



# ACU WELLNESS

ACADEMY FOR ACUPRESSURE AND ACUPUNCTURE  
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SEPTEMBER SPECIAL ISSUE 2023

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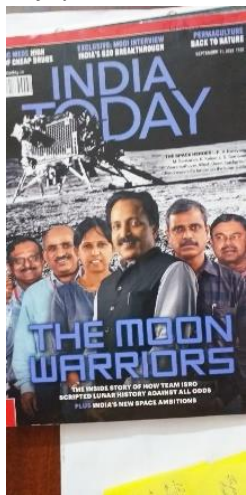
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(FOR PRIVATE CIRCULATION ONLY)

VOL 12 No.10

## FROM THE CHAIRMAN'S DESK

**The joy of the Country and the joy of the ISRO Team on the day of VIKRAM landing was unbelievable.** Not only our 140-crore people but almost all the developed and developing countries watched the live telecast and enjoyed the success. **Our beloved Prime Minister**



**pointed out that, this particular success belongs to the humanity not to a particular country.** Propulsion Module (PM) told the Lander **"You go and kiss the Moon"**. But our Prime Minister (PM) told Chairman ISRO **"Go and conquer the Moon"**. Dr.Somanath, Chairman, ISRO with calm and composure declared to the PM that **"We are on the Moon honorable Prime Minister"**. **The**

**PM's emotional address immediately after the landing on the Moon has touched every technologist's heart.** His early morning visit to ISTRAC was another great gesture from the technology savvy Prime Minister who addressed the ISRO TEAM under the able leadership of Dr.Somanath and gave his personal attention to each and every engineer present on ISTRAC particularly to the women engineers in good number.

**As we know, INDIA has already arrived in the world stage.** Let every citizen particularly those who studied Engineering in premier institutions should give importance to our own indigenous technology and stay in INDIA. **The Engineers studied in Government High Schools in local language only have led this tremendous project and showed to the world that we are second to none in developing cutting edge technology.**

We celebrated this grand achievement in Hotel Monarch Luxur with a technical lecture by renowned Space Scientist and International Communication Systems expert **Dr.Surendra Pal** and presided by Ex Chief Secretary of Government of Karnataka Shri **S.V.Ranganath**.

This celebration was attended by people from all walks of life and **Hotel Management was very proud to host the lunch and made special Souvenir with Chandrayan picture.**



Myself and Mr.Nagulan Joghee are fortunate enough to meet the Heros in URSC, Bangalore and showed our appreciation for this great achievement. Based on our discussions with Dr.sankaran, we are planning to motivate our Government School Students in Nilgiris for a one to one interactions with space scientists by this month end in OOTY. Depending on the convenience of the scientists, the date will be finalized. In the meantime, a committee has been formed to plan the event in OOTY with the help of **LIONS CLUB OOTY** and Lion.Krishnamurthy has been identified as Secretary, [Local] for this main function.





Our Academy has formed a high level Committee under the Chairmanship of **Dr.H.Devraj**, Rtd UGC Vice Chairman to study the feasibility of establishing a **Remote Sensing Institute** in Tamil Nadu especially in Coimbatore or Nilgiris to motivate the youngsters to study PG course in application of Space Remote sensing technology. Dr.Devraj visited us on 21<sup>st</sup> August and we had a informal discussion on this project.

It has been our endeavor to propagare preventive health care among youngsters during this type of forums and we are geared up to share our eye improvement and concentration improvement for the students.

**Once again on behalf of the Academy members I place it on record our hearty congratulations to TEAM ISRO particularly to the dynamic Chairman, Dr.Somanath and Dr.Sankaran, Director, URSC for their great contribution to Mother INDIA.**

This month Newsletter will contain mostly on the grand success of Chandrayaan 3 since INDIA's stamp on world arena on Space Technology is worth much more than this. All G20 leaders made this the talk of the town. "INDIA TODAY" weekly magazine brought out a special issue on the success of Chandrayaan 3 with the cover page photo of ISRO heros.

**This success has created such an interest many of my Engineering College (ACCET KARAIKUDI) Class Mates (All 75 years) have shown great interest to visit U.R.Rao Satellite Centre, Bangalore in December or January 2024. We are taking action on this curiosity visit and date will be communicated shortly after getting the permission for the visit.**

H.BHOJRAJ

CHAIRMAN, AAA

**PRESENT INCLUDES THE PAST. FUTURE DEPENDS ON THE PRESENT. SO BE IN THE PRESENT. PRESENT IS THE PRESENT FROM GOD. ENJOY EVERY MOMENT OF YOUR LIFE.**

### **DONATIONS RECEIVED FOR CHANDRAYAAN 3 CELEBRATIONS IN HOTEL MONARCH LUXUR ON 3<sup>RD</sup> SEPTEMBER**

1. Dr.H.BHOJRAJ AND Mrs.MEERA BHOJRAJ Rs.25000
2. Shri.ACHTUTA RAO AND Mrs.JAYASHREE RAO Rs.15000
3. Mr.DAMODARAN AND Mrs.ANJU DAMODARAN Rs.36000
4. Mr.NAGULAN JOGHEE AND Mrs.SUMATHI NAGULAN Rs.3000
5. Mr.R.BHOJAN (BOSE) AND Mrs.SULOCHANA BOJAN Rs.5000

**THANK YOU ALL FOR YOUR SUPPORT**

### **EXPENDITURE**

**HOTEL EXPENSES Rs.60000. OTHER MISCELLENEOUS EXPENSES INCLUDING PRINTING OF NEWSLETTER, BOUQUETS ETC. Rs.7000. AAA SALARIES FOR THE MONTH Rs.20000.**

### **KNOW ABOUT YOUR LIVER**

Liver is the largest organ in the body situated at the upper right part of the abdomen is a marvelous chemical factory producing over 1000 different enzymes and anti-bodies for our survival and optimum performance in our life. It produces mainly bile and stores it in Gall Bladder. It also converts the excess proteins into fat for reuse with a process called deamination. Liver converts lactic acid and excess glucose into glycogen and releases when the sugar level drops. It stores many essential nutrients, vitamins and minerals. It has enormous reserves and regenerative capability.

### **INDICATIONS OF LIVER TROUBLE**

Loss of appetite, General weakness and Bloating in the abdominal region.

### **GENERAL PROBLEMS DUE TO LIVER UNDERPERFORMING**

In the body level it causes, muscular problems, headache, indigestion, nausea, flatuance, menstruation problems, vision problems, growth problem in children. In the Emotional level, anger and irritation will be observed by others. Intellectual level if it performs well, they produce many new ideas, plan and organize their work and ready for initiating action.

STRONG LIVER GIVES A SENSE OF DIRECTION, PURPOSE AND HOPE FOR THE FUTURE. DETOX YOUR LIVER REGULARLY BY FASTING, CLEANSING THE COLON WITH WATER ENIMA AND WET PACK ON YOUR STOMACH.

3<sup>RD</sup> SEPTEMBER 2023

## CHANDRAYAAN-3 CELEBRATIONS IN HOTEL MONARCH LUXUR

Chandrayaan 3 world record success of Lander touching the MOON as planned and ROVER traversing the MOON in the southern region of the MOON was celebrated in a grand way by our Academy for Acupressure and Acupuncture on 3<sup>rd</sup> September at 11 AM to 4 PM. Since the proposal for celebration was announced by AAA mainly to our Mentors of AAA, Trustees of AAA and the Executive Committee of KBGA. The response was overwhelming and **60 people** have made it to the grand function on a Sunday.



Dr.Bhojraj, Mr.Das Gupta, Dr.Pal, Mr.S.V.Ranganath, Mr.Achuta Rao

The celebration started with an invocation by founder Trustee Mr.M.V.Kannan. Mr.Nagulan Joghee took to compering the show with his vast experience in organizing big Corporate events. In his introductory remarks Mr.Nagulan mentioned that the achievement of ISRO was historic and deserved a big celebration by the whole country. He mentioned that Dr.Bhojraj being a retired space scientist declared a lunch for all Executive Committee members of KBGA and lived up to his promise by inviting not only AAA Trustees and his ISRO colleagues but all the EC members also. He invited Chairman,AAA to welcome the gathering.

Dr.Bhojraj in his welcome address appreciated the great achievement of India on the Moon and conveyed his congratulations to Team ISRO on behalf of Academy for Acupressure and Acupuncture. He thanked and welcomed Dr.Surendra Pal for accepting his invitation to give a short talk on Chandrayaan 3 achievements to our members. He also thanked



Shri S.V.Ranganath, Rtd Chief Secretary and Shri.Neelam Achuta Rao, Rtd DGP for accepting our invitation to attend the lecture to celebrate our INDIA's success. Then welcomed Shri.Das Gupta Ex.Deputy Director, URSC, other ISRO scientists, AAA Trust members and EC members of KBGA for the function.



After the brief introduction of Dr.Surendra Pal by Mr.Nagulan, Dr.Pal briefly explained the latest launch of Adhithya L1 and hailed the achievement of INDIA back to back within a week though it took 15 years to build the Satellite. He covered the experiments conducted on the Moon and declared that ISRO has achieved more than what they have planned. The hopping of the Lander was unplanned and it paves the way for return flights in future. He declared ISRO possesses all the technologies required for landing on the Moon and returning without looking at any other country for technical help.

After a brief question and answer session, Mrs.Anju Dhmodharan, Dy.Project Director of INSAT3DS Project, explained very vividly in simple language how a typical satellite project was conceived, how the application goals were set and how it was realized with the help of thousands of technical and non-technical people from different streams of studies including engineering and science.



A model of LVM3 with Chandrayaan Propulsion Module and Lander prepared by 3D Printing technique was explained by Mr.Rounak Sudhagar, Architect to the audience and the first model was handed over to Dr.Pal by Shri S.V. Ranganath. He promised to send the perfect models to all three dignitaries within a month. Shri S.V. Ranganath in his address hailed the achievement of ISRO and felt proud about it as his own since he was part of DOS for 5 years as Additional Secretary. Mr.Achuta Rao released the September 2023 Acu Newsletter and commended the team for the wonderful work carried out by the team. The Hotel Management also celebrated the grand success of Chandrayaan by distributing their compliments printed with Chandrayaan Lander model on a ceramic plate.





THE WOMEN POWER IN HOTEL MONARCH LUXER WITH M D Mrs.SAFIYA

Mr.R.Murthy proposed the vote of thanks as the main organizing committee member. After the high-quality vegetarian lunch, the members were entertained by violinist Sudhakar and fire dancer which was witnessed by the participants for the first time.



THE PARTICIPANTS WITH DIGNITARIES



EX ISRO SCIENTISTS WITH Mrs.ANJU DAMODHARAN, Dy. PROJECT DIRECTOR, INSAT 3DS LIKELY TO LAUCHED IN OCTOBER.

## A Surprise Date with the Space Protagonists – By Nagulan Joghee

**A life of Joy and Happiness is possible only on the basis of Knowledge and Science” – Dr. Radhakrishnan**

September 5<sup>th</sup> Tuesday, the Teacher’s Day this year, The day when I took Sumathi’s (my wife) hands into my fold 47 Years ago, has become a day to remember in my life time for ever.

Usually, our Marriage Anniversary day will be a simple one with a simple Pooja at home and a visit to any temple nearby as many of the relatives and friends express their wishes during the day. I used to mentally pay high homage to Dr. Radhakrishnan and recall some of his teachings respectfully. It is a gift of life indeed to get the best teacher in life on the day the Teacher’s day is celebrated. Thanks Almighty.

But this year it has been destined to be different and an awesome one for more than one reasons. When Mr. H Bhojraj called me on the 4<sup>th</sup> and conveyed that we have an appointment with Mr. M Sankaran, Director ISRO the next day, my heart skipped some beats as we did not expect this so soon amidst their tight schedule due the duel launch of Chandrayaan-3 and Aditya L1 successively within a few days. But the visit was confirmed and the excitements stand permeated both in thoughts and expectations.

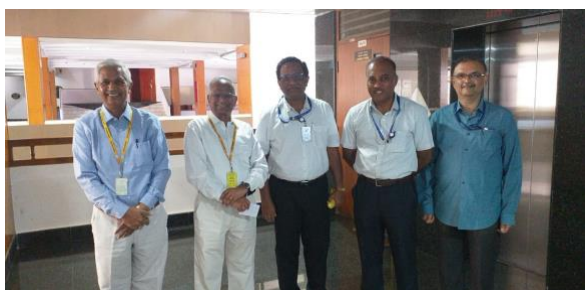
We arrived at the URSC, ISRO gate and as we walk inside, I could make out the pride oozing out as smiles in the face of Dr. Bhojraj. He does not look like a person who has retired from the services of ISRO 13 years ago. He carries the print of the memorable days of his tenure there and his contributions which had led to the present day’s achievements.

The entry was cleared with some friendly chat with the security personal about his past days and we entered the den after a wishful click in front of Sri. U R Rao’s statue.



A quick visit to the exhibition room and I was listening to Bhojarajanna as he explained the making of Chandrayaan-3 and Aditya L1. Anna showed in the exhibition the Golden colour Multilayer Insulation (MLI) developed by his team and Optical Solar Reflector (OSR) for which he was awarded the NRDC award in 1990. Chandrayaan 3 used these indigenous thermal control materials for thermal management.

We reached the lift of the 1<sup>st</sup> floor and were greeted by 3 interesting people, who are responsible for making the ROVER for the first time in INDIA, waiting for the lift. A chat with them was so interesting that they consider VIKRAM, the Lander and PRAGYAN the Rover as their own children. They were excited to see Dr. Bhojraj, as they have worked with him. They welcomed us and explained their experience before, during and after the launch.



Mr. Suresh, Dy Director, Mr. Murali and Mr. Kishore

Our next destination was the Director's office and we were told that our meeting with Sri. M Sankaran is fixed immediately after his lunch. As per their advice we proceeded, with guidance, to the canteen. A very sumptuous lunch was served to us with love. Many of Bhojarajanna's colleagues surrounded him and exchanged pleasantries.

We then met Mr. M Sankaran at his cabin and handed over the Bouquet and congratulated him for the Chandrayaan 3 and Aditya L1 achievements. He was such a humble person that he looks very modest and simple as if he has not yet done and revealed that some big plans are there to be executed. It was an awesome meeting.

#### ADITHYA L1 UPDATE AS ON 15<sup>TH</sup> SEP 2023

Third Earth bound manoeuvre was successfully performed. The new orbit obtained is 296 km by 71767 km. Two more manoeuvres are scheduled to take place. It is scheduled of September 15<sup>th</sup> around 02 00 Hrs IST. After the final manoeuvre on 18<sup>th</sup> September, it will make the beginning of its 110 days journey towards L1 Lagrange Point which is about 1.5 Million KM away from Earth



Director, URSC receives the bouquet from Bhojraj and Nagulan

Then we met Mr. Basavaraj S. Akkimaradi, Deputy Director, MISA and Mr. Alok Kumar Srivasthava, Deputy Director, IIA in their Cabin and presented them the Bouquets and exchanged a few pleasantries.



Associate Director Mr. Alok Srivasthav



Bouquet to Mr. Basavraj Deputy Director, URSC

To our surprise, the cabin of Mrs. Nigar Shaji, the program Director for Aditya L1 is just opposite to theirs and we presented her a bouquet too. She

was so happy and we wished her for many more success in the future.



*Bouquet to Mrs.Nihar Shaji*

Finally, we reached the cabin of Mr. Veera Muthuvel to greet him. Unfortunately, he was away on a site work and hence left the Bouquet on his table with our wishes to him. His office staff has accepted that and ensured us that he will convey the message.

On our way back, Bhaojrajanna explained the tree plantation and other beautification works they have done twenty years ago for retiring people which was made compulsory by Dr.Annadurai for newly joined Engineers to plant a tree as soon as they joined. He was flabbergasted to notice that the trees he planted have grown so big and enhance the look of ISRO centre now.

Overall it was a exciting day with Eminent people who are behind this humongous achievement and even more satisfying to note that they are all very modest and down to earth as if they are not done yet many more to be achieved.

**Pray for ISRO's Success in all their future endeavours!!**

## CHANDRAYAN EXPERIMENTS- MEASUREMENT PRINCIPLES

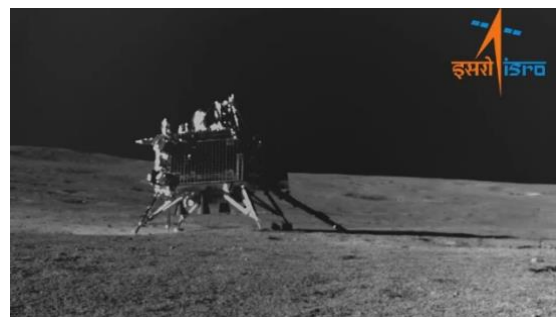
### FOR SCHOOL CHILDREN

By Dr.H.BHOJRAJ, Mr.SUNDRAMURTHY AND Prof.SOMA

#### CHANDRA'S SURFACE THERMOPHYSICAL EXPERIMENT (ChaSTE)

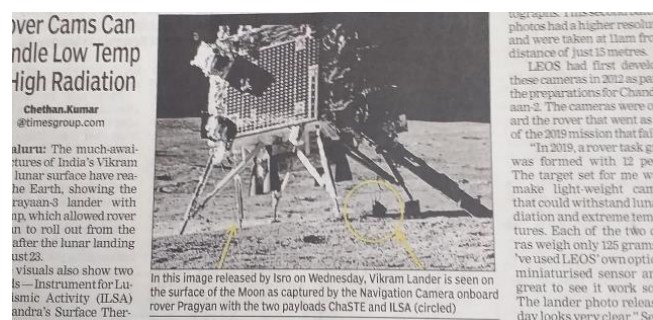
The experiment's objective is to measure the temperature profile of the lunar top soil known as lunar regolith (loose rocks and dust) around the south pole

to understand the thermal behavior. It has a probe fixed with 10 temperature sensors which is driven inside the Moon's surface using a motor to a depth of 10 cm. As soon as Chandrayan 3 landed commands will be sent to deploy the probe and drive it to a depth of 10 cm. Basically this data is required to understand the thermal management of the Lander and Rover. It will give the amount of heat radiated to the lander and conducted by the legs. It gives an idea of temperature variation in a Lunar day i.e. 14 Earth days.



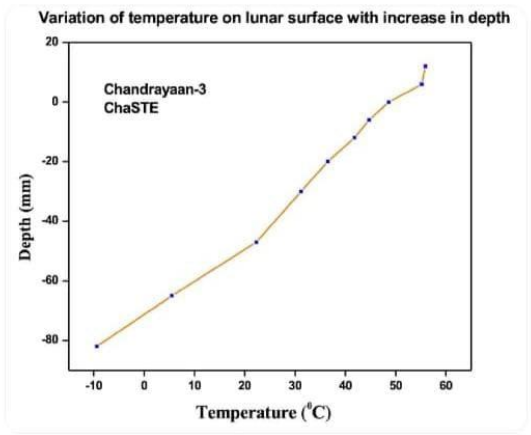
It was observed that the top surface temperature is about 55 degrees centigrade and at a depth of 8 CM it drops down to minus 10 degree centigrade. It proves that sides of craters never received any sunlight can be as cold as minus 233 degrees centigrade. The area which receives sunlight frequently can go up to 50 degree centigrade.

The lander touched down at a point between two very big craters called Manzinus C and Simpelius N where the Sun rays have not touched for billions of years. ChaSTE data is the first look scientists all over the Globe have received thermal data about the south pole of the moon.



ChaSTE probe on the left and ILA (Instrument for the Lunar Seismic Activity) on the right

The temperature variation indicates that the moon's topsoil is a powerful insulator, in keeping with previous findings on other parts of the Moon and remote sensing data analysis. It adds credence to the idea that it can be used to build habitats for humans to shield them from extreme temperature conditions and harmful radiation.



As the depth increases temperature decreases

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## INSTRUMENT FOR LUNAR SEISMIC ACTIVITIES (ILSA)

The instrument for Lunar Seismic Activities (ILSA) is a Micro Electro Mechanical Systems (MEMS) technology based instrument on the moon. It has the capacity to record the vibrations occurring in the moon's soil. It has recorded the vibrations of the Rover occurring due to the movement. Even vibrations created by the deployment of various payloads can be recorded.

It has recorded an event, appearing to be natural one, on August 26, 2023. The source of this event is under investigation according to latest news from ISRO.

ILSA comprises a cluster of six high sensitive accelerometers, which are indigenously fabricated using Silicon Micromachining process. The main sensing element consists of a spring-mass system with comb structured electrodes. External vibrations lead to a deflection of the spring, resulting in a change in capacitance which is converted into voltage.

ILSA's primary objective is to measure ground vibrations generated by natural quakes, impacts, and artificial events.

The ILSA payload was designed and realized at Laboratory for Electro-Optical Systems (LEOS), ISRO, Bangalore with the support of private industries. The deployment mechanism for placing ILSA on the lunar surface was developed by URSC, Bangalore.

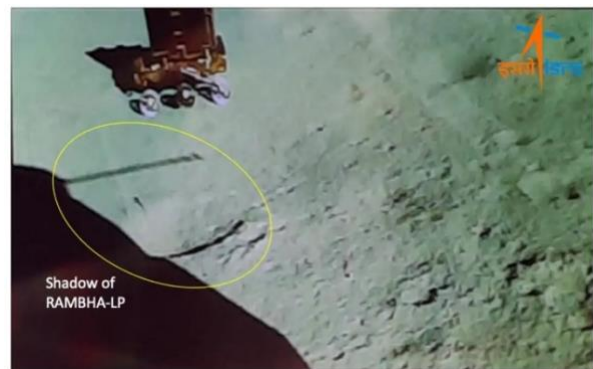
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## (RAMBHA- LP)

### RADIO ANATOMY OF MOON BOUND HYPERSENSITIVE IONOSPHERE AND ATMOSPHERE LANGMUIR PROBE

Langmuir Probe is used to measure the plasma density i.e. the electrons and ions in the surrounding. It can also estimate the variations of lunar plasma near the landing surface over a period.

The payload has made first-ever measurements of the near-surface Lunar plasma environment over the south polar region. The initial assessment indicates that the plasma near the lunar surface is relatively sparse. These quantitative measurements potentially assist in mitigating the noise that Lunar plasma introduces into radio wave communication. Also, they could contribute to the enhanced designs for upcoming lunar missions.




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## APXS-ALPHA PARTICLE X-RAY SPECTROPHOTOMETER

This instrument will irradiate lunar surface with alpha particles to derive its chemical composition.

The alpha particle consists of two protons and two neutrons bound together. When it bombards the surface tremendous heat is generated and the evaporating particles are measured by their wavelengths and identified. The alpha particles are emitted from the nucleus of some radio active material during the radio active decay, called alpha decay.

APXS observations have discovered the presence of interesting minor elements, including Sulphur, apart from the major expected elements like aluminum, silicon, calcium and iron. The other instrument LIBS also confirmed Sulphur.

## SPECTROPHOTOMETER

A spectrophotometer is a scientific instrument used to separate and measure spectral components of a physical phenomenon. It is a device used for detecting and analyzing wavelengths of electromagnetic radiation, commonly used for molecular spectroscopy. Electromagnetic radiations are used to determine the predominant particles of the target material.

## (LIBS)-LASER INDUCED BREAKDOWN SPECTROPHOTOMETER

The Laser- Induced Breakdown Spectroscopy (LIBS) instrument onboard Chandrayaan 3 Rover made the first ever in-situ measurements of the elemental composition of the lunar surface near the south pole.

It uses a high-focused laser to ablate (remove a small amount of material) the surface of the sample. A plasma is formed consisting of electronically excited atoms and ions.

### WHAT IS LASER?

The full form of LASER IS Light Amplified by Stimulated Emission of Radiation. It is a type of electromagnetic machine that can emit light as an Electromagnetic Radiation. Such lights are coherent and very weak. They are produced by a method named as optical amplification.

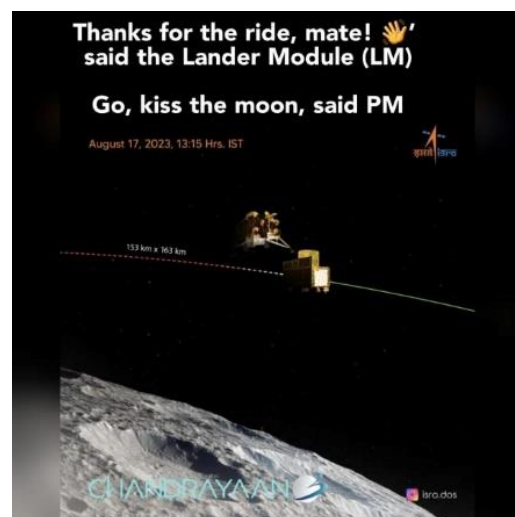
Weak laser beams are commercially used in pointers during Power point Presentations.

A laser is created when electrons in the atoms in optical materials like glass, crystal, or gas absorb the energy from an electrical current or a light. The extra energy "excites" the electrons enough to move from a lower-energy orbit to a higher energy orbit around atom's nucleus.

## SHAPE- SPECTRO POLARIMETRY OF HABITABLE PLANET EARTH

A polarimeter is a scientific instrument used to measure the angle of rotation caused by passing polarized light through an optically active substance. Some chemical substances are optically active, and polarized light will rotate either to the left or right when passed through these substances. These instruments are used for determining the polarization properties of light beams and samples.

This instrument mainly analyzes the light properties received from the earth and with this signature it will explore the possibility of similar planets in the cosmos. It will find out the possibility of life on potentially habitable exoplanets.



**AS A HONOUR FOR THE GREAT ACHIEVEMENT BY ISRO WE HAVE BROUGHT OUT A SPECIAL ISSUE COVERING THE DEVELOPMENTS.**

**29<sup>TH</sup> SEPTEMBER 2023 FUNCTION IN OOTY IS ALMOST FINALISED. DEPENDING ON THE ROVER COMING BACK TO LIFE THE FUNCTION DATE WILL BE CONFIRMED.**

**EFFORTS ARE ON TO IDENTIFY 4 TO 5 STUDENTS FOR ALL GOVERNMENT HIGH SCHOOLS IN NILGIRIS. THE REQUIRED PERMISSION FROM THE CHIEF EDUCATIONAL OFFICER WILL BE TAKEN SHORTLY. THE VENUE HAS BEEN IDENTIFIED AS TRIBAL AUDITORIUM IN OOTY WHICH CAN ACCOMMODATE ABOUT 350 STUDENTS. LIONS CLUB OOTY HAS TAKEN THE RESPONSIBILITY TO ORGANIZE THIS GREAT EVENT.**

### EDITORIAL TEAM

Dr.H.BHOJRAJ, Mr.NAGULAN, JOGHEE,  
Mr.SUNDRAMURTHY, Prof.SOMA, Mrs.JIJA  
SUBRAMANIAN AND Mr.SIVAKUMAR BELLAN



