

# ACU WELLNESS

ACADEMY FOR ACUPRESSURE AND ACUPUNCTURE  
1963, 8<sup>TH</sup> MAIN ROAD, E BLOCK, II STAGE, RAJAJINAGAR, BENGALURE-560010

JULY 2023

PHONE: 9845649914

E MAIL: [acuacademybgl@gmail.com](mailto:acuacademybgl@gmail.com)

WEBSITE: <http://bhoiraj.tripod.com>

(FOR PRIVATE CIRCULATION ONLY)

VOL 12 No.7

## FROM THE COURSE DIRECTOR'S DESK

This month July is going to be great month for Indian Space Research Organization which is geared up for launching CHANDRAYAAN 3 in the second week of July between 12 to 15<sup>th</sup> depending on the favourable conditions for launch preferably on 13<sup>th</sup> according to unconfirmed report. **On my own behalf and on behalf of our Academy I wish the ISRO Team under the great leadership of Dr.Somnath for a grand success.** The Nation under the able, efficient and supportive leadership of our Honourable Prime Minister is looking for the date of Vikram's soft landing on the Moon and Pragyan coming out of Vikram after landing to conduct the specific experiments as planned.

On 2<sup>nd</sup> July 2023 myself, Mr.Nagulan and Mr.Murthy attended the lecture on Gaganyaan by Mr.Hutton the Project Director in Mysore . The auditorium was full with more than 300 students from Karnataka State Open University. Dr.Sharanappa, Vice Chancellor presided over the function. The excellent presentation by Mr.Hutton was well received by the audience and our Bangalore team felt every minute spent during the lecture was really worth the efforts we took to visit Mysore only for this lecture. **The audience gave standing ovation to Mr.Huttan not only for the informative contents but also for his**

**powerful and effective communication** with the audience. We have planned to conduct a similar lecture in Ooty for the benefit of Nilgiris students in August September depending on the availability of the Project Director of Gaganyaan.



**Presented the Eye Improvement book to Mr.Hutton, Project Director,Gaganyaan**

It is our Nation's prestige and every Indian will be proud when we bring back the first Indian Astronaut from space safely with our indigenous efforts as the fourth country to do so.

It has been a great experience for us in May enjoying the election results and the change of regime in Karnataka. As a matter of fact, I really appreciate the Karnataka people for their decisive action to give majority to a single party. As mentioned during elections **Karnataka alone has the potential to act as**

**the growth engine for the whole country and the tier 2 and tier 3 cities are equally capable of producing innovative solutions.** Not only Karnataka, the whole country needs good governance and selfless service should be their prime goal. **The time for leading the whole world has come to INDIA under the wonderful leadership of our present Prime Minister** and the great achievements of our country cannot be undermined for the past 30 years though the growth has been visible for the past 10 years.

**The whole world got the benefit of Yoga which was highly visible on World Yoga Day celebrated on 21<sup>st</sup> June 2023.** Nearly 108 countries have taken up Yoga seriously and the next generation is ready not only to experiment on themselves but enthusiastically propagating the benefits of Yoga to their friends. The credit should go to our Prime Minister for this great achievement. **Similarly, Karnataka Government should not only make Yoga compulsory in all schools but also introduce self-Acupressure to take care of the students' health.** Almost 10 years back our Karnataka Acupuncture Association represented the Government to recognize Acupuncture as a System of Medicine and pass a law in the Assembly for regulating Acupuncture practitioners and also start a medical college to impart 5-year integrated course with Acupuncture as one of the main subjects. If it is taking more time to do it, **at least Acupuncture should be recognized as a course in Naturopathy Colleges and given importance for research activities.** I understand it needs approval from UGC and if it is taken up by the Government, Acupuncture and Acupressure has the potential to reduce the medical budget by the Government.

West Bengal and Maharashtra are the only two states recognized Acupuncture and started encouraging drugless therapy. Acupuncture is practiced in 112 countries and it is a recognized system for medical reimbursement also. I appeal

to our new Government of Karnataka to take the bold step to recognize Acupuncture as a system on par with other systems or at least attach it to Naturopathy and provide a separate department in Government Hospitals for availing free treatment. **We all well-wishers of drugless therapies wish our Karnataka Health Minister, Shri.Dinesh Gundu Rao for a productive term and also innovative term by introducing new systems beneficial not only for patients but also for the Nation.** If taken seriously and implemented in Karnataka, we will certainly lead not only India but the whole world. The June 2023 saw the new batch of Sight Improvement and Hearing Improvement participants and the previous batch results indicates very positive improvement in hearing but eye sight improvement needs more participants to conclude though few people got good benefits.

**The Nargund Physiotherapy College students who participated in Auricular Therapy have given very positive results on their general health and most of them were wonderstruck with the immediate relief they got with Auricular Therapy.** It is being planned to conduct a certificate course for all the students and the modalities are being worked out to achieve the goal.

The Academy is gradually coming back to normal activities and we are seriously looking for a commercial place in the ground floor in and around Navarang Theatre, Rajajinagar. Those who have knowledge about the availability of any place may directly contact me (9845649914). Also we are planning to appoint a research assistant with nominal salary from August. **I request all interested in propagating this simple therapy can donate to our Academy.** We are trying to get the 80G based on our 10 years records.

H.BHOJRAJ, CHAIRMAN,AAA

**THOSE INTERESTED IN SUPPORTING OUR RESEARCH CAN SEND THE AMOUNT TO**  
**AAA, INDIAN BANK, RAJAJINAGAR BRANCH**  
**A/C No.60125588256**

## BE CAREFUL WITH YOUR THOUGHTS !

BY Dr.H.BHOJRAJ

Reviewed by Mr.NAGULAN JOGHEE

**Generally, most** of us never used to bother about our thoughts and keep doing actions without even observing how this thought process emanates from our mind. **What is mind and where it is located, are important questions for the common man.** Mind is nothing but the composition of all thoughts. Where from these thoughts come? It is mainly from the five sensors in our body and also through our breathing. **The Eyes, Ears, Nose, Tongue and Skin (touch) are 5 sensors capable of generating thousands of thoughts in our mind at a time.** So, one has to be doubly careful in observing and maintaining these sensors at their best always. These sensors are really meant for our survival and one has to take action to avoid any harm to these sensors to avoid any danger to our body.

Even when we eat food, the eyes will approve the quality by observing the contents, touch sensation of the palms clears the food, when it is taken near the mouth the nose clears for taking it inside and finally the tongue absorbs all tastes and clears them for further processing. One can have control over this input, either to accept or reject, only up to this stage. Once it goes inside, the inner intelligence takes over to processes the inputs and transforms into building blocks required for different systems in the body.

**This is the function of subconscious mind and it generally works perfectly without any fault.** Suppose it recognizes the inputs as not of good quality for further processing in spite of all the sensors clearing it, it creates vomiting sensation and packs the contents with a mucus bag and throws it out from the stomach. It is a protective mechanism given to human body. **Now coming to the mind, we know the BODY and MIND** combo

operate through synchronization of all our senses. This is represented by **BODY-MIND.**

Many times even an accident shown in the TV will generate multiple and confusing feelings in our mind depending on their sentiments and connectivity. One will start taking actions based on that. If it happens for their near and dear the sentiments and feeling will be deeper. Actions will be generated depending on their feelings. **This FEELING is also part of the mind concerned with sentiments and feelings. This represents the FEELING-MIND.**

Now, coming to the third mind called desire-mind. Desire is a thought originated in the mind due to the body's requirement. It can be physical requirement or psychological requirement. We can easily understand this with the urge to urinate or wants to get PhD. **This DESIRE-MIND has connection with desires and action. And finally, the THINKING-MIND which works with all the above three minds in tandem.** But majority of the people never use this mind. The thinking mind needs logical inputs and justifications to decide things are right or wrong. Previous experience or observations of similar problems will give wisdom to take right decision and right action at the right time.

The thoughts generated in the mind can be elemental, intellectual, emotional and sexual. **So, thoughts are considered as BEINGS. They have all necessary inputs to grow and try to find a logical end.** One's own logical thoughts keep recurring in one's mind from time to time. Once a thought is conceived, gestated and issued, it remains in the mental atmosphere. It circulates in the atmosphere and re-enters your body from time to time. **IT ENTERS THROUGH YOUR BREATH. Once the thought is generated, it has to be appropriately balanced. The Thoughts generate action and the thinking mind should decide the right action for the success in our life. THINK BUT DON'T CREATE THOUGHTS.**

**MIND IS LIKE A MAGNETIC FIELD, IT IS POSSIBLE TO CHANGE THE FIELD WITH POSITIVE THINKING.**

In the next article we will see how the thoughts are generated **in our life. THINK BUT DON'T CREATE THOUGHTS.**

## **TOWARDS BETTER HEARING AND LISTENING WITH ACUPRESSURE**

**By Dr.H.Bhojraj, Ms.Kallolini and Mr.SivakumarBellan**

### **INTRODUCTION:**

*“The eye takes a person into the world. The EAR brings the world into a human being.”*

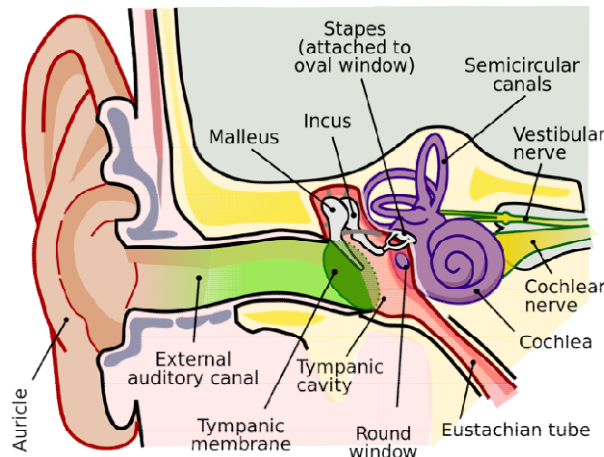
The ear is an important sensor not only for our survival but also for enjoying life. **As per the scientific theory, as we are aging, the nervous system will weaken and the hearing power slowly reduces with age.** A normal person in the age group of 60 to 70 years can listen up to a frequency range of 8000 Hz and above 70 yrs can hear up to 6000 Hz. People in the age group of below 40 can listen up to 14000 Hz. **Our Academy started on Hearing Improvement Research as a project when my ISRO colleague openly declared in a function that he could avoid the hearing aid for years after practicing the acupressure points regularly as taught in a casual conversation between us.** It was an important input for starting our research project seriously and many participants above 60 yrs attended the regular course every week for three months. Initially, one week evening online classes conducted for one hour. The ear construction, hearing process, the inner parts of the ear, the importance of auditory nerves were covered for proper understanding of hearing process.

**The feedback we got after three months was really wonderful and almost all people who practiced the five-minute acupressure activation once daily, have seen their hearing ability improved by 500 Hz.** This was an eye opener for our research team which consists of one ENT Specialist also. The research results were presented by me in one of the conferences held in Bengalure on 19<sup>th</sup> June 2022. The evidence of this pilot project gave us the strength to go for this

series which can cover the complete theory of hearing and give the future generation a tool to not only maintain their hearing ability for long time but can improve their frequency range to listen to fine tunes. Hearing and listening are really different. We hear every sound but listen to what we want for our progress. The subtle differences are covered in different chapters.

**The main idea is to put it in the form of a book with acupressure as the main therapy not only for improving the hearing for elders but also for all age groups for curing any ear related problems.** We have been insisting just knowing something is not going to cure but doing the exercise as mentioned in the class will certainly help you to improve. Someone can ask is it life long process? **Yes, if you want to maintain your ears and eyes in good condition one has to spend 10 minutes every day for acupressure exercise specifically for ears and eyes.** When we started the research, I checked my hearing ability in the frequency measurement application. I could hear up to 7200 Hz which is normal for my age of 73 but now after one year I am able to listen up to 8800 Hz which shows tremendous improvement. As on May 2023, my hearing frequency is 9200 Hz with regular activation of acupressure points. The main aim of this article is to go for a national level research and motivate elders to practice these acupressure points daily for ear related problem and report the feedback to our research team **for proving the efficacy of Acupressure as preventive healthcare** to the whole world.

## ANATOMY OF THE EAR



The ear is a sensitive organ of the human body. It is mainly concerned with detecting, transmitting and transducing sound. Maintaining a sense of balance is another important function performed by the human ear.

### Structure of Ear

The human ear consists of three parts:

- External ear
- Middle ear
- Internal ear

### Human Ear Parts

The human ear parts are explained below:

#### EXTERNAL EAR

The external ear is further divided into the following parts:

##### Auricle (Pinna)

The auricle comprises a thin plate of elastic cartilage covered by a layer of skin. It consists of funnel-like curves that collect sound waves and transmits them to the middle ear. The lobule consists of adipose and fibrous tissues supplied with blood capillaries.

##### External Auditory Meatus

It is a slightly curved canal supported by bone in its interior part and cartilage in the exterior part. The meatus or the canal is lined with stratified epithelium and wax glands.

##### Tympanic Membrane (Ear Drum)

This membrane separates the middle ear and the external ear. This part receives and amplifies the sound waves. Its central part is known as the umbo.

#### MIDDLE EAR

The middle ear comprises the following parts:

##### Tympanic Cavity

It is a narrow air-filled cavity separated from the external ear by tympanic membrane and from

inner ear by the bony wall. The tympanic cavity has an auditory tube known as the eustachian tube in its anterior wall.

##### Eustachian Tube

The eustachian tube is a 4cm long tube that equalizes air pressure on either side of the tympanic membrane. It connects the tympanic cavity with the nasopharynx.

##### Ear Ossicles

These are responsible for transmitting sound waves from the eardrum to the middle ear. There are three ear ossicles in the human ear:

- **Malleus:** A hammer-shaped part that is attached to the tympanic membrane through the handle and incus through the head. It is the largest ear ossicle.
- **Incus:** An anvil-shaped ear ossicle connected with the stapes.
- **Stapes:** It is the smallest ossicle and also the smallest bone in the human body.

#### INNER EAR

It comprises two parts:

- Bony labyrinth
- Membranous labyrinth

##### Bony Labyrinth

The bony labyrinth comprises a vestibule, three semi-circular canals, and spirally coiled cochlea. It is filled with perilymph.

##### Membranous labyrinth

The bony labyrinth surrounds the membranous labyrinth. It comprises sensory receptors responsible for balance and hearing. **The membranous labyrinth is filled with endolymph and comprises three semi-circular ducts, cochlear duct, saccule and utricle.** The sensory receptors include cristae, an organ of corti, and ampullariids maculae.

#### FUNCTION OF EAR

Following is the important function of the ear:

#### HEARING

The mechanism of hearing involves the following steps:

- The sound waves pass through the auditory canal and reach the eardrum.
- The vibrations produced pass through the tympanic membrane to the tympanic cavity.
- The ear ossicles in the tympanic cavity receive the vibrations and the stapes pushes the oval window in and out.

- This action is passed on to the organ of corti, the receptor of hearing, that contains tiny hair cells that translate the vibrations into an electrical impulse that are transmitted to the brain by sensory nerves.

**AMPLIFICATION OF SOUND WAVES** :One of the most valuable gifts of nature to mankind are HEARING and SPEECH. The perceptive frequency range is 20 to 20000 Hz. **But as we age, the hearing frequency comes down to about 8000 Hz for people above 50 years. Those who are exposed to chronic noise and people with diabetes, the hearing level comes down faster than others it seems.**When sound waves reach tympanic membrane, it causes vibration the hear drum.Then it is amplified by three tiny bones called Malleus,Incus and Stapes.**The sound waves are amplified by 1.3 times due to these bone structure.**

The oval drum area is about 54 square mm and the oval window is just 3mm diameter and due to this the sound entering the oval window is amplified by 17 times. **One can observe the sound waves are amplified by 22 times due to the bones and area reduction at the oval window.**

**But the fluid in the inner ear is filled with perilymph and especially endolymph amplifies the waves by 30 times.** Endolymph which is filled inside the tubular structure of Cochlea has more Potassium ions than Sodium ions.**The Kidneys are in charge of fluid control system in the body and activation of acupuncture points K-3, K-7 and K-10 will help to produce lymph fluids.**

After amplification it travels via nervous system to the brain called Amygdala where the sound is processed and produces response. This part is also takes care of emotions like sympathy, empathy, love, hatred, anger or any input depending on the processing.

NOISE WILL AFFECT OUR HEALTH BUT MUSIC WILL IMPROVE OUR HEALTH.

#### **BALANCE**

The eustachian tube and the vestibular complex are the important parts of the ear responsible for the balance.

- The eustachian tube equalizes the air pressure in the middle ear and maintains the balance.
- The vestibular complex contains receptors that maintain body balance.

**WITH CLEAR VISION AND MEDITATION YOUR LIFE CAN BE REWRITTEN**

**PRESENT LIFE IS THE CONTINUATION OF PAST LIFE.**

**STOP BLAMING THE PAST. START LIVING IN THE PRESENT.**

**“NOW” IS THE MANTRA FOR ENJOYING THE BEST IN YOUR LIFE**

**MENSTRUAL PROBLEMS CURED WITH SINGLE ACUPRESSURE POINT SP-6 (CERTAINLY NOT TO BE TOUCHED BY PREGNANT WOMEN)**

**BY Mrs.JIJA SUBRAMANIAN ACUPUNCTURE PRACTITIONER AND TRUSTEE AAA**

Menstruation is a normal part of women’s reproductive cycle. When an ovary releases an egg, it also releases the hormone oestrogen, which stimulates the lining of the uterus to grow and absorb the fresh blood. **If the egg is not fertilized, the ovary releases progesterone, which makes uterus shed its lining.** It results in menstrual flow typically consists of few tablespoons of blood and tissue fragments. The series of event repeats on a cycle of approximately 28 days until interrupted by pregnancy or ended by menopause.

The degree of discomfort or pain a period cause, as well as the amount of menstrual flow varies widely among individuals. Also, sometimes it may be heavier and more painful than usual. Such problems, while unpleasant, generally do not signal any underlying disease. But if it is a regular feature, then it indicates ovarian cysts or endometriosis.

Three main categories of menstrual irregularities are

1. **Lack of periods (AMENORRHEA)**
2. **Painful periods (DYSMENORRHEA)**
3. **Heavy periods (MENORRHAGIA)**

#### CAUSES

Low levels of oestrogen which has the risk of developing osteoporosis. It may be lack of progesterone in the system. Over exercise is also another reason.

Normally this is treated by giving missing hormones but it will not solve the root cause of the problem. **Hormone secretion will become normal with Sp-6 activation which is the Acupuncture point where three Yin Meridians cross(Liver, Spleen and Kidney).**It is GOD given self-help point for any menses related problems particularly for teenage girls.

Just press and release 14 times with your index finger every day in the morning or in the evening and within a month one can see the results. Continue this pressure pointing even during menses period to overcome any pain. Yes, you check with your Gynaecologist regularly and you observe the progress within three months. Avoid pain relievers as much as possible. Yoga for 30 minutes improves your general health.

CAUTION: PREGNANT WOMEN SHOULD NEVER USE SP-6

#### CASE HISTORIES

*Ms.YAMUNA, Ms.DEEPIKA, Ms.DEEPTHA, Ms.SAMUKTHA, Ms.JANINI,Ms.RESHMA, Ms.SNEHA PRIYA, Ms.MALLIGA, Ms.KEERTHANA, Ms.LOSHINI,Ms.KOWSHIKA and Ms.SNEHAA*

We have undergone the acupressure course in June 2022 and our batch of 20 girls were taught Sp-6 point for menses related problems. We all took it up seriously and practicing for past one year. It is really unbelievable for the entire batch. **Most of could see tremendous improvement in our menses cycle and the pain level drastically reduced for all of us.**I can say it is due to the activation of Sp-6 point daily by our group.

**WE CAN KNOW ONLY THAT WE KNOW NOTHING. AND THAT IS THE HIGHEST DEGREE OF HUMAN WISDOM**



NARGUND PHYSIOTHERAPY FEW STUDENTS ALSO ECHOED THE SAME FEEDBACK AFTER ONE MONTH OF TRAINING SP-6 POINT.

We could solve all other ailments like headache, heel pain, back pain, leg pain, cramps etc with Acupressure points taught in the class by Dr.H.Bhojraj and Dr.Girish Shankar. We have motivated many of our friends to use this point Sp-6 for menstrual problem and they were also very successful.

**Most important is that all of us could develop good concentration and memory with this activation.**

**THANK YOU, SIR, FOR YOUR TRAINING AND SIMPLE SOLUTIONS.**

# GAGANYAAN CREW MODULE SAFETY TEST IN AUGUST 2023

A test vehicle mission as a part of ambitious Gaganyaan project is likely to be done in

August. It is mainly to demonstrate how the crew escapes in case of an accident during flight. **This test will be done minimum 3 or 4 times to make sure the robustness of crew escape system.** Though main agency is ISRO, Navy Team plays an important role in the recovery of crew module in the sea.



## TEST VEHICLE MISSION

This particular TEST VEHICLE is not a part of Gaganyaan launch but it a special rocket which can lift a mass of 2000 Kg up to an altitude of 14 KM and deliberately a problem will be created in the Test Vehicle or even try to destroy with explosives and observe how the crew module escapes.

Similarly, the mission has to be repeated atleast twice or thrice to make sure everything works perfectly before the LVM 3 takes an unmanned crew module with service module. This mission will be taken to Low Earth Orbit of about 300KM and crew module will return to Earth.

## TEST VEHICLE CONSTRUCTION

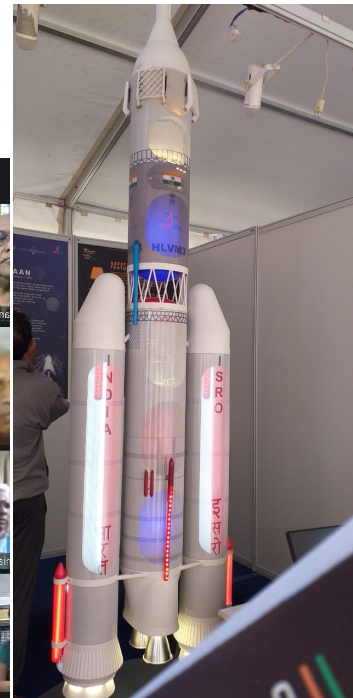
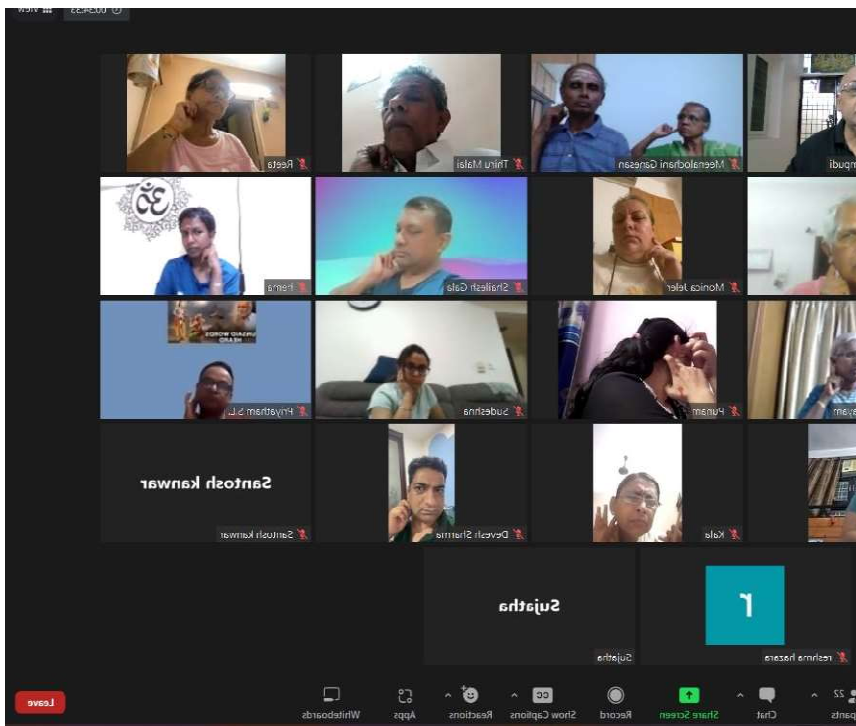
**The L 40 Vikas engine will be used as Test Vehicle (TV) for the crew separation test.** The liquid fuelled rocket engine was developed in 1970's in collaboration with France Space Agency. The design was based on the licensed version of Viking engine with the chemical compression system. The early production of Vikas engines used some imported French components which were later replaced by domestically produced equivalents. It is being used in PSLV and also in GSLV. **These engines are produced now by Godrej & Boyce and MTR Technologies.**



The propellants used are N<sub>2</sub>O<sub>4</sub> and UDMH. It works on gas generator cycle. It produces 850 KN of thrust with a chamber pressure of 62 bar and gives a specific impulse of 293 seconds. It has a length of 3.7 M. It is used a second stage of PSLV and GSLV. The main stage L110 of GSLV Mk III also uses the same engine. The propellant loading for VIKAS engine in PSLV and GSLV Mark I and Mark II is 40 tons and GSLV MkIII is 55 tons.

**The test vehicle will have less than 40 tons of fuel to lift 2 tons up to 14 KM altitude.** But the Human Rated Vikas Engine has higher structural margins for subsystems, improved assembly processes and additional measurements of health monitoring of the engine. It has electro-mechanical Gimbal actuators to control the flight path.

## HIRP III BATCH INAGURATED ON 7<sup>TH</sup> JUNE 2023-REPORT by Ms.KALLOLINI



**Dr.H.Bhojraj** welcomed all the participants for this third batch and expressed the scientific background. He told the experiments conducted on close friends inspired him to start both Sight Improvement Research Program (SIRP) and Hearing Improvement Research Programme (HIRP). He told the main idea is to get as many volunteers as possible and make them do this specific activation at

certain points regularly for three to six months before concluding the efficacy of this self-acupressure.

Now the hypothesis is, **regular activation of these acupressure points, improves the production and quality of endolymph in the Cochlea which amplifies the sound entering the outer ear by 30 times as per the theory.**

In the next step we have to involve experts to assess this by any method for measuring the quality if possible. If it works, we must give explanation later, how it works. So our research is in the positive direction according to him.

**Mr.Sridhar from Chennai** inaugurated the III Batch and **expressed his own experience in observing the hearing ability and also eyesight.** He mentioned that his wife also got the benefit of hearing better by practicing regularly with him. He insisted that more people should come forward to join this course and practice regularly.

**Ms.Jelar Monika** also expressed her happiness for joining this practical course which will help her to prevent any deterioration as we are aging but helps her to teach many of her Acupuncture patients and students.

**Mr.S.S. Rao**, practicing Therapist expressed his appreciation for the practical course which started 3 years back and many volunteers got the benefit out of it. **He also expressed his own improvement in his eye power value though not cured fully** and he told his hearing ability also improved particularly on one ear which was less compared to other.

**Mr.Sailesh Gala** who has joined just a month back was appreciating this technique which helped him **not only to improve his hearing ability but also his digestion.**

**Ms. Poonam Thacker** who was in the First Batch told her hearing problem has come back to normal within three months which was caused by using mobile phone continuously for six hours due to work. **She very clearly pointed out that youngsters who are using mobile phones for longer periods due to their nature of work should be motivated to undergo this course as a**

**preventive therapy.** She is also taken up the Co-ordinator post for one more batch.

All participants were taught how to locate the points and activate every day. The precautions required also were mentioned. Dr.Bhojraj mentioned that for the next class, he would try to get an ENT specialist who can test all the participants before and after 3 months.*The inaugural session ended with thanking all the participants for their active support.*

**Ms.Kallolini, COURSE CO-ORDINATOR**

---

## LVM3 MODEL FOR 3D PRINTING

---

As we are planning to go to schools and motivate them to learn basics of Space Technology, the efforts to get the model on LVM3 for display in the school are continuing. The metallic model which we sent for Vilathikulam High School has not withstood the transportation by Speed Post and got separated. So, we are planning for a good model with 3D Printing technique which is bit costly. This program is temporarily kept in abeyance.

We will keep the school authorities informed about the cost in our subsequent newsletters.

In the mean time I request all school Principals to encourage the students to join the free online course regularly announced by ISRO for bright students from 9<sup>th</sup> Std to 12<sup>th</sup> Std. You can watch the videos and learn at your own pace. Indian Institute of Remote sensing is conducting this course and certificate also will be issued by the Institute.

Kindly motivate your best students to learn remote sensing. **We have plans to bring a Remote Sensing Institute in South especially in Nilgiris, Tamil Nadu.**



**READY TO TAKE OFF ON 13<sup>TH</sup> JULY 2023. OUR BEST WISHES TO TEAM ISRO FOR THE GRAND SUCCESS OF CHANDRAYAAN 3**

## CASE HISTORIES

FEED BACK FROM FEW PARTIPANTS WHO ATTENDED EYE SIGHT IMPROVEMENT LECTURE CONDUTED ON 19<sup>TH</sup> APRIL AND AURICULAR THERAPY ON 29<sup>TH</sup> APRIL 2023.

### 1.NECK PAIN RELIEVED IN SINGLE TREATMENT

SAYS S.DHANALAKSHMI II YR BPT

I had neck pain on my right side on the day of training. As a demonstration a needle was just pricked on my ear point for 20 minutes. **To my**

**surprise the pain vanished after that and I felt so relieved.**I am very keen to learn this therapy in depth to help the patients without any side effects.

### 2. AURICULAR THERAPY WORKED FOR BODY HEAT SAYS Mr,SHARAYU ANIL PATIL

On the day of the course I had slight pain in the body and also body heat. **After 20 minutes of the needling in the ear, I felt the change in my body heat and felt totally relaxed.** I really found the relief on that day and I would like to learn this technique to try for my family members first. Thank you, Sir for your wonderful course.

### 3.BACK PAIN RELIEVED IN JUST ONE TREATMENT SAYS Md.BEHNAMNIA

I was having back pain for sometime and I volunteered for practical on the day of the course. The result was unbelievable. **My back pain vanished after the treatment and after two months I am giving this feedback with confidence**Auricular Therapy worked like miracle for backpain.

### 4.MY VISION IMPROVED WITH EYE EXERCISE

SAYS Ms.JYOTHI II YEAR BPT

I have been wearing spectacles with power for short sight and I started practicing the simple eye exercises taught in the class regularly for the past one month. **Now I could see the distant objects clearly without spectacles.**Nowadays most of the time I don't depend on my spectacles for seeing the black board. I will go for an eye check up after a month and give the results for your research records.

### 5.EYE SIGHT IMPROVED WITH ACUPRESSURE

SAYS Ms.LEESHA, FINAL YR BPT

I have been doing these eye exercises regularly after learning in the class and I could rally feel the changes. **There is an improvement in my vision. My watery eyes almost become normal.** The itchiness which I used to get earlier has reduced drastically. **My blurred vision improved after two months of practice.** Thank you, Sir, for the wonderful training.It is really great to note that we could cure our vision problem ourselves with this

simple acupressure activation on certain acupoints regularly for just 5 minutes. Unbelievable Sir.



#### COURSE DIRECTOR'S COMMENTS

It is really heartening to note that at least five out of 50 Nargund Physio Therapy College students gave nice feedbacks after practicing for a month. **This self-help technique has the potential to cure any problem in the beginning stage and also can be used as a preventive health care.**

But I was totally disappointed to see majority of them took it up very lightly and openly admitted that they could not find time to do the exercise. **TIME** is a resource which has to be used productively for your own progress. Your health is your concern only. **I appeal to all youngsters to learn this simple technique and record all the benefits especially for eyesight for our research.** Don't ignore just because it was given free. You have to build our Nation and India is aiming to lead the world in Preventive Health Care.

H.BHOJRAJ

**TIME AND YOUTH ARE IRREVERSIBLE AND NON-RENEWABLE. NEVER WASTE THESE TWO PRECIOUS RESOURCES IF YOU HAVE.**

---

## KARNATAKA BADAGA GOWDAS ASSOCIATION (KBGA) UPDATE

**BY Mr.NAGULAN JOGHEE**

The Badagas, the ethnic tribal community in Nilgiris are spread all over the world in the past 50 years due to good education. **About 5000 people from this ethnic community are working in various fields mostly in IT related**

**industry.**



#### MEMBERS OF KBGA

The KBGA was started in the year 1980 with just 15 people from Nilgiris particularly from this tribal community. Today it has grown big with 900 subscribed members though the estimated strength is about 5000 in Bangalore alone. **The main aim of this cultural group is to maintain the tradition of the ethnic Badaga Tribal Culture by coming together and implementing few welfare schemes for the members.**

The 44th Annual General Body Meeting of KBGA was held on 11<sup>th</sup> June 2023 in Malleshwaram Club and elected new Executive Committee for the year 2023-2025 term. Mr.S.Saravanan, present President was unanimously re-elected and Dr.H.Bhojraj, Chariman AAA has been nominated as another PATRON along with Mr.R.Murthy.

**IT IS MUCH BETTER TO DO GOOD IN A WAY THAT NO ONE KNOWS ANYTHING ABOUT IT.**



From left: Mr.DINESHAuditor, Mr.RAJKAMALJtSecretary, Mr.R.MURTHY, Patron, Dr.H.BHOJRAJ,Patron, Mr.S.SARAVANAN, President, Mr.S.GANESAN, Vice President, Mr.RAJMOHAN, Secretary, Mr.GANESH LINGANTreasurer, Mr.BALARAM, Jt.Treasurer.

#### FUTURE GOALS OF KBGA

- 1.ENROLL ALL ETHNIC COMMUNITY MEMBERS LIVING IN BANGALORE AS MEMBERS
2. GROUP INSURANCE FOR ALL MEMBERS
3. CONSTRUCT A BUILDING IN THE AVAILABLE SITE NEAR BYLALU
4. MOTIVATE THE YOUNGSTERS TO OBTAIN HIGHER

LEVELS IN MUSIC, SPORTS AND EDUCATION



**KBG TRUST MEETING HELD ON 21<sup>ST</sup> JUNE IN NEW KRISHNA BHAVAN, MALLESHWAR AM**

**Mr. R.Bhojan,** the Managing Trustee of KBG

Trust, called for the meeting of the Trustees to finalize the action plan for constructing a building for the Association in the half acre site procured eight years back nearBylalu.He

informed the Trustees that all efforts taken to get the final survey done by Government to start securing the site with a compound. He informed that fencing has been done on all three sides and the fourth side will be secured after the official survey. He requested the members to come forward with different proposals for discussion and implementation in near future.

## SPACECRAFT SYSTEMS FOR HIGH SCHOOL STUDENTS

**By.Dr.H.Bhojraj,  
Mr.Sundramurthy and  
Prof.Soma**

In our previous issues, we explained the fundamentals of rockets and payloads. **The payload for the rocket can be a satellite** which goes around the Earth at a particular altitude depending on the application requirement. **The probe is the payload of the rocket which has a particular destination like Moon, Mars etc.** Once the rocket places the payload in the required predetermined orbit, the internal systems of the spacecraft will perform its functions to take it to the precise orbit and start performing with its own payloads. The payloads for the spacecraft can be a remote sensing camera or communication payloads like TWTAs. In this article we will learn all the systems required for a spacecraft.

### 1. STRUCTURE

The structure of a spacecraft can be compared with our bone structure of human body which houses all the important systems in our body which takes care of the vital organs with extra bones in the rib cage. Similarly, the structure of the spacecraft is designed to hold all systems especially the on-board computers, battery etc. in proper location so that the extreme temperatures are maintained within the tolerance limits. As our body temperature is maintained at  $37.1^{\circ}\text{C}$

irrespective of outside temperature, the spacecraft temperature has to be maintained generally around  $25^{\circ}\text{C}$  plus or minus  $15^{\circ}\text{C}$ . Generally inside temperature has to be maintained between  $10$  to  $40^{\circ}\text{C}$  though the outside temperature can vary from  $-150^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ .

**The structure is designed in such a way that it withstands the launch vibrations in the launch pad and provides a stable platform without distortion due to extreme temperatures.** It should also provide compatible interface with the launch vehicle. Aluminum, Titanium, Aluminum honeycomb composites or Carbon Fiber Reinforced Plastics (CFRP) honeycomb composites are used for fabricating the structure to reduce the overall weight but withstands the launch vibrations. **The goal is to achieve high strength and stiffness, low weight and high buckling resistance.**

## 2. POWER

The energy required for our work comes from the food we eat which consists of carbohydrates,



Fig. 4.2b: Battery

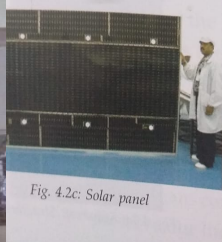


Fig. 4.2c: Solar panel

is used by the muscles to produce movement in the system. But we can clearly understand that the source for the energy is also the solar energy. The Sunrays falling on the plant only converts the solar energy into another form.

Similarly, **in a spacecraft energy is obtained from the solar cells which converts the light energy into electrical energy.** The excess energy is stored in a battery, so that battery can support/provide energy to other satellite systems when the spacecraft is away from the Sun. The primary source of power is from the solar panels. The solar panels which are folded and locked in the launch configuration will be deployed in the orbit and **made to rotate so that sun rays fall directly on the solar panels at  $90^{\circ}$  to produce maximum power.** The power which is obtained through solar panels is conditioned using electronics which also contains switching and distribution units to power all electronic systems.

## 3.THERMAL CONTROL SYSTEM

Similar to our body, the spacecraft temperature has to be controlled by various methods. **Most of the components can work between  $0$  and  $50^{\circ}\text{C}$  but can work very efficiently at  $25^{\circ}\text{C}$ .** Some specific systems like Battery (NiCd / NiH<sub>2</sub>) can work for long time if maintained between  $0$  to  $10^{\circ}\text{C}$ .

The high temperature of the spacecraft is due to Sun load and maximum power dissipation during payload operations. The minimum temperature occurs during eclipse and less power generation in the payload. The spacecraft surface temperature can reach  $150^{\circ}\text{C}$  on one side and  $-130^{\circ}\text{C}$  on the other side. The thermal stress and distortion can occur due to this temperature gradient.

To avoid all these gradients, thermal systems with Multi-Layer Insulations (MLI) blankets, heaters for heating, heat pipes to transport the heat from one side to other side and thermal control coatings are used to protect the onboard equipment. The thermal control systems ensure temperature regulation for optimum efficiency and spacecraft performance.

The golden color is the MLI which has 10 layers of Aluminized Mylar covered with Polyimide sheet of 25 microns thick with Aluminium coating on inner side. **The yellow color Kapton looks from outside as golden color with Aluminium coating on inner side.** The Optical Solar Refractors (OSR) are fixed on the surface which has very high radiating property

and very low solar absorption. These reflectors are made out of very thin glass and coated on both sides with special coating technology. **This critical thermal control element was developed by the Thermal Team in 1990 and qualified for spacecraft applications.** The team got NRDC Republic Day Award for this development and Dr.Bhojraj played a key role in this development.

The thermofoil heaters required for heating the spacecraft during eclipse were also developed by Dr.Bhojraj's team and awarded by National Research and Development Council in 1999.

## THRUSTER

Before knowing about Reaction control system (Propulsion) let us understand what is a Thruster.

**Thrusters are used in Reaction Control System, to orient the spacecraft in all three directions called pitch, yaw and roll.** Thrusters produce thrust by expelling propellant in the opposite direction with the energy derived from a chemical reaction and thermodynamic expansion. The thrust produced depends on the rate at which the propellant mass is expelled and the exhaust velocity of the gas.

The three types are cold gas thrusters, mono-propellant thrusters and bi-propellant thrusters. Hot gas thrusters generally produce higher thrust and high specific impulse compared to cold gas thrusters.

Specific impulse is a measure of how efficiently a reaction mass engine creates thrust.

We will be covering Attitude and Orbit Control System (AOCS), Telemetry, Tracking, Command and Communication system, Mechanisms and Propulsion/ Reaction Control Systems in upcoming issues.

**KINDLY GIVE YOUR FEEDBACK FOR THIS SERIES**

**IF YOU MAKE IT A HABIT NOT TO BLAME OTHERS, YOU WILL FEEL THE GROWTH OF THE ABILITY TO LOVE IN YOUR SOUL, AND YOU WILL SEE THE GROWTH OF GOODNESS IN YOUR LIFE. LEO TOLSTOY**

## HEARING IMPROVEMENT RESEARCH RESULTS

The training program conducted in two batches so far, from February 2023 and it has given improvement for many participants who have been practicing regularly. The weekly review meetings have been very useful according to them to learn and practice regularly.

All participants were asked to measure their hearing ability with left ear only by closing the right, then right ear by closing the left and both ears open. An you tube video <https://youtu.be/y7oc0KfoZg> was recommended for measurement before and after exercise. Those who have followed the procedures have given their feedback for our analysis. It is really encouraging to see the positive improvement in hearing.

## HEARING IMPROVEMENT DATA FOR ANALYSIS

SL No	NAME	AGE	STAR T DATE	BEFORE LEFT RIGHT BOTH	NOW JUNE 2023
1.	H.BHOJRAJ	73	JAN 22	6700 7500 7700	8900 8700 9100
2.	REETA GUPTA	67	APR 23	5218 8099 8583	6167 8498 8645
3	MURALIDHARA N	63	FEB 23	11500	11900 11900 12100
4	C.S.RAO	80	FEB 23	5700	
5	SRINIDHI	47	FEB 23	13000	
6	S.S.RAO	61	FEB 23	7400 4600 7400	8200 5000 8200
7	SANTOSH		FEB 23	2610 927 565	3000 900 1000
8	SRINIDHI (FATHER)	84	FEB 23	3500	6500
9	BEENA		FEB 23	9800 10400 11400	11200 10500 11200
10	JANHAVI		FEB 23	6275 9508 9350	6850 10150 10500
11	USHA MURALI		FEB 23	9800 9800 9900	9800 9950 10210
12	MOORTHY		MAR 23	5200 1450 5450	5400 1450 5500

13	SEKAR NALLAN	59	APR 23	2500 10000	3000 10000 10500
14	TELLUR RAVINDRAN	74	MAR CH 22	7200 7000 7200	8200 8100 8100
15	NAGAVENI	74	APR 23	0 5700 0	0 7912 8216
16	SILESH GALA	50	APR 23	8100 5500 7450	8450 5800 7650
17	MHAENDRANA TH	68	APR 23	5139 6257 6680	5900 7200 7200
18	SUDHA SUBRAMANIAN		MAY 23	4849 6400 6400	5300 6600 6740
19	GANESAN K	68	MAY 23	8300 7900 8300	8500 8500 8400

**NORMAL HEARING RANGE: BELOW 40 YEARS >12000 Hz, 40 TO 50 YEARS 10000 Hz, 50 TO 60 YEARS 9000 Hz, 60 TO 70 YEARS 8000 Hz, 70 TO 80 YEARS 7000 Hz, 80 TO 90 YEARS 6000 Hz, ABOVE 90 YEARS 5000 Hz.**

#### CONCLUSIONS

1. The overall results are towards the positive side with regular exercise. The hearing frequency certainly improved for all participants.
2. Those who practice regularly have got better improvement.
3. It shows the potential to maintain the hearing ability for a long time without hearing aid in the old age.
4. With proper research we can establish the cause for the change in the chemical composition with

acupressure which changes the hearing frequency.

#### FUTURE RESEARCH REQUIREMENT

The hypothesis that Acupressure Self Activation of specific points has the potential to produce quality endolymph fluid which has higher conduction of sound waves. KINDLY JOIN OUR NEXT BATCH.

**CONTACT Ms.KALLOLINI 9911413405**

**OR Dr.H.BHOJRAJ 9845649914**

### GAGANYAAN LECTURE IN KOSU AUDITORIUM, MYSORE on 2<sup>nd</sup> July 2023 at 3 30 pm.



Dr.Bhojraj's remarks on the lecture.



The introductory lecture on Gaganyaan was organized by CRE 'ACTIVE' Group on 2<sup>nd</sup> July in KOSU Auditorium in Mysore. This off line lecture by Shri Hutton, ISRO Project Director of Gaganyaan is to celebrate the hundredth online lecture to the brilliant students to motivate them to take up higher studies especially cutting-edge technology like Space, Artificial Intelligence and other advance fields. **Dr.H.Bhojraj** and **Mr.Nagulan** from **AAA** attended the live lecture and interacted with **Dr.Hutton** and Organizers.

**Dr.Sharanappa** Vice Chancellor, KOSU presided over the function and advised the students to take the cue from the presentation and advised them to get involved in fundamental research along with space application.

**Ms.Priya Nayak** who has taken the initiative to organise the lecture read the Annual Report of CreActive organization which is being supported by various foundations including the foundation in memory of URSC Ex Director Late Dr.S.K.Shvakumar.

**Mr.Girish** Engineer, URSC and **Mr.Srinath** Engineer, ISTRAC took initiative along with CreActive members to organize this important lecture useful for particularly students.

THE ACADEMY TEAM WITH Mr.GIRISH AND Mr.SRINATH

Dr.Hutton covered extensively on the space journey right from the Dr.Sarabai's dream to make INDIA as space faring Nation to present Gaganyaan Project. He mentioned the Test Vehicle Flight to test the reliability of Crew Escape System in the space up to 100 KM will take place in August 2023. The first unmanned Gaganyaan Flight may likely to take place after testing all the systems very carefully and getting it certified by a high-level committee.

THE BANGALORE TEAM WITH Mr. HUTTON



The lecture was attended by the Bangalore Team consisting of **Dr.Bhojraj**, **Mr.R.Murthy**, **Mr.NagulanJoghee**, **Mr.Hiriyanna**, **Mr.Guruprasad**, **Mr.Srinivasan** and **Mr.N.S.Kumar**. **Mr.Nandan**, Karnataka Physica Association and **Prof Venkatesh**, Founder President, KPA also attended the programme and expressed their appreciation for this great initiative.

The meeting ended with vote of thanks after the question answer session.



Editorial Committee

**Dr.H.Bhojraj**, **Mr.NagulanJoghee**,  
**Mr.Sundramurthy**, **Prof.Soma** and  
**Mrs.Jija Subramanian**