

Department of Physics

(e-Profile: February 2024)

*Guru Jambheshwar University of Science & Technology,
Hisar (Haryana)*



NAAC `A+' Grade Accredited University since 2002

Graded Autonomous University by UGC-2018

NIRF Ranking 2022: 101-150 Among Universities

ARIIA Ranking 2020: Rank between 6th – 25th Among Govt. and Govt. Aided Universities

TIMES World University Ranking 2022: Among 1001-1200

TIMES World University Ranking 2022: Among 601-800 (Physical Sciences Subject Category)

Contact Us: physics@gjust.org

PHYSICS DEPARTMENT : AT A GLANCE



VISION

To inspire the young students towards understanding and learning the fundamental concepts of Physics and their applications for the development of new technologies in the national interests.

MISSION

The mission of the Department of Physics is to provide strong qualitative and quantitative knowledge along with developing a problem-solving aptitude among the students that may open up a wide range of career choices to them. This also includes continuous refinement of quality research, development of frequently updated research-based innovative curricula and techniques to impart greater visibility to the learner and global recognition of the department.

The department strives to achieve its mission by executing novel research ideas with an emphasis on interdisciplinary and applied research. The faculty members promote the highest ethical principles in scientific research and are open to scientific and technological changes.

IMPORTANT MILESTONES

- ❑ Established in 1996 with the aim to cater the needs of Laser and Optics industry, the Department of Physics is the home of cutting edge research and education at the forefront of Science and Technology with the thrust areas Photonics, Experimental Materials Science, Condensed Matter Physics and High Energy Physics.
- ❑ The Ph.D. program in the department provides vibrant and stimulating environment for research in many branches of physics viz. Photonics, Optical Communication, Nonlinear Optics, Physics of Nano-Materials, Thin Films, Glass & Ceramics, Solar Cells and Renewable Energy, Radiation Physics, Nuclear Physics and Theoretical Physics.
- ❑ A Master's programme in Physics was started with the thrust areas of Laser Technology, Fiber Optics & Optical Communication and Materials Science. Presently, the M.Sc. (Physics) (two years; four semester) programme widely covers the basic and applied concepts for the development of new technologies.
- ❑ B.Sc. (Hons.)-M.Sc. dual degree programme in Physics has been started since 2016 to attract young bright students to inculcate the culture of research and development in the areas of physical sciences with specialization in above mentioned thrust areas.
- ❑ The department has received major research grants under UGC-SAP, DST-FIST and DRDO schemes etc.

MESSAGE FROM CHAIRPERSON

The Department of Physics at Guru Jambheshwar University of Science & Technology, Hisar, offers programs at the Bachelor's, Master's as well as at the Doctoral Research levels. These programs have been designed in such a way that students get flavors of both basic and applied physics. The department is empowered with modern laboratories and has vibrant research environment for conducting high quality programs at all levels. The Department has been actively involved in scientific research in many frontier areas including experimental & theoretical condensed matter physics, Photonics and laser physics, nuclear physics and computational materials science. The department has received major research grants under UGC-SAP, DST-FIST and DRDO schemes. The department encourages various interdisciplinary collaborations with universities and industries in India and abroad. The alumni of the department are well placed in different Government and industrial organizations. Currently, the Department has 11 regular faculty along with 07 contractual faculty, 01 DST-INSPIRE faculty and 01 UGC-Dr. D.S. Kothari Fellow; all the members of teaching staff are highly qualified and dedicated. The number of research publications of the department is 526 in Scopus database with a total of 7037 citations and h-index is 43.



HIGHLIGHTS/ACHIEVEMENTS

Faculty	16 [11Regular (All Ph.D) + 05 Contractual]	
Programs Offered	Integrated B.Sc.(Hons./Hons. with Research)-M.Sc., M.Sc. (Physics), Ph.D.	
Students Strength (Intake)	Integrated B.Sc.(Hons./Hons. with Research)-M.Sc. : 50+5 M.Sc. (Physics) : 50+5	Ph.D. Ongoing - 75 Ph.D. Completed – 72
Research Publications	Total No. of Publications - 526 Total Citations – 7037 h-Index – 43	In Last 5 Years - 304 In Last 5 Years - 5757
Research Projects	Total Projects : 55 (6+49) In Last 5 Years : 21 (2+19)	Total Funding Received: Rs. 10.6994 Crores In Last 5 Years : 2.458 Crores
Major Research Facilities	XRD, TGA/DTA, IAVDC, SEM, UV-Vis-NIR, Nd-YAG Lasers, DSOs, Impedance Analyzers, ME&PE Setups, Vacuum Coating Units, LCR Meters, Planetary Ball Mill, Optical Polishing Machine, Electric and Microwave furnaces Dell and Tyron Computer Workstations, VASP, WIEN2k, Mathematica etc.	
Infrastructure Facilities	Rooms with ICT facility: 8 (LH – 5, Smart Classroom – 1, CR – 1, CPL – 1) Teaching Labs – 12; Research labs – 11; Synthesis Lab – 01; Optical Workshop – 01	

FACULTY

Faculty

Sr. No.	Name	Designation	Year Joined	Highest Degree	Experience		No. of Publications				Specialization/ Area of Research
					Teaching	Research	Books	National Journals	International Journals	Seminars/ Conferences	
1.	Dr. Devendra Mohan	Professor	1997	Ph.D.	35	34	1	5	115	80	Lasers and Photonics
2.	Dr. (Mrs.) Sujata Sanghi	Professor	1996	Ph.D.	26	29	---	10	140	120	Laser Spectroscopy and Materials Science
3.	Dr. Ashish Agarwal	Professor & Chairperson	1996	Ph.D.	28	26	---	16	185	136	Materials Science & Optoelectronics
4.	Dr. Rajender Singh Kundu	Professor	2005	Ph.D.	17	20	---	---	80	102	Materials Science
5.	Dr. (Mrs.) Neetu Ahlawat	Professor	2005	Ph.D.	18	16	---	---	74	60	Materials Science

Faculty

Sr. No.	Name	Designation	Year Joined	Highest Degree	Experience		No. of publications				Specialization/ Area of Research
					Teaching	Research	Books	National Journals	International Journals	Seminars/ Conferences	
6.	Dr. David Joseph	Assistant Professor	2006	Ph.D.	16	27	---	5	4	10	Laser Spectroscopy & Non Linear Optics
7.	Dr. Ramesh Kumar Bibiyan	Assistant Professor	2016	Ph.D.	10	12	---	---	28	40	Theoretical Condensed Matter Physics
8.	Dr. Hardev S. Saini	Assistant Professor	2016	Ph.D., Post Doc.	9	13	---	---	61	34	DFT based condensed matter physics/ computational materials science, Nano-materials
9.	Dr. Ravi Bhatia	Assistant Professor	2017	Ph.D.	7	11	01	---	46	05	Experimental Condensed Matter Physics, Nano Materials
10.	Dr. Ranjeet	Assistant Professor	2017	Ph.D.	8	12	---	7	20	10	Nuclear Physics, High Energy Physics
11.	Dr. Vivek Gupta	Assistant Professor	2017	Ph.D.	8	8	---	---	12	2	Materials Science

Faculty

Sr. No.	Name	Designation	Year Joined	Highest Degree	Experience		No. of publications				Specialization/ Area of Research
					Teaching	Research	Books	National Journals	International Journals	Seminars/ Conferences	
12.	Dr. Balwinder Singh	Assistant Prof. (contractual)	2018	Ph.D.	5	8	---	2	11	6	Radiation Physics
13.	Mr. Anoop	Assistant Prof. (contractual)	2018	M.Sc. (NET)	5	2	---	---	---	2	Materials Science
14.	Dr. Sahil Saini	Assistant Prof. (contractual)	2019	Ph.D.	5	8	---	---	8	10	Cosmology
15.	Dr. Jogender Singh	Assistant Prof. (contractual)	2019	Ph.D.	5	6	---	---	10	10	Materials Science
16.	Ms. Aarti	Assistant Prof. (contractual)	2019	M.Sc. (NET)	4	---	---	---	---	---	Materials Science

BRIEF FACULTY PROFILE



Dr. Devendra Mohan
Professor & Former Dean
(Faculty of Physical Sciences)

Prof Devendra Mohan is the faculty in the Department of Physics at Guru Jambheshwar University of Science and Technology, Hisar, Haryana. He has been the Chairperson of the Department for around ten year and has served as Dean of Faculty of Physical Sciences and Technology and has been on various bodies of the university, like University court, academic council, finance committee and so on.. He received his Master's in Physics and Doctoral degree in 'Lasers and Photonics' from Maharishi Dayanand University, Rohtak, Haryana. Presently he is working in the area of Lasers and Nonlinear Optics. He has published around 115 numbers of publications in Journals of National and International repute and has attended more than 60 national and international conferences/workshops. He has been mentor to the Research students at Yangon University, Myanmar. He has visited the various international laboratories at ICTP-Italy, NUS- Singapore, and Herriot Watt University - Scotland. He has guided around 20 number of research scholars for their PhD degree and eight are in process. He has completed around 10 numbers of projects including DRDO wherein he worked on optical limiting behavior of Chalcogenide glasses.



Dr. Sujata Sanghi
Professor

Prof. Sujata Sanghi is the founder faculty of the Department of Physics, Guru Jambheshwar University of Science & Technology, Hisar since September 1996. She completed her M.Sc. M.Phil. (Gold Medal), Ph.D in Physics (Nonlinear Optics and Spectroscopy) from Maharshi Dayanand University, Rohtak during 1987-1996. Her current research interests are focused on Synthesis, Structural, Electrical and Optical properties of heavy metal based oxide glasses; Rare-earth doped glasses (Laser material); Oxide glasses as nonlinear optical materials; Synthesis, electrical and magnetic properties of multiferroics and multiferroic composites; Impedance spectroscopy of glasses/ceramics. She has published more than 150 research articles in SCI journals with over 3624 citations, h-index 37 and i10 index 85 (SCOPUS). She has attended and presented research work in more than 25 national and international conferences/workshops including invited talks/chaired sessions. She has presented her work in International conferences at Kyoto (Japan), NUS (Singapore), Budapest (Hungary). She has successfully undertaken 08 research projects from various funding agencies (UGC, AICTE, DST, CSIR). She has supervised 04 students for M.Phil degree, 12 students for Ph.D. degree and around 09 students are in process. She is Reviewer for various international journals of repute. She has actively organized (As Convener/Co-convener/Secretary) a number of National/International Conferences/Workshops of repute. She has acted as Programme Coordinator, NSS for more than three years and brought laurels to the University through NSS volunteers by organizing Blood Donation Camps, National Integration Camp, State Camp, Awareness Camps, Pre Republic Day Parade Camps etc.



Dr. Ashish Agarwal
Professor & Chairperson
(Department of Physics),
Director, IQAC (GJUST)

Dr. Ashish Agarwal presently working as Professor in the Department of Physics, Guru Jambheshwar University of Science & Technology, Hisar , Haryana , India is one of the founder faculty of the department since 1996. He completed his M.Sc. (Gold Medal), M.Phil., Ph.D. in Physics from Maharshi Dayanand University, Rohtak. His research interest includes Hydro-electric Cell, Crystal structure of polycrystalline materials, Electrical and Optical properties of Oxide glasses, Rare earth/Transition Metal doped glasses; Synthesis and characterization of glass metal nanocomposites, nano-ferrites, oxide ceramics and multiferroics/composites. Prof Agarwal was honored with BOYSCAST fellowship of DST, New Delhi, Govt. of India for carrying out research at University of Essex, UK during 2005-06. He has published about 201 research articles in international journals (SCI journals). At present h-index is 35, i10 index is 114 with more than 3796 citations (Google Scholar). He has presented more than 30 research papers (including Invited talks) at national/international conferences/workshops including at Parma (Italy), Kyoto (Japan), NUS (Singapore), Budapest (Hungary). He has handled more than 8 research projects funded by UGC, AICTE, DST, CSIR etc. Under his guidance 15 students have been awarded Ph.D. degree and 06 students are pursuing. He is a reviewer for many international journals of repute. He is also Director, Internal Quality Assurance Cell at GJUST, Hisar.



Dr. Rajender Kundu
Professor

Prof. Rajender Kundu has more than 27 years of teaching experience to his credit in the field of Physics in various institutions. He joined this university as Assistant Professor in 2005 in Department of Physics. He was appointed as Associate Professor in 2014 and since 2017 he is giving his services as Professor. He has published more than 80 research papers in International Journals of repute and has published more than 100 papers in International/National Conferences/Workshops. His 10 research students have been awarded Ph.D. degree and 07 research students are under progress to complete their research work under his guidance. He has completed 05 research projects. The field of his current research interest is synthesis and characterization of oxide glasses, Glass ceramics, perovskite ceramics and their applications. He has been associated as Reviewer of more than 10 reputed International Journals. He has visited University of Marburg, Marburg, Germany and Singapore for training and research purposes. He has experience to organize workshop/conferences and has also chaired technical sessions in National Conferences. He has taught different courses at B.Tech. M.Tech., M.Sc. and Pre-PhD. Level. Besides Teaching and research activities, he have been part of other academic activities in the university as well as in others institutions in different capacities.



Dr. Neetu Ahlawat
Professor

Prof. Neetu Ahlawat's field of specialization is Materials Science and research work relates to investigation and synthesis of some novel high dielectric constant/high temperature ceramic materials having useful properties for technological application. The changes in structural, electric, dielectric and ferroelectric properties of as prepared ceramics are studied to explore their suitability for various ceramic capacitors applications. The outcomes of study have been published with 74 research papers on my credit in various Journals of Repute. More than 60 research papers have been presented in various International/National Conferences till date. Presently, the H-index of her research publications is 22 as per Scopus and Google Scholars. I got opportunity to present our University at International level with oral presentation of my research work at the University of Toronto, Canada in July, 2014 and in IUMRS-ICA -2016, Singapore on 4th -8 th July 2016. I am also active as Reviewer for many Journals on Science Direct viz. JALCOM, JAP and Reviewer of DAE-SSPS 2015. I have life membership of Materials Research Society of India (MRSI) and Life Member of Electron Microscope Society of India (EMSI). The sum of Approx. 28 Lacs from different funding agencies (AICTE, New Delhi, and UGC, New Delhi) has been received to carry Major/minor Research Projects as Principal Investigator. Eight of my research scholars have been awarded their Ph.D. Degree under my guidance and five more are registered now. On account of University Governance, I have been acting as Incharge Cyber Lab and Deputy Chief Warden/Co-ordinator/Warden of Girls Hostel-III and served as members of various committees in the University.



Dr. David Joseph
Assistant Professor

Dr. David Joseph is incharge of LASER Spectroscopy and Non-Linear Optics Laboratory

Education: M.SC. and Ph.D. Banaras Hindu University-Varanasi (Laser Light scattering from Bio systems)

Post Doctoral work: Indian Institute of Technology, Kanpur (IIT-K) 1997 to 2006 Topics: Non Linear Optics, High resolution spectroscopy, femtosecond Physics

Post Doc II : Manipal academy of Higher Education (MAHE) ,Centre for laser spectroscopy: 2006 May to 2006 October: Topics: laser Induced florescence of tissues and Silva for Oral cancer diagnostics

Lecturer: GJUS&T, From October 2006





Dr. Ramesh Kumar
Assistant Professor

Dr. Ramesh Kumar received his PhD in Physics from Kurukshetra University, Kurukshetra in 2014. He joined as assistant professor in Department of Physics, Guru Jambheshwar University of Science and Technology, Hisar in 2016. His research area are CIGS Solar Cell, Perovskite Solar Cell, Nanomaterials, Topological and Thermoelectric Materials.

I work in the field of theoretical condensed matter physics and my core area of research is the simulation and modelling of materials using density functional theory (WIEN2k, SIESTA, Quantum Espresso), AFORS-HET, SCAPS and MATLAB software for energy applications. I completed UGC-Startup project entitle “Simulation and Modelling of Chalcopyrites: promising Materials for Solar Cells”. My current research interests pertain to the investigation of new electrons-holes transporting materials and active layer materials in CIGS and perovskite materials based solar cells. I also study the effect of doping on the electronic properties of absorber materials using DFT. I am presently working on the establishment of graphene as charge transport layers in photovoltaic cells. The use of graphene is highly desired in solar cells as it enhances the performance and stability of the device. I am also working on the simulation of topological materials for spintronics and nanomaterials for thermoelectric applications.



Dr. Hardev S. Saini
Assistant Professor

Academic Contributions

Dr. Hardev S. Saini is a distinguished physicist whose academic journey has been marked by significant achievements and contributions to the field of Theoretical Condensed Matter Physics. He earned his Ph.D. degree from the Department of Physics at Kurukshetra University, Kurukshetra, Haryana, India and further expanded his horizons by receiving the prestigious Dr. D.S. Kothari Post-Doctoral Fellowship, which led him to complete his post-doctoral research at the Department of Physics, Panjab University, Chandigarh.

Research Area:

His research interests encompass DFT-Based Spintronic Materials, Heusler Alloys and Topological Insulators, Electrode Materials for Energy Storage, Novel Semiconducting Compounds, etc. As the leader of a dedicated research group, Dr. Hardev and his team focus on investigating the Electronic, Magnetic, Optical, and Thermal properties of materials, both in bulk and low-dimensional systems.

Scientific Contributions

Dr. Hardev's remarkable dedication to advancing knowledge is reflected in his extensive scientific contributions. He has authored more than 60 research papers in esteemed journals, each contributing valuable insights to the scientific community.



Dr. Ravi Bhatia
Assistant Professor

Dr. Ravi Bhatia joined the Department of Physics, GJUST in May 2017. He was awarded with prestigious INSPIRE Faculty Award by DST, New Delhi in 2015; he worked as INSPIRE Faculty at Panjab University from Nov 2015 to May 2017. During 2012-2015, he worked as a Postdoctoral Fellow at INST Mohali; Sungkyunkwan University (QS Ranking 99), South Korea and National University of Singapore (QS Ranking 11), Singapore. He earned his doctorate degree from Department of Physics, Indian Institute of Science, Bangalore in June 2012. During PhD tenure (2007-2012); he worked on the low temperature charge transport and magnetic properties of iron-filled multiwall carbon nanotube (MWCNT), and MWCNT-based composite systems. He has published more than 46 scientific articles in reputed Scientific International Journals [Nano Energy (I.F.=17.88), Carbon (I.F.=10.9), Journal of Energy Storage (I.F.=8.90), Applied Physics Letters, Journal of Applied Physics, JPCM etc.) with over 1130 citations and an h-index of 17. His current research interests are focused on growth, physical properties and applications of novel low dimensional materials.



Dr. Vivek Gupta
Assistant Professor

Dr. Vivek Gupta is the faculty in the Department of Physics at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, since 2017.

- **Ph.D. from Himachal Pradesh University on the topic ‘temperature robust active vibration control using piezoelectric sensors and actuators’**

Research Areas:

- **Silicon Solar Cells (Simulations, Fabrication, Characterization)**
- **Thermoelectric Materials (Simulations, Fabrication, Characterization)**
- **Smart Piezoelectric Structures (Active Vibration Control, Vibration Energy Harvesting)**
- **Chemical and Bio-Sensors**
- **Conducting Polymers**



Dr. Ranjeet
Assistant Professor

Dr. Ranjeet did his B.Sc., M.Sc. (Physics) & Ph.D from University of Delhi with title “Performance Characteristics of Si Sensors at Collider Experiments”. He was a member of the CMS Experiment (CERN) and RD-50 groups. He worked for the Phase-II upgrade of CMS Tracker (CERN Lab, Geneva) and new detector designs (Low Gain Avalanche Detector, CMOS sensor, Avalanche Photodiode with various groups). He published and presented research works in many international conferences (including as an invited speaker in VERTEX-2014 conference held in Prague, Czech Republic). He also worked on the fusion, fission and elastic scattering experiments in the Inter-University Accelerator Center (IUAC) Delhi and have extensive experience of working with the various detectors used in the nuclear reaction experiments (Solid as well as Gas Detectors) and experimental techniques. Currently, working on the development of a new approach for the nuclear structure based on the short ranged correlated nucleons (Initial results were presented in Nucleus-2019, Dubna, Russia and INPC-2019, Glasgow, UK). He is member of PANDORA collaboration since 2021. He has published 46 research papers



Dr. Anuj (PhD)

**UGC Dr. D.S. Kothari
Post Doctoral Fellow**

Dr. Anuj has expertise in material science, and membrane and sensor-based research work. Currently, his focus area is nanomaterial based sensors.

Publications:

Number of publications: 10

Conference/Symposium: 10

Patents: 1

Book Chapters: 2



Dr. Balwinder Singh (PhD)

Assistant Professor (contract)

Radiation Physics

Publications: 12

Seminars & Conferences: 10



Mr. Anoop (MSc-NET)

Assistant Professor (contract)

Materials Science



Dr. Sahil Saini (PhD)

Assistant Professor (Contract)

Cosmology

Publications: 8

Seminars & Conferences: 10



Dr. Jogender Singh (PhD)
Assistant Professor (contract)
Materials Science
Publications: 10
Seminars & Conferences: 10



Ms. Aarti (MSc-NET)
Assistant Professor (Contract)
Materials Science

Faculty in University Administration

- **Prof. Ashish Aggarwal**
 - Chairperson, Department of Physics
 - Director, IQA Cell
- **Prof. Sujata Sanghi**
 - Chief Warden (Girls)
 - Local Coordinator, GIAN
- **Dr. Hardev S. Saini**
 - Warden, Boys Hostel – 2
 - Deputy Director, University Informatics and Grievance cell (UIGC)
- **Dr. Vivek Gupta**
 - Warden, Boys Hostel – 2
 - SWAYAM Coordinator

Superannuated Faculty

- ❑ **Prof. Nawal Kishore (2001-2014)**
- ❑ **Prof. Rakesh Dhar (2006-2020)**
- ❑ **Prof. Sneh Lata Goyal (2004-2020)**
- ❑ **Prof. Ajay Shankar (2006-2022)**

Former Faculty

- ❑ **Prof. B B Tiwari (Optical Engg)**
- ❑ **Dr. Praveen Aghamkar**
- ❑ **Dr. Sib Krishnan Ghoshal**
- ❑ **Dr. Jaipal Hooda**
- ❑ **Dr. Rajesh Punia**
- ❑ **Er. Sardul Singh Dhayal (Optical Engg)**
- ❑ **Er. Vanita Chauhan (Optical Engg)**
- ❑ **Prof. Sunita Srivastava**
- ❑ **Dr. Sameera Ivatury, DST INSPIRE Faculty**

SUPPORTING STAFF

Sr. No	Name	Qualification	Designation	Appointment
1	Khushi Ram	M.Sc. (IT)	T.A G.R-1	Regular
2	Sushil Kumar	B.A., PGDCA	Lab Tech.	Regular
3	Sanjay Sharma	MMC	Clerk	Regular
4	Devender*	B.A.	Clerk	Contract
5	Kiran	B.A. (Maths)	Lab Attendant	Regular
6	Ram Mahar	MMC	Lab Attendant	Regular
7	Sunil Kumar	MMC	Lab Attendant	Regular
8	Sunil Duhan	MMC	Lab Attendant	Regular
9	Parmod Kumar	10+2	Lab Attendant	Regular
10	Sanjay Vashishtha	MBA, MA, PGDCBM, Diploma in HIV-AIDS and Lab Technician	Lab Attendant	Regular
11	Mohit Gulati*	MMC	Lab Attendant	Contract
12	Mukesh*	B.A., D.Ed.	Lab Attendant	Contract
13	Mohit Napa*	BMC	Lab Attendant	Contract
14	Jagbir Singh	Matric	Peon	Regular
15	Lilu Ram*	10+2	Peon	Contract

*On Contract

FACILITIES

SALIENT FEATURES

- Spacious classrooms and labs
- Wi-Fi on all floors
- Departmental Library



Infrastructure

S.No.	Infrastructure Facility in the Department	
1	Internet facilities for staff and students	Free WIFI/Internet facility available for staff and students
2	Rooms with Computers and ICT facility	8
3	Total number of class rooms	6
4	Teaching Laboratories	12
5	Research Laboratories	11
6	Optical Workshop	1
7	Synthesis Lab	1



Seminar Hall/Smart Classroom



Committee Room



Computational Physics Lab



Classroom with WiFi

PROGRAMMES OFFERED

Ph.D. (Physics)

**M.Sc. (Physics) – 2 years,
Semester System**

**Integrated
B.Sc.(Hons./Hons. with
Research)-M.Sc.
Physics – 5 years,
Semester System**

The Doctorate Programme: Ph.D. (Physics)

The Department of Physics provides vibrant and stimulating environment for PhD research work in many branches of physics. The main areas of research are Photonics, Materials Science, Experimental and Theoretical Condensed Matter Physics and Nuclear physics. The Ph.D. program offers direct admission to the NET-JRF/GATE qualified students and also to limited number of others students through entrance examination conducted by the University. The program is flexible and student centred, facilitated by joint supervision wherever desired by the student according to need and interest that enables the students to achieve research excellence. PhD supervisors have strong publication record and have interest in tackling research problems in innovative ways.

Research Highlights

- ❑ The research environment of the department is conducive, vibrant and intensive.
- ❑ The thrust areas include:
 - ❑ Materials Science, Thin films and Nano- materials,
 - ❑ Lasers and Photonics, Non- linear optics
 - ❑ Theoretical and Experimental Condensed Matter Physics,
 - ❑ Nuclear Physics,
 - ❑ Sensors and Solar cells among others.
- ❑ Department receives funding from various prestigious funding institutions such as UGC, DST, DAE, AICTE, DRDO and CSIR under various sanctioned projects.
- ❑ The Department regularly organizes various national and international conferences focusing on specific areas of research

Major Research Facilities

- Nd:YAG Lasers (2)
- Monochromator with A/D converter and PMT
- Ar ion Laser
- Table Top X-Ray Diffractometer
- TA Simultaneous Thermal Analyser including DSC/TGA
- Nova-control Impedance Analyser
- Ion Assisted vacuum deposition coating plant
- Table-top Scanning Electron Microscope
- Ellipsometer
- UV-Vis-NIR spectrophotometer
- High Temperature Programmable furnaces (5)
- Keithley Source meter (3)
- Hioki LCR Meter
- Keithley Electrometer

Contd.....

Major Research Facilities

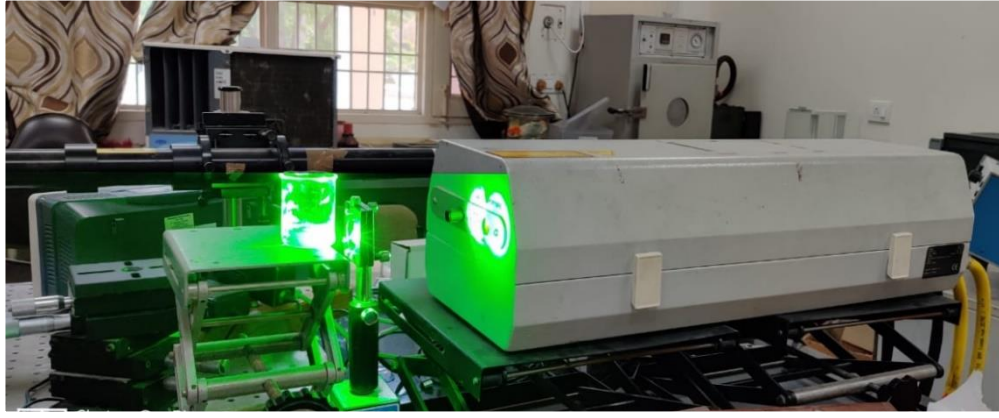
- ME Coupling Measurement system
- Quadtech LCR meter
- Microwave Furnaces (2)
- PE loop tracer
- Planetary Ball Mill
- Probe sonicator
- Weighing balances
- N4L Impedance Gain –Phase analyser
- Vacuum cryostat and high vacuum coating unit (2)
- DC Magnetron Sputtering Unit
- Digital Storage Oscilloscopes
- Optical Polishing machines (2)
- Dell Server (2)
- Tyron Server
- Vasp, WIEN2K and Mathematica software



ION ASSISTED VACUUM COATING PLANT



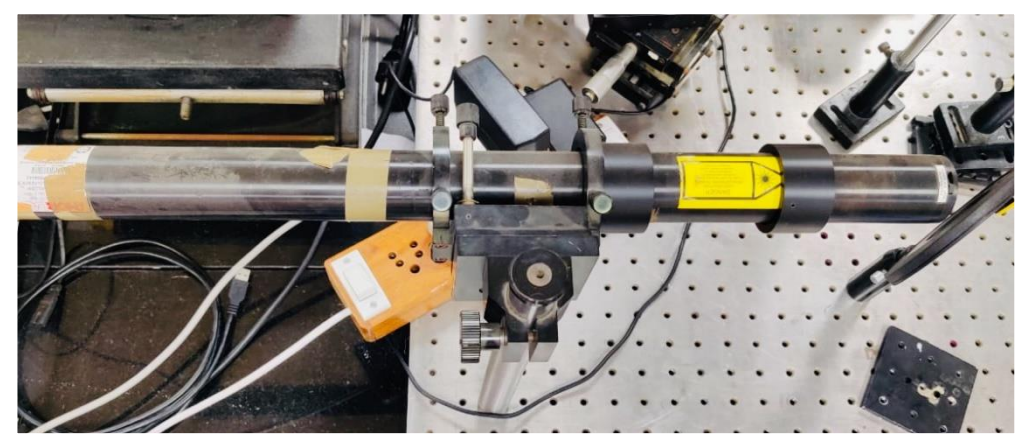
IMPEDANCE ANALYZER



Nd-YAG LASER



1500 nm IR LASER



He-Ne LASER



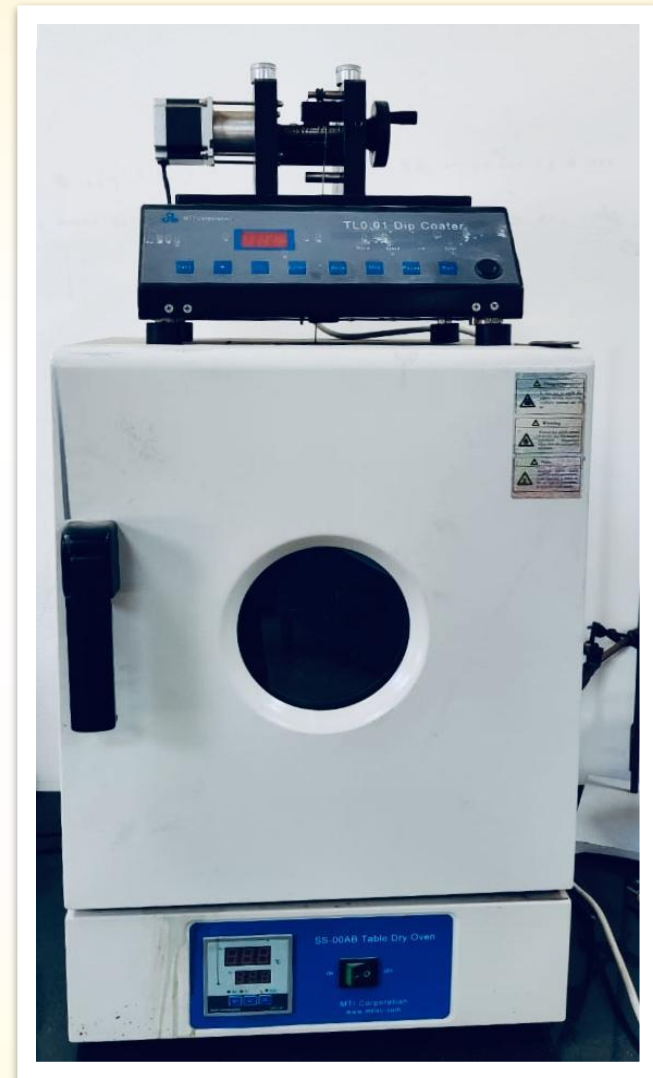
**RIGAKU MINIFLEX-II
X-RAY DIFFRACTOMETER**

IMPEDANCE ANALYZER





**DC MAGNETRON
SPUTTERING**



DIP COATER



CENTRIFUGE



PELLET PRESS



SPIN COATER



TGA/DTA/DSC

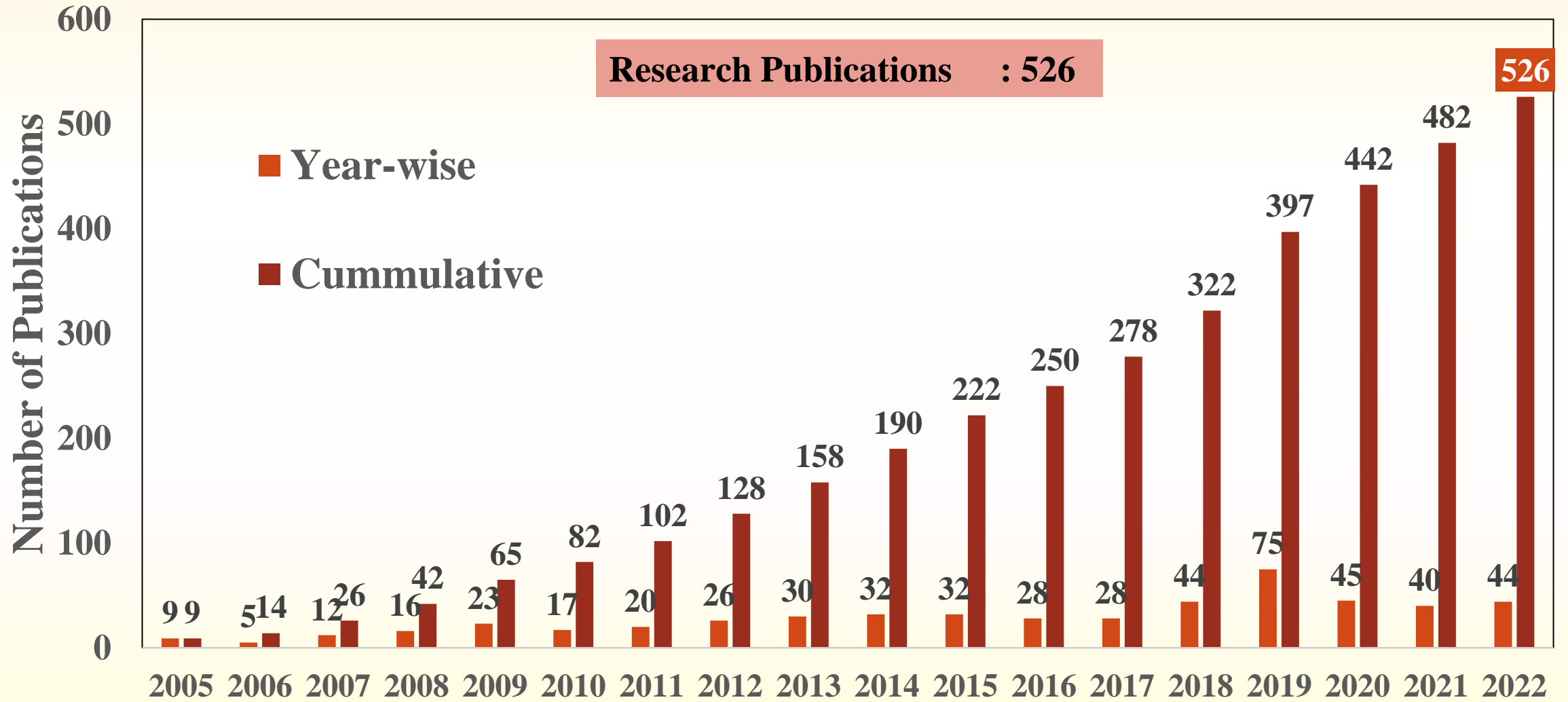


THERMAL VACUUM COATING UNIT

Research Outcomes

- ❑ **PhDs graduates** : **76**
- ❑ **PhD Scholars (Registered)** : **75**
- ❑ **Research Publications** : **526**
(Scopus data-base till today)
- ❑ **Total citations** : **7037**
- ❑ **h-Index** : **43**

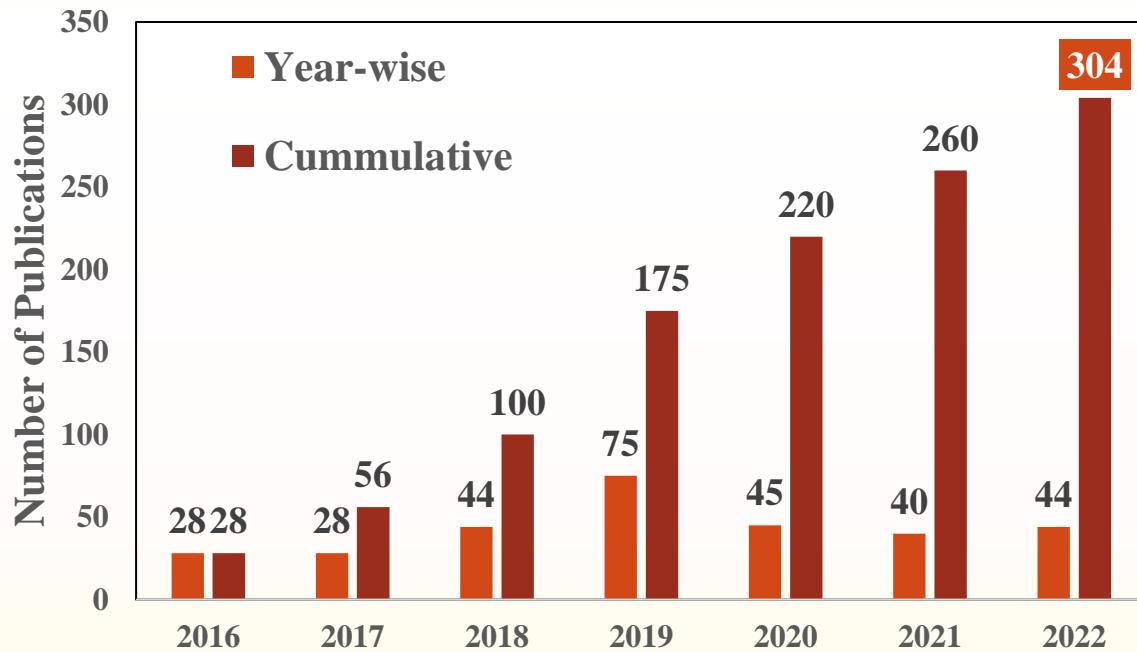
Total Research Publications at Scopus



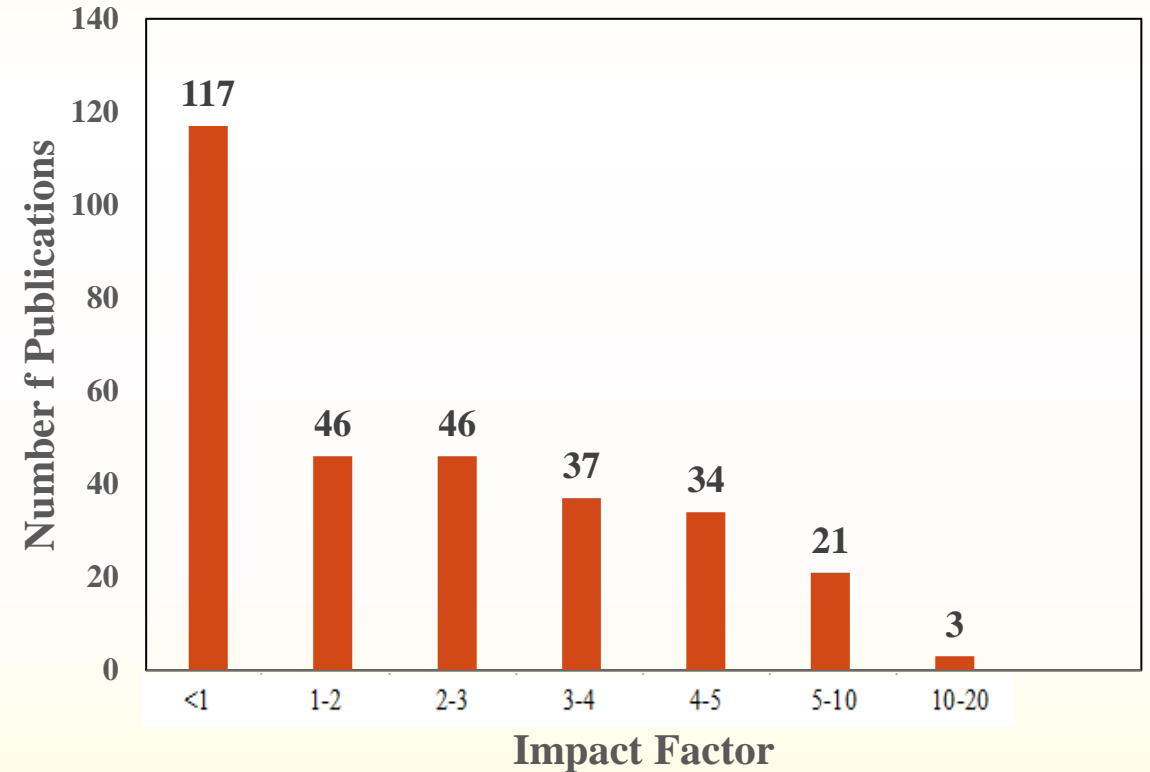
Publication Profile

(Last 5 Years)

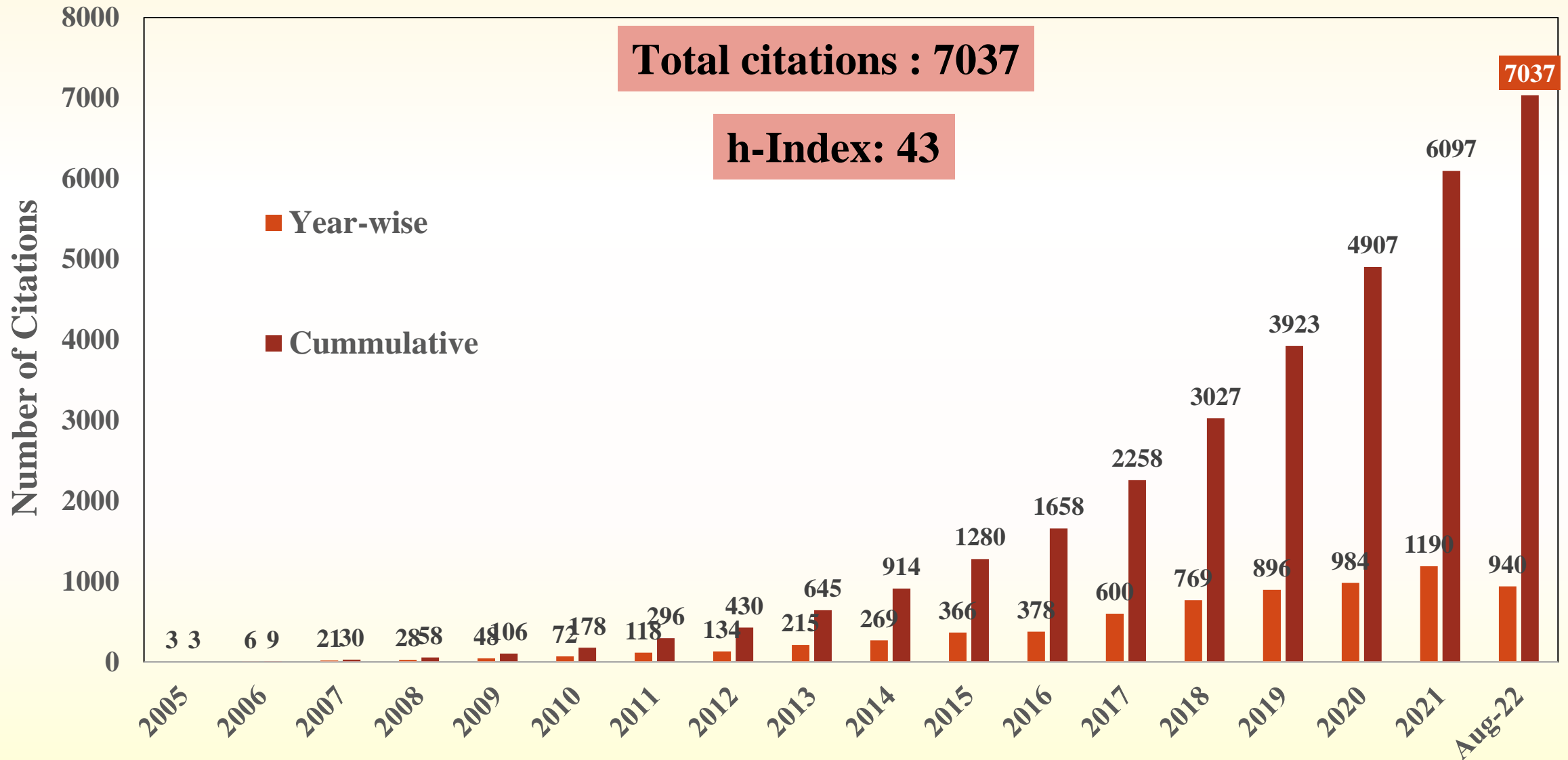
Year-wise Research Publications at Scopus



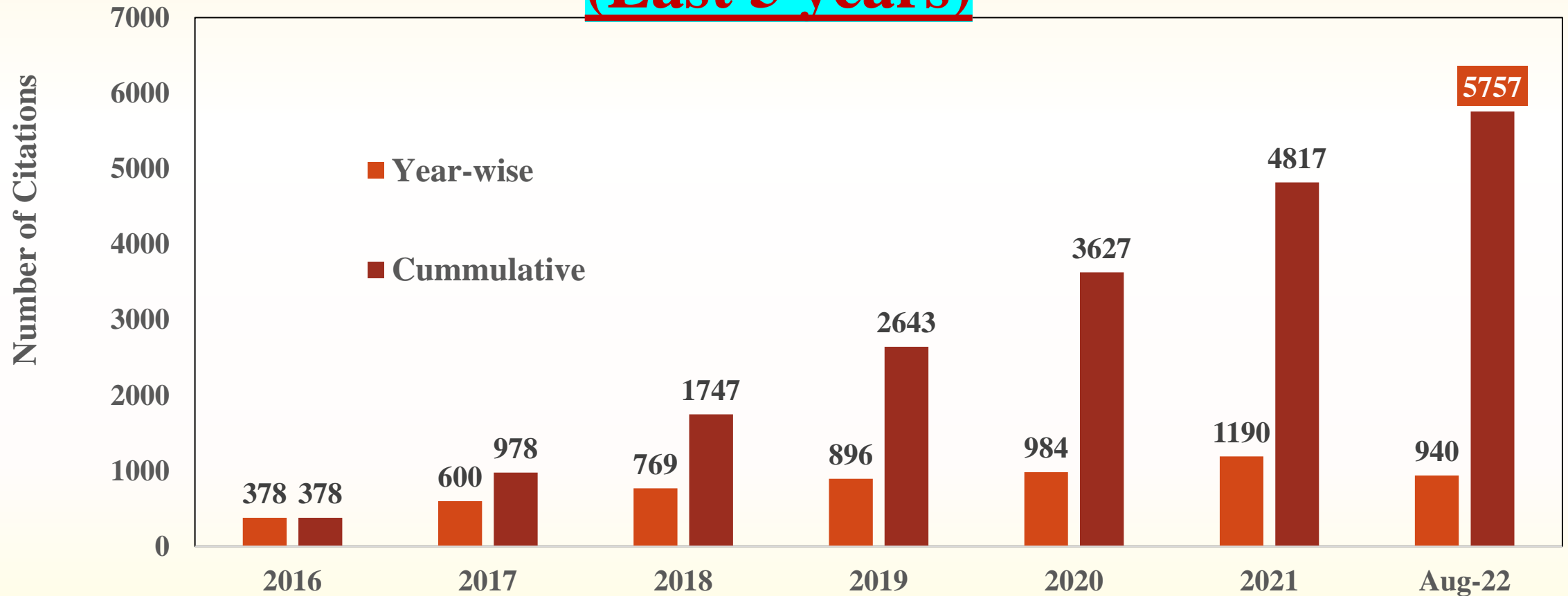
Impact Factor of Publications



Total Citations at Scopus



Year-wise citations at Scopus (Last 5 years)



RESEARCH PROJECTS

funded by

DST-FIST, UGC- SAP/CAS, DRDO, DST-PURSE, AICTE, UGC, CSIR,
BRNS etc

**Number of
Research Projects**

**Total:
55 (6+49)**

**Last 5 years:
21 (2+19)**

**Funding
Received**

**Total:
Rs. 10.6994 Crores**

**Last 5 years:
Rs. 2.458 Crores**

Research Projects at Departmental Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount
1	DST-FIST For setting up of Non-Linear Optics Lab & Simulation Lab	5 Years (2001-06)	DST, New Delhi	Rs. 20.80 lacs
2	DST-FIST For setting up of Materials Science Lab	5 Years (2006-11)	DST, New Delhi	Rs. 35.00 lacs
3	UGC-SAP For setting up of Photonics and Material Science lab (Stage 1)	5 Years (2007-12)	UGC, New Delhi	Rs.22.75 lacs
4	Development and Characterization of Optical Materials & Photonics Systems	3 Years (2007-10)	DRDO, New Delhi	Rs. 498.00 lacs
5	UGC-SAP For setting up of Photonics and Material Science lab (Stage 2)	5 Years (2013-18)	UGC, New Delhi	Rs.20.00 lacs
6	DST-FIST For setting up of Materials Science and Computational Lab	5 Years (2017-22)	DST, New Delhi	Rs. 95.00 lacs

Research Projects Undertaken at Individual Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount	Name of PI/Co-I
1.	Development and Optimization of transparent conducting oxide thin films for photovoltaic applications	June 22, 2017- June 2020	DST-PURSE	Rs. 3.20 Lakhs	Dr. Devendra Mohan
2.	Realisation Of Optical Limiting And Switching In Photonic Materials	May 1, 2016 – April 2018	DRDO-IRDE-CARS	Rs.10.0 Lakh	Dr. Devendra Mohan
3.	Optical Limiting And Degenerate Four Mixing In Nonlinear Optical Materials Using Lasers	Oct. 2011 – March 2015	BRNS-DAE	Rs. 19.0 lakhs	Dr. Devendra Mohan
4.	Ion Beam Modifications Of Dye Sensitized Solar Cells	Nov. 2011- Oct.2014	UGC- IUAC, Delhi	Rs. 6.50 lakhs	Dr. Devendra Mohan
5.	Study Of Optical Power Limiting And Bistability In Materials Based On Sol Gel Technique	Feb. 2009- June 2012)	UGC, New Delhi	Rs. 10.0 lakhs	Dr. Devendra Mohan/Prof R D Singh
6.	Study of Laser Induced Photo-physical Parameters in Sol –Gel Derived Laser Grade Dyes	Sept.2004- Aug.2007	DST, New Delhi	Rs. 10.0 Lakhs	Devendra Mohan
7.	Development and Study of Optical materials based on sol Gel Technique	July 2003- June 2006	UGC, New Delhi	Rs. 5.0 lakhs	Prof RD Singh / Dr. Devendra Mohan
8.	Laser Induced Fluorescence on Green Plants	Dec.2001- November 2002	UGC unassigned grant	Rs. 0.5 lakhs	Dr. Devendra Mohan
9.	Study of Fluorescence Quenching in Optical Materials Using He-Ne Laser	April 1998- March 1999	UGC unassigned grant	Rs. 0.5 Lakhs	Dr. Devendra Mohan
10.	Study of Electronic & Optical Properties of Ion-Irradiated Semi-Conductors	3 years (1999-2002)	NSC-UGC	Rs. 0.30 lakhs	Dr. Nawal Kishore
11.	Photorefractive Phase Conjugation in Compound Semiconductors	3 Years (2001-2004)	UGC, New Delhi	Rs. 1.00 Lakhs	Dr. Praveen Aghamkar

Research Projects Undertaken at Individual Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount (In Lacs)	Name of PI/Co-I
12.	Investigation of crystal structure, dielectric and magnetic properties of Ho doped BiFeO ₃ multiferroics	3 years (2018-2020, Ongoing)	DST, PURSE, New Delhi	Rs. 3.20	Dr. Sujata Sanghi
13.	Study of crystal structure dielectric and magnetic properties of Tb and Ho-doped BiFeO ₃ based function multiferroic	2 years (2017-2019)	DST, PURSE, New Delhi	Rs. 1.6	Dr. Sujata Sanghi
14.	Study of Phase Transition and Magneto-electric coupling properties of modified Multiferroics	3 Years (2013-16)	UGC, New Delhi	Rs. 10.8	Dr. Ashish Agarwal
15.	Investigation of crystal structure, dielectric and magnetic properties of rare earth/ transition metal doped BiFeO ₃ multiferroics	3 Years (2012-15)	DST, New Delhi	Rs.13.50	Dr. Ashish Agarwal/ Dr. Sujata Sanghi
16.	Development and characterization of heavy metal oxide glasses as photonic materials	3 Years (2008-11)	CSIR, New Delhi	Rs.10.40	Dr. Sujata Sanghi/ Dr. Ashish Agarwal
17.	Structure, dielectric behavior and impedance spectroscopy of mixed transition metal/alkali oxide glasses	3 Years (2008-11)	UGC, New Delhi	Rs.9.83	Dr. Sujata Sanghi/ Dr. Ashish Agarwal
18.	Fabrication & characterization of glass-metal nanocomposites	2 Years (2007-09)	AICTE, New Delhi	Rs.6.50	Dr. Sujata Sanghi/ Dr. Ashish Agarwal
19.	Electron paramagnetic resonance, electrical and optical properties of oxide glasses (F.10-22/2004(SR))	3 years (2004-07)	UGC, New Delhi,	Rs. 6.06	Prof. V. P. Seth/ Prof. N. Kishore/ Dr. Ashish Agarwal
20.	Electronic and optical properties of modified semiconducting materials (F.10-15/2003(SR))	3 years (2003-06)	UGC, New Delhi,	Rs. 5.34	Prof. N. Kishore/ Dr. Ashish Agarwal
21.	Studies of the structure and semi-conducting behaviour of the oxide glasses F. 10-44/2001 (SR)	3 Years (2001-04)	UGC, New Delhi	Rs. 3.285	Dr. Sujata Sanghi/ Dr. Ashish Agarwal
22.	Laser-induced nonlinear processes in optical materials (HR/SY/P-01/96)	2 years (1996-98)	DST, New Delhi (Young Scientist Project)	Rs. 0.50	Dr. Sujata Sanghi

Research Projects Undertaken at Individual Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount	Name of PI/Co-I
23.	Theoretical Simulation of Induced Activity and Production Cross-section of Radio Nuclides in Neutron and Charged Particle Induced Reactions	2010- 2015	DAE-BRNS BARC, Mumbai	Rs. 19,47,640/-	Dr. Sneha Lata Goyal
24.	Study of Thermal, Electrical & Structural Properties of Conducting Polymers	2012-2015	UGC, New Delhi	Rs. 12,59,600/-	Dr. Sneha Lata Goyal
25.	Synthesis & Characterization of Conducting Polymers	One Year (2010-11)	UGC unassigned grant	Rs. 30,000/-	Dr. Sneha Lata Goyal
26.	To Evaluate the various thin film formulations for applications in control of Biofouling	2012-15	UGC, New Delhi	Rs. 12.0 lacs	Dr Rakesh Dhar/Dr Rajesh Thakur
27.	Investigation on fiber Machzender interferometer (MZI) measurement sensors	2017-2019	DST-PURSE	Rs. 1.0 lacs	Dr. Ajay Shankar
28.	Development and characterization of Optical Materials for Photonics Systems and Devices	3 Years (2008-11)	DRDO (IRDE)	Rs. 4.98 Crores	Dr. Rajender Kundu (Co-I)
29.	Synthesis and Characterization 3 years of Nano composites/Micro Crystallites based glass	3 Years (2009-12)	DRDO, New Delhi	Rs. 14.91 lacs	Dr. Rajender Kundu
30.	Studies on base line radioactivity 3 years in environment matrices around Nuclear power plant site in Haryana	5 Years (2009-2014)	DAE-BRNS	Rs. 16.05 lacs	Dr. Rajender Kundu (Co-I)
31.	Synthesis & Characterization of Heavy Metal oxide based glasses	3 Years (2012 -15)	UGC, New Delhi	Rs. 14.28 lacs	Dr. Rajender Kundu
32.	Synthesis and Characterization of Tellurite based glasses	1 Year 2016	UGC, New Delhi	Rs. 0.60 Lacs	Dr. Rajender Kundu
33.	Synthesis and characterization of oxide glasses for IR applications	1 Year 2020	GJUST, Hisar	Rs. 0.60 Lacs	Dr. Rajender Kundu

Research Projects Undertaken at Individual Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount	Name of PI/Co-I
34.	Synthesis and characterization of modified lead free ABO ₃ provskite ceramics	2019-2021	DST-PURSE	Rs. 3.60 Lacs	Dr. Neetu Ahlawat
35.	Synthesis and characterization of modified lead free ABO ₂ provskite ceramics	2017-2019	DST-PURSE	Rs. 1.20 Lacs	Dr. Neetu Ahlawat
36.	Ferroelectric and Dielectric Properties of Lead Free Ceramics	2012-14	AICTE, Delhi	Rs. 9.0 lacs	Dr. Neetu Ahlawat
37.	Microwave Synthesis of Ferroelectric Ceramics and their Characterization	2012-15	UGC, New Delhi	Rs. 14.078 lacs	Dr. Neetu Ahlawat
38.	Synthesis & Characterization of modified BZT ceramics	2019	GJUS&T, Hisar	Rs. 0.6 lacs	Dr. Neetu Ahlawat
39.	Synthesis and Characterization of Bismuth based Oxide Glasses	1 year	GJUS&T, Hisar	Rs. 0.40 Lacs	Dr. Rajesh Punia
40.	Nonlinear Optical Properties of Heavy Metal Oxide Doped Glasses	1 year	GJUS&T, Hisar	Rs. 1.00 Lacs	Dr. Rajesh Punia
41.	Rn/Th and Gamma-Radiation Levels Quantification in Four Districts of Haryana (Sirsa, Fatehabad, Hisar and Bhiwani) India	3 year	BRNS, Mumbai	Rs. 35.287 Lacs	Dr. Rajesh Punia
42.	Scattering matrix determination from SLS experiment	2017-2019	DST-PURSE	Rs. 1.7 lacs	Dr. David Joseph
43.	Simulation and Modelling of Chalcopyrites: Promising Materials for Solar Cells	2017-2019	UGC, New Delhi	10.0 Lacs	Dr Ramesh Kumar

Research Projects Undertaken at Individual Level

Sr. No.	Title of the project	Duration	Funding Agency	Amount	Name of PI/Co-I
44.	Band gap engineering of binary and ternary DMS compounds to tune magnetic response for Spintronics devices	2017-2019	UGC, New Delhi	Rs. 10,000,00/-	Dr. Hardev Singh
45.	Structural, Electronic and Thermoelectric properties of Topological materials	2019-20	GJUS&T, Hisar	Rs. 1,01000/-	Dr. Hardev Singh
46.	Growth of two dimensional layered nanomaterials for their possible applications in Nano-electronic and Energy harvesting devices	2015-2020	DST, New Delhi	Rs. 35.0 Lacs	Dr. Ravi Bhatia
47.	Light and Vibration Energy Harvesting	2018-19	GJUS&T, Hisar	Rs. 0.80 Lacs	Dr. Vivek Gupta
48.	Development of a nuclear structure model based on short ranged correlations of the nucleons	One Year (2019-2020)	GJUST, Hisar, India	Rs. 0.80 Lacs	Dr. Ranjeet
49.	Synthesis of TMDs and their Heterostructures for their Possible Applications in FETs, Photo detectors and Solar Cells	2018-2023	DST, New delhi	Rs. 35.0 Lacs	Dr. NVSP Sameera Ivaturi

Memorandum of Understanding

- ❑ **CEERI Pilani:** This MoU is made between Guru Jambheshwar University of Science & Technology, Hisar (India) and CSIR-CEERI, Pilani (Rajasthan) to promote and accelerate programme of research and training in the field of mutual interest in the Department of Physics. **Completed.**
- ❑ **IRDE Dehradun:** This MoU is made between Guru Jambheshwar University of Science & Technology, Hisar (India) and Instruments Research & Development Establishment (IRDE), Dehradun (Uttarakhand) to promote and accelerate programme of research and training in the field of mutual interest in the Department of Physics. **Completed**
- ❑ **UTM Malaysia:** This MoU is made between Guru Jambheshwar University of Science & Technology, Hisar (India) and Universiti Teknologi Malaysia (Malaysia) to promote and accelerate programme of research and training in the field of mutual interest in the Department of Physics under the faculty of Physical Sciences and Technology.

Conferences/Workshops/Webinars Organized by the Department

2021

- ❑ Webinar on “Open and Real, Strategic Life Discussion” by Director, Nonclinical Safety Data Science at Janssen, Johnson and Johnson, USA, June 15, 2021 **(Online)**. **(180 Participants)**
- ❑ Popular Talk on ‘Innovation@Intersection of Science and Humanities’ by Director, Raman Science Center and Planetarium, Nagpur, Maharashtra, June 04, 2021 **(Online)** **(150 Participants)**

2020

- ❑ AICTE Training and Learning (ATAL) Academy Programme on “Photonics”, November 2-6, 2020 **(Online)**. **(100 Participants)**
- ❑ Two days National Webinar on “Advances in Physics”, June 25-26, 2020 **(Online)**. **(120 Participants)**

2019

- ❑ Two-days Workshop on Calibration and Standardization, November 15-16, 2019 **(200 Participants)**

2018

- ❑ 63rd DAE-Solid State Physics Symposium, December 18-22, 2018. **(1000 participants)**
- ❑ 1st DST INSPIRE (Innovation in Science Pursuit for Inspire Research) Internship Camp, July 25-29, 2018. **(200 participants)** **(200 participants)**

2017

- ❑ 41st Optical Society of India (OSI), International Conference in advanced optics and Photonics, November 23-26, 2017. **(400 participants)**
- ❑ National Workshop on Laser Techniques, March 02-03, 2017 . **(130 participants)**

Conferences/Workshops/Webinars Organized by the Department

2015

- ❑ **3rd National Conference on Photonics & Materials Science organized by Department of Physics, Hisar, Haryana, November 18-19, 2015**

2014

- ❑ **2nd National Conference on Photonics & Materials Science (Ncpms-2014) on March 20-21, 2014.**

2011

- ❑ **One-day Workshop on 'Trends in Optical Coatings for Head-up-Display and High Damage Threshold' on June 27, 2011.**

2009

- ❑ **One day IUAC Acquaintance Programme on Accelerator Based Science and Technology, October 23, 2009.**

2008

- ❑ **1st National Conference on Photonics & Materials Science (NCPMS-2008) October 24-25, 2008.**

2002

- ❑ **National Symposium on Frontiers in condensed Matter Physics (NSFCMP-02) March 22-23, 2002.**



Faculty Development Programme
on
“Recent Advances in Photonics
and Communications”
November 2–6, 2020
under
(AICTE Training And Learning Program)
(Online Mode)

Programme Coordinator
Prof. Devendra Mohan



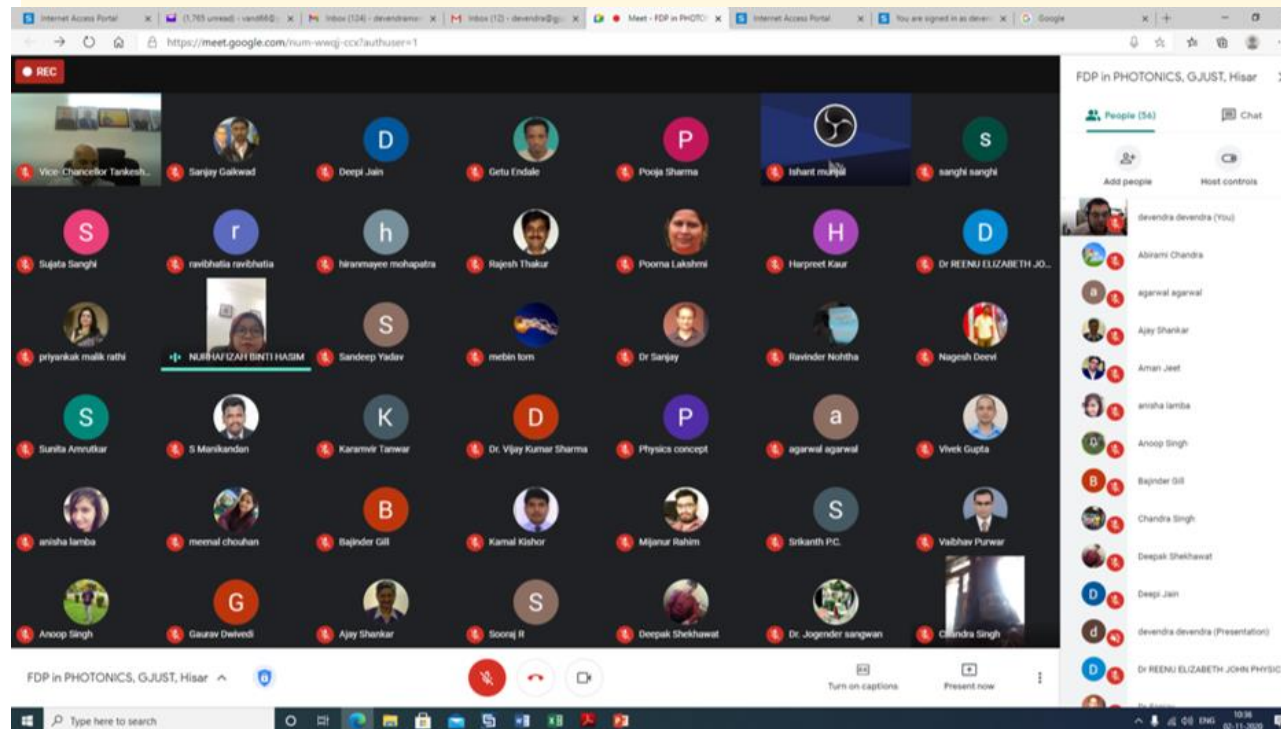
Organized by

Department of Physics
Guru Jambheshwar University of
Science and Technology, Hisar-125001
(Haryana)

Mobile: +91-9416893273
Mail ID: vand66@yahoo.com

Registration Link

<https://www.aicte-india.org/atal>



**AICTE Training and Learning
(ATAL) Academy Programme on
“Photonics”, November 2-6, 2020**



**Webinar on “Open and Real,
Strategic Life Discussion” -
June 15, 2021**

63rd DAE-Solid State Physics Symposium - December 18-22, 2018

Chief Guest: Dr. S. Banerjee, Former Chairman, Atomic Energy Commission, GoI



**1st DST INSPIRE
(Innovation in
Science Pursuit for
Inspire Research)
Internship Camp,
July 25-29, 2018.**



International Conference in Advanced Optics and Photonics - November 23-26, 2017

Chief Guest: Dr Benjamin Lionel, Director, IRDE Dehradun.



Prominent Speakers:

- **Padmashri Prof. R S Sirohi, Former Director, IITM.**
- **Dr A K Gupta, President, OSI**
- **Prof. Kehar Singh, Tech.Chair**
- **Prof LN Hazra, University of Calcutta**
- **Prof Kallol Bhattacharya, Kolkatta**

Departmental Visits by Distinguished Guests



**Prof. K K Aggarwal, Chairman,
National Board of Accreditation (NBA)**



**Prof. Tankeshwar Kumar, Vice Chancellor,
Central University of Haryana**

The Masters Programme: M.Sc. Physics

The Department offers M.Sc. Physics programme which caters to the needs of application oriented world. The programme comprises of Condensed Matter Physics, Materials Science and Laser Physics that forms a major tool for studying ceramics, polymers, ferrites, glass, biomolecules, nonlinear optical materials etc. Photonics and Optical Communication are also recurring themes of the present course. The course on computational physics enables the students for computer simulations in research. Optional courses on Physics of Nano-Materials, Spectroscopy, and Radiation Physics are being offered to the students so that they can pursue career in their preferred field of interest. Laboratories are equipped with the modern experimental set up. Optional one semester project work is included in the curriculum for M.Sc. Physics students. The course has been designed as per UGC Learning Outcome Based Curriculum Framework.

❓ **No. of Seats* in M.Sc. (Physics): 50+2+1+1+1**

*No. of seats + (i) Two supernumerary seats for Single Girl Child of Haryana + (ii) One supernumerary seat for north-eastern candidate/ward of deceased of COVID-19 + (iii) One supernumerary seat for children (son/daughter) of permanent University Employees of GJUS&T, Hisar and (iv) one supernumerary seat for Kashmiri Migrants

❓ **Duration: 2 years** (Semester System)

❓ **Eligibility For Admissions:** B.Sc.(Hons.) in Physics with at least 50% marks (pass marks for SC candidates of Haryana) **OR** B.Sc. with at least 50% marks in aggregate with Physics as one of the subjects in each Semester/ Year of B.Sc. degree (pass marks for SC candidates of Haryana).

❓ For Details see **UNIVERSITY PROSPECTUS 2023-24** for admission to Postgraduate (PG) Programmes

Postgraduate Laboratory

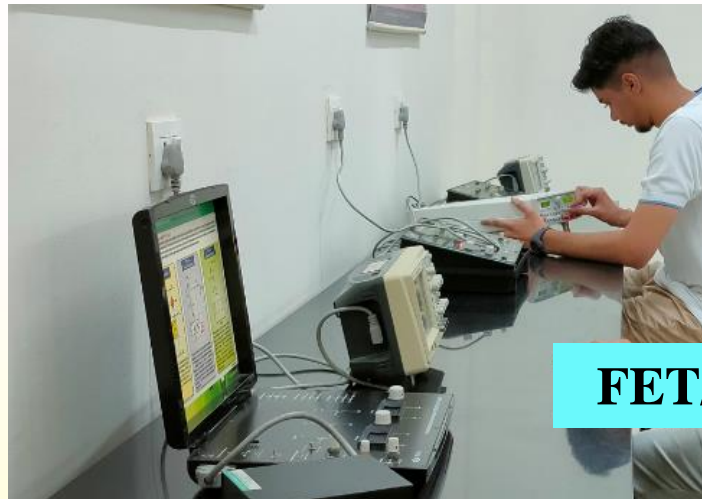
General Physics Experiments



Photonics Lab

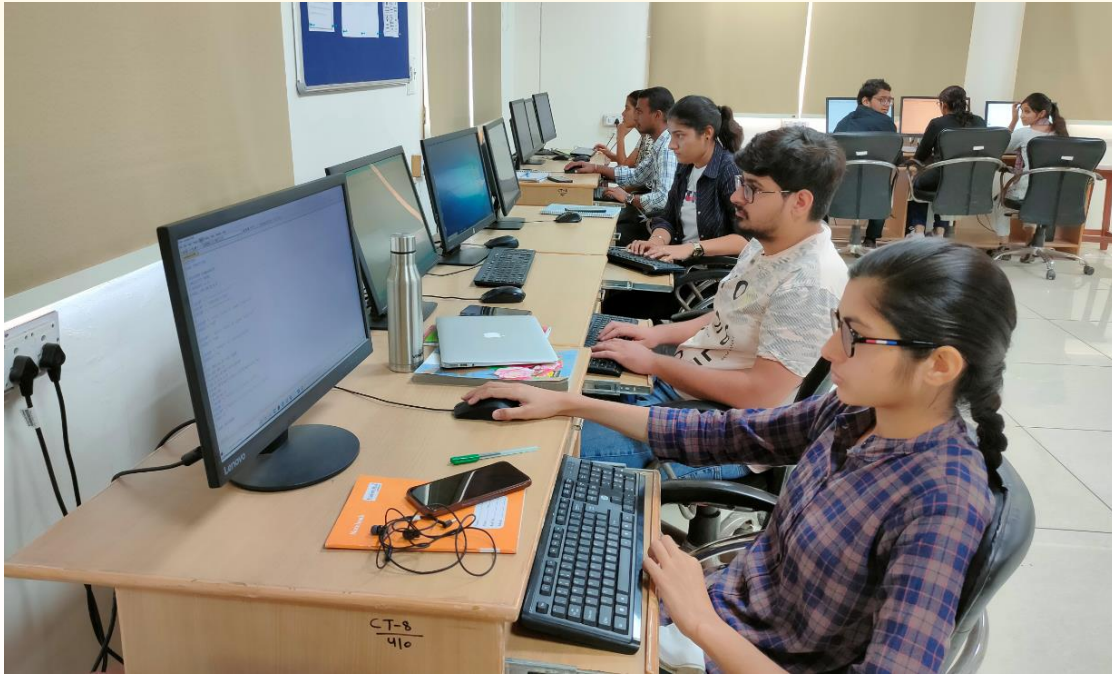


Materials Science Lab



FET/MOSFET

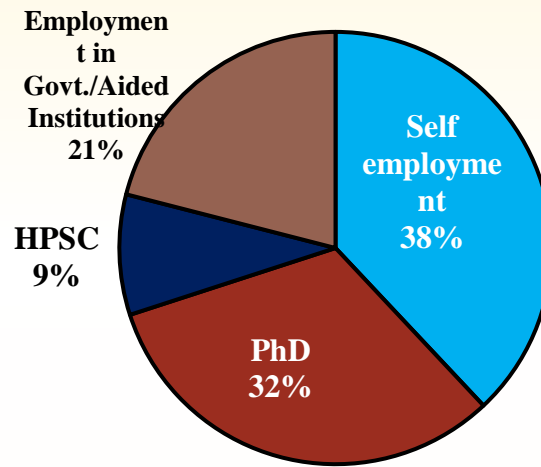
Computer Laboratory



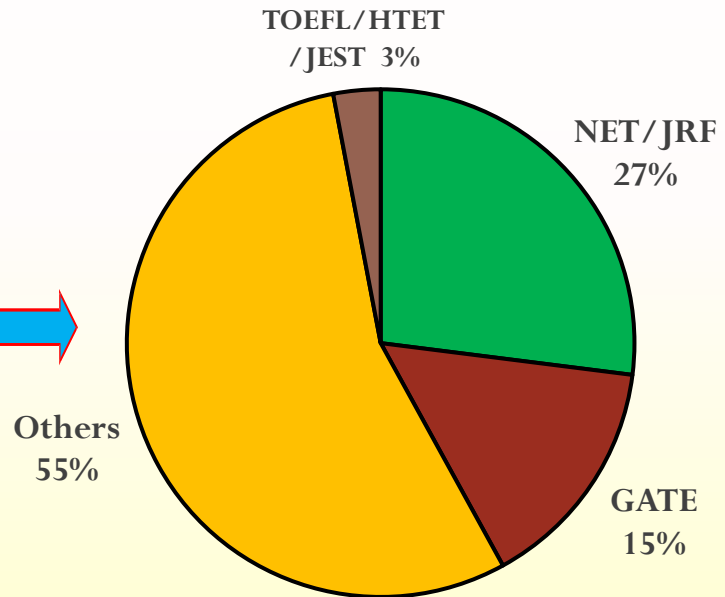
**Facilities:
FORTRAN
MATLAB
ORIGIN
VASP etc.**

During last 5 years (Cumulative)

After M.Sc.



Competitive Exams qualified by M.Sc. graduates



NET/JRF-	55
GATE-	30
TOEFL/HTE T/JEST	06
OTHERS	111

Integrated B.Sc.(Hons./Hons. with Research)-M.Sc. Physics Programme

The Department had started a Dual degree B.Sc. (Hons.) Physics - M.Sc. Physics programme from the session 2016-17 and has changed the nomenclature to integrated B.Sc. (Hons/Hons. with Research) – M.Sc. Physics programme (5 years, semester system) as per National Education Policy 2020 with effect from academic session 2023-24 to attract young bright students to inculcate the culture of research and development in the areas of physical sciences. The scheme and syllabi of the programme is designed with an aim to produce a skilled manpower for conducting high impact research in the academic & industrial organizations, including national research laboratories. Students passing out this 5 years programme are expected to serve as scientists at national research laboratories. The key feature of this programme is that the courses are taught on Choice Based Credit System as per the UGC module for CBCS system and specializations are offered in Materials Science, Photonics, Condensed Matter Physics and Nuclear Physics. One semester minor project is an essential component of curriculum for students. Optional one semester Major Project work has been introduced in this course to provide research platform to enter in various scientific laboratories. The programme has been designed as per UGC Learning Outcome Based Curriculum Framework.

- ❓ **No. of Seats*** in Integrated B.Sc.(Hons./Hons. with Research)-M.Sc. Physics Programme: 50+2+1+1+1
*No. of seats + (i) Two supernumerary seats for Single Girl Child of Haryana + (ii) One supernumerary seat for north-eastern candidate/ward of deceased of COVID-19 + (iii) One supernumerary seat for children (son/daughter) of permanent University Employees of GJUS&T, Hisar and (iv) one supernumerary seat for Kashmiri Migrants
- ❓ **Duration: 5 years** (Semester System)
- ❓ **Eligibility For Admissions:** The candidate(s) should have passed 10+2 examinations in Science discipline with at least 60% marks (57% for SC candidates of Haryana) in aggregate of Physics, Chemistry and Mathematics subjects of the qualifying examinations from a recognized Board/ University.
- ❓ For Details see **UNIVERSITY PROSPECTUS 2023-24** for admission to Undergraduate(UG) Programmes.

Undergraduate Laboratory



Bar Pendulum



Electronics Experiments



Thermal Conductivity Exp.



Ballistic Galvanometer

Undergraduate Laboratory



Hall Effect Exp.

Analog Communication



Scintillation Counter

Electronics Exp.



B.Sc. 3rd Year Lab

Physics Courses in B.Tech Programme

The various B.Tech programme running at GJUS&T, Hisar, are having Physics as one of the Basic Science Course in their first year. Teaching physics to the B.Tech students is also being catered by the faculty of the Physics Department. Earlier there was independent faculty in the respective B.Tech departments to teach physics at the Undergraduate level with two theory papers in the First year of the programme. Later in 2004, the physics faculty teaching Undergraduate students was merged to the department of physics and since then the faculty of the department is teaching physics courses in the B.Tech. Programme also.

Up to 2018 there were two physics papers for all B.Tech programmes, but now options for different papers to different streams are being provided following model curriculum suggested by AICTE along with fine tuning by the university to suit specific needs of engineering discipline. At present four different courses are taught for different streams of B.Tech programmes. Also laboratory assignments are being provided to course specific now instead of common experiments to all B.Tech courses. Improvement in physics laboratory has been planned to give engineering FIRST feel of technology through Applied Physics.

Contd...

Scheme (First year)

Common to all branches of UG Engineering & Technology

Semester I

Sr. No.	Category	Course Code		Course Title
		Theory	Practical	
1	Basic Science Courses	BSC101(I)-T	BSC101(I)-P	Physics: Introduction to Electromagnetic Theory (Group A: Mechanical Engineering, Agricultural Engineering, Aeronautical Engineering, Automobile Engineering)
		BSC101(IV)-T	BSC101(IV)-P	Physics: Oscillation, Waves and Optics (Group A : Electrical Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Printing Technology, Packaging Technology)

Group	Disciplines
A	Electronics and Communication Engineering Electrical Engineering Electrical and Electronics Engineering Printing Technology Packaging Technology Printing and Packaging technology Mechanical Engineering Agricultural Engineering Aeronautical Engineering Automobile Engineering
B	Computer Science and Engineering Information Technology Biomedical Engineering Food technology Civil Engineering

Semester II

Sr. No.	Category	Course Code		Course Title
		Theory	Practical	
1	Basic Science Courses	BSC101(II)-T	BSC101(II)-P	Physics: Introduction to Mechanics (Group B: Civil Engineering, Food Technology)
		BSC101(V)-T	BSC101(V)-P	Physics: Semiconductor Physics (Group B: Computer Science and Engineering, Information Technology)

Physics Association Activities

- ❑ Along with the course curriculum, the extension/special lectures, workshops, interaction with industry persons and academic visits of the students are other important activities of the department to strengthen students' knowledge.
- ❑ The dynamic and vibrant ambiance of the department is further enriched by round the year activities of Physics Association of the department.
- ❑ In the series of academic events, recently, Physics association organised :
 1. Webinar on “Role of Physics in the global response to Covid 19” on June 12, 2020.
 2. Popular Lecture by Dr Ashok Kumar, Assistant professor, CUP, Bhatinda on September 02, 2020

Glimpses

Noor:
Cultural
Programme
(25 Oct 2019)



Goonj:
Annual
Function
23 Jan. 2020



Scientica:
Annual Academic Fest
(14-15 Feb 2019)



*Sports
Meet*
(14-15 Feb 2019)

Physics Association Activities: Glimpses

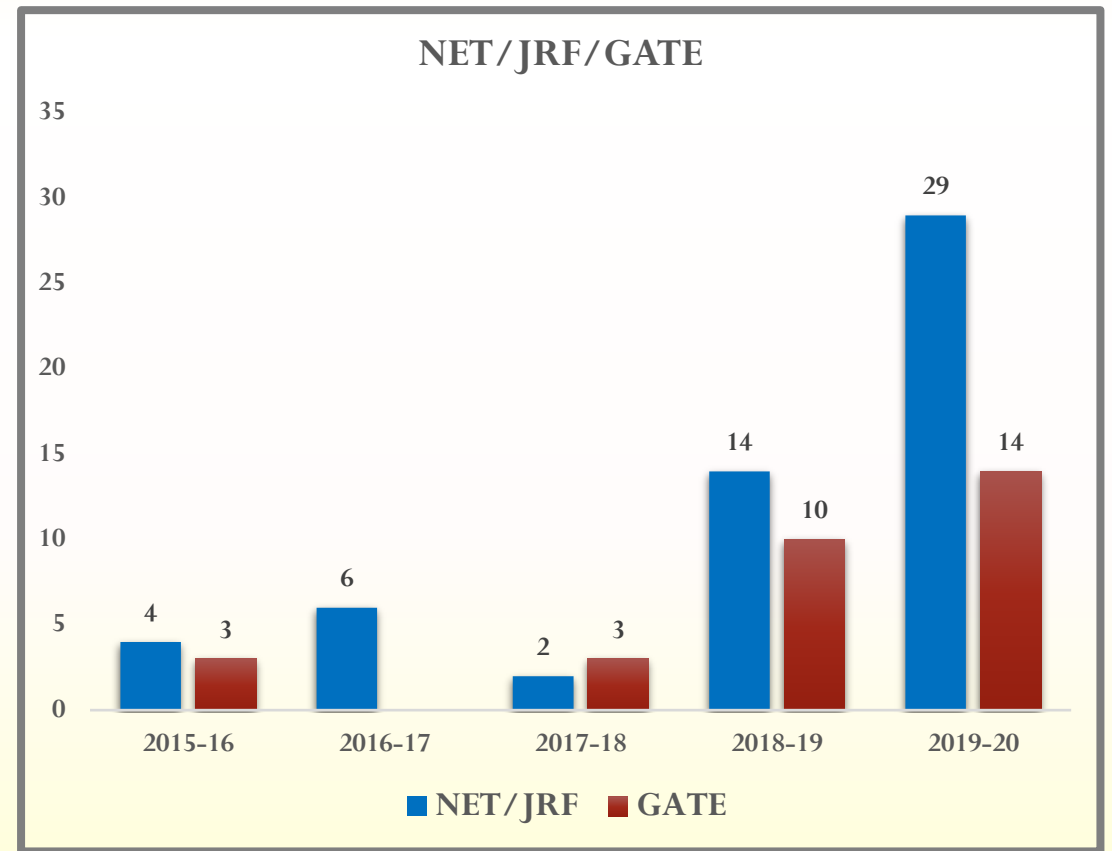
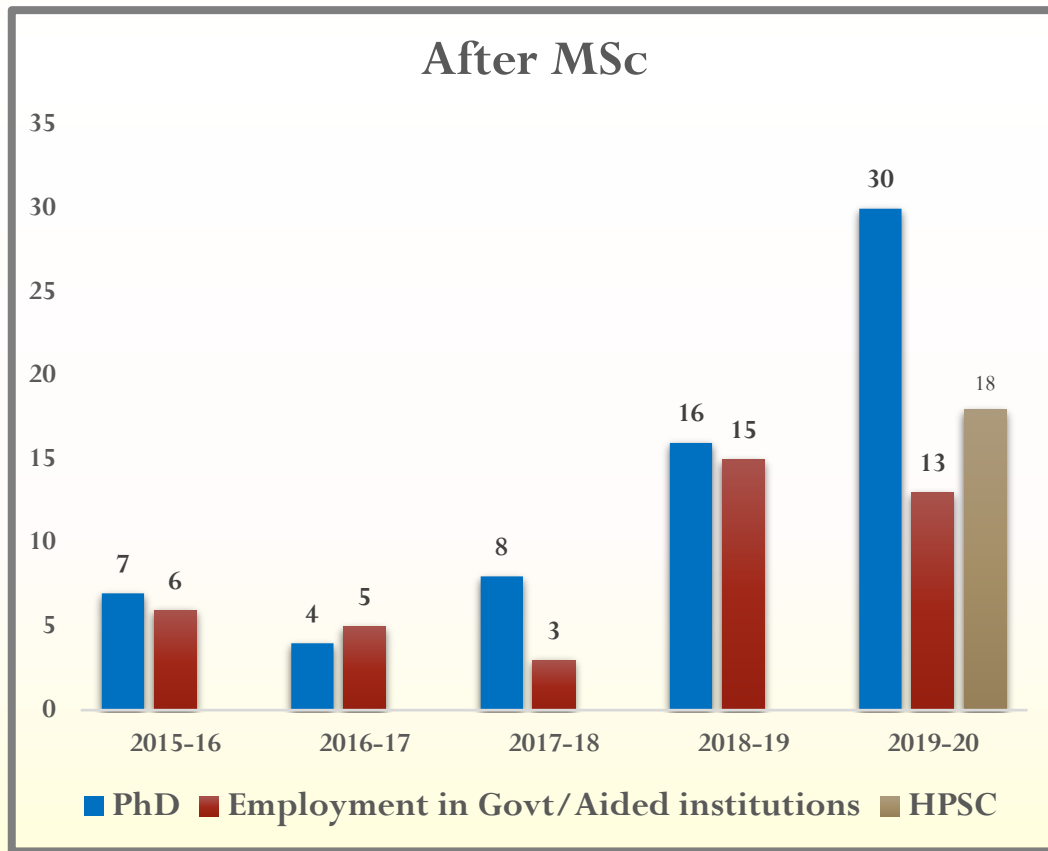
Teachers Day Celebrations



Alumni

- ❑ Since the first passing batch, a large number of our students qualify NET, GATE and other competitive examinations related to research, teaching and scientist jobs.
- ❑ Many of our Masters students have opted for higher studies at prestigious places in India and abroad.
- ❑ Many have taken up tech-related jobs in the private sector.
- ❑ Some have joined national laboratories of importance such as TIFR, BARC, DRDO, CSIR etc as scientists/JRF.
- ❑ Many have taken faculty positions at various polytechnic institutes, government and private colleges, engineering colleges and at the university level, and are engaged in teaching and research
- ❑ Many of our graduates have joined government and private sector banks etc.

Alumni Achievements During last 5 years



Prominent Alumni

Student Name	Year of passing M.Sc.	Current Status
Dr Kiran Gulia	1998	Director of Studies and Senior Academic, University of Wolverhampton, Birmingham, UK
Dr Rajpal Dangi	1998	Senior Project Manager, Sisco Webex, Bangaluru
Dr Amita Yadav	1998	Assot. Prof., Computer Science & Engineering, MSIT, New Delhi
Dr Sunayana	1998	Assot. Prof., Department of Physics, Chandigarh
Dr RajKumar	2001	Scientist E , CSIO Chandigarh
Dr Anil Kumar Bansal	2002	Scientist E, IRDE-DRDO, Dehradun
Dr Sonam	2005	Assot. Prof., Gurugram
Dr Sanjay Sharma	2004	Assot. Prof, Behal
Dr Sunita Sharma	2004	Assot. Prof, North Cap Univ. Gurugram
Dr Anil Kumar	2007	PDF , Sweden
Hemant Kalra	2009	Sr. Clinical Application Physicist at Varian
Dr Sunil Rohilla	2005	Asstt. Prof. CRSU, Jind
Dr Rajni Bala,	2009	Asstt. Prof., MDU, Rohtak
Dr Inderjeet	2011	Asstt. Prof. Amity, Noida
Dimple Nimbran	2015	Teaching Private

Prominent Alumni

Student Name	Year of passing M.Sc.	Current Status
Dr Babita Hooda	2010	Asstt. Prof. CUH, Mahendergarh
Dr Ramesh Kumar	2014	Teaching
Manjeet Singh Goyat	2015	Teaching
Ms Medhavi	2020	Research Scholar, BARC Mumbai
Ms Ashna	2018	PhD Scholar (JRF) IIT Roorkee.
Ekta Arya	2015	Govt. Teaching
Dharmendra	2015	Private teaching
Sandeep Yadav	2016	Physics Lecturer
Palki	2020	Research Scholar, IITD
Indervesh	2017	JBT (SSA) Chandigarh
Kamaldeep	2017	Private job
Tanuja Redhu	2017	Contractor and Architect Designer
Deepika	2018	Teacher
Priyanka	2019	Assistant Professor (Contract)
Dr. Ashima	2011	Assistant Professor DCRUST, Murthal

Prominent Alumni

Student Name	Year of passing M.Sc.	Current Status
Dimple	2018	Teaching
Babita	2018	Teaching
Madhu Bala	2018	Tutor
Ankita	2018	Extension Lecturer
Ravinder Kumar	2018	Business
Pawan Kumar	2019	Assistant Professor in Govt. College Ateli Mahendergarh
Anoop Singh	2019	Assistant Professor
Ms.Poonam	2019	Assistant Professor at Hindu Girls College, Sonipat
Pardeep Kumar	2019	PGT Physics in Dept of Sec Edu Haryana
Chetna singh	2019	TGT Science
Dr. Reetu	2012	Assistant Professor, Hindu Girls College, Sonipat
Manoj Kumar	2019	Assistant Professor in Physics at M.N.S. Govt. College Bhiwani
Minakshi	2020	Assistant Professor
Sandeep Bhyan	2020	Assistant Professor, Govt College, Adampur (Hisar)
Surender	2020	Physics Lecturer
Rishi Pal	2020	Assistant Professor
And Many More...		

Department in the NEWS

एक दिवसीय कार्यशाला का आयोजन आज

हिसार। सच कहें न्यून। गुरु जम्भेश्वर विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय के प्राचीन प्रांगण में एक दिवसीय कार्यशाला का आयोजन आज किया गया।

जीजेयू में एडवांसिज इन ऑप्टिक्स एंड फोटोनिक्स' विषय पर अंतरराष्ट्रीय सम्मेलन में 11 शोधकर्ताओं को मिले पुरस्कार

पुरस्कार, चार दिन तक चले सम्मेलन में 9 देशों के 400 प्रतिनिधियों ने लिया हिस्सा

कड़ी मेहनत कर हासिल करें मुकाम: कुलपति

पांच दिवसीय इंस्पायर इनटर्नशिप साइंस कैंप का हुआ उद्घाटन
अमर उजाला ब्यूरो

नैनो तकनीक है वैज्ञानिक युग का क्रांतिकारी परिवर्तन

जागरण संवाददाता, हिसार : वर्तमान के शोध में सैद्धांतिक ज्ञान व व्यवहारिक ज्ञान के अलावा सिमुलेशन का केन्सेंट भी विकसित हुआ है। आज एक बम के निर्माण के बाद उसे गिराया नहीं जा रहा, बल्कि तकनीकी माध्यम से ही उसकी क्षमता का प्रयोग किया जाता है। सिमुलेशन से ही बम की तरंगों की स्थिति जांच ली जाती है। यह बात गुरु जम्भेश्वर विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय के प्रो. सुनीता श्रीवास्तव को सम्मानित करते प्रो. रवि भाटिया।



प्रो. सुनीता श्रीवास्तव को सम्मानित करते प्रो. रवि भाटिया।



TWO-DAY WORKSHOP BEGINS



लेजर तकनीक से नया जीवन

हरिभूमि न्यून. हिसार

लेजर तकनीक के क्षेत्र में विश्व में भारत का महत्वपूर्ण योगदान है। इस क्षेत्र में शोध की अपार संभावनाएं हैं। भाभा एटोमिक रिसर्च सेंटर प्रो. वी.एन.



गुजवि में 'इनोवेशन एट इंटरसेक्शन ऑफ साइंस एंड ह्यूमैनिटीज' विषय पर ऑनलाइन व्याख्यान आयोजित

सिटी पल्स न्यून, हिसार। गुरु शोध करें। जम्भेश्वर विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय हिसार के भीतिकी विभाग में काहा कि इंटेलेक्चुअल एडवांसमेंट से ही नया आदित्या पर कुलपति प्रो. टंकेश्वर कुमार जिसका फायदा उनको अपने कोर्स में मिले। उन्होंने विश्वविद्यालय को एशिया रैंकिंग में अच्छी जगह मिलने पर कुलपति प्रो. टंकेश्वर कुमार का

जीजेयू में ओपन एंड रियल, स्ट्रेटेजिक लाइफ डिस्कशन विषय पर व्याख्यान कार्यक्रम

हिसार, 17 जून : गुरु जम्भेश्वर विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय, हिसार के भीतिकी विभाग के सौजन्य से 'ओपन एंड रियल, स्ट्रेटेजिक लाइफ डिस्कशन' विषय पर व्याख्यान कार्यक्रम का आयोजन किया गया। इस व्याख्यान के मुख्य वक्ता नॉनविलेनिकल सेफ्टी डेटा साइंस, यानसन, जॉनसन एंड जॉनसन, यूएसए के निदेशक ललित कं. वर्मा थे। विश्वविद्यालय के कुलपति प्रो. टंकेश्वर कुमार कार्यक्रम के



स्ट्रेटजी बहुत मायने रखती है। हम सभी को वैक्सिन लगवानी चाहिए और दूसरों को भी वैक्सिन लगवाने के लिए प्रोत्साहित करना चाहिए।

जीजेयू एशिया यूनिवर्सिटी रैंकिंग में शामिल

जीजेयू को द टाइम्स हायर एजुकेशन एशिया यूनिवर्सिटी रैंकिंग 2021 में मिला 251-300 रैंक

माई सिटी रिपोर्टर

हिसार। गुरु जम्भेश्वर विज्ञान एवं प्रौद्योगिकी विश्वविद्यालय (जीजेयू) ने प्रतिष्ठित टाइम्स हायर एजुकेशन एशिया यूनिवर्सिटी रैंकिंग 2021 में 251-300 रैंक हासिल कर अंतरराष्ट्रीय स्तर पर उपलब्धि हासिल की है। कुलपति प्रो. टंकेश्वर कुमार ने बताया कि इस रैंकिंग में भारत के 63 उच्च शिक्षण संस्थानों को रैंकिंग मिली है। जीजेयू ने अपनी उपस्थिति दर्ज कराई है। इस रैंकिंग में शामिल होने वाला गुजवि प्रदेश का एकमात्र विश्वविद्यालय है। विश्वविद्यालय 26.9 से 29.6 के स्कोर के साथ भारत में 28वें स्थान पर रहा है। कुलपति प्रो. टंकेश्वर कुमार ने बताया कि विश्वविद्यालय ने साइटों में 41.7, टीचिंग में 35.4, इंस्ट्रुक्शन में 33.4,



रैंकिंग में शामिल होने वाला प्रदेश का एकमात्र विश्वविद्यालय

में 61वीं रैंक और इंटरनेशनल आउटलुक में 61वीं रैंक हासिल की है। 2021 की इस रैंकिंग में एशिया के 30 देशों के 551 विश्वविद्यालय शामिल हुए हैं। कुलपति ने बताया कि टाइम्स हायर एजुकेशन वर्ल्ड यूनिवर्सिटी रैंकिंग एकमात्र वैश्विक प्रदर्शन ताकिका है। जो विश्वविद्यालयों को उनके सभी मुख्य अभिगानों जैसे



एच-इंटेक्स 90 है। इस क्षेत्र में सबसे अग्रवर्तन ने बताया कि विश्वविद्यालय

यह महामारी बायोलॉजिकल वार, हमारे वैज्ञानिक कर रहे बेहतर काम : प्रो. टंकेश्वर

माई सिटी रिपोर्टर

हिसार। गुरु जम्भेश्वर विश्वविद्यालय के भीतिकी विभाग के सौजन्य से 'ओपन एंड रियल, स्ट्रेटेजिक लाइफ डिस्कशन' विषय पर व्याख्यान कार्यक्रम का आयोजन किया गया। मुख्य अतिथि कुलपति प्रो. टंकेश्वर कुमार ने महामारी को लेकर कहा कि यह बायोलॉजिकल वार है। इसमें हमारे वैज्ञानिक बहुत अच्छा काम कर रहे हैं। हमें ऐसी रिसर्च करनी चाहिए, जो समाज और देश के काम आ सके। उन्होंने कहा कि आर्थिक स्थिति अलग है, लेकिन हमें इसके लिए अपने को तैयार करना चाहिए। इन परिस्थितियों का हल

गुजवि में पूर्व विद्यार्थियों के सहयोग से स्थापित किया ऑक्सिजन बैंक हिसार (ब्यूरो)। गुरु जम्भेश्वर विश्वविद्यालय में पूर्व विद्यार्थियों के सहयोग से ऑक्सिजन बैंक स्थापित किया गया है। कुलपति प्रो. टंकेश्वर कुमार ने बताया कि अब विश्वविद्यालय के कर्मचारियों व विद्यार्थियों के लिए ऑक्सिजन की कोई कमी नहीं रहेगी। विश्वविद्यालय में एक एलुमनई ने चार ऑक्सिजन कन्स्ट्रैटर और चार ऑक्सिजन सिलिंडर भेंट किए हैं। प्रो. टंकेश्वर कुमार ने कहा कि विश्वविद्यालय के चिकित्सा अधिकारी डॉ. सुनील पंवार को देखरेख में

सचिन-मुकेश चुने स्पोर्ट्स पर्सन ऑफ द ईयर

संवाद न्यूज एजेंसी

हिसार। गुरु जंभेश्वर विश्वविद्यालय (जीजेयू) के भौतिकी विभाग की भौतिकी संघ की तरफ से वार्षिक कार्यक्रम 'नूर 2022' का आयोजन किया गया। कार्यक्रम की शुरुआत प्रो. देवेन्द्रा मोहन ने दीप प्रज्वलन के साथ की। इस दौरान पुरस्कार वितरण खेलकूद प्रतियोगिता और एकेडमिक, डॉस, स्टैंडअप कॉमेडी, मिमिक्री कार्यक्रमों का आयोजन हुआ। बीएससी तृतीय सेमेस्टर के सचिन और एमएससी प्रथम वर्ष के मुकेश स्पोर्ट्स पर्सन ऑफ द ईयर रहे।

बीएससी में बिंदु व एमएससी फिजिक्स में रोहन नैन एकेडमिक टॉपर रहे। परवीन मिस्टर पर्सनैलिटी और अमनदीप पर्सनैलिटी रही। विभागाध्यक्ष



जीजेयू में आयोजित कार्यक्रम में उपस्थित शिक्षक, गैर शिक्षक कर्मचारी एवं विद्यार्थी। संवाद

अग्रवाल ने कहा कि इतने व्यस्त समय में सांस्कृतिक कार्यक्रम एक नई ऊर्जा प्रदान करते हैं। अजय शंकर, डॉ. हरदेव सेनी, डॉ. विवेक गुप्ता, डॉ. रवि भाटिया, डॉ. डेविड, डॉ. अमनजीत पंघाल, डॉ. बलविंदर सिंह, डॉ.

नूर 2022 • जीजेयू भौतिकी संघ का धमाकेदार आयोजन परवीन बनी मिस पर्सनैलिटी और अमनदीप मिस्टर पर्सनैलिटी बने

सिटी रिपोर्टर • जीजेयू के भौतिकी विभाग की भौतिकी संघ ने वार्षिक कार्यक्रम 'नूर 2022' का आयोजन किया। शुरुआत प्रो. देवेन्द्रा मोहन दीप प्रज्वलन कर की। भौतिकी संघ के शिक्षक प्रभारी डॉ. रमेश एवं डॉ. रंजीत सिंह, प्रधान इतिहास और उपप्रधान हरजीत ने बताया कि वार्षिक कार्यक्रम में पुरस्कार वितरण प्रतियोगिता और एकेडमिक, डॉस, स्टैंडअप कॉमेडी, मिमिक्री, स्किट आदि कार्यक्रम हुए। बीएससी तृतीय सेमेस्टर के सचिन व एमएससी प्रथम वर्ष के मुकेश स्पोर्ट्स पर्सन ऑफ द ईयर रहे। बीएससी में बिंदु और एमएससी फिजिक्स में रोहन नैन एकेडमिक टॉपर रहे। परवीन मिस पर्सनैलिटी और अमनदीप मिस्टर पर्सनैलिटी रहे। प्रो. आशीष अग्रवाल ने बताया कि



हंसना बहुत जरूरी जो तनाव कम करता है

प्रो. आशीष अग्रवाल ने बताया कि इतने व्यस्त समय में सांस्कृतिक कार्यक्रम नई ऊर्जा प्रदान करते हैं। हंसना बहुत जरूरी है जो तनाव को कम करता है। उन्होंने कहा कि भौतिकी विभाग एकेडमिक, स्पोर्ट्स, रिसर्च और सांस्कृतिक कार्यक्रम में बहुत अच्छा कर रहा है और आगे भी ऐसे कार्यक्रम

भौतिकी संघ करवाता रहेगा। कार्यक्रम में प्रो. सुजाता सांघी, प्रो. राजेंद्र सिंह कुंडू, प्रो. नीतू अहलावत, डॉ. अजय शंकर, डॉ. हरदेव सेनी, डॉ. विवेक गुप्ता, डॉ. रवि भाटिया, डॉ. डेविड, डॉ. अमनजीत पंघाल, डॉ. बलविंदर सिंह, डॉ. साहिल, डॉ. ऋषि, डॉ. जोगेंद्र, आरती व अनुप थे।

जीजेयू में रजत जयंती पर कार्यक्रम, 250 पूर्व विद्यार्थियों ने साझा किए अनुभव और सुझाव

स्थलों की प्राप्ति के लिए एकाग्रचित होकर कार्य करने से सफलता मिलती है: वीसी

भास्कर न्यूज|हिसार

जीजेयू के भौतिकी विभाग की रजत जयंती के उपलक्ष्य में ऑनलाइन समारोह का आयोजन किया गया। इस मौके पर आतिथ्य यूनिवर्सिटी के वीसी बलदेव राज काम्बोज ने कहा कि लाल और कठिन परिश्रम से व्यक्ति आकाश को छू सकता है। अपने उद्देश्यों की प्राप्ति के लिए एकाग्रचित होकर कार्य करने सफलता निश्चित रूप से मिलती है। वर्तमान समय में भौतिकी महत्व और अधिक बढ़ गया है। साथ ही इस क्षेत्र में शिक्षण गुणवत्ता की अपार संभावनाएं हैं। विशिष्ट अतिथि कुलसचिव प्रो. नीशा वर्मा ने बताया कि भौतिकी विभाग का यूनिवर्सिटी के प्रसव व आउटरीच में बहुत अधिक योगदान है। समारोह के निष्कर्ष में विभागाध्यक्ष प्रो. सुजाता सांघी ने विभाग की जानकारी देते बताया कि भौतिकी विभाग की शुरुआत 1996 में हुई थी। विभाग की स्थापना लेजर और ऑप्टिक्स उद्योग में नए शोध कार्यों के ध्यान रखकर की गई थी। उन्होंने विभाग के कोर्स एमटेक एक्सटेंडिड इंजीनियरिंग के बारे में भी बताया। समारोह में विभाग के 250 पूर्व विद्यार्थियों ने अपने अनुभव साझा किए और महत्वपूर्ण सुझाव भी दिए। इस अवसर पर प्रो. देवेन्द्रा मोहन, प्रो. आशीष अग्रवाल, प्रो. नीतू, प्रो. राजेंद्र कुंडू, अजय शंकर, डॉ. डेविड, डॉ. रमेश कुमार, डॉ. हरदेव सेनी, रंजीत सिंह, डॉ. विवेक गुप्ता, डॉ. अमनजीत पंघाल, डॉ. बलविंदर सिंह, विनय व अनुप मौजूद रहे।



जीजेयू के भौतिकी विभाग में आयोजित ऑनलाइन समारोह में प्रतिभागियों को संबोधित करते वीसी

रमन स्कैटरिंग एंड बियाँड' विषय पर वेबिनार का आयोजन



पाठकपक्ष न्यूज हिसार, 21 जून : गुरु जंभेश्वर विश्वविद्यालय, हिसार के भौतिकी विभाग के सौजन्य से 'रमन स्कैटरिंग एंड बियाँड' विषय पर वेबिनार का आयोजन किया गया। भौतिकी विभाग, आईआईटी इन्दौर के प्रो. राजेश कुमार वेबिनार के मुख्य वक्ता रहे। गुजरातीवि हिंसार के कुलपति प्रो. टेकेश्वर कुमार व्याख्यान के मुख्यातिथि थे। कुलपति प्रो. टेकेश्वर कुमार ने कहा कि साइंस से इनोवेशन और इनोवेशन से नए विचारों का विकास होता है। हम उनको प्रोत्साहित करते हैं। विद्यार्थियों को प्रेरित करने के लिए हम उनको प्रोत्साहित करते हैं। विद्यार्थियों को प्रेरित करने के लिए हम उनको प्रोत्साहित करते हैं। विद्यार्थियों को प्रेरित करने के लिए हम उनको प्रोत्साहित करते हैं। विद्यार्थियों को प्रेरित करने के लिए हम उनको प्रोत्साहित करते हैं।

व्याख्यान का समापन किया। भौतिकी विभाग की अध्यक्ष प्रो. सुजाता सांघी ने बताया कि ऑनलाइन वेबिनार की श्रृंखला के अंतर्गत यह तीसरा व्याख्यान है। इस वेबिनार का विषय विद्यार्थियों के सिलेबस के साथ-साथ उनके रिसर्च के नजरिए में भी बदलाव लाएगा। प्रो. सांघी ने बताया कि कोविड-19 महामारी में ऐसे ऑनलाइन व्याख्यान विद्यार्थियों को अपने विषय में अपडेट करने में सहायक होते हैं। प्रो. आशीष अग्रवाल ने मुख्य वक्ता का परिचय करवाया और बताया कि गुजरातीवि के विद्यार्थी आईआईटी इन्दौर के साथ मिलकर कार्य करने में तैयार हैं। रमन स्पेक्ट्रोस्कोपी में रिसर्च कर रहे हैं। व्याख्यान के कोआर्डिनेटर डा. रवि





THANK YOU