

DBT star Activities

Department of Physics

STAR ACTIVITY REPORT.

Students' information:

Year	Dissertation/ Projects	Visit to instt./industries	Summer training
2015- 16	<p>B. Sc.</p> <ol style="list-style-type: none">1. Measurement of Hearing Ability of Young & Senior Citizen of 1Eiger2. Use of Eye Images of Blood Vessel Detection & Elimination3. Study of Hearing Loss of College Students & Its Analysis4. Zno Thin Film By Spray Pyrolysis Deposition Technique For Gas Sensing Application5. Preparation & Characterization of Copper Sulphate Thin Film By D.C. Electrochemical Deposition For Thermal Applications6. Study of Noise Pollution At Different Places & Its Impact7. Clap Switch8. Calorific Value of Wood9. Effects of Hyper Gravity on Wheat Seed Germination & Plant Growth10. Metal detector11. Study of Crystal Structure & Miller Indices Using 'C' Program12. Synthesis of Nickel Oxide For Gas Sensing Applications13. Skin Depth In Aluminium14. A Study of Gmrt && Pulsar Observation <p>M. Sc.</p> <ol style="list-style-type: none">1) 'Study of Attenuation Gamma Rays Using Different Materials '.2) 'Study of Attenuation Using 1Eiger Muller Counter.3) Synthesis of Gold Nanoparticles Using Medicinal Mushroom Ganoderma.4) Green Synthesis of Tio₂ Nanoparticles For Ammonia Gas Sensing .5) Effect of Holy Sound on Electrocardiogram of Jraqi Students.6) Effect of Hyper-Gravity on Seed Germination And Plant Growth.7) Enhancing Gas Sensing Properties of Zinc Oxide Thin Film Using Dopent Element.8) Investigating The Impact of Radiofrequency Radiations Emitted	<ol style="list-style-type: none">1) School of Energy studies On 13 March 20162) Chitranjan Vatika 10 January 20163) ITI Aundh Pune 5th march 2016 3.00 p.m.4) IISER, Pune 01/03/2016	<p>Summer school in department of Physics, Savitribai Phule Pune University 'SSP-2016', dated 19-28 may 2016.</p> <ol style="list-style-type: none">1) Patil Amit Tanaji2) Deshmukh Vishal Kalidas3) Shahapurkarr Akshay Girish

	<p>By Mobile Phons</p> <ol style="list-style-type: none"> 9) Effect of Geopathic Stress on Human Body 10) Study of Retro Cochlear Pathology For Finding Hearing Ability Using Tone Decay Test 11) Speech Audiometry Technique Use For Hearing Loss 12) Investigating Skin Depth of Various Metals At Different Frequencies 13) Synthesis And Characterization of Nanoparticles 14) Communication Over Private Area Networks & Public Area Networks 15) Investigating Correlation Between Various Health Parameters of Female Students 16) Green Synthesis of SnO₂ Nano-Particles For H₂s Gas Sensor 17) Synthesis & Characterization of Nanocrystalline Nickel Ferrite 18) Investigating The Effects of Silver Nanoparticles on Seed Germination And Plant Development 19) Preparation & Characterization of Cobalt Oxide Thin Film By D.C. Electrochemical Deposition for Solar Thermal Applications 20) Study of Effect of Jogging on Health Parameters of Human Body 21) Effect of Sintering Temperature on Zinc Ferrite 22) Effect of Loudness(Fowler Test) on College Student And Senior Citizens 23) Physico-Chemical analysis Of Drinking Water In Pune District, Maharashtra. 24) Radiation Survey of Leakage Using Medical Linac. 		
2016- 17	<p>T.Y.B.Sc.</p> <ol style="list-style-type: none"> 1. Study of gravitational waves 2. Calculate surface tension of detergent by using capillary rise method 3. Metal Detector 4. Smoke detector 5. Stirling Engine 6. Study of hearing loss of college students and its analysis 7. Fire alarm 8. Conservation of heat transfer 9. Physics of Dialysis 10. Study of geometry of spider web 11. Study of hearing loss of old persons and its analysis 12. Paper circuit 13. Synthesis and characterization of NdMnO₃ and SrMnO₃ nanopowder by solution combustion method 14. Scattering of nano bubbles by laser 15. Study of crystal structure and miller indices using c programming 16. Investigating impact of mobile phone 	<ol style="list-style-type: none"> 1. In the month of July, a study visit to Science Park, Chinchwad was organized by Dr.S.R.Chaudhari and faculty members Jyoti Yande, Swapnil Thorat and Sandip Wadhai for 1 st year students. Total 89 students and 4 teachers enjoyed the visit. 2. In August visit to Aundh hospital and Guest lecture was arranged for F. Y. B. Sc. students on the occasion of “world food day”. 	<p>Outreach program by NCL on crystallography for postgraduate students. On 01/03/2017.</p>

	<p>on human health</p> <p>17. Investigating correlation between various body parameters of female students</p> <p>M.Sc.</p> <ol style="list-style-type: none"> 1. Multistage enhancement scheme for low quality fingerprint images 2. Tumor detection using decorrelation stretching process techniques 3. Leaf Recognition and matching with matlab 4. The attenuation coefficient of by gamma particles by mothDermatology 5. Audibility 6. Effect of gamma radiation on human blood 7. Effect of He-Ne laser on human blood of fat person 8. Study of effect of noise on ECG and its recovery by pleasant music 9. Observing effect of continous loud music on audibility 10. Effect of microwave on plant growth and photosynthetic efficiency 11. Effect of continuous radiations emitted from mobile phone on cardiac parameters with special reference to Iraqi students 12. X ray transmittance 13. Effect of geopathic stress on Iraqi student 14. Investigating correlation between various body parameters of female students 15. Synthesis and characterization of Fe nanoparticles using thermal plasma route 16. Synthesis & characterization of Mn doped Cobalt Ferrite thin Films by Sol Gel method 17. Synthesis of magnetic nano particles and its applications for ferro fluid preparation 18. To study the magnetic resonance imaging and observation of human brain 19. Synthesis of calcium phosphate based hydroxyapatite from coconut fiber. 20. Study of magnetic resonance imaging and observation of human spinal cord 21. Study and synthesis of Carbon Nitrate Nanosheets; applications in Rhodamine B, Methylene Blue and Methyl Orange Degradation 22. Electrification of ferroelectric polymer porobed by dc electro-wetting 23. Determine viscosity of unknown fluid by Brownian motion 24. Mechanical strength of Indian currency 		
--	---	--	--

	25. Linear and mass attenuation coefficient of soil samples by using gamma rays.		
2017- 18	<p>T.Y.B.Sc</p> <ol style="list-style-type: none"> 1. Fabrication of Drone 2. Borewell Rescue Robot 3. Stusy and awareness about technologies for PwD's 4. Line Follower Robot 5. Solar battery charger 6. Effect of electromagnetic field on seed germination 7. Obstacle detecting robot 8. Mobile phone detector 9. Study of Cobalt Ferrite nanoparticles synthesized by co-precipitation method 10. Sewage treatment plant 11. Study and modification of simple and digital microscope 12. Steam power generator 13. Half wave rectifier 14. Automatic street Light 15. Fire alarm 16. Measurement of Hearing of senior and young citizen in sangvi 17. LPG gas leakage detector 18. Study of microbial fuel cell 19. Automatic street light <p>M.Sc.</p> <ol style="list-style-type: none"> 1. Study of the effect on ZnO/GO/VO multilayers thin film on the performance of chemical structure silicon wafer via pulsed laser deposition technique 2. X ray imaging techniques 3. Audiometry 4. Study of interaction of CdS nanoparticles with Chlorophyll pigments extracted from fresh spinach leaves 5. Synthesis and characterization of Ag nanoparticles using Sodium Borohydride as a reducing agent 6. Synthesis and characterization of TiO₂ nanoparticles by sol gel method 7. First step towards study of recombination effect in solar cell 8. Study of CBD and synthesis of CdS thin film 9. Study of Cobalt Ferrite nanoparticles synthesized by co-precipitation method 10. Studies on structural properties of Pure TiO₂ 11. Synthesis of Cu₂O nanoneedles anodization 12. Facile fabrication of durable copper based superhydrophobic surface 13. Effect of electromagnetic field on 	In the month of Feb. on occasion of "Smruti Saptah" 2 nd Feb., was celebrated as "Learn with Fun" Three programs, aptitude tests, quiz competition and making of PPT competition were organized for UG PG students. The programme was very successful with active participation of all UG/PG students along with faculty.	Use of ICT is incorporated in the teaching, learning method. The various scientific shows were screened for undergraduate and post graduate students.

	seed germination 14. Investigating the effect of herbal nutrition powder on human health parameters using Karada scan Machine 15. Synthesis and characterization of ZnS thin film using SILAR method 16. Mass absorption coefficient using GM Counter 17. Dielectric and ferroelectric properties of Sn and Zr modified BatiO3 based lead free electro ceramic 18. Synthesis of mesoporous carbon by carbonization of natural waste for electrochemical properties 19. Understanding Pulsar Population 20. Active galactic nucleus and cosmology 21. Synthesis of N doped ZnWO4 nanorods for hydrogen generation from H2O under natural sunlight 22. Synthesis and characterization of CdMoO4 and its composite for environment and energy application		
--	---	--	--

Guest faculty invited :

Year	Name	Designation	Host instt	Duration of visit- (Date and time)	Topic of lecture
2015- 16	Dr. Kiran Adi	Associate Professor	Physics Dept, SPPU	18 Feb. 2016	Lecture on Laser radiation followed by discussion
	Dr. Ashutosh Kotwal	US-Coordinator	High Energy Collider, DUKE University	28 Feb. 2016	Lecture on High Energy Collider 100 TEV
2016- 17	Mr. Bhandari and Miss. Dorian	Associate Professors	CMET	8 th Sept.,2016	Career opportunities at Germany and Career opportunities in Medical Instrumentation
2017- 18	Jyoti Patil	Assistant Professor	Pratibha College Chinchwad	21 st August 2017	Experimental techniques
	Dr. Shivaji Veer	Associate Professor	ACS Indapur, Pune	6 th February 2018	Material Characterization techniques

New Practical and techniques introduced:

Year	Techniques	Practical	Demonstrations	Minor Research Projects	Intedeptl activities
2015-16	1. High Pressure Liquid Chromatography (HPLC) 2. Atomic Absorption Spectroscopy (AAS)	1. Regulations of Heart rate 2. Measuring BMI, BMR, Fats in body and calorie in body 3. Using computer for laboratory experiments	1. To observe how surface tension is affected by adding impurity. Effect on burning candle 2. To observe effect of capillarity in capillary and discuss its application	1. Hearing test for Senior Citizen 2. Noise Pollution 3. Study of eye Images for blood vessels Detection 4. Data collection for hearing loss of college Students 5. Effects of Hyper Gravity on Wheat Seed Germination & Plant Growth 6. Effect of Magnetic Field on Root & Shoot Length & Consequences of Nanoparticles on Plant Growth	1. Use of UV Spectrophotometer (Chemistry & Physics Department) 2. Radiation Techniques used in Chick Embriyo (Physics & Zoology Department) 3. Material Characteristic in (Physics & Chemistry Department) 4. IISER Quiz competition participated by Physics & Electronics students -10 th feb2015 ,40 participants from BSC and BSc Computer Science MIMONSA group of 3 4 students – batch A,B ,C,D,E,F,G,H,I,J
2016-17		1. Regulations of Heart rate 2. Measuring BMI, BMR, Fats in body and calorie in body 3. Using computer for laboratory experiments	1. To observe how surface tension is affected by adding impurity. Effect on burning candle 2. To observe effect of capillarity in capillary and discuss its application		During the first half year various hands on activities and demonstrations were arranged for FY, SY, TY B.Sc. students under star college activities scheme apart from regular syllabus. The standard operating procedures were written in the star college notebook.
2017-18		1. Regulations of Heart rate 2. Measuring BMI, BMR, Fats in body and calorie in body 3. Using computer for laboratory	1. To observe how surface tension is affected by adding impurity. Effect on burning candle 2. To observe effect of capillarity in capillary		During the first half year various hands on activities and demonstrations were arranged for FY, SY, TY B.Sc. students under star

		experiments	and discuss its application		college activities scheme apart from regular syllabus.
--	--	-------------	-----------------------------	--	--

Impact of DBT Support (at least five achievements)

Parameters	Achievements
Changes in Cut- off %	Post graduate cutoff has been considerably Increased over the period
Higher enrollment in Science	Every year first year admissions are increasing about 8 to 10 percent.
Higher % of admission in PG	Every year the students appearing for entrance examination is increasing. Progression ratio from UG to PG is almost 30 %.
Any other information	<ol style="list-style-type: none"> 1) Significant infrastructural improvement in the supported departments. 2) More hands-on exposure to students and introduction of new practical to understand theoretical concepts. 3) Opportunities generated for students for attending the lectures-delivered by the renowned Scientists/ Professors in their respective fields and practical sessions conducted under their supervision besides opportunities to interact with them. 4) Exposure to experimental-design and execution of projects, hence development of scientific aptitude in students. 5) New instruments and facilities resulted into human resource development and overall improvement in teaching quality in the supported departments. 6) Increase in inter-departmental and inter-disciplinary activities in the science departments.

Overall, the scheme has played an important role in increasing not only the inflow of students towards basic and life science subjects but also in attracting the high-ranked and academically-sound students in past three years, which is evident from the increased number of admissions, better results in their examinations and increasing number of students undertaking projects as well as are publishing their outcomes in the refereed journals.

Prof. B.U.Kangude
Head

Visit



GUEST LECTURES

