

**Name:** Dr. Linganaboina Srinivasa Rao

**Designation:** Assistant Professor (Physics)

**Department:** Humanities & Sciences

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**Experience (in years):** 21    **Teaching:** 16    **Research:** 19    **Others (if any, specify):** Nil

## 1. Educational / Technical qualifications:

S.No	Level (UG / PG / Ph.D)	Year of passing	Specialization
1	B.Sc. (Kakatiya University)	2000	M P Cs
2	M.Sc. (Kakatiya University)	2002	Engineering Physics
3	M. Phil. (Acharya Nagarjuna University)	2005	Solid State Physics
4	Ph.D (Acharya Nagarjuna University)	2008	Solid State Physics
5	PG Diploma (University of Hyderabad)	2011	Telecommunications
6	TS & AP SET (Osmania University)	2015	Physical Sciences

## 2. Teaching and Learning:

### 2.1. Teaching Interests:

- Physics for Computing Science
- Engineering Physics
- Applied Physics
- Nanotechnology
- Basics of Quantum Computing
- Basics of Internet of Things

### 2.2. Novel Teaching & Learning Techniques adopted:

- WIT & WIL
- Scenario
- Think Pair Share
- POGIL
- Learning by Doing
- Technical Quiz
- Coursera
- Microsoft Teams

### 2.3. Involvement in curriculum updating / Design:

- Developed the digital content for Engineering Physics, Applied Physics & Physics for Computing Science
- Co-authored Engineering Physics Lab manual

- Designed curriculum for Physics subjects (R-18 and R-19) as per AICTE model curriculum.
- Developed course projects and working models.

### **3. Co-curricular and Extra-Curricular Activities**

#### **3.1. Interests and Hobbies:**

- Watching short videos
- Reading Books

#### **3.2. CCA/ECA Organized:**

- Established the Research lab at Centre for Nanoscience and Technology
- Reviewer for following Elsevier journals and an Indian journal:
  - ✓ Optik - International Journal for Light and Electron Optics
  - ✓ Materials Chemistry and Physics
  - ✓ Journal of Alloys and Compounds
  - ✓ Journal of Non-crystalline Solids
  - ✓ Ceramics International
  - ✓ Radiation Physics and Chemistry
  - ✓ International Journal of Modern Physics B
  - ✓ Indian Journal of Engineering & Materials Sciences
  - ✓ IOP: Journal of Physics
- Prepared Scenario for Engineering Physics on 1. Internet of Things 2. Fiber Optics 3. Maglev Trains
- Guided first year students for course projects.
- Guided first year B.Tech. students for idea presentation in Open house.
- Guided IV-B.Tech. and M.Tech. Students for major course projects.
- Guiding B.Tech. Students for internships.
- In-charge for Learning Management Systems (Physics)

#### **3.3. CCA/ECA participated:**

- Completed the online courses on Mezzanine Technologies viz., Quantum computing and Artificial Intelligence sponsored by Coursera.
- Participated in events conducted by Center for Nanoscience Technology
- Participated in events conducted by Center for Education Technology

#### **3.4. Counseling and Mentoring Activity: Nil**

#### **3.5. Committees involved in:**

##### **Department level:**

- Member, BOS – Physics, VNRVJIET
- Member, Ambiance Committee, NAAC peer team visit-2018.

##### **Institute Level:**

- Coordinator, Centre for Nanoscience and Technology
- Member, Competency Development Centre
- Member, Restart Committee, SOPs
- Member, Grievance Redressal Committee
- Member, R&D Committee
- Member, Academic Committee, Deemed University, VJ.

**Others:**

- Member, BOS-Physics, Malla Reddy Engineering College for Women, Secundrabad
- Member, Editorial Board SCIREA Journal of Physics
- Member, Editorial Board SCIREA Journal of Physics.
- Member, International Journal of Materials Science and Applications.

#### **4. Conference / Workshop / Seminar / Guest Lectures:**

##### **4.1 Conducted:**

1. AICTE sponsored STTP- “Design and Structural Evolution of Advanced Functional Materials Suitable for Engineering Applications” during 15–20 February 2021 and 1-6 March 2021 for faculty of Technical Institutions under AICTE.
2. Invited talk on “Role of Modern Physics for Advancement of Quantum computing” for the I-B.Tech. (CSE & IT) students and the Faculty of Physics on 14-03-2020 as a part of Silver Jubilee Celebrations of the Institute. Resource person: Dr. M. V. Panduranga Rao, Associate Professor of CSE, IIT, Hyderabad.
3. Guest lecture on “Nanomaterials for Energy Harvesting Applications” for I-B.Tech. (EIE & EEE) students on 15-03-2019 at VNRVIET; Resource person: Dr. R. Rakesh Kumar, Asst. Professor, NIT Warangal.
4. Three special lectures on “Elements of Nanoscience & Technology” for I-B.Tech. (EIE, ECE & EEE) students on 22-04-2017, 24-04-2017 and 26-04-2017 at VNRVJIET. Resource persons: CNST team.
5. Guest lecture on “Nuclear Magnetic Resonance: Molecule to Human” for I- B. Tech. (EIE) students on 18-02-2017 at VNRVIET; Resource person: Dr. D. Krishna Rao, Scientific Officer, TIFR, Hyderabad.
6. Guest lecture on “Nanoscience and Nanotechnology for sustainable infrastructure” for III-B.Tech. (EEE, ECE, EIE) students on 06-07-2016 at VNRVIET. Resource person “Dr. Sesha S. Srinivasan, Florida Polytechnic University, USA.
7. Orientation program for I. B.Tech. students from 06/08/2015 to 08/08/2015 at KITS, Khammam.
8. Orientation program for I. B.Tech. students from 04/09/2014 to 06/09/2014 at KITS, Khammam.

9. Orientation program for I. B.Tech. students from 26/09/2013 to 26/09/2013 at KITS, Khammam.
10. Faculty Development Course on 25/10/2014 at KITS, Khammam.
11. National level students' technical and cultural fest from 03/03/2015 to 04/03/2015 at KITS.
12. National level students' technical and cultural fest from 05/02/2014 to 6/02/2014 at KITS.

#### **4.2 Attended:**

##### **Institute level (at VNRVJIET)**

1. Invited talk on "Role of Modern Physics for Advancement of Quantum computing" for on 14-03-2020. Resource person: Dr. M. V. Panduranga Rao, CSE, IIT, Hyderabad.
2. One week Workshop on "Writing Quality Research Papers" during 6<sup>th</sup>-11<sup>th</sup> January 2020 organized by RCC, VNRVJIET.
3. Two-day workshop on "Technical Writing" held on 28<sup>th</sup> & 29<sup>th</sup> June 2019 organized by Department of Humanities and Sciences.
4. Three-day workshop on "Outcome based teaching learning & assessment strategies" during 25<sup>th</sup> - 27<sup>th</sup> June 2019 organized by Department of Humanities and Sciences.
5. Guest lecture on "Nanomaterials for Energy Harvesting Applications" for I-B.Tech. (EIE & EEE) students on 15/03/2019 at VNRVIET; Resource person: Dr. R. Rakesh Kumar, Asst. Professor, NIT Warangal.
6. Two-day national level seminar on "Laser technology and its applications" organized by Department of EIE during 29-11-2017 to 30-11-2017.
7. 4-week FDP program (FDP101x) organized by IIT Bombay during Aug - Sep 2017.
8. 8-week FDP program (FDP201x) organized by IIT Bombay during Sep - Nov 2017.
9. Workshop on "Spoken Tutorials" organized by Center for Education Technology, H&S, VNRVJIET on 27-03-2017.
10. A talk on "Life at VJ" by Dr. D.N. Rao, President, VJ, on 14-03-2017 at VJIM.
11. Guest lecture On "Nuclear Magnetic Resonance: Molecule to Human" dated 18/02/2017 by Dr. D. Krishna Rao, TIFR, Hyd. organized by H&S and EIE Department, VNRVJIET.

12. A lecture and practice session on “Screen Casting” organized by Center for Education Technology, H&S, VNRVJIET on 08-02-2017.
13. A one-day workshop on "Advanced Engineering Materials & Applications" on 31st January 2017 organized by Department of Mechanical Engineering, VNR VJIET.
14. As a part of 7th IEEE International Advance Computing Conference (IACC-2017) a preconference workshop entitled "Nano & Quantum computers - The Future of Computing!" is conducted by Center for Nanoscience & Technology on 5<sup>th</sup> January 2017. The Resource Persons are i) Dr. M. V. Panduranga Rao, IIT Hyderabad ii) Dr. Siva Rama Krishna, IIT Hyderabad.
15. A guest lecture on two different topics viz., “i) Paper based lithium-ion batteries for flexible hybrid electronics and ii) Analytical analysis of human breath for identifying significant changes in composition induced from Hypoglycemia” is held on 30.12.2016 addressed by Dr. Mangilal Agarwal, Indiana University–Purdue University Indianapolis (IUPUI, USA).
16. A Session on POGIL (Process Oriented Guided Inquiry Learning" has been arranged on 9th December, 2016 by Center for Education Technology, H&S, VNRVJIET addressed by Mr. Clif Kussumaul,. Muhlenberg College, USA.
17. TEQIP-II sponsored guest lecture on “Understanding global education framework and technology in education- Indian Perspective on 26-11-2016 addressed by Mouttoucoumaran Viramouttou, USA.
18. A session on “Flipped Classroom” 16th November 2016 organized by Center for Education Technology, H&S, VNRVJIET.
19. A Seminar on quality parameters and standards for institute accreditation organized by IQAC, VNR VJIET on 12-11-2017.
20. A lecture on Bloom’s Taxonomy -Analysis and Assessment of Model TPS on 25-10-16 and Lab session on 01-11-2017 organized by Center for Education Technology, H&S, VNRVJIET.
21. A talk on i) Presencing at top US Universities & Validating VJ Philosophy and Initiatives ii) Mapping Panel Discussions on “The future of work-Role of HR” by Dr. D.N Rao, Prescient, VJ on 07-11-2017 at VJIM.
22. A guest lecture on “Nanoscience and Nanotechnology for sustainable infrastructure” was organized by CNST, H&S, VNR Vignana Jyothi Institute of Engineering and Technology on 06.07.2016. The resource person “Dr. Sesha S. Srinivasan, Florida Polytechnic University, USA.

23. Two-day Orientation cum Workshop for New faculty on “Recent advances in Teaching Learning Pedagogies” organized by VNR Vignana Jyothi Institute of Engineering and Technology under TEQIP-II 18<sup>th</sup>-19<sup>th</sup> May 2016.

### **International**

1. Attended and presented a paper entitled “Effect of ZnO nanoparticles on structure and magnetic properties of Bi<sub>2</sub>O<sub>3</sub>-B<sub>2</sub>O<sub>3</sub>: Cr<sub>2</sub>O<sub>3</sub> glasses” at 2<sup>nd</sup> International Conference on Multifunctional Materials organised by Geethanjali College of Engineering and Technology, Hyderabad, Telangana, India, during 22<sup>nd</sup> – 24<sup>th</sup> December 2022.
2. Attended and delivered an invited talk on “Thermal characterization of nanomaterials-DSC/DTA/TGA” in IEEE Summer School on Nanotechnology–2022 “A 4-day Training on Fabrication and Characterization of Nanomaterials” organised by VNR Vignana Jyothi Institute of Engineering and Technology, Bachupally, Hyderabad, Telangana, India-500 090, held during 16<sup>th</sup> – 19<sup>th</sup> November 2022.
3. (online) International Symposium on Semiconductor Materials and Devices, ISSMD-2020 from 31/10/2020 to 02/11/2020, jointly organized by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Semiconductor Society (India) and Society for Semiconductor Devices.
4. 6-week Online course on “Physical Basics of Quantum Computing” during 22<sup>nd</sup> June 2020 to 29<sup>th</sup> July 2020 by Saint Peterberg State University (offered through Coursera).
5. 4-week Online course on “Introduction to Artificial Intelligence (AI)” during 15<sup>th</sup> August 2020 to 12<sup>th</sup> September 2020 by IBM (offered through Coursera).
6. International Conference on Multifunctional Materials during 19<sup>th</sup>–21<sup>st</sup> December 2019 for oral presentation of a Research Paper “Effect of ZnO nanoparticles on structure and magnetic properties of Li<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>: TiO<sub>2</sub> glasses” by Geethanjali College of Engineering and Technology, Hyderabad.
7. 7<sup>th</sup> IEEE international conference on technology for education (T4E-2015) during 10<sup>th</sup>-12<sup>th</sup> December, 2015 organized by NIT Watangal, Telangana, India.
8. International seminar on glasses and other functional materials (ISGFM-2014) during 11<sup>th</sup>-13<sup>th</sup> December 2014 organized by Department of Physics, Acharya Nagarjuna University, Guntur, A.P., India.
9. International conference on Luminescence and its Applications (ICLA-2012) during 7<sup>th</sup>-10<sup>th</sup> February, 2012, Hyderabad, India organized by Rajiv Gandhi University of Knowledge Technologies, Hyderabad, India., Indian Institute of Chemical Technology, Hyderabad, India and Luminescence Society of India.

10. International Seminar on Science and Technology of Glass Materials (ISSTGM-2009) during 16<sup>th</sup>-19<sup>th</sup>, March 2009 organized by Department of Physics, Acharya Nagarjuna University, Guntur, A.P., India.
11. International Conference on Luminescence and its Applications (ICLA-2008) during 13<sup>th</sup>-16<sup>th</sup>, February 2008 organized by National Physical Laboratory (NPL), New Delhi, India.

### **National**

1. Three days Faculty Development Program on Virtual Physics Labs sponsored by TEQIP-III (NPIU-MHRD, Govt. of India) and organized by JNTUA College of Engineering (A) Ananthapuramu, A.P. in association with University College of Engineering & Technology, Bikaner Technical University, Bikaner (Raj.) from 07th Sep 2020 to 09th.Sep 2020.
2. Short Term Program on E-Content Development and Online Pedagogy during 18<sup>th</sup>-23<sup>rd</sup> January 2021. Human Resource Development Centre, University of Hyderabad.
3. One Week Online FDP on “Engineering Physics and Materials Science” during 3<sup>rd</sup>-7<sup>th</sup> August 2020 Department of Physics, CBIT, Hyderabad.
4. One week Faculty Development Program on “Nano Hybrid Composite Materials Characterization & Applications” during 24<sup>th</sup> to 28<sup>th</sup> August 2020, organized by Department of Mechanical Engineering, VNRVJIET.
5. National conference on “Advances in Chemical Engineering and Science (ACES) 2020” which is scheduled to be held during February 28<sup>th</sup>-29<sup>th</sup>, 2020 at Indian Institute of Science Education and Research (IISER) Bhopal, Madhya Pradesh, India.
6. Python workshop on 22<sup>nd</sup> June, 2019 organized by Teaching Learning Centre at IIT Bombay.
7. Three-day workshop on “Train the Trainers on Induction Program” during 5<sup>th</sup> -7<sup>th</sup> August 2019 organized by Jawaharlal Nehru Tecchnological University, Hyderabad.
8. National Conference on Advances in Nano and Functional Materials-NCANFM-2019 during 30<sup>th</sup>-31<sup>st</sup> January 2019 organized by Department of Physics, Osmania University, Hyderabad.
9. Two-day National Conference on “Materials For Specific Applications” during 29<sup>th</sup>-30<sup>th</sup> January, 2018 Organized by Department of Physics, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad.
10. UGC sponsored two days National Seminar on Physics and Chemistry of Non-Crystalline Materials on 1<sup>st</sup>-2<sup>nd</sup> December 2017 organized by Kakani Venkata Ratnam College Nandigama, Krishna District, Andhra Pradesh, India.

11. Faculty development program on “Human Values & Professional Ethics” on 25<sup>th</sup> October 2014 organized by Khammam Institute of Technology & Sciences, Khammam-507122, Telangana, India.
12. Two days workshop on “Mentoring Skills and thinking Skills for Engineering Faculty” held on 18<sup>th</sup>-19<sup>th</sup> July 2014 organized by JNTUH College of Engineering Hyderabad.
13. One day National conference on “Nanoscience & Nanotechnology” NCNN-2014 on 21<sup>st</sup> February 2014 organized by Department of Chemistry, Mahathma Gandhi University, Nalgonda-508254, Telangana, India.
14. UGC Sponsored National Seminar on “Multi Functional Materials” NSMFM-2013) during 6<sup>th</sup>-7<sup>th</sup> March 2013 organized by Department of Physics, Andhra Loyola College, Vijayawada-520 008, A.P. India.
15. National Seminar on Nanomaterials & Their Applications (NSNMA-2009) during 10<sup>th</sup>-11<sup>th</sup> December 2009.organized by Department of Physics, Dharma Apparao College, Nuzvid – 521 201, A.P., India.
16. National Workshop on “Nuclear Energy and Applications (NEA-2009)” during 21<sup>st</sup>-22<sup>nd</sup> March 2009 organized by Department of Physics, National Institute of Technology (NIT), Warangal, India.
17. National Seminar on Advances in Amorphous Materials (NAAM-2007) during 1<sup>st</sup>-3<sup>rd</sup> February, 2007organized by Department of Physics, Acharya Nagarjuna University-Nuzvid Campus, Nuzvid – 521 201, A.P., India.
18. National Workshop on “Recent advances in Physics” during 3<sup>rd</sup>-4<sup>th</sup>, February 2006 organized by Department of Physics, Kakatiya University, Warangal – 560 009, India.
19. National Conference on Luminescence and its Applications (NCLA-2005) during 2<sup>nd</sup>-4<sup>th</sup>, February 2005 organized by Department of Physics, Bangalore University, Bangalore – 560 056, India.
20. National Seminar on Physics of Non-Crystalline Materials (PNCM-2004) during 29<sup>th</sup>-31<sup>st</sup> December 2004 organized by Department of Physics, Acharya Nagarjuna University - Nuzvid Campus, Nuzvid – 521 201, A.P., India.

#### **4.3 Webinars Attended:**

1. Two-day international webinar on “Recent Advances in Materials Science & Engineering” organized SVCR Govt. Degree College, Chittoor, A.P. during 23<sup>rd</sup> -24<sup>th</sup> September 2021.
2. Two-day webinar on “Google Tools to Online Teaching” organized Krishna University, MRAR PG Centre, Nuzvid, A.P. during 26<sup>th</sup> & 27<sup>th</sup> August 2021.
3. Three Day International Webinar Series on “Synthesis and Characterization of Nanomaterials and their Novel Applications” organized by Department of Physics, R.K.Valley, Rajiv Gandhi University of Knowledge Technologies, A.P (RGUKT-AP) from 17th to 19th August 2020.
4. Webinar on “Preparing oneself for Industry 4.0” organized by Department of Mechanical Engineering, VNRVJIET on 13th August 2020.
5. Webinar on “Multifunctional Materials” during 15<sup>th</sup>–16<sup>th</sup> July 2020 organized by Department of H&S, VNRVJIET, Hyderabad.
6. Online workshop on “Scientific Writing for Journals” on 20<sup>th</sup> May 2020 organized by Springer Nature.
7. Live session on “Leadership” on 30<sup>th</sup> May 2020 organized by Innovation Cell, MHRD, India.
8. Webinar on “Research Skill Development” during 23<sup>rd</sup>–27<sup>th</sup> June 2020 organized by Department of Physics, GITAM (deemed to be University), Hyderabad.
9. Two days webinar on “Recent Advances in Chemical Science” during 25<sup>th</sup> & 26<sup>th</sup> June 2020 organized by JB Institute of Engineering and Technology, Hyderabad.

## **5. Academic Contribution and Research & Consultancy:**

### **5.1. Invited Lectures: 07**

1. Invited talk on “Thermal characterization of nanomaterials-DSC/DTA/TGA” in IEEE Summer School on Nanotechnology–2022 “A 4-day Training on Fabrication and Characterization of Nanomaterials” organised by VNR Vignana Jyothi Institute of Engineering and Technology, Bachupally, Hyderabad, Telangana, India-500 090, held during 16<sup>th</sup> – 19<sup>th</sup> November 2022.
2. Invited talk on “Design and Applications of ZnMgO Nano-composites and ZrO<sub>2</sub> Nano glass-ceramics” in AICTE sponsored National level STTP- “Design and Structural Evolution of Advanced Functional Materials Suitable for Engineering Applications” during 15–20 February 2021 Centre for Nanoscience and Technology & Department of EIE, VNRVJIET, Hyderabad.

3. Guest Lecture on “Experimental Design and Applications of Nano-sensors” for IV- B. Tech. (EIE) on 26th September 2020 Department of EIE, VNRVJIET, Hyd.
4. Invited talk- “Design and Characterization of Metal and Metal oxide Nanocomposites for Engineering Applications” in One-week National level online FDP- “Nano Hybrid Composite materials Characterization & Applications” held during 24-08-2020 to 28-08-2020. Mechanical Department, VNRVJIET.
5. Invited talk in a Webinar on “ZnO based nanoparticles for engineering applications” during 15<sup>th</sup> –16<sup>th</sup> July, 2020. organized by Centre for Nanoscience and Technology, VNRVJIET
6. Invited talk on “Development Characterization and Analysis of Composites (DCAC-2019)” in a Faculty Development Program during 19<sup>th</sup> -23<sup>rd</sup> November 2019 organized by Department of Mechanical Engineering, VNRVJIET.
7. Invited talk on “Study on Electronic Polarizability and Non-linear Optical Susceptibility of  $\text{Li}_2\text{O}-\text{WO}_3-\text{B}_2\text{O}_3: \text{V}_2\text{O}_5$  Glasses” at “National Conference on Physics and Chemistry of Functional Materials (PCFM 2019)” during February 21<sup>st</sup>-22<sup>nd</sup>, 2019 organized by Department of Physics, GITAM University.
8. Lecture on “Smart Materials” for III- B. Tech. (Mechanical) on 9<sup>th</sup> July 2018 organized by Department of Mechanical Engineering, VNRVJIET, Hyderabad.

## 5.2. Articles / Chapters published in Books: 01.

1. Published a Book Chapter entitled “Review on synthesis and characterization of bioactive glasses and glass-ceramics for medical applications” in a Book “Frontiers in Life Science (Volume-VIII)” with ISBN no: 978-93-91768-15-7, published by Bhumi Publishing, India.  
<https://www.bhumipublishing.com/wp-content/uploads/2022/07/Frontiers-in-Life-Science-Volume-VIII.pdf>

## 5.3. Books published as single author or as editor: 01.

- Reviewed a textbook “Engineering Physics” published by Universities Press (2018).

#### 5.4. Projects Guided:

a) UG: 10

S.No.	Title of the Project	Department/Level	Status
1	“ZnO glasses for radiation shielding and solar cell applications” Students registered: Nived Alla(20071A0347) & Sai Deepak (20071A0349)	Mechanical Engineering (UG)	Completed (2022-23)
2	“Bioactive glass for medical purposes” Students registered: Haarika Jogu (18071A0324) & G. Pravallika (18071A0319), G. Pavan Teja 19071A0380.	Mechanical Engineering (UG)	Completed (2020-21)
3	“Synthesis and characterization of corn- Starch based biodegradable plastics” Students registered: Kolukula Haripriya (18071A0328) & P Srujana 18071A0343.	Mechanical Engineering (UG)	Completed (2020-21)
4	“Effect of ZnO nanoparticles on optical and magnetic properties of bismuth-borate glasses containing small concentration of Cr <sup>3+</sup> ions.” Students registered: R. Dinesh Reddy (1671A03A5), K. Sai Umesh (1671A0324), U. Hari Hara Sai (1671A0380)	Mechanical Engineering (UG)	Completed (2019-20)
5	“Synthesis and Characterization of Bio-degradable plastics” Students registered: K. Hari Krishna (16075A0307), K. Vijay Bhaskar (16075A0308), D. Kumar (16075A0309).	Mechanical Engineering (UG)	Completed (2018-19)
6	Idea presentation on “TAP TYRES” at Open House 2019 organized by VNRVIET during 8 <sup>th</sup> -9 <sup>th</sup> March 2019. Students registered: Challa Sriya (18071A1009)	EIE (UG)	Completed (2018-19)
7	Idea presentation on “SMART PHONE PROJECTOR” at Open House 2019 organized by VNRVIET during 8 <sup>th</sup> -9 <sup>th</sup> March 2019. Students registered: Chinnam Namratha (18071A1012)	EIE (UG)	Completed (2018-19)
8	Prepared a working model. “User-friendly Solar Ovens for Outdoor and Indoor Use” (03-08-2017 to 11-09-2017) Students registered: 1. Nazish Zaha.Shaik (17071A0541), 2. Swetha Sasanapuri (17071A0553), 3. Shireen (17071A0555), 4. Harshitha Malireddy (17071A0537), 5. Korra .Maheshwari (17071A0533)	CSE (UG)	Completed (2017-18)
9	Technical presentation on “Quantum Computing” at Convergence2k17@VNRVJIET, during 28 <sup>th</sup> Feb to 2 <sup>nd</sup> Mar, 2017. Students registered:	CSE (UG)	Completed (2017-18)

	1.Y. Meghana (17071A05N6), 2. K.Mounika (17071A05K3)		
10	Technical presentation on “Tunnel effect” at Convergence2k17@VNRVJIET, during 28 <sup>th</sup> Feb to 2 <sup>nd</sup> March 2017. Guided a following student: V.Sohan (17071A05N4)	CSE (UG)	Completed (2017-18)
11	Idea presentation on “Purification of sea water” at Open House 2017 organized by VNRVIET on 28 <sup>th</sup> March 2017. Students registered: 1. D. Giribabu (16071A1009), 2. Leelavathi (16071A1055)	EIE (UG)	Completed (2016-17)

b) PG: 02

S.No.	Title of the Project	Department/ Level	Status
1	Investigation of Structural Properties of ZrO Nanoparticles in bismuth borate glass matrix. Student registered: (Minor project) Ch. Sai Phani Kumar (18071D3306)	Mechanical Engineering (PG)	Completed (2019-20)
2	Investigation of structural and optical properties of ZnO Nano particles suspended in a glass. Student registered: (Major project) Ch. Sai Phani Kumar (18071D3306)	Mechanical Engineering (PG)	Completed (2018-19)

c) Summer internships guided: 05

5.5. **Research Interests:**

- Multifunctional Materials
- Laser host oxide glasses
- Dielectrics & Battery materials
- Magnetic materials and sensors
- Photonics & Non-linear optics
- ZnO Nanocomposites
- Biodegradable plastics
- 3D imaging LIDAR

5.6. **Ph.D students:**

- a) Enrolled: Nil
- b) Submitted: Nil
- c) Awarded: Nil

### 5.7. Papers published in reviewed journals: 34.

S. No	Title of the Paper	Journal Name Vol.No. PP	ISBN/ISSN No.	Impact Factor/ Citation Index	National/ International
1	“Structural and thermal analysis on high-pressure steam turbine blade to determine the optimum material for its manufacturing”	Materials Today: Proceedings ( <b>Elsevier</b> ) <a href="https://doi.org/10.1016/j.matpr.2023.05.309">https://doi.org/10.1016/j.matpr.2023.05.309</a>	Online ISSN: 2214-7853	2.3	International
2	Effect of ZnO nanoparticles on structure and magnetic properties of Bi <sub>2</sub> O <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> : Cr <sub>2</sub> O <sub>3</sub> glasses	Materials Today: Proceedings ( <b>Elsevier</b> ) <a href="https://doi.org/10.1016/j.matpr.2023.04.480">https://doi.org/10.1016/j.matpr.2023.04.480</a>	Online ISSN: 2214-7853	2.3	International
3	Novel nanocomposite polylactic acid films with Curcumin-ZnO: structural, thermal, optical and antibacterial properties	Current Research in Green and Sustainable Chemistry( <b>Elsevier</b> ) 5 (2022) 100332	Online ISSN: 2666-0865	5.3	International
4	“Antibacterial activity study of ZnO incorporated biodegradable poly (lactic acid) films for food packaging applications” 11 February, 2022	Polymer Bulletin ( <b>Springer</b> ) <a href="https://doi.org/10.1007/s00289-022-04126-0">https://doi.org/10.1007/s00289-022-04126-0</a> (1-16)	Electronic ISSN 1436-2449. Print ISSN 0170-0839	2.87	International
5	“Theoretical insights into interaction energy, IR intensity and Raman activity enhancements of H <sub>2</sub> O adsorbed on Mg containing Zn <sub>3</sub> O <sub>3</sub> nanoclusters: A computational study”	Computational and Theoretical Chemistry 1212 (2022) 113708	ISSN: 2210-271X	1.926	International
6	“Study of structural, dielectric and AC conductivity properties of SrMoO <sub>4</sub> ”	Materials Research Bulletin ( <b>Elsevier</b> ) 146 (2022) 111618	ISSN: 0025-5408	4.641	International
7	“Structural and photoluminescence characteristics of PbO-M <sub>2</sub> O <sub>3</sub> (M <sub>2</sub> O <sub>3</sub> = Al <sub>2</sub> O <sub>3</sub> , Sb <sub>2</sub> O <sub>3</sub> and Bi <sub>2</sub> O <sub>3</sub> )-WO <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> : Sm <sub>2</sub> O <sub>3</sub> glasses suitable for orange-red lasers”	Optik - International Journal for Light and Electron Optics ( <b>Elsevier</b> ) Volume 244, Article No. 167563, Pages: 1-12.	ISSN: 0030-4026	2.22	International

8	“Study of optical and structural properties of natural bamboo fiber powder prepared by ball milling method” 4 October 2021	The European Physical Journal Plus <b>(Springer)</b> (2021) 136:989	ISSN: 2190-5444	3.91	International
9	“Investigation on synthesis, structure and degradability of starch-based bioplastics” 4 March 2021	Materials Today: Proceedings <b>(Elsevier)</b> 49 (2022) 257–261	ISSN: 2214-7853	1.3	International
10	“Lithium–Molybdenum–Borate Glasses Doped with Cu <sup>2+</sup> ions as Solid Electrolytes” 1 January, 2021	Journal of The Institution of Engineers (India): Series E <b>(Springer)</b>	ISSN (print): 2250-2483; (online): 2250-2491	0.88	International
11	“The Effect of Fluorine Doping on Structural and Dielectric Properties of Molecular Ferroelectric Diisopropylammonium Bromide” 9 February, 2021	Journal of The Institution of Engineers (India): Series E <b>(Springer)</b>	ISSN (print): 2250-2483; (online): 2250-2491	0.88	International
12	“Effect of ZnO nanoparticles on structure and magnetic properties of Li <sub>2</sub> O–B <sub>2</sub> O <sub>3</sub> : TiO <sub>2</sub> glasses” 2269, 030101 (2020)	AIP conference proceedings <b>(AIP Publishers)</b>	ISSN (print): 0094-243XE. ISSN (online): 1551-7616	0.4	International
13	“Effect of zirconium oxide nanoparticles on physical and structural properties of bismuth borate manganese oxide glasses” Vol. 46 (18), Part A, 2020, Pages 28292-28299	Ceramics International <b>(Elsevier)</b>	ISSN: 0272-8842	3.83	International
14	“Effect of TiO <sub>2</sub> modifier oxide on a B <sub>2</sub> O <sub>3</sub> glass system” 1(1), 1-7 (2019)	Journal on Physical Sciences <b>(i-manager)</b>	-	N/A	National
15	“Dielectric Dispersion, Linear and Nonlinear Optical Properties of Li <sub>2</sub> O–WO <sub>3</sub> –B <sub>2</sub> O <sub>3</sub> : V <sub>2</sub> O <sub>5</sub> Glasses”	Journal of Advanced Dielectrics, Vol. 10, No. 3 (2020) 2050006 (8 pages) 12 <sup>th</sup> June, 2020 <b>(World Scientific Publishing Company)</b>	ISSN (print): 2010-135X  ISSN (online): 2010-1368 SCI journal	0.99	International

16	“AC conductivity and polarization phenomenon of $\text{Li}_2\text{O}-\text{MoO}_3-\text{B}_2\text{O}_3:\text{V}_2\text{O}_5$ glasses”	Journal of Alloys and Compounds, Volume 787, 30 May 2019, Pages 1280-1289 (Elsevier)	ISSN: 0925-8388 SCI journal	3.779	International
17	“Role of molybdenum ions in lead zinc phosphate glass system by means of dielectric studies”	“Materials Science-Poland” Volume 36, Issue 4, Pages:623-629 Date:01-02-2019 (Sciend) (Sciend)	ISSN: 2083-1331, e-ISSN 2083-134X SCI journal	0.854	International
18	Optical absorption and photoluminescence properties of vanadium ions in ‘lithium-tungsten-borate’ oxide glasses	Materials Today: Proceedings, Volume 5, Issue 13, Part 1, 2018, Pages 26290-26297 (Elsevier)	ISSN: 2214-7853 SCI journal	0.837	International
19	“Structural and optical properties of ZnO nanoparticles synthesized by chemical precipitation method”	Materials Chemistry and Physics, Volume 203, 1 January 2018, Pages 133-140. (Elsevier)	ISSN: 0254-0584 e-ISSN: 1879-3312 SCI journal	2.084	International
20	“J-O parameters versus photoluminescence characteristics of $40\text{Li}_2\text{O}-4\text{MO}$ ( $\text{MO}=\text{Nb}_2\text{O}_5, \text{MoO}_3$ and $\text{WO}_3$ )- $55\text{B}_2\text{O}_3:1\text{Nd}_2\text{O}_3$ glass systems”	Optik, Vol. 142, Pages 674–681. (Elsevier)	ISSN: 0030-4026 SCI journal	0.835	International
21	“Optical absorption and Photoluminescence spectra of $\text{Ho}^{3+}$ ions in $\text{PbO}-\text{MF}_2$ ( $\text{M}=\text{Ca}, \text{Zn}$ and $\text{Pb}$ )- $\text{P}_2\text{O}_5$ glass systems”	“Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B.” April 2016, 57 (2), 71–76.	ISSN 1753-3562 SCI journal	0.691	International
22	“AC conduction phenomenon of $\text{Li}_2\text{O}-\text{WO}_3-\text{B}_2\text{O}_3$ glass system doped with $\text{V}_2\text{O}_5$ ”	Functional Materials Letters Vol. 6, No. 3 (2013) 1350032 (1-5).(World Scientific Publishing Company)	Print: 1793-6047 Online: 1793-7213	2.561	International

			SCI journal		
23	“Influence of valance states and co-ordination of cobalt ions on dielectric properties of PbO–Bi <sub>2</sub> O <sub>3</sub> –As <sub>2</sub> O <sub>3</sub> : CoO glass system”	Physica B: Condensed Matter, Volume 407, Issue 4, 15 February 2012, Pages 581-588. <b>(Elsevier)</b>	0921-4526 SCI journal	1.056	International
24	“Electrical and spectroscopic properties of LiF–Bi <sub>2</sub> O <sub>3</sub> –P <sub>2</sub> O <sub>5</sub> :TiO <sub>2</sub> glass system”	Materials Chemistry and Physics, Volume 126, Issues 1-2, 15 March 2011, Pages 58-68. <b>(Elsevier)</b>	0254-0584 SCI journal	2.01	International
25	“Copper ion as a structural probe in lead bismuth arsenate glasses by means of dielectric and spectroscopic studies”	Physica B: Condensed Matter, Volume 405, Issue 19, 1 October 2010, Pages 4092-4100. <b>(Elsevier)</b>	0921-4526 SCI journal	1.056	International
26	“Copper ion as a structural probe in PbO–CaF <sub>2</sub> –P <sub>2</sub> O <sub>5</sub> glass system by means of spectroscopic and dielectric studies”	Journal of Alloys and Compounds; Volume 472, Issues 1-2, 20 March 2009, Pages 489-496. <b>(Elsevier)</b>	0925-8388 SCI journal	2.135	International
27	“Magnetic and spectroscopic studies on molybdenum ions in CaF <sub>2</sub> –PbO–P <sub>2</sub> O <sub>5</sub> glass system”	Croatia Chemica Acta, 82 (4) (2009) 747–752, CCA-3369. <b>(The Croatian Chemical Society)</b>	0011-1643 SCI journal	0.805	International
28	“DSC, ESR and IR spectral studies on Li <sub>2</sub> O–WO <sub>3</sub> –B <sub>2</sub> O <sub>3</sub> glass system doped with vanadium ions”	Functional Materials Letters, Vol. 2, No. 3 (2009) 127–130. <b>(World Scientific Publishing Company)</b>	Print: 1793-6047 Online: 1793-7213 SCI journal	2.561	International
29	“Influence of redox behavior of copper ions on dielectric and spectroscopic properties of Li <sub>2</sub> O–MoO <sub>3</sub> –B <sub>2</sub> O <sub>3</sub> : CuO glass system”	Solid State Sciences; Volume 11, Issue 2, February 2009, Pages 578-587. <b>(Elsevier)</b>	1293-2558 SCI journal	1..675	International
30	“Influence of modifier oxide on spectroscopic and	Journal of Luminescence;	0022-2313	1.847	International

	thermoluminescence characteristics of Sm <sup>3+</sup> ion in antimony borate glass system”	Volume 128, Issue 11, November 2008, Pages 1791-1798. ( <b>Elsevier</b> )	SCI journal		
31	“Optical absorption and self-activated upconversion fluorescence spectra of Tm <sup>3+</sup> ions in antimony borate glass systems”	Solid State Communications; Volume 146, Issues 11-12, June 2008, Pages 441-445 ( <b>Elsevier</b> )	0038-1098 SCI journal	1.837	International
32	“Dielectric dispersion in Li <sub>2</sub> O-MoO <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> glass system doped with V <sub>2</sub> O <sub>5</sub> ”	Journal of Alloys and Compounds; Volume 464, Issues 1-2, 22 September 2008, Pages 472-482. ( <b>Elsevier</b> )	0925-8388 SCI journal	2.135	International
33	“Spectroscopic features of Pr <sup>3+</sup> , Nd <sup>3+</sup> , Sm <sup>3+</sup> and Er <sup>3+</sup> ions in Li <sub>2</sub> O-MO (Nb <sub>2</sub> O <sub>5</sub> , MoO <sub>3</sub> and WO <sub>3</sub> )-B <sub>2</sub> O <sub>3</sub> glass systems”	Physica B: Condensed Matter; Volume 403, Issue 17, 1 August 2008, Pages 2542-2556. ( <b>Elsevier</b> )	0921-4526 SCI journal	1.056	International
34	“Optical absorption and fluorescence characteristics of Pr <sup>3+</sup> : Li <sub>2</sub> O-MO (Nb <sub>2</sub> O <sub>5</sub> , MoO <sub>3</sub> and WO <sub>3</sub> )-B <sub>2</sub> O <sub>3</sub> glass systems”	IOP Conference Series: Materials Science and Engineering, 2 (2009) 012025, ( <b>IOP Publishing, UK</b> )	Online ISSN: 1757-899X Print ISSN: 1757-8981 SCI journal	1.5	International

### 5.8. Papers presented at National / International Journals: 8

S.No	Title of the Paper	Names of the Conference/ Seminars	National/ International	Period
1	“Effect of ZnO nanoparticles on structure and magnetic properties of Bi <sub>2</sub> O <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> : Cr <sub>2</sub> O <sub>3</sub> glasses”	2 <sup>nd</sup> International Conference on Multifunctional Materials organised by Geethanjali College of Engineering and Technology, Hyderabad, Telangana, India.	International	22 <sup>nd</sup> -24 <sup>th</sup> December, 2022.
2	Lithium-molybdenum-borate glasses doped with Cu <sup>2+</sup> ions as solid electrolytes.	National conference on “Advances in Chemical Engineering and Science (ACES) 2020” at Indian Institute of Science Education and Research (IISER) Bhopal, Madhya	National	28 <sup>th</sup> -29 <sup>th</sup> February, 2020

		Pradesh, India.		
3	Effect of ZnO nanoparticles on structure and magnetic properties of $\text{Li}_2\text{O}-\text{B}_2\text{O}_3:\text{TiO}_2$ glasses	International Conference on Multifunctional Materials organized by Geethanjali College of Engineering and Technology, Hyderabad.	International	19 <sup>th</sup> -21 <sup>st</sup> December 2019
4	Room temperature dielectric parameters of $40\text{Li}_2\text{O}-5\text{WO}_3-(55-x)\text{B}_2\text{O}_3: x\text{V}_2\text{O}_5$ glasses	Two-day National Conference on Materials For Specific Applications (MFSA-2018) Organized by Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad.	National	29 <sup>th</sup> -30 <sup>th</sup> January, 2018
5	Optical absorption and photoluminescence properties of vanadium ions in 'lithium-tungsten-borate' oxide glasses	UGC sponsored two-day National Seminar on Physics and Chemistry of Non-Crystalline Materials (PCNCM-2017) organized by Kakani Venkata Ratnam College Nandigama, Krishna District, Andhra Pradesh.	National	1 <sup>st</sup> &2 <sup>nd</sup> December, 2017
6	Photoluminescence studies on $\text{Li}_2\text{O}-\text{MO}$ ( $\text{Nb}_2\text{O}_5$ , $\text{MoO}_3$ and $\text{WO}_3$ )- $\text{B}_2\text{O}_3:\text{Nd}^{3+}$ glass systems	UGC Sponsored National Seminar on "Multi Functional Materials" NSMFM-2013) organized by Department of Physics, Andhra Loyola College, Vijayawada-520 008, A.P. India.	National	6 <sup>th</sup> -7 <sup>th</sup> March 2013.
7	Influence of $\text{Nb}^{5+}$ , $\text{Mo}^{3+}$ and $\text{W}^{3+}$ ions on emission features of $\text{Pr}^{3+}$ ions in lithium borate glass system	International conference on Luminescence and its Applications (ICLA-2012) organized by Rajiv Gandhi University of Knowledge Technologies, Hyderabad, India., Indian Institute of Chemical Technology, Hyderabad, India; and Luminescence Society of India.	International	7-10 <sup>th</sup> February 2012,
8	Influence of chromium ions on thermoluminescence properties of antimony oxide-based glasses	National Conference on Luminescence and its Applications (NCLA-2005) organized by Dept. of Physics, Bangalore University, Bangalore – 560 056, India.	National	2 <sup>nd</sup> -4 <sup>th</sup> February 2005.

**5.9. Sponsored research Projects: 06 (03 funded by agencies + 03 funded by VNRVJIET)**

<b>S.No</b>	<b>Title</b>	<b>Agency</b>	<b>Period</b>	<b>Grant amount</b>	<b>Ongoing / Completed</b>
1	Development of ZrO <sub>2</sub> Nanoparticles doped- B <sub>12</sub> O <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> : Cr <sub>2</sub> O <sub>3</sub> glass-ceramic phosphors”	UGC-DAE-CSR  Ref: CRS/2021-22/04/615, Dated: 30-03-2022	2022-2025  (3 years)	<b>Rs. 7,75,080/-</b>	<b>Ongoing</b>
2	“Design and Development of Night Vision Imaging LIDAR and Laser 3-D Imaging System for Homeland Security & Surveillance applications in Defence”	DRDO, New Delhi (ER&IPR)	2021-2024  (3 years)	<b>Rs. 51,28,600/-</b>	<b>Ongoing</b>
3	“Synthesis and Characterization of Bi <sub>2</sub> O <sub>3</sub> -B <sub>2</sub> O <sub>3</sub> -MnO Glasses Doped with Zirconium Oxide Nanoparticles Suitable for Magnetic Sensors and Luminescent Materials”	JNTUH TEQIP-III  Procs No. JNTUH/TEQIP-III/CRS/2019/Physics/06 Dated: 25-09-2019.	2019-2020  (1 ½ year)	<b>Rs. 2,50,000/-</b>	<b>Completed</b>
<b>SEED GRANT PROJECTS</b>					
4	Ferroelectric based Potovoltaics	No. SEED/H&S/2021/01; Date:23-10-2021	2021-24  (3 year)	<b>Rs.3,50,000/-</b>	<b>Ongoing</b>
5	Establishment of Centre for Nanoscience & Technology CNST laboratory and Basic R&D Lab in the Centre.	17/VJ/1274; Date 29-11-2017	2017-18  (1 year)	<b>Rs.4,46,650/-</b>	<b>Completed</b>
6	A social impact research project-entitled “Synthesis and design of bio-degradable plastic materials for substantial use in daily life”	VNRVJIET,  Seed Grant No. VNRVJIET/ Seed Grant/2018/01	2018-2019  (1 year)	<b>Rs. 12000/-</b>	<b>Completed</b>

#### 5.10 Consultancy Projects: Nil

S.No	Title	Agency	Period	Sanctioned Amount	Ongoing / Completed

#### 6. Awards / Honors received:

- Life Fellow in Optical Society of India (Life Fellow Member No. L.1024).
- Life member in Materials Research Society of India. (LMB No. 3312).
- Received "Faculty Excellent Award" by Ed & Emmigo (overseas education company) on 05th September, 2021.
- Received BEST TEACHER AWARD-2019, a national award for impact creators in Engineering Education in commemoration of 150<sup>th</sup> Birth Anniversary Celebrations of Mahatma Gandhi; awarded by Indian Servers and Impact foundation, India on 02-10-2019.
- Received Certificate of Reviewing (February-2019) awarded by J. Ceramics International (Elsevier).
- Received Certificate of Reviewing (February-2019) awarded by J. Alloys and Compounds (Elsevier).
- Received a Certificate of Outstanding Contribution in Reviewing (Oct 2018) awarded by Journal of Materials Chemistry and Physics (Elsevier).
- Received a Certificate of Reviewing (June 2018) awarded by Journal of Materials Chemistry and Physics (Elsevier).
- Received best paper presentation award at UGC sponsored two-day National Seminar on Physics and Chemistry of Non-Crystalline Materials (PCNCM-2017) during 1st & 2nd December 2017 organized by Kakani Venkata Ratnam College Nandigama, Krishna District, Andhra Pradesh.
- Received Intensive Scholarship by Government of Andhra Pradesh on securing 3<sup>rd</sup> Rank in M.Sc. (Engineering Physics) from Kakatiya University in 2002.

#### 7. Motto:

- ✓ "Satyameva Jayate" - Mundaka Upanishad.
- ✓ "Education is the most powerful weapon which you can use to change the world." - Nelson Mandela.