

CONVOCATION ADDRESS BY Dr.S V Sharma, Group Director, PPEG, ISAC

EDUCATION, INSPIRATION, CHALLENGES AND SPACE PROGRAM

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Good Morning To you all.

Having once graduated from this University erstwhile popularly known as Mysore University and having had a close association with it, gives me immense pleasure and honor to be part of this august gathering and am privileged to deliver the convocation address of this prestigious Institution.

Today, I would address you about the **“Education, Inspiration, Challenges and Space Program”**. Since convocation addresses tend to be a mix of reminiscence and sermonizing, I intend to do both.

My dear students at this juncture, I very strongly believe it is our duty to honor your parents, grandparents, brothers, sisters, and relatives on one side and the teachers on the other side. My dear students on this occasion please give them all **a big round of applause** in appreciation of whatever good they did for you. What you are today is because of them. Please believe me, they were the only non contenders till now and in the time to come.

My dear graduating students, as I stand before you, I am looking at the next generation of leaders and entrepreneurs. You are the leaders of the 21st century. You will join the graduates of this distinguished institution who have already made a big difference in their field. You, individually and as a whole, have an opportunity to change the world. I believe that and let me tell you why as I go along.

Before I actually get on with the topic of my convocation address, I am deeply tempted to talk about the university you are studying, **‘VTU’** and the place of your study **‘Mandya’**. This may be because of my passion to this state in large and this part in particular where I was born and brought up. I have immense satisfaction of having been blessed to be born in this part and to contribute to the societal needs all these years. I am not going to talk anything new about these topics, but only will reiterate the facts to satisfy my emotions and also to impress upon you the glory of the university, place and the State you studied.

VTU named after Bharat Ratna Sir M. Visvesvarayya, is a dream comes true of technocrats and academicians of Karnataka. The vision of VTU is to “become an outstanding technological

university at the cutting edge of science and technology that produces world class knowledge-delivery, research, and leadership in technology innovation for industry and society".

VTU being the largest technical Universities having 194 affiliated engineering colleges is an institution that is rich in history, academic excellence, and leadership! There are nearly million VTU graduates living around the world, keeping alive the spirit of Sir M Visvesvarayya.

Now to speak a few words about Mandya, it is believed that this city is named after a sage called Maandavya, hence called Maandavya Nagara. Mandya, has one of the most fertile lands in Karnataka due to KRSagar reservoir. Mandya is also referred to as 'Sakkare Nagara' (Sugar City). The Mysore Sugar Company Ltd. is located in the heart of Mandya City, is one of the oldest sugar factories set up in Karnataka. Mandya is also well known for its prominence in politics as the community has a say in the workings of all major political parties in Karnataka. People Education Society College of Engineering (popularly known as PESCE), located in Mandya, is one of the top engineering colleges of the State. And so on!!

Dear students what more you need of university, place and college you graduated from? You are really privileged to be here.

Now coming back to the agenda of the convocation address let me dwell upon the topic of **“education”**;

*As Nelson Mandela said **“Education is the most powerful weapon which you can use to change the world”**. The existing condition is continuously aggravated by rapid changes in the technology of communicating and acquiring knowledge and by its becoming increasingly the preserve of the few. Education is not merely about making millions literate. It is also about citizens realizing their rights and their obligations, both necessary to democratic functioning. Mahatma Gandhi, Father of our nation said **“Live as if you were to die tomorrow. Learn as if you were to live forever”**. His vision was to have entire nation with literates for the smooth functioning of Democracy.*

Now moving on to the topic on **“Inspiration”**:

If the motto of education is to **“know thy self”** then the motto of inspiration is to **“know others”**, to know how far a student can be pushed in the process of intellectual discovery and value formation. The abiding lesson of my 3 decades at ISRO is that education and inspiration form two sides of the same coin. Knowing thyself is essential to know others. Inspiration leads to face challenges.

Out of top ten graduation speeches, Steve Jobs Speech at Stanford University during 2005 ranks first. However he never graduated from college and hence told “This is the closest I have ever gotten to a college graduation”. In this speech, Steve shared his life lessons via 3 stories

in his life. First one about his birth, the second when he got fired from Apple, and the third when he found out about his cancer. These 3 stories were extremely inspiring – most people knew Steve as the hot-tempered yet charismatic CEO who headed Apple but who would have known that his birth parents gave him up for adoption, that he quit college because his college fees were sucking up his parents' savings, that he was once fired from the very company he founded and that he was diagnosed for cancer in 2004 and by a stroke of fate, survived it?

Out of three stories, I will quote his third story about death. When he was 17, he read a quote that went something like **"If you live each day as if it was your last, someday you'll most certainly be right."** This made an impression on him. Later he was diagnosed with cancer and scan clearly showed a tumor on his pancreas. He didn't even know what a pancreas was. The doctors told him this was almost certainly a type of cancer that is incurable, and that he should expect to live no longer than three to six months. His doctor advised him to go home and get his affairs in order, which is doctors' code for "prepare to die." He lived with that diagnosis all day. Later that evening he had a biopsy where in doctors got a few cells from the tumor on Pancreas. He was sedated, but his wife who was there, told him that when they viewed the cells under a microscope, the doctor said, it turned out to be a very rare form of pancreatic cancer that is curable with surgery. He had the surgery and got out of danger.

Having lived through it, Steve felt **"Stay hungry, stay foolish"** and now, as you graduate to begin anew, I wish that for you **"Stay hungry, stay foolish"**.

Leading by inspiration is Challenge.

Challenge is nothing but accomplishing a tough task. Education leads to Inspiration, which in turn leads to face challenges. Challenges are to be accepted and full filled. It would be wise to turn challenges into opportunities. As Ralph Waldo Emerson said, **"No great man ever complains of want of opportunities."** He also said, **"Every artist was first an amateur."**

Let me tell you three ways to turn Challenges into Opportunities

- 1) **Liberate yourself:** that is Accept responsibility. Accepting the responsibility is the first step to turn challenges into opportunities.
- 2) **Use leverage:** The word leverage means that you exert the greatest amount of control with the least amount of effort.
- 3) **Turn it into a game:** Whenever one takes a situation too seriously, it's easy to overreact to situations and the results are NOT met. Instead turn it into a game.

Now to speak about Indian Space Programme,

India is now the role model to the world in space applications; one of the six in the world with capability to make satellites and launch them from her own soil. Based on the application derived out of the space programme, Indian Space Programme is classified as follows:

Satellites for Earth Observation

Indian Remote Sensing (IRS) satellite system was commissioned with the launch of IRS-1A, in 1988. With twelve satellites in operation, IRS is the largest civilian remote sensing satellite constellation in the world providing imageries in a variety of applications. The data is used for several applications covering agriculture, water resources, urban development, mineral prospecting, environment, forestry, drought & flood forecasting, ocean resources, disaster management etc.

Communication through Satellites

The Indian National Satellite (INSAT) system which is placed in Geo-stationary orbits is one of the largest domestic communication satellite systems in Asia-Pacific region. Established in 1983 with commissioning of INSAT-1B, it initiated a major revolution in India's communications sector and sustained the same later. INSAT space segment consists of Many operational Satellites. The system with a total of 187 transponders in the C, Extended C and Ku-bands provides services to telecommunications, television broadcasting, weather forecasting, disaster warning and Search & Rescue operations.

Satellite Based Navigation

Satellite navigation is emerging as an important space application where satellites work in constellation and provide accurate position, speed and direction information to objects travelling on land, sea or in air making the travel more efficient and safe. It is also used to provide highly accurate information about time, mobile telephones, survey and scientific research like atmospheric, ionospheric scintillations. India is developing its own satellite based navigation system called Indian Regional Navigation Satellite System (IRNSS) with constellation of about **Eleven** satellites.

ISRO entered International Market

As commercial venture in the field of satellites, ISRO has built two satellites namely W2M and HYLAS. ISRO launched many LEO Satellites using PSLV.

Experimental Satellites, that re-entered the earths atmosphere

Space Capsule Recovery Experiment (SRE – 1) was a 550 kg capsule intended to demonstrate the technology of an orbiting platform for performing experiments in micro gravity conditions. After completion of the experiments, the capsule was de-orbited and recovered. This technology is extremely important for Human Space Program (HSP).

Chandrayaan

Chandrayaan-1, India's first mission to Moon, was launched successfully on October 22, 2008 from Satish Dhawan Space Centre, Sriharikota; the Indian launch pad. You all know, the mission resulted into a major discovery of water ice on the lunar surface.

Chandrayaan-2, India's second mission to the Moon, will have an Orbiter and Lander-Rover module. Chandrayaan-2 will be launched on India's Geosynchronous Satellite Launch Vehicle (GSLV-MkII) during 2014-15.

Mars Orbiter Mission

ISRO has plans to launch Mars Orbiter Mission during October 2013 and the satellite reaches the MARS by September 2014. This is ISRO's first mission to planet Mars with an orbiter craft designed to go around mars in an elliptical orbit. One of the main objectives of this mission is to develop the technologies required for design, planning, realization and operations of an interplanetary mission comprising of tasks like orbit maneuver from Earth-centered orbit to heliocentric trajectory and finally capture into Martian orbit.

On top of all this ISRO's 100th Mission

"The Indian space odyssey crossed a historic landmark on Sunday the 9th Sep, 2012 when the Polar Satellite Launch Vehicle (PSLV-C21) put in orbit **two foreign satellites** built by Europe and Japan. It marked the 100th space mission of the Indian Space Research Organisation (ISRO) which started the journey with sounding rockets experiment at Thumba Equatorial Region followed by launch of its first satellite 'Aryabhata' in 1975.

Besides enriching its technological mastery, ISRO, with its latest launch, has cemented its place in among the space-faring nations as a sought-after commercial launcher.

This launch was witnessed by the Honorable Prime minister of India Dr.Manmohan Singhjee. Subsequent to successful launch Prime minister Addressed the Nation in large and ISRO in particular. In the first paragraph of speech Prime minister stated

Quote

"I am delighted at having witnessed today's launch of India's Polar Satellite Launch Vehicle – C21, carrying two foreign satellites. On behalf of all fellow Indians, I warmly congratulate the Department of Space and all members of the Indian Space Research Organisation fraternity for this spectacular success. As ISRO's 100th space mission, today's launch is a milestone in our nation's space capabilities.

Questions are sometimes asked about whether a poor country like India can afford a space programme and whether the funds spent on space exploration, albeit modest, could be better utilized elsewhere. This misses the point that a nation's state of development is finally a product

of its technological prowess. The founding fathers of our space programme faced a similar dilemma, but they persevered in pursuing their vision. When we look at the enormous societal and national benefits that have been generated in diverse fields, there can be no doubt that they were right. Equally, I have no doubt that ISRO will build on these glorious traditions and scale still greater heights.

The ISRO community has always been a source of inspiration to our country through its quest for the stars. I wish all of you the very best as you continue the journey to push the boundaries of science and technology and reap its benefits for society and for accelerated social and economic development of our great country”.

Unquote

My dear friends what more inspiration and assurance you need to go all out to realize your dreams than this?

Finally I am concluding the address with the following four aspects that you need to focus:

- 1) During the next few decades of your professional life, you will face many challenges both technical and managerial. At the same time, you will have at your disposal, several mind-boggling technological innovations which can bring in drastic changes in the life of common man. Always changes are led by a leader. I hope that each one of you will lead a change that will make a better India.
- 2) By this time, most of you have good jobs in various organizations. However, make sure that you will make use of opportunities. However, make sure that you will make use of opportunities. Be entrepreneurial and have the courage to fail. When you face hurdles, don't get paralyzed. Instead use your conviction and your commitment to gain the strength and overcome the hurdle.
- 3) I have no doubt that each and every one of you will be very successful. However, make sure you don't forget the less fortunate living in our country. We need to bring the full power of the technology and the new wealth created to improve the life of everyone in our country.
- 4) My dear friends, congratulations, it is a dream realized for most of you as well as your parents and teachers. Learning through out the life should be your guiding principle. I am sure that whatever be the field, you are working for, the quality education provided by this esteemed institution will keep you going and make you fly with beautiful colors.

Thank you one and all for your patient hearing Jai Hind