

Name of the Teacher: Dr Anilkumar K M

Designation : H.O.D & Assistant Professor

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Academic Qualification

MSc , BEd , SET , NET , PhD

Area of Interest/Specialization

Electronics , Energy Storage Devices

Teaching Experience (as on 31.03.2021) : 11 Years

Details of Major or Minor Projects

Student Project - KSCSTE (Minor)

Administrative / Official Responsibilities

Youth festival official (University Level)

Sasthra Padham District Coordinator (2018-20)

Sasthra Jalakam District Coordinator (2018)

Academic Positions

Member , BoS (Electronics)

Research Guide (University of Kerala)

Question Paper setter for HSE , University of Calicut & Several Autonomous Colleges

Member , Syllabus Revision Committe , University of Kerala

Member , UG & PG Scheme and Pass Board , University of Kerala

SPIE Member

Higher Secondary examination reform member
MSc Physics Syllabus Revision Committee member

Awards and Accolades

Best Poster Award - Kerala Science Congress - KSCSTE (2016)

Seminar / Conference organized

Organised UGC-KSCSTE Sponsored National Seminar - SUPRANO-13 , 2013 , UGC-KSCSTE
Organised Science Enrichment Program for High School Students- Sastrajalakam-2018 , SIET ,
Govt of Kerala
Organised Science Enrichment Program for Higher Secondary School Students-
Sastrapadham-2018 , 2019 , SAMGRA-Govt of Kerala

Training Courses attended

Orientation Course , ASC, University of Kerala ,01.01.2013 to 28.01.2013,UGC
Summer school, HRDC, Himachal Pradesh University, 23.05.2016 to 11.06.2016 , UGC
Special Summer School, HRDC-Kumaun University- Nainital. 05/07/2019 to 19/07/2019,UGC
FDP-Short Term Course, Rajagiri College of Social Science , Kalamaserry, 06/05/2019 to
10/05/2019, KSHEC
Short Run Course on E-Content Development and Course Design, TLC- University of Calicut,
08/09/2020 to 14/09/2020, TLC-MHRD
ICT ENHANCED TEACHING LEARNING AND CREATING Moocs, TLC- Ramanujan
College, 18/08/2020 to 25/08/2020, TLC-MHRD

Seminar / Conference attended

Cochin Nano-2011 (14th and 15th August 2011)
Workshop on fundamentals of powder diffraction and microstructural characterisation of
materials (6th and 7th February 2012)
National Workshop on Energy Materials (04/12/2014)
Workshop on Material Characterization tools and Techniques (19-21 March 2015)
Current Trends in Applied Science (29-30 April 2015)

Cochin Nano 2016 (20-23 February 2016)

TEAM2017- 13th to 15th December 2017 ,Sponsored by DCE

NECCC2018- 20th to 22nd March 2018 -Directorate of Environment and Climate Change

Higher Education : Retaining Scientific Temper and Spirit of Enquiry - 9th March 2018 -

AKPCTA

International Conference on Crystal Ball Vision on Science & Engineering for Social Upliftment

7th to 8th August 2017

Social Media Links

LMS Platform : anilkumar.gnomio.com ;

Youtube Channel : <https://www.youtube.com/c/anilclassroom>

International Journal Publications

1. Anilkumar K. M, C.M. Ashraf, B. Jinisha, M. Manoj, V.S. Pradeep, S. Jayalekshmi, Acid Washed, Steam Activated, Coconut Shell Derived Carbon for High Power Supercapacitor Applications, J. Electrochem. Soc. 165 (2018) A900–A909. doi:10.1149/2.0491805jes.
2. B. Jinisha, Anilkumar K.M., M. Manoj, C.M. Ashraf, V.S. Pradeep, S. Jayalekshmi, Solid-state supercapacitor with impressive performance characteristics, assembled using redox-mediated gel polymer electrolyte, J. Solid State Electrochem. (2019). <https://doi.org/10.1007/s10008-019-04428-w>.
3. J. John, M. Manoj, Anilkumar K. M, V.S. Pradeep, S. Jayalekshmi, Lithium-enriched polypyrrole as a prospective cathode material for Li-ion cells, Ionics (Kiel). (2018) 1–10. doi:10.1007/s11581-017-2398- x.
4. M. Manoj, Anilkumar K. M, A. Pallithara, S. Jayalekshmi, Li-ion full cell using LiFePO₄ and Mn₃O₄-mesoporous carbon composite as electrodes for energy storage applications, (2019) 49. <https://doi.org/10.1117/12.2529192>
5. Anilkumar K. M, B. Jinisha, M. Manoj, V.S. Pradeep, S. Jayalekshmi, Layered sulfur/PEDOT:PSS nano composite electrodes for lithium sulfur cell applications, Appl. Surf. Sci. 442 (2018) 556–564. doi:10.1016/j.apsusc.2018.02.178.
6. B. Jinisha, Anilkumar K.M., M. Manoj, A. Abhilash, V.S. Pradeep, S. Jayalekshmi, Poly (ethylene oxide) (PEO)-based, sodium ion-conducting, solid polymer electrolyte films, dispersed

with Al₂O₃ filler, for applications in sodium ion cells, *Ionics* (Kiel). (2017).

<https://doi.org/10.1007/s11581-017-2332-2>

7. M. Manoj , C. Muhamed Ashraf , M. Jasna , K.M. Anilkumar , B. Jinisha , V.S. Pradeep, S. Jayalekshmi, Biomass-derived, activated carbon-sulfur composite cathode with a bifunctional interlayer of functionalized carbon nanotubes for lithium-sulfur cells, *Journal of Colloid and Interface Science* 535 (2019) 287–299, doi.org/10.1016/j.jcis.2018.09.096
8. M. Manoj, M. Jasna, Anilkumar K. M, A. Abhilash, B. Jinisha, V.S. Pradeep, S. Jayalekshmi, Sulfur- polyaniline coated mesoporous carbon composite in combination with carbon nanotubes interlayer as a superior cathode assembly for high capacity lithium-sulfur cells, *Appl. Surf. Sci.* 458 (2018) 751–761. [doi:10.1016/j.apsusc.2018.07.113](https://doi.org/10.1016/j.apsusc.2018.07.113).
9. M. Manoj, Anilkumar K. M, B. Jinisha, S. Jayalekshmi, Polyaniline–Graphene Oxide based ordered nanocomposite electrodes for high-performance supercapacitor applications, *J. Mater. Sci. Mater. Electron.* 0 (2017) 1–8. [doi:10.1007/s10854-017-7292-9](https://doi.org/10.1007/s10854-017-7292-9).
10. Anilkumar K. M, Manoj. M, Jinisha. B, Pradeep V S, S. Jayalekshmi, Mn₃O₄ /reduced graphene oxide nanocomposite electrodes with tailored morphology for high power supercapacitor applications, *Electrochim. Acta.* 236 (2017) 424–433. [doi:10.1016/j.electacta.2017.03.167](https://doi.org/10.1016/j.electacta.2017.03.167).
11. Anilkumar K. M, B. Jinisha, M. Manoj, S. Jayalekshmi, Poly (ethylene oxide) (PEO) - Poly (vinyl pyrrolidone) (PVP) blend polymer based solid electrolyte membranes for developing solid state magnesium ion cells, *Eur. Polym. J.* (2017). [doi:10.1016/j.eurpolymj.2017.02.004](https://doi.org/10.1016/j.eurpolymj.2017.02.004).
12. Jinisha. B, Anilkumar K. M, Manoj. M, Pradeep V.S, S. Jayalekshmi , Development of a novel type of solid polymer electrolyte for solid state lithium battery applications based on lithium enriched poly (ethylene oxide) (PEO)/poly (vinyl pyrrolidone) (PVP) blend polymer, *Electrochim. Acta.* 235 (2017) 210–222. [doi:10.1016/j.electacta.2017.03.118](https://doi.org/10.1016/j.electacta.2017.03.118).
13. M. Rajive Tomy, Anilkumar K. M, P.B. Anand, S. Jayalekshmi, Effect of annealing on structural and electrical properties of the Li–Mn–O thin films, prepared by high frequency RF magnetron sputtering, *J. Phys. Chem. Solids.* 72 (2011) 1251–1255. [doi:10.1016/j.jpcs.2011.07.018](https://doi.org/10.1016/j.jpcs.2011.07.018).
14. M. Rajive Tomy, , Anilkumar K. M, P.B. Anand, S. Jayalekshmi, Effect of annealing on the electrochemical properties of the Li-Mn-O thin films, prepared by high frequency RF magnetron sputtering *Journal of Physics and Chemistry of Solids*, Volume 73, Issue 4, April

2012, Pages 559-563

15. Rajive Tomy M, Anil Kumar K M and S Jayalekshmi, A Cost effective, fully automated electrochemical Characterization setup for thin film LI-ion battery research, Journal of Instrument Society of India, Vol 41, No. 2, June 2011
16. P.B. Anand, K. Hasna, Anilkumar K. M, S. Jayalekshmi, On the structural and optical properties of gold– polyaniline nanocomposite synthesized via a novel route, (n.d.).
doi:10.1002/pi.4262.
17. A.M. Sajimol, P.B. Anand, Anilkumar K. M, S. Jayalekshmi, Exceptionally good, transparent and flexible FeS₂/poly(vinyl pyrrolidone) and FeS₂/poly(vinyl alcohol) nanocomposite thin films with excellent UV-shielding properties, Polym. Int. (2013).
doi:10.1002/pi.4348.
18. V. Sreevalsa, P. Jeeju, M. Sajimol Augustine, Anilkumar K. M, S. Jayalekshmi, L-Histidine-modified biocompatible zinc oxide nanocrystals, J. Exp. Nanosci. 8 (2013) 7–8.
doi:10.1080/17458080.2011.624553.
19. Anagha Gopinath, Revathy Mohan and Anilkumar Kollery Mohanan- Polymer based solid complexes for electrolytes in sodium ion battery applications. AIP Conference Proceedings 2287, 020026 (2020); <https://doi.org/10.1063/5.0029957>

National Journal Publications

Nil

Book Chapter Publications

Nil

International Conference Publications

1. A novel method for realizing high capacity LiFePO₄ -based Lithium-ion cells Anil Kumar K.M, Rajive Tomy, Bibin John, Priya Carol, Jayalekshmi S, Gouri C, Prathapachandra KurupM.R (ISRS 2010 at IIT Chennai on Dec 20-22 2010)
2. “Fully automated charge –discharge cycling and cyclic voltametry measurements setup using Keithley 2400 and LabVIEW for Lithium-ion battery research”, Rajive Tomy, Anil Kumar. K.M, S. Jayalekshmi, VI-Manthra 2009 held on 06 November 9, 2009 at Chennai

(Placed among top five papers)

3. “Electronic bandstructure of Olivine Lithium Nickel Phosphate from reflectance spectrum and its modification upon multiwalled carbon nanotube addition, K.Ravindranath, Anil Kumar. K.M, Rajive Tomy, S. Jayalekshmi, Proc. Cochin Nano 2009, held at Cochin during 3rd to 7th of January 2009.
4. “Flexible Solid Electrolyte Sheets for Lithium ion cells” Anil Kumar K M, Jinisha B,, Manoj M , S Jayalekshmi at the international conference on energy harvesting storage and conversion (ICEEE-2015) Conducted by Department of Physics , Cochin Univesristty of Science & Technology(CUSAT). Kochi
5. “Will Mg-ion cells serve as substitute for Li-ion cells?” Anil Kumar K M, Jinisha B,, Manoj M , S Jayalekshmi at the international conference on Contemporary Advances of Science & Technolgy (IC- CAST 2015) Conducted by Department of Physics , Banaras Hindu University,Varanasi ,India
6. “MWNT/GO/rGO/Graphene- Ni-doped Mn₃O₄ Composite Electrode material for Supercapacitors applications” Anil Kumar K M, Jinisha B,, Manoj M , S Jayalekshmi at the National conference on Carbon Materials (NCCM 2015) Conducted by NPL , New Delhi ,India
7. Lithium enriched solid polymer blend electrolytes based on poly (vinyl pyrrolidone) for energy storage application, Jinisha B, Anil Kumar K M, Manoj M , S Jayalekshmi, National Conference on Carbon Materials, NCCM 2015,IIC, New Delhi, India.
8. Lithium enriched solid polymer blend electrolytes based on poly (vinyl pyrrolidone) using different lithium salts for energy storage applications, Jinisha B, Anil Kumar K M, Manoj M , S Jayalekshmi, International Conference on Materials for the Millennium (MATCON 2016) Dept. of Applied Chemistry, Cochin University of Science and Technology, Cochin 22, Kerala.
9. Studies on a prospective polymer blend electrolyte material for developing pollution free, solid state Li- ion cells, 28th Kerala Science Congress, Jinisha B, Anil Kumar K M, S Jayalekshmi Calicut University Campus, Thenhippalam, Malappuram.
10. Polyethylene oxide (PEO) / polyvinyl alcohol (PVA) complexed with lithium perchlorate (LiClO₄) as a prospective material for making solid polymer electrolyte films, Jinisha B, Anil Kumar K M, Manoj M , S Jayalekshmi International Conference on Smart Engineering Materials ICSEM-2016, RV college of Engineering, Bangalore.
11. On the prospects of developing high voltage lithium ion cells using solid polymer

electrolyte films, Jinisha B, Anil Kumar K M, Manoj M , S Jayalekshmi, International Conference on Advanced Materials (SCICON-2016) 19-21 December, Amritha University, Coimbatore.

12. Fe₂O₃/Graphene oxide based anode materials with solid polymer electrolytes for Li-ion storage applications, Jinisha B, V.S. Pradeep, Anilkumar K M, Manoj M, and S. Jayalekshmi International Conference on Advances in Functional Materials (IC-AFM) January 6-8, 2017, Anna University, Chennai.

National Conference Publications

Nil

Workshops Attended

INUP Familiarization workshop (27-29 May 2015)

National Workshop on Nano Photonics (18-19 March 2016)

CBCSS-Syllabus Revision Workshop– 20/02/2018 ,University of Kerala

Importance of Intellectual property Rights - 12th July 2019 - HRDC Nainital

Other Publications

Nil

Other Relevant information

Coordinator -SARD

Malpractice Squad Convener - University of Kerala

Co-Convener - SUPRANO-13

Observer - KEAM 2019

Bhoomithra Sena - Coordinator

Tourism Club - Member

Science Club - Member

Admission Committee -Member

College Union Election Committee - Member

College Website - Coordinator
Stock Verification Committee Member
Physics Association Convener
Cultural Club Coordinator (Department)
VICEEH-2020 -Chairperson

Additional Resources

Resource Person :

- * Online Refresher Course in Techno Pedagogy tools towards digital era of teaching - UGC-HRDC Thiruvanthapuram
- * Faculty Development Programme on “Implementation of Information and Communication Technology in Teaching - SLS CUSAT & KSHEC
- *FDP on PEDAGOGICAL AND E-LEARNING TOOLS FOR TEACHING - SD College Alappuzha & KSHEC
- *Short term Faculty Development Programme on “ICT Tools for Teaching Learning Process- Post Pandemic Educational Strategies" - SN College Kollam & KSHEC
- *Short term Faculty Development Programme on “Towards a Digital Era of Teaching and Learning"- DB College & UGC-HRDC Thiruvanthapuram