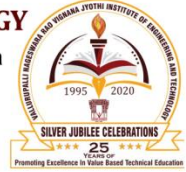




VNR VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O.), Hyderabad TS 500 090 India
AICTE Approved; UGC Autonomous; JNTUH Affiliated; UGC "College with Potential for Excellence"; NAAC "A++" Grade
ISO 9001:2015 Certified; QS I.GAUGE "Diamond" Rated; NIRF 2020: 127th Rank Engineering (151–200 Band Overall)
NBA Accredited: CE, CSE, ECE, EEE, EIE, IT, ME; JNTUH-Recognised Research Centres: CE, CSE, ECE, EEE, ME
☎ +91-40-23042758/59/60 📠 +91-40-23042761 📧 postbox@vnrvjiet.ac.in 🌐 www.vnrvjiet.ac.in



DEPARTMENT OF HUMANITIES AND SCIENCES

Centre for Nanoscience & Technology

Annual Report cum Hand book (2022-23)

Submitted by
Dr. L. Srinivasa Rao
Coordinator, CNST
Assistant Professor of Physics
Department of H&S.

An Incredible Technology Today & Future



There is plenty of Room at the Bottom...

“You would be able to write the entire Encyclopedia Britannica on the head of a pin, with huge amounts of room to spare. You would be able to build miniature machines so small that they could manipulate at a nearly molecular scale. And you would be able to build things, atom by atom”

Nobel Laureate Richard Feynman - 1959

Technical Advisory Members

1. Dr. Somnath Chanda Roy,
Associate Professor, Department of Physics
Environmental Nanotechnology Laboratory
Indian Institute of Technology (IIT) Madras
Chennai 600036, India.
2. Mangilal Agarwal, Ph.D.
Director, Integrated Nanosystems Development Institute (INDI)
Associate Professor of Mechanical Engineering
Purdue School of Engineering Technology
Indiana University, USA.
3. Mr. Gadhadar Reddy
CEO, NoPO Nanotechnologies India Pvt. Ltd.
Benguluru, India.
4. Dr. D. Krishna Rao
Scientific Officer
TIFR Center for Interdisciplinary Sciences (TCIS)
Hyderabad.
5. Dr. T. Venkatappa Rao
Associate Professor, Department of Physics
NIT Warangal, Warangal.
6. Prof. Dibakar Das,
School of Engineering Sciences and Technology,
University of Hyderabad,
Hyderabad.
7. Prof. K. Venkateswara Rao,
Centre for Nanoscience and Technology,
JNTUH, Hyderabad.
8. Dr. CH. Shilpa Chakra
Asst. Professor of Nanotechnology & Head
Center for Nano Science and Technology
JNTUH, Hyderabad.



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Research laboratory in the department, facilities/infrastructure, Usage details, beneficiaries and outcomes

(a) Research laboratory in the department:

The Centre for Nanoscience is established on 14-06-2016 under the Department of Humanities and Sciences as an interdisciplinary platform of both academic and research activities. The centre has a well-established dedicated basic materials research laboratory.

VISION: To build a center with excellence in research with global standards and developments in Nanoscience and Technology.

MISSION: A true interdisciplinary center for research in Nanoscience for developing relevant technologies with commitment to social and ethical values & training manpower through undergraduate and graduate courses.

OBJECTIVES:

- To create sustained research activities in cutting edge Nanoscience and technology.
- To pursue sponsored projects funded by agencies like DST, CSIR, MHRD, MCI, AICTE, UGC & DRDO etc., thereby creating self-sustained maintenance.
- To develop partnerships with industry in developing technologies and set up consultancy and technical knowhow hubs.
- To train manpower by offering Ph.D, M.Tech, M.Sc, B.Tech., certificate and diploma courses.

Coordinator of the Centre:

Dr. L. Srinivasa Rao, *M.Sc., M.Phil., Ph.D, PGDTC, SET, LMRSI, LOSI*

Assistant Professor (Physics)

Department of Humanities and Sciences

Mobile: (+91) 9849803685 Email: srinivasarao_l@vnrvjiet.in

(b) Infrastructure (as on 21-06-2023):

S. No.	Infrastructural Facility	Particulars	Yes/No/ Not required Full or sharing basis
1.	Water & Electricity	-Water facility with sink -Electric fittings with different plug points and tripping points	Yes
2.	Laboratory Space/ Furniture	-(P-201; 35 sq. meter) -Three tables -Three chairs	Yes
3.	Power Generator	- 240 volts generator	sharing basis
4.	Telecommunication including e-mail & intercom	-Intercom (4461) -Internet ports -3 (Broad band 100 kbps)	Yes
5.	Transportation	-Institute level	Yes
6.	Administrative/ Secretarial support	Support is from -Administrative office -Purchase office -Accounts office -Estate office etc.	Yes
7.	Information facilities like Internet/ Library	-Directly accessible digital library -Internet ports -3 (Broad band 100 kbps)	Yes
8.	Computational facilities	-Individual laptops -Desktop-1 -Laptop-1	Yes

(c) Equipment and other facilities: (as on 21-06-2023)

S.No.	Equipment	Make/ Specifications	Date of Purchase	Qty	Unit Price	Total Price
1	Grey Agate Mortor& Pestle	Make: Ants Ceramics Pvt Ltd, Vasai (E), MH. ID-4.5" (113 mm)	21-06- 2018	1	10,506.00	10,506.00
2	KE make High Temperature Muffle Furnace	Make: Krishna Enterprises, Hyderaad. Inner size: 100 mm W x 100 mm H x 250 mm D, Max. Temp: 1400°C Accessories: Annealing furnace (600°C)	13-07- 2018	1	1,12,100.00	1,12,100.00
3	Magnetic Stirrer with Hot plate and Beeds	Make: Lalco Scientific Instruments(≈100°C)	02-01- 2019	1	4,800.00	4,800.00
4	Digital balance	Make: Scale-tec (Accuracy 1 mg Max. weight 100g)	10-12- 2019	1	16,000.00	16,000.00
5	Magnetic Stirrer	Make: Remi 2ML	02-09- 2020	1	6800.00	6800.00
6	Magnetic Stirrer	REMI-1ML	15-6-2020	2	13,600.00	27,200.00
7	Vacuum pump	UV Scientifics	15-6-2020	1	6,200.00	6,200.00
8	pH meter	ELICO LI 617	28-08- 2020	1	13,055.00	13,055.00
9	Heating mantle-50 ml	BioTecNika	16-10- 2020	1	1363.00	1363.00
10	Heating mantle- 100 ml	BioTecNika	16-10- 2020	1	1363.00	1363.00
11	Heating mantle- 250 ml	BioTecNika	16-10- 2020	1	1644.00	1644.00
12	Heating mantle- 500 ml	BioTecNika	16-10- 2020	1	1712.00	1712.00
13	Heating mantle- 2000 ml	BioTecNika	16-10- 2020	1	2466.00	2466.00
14	Nitrogen cylinder and trolley	UV Scientifics	02-12- 2020	1	22,500.00	22,500.00
15	Sonicator	UV Scientifics; 2.5 lit	01-04- 2021	1	13,900.00	13,900.00
16	Hydraulic Hot Press	Applied Hydraulics, Hyderabad.	08-04- 2021	1	85,000	85,000
17	Hot air oven	UV Scientifics	01-01- 2022	1	50,000	50,000
18	Spin coater	Apex Instruments 10000 rpm, model: spinNXG-p1	01-06- 2022	1	1,50,000	1,50,000
Total (Rupees Five Lakhs Twenty Six Thousand Six Hundred and Nine Only)						5,26,609/-

(d) Major outcomes: Academic and Research Outcomes are as follows:

- The Centre is established in 2016. The Centre is headed by Dr. L. Srinivasa Rao, Assistant Professor (Physics).
- Around 30 faculty members of various Departments such as H&S-Physics, H&S-Chemistry, H&S-Mathematics, ME, ECE, EIE, EEE, CE, etc. have been actively involving in conducting the both Academic and R&D activities at Institute level.
- The thrust Areas of Research are Nanocomposites, Nano-glass-ceramics, Nano-Polymer films, Dielectric & Piezo-electric materials, Bio-degradable plastics etc.
- The Centre was established in 2016 in Room no. P-201 through the SEED Grant of VNRVJIET worth of 4.5 Lakh.
- We have completed 7 funded research projects worth of Rs. 27.96 Lakh through the Department of H&S. (SERB-1; UGC-DAE-1, TEQIP-1; UBA-1; SEED-3 all are as PI).
- We have been working on 4 ongoing projects worth of Rs. 104.53 Lakh funded projects by various funding agencies in the H&S Department collaborating with other Higher Educational Institutes like HCU, NITW, UGC DAE CSR etc. (DST-SERB-1, UGC-DAE-1, DRDO-1 as PI; DRDO-1 as Co-PI)
- We have been working on one consultancy project worth of Rs. 10 Lakh given by DRDO, Hyderabad.
- We have procured a few sophisticated R&D apparatus worth of Rs. 12 Lakh by the funded projects.
- Organized an AICTE sponsored two week STTP-2020 worth of Rs. 1.92 Lakh.
- Organized an IEEE-preconference workshop-2017 and an IEEE-Nano Summer School-2022.
- We have conducted 6 guest lectures (once in a year) and a lecture series-2017.
- Around 100 UG and 10 PG students have been working for their internships, course projects, research papers per academic year.
- We have been offering elective courses for B. Tech. (ECE, EIE, EEE, ME) disciplines.
- Published 41 research papers indexed by Scopus, Web of Science, Google Scholar etc.
- Published 10 research papers in conference proceedings.
- Filed & published 8 patents.

Sponsored Research Projects:

e) Completed Research Projects (Worth of Rs. 27.96 lakh)

S. No	Faculty Name	Title of the Project	Year	Funding Agency	File. No with Date	Amount Sanctioned (Rs.)
1	PI: Dr. L. Srinivasa Rao, Asst. Prof. (Physics)	Establishment of Laboratory in Centre for Nanoscience and Technology	2017	VNRVJIET, Seed grant	17/VJ/1274	4,46,650
2	Principal Investigator: Dr. L. Srinivasa Rao, Asst. Professor (Physics)	Synthesis and Characterization of Bi ₂ O ₃ -B ₂ O ₃ -MnO Glasses Doped with Zirconium Oxide Nanoparticles Suitable for Magnetic Sensors and Luminescent Materials	2019	TEQIP-III, JNTUH	Procs No. JNTUH/TEQIP-III/CRS/2019/Physics/ 06 Dated: 25-09-2019	2,50,000
3	PI: Dr. L. Srinivasa Rao, Assistant Professor (Physics) Co-Investigators: Dr. C.D. Naidu, Principal & Professor Dr. Shuchi Tiwari, Asst. Prof.(Chem.)	A Social impact project work on "Biodegradable plastics for sustainable use in daily life"	2018	VNRVJIET, Seed grant	File no. VNRVJIET/Seed Grant/2018/01 Dated: 14-11-2018.	12,000
4	Principal Investigator: Dr. C. Thirmal Asst. Prof. (Physics)	Design and fabrication of an air filter through polymer technology - A Societal Impact Project	2018	VNRVJIET seed grant	VNRVJIET/CNST/H&S/2018-2019/136	22,337
5	PI: Dr. Padmavathi Papolu Asst. Prof. (Chem.)	MUSHROOM CULTIVATION	2019	Unnath Bharath Abhiyan	Unnath Bharath Abhiyan	1,00,000
6	PI: Dr. Shuchi Tiwari Assistant Professor (Chem.)	Synthesis, Characterization and Potential Applications of Nano-dithiocarbamate complexes- UGCDAE	2018	UGC- DAE	UGC-DAE/2018/1	1,35,000
7	PI: Dr. A.R. Balavardhana Rao, Asst. Professor (Chemistry).	"Inorganic-Organic Hybrids based on Keggin-type Polyoxometalate Schiff Base metal complexes: Synthesis, Characterization and Proton Conducting studies."	2019	DST-SERB TARE		18,30,000
TOTAL						27,95,987

f) Ongoing Research Projects (Worth of Rs. 104.534 lakh)

S. No	Faculty Name	Title of the Project	Date of Grant Received	Funding Agency	Amount Sanctioned (Rs.)	Status
1	Principal Investigator: Dr. L. Srinivasa Rao Assistant Professor (Physics)	"Development of ZrO ₂ Nanoparticles doped- B ₂ O ₃ -B ₂ O ₃ : Cr ₂ O ₃ glass-ceramic phosphors"	2022	UGC-DAE-CSR	7.7508 lakh	Ongoing
2	Principal Investigator: Dr. C. Thirmal Assistant Professor (Physics)	A hybrid and flexible magnetoelectric trilayer structure for combined magnetic sensing and mechanical actuation applications	2020	DST-SERB TARE	18.3 lakh	Ongoing
3	Principal Investigators: Dr. C. Thirmal Asst. Prof. (Phys.) Dr. Lashmi Viveka	Process Optimization of IPMCs for optimal functionality and in-air operability	2020	DRDO, Hyderabad (Consultancy)	7.198 lakh	Ongoing
4	Principal Investigator: Dr. G. Ramesh Chandra, Professor (CSE) Co-PI: Dr. L. Srinivasa Rao, Asst. Prof. (Physics)	"Design and Development of Night Vision Imaging LIDAR and Laser 3-D Imaging System for Homeland Security & Surveillance applications in Defence"	2021	DRDO, New Delhi (ER&IPR)	71.286 lakh	Ongoing

g) Summer internships/Mini projects 2021-22
Centre for Nanoscience & Technology (H & S)

Total No. of Students Awarded = 66

S.No.	Guide	Topic	Name of the Student	Roll No	Course (B.Tech./M.Tech.)
1	Dr.T.Jayashree Professor of Mathematics HOD, H&S jayashree_t@vnrvjiet.in	Classification and prediction models of Machine Learning for Engineering Applications	Varshitha Gaddipati	19071A12B7	B.Tech. (IT)
			Gnyanesh Bangaru	19071A1283	B.Tech. (IT)
			Yaswant Venkat Nandamuri	19071A12C0	B.Tech. (IT)
			Neelima Gundu	19071A1284	B.Tech. (IT)
2	Dr.N.Pothanna Associate Professor of Mathematics pothanna_n@vnrvjiet.in	Numerical and Analytical solutions of viscous flows using MATLAB	Ganji Nithish Reddy	18071A0381	B.Tech. (ME)
			Sathish Mahoor	18071A0397	B.Tech. (ME)
			Tammali Saikrishna	18071A0358	B.Tech. (ME)
			Kaveti Upender	18071A0389	B.Tech. (ME)
3	Mr.D.Swarnakar Assistant Professor of Mathematics swarnakar_d@vnrvjiet.in	Numerical study of Multi-parameter problems using MATLAB code	C Venkata Sri Harsha	18071A0311	B.Tech. (ME)
			Lade Srikanth	18071A0395	B.Tech. (ME)
			Chintamreddy Venkata Revathi	19071A0408	B.Tech. (ECE)
4	Mrs.T.Kusuma Assistant Professor of Mathematics kusuma_t@vnrvjiet.in	Clustering models in Machine Learning for Engineering Applications	Doma Manaswini	18071A0473	B.Tech. (ECE)
			Venkata Yashaswini Polavarapu	18071A04A6	B.Tech. (ECE)
			B V N Sai Manish Kumar	18071A04C7	B.Tech. (ECE)
			Gannavarapu Sri Aditya	18071A0475	B.Tech. (ECE)

5	Dr.B.Ashok Assistant Professor of Physics ashok_b@vnrvjiet.in	AC conductivity characterization of lithium borate glasses doped with manganese ions	Gollapally Surya Teja	18071A0383	B.Tech. (ME)
			Pulagam Anusha	19075A0304	B.Tech. (ME)
6	Mr.P.Pavan Kumar Assistant Professor of Physics pavankumar_p@vnrvjiet.in	Physical, Optical and Electrical Properties of Glasses for Engineering Applications	Annapureddy Sai Kirtana	19071A0367	B.Tech. (ME)
			R.Lakshmi Akanksha	19071A03A7	B.Tech. (ME)
7	Dr.T.Rajani Assistant Professor of Physics rajini_t@vnrvjiet.in	Nano ferrite composites for Energy applications	Shashidhar Reddy Nandikonda	18071A03A8	B.Tech. (ME)
			Rapelly Rahul	18071A03A3	B.Tech. (ME)
			Darsi David Raju	18071A0375	B.Tech. (ME)
8	Dr.K.S.Rudrama mba Assistant Professor of Physics rudramamba_ks@vnrvjiet.in	High dielectric polymer based nano composites for energy storage applications	Shiva Kumar Reddy Devasani	19075A0302	B.Tech. (ME)
			M Keerthi	18071A0330	B.Tech. (ME)
			Dharma Sai Singarapu	19075A0305	B.Tech.
9	Dr.L.Srinivasa Rao Assistant Professor of Physics srinivasarao_l@vnrvjiet.in	Bioactive Glasses for Medical Applications	Haarika Jogu	18071A0324	B.Tech. (ME)
			Dundy Naga Pavan Teja Gorijala	19071A0380	B.Tech. (ME)
10	Dr.L.Srinivasa Rao Assistant Professor of Physics srinivasarao_l@vnrvjiet.in	Synthesis and Characterization of Bio- degradable plastics for daily use	P. Srujana	18071A0343	B.Tech. (ME)
			Kolukula Haripriya	18071A0328	B.Tech. (ME)
11	Dr. C.Thirmal Assistant Professor of Physics thirmal_ch@vnrvjiet.in	Piezoelectric materials for soft robotic actuators	J.Ruchitha	19075A0308	B.Tech. (ME)
			Tankasala Spurthi	18071A03B1	B.Tech. (ME)
			Chippa Harini	18071A0373	B.Tech. (ME)

			Dayyala Likhitha	19075A0307	B.Tech. (ME)
12	Dr. NV Suresh Kumar Assistant Professor of Physics sureshkumar_nv@vnrvjiet.in	Quantum mechanical methods for quantum computing	Guda Madhavi	18071A0476	B.Tech. (ECE)
			Gosula Shiva Kumar	18071A04E5	B.Tech. (ECE)
13	Dr. G.V. Rao Assistant Professor of Physics venkateswararao_g@vnrvjiet.in	Usage of genetic algorithms and networks in nanocluster particle analysis-1	Sathvika Manchala	19071A03A9	B.Tech. (ME)
			Ch.Madan	19071A0378	B.Tech. (ME)
14	Dr. G.V. Rao Assistant Professor of Physics venkateswararao_g@vnrvjiet.in	Usage of genetic algorithms and networks in nanocluster particle analysis-2	Katari Teja Venkata Srihari Varma	18071A0387	B.Tech. (ME)
			B. Chandra Kiran	18071A0369	B.Tech. (ME)
			Siddula Shiva Pradeep	18071A03A9	B.Tech. (ME)
15	Dr. D. Venkata Sai Assistant Professor of Physics venkatasai_d@vnrvjiet.in	Understand and explore various mechanisms in liquid crystal based applications	P. Sharanya	19071A03A1	B.Tech. (ME)
			Annam Sai Nikhil	18071A0364	B.Tech. (ME)
			Sathvika Sriramaneni	19071A03B4	B.Tech. (ME)
16	Dr. B. Srinivas Assistant Professor of Physics srinivas_b@vnrvjiet.in	Mechanical properties of glasses	Renuka Bolisetti	19071A0372	B.Tech. (ME)
		Mechanical properties of glasses	Nithesh Reddy Chamala	19071A0375	B.Tech. (ME)
17	Dr. S.D. Ramarao Assistant Professor of Physics dasaradharamarao_s@vnrvjiet.in	Structural and optical studies on direct and indirect band gap semiconductors: Applicability towards energy	Pavan Teja Bodapati	18071A0372	B.Tech. (ME)
			Hareesh.D	18071A0379	B.Tech. (ME)
			Javvaji Anisha	18071A04E7	B.Tech. (ECE)
			Vodnala Sudeshna	19075A0306	B.Tech. (ME)
18	Dr.K.Madhavi Assistant Professor of Chemistry	Nanomembranes to remove water pollutants	Challa Tejashree	18071A0309	B.Tech. (ME)
			Gurram Pavan	18071A0385	B.Tech. (ME)

	madhavik@vnrvjiet.in		Nikitha Rapolu	18071A0350	B.Tech. (ME)
			Sai Nareen Purimetla	18071A0351	B.Tech. (ME)
19	Dr.P.Padmavathi Assistant Professor of Chemistry padmavathi_p@vnrvjiet.in	Nanomembranes to remove air pollutants	Cigiri Dharmi Kanth	18071A0374	B.Tech. (ME)
			Rahitya Kolla	18071A0392	B.Tech. (ME)
			Yenumula Lakshmikanth	18071A03C0	B.Tech. (ME)
			Lingala Keshav Reddy	19071A0391	B.Tech. (ME)
20	Dr.N.Mamatha Assistant Professor of Chemistry mamatha_n@vnrvjiet.in	Organic polymer materials for energy storage devices.	Cheekoti Murali Krishna	19071A0376	B.Tech. (ME)
			Pokala.Karthik	18071A0347	B.Tech. (ME)
21	Dr. Shuchi Tiwari Assistant Professor of Chemistry shuchi_t@vnrvjiet.in	Development the novel low cost and sustainable 3d printable polymer composite material with NTPC fly ash and recycled PET	Tirupati Sai Neeraj	18071A03B5	B.Tech. (ME)
			K.Vinay Kumar	18071A0327	B.Tech. (ME)
			K. Susheel Kumar Yadav	18071A0386	B.Tech. (ME)
			Metpalli Naidhruv	19071A0397	B.Tech. (ME)
22	Dr. Shuchi Tiwari Assistant Professor of Chemistry shuchi_t@vnrvjiet.in	Measuring Happiness Through Artificial Intelligence and understanding with Machine Learning Approach	G.Vijaya Sai Pravallika	18071A0319	B.Tech. (ME)
			Oliver John Bollam	18071A0468	B.Tech. (ECE)
			S.Bindu Bhargavi	19071A03B2	B.Tech. (ME)

h) Paper Publications (as on 21-06-2023):

Papers Published in Peer Reviewed Indexed Journals: 22

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
1	Dr. L. Srinivasa Rao, Asst. Professor (Physics) H&S	L. Srinivasa Rao	AC conductivity and polarization phenomenon of Li ₂ O–MoO ₃ –B ₂ O ₃ :V ₂ O ₅ glasses	Journal of Alloys and Compounds (Elsevier)	Volume 787, Pages : 1280-1289.	30 th May, 2019	ISSN : 0925 - 8388	17	4.65	Scopus, SCI, WOS, Scimago and Google Scholar
2	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	P. Venkateswara Rao, G. Naga Raju, P. Syam Prasad, T. Satyanarayana, L. Srinivasa Rao , F. Goumeidane, M. Iezid, W. Marltan, G. S. Baskaran, N. Veeraiah	Role of molybdenum ions in lead zinc phosphate glass system by means of dielectric studies	Materials Science-Poland (Sciendo)	Volume 36: Issue 4. Pages : 623–629.	1 st Feb, 2019	ISSN : 2083 - 1331	2	1.01	Scopus, SCI, WOS, Scimago and Google Scholar
3	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	L. Srinivasa Rao , V. Ravi Kumar, P. Naresh, P. V. Rao, N. Veeraiah	Optical absorption and photoluminescence properties of vanadium ions in 'lithium-tungsten-borate' oxide glasses	Materials Today: Proceedings (Elsevier)	Volume 5, Issue 13, Part 1, 2018, Pages 2629 0-2629 7	19 th December, 2018	ISSN : 2214 - 7853	10	1.09	Scopus, SCI, WOS, Scimago and Google Scholar
4	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	L. Srinivasa Rao , T. Venkatappa Rao, Sd.	Structural and optical properties of zinc magnesium oxide nanoparticle	Materials Chemistry and Physics (Elsevier)	Volume 203, Pages 133-140	1 st January, 2018.	ISSN : 0254 - 0584	41	3.408	Scopus, SCI, WOS, Scimago and Google Scholar

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/ Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
		Naheed , P. V. Rao	s synthesized by chemical co-precipitation							
5	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	L.Srinivasa Rao, P.Venkateswara Rao, M.V.N.Vasudev Sharma, N. Veeraiah	J-O parameters versus photoluminescence characteristics of 40Li ₂ O-4 MO (MO Nb ₂ O ₅ , MoO ₃ and WO ₃)-55B ₂ O ₃ :1Nd ₂ O ₃ glass systems	Optik (Elsevier)	Vol. 142, Pages 674–681.	August,, 2017	ISSN : 0030 - 4026	16	2.187	Scopus, SCI, WOS, Scimago and Google Scholar
6	Dr. C. Thirimal Assistant Professor, H&S (Physics)	P. P. Biswas, C. Thirimal, S. Pal, and P. Murugavel	Dipole pinning effect on photovoltaic characteristics of ferroelectric BiFeO ₃ films	<i>Journal of Applied Physics</i>	123 (2), 024101	January 2018	ISSN - 0021 - 8979	12	2.1	SCOPUS & Web of Science/
7	Dr. C. Thirimal Assistant Professor, H&S (Physics)	Shradhanjali Sahoo, TR Ravindran , V Srihari, KK Pandey, Sharat Chandra, C Thirimal, P Murugavel	Pressure induced phase transformations in diisopropylammonium bromide	<i>Journal of Solid State Chemistry</i>	Volume 274, Pages 182-187	June 2019	ISSN : 0022 - 4596	7	2.2	SCOPUS & Web of Science
8	Dr. C. Thirimal Assistant Professor, H&S (Physics)	PP Biswas, C. Thirimal, S Pal, M Miryala, M Murakami , P Murugavel	The composition and poling-dependent photovoltaic studies in ferroelectric (Bi _{1-x} Sr _x)(Fe _{1-x} Ti _x)O ₃ thin films	<i>Journal of Materials Science: Materials in Electronics,</i>	Volume: 31, 1515-1523	January 2020	ISSN - 0957 4522	6	2.1	SCOPUS & Web of Science

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/ Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
9	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	P. Naresh, A. Chitti Babu, L. Srinivasa Rao, G. Nagaraju	“Effect of TiO ₂ modifier oxide on a B ₂ O ₃ glass system”	<i>Journal on Physical Sciences</i> (i-manager)	1(1), 1-7 (2019)	2019	peer reviewed	-	N/A	SCOPUS & Web of Science
10	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S Dr. C. Thirimal Assistant Professor, H&S (Physics)	L. Srinivasa Rao, C. Thirimal, P. Raghavendra Rao	“Dielectric Dispersion, Linear and Nonlinear Optical Properties of Li ₂ O–WO ₃ –B ₂ O ₃ : V ₂ O ₅ Glasses”	<i>J. Advanced Dielectrics</i> (World Scientific)	Vol. 10, No. 3 (2020) 2050-2066 (8 pages)	2020	ISSN: 2010-135X (online): 2010-1368	11	0.99	SCOPUS & Web of Science
11	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	L. Srinivasa Rao, Ch. Sai Phani Kumar, K. Aruna Prabha, C.D. Naidu, P. R. Rao	“Effect of ZnO nanoparticles on structure and magnetic properties of Li ₂ O–B ₂ O ₃ : TiO ₂ glasses”	<i>AIP conference proceedings</i> (AIP Publishers)	2269, 030101 (2020)	2020	ISSN: 0094-243X; (online): 1551-7616	2	0.4	SCOPUS & Web of Science
12	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	Ch. Sai Phani Kumar, L. Srinivasa Rao, K. Aruna Prabha, P.R. Rao	“Effect of zirconium oxide nanoparticles on physical and structural properties of bismuth borate manganese	<i>Ceramics International</i> (Elsevier)	Vol. 46 (18), Part A, 2020, Pages 2829-2829	2020	ISSN: 0272-8842	4	3.83	SCI, SCOPUS & Web of Science

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/ Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
			oxide glasses”							
13	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S Dr. C. Thirmal Assistant Professor, H&S (Physics)	L. Srinivasa Rao, P.R. Rao, C. Thirmal, M.V.R. Rao	“Lithium–Molybdenum–Borate Glasses Doped with Cu ²⁺ ions as Solid Electrolytes ”	<i>Journal of The Institution of Engineers (India): Series E (Springer)</i>	https://doi.org/10.1007/s40034-020-00193-y	January, 2021	ISSN : 2250-2483; (online): 2250-2491	3	0.88	SCOPUS & Web of Science
14	Dr. C. Thirmal Assistant Professor, H&S (Physics) Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	C. Thirmal, L. Srinivasa Rao, AB Swain, SK Srivastav	“The Effect of Fluorine Doping on Structural and Dielectric Properties of Molecular Ferroelectric Diisopropyl ammonium Bromide”	<i>Journal of The Institution of Engineers (India): Series E (Springer)</i>	https://doi.org/10.1007/s40034-020-00191-0	February, 2021	ISSN : 2250-2483; (online): 2250-2491	1	0.88	SCOPUS & Web of Science
15	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S Dr. Shuchi Tiwari, Asst. Professor	L. Srinivasa Rao, C.D. Naidu, Shuchi Tiwari	“Investigation on synthesis, structure and degradability of starch based	<i>Materials Today: Proceedings (Elsevier)</i>	https://doi.org/10.1016/j.matpr.2021.01.91	March, 2021	ISSN: 2214-7853	7	Cite Score : 1.3	SCOPUS & Web of Science

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/ Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
	(Chemistry), H&S		bioplastics”		7					
16	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	R.N.A. Prasad, L. Srinivasa Rao, T. Anil Babu, K. Neeraja, N. Krishna Mohan	“Structural and photoluminescence characteristics of PbO-M ₂ O ₃ (M ₂ O ₃ = Al ₂ O ₃ , Sb ₂ O ₃ and Bi ₂ O ₃)-WO ₃ -B ₂ O ₃ :Sm ₂ O ₃ glasses suitable for orange-red lasers”	<i>Optik - International Journal for Light and Electron Optics (Elsevier)</i>	Vol. 244, Pages 1-12	July 2021	ISSN: 0030-4026	5	2.44	SCI, SCOPUS & Web of Science
17	Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	N. Jayaram babu, L. Srinivasa Rao, T.V. Rao R. Rakesh Kumar	“Study of optical and structural properties of natural bamboo fiber powder prepared by ball milling method”	<i>The European Physical Journal Plus (Springer)</i>	2021 136 : 989	October 2021	ISSN: 2190-5444	1	3.91	SCI, SCOPUS & Web of Science

S.No.	Faculty Name, Designation & Department	List of Authors in the order that appears on the paper	Full title of the paper	Journal name	Volume, Issue, Page No.	Month/ Year of publication	ISSN / ISBN No.	No. of citations	Impact Factor	Indexed in Web of Science /Google Scholar/ Scopus
18	Dr.N.V. Suresh Kumar, Asst. Professor (Physics), H&S Dr. L. Srinivasa Rao, Asst. Professor (Physics), H&S	N.V. Suresh Kumar, L. Srinivasa Rao	Theoretical insights into interaction energy, IR intensity and Raman activity enhancements of H ₂ O adsorbed on Mg containing Zn ₃ O ₃ nanoclusters	<i>Computational and Theoretical Chemistry</i> (Elsevier)	1212 (2022) 1137-1138	April, 2022	2210-271X ISSN	2	1.926	SCI, SCOPUS & Web of Science
19	L. Srinivasa Rao, Assistant Professor, H&S (Physics)	L. Srinivasa Rao , Shamima Hussain, A. Navalika, K. Aruna Prabha, N.V. Suresh Kumar, B. Chennakesava Rao	Effect of ZnO nanoparticles on structure and magnetic properties of Bi ₂ O ₃ -B ₂ O ₃ :Cr ₂ O ₃ glasses	Current Research in Green and Sustainable Chemistry (Elsevier)	https://doi.org/10.1016/j.matpr.2023.04.480	10 May, 2023	Online ISSN: 2214-7853	2	Cite Score: 2.3	SCOPUS, Google Scholar etc.
20	L. Srinivasa Rao, Assistant Professor, H&S (Physics)	A. Akshaykranth, N. Jayaram babu, Ashish kumar, T. Venkatappa Rao, R. Rakesh Kumar, L.	Novel nanocomposite polylactic acid films with Curcumin-ZnO: structural, thermal, optical and antibacterial properties	Current Research in Green and Sustainable Chemistry (Elsevier)	Vol. 5 Article no. 100332 Pages 1-8 https://doi.org/10.1016/j.crgs	1 August 2022	ISSN : 2666-0865	4	Cite Score: 1.7	SCOPUS, SCImago, Google Scholar etc.

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		Srinivasa Rao			c.2022.10.0332					
21	L. Srinivasa Rao, Assistant Professor, H&S (Physics)	A. Akshaykranth, N. Jayarambabu, T. Venkatappa Rao, R. Rakesh Kumar, L. Srinivasa Rao	Antibacterial activity study of ZnO incorporated biodegradable poly (lactic acid) films for food packaging applications	Polymer Bulletin (<i>Springer</i>)	https://doi.org/10.1007/s00289-022-04126-0 (1-16)	11 February, 2022	Electronic ISSN 1436-2449. Print ISSN 0170-0839	4	2.87	SCI, SCOPUS, Web of Science, Scimago, Google Scholar etc.
22	Dr. C. Thirimal, Assistant Professor, H&S (Physics)	C. Thirimal, S.D. Ramarao, L. Srinivasa Rao, V.R.K. Murthy	Study of structural, dielectric and AC conductivity properties of SrMoO ₄	Materials Research Bulletin (<i>Elsevier</i>)	Volume 146, 1116-18	February 2022	Print ISSN: 0025-5408 Online ISSN: 1873-4227	7	5.6	SCI, WOS, SCOPUS,

i) Patents Filed/Published/Sanctined: 08

S.No.	Name of the Faculty	Application No.	Title	Status
1	Dr. Ch. Thirmal Asst. Professor (Physics)	201641006148	“Fabrication of eco-friendly organic ferroelectric diisopropylammonium bromide films”	Granted-337402 (05/06/2020)
2	Dr. L. Srinivasa Rao Asst. Professor (Physics)	202141008364	“Development of bismuth borate glasses co-doped with small concentrations of manganese oxide and zirconium oxide nanoparticles suitable for luminescent materials”	Published (05/03/2021) & Under Examination
3	Dr. Ashok Bhogi Asst. Professor (Physics) Dr. B. Srinivas Asst. Professor (Physics)	202221003745	“Method for the synthesis of mixed metal nanoscale composites using low cost precursors”	Published 18/02/2022
4	Dr. K.S. Rudramamba Asst. Professor (Physics)	202241027437	“A Series Capacitive Compensation Technique with Design Based Iterative Algorithm for Mitigation of Ferranti Effect in EHV and UHV Power Transmission Systems”	Published 27/05/2022
5	Dr. E. Prasad Asst. Professor (Mathematics)	202241026851	“Two-temperature magneto-thermoelasticity for heat conductivity”	Published 20/05/2022
6	Dr. E. Prasad Asst. Professor (Mathematics)	202241028401	“Mathematical modeling and Internet of things based Patient health monitoring system”	Published 27/05/2022
7	Dr. R. Srilatha Asst. Professor (Mathematics)	202241031513	“An Approach for Solving Differential Equations and Variational Problems Based on Python Elvet NN System”	Published 10/06/2022
8	Dr. N.Pothanna Associate Professor (Mathematics)	202241037470	“Efficient image smoothing and parallel structure design using five directional partial derivatives”	Published 22/07/2022
