

# Dayananda Sagar University

School of Engineering



*The observational Astronomy & Space science club*

**Hosting department: Physics**

**Faculty in-charge: Dr. Radhika D.**

**Supporting faculties: Prof. Hariharan V. (CSE), Dr. Theodore Chandra (ECE)**

### **Student co-ordinators for the year 2019-2020:**

Overall coordinator: Vyas Mayank (CSE)

4<sup>th</sup> year: Jay Divya Kumar & Namrata Anjanadevi (ECE)

3<sup>rd</sup> year: Vyas Mayanak & Yoganshu Raikhere (CSE)

2<sup>nd</sup> year: U. Hariharan & M. Manish (CSE)

1<sup>st</sup> year: Tanmay Sharma (CSE)

Alumni coordinator: Vittal Mohamed Fayaz (ME)

**Contact us at: [asteria@dsu.edu.in](mailto:asteria@dsu.edu.in)**

### **About the club:**

The Dayananda Sagar University (DSU) students' astronomy club "ASTERIA" was formed as part of the student club activities during the year 2018. The faculty in-charge is Dr. Radhika D. Assistant Professor Department of Physics, and is supported by Prof. Hariharan V. Assistant Professor Department of Computer Science and Engineering (CSE), and Dr. Theodore Chandra Associate Professor Department of Electronics Communication and Engineering (ECE). Prof. Prasad M. of the CSE department was one of the coordinators during his tenure at DSU. The club has 2 student co-ordinators from each year of the B.Tech course, with one of them as the lead. The club activities have received immense support from the DSU management including Chancellor, Pro-Chancellor along-with the board of governors and Vice-Chancellor, Registrar, Dean, Assistant Dean (2018-19), Pro-Vice Chancellor (2019-20) and Chief Financial Officer.

### **Activities of the club**

#### ***Club inauguration and Special invited lectures***

The club was formally inaugurated on 22<sup>nd</sup> September 2018. The event was graced by the presence of eminent ISRO scientists Dr. S. Seetha (Scientific Advisor ISRO-then, Eminent scientist RRI-now) and Dr. V. Girish (Program Manager ISRO), along-with Dr. A. Srinivas Dean-SOE DSU and Dr. Chandra Vaidyanathan who was the then Assistant Dean. The event was attended by Chairmen of various departments along with faculties and more than 150 students of SOE-DSU.

Dr. S. Seetha summarized on the different aspects of studying celestial objects also highlighting the contribution of engineers and scientists in the field. Dr. V. Girish gave an enlightening lecture on the evolution of stars and formation of white dwarfs, neutron stars and black holes.

*Faculties and student volunteers with Dr. S. Seetha and Dr. V. Girish during the inaugural function of ASTERIA*



*Faculties and students with our special guests Dr. S. Seetha & Dr. V. Girish during the inaugural function*



*A few of the student volunteers during the inaugural function*



*Dean-SOE Dr. A. Srinivas and faculty in-charge Dr. Radhika D. along with Dr. S. Seetha (one of our Special guests) during the inaugural function.*



### ***Visit to ISRO – U R Rao Satellite Centre***

Around 50 student club members got an excellent opportunity to visit U R Rao Satellite Centre ISRO Bengaluru on 29<sup>th</sup> October 2018 along with 3 faculties of DSU Dr. Radhika D. (faculty in-charge) and Dr. Yogesh Kalegowda (Department of Physics), Dr. Rajesh T. M. (Department of CSE). The scientists at ISRO enlightened the students about the various activities at ISRO, working of launch vehicles and satellites. The students were also shown the Chandrayaan-2 orbiter, rover and lander which were undergoing final tests at the ISRO lab. Since photography is prohibited at ISRO, the club members could not take any photos during this visit. ASTERIA is thankful to PPEG-URSC and Dr. Lalitha Abraham (Scientist, SAG-URSC) for arranging this visit.

### ***DSU's very own telescope***

As part of the club activities an 8-inch Dobsonian telescope was purchased by DSU. The student co-ordinators were trained to use the telescope under the guidance of Dr. Radhika D. (faculty in-charge), Mr. Nischith B. S. Physics lab instructor and supporting faculties of the club then Prof. Hariharan V. and Dr. Prasad M. of the Department of CSE. The telescope was formally inaugurated by Mr. Rohan Premchandra Sagar (Member Board of Governors) during the evening of 20<sup>th</sup> March 2019 when a “full supermoon” occurred. The event was attended by the Dean, the then Assistant Dean, Director-Research, Chairmen of various departments along with 50 students of SOE DSU. Dr. Radhika D. (faculty in-charge) enlightened everyone about the significance of supermoon and the student co-ordinators helped them to see a detailed view of the surface of Moon using the telescope.



*Inauguration of the telescope by Mr. Rohan Premchandra Sagar in the presence of Dean, faculties & their family members, and students*



*A full moon observed using the DSU-ASTERIA telescope*

***Invited talks, logo design competition and announcement of winner***

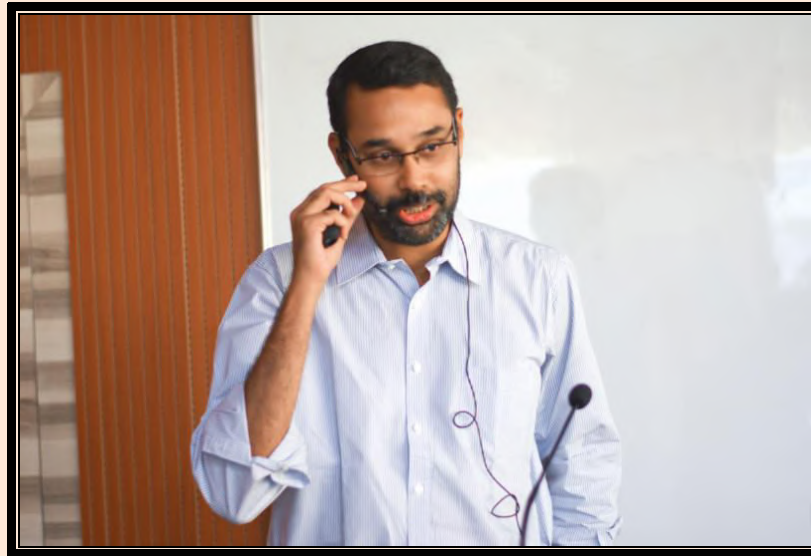
On 14<sup>th</sup> September 2019, two talks were arranged by ASTERIA. The event had the presence of eminent scientist Dr. P. Sreekumar (then Program Director-SSPO ISRO, currently Satish Dhawan Professor ISRO) and Prof. Ajith Parameswaran (Professor ICTS). This event was attended by Dr. Vinod Kumar Agrawal (Director-R&D), Prof. Sanjay Chitnis (the then Director, Innovation labs), Chairmen of various departments along with faculties and more than 150 students of SOE-DSU.

Dr. P. Sreekumar addressed the staff & students on the science of planets and moon and also the different technologies used to study them. He also explained the details of the two “*Chandrayaan*” missions of ISRO along-with significant results obtained about the lunar surface and its composition.



*Dr. P. Sreekumar explaining about Lunar and planetary science*

Prof. Ajith Parameswaran gave an interesting lecture on Gravitational waves. He explained the science of understanding gravitational waves, possible sources which produce them. He also highlighted about the first detection of gravitational waves and the Indian LIGO experiment which is currently being developed.



*Prof. Ajith during his talk on Gravitational waves*



*DSU family listening to the lectures*

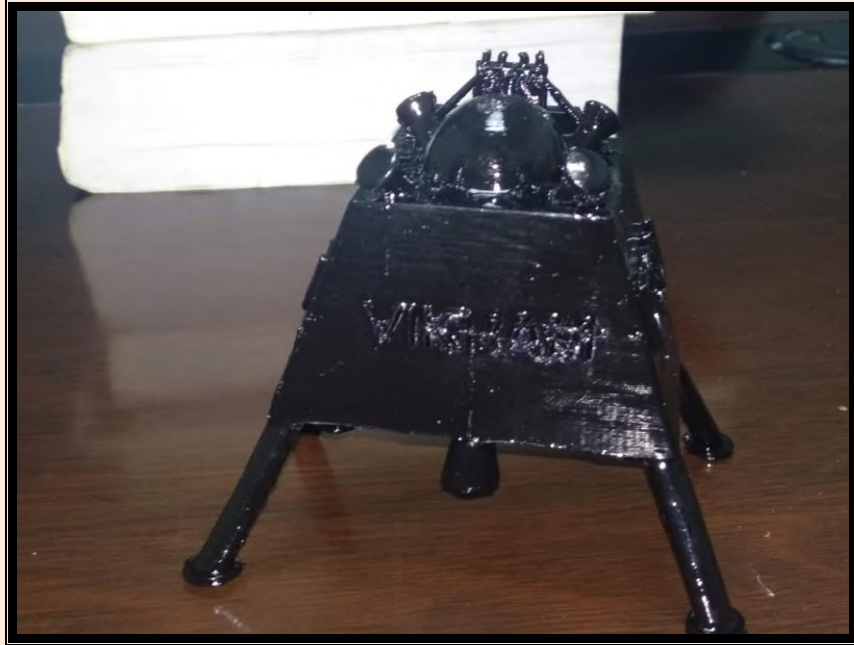


*Our special guests Dr. P. Sreekumar & Prof. Ajith Parameswaran in an interesting conversation with Dr. Vinod Kumar Agrawal (Director R&D)*

During the first week of September 2019, ASTERIA had announced for a logo design competition and enthusiastic students submitted their entries. The winner Mr. Dilip Gowda from 1<sup>st</sup> year Department of Mechanical Engineering was chosen by the faculty in-charge. The winning prize consists of a certificate and a 3D printed model of the “Chandrayaan-2” lander “Vikram” developed by Mr. Vinayak & his team at the Autodesk innovation lab of DSU. The winner was awarded by Dr. P. Sreekumar during the event on 14<sup>th</sup> September 2019.



*The logo winner being awarded by Dr. P. Sreekumar*



*The 3D model of the “Chandrayaan-2” lander “VIKRAM” awarded to the winner*

### ***Visit to IIA-Kavalur Observatory***

ASTERIA got an excellent opportunity when some of our students and staff could visit the Vainu Bappu Observatory at Kavalur Tamil Nadu hosted by the Indian Institute of Astrophysics Bengaluru. Around 12 B.Tech students from 6<sup>th</sup> semester, 2 research scholars from the Physics department under the guidance of 2 male faculties (Dr. Theodore & Prof. Hariharan) and 2 female faculties (Prof. Shubha Javagal & Prof. Sudha Deepthi) visited the observatory during 24<sup>th</sup> – 25<sup>th</sup> February 2020. They were introduced to Optical Astronomy, working of the 2.3 m Vainu Bappu Telescope, and were shown Venus, Orion constellation and Pleiades cluster using their 14-inch telescope. ASTERIA is thankful to Prof. Annapurni Subramaniam Director-IIA for arranging this visit.

ASTERIA is looking forward for more such visits to observatories in the coming years.



*Staff & students at VBO-Kavalur*

ASTERIA has also procured a solar filter so as to make use of it for viewing the Sun especially during an eclipse. Very soon we will be upgrading the telescope lens kit with a 3X Barlow lens for achieving better magnification.