

Personal Information

Name	Dr. M.VENKANNA
Years of Experience	Teaching: 19 Years
Email Id	venkanna.m@bvrithyderabad.edu.in
Areas of Specialization	Optical image processing, Polymer electrolytes



Educational Qualifications

Doctoral Degree	Ph.D.	Physics
PG Degree	M.Sc.	Physics
UG Degree	B.Sc.	Maths, Physics, Computer Science

Papers Published:

International Journal Publications

1. Anji Reddy Polu, Aseel Abdulameer Kareem, Kwangmin Kim, Dongkyu Kim, **Mekala Venkanna**, Hussein Kh Rasheed, Kanapuram Uday Kumar, “Conductivity enhancement in K⁺-ion conducting solid polymer electrolyte [PEG : KNO₃] and its application as an electrochemical cell”, Korean J. Chem. Eng., 40(12), pp.2975-2981 (2023). DOI: 10.1007/s11814-023-1544-6
2. N.Sabitha, **M. Venkanna**, S. Vidya Rani, D.Karuna Sagar,” Tailoring the light flux in the point spread function of defocused four-zone apodised apertures under the combined influence of primary spherical aberration and astigmatism”, High Technology Letters, 29(9), pp.662-670 (2023).
3. Shailaja, P., Rao, S. V., Sagar, D. K. & **Venkanna, M.**“Mitigation of Edge Ringing for the Optimization of Highly Aberrated Coherent Optical Systems”. *J. Sci. Res.*, 15(III), 595–605(2023). doi.org/10.3329/jsr.v15iIII.63023
4. **M. Venkanna**, N. Sabitha, D. K. Sagar, Engineering of Aberrated PSF by Asymmetric Apodization with the Complex Shaded Aperture, *J. Sci. Res.* 15 (1), 121-129 (2023). doi.org/10.3329/jsr.v15i1.60366

5. **Venkanna M**, Sagar KD.,” Edge imaging characteristics of aberrated coherent optical systems by edge masking of circular apertures”, *Computer Optics*, Vol.46, Issue 3, pp.388-394(2022). doi:10.18287/2412-6179-CO-940
6. A.R.Polu, **Venkanna M**, T.Ramesh, “Synthesis and characterization of new solid polymer electrolyte (PEG + CH₃COONa) for solid-state sodium batteries”, *Journal of Optoelectronic and Biomedical Materials*, Vol.14, issue 2, pp.63-67(2022).
7. **M. Venkanna** and D. Karuna Sagar “Metasurface Lens- New Building Block of Multifunctional Optics” *Journal of Education*, Vol. XXIII, Issue 10, ISSN 0972-7175 (2021).
8. **M. Venkanna** and D. Karuna Sagar, “Reduction in Edge-ringing in Aberrated Images of Coherent Edge Objects with Multi- shaded Apertures”, *Journal of Advances in Optics*, Vol.2014, pages 7(2014). doi.10.1155/2014/963980
9. A. Narsaiah, **M. Venkanna*** and D. Karuna Sagar, “Aberrated edge imaging with Annular Apertures”, *Journal of Applied Physics*, 6, 3, Ver.1 pp.08-12(2014). doi:10.9790/4861-06310812
10. **M. Venkanna** and D. Karuna Sagar, “Improving the Edge Imaging Characteristics of Aberrated Coherent Optical Systems by Variable Apodisation Method”, *IJRSET*, 2, 4, pp.1099-1105 (2013).
11. **M. Venkanna** and D. Karuna Sagar, “Optimization of Aberrated Coherent Optical Systems”, *Journal of Applied Physics*, 4, 6, pp.25-29(2013). doi: 10.9790/4861-0462529
12. **M. Venkanna** and D. Karuna Sagar, “Edge Imaging with Obscured Apertures Apodised by Amplitude Filters”, *IJRSET*, 2, 3, pp. 645-651 (2013).

International Conference Publications

1. **M. Venkanna** and D. Karuna Sagar “Amplitude Filters in shaping the Point Spread Function of Optical Imaging Systems” *Proc. of SPIE Vol. 9654*, pp. A1-A5(2015). doi: 10.1117/12.2181610
2. **M. Venkanna** and D. Karuna Sagar, “Improving the Edge Imaging Characteristics of Defocused Coherent Optical Systems by Apodised shrunk apertures”, *Proc. IconTOP-II*, pp.432-436 (2011). ISBN: 978-81-908188-1-0

3. **M. Venkanna** and D. Karuna Sagar, “Reduction in Edge-ringing in Coherent Imaging of Edge Objects with Amplitude Filters”, AIP.Conf.Proc. Vol.1391, pp. 282-284 (2011).
doi: 10.1063/1.3646861

National Conference Publications

1. G. Vaishnavi and P.Sahithi **M. Venkanna***, “Role of Graphene and CNTs in Soft Electronics” Proc. of National conference on Materials for Specific Applications-18, pp.58 (2018). *ISBN:978-81-928677-2-4*
2. **M. Venkanna** and D. Karuna Sagar, “Point spread function with variable apodization in the presence of primary spherical aberration” Proc.of APMS-15, pp. 99-101(2015). *ISBN: 978-93-82570-64-6*
3. **M. Venkanna**, A. Muhith and D. Karuna Sagar, “Effect of Aperture Obscuration along with the Hanning amplitude filter on the Edge ringing in Coherent Edge Imaging”, Proc. APMS-14, pp. 61-63(2014). *ISBN: 978-93-82570-37-0*
4. **M. Venkanna** and D. Karuna Sagar, “Studies on straight edge objects of coherent optical systems with annular aperture in the presence of aberrations”, Proc. Of APMS-13, pp. 187-190(2013). *ISBN: 978-93-82570-10-3*

Books & Book Chapter

1. B.K Pandey, S Chaturvedi, **M Venkanna*** “Engineering Physics”, Cengage Publishing, ISBN: 13-978-93-6053-864-4, (2024).
2. **Venkanna Mekala,**” Edge imaging by Apodized Apertures”, LAP Lambert Academic Publishing, ISBN: 978-620- 2-06705-8, (2017).

Patents Published

1. A patent entitled “Nanocomposite solid polymer electrolyte compositions and the cells comprising the same” published on 24th May 2024 with Application no: **20244138308A**(Indian).
2. A patent entitled “Solid polymer electrolyte for solid-state zinc-ion battery” published on 31st May 2024 with Application no: **.202441039796 A**(Indian).
3. A patent entitled “Hybrid Nanocomposite Solid Polymer Electrolyte for Solid state Sodium -Ion Battery” published on 2nd August 2024 with Application no: **.202441056771** (Indian).

Conferences Presented

1. **M. Venkanna** presented a paper entitled “Influence of Central Zone parameter in enhancing the intensity of Central lobe” at International Conference on Optics and Photonics Technology-23, organized by PSGR Krishnammal College for Women during 2-3 February 2023.
2. **M. Venkanna** presented a paper entitled “Metalens with angular modulation for Extended depth of focus imaging” at international conference on Ultrasonics and Material Science and Advanced Techonology, organized by Telangana University during 1-3 August2022.
3. **M. Venkanna** presented a paper entitled “Synthesis, Structural and Optical Properties of Cu Substututed ZnO Nanostructure” at 3rd International Conference on Advanced Materials science and Nanotechnology Organized by United Research Forum, Singapore during 18-19 August 2022.
4. **M. Venkanna** presented a paper entitled” Role of Minute Paper for Better Understanding of Student Learning Level” on 7th May 2022 at Teaching Learning Conclave organized by Vishnu Educational Development and Innovation Center, Aziz Nagar, Hyderabad.
5. **M. Venkanna** presented a paper entitled “Tailoring the Point Spread Function by Multishaded Apertures” in XCI International conference ICAOP-2017 held at Guru Jambheshwar University, Hisar, Haryana 23rd Nov – 26th Nov, 2017.
6. **M. Venkanna** presented a paper entitled “PSF with variable apodization under the influence of complex pupil function” at 4th National conference on “Applied Physics and Material science” held at Vasavi College of Engineering, Hyderabad during10-11 March-2017.
7. **M. Venkanna** presented a paper entitled “Point Spread Function with complex pupil functions under the influence of variable apodization” in the conference on ‘Resent Advances in optical Sciences-II’ held at University of Hyderabad during May 6th-7th 2016.
8. **M. Venkanna** Presented a paper entitled “Amplitude Filters in shaping the Point Spread Function of Optical Imaging Systems” in XXXIX International conference ICOP-2015 held at the University of Calcutta, West Bengal during 20th Feb - 22nd Feb, 2015.
9. **M. Venkanna** Presented a paper entitled “Point spread function with variable apodization in the presence of primary spherical aberration” at National conference on “Applied Physics and Material science” held at Vasavi College of Engineering, Hyderabad during7-8 August-2015.

FDP's /Workshops Attended

1. Participated one-week National FDP on “**Advances in material characterization and data processing**” Organized by MLR Institute of Technology, Hyderabad during 15th-20th July 2024.

2. Participated **NEP Orientation and Sensitization Programme** organized by Malaviya Mission Teacher Training Centre, IGNTU, Amarkantak during 18th-26th June 2024.
3. Participated Two-week **Refresher Course in Physics** from 9th to 23rd June 2023 and Obtained **A+** Grade Organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
4. Participated Two-week Refresher Course on “**Advanced Research Methodology**” from 22nd March to 5th April 2023 and Obtained **A+** Grade Organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
5. Participated National **IP literacy and Awareness** and successfully passed the assessments for the sessions held from 15 to 23 October 2020 organized under Kalam Program by Ministry of Education’s, Innovation Cell, Govt. of India.
6. Participated and Completed One-week **AICTE workshop on Universal Human Values** during 24th - 28th August 2020.
7. Participated and successfully completed one-week online FDP on “**ICT Enhanced Teaching Learning and Creating Moocs**” during 18th to 25th August 2020 and obtained Grade A.
8. Participated one week online International FDP on “**Advances in Optics and Photonics**” Organized by MLR Institute of Technology, Hyderabad during 4th-8th August 2020.
9. India’s first science leadership program “**Science Leadership Workshop**” during 22-28 June 2020 organized by Punjab Central University in association with National Science Academies.
10. FDP on “**Yoga for Everyone**” during 12-21 June 2020 organized by BVRIT Hyderabad College of Engineering for Women, Hyderabad.
11. Workshop on “**Online Tools & Software for Remote Teaching – Learning**” during 24-25 April organized by MHRD JNTUH, Hyderabad.
12. Three-day workshop on “**Professional Etiquette and Emotional Intelligence**” during 8th to 10th July 2019 organized by Department of Basic Sciences and Humanities, BVRITH, Hyderabad.
13. Workshop on “**Unconscious Bias in the Work**” on 1st May 2019 organized by Vishnu Educational Development and Innovation Center, Aziz Nagar, Hyderabad.
14. Workshop on “**Think-Technology-Transform-Level 1**” on 21st June 2018 organized by Vishnu Educational Development and Innovation Center, Aziz Nagar, Hyderabad.

15. Two Day Workshop on “**Teaching Learning Methodologies**” from 26-27th Dec 2017 organized by Vishnu Educational Development and Innovation Center, Hderabad
16. Two Day Workshop on “**Inspire-Impact-Introspect-Level 1**” from 24-25th Oct 2017 organized by Vishnu Educational Development and Innovation Center, Hyderabad.
17. Workshop on “**Engineering Physics Colloquium**” on 15th June 2017 organized by Vishnu Educational Development and Innovation Center, Hyderabad.
18. Workshop on “**Scientific Educational Practices**” from 2-4th Nov 2016 organized by Vishnu Educational Development and Innovation Center, Hyderabad.
19. “**92nd Orientation Course**” conducted by HRDC, University of Hyderabad from 11-06-2015 to 08-07-2015 and obtained grade ‘A’.
20. “UGC approved First 21- days Orientation Course to Lecturers” conducted by Telangana University from 14-06-2012 to 04-07-2012 and obtained grade ‘A’.

Professional Memberships

1. Life member of Optical Society of India: **L-691**
2. Life member of Indian Science Congress Association: **L-32086**

Certifications

- A certificate course (Coursera) on “Plastic electronics” offered by Ecole polytechnique in May 2020.
- A certificate course (Coursera) on “Programming for Everybody (Getting Started with Python)” offered by University of Michigan in May 2020.
- A certificate course (Coursera) on “Introduction to Programming with MATLAB” offered by Vanderbilt University in June 2020.
- A certificate course (Coursera) on “The Science of Well-Being” offered by Yale University in July 2020.
- NPTEL FDP certificate course on Semiconductor Optoelectronics in April 2019.
- A certificate course on LaTeX offered by the Spoken Tutorial Project, IIT Bombay in September 2016.

Any Other Achievements

- Outstanding faculty in science award from Venus International Foundation in 2018.
- Organized SPECTRUM-15 National Science Day in BVRIT Hyderabad College of Engineering for Women on 28th Feb-2015.

- Organized local seminar on National Science Day in Aurora's Engineering College on 28th Feb-2013.
- Best Teacher award from Nishitha Educational Academy in 2006