were launched in 10 minutes, while making sure that each of the satellites released does not collide with the launch vehicle or the other satellites, and are released satisfactorily.

The Carto-Sat 2 series that was launched last month, has a unique capability of capturing a 1-minute video, which despite its enormous speed of 37kms a second, is able to focus at a single point for a minute. Apart from that, we also have imaging capabilities that can provide information about glaciers (snow cover changes that happen both during the ablation and accumulation period), identifying heat waves (which get generated and pointing out to the places where the heat waves are going to occur), pollution tracking (through aerosol optical depth measured via real-time tracking or every half hour), predicting cyclones and cyclone track activities, forest fire detection, as well as monitoring of the urban sprawl in India.

In terms of launch vehicles, the PSLVs have been established as one of the most reliable vehicles in the world, and due to its capability of putting satellites into different orbits as well as at different altitudes, we have been receiving more and more satellite launch requests. However, one of the difficulties that we face is to build the capacity within the country, and we are looking at making use of the industry for improving our capability.



Picture taken by Mars Color Camera of Shield Volcano Tharsis Tholus which looks like a penguin

We also have GSLVs which can put up to 2-tonnes into a Geo Stationary Transfer Orbit, and a new version which will be introduced later this year, Mk III, will increase its capacity to 4-tonnes.

Apart from these, we have 34 satellites operating in space, out of which 12 are for communication (providing for banking services, telephony, data courier services, broadcasting, DTH, etc.), Gagan (is a capability certified by the director general of Civil aviation, and all new aircrafts registered beyond January 2019, are mandated to carry the Gagan receiver which enables aircrafts to do en-route planning as well as precision landing. In the Indian sub-continent, there was a gap and with the availability of Gagan, global aircraft community can make use of this service), and IRNSS (our regional navigation satellite is a very unique combination, because unlike other countries which make use of 28-32 satellites for Global Positioning information, our 7-satellite constellation operating in Geo Stationary locations offers a cost effective solution), and we also have a number of space science satellites as well as climate and weather monitoring satellites in operation.

The Mars mission proved to the world that it is possible to do intra-planetary missions at a significantly lower cost, and also of our capabilities, as we were able to carry out a successful launch in our maiden attempt - when the success ratio of missions on Mars have been only 40%. That's not all! It was presumed that the satellite would work for a maximum of about 6 months in orbit, but on the 24th of next month, we will be completing 2 years and we are expecting the satellite to last many more

years as we have a lot of fuel still left. More importantly, we have crossed two major milestones in its journey called the blackout and the whiteout. Blackout is a phase where for about 2-months there is no communication between the satellite and us. This happens when the Sun, Earth and the Mars come in the same line, and during this period, the satellite fends for itself, detects if there are any problems and corrects its positioning. The key here is that at a distance of 43 crore kms where the satellite is positioned, even a 2-degree error in pointing is good enough to prevent any communication even though everything may be working fine with the satellite. While this was successfully negotiated, in next January, we are going to do one more manoeuvre, which will prevent the satellite from getting into a 'long duration eclipse'. This is because the battery on-board will not be able to survive the long duration eclipse, so we are going to manoeuvre the satellite into a slightly different orbit, and once we are through with that, we expect the satellite to last even more years.

We are also building capacity in the country by encouraging academic institutions to build satellites and we provide a launch for them. We also support them in many of the developmental activities. The recently launched, Swayam, less than a 1kg Satellite, was built by the Pune University, and Sathyabhama Satellite, which is 1.5kgs, was built by the Sathyabhama University in Chennai. What is interesting to note here is that the students have build this over a period of 7-8 years and they have learned the art of transferring information from one generation to the next through documented transfer of information, which is also a significant capability. Currently we are also working on the landing instrument for Chandrayan II. Unlike in Chandrayan I, where the impact probe crash landed on the moon's surface, in the Chandravan II, it will be able to do a controlled descent and land on the surface of the moon.

The RLV is another very important development, as for the first time in the country, a winged-body which travels at 5x the speed of sound, is brought back from the height of 70kms in a controlled descent manner. For this we have done

more than 4500 wind tunnel tests and the design got validated during our test on this. We are also doing a lot of work for the human space wide project. Though at this point, we do not have to full clearance for the space manned program, but we are developing critical technologies, whether it the space flight crew module which is capable of carrying human beings into space, we have done some trials on that and that work is continuing, which will help us in the future.

Rtn Manjeet Kriplani: ISRO has a large number of arrangements with other countries. Could you tell us a little about what you do with the EU? How you engage with the United States, or may be emerging countries like Iran? Dr. Kiran Kumar: Globally, all governments are reducing their budgets to space agencies. As a result, space agencies are required to work with each other in a more cooperative and collaborative manner. For example, we are working with the United States on a mission wherein in 2021, we will be launching a satellite called NISAR (NASA ISRO Synthetic Aperture Radar Mission), which will provide a very unique capability to the world of making measurements of surface deformations to the extent of a few millimeters. It will also become an extremely important input for earthquake measurements and biomass estimations.

We are also working with NASA on Scatterometers, which provide ocean wind vectors - an extremely important input for the weather forecasting community, and is being launched in September. And we have also worked with France for a satellite called Megha-Tropiques and another one called SARAL ALTIKA, for ocean circulation and sea surface elevation, and with the European Union on EUMET Sat, which allows the India Meteorological Department to use the data.

Progressively there is an entity on Committee of Earth Observation Satellites, which works for bringing in the capabilities of the various space agencies and provide the data to each other. Even amongst the BRICS countries, we follow a virtual constellation of satellites while providing data to each other, whether it is for disaster monitoring or for earth observation.



PP Sandip Agarwalla welcomes Mr. A. S. Kiran Kumar with a grand introduction



PP Paul George delivers a vote of thanks to Dr. Kiran Kumar and to Mrs. Pheroza Godrej

Rtn Dr. Ashish Contractor: Is there a program in which ISRO works with leading educational institution to ensure that there is no brain drain in the country? Dr. Kiran Kumar: We have established the Indian Institute of Space Technology (IIST) in Trivandrum; we also have a tie-up with Caltech (California Institute of Technology) in USA where we have instituted the Satish Dhawan Fellowship which enables one aerospace engineering graduate per year from IIST to study at the Graduate Aerospace Laboratories at Caltech. And similarly, many of the professors from there can come and deliver lectures here.

In terms of software, we do have opportunities for academic institutions, wherein they can teach using the FEAST software, and the students can come up with new modules for it. Then every year in January, we upgrade this software version by integrating worthy modules.

**Rtn Satyan Israni:** What is ISRO's role in Indian Intelligence?

**Dr. Kiran Kumar:** Basically, what we offer is a capability. For example, the very high-resolution images that we are able to capture, different people can make use of it from different purposes. So whether it is a capability of observation or intelligence, all our capabilities are available.

**Rtn Srinivasan Prasad:** How is ISRO able to attract youngsters? Now that

India is a signatory to MCTR, does it make life easier for some of these dual-use technologies?

**Dr. Kiran Kumar:** Answering your last question first, yes it does make a difference. For example, a liner accelerator that is used for non-destructive testing is produced by a medical company for a medical purpose, yet it is denied and license gets into process. Some of those things will definitely get eased out, as in export license related issues we do expect some changes.

Coming back to your earlier question, one of the biggest challenges that we face, is being a government organisation; we don't increase our strength year after year. We only replenish the retiring staff and few others. So no matter what discipline you take, our country is so vast and full or aspirants that it's difficult for us to provide opportunities to them.

But we did face this problem around 2005, when we instituted the Indian Institute for Space Technology where we offer a graduate program in three of the disciplines and we absorb all the people who complete the course with a certain minimum level. So this is one way we try to over come the problem, which existed. But today there is no problem of aspirants coming to our organisation; if at all our problem is that we cannot provide opportunities to everyone.

Rtn Sandip Agarwalla: What is ISRO's annual budget as compared to NASA's? With so much of satellite information available, why cant we have weather forecasting on a more day-to-day basis which is much more accurate than we have today?

Dr. Kiran Kumar: If you were to add up all the money that the Government of India has spent on ISRO up till now, we will less than one-year's budget of NASA!

After our Insat-3D series of satellites, due to the ocean wind vectors and microwave data, our near term forecasting has significantly improved. However, one of the problems that we do face is that over the tropical regions, the variability is much more than in the temperate zone, producing for more accurate predictions for Europe or America. Not withstanding all this, the model predictability too has to be drastically improved.

## Bhavishya Yaan Annual Felicitations

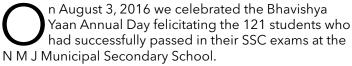






Chief Guest, Mayor Snehal Ambekar being honored with a bouquet of flowers and a painting made by the Bhavishya Yaan students





Starting in 2009, the first batch of Bhavishya Yaan comprised of 40 students from the Ambedkar Municipal School at Worli. Today, in its 7th year, nearly 700 children benefit from this program. In making this possible, is the contribution made by our partners Municipal Corporation of Greater Mumbai, who welcomed the program and seamlessly integrated it within the school premises; Vidya, our knowledge-partners for providing academic inputs for English and Life skills; Info Troopers for their training in computers, principals, teachers and our Rotaryannes Jaya Prasad, Avaan Vakharia, Rinku Suchanti, and Poonam Surana who each mentor a school.





Children singing a beautiful rendition of R. Kelly's 'I believe I can fly'

Gracing this momentous occasion was Mayor of Mumbai,



This year's topper Ms. Mamta Sunil Jadhav (92.4%) being felicitated by Mayor Snehal Ambekar, President Dr. Mukesh Batra and Director, Ashok Jatia



Mrs. Snehal Ambekar. Like every year this year too the students performed well, with nearly 50% student scoring over 70%, while over 33% students secured distinction. The toppers for the year were Ms. Mamta Sunil Jadhav from the Byculla School and Ms. Pallavi Supal from NMJ School, with 92.4% and 92.2% respectively. It is also important to note that some of our students have scored as high as 89% in English, which is also a big achievement.

In his welcome speech, Satyan Israni, Chairman - Bhavishya Yaan Committee said, "Today, while each of the five schools is fully equipped with a state-of-the-art computer laboratory, LCDs, Videos, etc., we had also run an E-learning pilot project in two schools, namely Ambedkar School and NMJ School, since 2015 and it was a great success. Therefore, we have expanded the E-learning to all BY school, and within a few days each school will have its teaching done through this module."

Soon the student of each of the schools confidently displayed their new found talents, be it in the form of a skit depicting the life of a BY student, the soulful rendition of R. Kelly's 'I believe I can fly' or even the display of Yoga. "Two things that I am very passionate about are health and education, and as the President of the Rotary Club of Bombay I want to ensure that we focus on these. Bhavishya Yaan, the brainchild of Rtn Ramesh Narayan, is one



Ms. Pallavi Supal from NMJ School secures the position of a second highest ranker with 92.2%



President, Dr. Mukesh Batra; Mayor Snehal Ambekar, Principal of NMJ School and Bhavishya Yaan Chairperson Satyan Israni



Satyan Israni acknowledges the Principals and teachers of the 5 schools for being our true partners in making Bhavishya Yaan possible

of the best initiatives on education by our club. It is well conceived and well executed with the help of Rotaryannes, the school Principals and teachers."

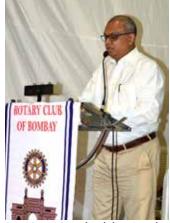
"Our Chairperson, Satyan Israni's focus for this year is to move to e-learning. I believe, this way, we can reduce personal dependence and also scale up to more schools than the 5 that we are presently working with. We are also looking at ways to extend nutrition to all five schools from the present two,"



Top five students from each of the schools strike a pose with Mayor Mrs. Snehal Ambekar, teachers and Bhavishya Yaan mentors



Proud mentors of BY, Rotaryannes Rinku Suchanti, Poonam Surana, Avaan Vakharia and Jaya Prasad



Rtn Manoj Patodia delivering the vote of thanks



L-R: Rtn Anand Dalal, Rtn Anand Shah, BY Chairperson Satyan Israni, Rotaryanne Avaan Vakhaira, Rtn Rajesh Shah and President Elect Ramesh Narayan pose around the Sunshine Box Collection for BY

reiterated President Dr. Mukesh Batra.

The students NMJ School then made a short presentation on what Bhavishya Yaan meant to them, and felicitated Mayor Mrs. Snehal Ambekar with a bouquet of flowers and a painting made by them.

Addressing the audience, Mrs. Ambekar said, "As a matter of great pride I would like to share that I too am a student of a Municipal school, and today I am holding the position of a Mayor!"

"While BMC is doing everything in its capacity to provide quality education, and despite the pass percentage of our school which has now gone up to 85%, parents are yet very sceptical about admitting their kids in a Municipal school. However, with the support of Bhavishya Yaan and Rotary Club of Bombay, I am hopeful that next year we will be able to achieve cent per cent result."

"Also, through the various programs what I saw was the confidence of these children. So whether they will become doctors or engineers, one cannot predict, but what can be assured is that they will become good citizens. And that's what is important."

"I will always be obliged to Rotary Club, Bhavishya Yaan and Vidya for having rightly chosen the Municipal schools."

## Know Your Rotarian - Satyan Israni

oming from a family of eminent lawyers, it was only nat-✓ ural for Satyan to follow suit. Having studied law and also having qualified as a Company Secretary, he began his practice in 2001. He then went on to do his Masters with a specialization in Commercial Law, where he ranked 1st in the subject of Law of International Business Transactions. Satyan upgraded his skills further by becoming a Solicitor of the Supreme Court of England and Wales, and has been practicing as an Advocate at the Bombay High Court specializing in Corporate, Commercial and Business Laws.

Satyan is a member of various Indian and International professional bodies such as the Bombay Bar Association, the Law Society (UK), the Institute of Company Secretaries of India and the Indian Council of Arbitration. He has been a visiting faculty at several institutes including Symbiosis Law School, Pune, KC Law College, Mumbai, and has been the chief examiner, paper setter and moderator of the University of Mumbai LLB examinations.

Son of Rtn Shivkumar and R/nne Komal who have been active members in Rotary and Inner Wheel, respectively, Satyan's journey at Rotary has been an equally commendable one. Starting as enthusiastic Rotaractor, he has held several offices and received many awards at the club and district level. At RCB he has served in the capacity of Co-Chair of the Legal Aid Committee (2014-15), Chairman of the Rotaract Committee (2015-16) and as the Chairman of the Bhavishya Yaan Committee this year.

"I am humbled by this great responsibility. In fact when I was asked to take up the Chairmanship of Bhavishya Yaan, I was overwhelmed but decided to take it up as a challenge. It is one of the most prestigious projects of our club and I am honoured to be at its helm with an extremely supportive committee", says Satyan.

Elaborating on his plans, he says, "During the course of the year, we aim to introduce E-learning in all the five BY schools, introduce syllabus-led learning using computers, reach out to more number of



Rtn Satyan Israni with his wife Naveena, who is a travel journalist, and son Samaksh

students, and finally, expand the number of schools under the BY fold".

## In Camera Committee Invites you to



An interactive talk
By
Kalpana Shah
On
The Way to Art
Over
Wine & Cheese
On
Wednesday, August 17<sup>th</sup>
At
6.30 PM
At
Tao Art Gallery
The View, Ground Floor
Dr. Annie Besant Road,

R.S.V.P. Rekha Tanna – 98210 22987 Vrinda Rajgarhia – 98201 28480

Worli, Mumbai - 400018

Limited Seats Available. Please Register in Advance.

### Thought For The Week





### **DISTRICT ROTARY FOUNDATION SEMINAR**

On Saturday, August 27th, 2016, members are requested to attend the District Rotary Foundation seminar to be held at the Sunville Pavilion, Worli at 6.30 pm. The meeting will be followed by cocktails and dinner.

Inviting all Rotarians to be an active part of this weekly bulletin. If you have any feedback, suggestions, news and project updates, please email them to **gateway@rotaryclubofbombay.org**. Also, follow us on facebook. com/rotaryclubofbombay

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Rtn. Meera Alreja

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#### **DIRECTOR: JAGDISH MALKANI**

District Thrust Area Alok Sekhsaria District Coordinator PP Pradeep Saxena E-Administrator Bimal Mehta Rotary Service Carnival PP Harry Singh Arora

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#### **NEXT WEEK'S SPEAKER**

## Ms. Meera Chadha Borwankar, DG Bureau of Police Research & Development

orn and brought up in Fazilka, Punjab, Meera Chadha Borwankar completed her Masters in English Literature from Lyallpur Khalsa College and did her post-graduation from DAV College in Jalandhar. Later, she also studied Policy Analysis in Law Enforcement at the University of Minnesota, USA.



of Investigation (CBI) in Mumbai and was DIG of the Anti-Corruption Bureau of the CBI in New Delhi.

She was also the first ever woman to be posted as Commissioner of Mumbai Crime Branch - with its investigative force of 300 police officers - in its 150-year-long history.

In 1981, Meera became an IPS officer of the Maharashtra cadre, served as Deputy Commissioner of Police at Mumbai between 1987-91, held independent charge of Aurangabad as District Superintendent of Police (and later of Satara in 1996-99), and was posted at the state CID crime branch in 1993-95. She worked with the Economic Offenses Wing of the Central Bureau

Known as a woman supercop, Meera has played a huge role in the extradition of Abu Salem, Monica Bedi, Igbal Mirchi, Tariq Parveen and Sharmila Sitaram Naik alias Sharmila Shanbhag. And was awarded the President's Medal for meritorious service in 1997, as well as the Director General's insignia for meritorious service and Hubert Humphrey Fellowship (2001-2) in three decades of her policing career.

### **Birthday & Anniversary Greetings**



Dr. Sorab Javeri 10th August



Prof. Indru Lalwani 11th August



Nowroze Vazifdar 11th August



Venkat Ramaswamy 12th August



Jayesh Jhaveri 14th August



Dr. Shailesh Raina 15th August

#### Rotaryanne

10th August - Mayuri Sekhsaria 11th August - Amita Haribhakti

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#### **Anniversaries**

14th August - Harry Singh Arora

#### Statistics for last week's meeting

Members 137 Guest 01 08 Rotaryannes 08 Rotaracts Total Attendance