

Pumlianmunga

Curriculum Vitae

Department of Physics
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Personal Information

DOB January 16 1984

Place of birth Hriangmun, Mizoram

Citizenship Indian

Education

2013—2018 Ph. D, Department of Physics, Indian Institute of Science, Bangalore, India

Thesis title Influence of local structure and network connectivity on the electrical switching of some Te-based Chalcogenide glasses. Supervisor: Dr. K. Ramesh

2006—2008 M.Sc. (Physics), University of Delhi, New Delhi, India

2003—2006 B.Sc. (Physics), University of Delhi (Kirori Mal College), New Delhi, India

Current Position

Asst. Prof. Department of Physics

2009-present Faculty of Natural Sciences

Jamia Millia Islamia, New Delhi-110025

Research interest

Experimental studies on thermal, electrical and optical properties of amorphous materials

Journal publications/Conference proceedings/Chapter in books

1. Venkatesh Ramasamy, [Pumlianmunga](#), Ramesh Karuppannan, "Synthesis of Beta Carbon Nitride Nanostructures by Simple CVD-Pyrolysis Method". *Diamond and Related Materials*, Vol. 11, 108172, 2021.
2. P. T. Wilson, Shweta Chahal, [Pumlianmunga](#), M. MadeshKumar, K. Ramesh, "²⁷Al MAS NMR investigations on Al₂₃Te₇₇ glass: Observation of 5-coordinated Al and its influence on electrical switching". *Solid State Comm.*, Vol. 293, 53–57, 2019
3. B. J. Fernandes, [Pumlianmunga](#), K. Ramesh, N. K. Udayashankara " Thermal stability and

- crystallization kinetics of Bi doped $\text{Si}_{15}\text{Te}_{85-x}\text{Bi}_x$ ($0 \leq x \leq 2$) chalcogenide glassy alloys." *Materials Today: Proceedings*, Vol. 5(8), Part 3, 16237–16245, 2018.
4. B. J. Fernandes, [Pumliamunga](#), K. Ramesh, N. K. Udayashankara, "Electrical switching and thermal behavior of ternary $\text{Si}_{15}\text{Te}_{85-x}\text{Bi}_x$ ($0 \leq x \leq 2$) chalcogenide glasses." *Materials Today: Proceedings*, Vol. 5(10), Part 1, 21292–21298, 2018.
 5. [Pumliamunga](#) and K. Ramesh, "Electrical switching in Sb doped $\text{Al}_{23}\text{Te}_{77}$ glasses." *J. Phys. Chem. Solids*, Vol. 107, 68-74, 2017.
 6. [Pumliamunga](#) and K. Ramesh, "Electrical switching, local structure and thermal crystallization in Al-Te glasses." *Mater. Res. Bull.*, Vol. 86, 88–94, 2017.
 7. [Pumliamunga](#) and K. Ramesh, "SET and RESET states of As_2Se_3 doped $\text{Ge}_{20}\text{Te}_{80}$ bulk glasses probed by Raman spectroscopy." *J. Appl. Phys*, Vol. 120, 215105, 2016.
 8. [Pumliamunga](#), R. Venkatesh, N. Naresh, Aryan Sankhla, E.S.R. Gopal, K. Ramesh, "Influence of connectivity on the rigidity of the covalently bonded $(\text{GeTe}_4)_{100-x}(\text{As}_2\text{Se}_3)_x$ glasses." *J. Non-Cryst. Solids*, Vol. 447, 178–182, 2016.
 9. [Pumliamunga](#), R. Venkatesh, E.S.R. Gopal, K. Ramesh, "The mechanism of memory and threshold switching in $(\text{GeTe}_4)_{100-x}(\text{As}_2\text{Se}_3)_x$ glasses." *J. Non-Cryst. Solids*, Vol. 452, 210–219, 2016.
 10. [Pumliamunga](#), K. Ramesh, "Electrical switching and aluminium speciation in Al-As-Te glasses." *J. Non-Cryst. Solids*, Vol. 452, 253—258, 2016.
 11. B. Fernandes, K. Sridharan, [P. Munga](#), K. Ramesh, N. K. Udayashankar, "Memory type switching behavior of ternary $\text{Ge}_{20}\text{Te}_{80-x}\text{Sn}_x$ ($0 \leq x \leq 4$) chalcogenide compounds." *J. Phys. D: Appl. Phys.*, 49, 295104, 2016.
 12. K. Ramesh, N. Naresh, [Pumliamunga](#), E.S.R.Gopal, "Shift of glass transition temperature under high pressure for $\text{Ge}_{20}\text{Te}_{80}$ glass." *Key Eng. Mater.*, ISSN: 1662-9795, Vol. 702, pp 43–47, 2016.
 13. K. Ramesh, [Pumliamunga](#), R. Venkatesh, N. Naresh, E.S.R.Gopal, "Phase Change Properties of Chalcogenide Glasses-Some Interesting Observations." *Key Eng. Mater.*, ISSN: 1662-9795, Vol. 702, pp 37–42, 2016.
 14. S. T. Horta, [Pumliamunga](#), R.Venkatesh, N. Naresh, E. S. R. Gopal, K. Ramesh, "Nanophase separation in Ge-Se-Pb glasses near the charge carrier reversal threshold." *Nanoelectronics and Sensors (Book)*, Edited by V. Rajendran, K. Thyagarajah and K.E. Geckler, pp. 65-68, 2015.
 15. K Ramesh, [Pumliamunga](#), ESR Gopal, "Electrical switching in Cu doped As-Se glasses.", *Technology Letters*, Vol. 4(1), pp. 5-9, 2017(ISSN: 2348-8131).

Other Academic Achievements

- June 2008 Qualified CSIR-JRF conducted by Council of Scientific and Industrial Research (CSIR) Govt. of India
- Feb. 2008 Qualified Graduate Aptitude Test in Engineering (GATE) conducted jointly by IISc, and IITs, Department of Higher Education, Ministry of Education, Govt. of India

Conferences/presentation

- Attended and presented poster in International Conference on Advances in Glass Science and Technology (ICAGST-2017) CSIR-CGCRI, Kolkata, Jan. 23-25, 2017.
- Presented a paper in International Conference on Engineering Physics, Materials and Ultrasonics at The Northcap University, Gurgaon, June 3-4, 2016.
- Presented paper in International Conference on Nanomaterials and Nanotechnology (NANO -15) at Centre For Nanoscience and Technology K. S. Rangasamy College of Technology, Tiruchengode, Tamil Nadu, India, Dec. 7-10, 2015.
- Attended IUMRS-ICA 2013, held at, J. N Tata Auditorium, Indian Institute of Science, Bangalore-12, Dec. 16-20, 2013.

Research project

- Research project titled, "Enhance the phase change memory properties of GeSbTe thin film by the addition of Se and S, established by their electrical, optical, thermal and structural behavior", funded under the scheme Empowerment and Equity Opportunities for Excellence in Science (EMEQ), Science and Engineering Research Board (SERB), DST, Govt. of India (Rs. 4974389) for a period of three years (28 May 2019 – 27 May 2022).

Teaching Experience

- Undergraduate Mechanics (Semester-I)
Thermal Physics, Waves & Oscillations (Semester-II)
Optics (Semester-III)
Nuclear and Particle Physics (Semester-VI)
UG Laboratories (Semester - I, IV & VI)
- Postgraduate Condensed Matter Physics (Semester-II)
Laboratory (Semester-I & II)

■ M. Sc. (IV Sem.) project supervised

2017—2018 Ezaz Samsi Aktar, “Electrical switching, local structure and thermal crystallization in AlSeTe glasses”.

2018—2019 Ankush Vats, “Local structure and electrical switching in AlAsTe glasses”.

■ Ph.D students

2019-present Shahin parveen, “Synthesis and characterization of Phase Change Materials for memory applications”.

■ Contribution to corporate life

2010 — 2013 Coordinator of Pre-Ph.D Seminar, Physics Department

2016–Present Coordinator of Pre-Ph.D Seminar, Physics Department

2018–Present Placement coordinator, Physics Department

Updated on January 10, 2021