


Dr. AKHILA B EDATHAZHE

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Contact Information

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Education:

- *Ph. D. Physics*, National Institute of Technology (NIT) Karnataka, Surathkal, India (December 2012- November 2018)
- *M.Phil. Physics*, CGPA- 8.47 (University 3rd Rank), Periyar University, Salem, Tamil Nadu, India (2011-2012)
- *M.Sc. Physics*, CGPA- 8.41, Bharathiar University, Coimbatore, Tamil Nadu, India (2009 -2011)
- *B.Sc. Physics*, Total mark - 63.4%, Kannur University, Kerala, India (2006 -2009)
- *Plus-two (Science)*, Total mark- 77.3%, Kerala Board of Higher Secondary Examination (2003- 2005)
- *SSLC*, Total mark - 86.5%, Kerala State Board (2003)

Honors & Awards:

- MHRD (Ministry of Human Resource Development, Government of India) Fellowship for pursuing Ph.D. (2012-2017)
- 3rd Rank in M.Phil. Physics from Periyar University, Tamil Nadu
- ‘Outstanding Reviewer Award’ from journal ‘Material Science and Engineering C’, (2016)

- Reviewed papers for journals ‘Biomedical Physics and Engineering Express’ (IOP), ‘Materials Research Express’ (IOP), ‘Material Chemistry & Physics’ (Elsevier) and ‘Material Science and Engineering C’ (Elsevier)
- Best Oral presentation award in a National conference conducted in MIT Manipal, India (2013)
- Best Poster presentation award (as co-author) in a National conference conducted in MIT Manipal, India (2016)

Research Experience:

- **Ph.D.** - Thesis Title: Investigation of properties, corrosion and bioactivity of novel BaO added phosphate glasses and glass-ceramic coating on biomedical metallic implant materials
- **M.Phil.** - Thesis Title: CTAB-Assisted synthesis of Co_3O_4 nano powders by Hydrothermal method
- **M.Sc.** - Project Title: Synthesis and characterization of multiferroic BiMnO_3 thin film by RF sputtering method

Experience:

- Worked as a guest lecturer in Mary Matha Arts and Science College, Mananthavady, Kerala
- Worked as a co-guide of six M. Sc. project students during Ph.D. course
- Worked as a Teaching Assistant of B.Tech. and M.Sc. Physics labs during Ph.D. course

Papers Published in Peer-Reviewed Journals:

- **Edathazhe, A. B.,** and Shashikala, H. D. (2018). “Corrosion resistance and in-vitro bioactivity of BaO containing Na_2O - CaO - P_2O_5 phosphate glass-ceramic coating prepared on 316 L, duplex stainless steel 2205 and Ti6Al4V.” *Material Research Express*, 5(3), 35404. <https://doi.org/10.1088/2053-1591/aab2f5>
- **Edathazhe, A. B.,** and Shashikala, H. D. (2018). “Dissolution and in vitro bioactive properties of BaO added Na_2O - CaO - P_2O_5 glasses.” *Physics and Chemistry of Glasses - European Journal of Glass Science and Technology Part B*, 59(1), 34–48. <https://doi.org/10.13036/17533562.59.1.014>

- **B Edathazhe, A.**, and Shashikala, H. D. (2016). “Effect of BaO addition on the structural and mechanical properties of soda lime phosphate glasses.” *Materials Chemistry and Physics*, 184, 146–154. <https://doi.org/10.1016/j.matchemphys.2016.09.035>

Papers Published in Conference Proceedings:

- **Edathazhe, A. B.**, and Shashikala, H. D. (2018). “Optical properties of BaO added bioactive Na₂O-CaO-P₂O₅ glasses.” *AIP Conference Proceedings*, 1943(1), 20072. <https://doi.org/10.1063/1.5029648>
- **Akhila B Edathazhe**, H.D. Shashikala, (2018). “Dissolution studies of Na₂O-BaO-CaO-P₂O₅ glasses in deionized water under semi-dynamic conditions for bioactive applications.” *Materials Today Proceedings*, 5, 21241-21247. <https://doi.org/10.1016/j.matpr.2018.06.524>
- **Akhila B Edathazhe** and Shashikala, H. D. (2015). “The Effect of BaO Content and Soaking Temperature on Basis Structural Properties of Alkali-Alkaline Earth Phosphate Glasses.” *Bonfring*, 6. http://www.conference.bonfring.org/papers/nit_amma2015/amma185.pdf
- Kumar, N. M., Rao, G. V., **Akhila, B. E.**, and Shashikala, H. D. (2014). “Effect of CaF₂ addition on optical properties of barium phosphate glasses.” *AIP Conference Proceedings*, 1591(1), 733–735. <https://doi.org/10.1063/1.4872736>

Papers Presented in Conferences:

- **Akhila B Edathazhe**, H.D. Shashikala, “Optical Properties of BaO Added Bioactive Na₂O-CaO-P₂O₅ Glasses”, International Conference on Design, Materials & Manufacture (IcDeM 2018), NIT Karnataka, India, January 2018, (**Oral Presentation**).
- **Akhila B Edathazhe**, H.D. Shashikala, “Dissolution studies of Na₂O-BaO-CaO-P₂O₅ glasses in deionized water under semi-dynamic conditions for bioactive application”, International Conference on smart Engineering Materials (ICSEM-2016), R.V. College of Engineering, Bangalore, India, October 2016, (**Oral Presentation**).
- Monisha G N, **Akhila B Edathazhe**, H. D. Shashikala, “Synthesis and characterization of phosphate glass thin film on metal substrate” National conference on condensed matter physics (CMPA-2015), MIT Manipal, India, April 2016, (**Best Poster Presentation Award**).
- **Akhila B Edathazhe**, H.D. Shashikala, “The effect of BaO content and soaking temperature on basic structural properties of calcium sodium phosphate glasses”, International conference on advances in materials, manufacturing and applications

(AMMA-2015), NIT Trichy, India, ISBN: 978-93-84743-62-8, April 2015, (***Oral Presentation***).

- Manoj Kumar N., G.Venkateswara Rao., **Akhila B.E.**, H. D. Shashikala, “Effect of CaF₂ Addition on Optical Properties of Barium Phosphate Glasses”, 58th DAE-Solid state physics symposium, Thapar University, Patiala, Punjab, India, December 2013, (***Poster Presentation***).
- **Akhila B Edathazhe**, H.D. Shashikala, “Synthesis and characterization of barium phosphate glass with fly ash” National conference on condensed matter physics (CMPA-2013), MIT Manipal, India, December 2013, (***Best Oral Presentation Award***).

Extracurricular Activities:

- Winner of various competitions (speech and poem writing) in state and district levels conducted by Kerala government and private organizations during school periods
- First prize for the Quiz competition conducted by ISRO India in sub-district level for school and college students
- Winner of sports competitions (athletics) in sub-district and district level meets as a part of National school meet for students conducted by India government during school periods
- Worked for social and rural developments as a part of private organizations from childhood onwards

Personal Information:

Date of Birth: 22 May 1988

Father Name: Billy Thomas

Gender: Female

Marital status: Married

Mother Tongue: Malayalam

Husband Name: Sijo K J

Other languages: English, Tamil

State: Kerala

Nationality: Indian