

## Organizer

**Dr. Jaiprakash Dargad**

Principal Dayanand Science College, Latur

## Course Convener

**Prof. Dr. Anil K. Bhatnagar**

University of Hyderabad, Hyderabad-500046

## Course Coordinator

**Shri. R. H. Ladda**

Ex- Principal, Dayanand Science College, Latur



# Science Academies Lecture Workshop on Physics

**March 26-28, 2024**

## Sponsored by

Indian Academy of Sciences, Bengaluru.

Indian National Science Academy, New Delhi.

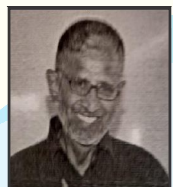
The National Academy of Science, Prayagraj.

## Resource Persons



### Prof. Dr. Anil K. Bhatnagar

FNA, FNASc, FICC, Fellow of IOP(UK)  
(Formerly S. Chandrasekhar Chair Professor, University of Hyderabad),  
(Formerly Vice-Chancellor, Pondicherry University  
School of Physics, University of Hyderabad, Hyderabad  
Email : anilb42@math.tifr.res.in



### Prof. Dr. Avinash Khare

FNA, INSA Honorary Scientist, Savitribai Phule Pune University  
Ex. Professor of Savitribai Phule Pune University,  
Ex. Professor IISER College, Pune,  
Email : avinashkhare45@gmail.com



### Prof. Dr. Shashikala Gangal

Ex. Prof. Emeritus (UGC), Ex. ISRO Chair Professor,  
Ex. HoD, Dept. Of Electronics Science, SPPU, Pune  
Email : sagangal@gmail.com

## Venue

**Seminar Hall**

Dayanand Science College,

Latur Maharashtra - India

[www.dsclatur.org](http://www.dsclatur.org)

Ph : 02382-222149

## Contact

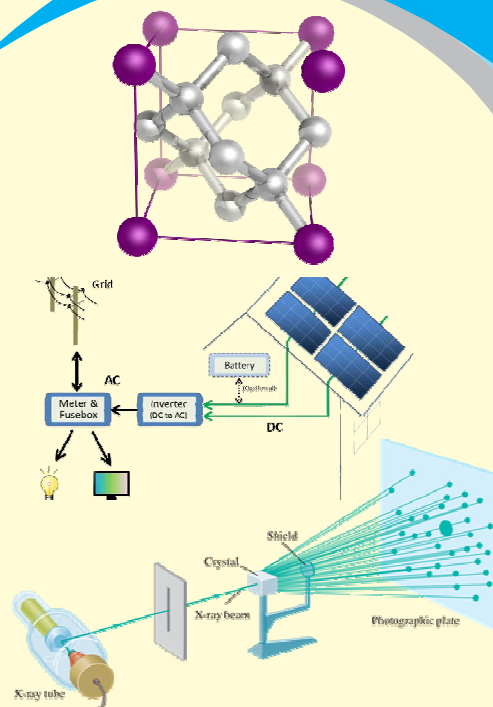
**Dr. T. H. Mujawar**

HoD, Dept of Electronics

Dayanand Science College, Latur

Cell : 9130366590

Email ID : m.tabbsum@gmail.com



❖ Organized by ❖

**Dayanand Science College,  
Latur  
Maharashtra (India)**

### Dear Students,

It gives us immense pleasure to invite you to participate in the Science Academies Lecture Workshop on Physics at Dayanand Science College, Latur. During March 26- 28, 2024. This Lecture workshop will provide an excellent opportunity for B.Sc. Students with Physics as one of the optional subject from various educational institutions of this region. This Lecture workshop interact and learn important topics on Physics and its applications from some of the experts of this subject.

### Objectives,

To Provide an ideal forum for students, teachers and scholars to understand the fundamentals and latest development and innovations in Physics.

To give opportunity to the students to learn about pure physics in more detail and motivate them for higher studies, like Ph.D.

To provide an opportunity for the students and the teachers to interact with the scientists and establish a network with various institutions.

### Invited Applications,

Applications are invited from B.Sc. Students with Physics as one of the optional subject students from the course on Physics. Only 150 Local and outstation students will be permitted for this lecture workshop. A printed copy of the application attached here with, participant can apply to under signed the Head of the institution and should be sent by speed post to: HoD, Electronics Dr. T.H. Mujawar, Dayanand Science College, Latur (Maharashtra), Contact No.9130366590. Last date for receipt of applications: 20 March, 2024. Or Email this copy of application on [m.tabbsum@gmail.com](mailto:m.tabbsum@gmail.com).

### Topics to be covered

**Crystal Structure** : Crystal lattices and translation vectors, unit cells, Basis, Symmetry operations, Point groups, space group, Types of lattices, simple crystal structure (HCP, FCC, BCC, SC)

**X-ray Diffraction** : X-ray diffraction, Bragg's law, Laue's method, Rotating crystal method Powder diffraction method

### Quantum Mechanics

**Schrodinger's Equation** : Introduction, Schrodinger's Equation: Time dependent form, Probability current, Expectation values, Operators, Schrodinger's Equation: Steady state form, Eigen values and eigen functions, Problems.

**Low voltage and High voltage power supplies** : Design, Fabrication and Testing

**Pulse modulated power converters** : Basics, Design and Testing

**Solar power generation** : Basics, Materials used and Fabrication of solar devices.

### About the College :

Dayanand Science College, Latur received First Prize in National Energy Conservation Award-2022 given by Ministry of Power, Bureau of Energy Efficiency of Govt. of India on 14<sup>th</sup> December 2022. The Hon. President of India Smt. Draupadi Murmu has honoured to Principal, Dayanand Science college, Latur at this event in Vigyan Bhavan, New Delhi.

Dayanand science college Latur has undergone through 3rd cycle of NAAC Re-accreditation process in the year 2021-22 and received "A+" grade with CGPA 3.40.

This is unique, first oldest and the finest single faculty college in the region of Marathwada, pursuing excellence in science education with several branches became independent in 1967. The college is not only providing education in basic and applied subjects, but also pays attention to the current innovative approaches towards the higher education. The college has 03 UG programmes (B.Sc., B.C.S., Bio-Tech.), 09 PG programmes (Bio-Technology, Botany, Chemistry, Computer Science, Industrial Chemistry, Mathematics, Microbiology, Physics and Zoology), 03 value added courses and 04 Research centers (Chemistry, Mathematics, Microbiology and Physics). The Research centres have collaboration with scientists of the various countries, such as USA, Korea, Switzerland, Poland, Greece, Malaysia, Romania, Oman, Thailand and Singapore etc. Due to the quality education, the college received various National and International awards and schemes. Our institution received Shahu-Phule-Ambedkar Award by Maharashtra State Government in the year 2012. In 2013, college received DST-FIST recognition. In the year 2014, college received Best College (Urban) Award from SRTM University, Nanded. In the year 2016 college has also been recognized as "College with Potential for Excellence" by UGC, New Delhi. College has received 2 crores grant under Infra-scheme from RUSA (Rastriya Uchchatar Shiksha Abhiyan) in the year 2018. The college is well known about the development of "Latur pattern of Education" in the state of Maharashtra for the meritorious pattern. In last five years college organized 17 Inspire campus 4 refresher courses under the co-ordinatorship of Former Principal R.H. Ladda, College organized 1 International, 14 National, 11 State / Regional conferences and workshops.

### About the Physics Department

The Department of Physics was one of the first independent departments formed in DSCL. It was established in the year 1961. The department has major contribution in the development of the college. Department of Electronics and Department of Computer Science were established under the same umbrella of this department in 1978 and 1999 respectively. The Department of Physics is the prominent department in SRTM University, Nanded for UG, PG and Ph.D. level programs. This department has active research centre which is in collaboration with various National and International research centres. The faculty members of this department have given invited talk in the international conferences in different countries like Switzerland, Dubai, Malaysia & Paris. In the last five years, the department has organized seminars for UG and PG, students. The Department organized 03 National workshop and 01 International E-conference for the faculty & PG & research students. The departmental faculty were presented their research work in various National & International conferences. Department has well equipped research laboratory and PC, Internet and Softwares. The various research guide from different colleges were collaborated and they are working in our research centre. Uptil now, 03 research students from Physics Department have been awarded Ph.D. Degree.

---

**Registration Fees** : Rs. 100/-

**Time Schedule** : 10:00 am to 6.00 pm (Inclusive of Breakfast, tea, Lunch, High Tea)

**Eligibility Criteria** : B.Sc. with Physics as one of the optional subject students.

**Symposium Material** : Notes, Notebook, Study Material, Pen, Certificate.