

Name

V.V.N. Phanikumar

Designation

Project. Scientist -B

Qualifications

Ph.D. Department of Chemistry, NIT-Warangal. (Thesis submitted, Secured 'A' Grade in course work).

M.Sc. Organic Chemistry, Andhra University (2007-2009) -75.70%

B.Sc. Maths, Physics and Chemistry, Andhra University (2004-2007) – 65.52%

Areas of Interest

Energy storage materials, Pilot plant electrode fabrication for lithium-ion batteries (LIBs), Aqueous binders for LIBs, Natural Polymers, Rheology and Spectroscopy techniques.

Experience

- ✓ Project. Scientist -B, November 2017 to Till Date in CAEM, ARCI, Chennai
- ✓ Senior /Junior Fellowship - May 2013 to October 2017 in CAEM, ARCI, Chennai
- ✓ Project Associate - August 2011 to April 2013 in CAEM, ARCI, Chennai
- ✓ Trainee officer in Quality Control Department, May 2010 to July 2011 in Arch Pharma Labs, Sangareddy, Medak Dist.
- ✓ Worked as an Associate in K.Ramachandra Transmissions and Pvt. Ltd, November 2009 to May 2010, Hyderabad.

List of Journal Publications

- 1) A novel and sustainable tamarind kernel powder based aqueous binder for graphite anode in lithium-ion batteries, **V.V.N. Phanikumar**, K.V. Gobi, B.V. Appa Rao, R. Gopalan and R. Prakash, *ChemistrySelect* **2020**, *5*, 1199–1208, **DOI: 10.1002/slct.201903374**
- 2) Investigation on polyvinyl alcohol and sodium alginate as aqueous binders for lithium titanium oxide anode in lithium-ion batteries, **V.V.N. Phanikumar**, V. R. Rikka, B. K.

Das, B.V. Appa Rao, R. Gopalan and R. Prakash *Ionics*, June 2019, Volume 25, Issue 6, pp 2549–2561, **DOI: 10.1007/s11581-018-2751-8**

- 3) Tamarind seed skin derived fiber like carbon nanostructures as novel anode material for lithium-ion battery, **V.V.N. Phanikumar**, S.R. Sahu, R. Prakash, R. Gopalan and B. K. Das *Ionics*, November 2018, Volume 24, Issue 11, pp 3413–3421; **DOI: 10.1007/s11581-018-2498-2**
- 4) Investigation on fenugreek binder for graphite anode in the applications of lithium-ion batteries, **V.V.N. Phanikumar**, K.V. Gobi, R. Gopalan and R. Prakash. (**To be communicated**)
- 5) The influence of aqueous based CMC/SBR binder on graphite anode in the applications of lithium-ion batteries, **V.V.N. Phanikumar**, K.V. Gobi, R. Gopalan and R. Prakash. (**To be communicated**)

Awards / Honours

- 1) Received the '**Best Poster Award**' for the poster presentation on " Effect of polyvinyl alcohol and sodium alginate aqueous binders on lithium titanium oxide anode for lithium-ion batteries" at National conference on frontiers in chemical sciences and technologies (FCST) held at NIT-Warangal ,Warangal during 28 -29th January, 2016.
- 2) V.V.N.Phanikumar, B.V. Appa Rao, K.V. Gobi, R. Gopalan, and R. Prakash, Tamarind kernel powder as a novel aqueous binder for graphite anode in lithium-ion batteries, December 16- 8, 2019, IIT-Roorkee. (**Best Poster Award**)

Conference / Workshop Attended

- 1) V.V.N.Phanikumar, B.V. Appa Rao, K.V. Gobi, R. Gopalan, and R. Prakash, Tamarind kernel powder as a novel aqueous binder for graphite anode in lithium-ion batteries, December 16- 8, 2019, IIT-Roorkee.
- 2) V.V.N.Phanikumar, B.V. Appa Rao, R.Gopalan and R.Prakash, Polyvinyl alcohol and sodium alginate as alternate green binders of lithium titanium oxide anode for lithium-ion batteries.The 3rd National conference on Materials for energy conversion and storage, 8-20th October, 2018, IIT-BHU, Varnasi.
- 3) National conference on frontiers in chemical sciences and technologies (FCST) held at NIT-Warangal, 28 -29th January 2016, Warangal.
- 4) Oral presentation on Investigation on LiFePO₄/C cathode prepared by eco-friendly polyvinyl alcohol (PVA) binder for lithium-ion battery at NMD-ATM, 13-16th November 2015, Coimbatore.

- 5) One day workshop on “Emerging applications of laser technology in manufacturing” held at VIT University, 13th February 2015, Vellore.

Contact Information

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Centre for Automotive Energy Materials (CAEM),

International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI),

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Tamil Nadu, India.

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