



MEET THE SCIENTIST

IN THE GALAXY OF SCIENCE

HE BELIEVES, THAT SCIENCE WILL BENEFIT WITH THE BOOMING INDIAN ECONOMY AND THINKS THAT ASTROPHYSICS IS THE 'MOST EXCITING ADVENTURE'.

MEET PROFESSOR S S HASAN, DIRECTOR, INDIAN INSTITUTE OF ASTROPHYSICS AND CHAIRMAN, SOLAR PHYSICS DIVISION, AS HE SPEAKS TO PRACHI REGE ABOUT THE RADICAL CHANGES REQUIRED IN THE FIELD

On a breezy Friday afternoon, Professor S S Hassan sits at his desk at TIFR (Tata Institute of Fundamental Research) giving final touches to his speech titled 'Vistas in Astrophysics', scheduled for the next day at the Nehru Science Centre, Mumbai. Professor Hasan gives an elated smile and announces that he is ready for the interview, albeit stealing some glances at his laptop.

"The field of Astrophysics is the study of stars, asteroids and the creation and formation of this whole universe. However, my specialisation involves the Sun, and I, through Indian Institute of Astrophysics, am currently instrumental in building the world's largest solar telescope in the next five years. This telescope will be placed in the Leh-Ladakh region of northern India.

Speaking about whether there is enough research work being performed in this branch of science I would say that research work in Astrophysics is quiet isolated in India. Delhi, Osmania and Aligarh University are just a handful institutes performing research in astrophysics. The primary reason, for the lack of a substantial amount of research work is that not many people opt for this field; and secondly there is also a shortage of high-magnitude optical telescopes

which are expensive.

In order to garner attention towards Astrophysics, I think, we need to spread a broad perception and awareness about Astrophysics at the fundamental level among the people. Astronomy should be added to the curriculum and interactive sessions for students should be encouraged in schools and colleges. Involvement in the curriculum is also important.

We will soon be adopting, a medium level school wherein efforts will be made to create a scientific environment by conducting video shows on astronomy, and showing the current trends in the field, thus making them aware of this branch. This unique step is being taken by Indian Institute of Astrophysics not only to fuel knowledge about astrophysics; but also to build a scientific temperament. The reason we chose a medium level and not an elite or underprivileged school is that an elite school will have the necessary exposure, and a poor school will not have the necessary equipment or temperament.

Hence, we chose a medium level school which will be ready for this experiment.

As for the role of the government, I would say that it can provide monetary support by funding projects, computers and software, optical telescopes etc. I think that a qualitative difference needs to be made in this field. We need a radical change the current provisions made by the government are not upto the mark. Commenting on the

difference in scientific



approach in India and abroad, the younger scientists in India are in awe of the experienced ones. This is because, there is a lack of appreciation from the latter; and I can say this from my experience at University of Oxford, UK where I

pursued my DPhil (Astrophysics). Another problem facing scientists in India is the limit of their

retirement age. Scientists are made to retire at 60 here, when they are in the peak of their research work. Retirement has to be performance based, rather than age-based which is the policy followed in the United States.

Speaking about the attitudinal change towards science, I would say that in the last one decade there has been a first grade improvement in science in our country. Today, I can proudly proclaim that I am building a telescope which was not possible 10 years ago.

As a word of advice for our young scientists, Science has become competitive, and is a slow process of learning and research work. But our strenuous education system, which is well-equipped to train the students to handle pressure, would give them the tenacity. However, I would suggest that aspiring scientists must not stick to only their curriculum knowledge, they should read relevant books extensively, and attend talks by experts at centres of excellence.

Finally, I would say that keeping an open-mind and looking fresh at research without any preconceived notion is the only way to make ones' work successful. Discovery in science is mostly by serendipity."

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