CURRICULUM VITAE

Dr G. Sunita Sundari, M Phil, Ph. D

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CAREER OBJECTIVE

To build a challenging career with honesty and loyalty by translating my experience, knowledge, skills and abilities into value for an organization. To enhance my skills, experiences and capabilities in a dynamic and stable workplace with the cutting edge of technologies.

EDUCATION, RESEARCH AND WORK EXPERIENCE

2012-present **Associate Professor (In charge Head & Research Group Head) at Department of Physics,** K L University, Green Fields, Vaddeswaram - 522 502, Guntur District, Andhra Pradesh, India. **Research area:** Polymer Electrolytes Application to batteries, sensors, Energy storage and Nanotechnology.

2006-2012 **Doctorate Fellow - Ph.D. in Polymer Electrolytes** - JNTU, Hyderabad. "Development of Solid State Batteries based on Polymer Electrolytes".
Research Advisors: Prof. U.V Subba Rao (late) Osmania University Hyderabad.
Prof. M. Chandrasekhar, JNTU Hyderabad, Telangana State, India.

2004-2006 **MPhil -** JNTU, Hyderabad. "Thin film Polymer Electrolyte Application to Sensors".
Research Advisors: Prof. U.V Subba Rao (late) Osmania University Hyderabad,
Prof. M. Chandrasekhar, JNTU Hyderabad, Telangana State, India.

2001-2004 Worked as Lecturer in Jubilee Hills Educational Institution, Hyderabad, India.

1999-2001 **M.Sc. (Physics) (Specialization**: Solid State Ionics) University of Hyderabad, Central University, Hyderabad, Telangana State, India.

1995-1997 **B.Sc. (Applied Sciences**) - SRKR Engineering College, Bhimavaram, Andhra Pradesh, India.

RESEARCH EXPERIENCE

Publications: **21** (published)**+ 2** (communicated), Conference contributions: **11**

Research Interests:

- Development of **Polymer Electrolytes** with nano composites for their application in **Batteries,Sensors, Fuel Cells**
- **Gel Polymer Electrolyte** doped with n**ano fillers** for **Rechargeable Battery** application

Research Guiding:

- One student got his PhD under my supervision
- Guiding **4 Ph D** students at KLEF, Andhra Pradesh, **India**.

Research Funding (Applied/Under review):

Sl. no	Title of the proposal	Funding Agency (Ref. No.)	Total Cost (Rs. in Lakhs)	Date of submission	PI/Co-PI
1	Silver based Gel Polymer Electrolyte doped with Nano fillers for Rechargeable Battery Application	Science and Engineering Research Board (**SERB-EMR** 182018004214)	**31.17**	29th June 2018 (Under Review)	PI-**Dr G.Sunita Sundari** Co-PI- Dr Harikrishna Erothu
2	Nano fillers doped Li-Ion Polymer Electrolyte for Solid State Battery	Materials for Energy Storage" **MES – 2018** (TPN / 18668)	**35.35**	28th May 2018 (Under Review)	PI-**Dr G.Sunita Sundari** Co-PI- Dr Harikrishna Erothu
3	Development of Ion Conducting Polymer Electrolyte using Thin film Nano Crystalline Composites for the Application towards Batteries	**UGC-DAE** Consortium for Scientific Research Kalpakkam Node	**10.26**	15th May 2018 (Under Review)	PI-**Dr G.Sunita Sundari** Co-PI- Dr Harikrishna Erothu

SKILLS AND EXPERIENCES

- ✓ Experience (over 12 years) in Polymer Electrolytes and application to batteries.
- ✓ Characterization and Analysis: Hands on experience of XRD, FTIR, IR, DSC,Cyclic voltammetry,
- ✓ SEM-EDXA.
- ✓ Analysis: UV-Vis spectroscopy, Keithily Electrometer 6517, DC-Conductivity setup.
- ✓ Fabrication of Batteries and Sensors.
- ✓ Research Group Head for Centre for Nano Technology.

FUNDING

- Successfully completed the Internal Fund Project (PI) given by K L University on "**Development of Nano structured Polymer based electron transport composite for Organic Light Emitting Diode" (OLED) worth 5 lakhs.**
- **Development of Ion-conducting Polymer electrolyte using Nano-crystalline composites for solid state battery applications** Submitted *to* Materials for energy storage (MES – 2016) – DST Sponsored, amount 37 Lakhs (under Review).
- **Development of Dye-synthesized Solar cells using Nano-crystalline composite Polymer electrolyte system** submitted to Solar energy Research Initiatives (SERI) – DST Sponsored, amount Rs 23,86,000 (Under Review).
- **Design and Development of Highly Sensitive and Rapid Response Conductivity Based Toxic Gas Sensors Using Polyaniline (PANI) ba sed Nano Fiber Com posite s with Doped Metal Oxides** submitted to Ministry of Environment & Forests amount Rs. 68.66 Lakhs (Under Review).

AWARDS AND HONORS

- **Best Poster Award** "Optical and Electrical studies of PVP based Ion conducting Polymer electrolyte for polymer battery applications" International conference on Nano science and Nano technology for energy applications (Eapp-2016), 27-29th June 2016 at Satyabhama University,Tamilnadu, India.
- **Best Poster Award** "Studies on electrical properties of potassium acetate Complexed with polyvinyl alcohol for Electrochemical cell Applications" National Conference on Emerging Trends of Advanced Functional Materials (NCAFM-2015), Koneru Lakshmaiah Educational Foundation, Vaddeswaram Andhra Pradesh, India. Sept 3-4th, 2015.
- **Best Poster Award** "AC Impedance studies of poly (vinylidene fluoride) based solid polymer electrolytes." Recent Trends in Nano Technology for Device Application (RNTDA-2013), April 4-5th, 2013 at Koneru Lakshmaiah Educational Foundation,Vaddeswaram, Andhra Pradesh, India.
- **Co-Convener** for the National Conference on Current developments in Functional Materials and their Applications (NCDFMA-2017) 22 &23rd December 2017 at Koneru Lakshmaiah Educational Foundation, Vaddeswaram, Andhra Pradesh, India.

TEACHING EXPERIENCE

- **5 years** teaching experience at **K L University** teaching UG Students**.(2012-till date)**
- **11 years** teaching experience at **Jubilee Hills Education Institute** , Hyderabad**.(2001-2012)**
- Worked as course coordinator and designed syllabus, curriculum, question bank and course handout for Engineering Physics and Engineering Materials
- Delivered lectures for under graduate students at JNTU, Hyderabad as a Research student
- Undertaken sessions to the Postgraduate students in a Distance education centre affiliated to Rajasthan University
- Core team member for the IIIT-Hyderabad project for development of Audio/Video lessons and prepared the framework for Physics lessons
- Responsible for Teaching, designing the curriculum and preparation o f result oriented work plan for 11th and 12th Std in CBSE, AIEEE and EAMCET
- Trained students for different competitive examinations like NTSE, NSTSE and Physics Olympiad.
- Handled Physics projects in U.G level.

RESEARCH PUBLICATIONS AND CONFERENCE PAPERS

1. Structural and Electrical Properties of Graphene Oxide -Doped PVA/PVP Blend Nanocomposite Polymer Films. **G. Sunita Sundari** *et al.,* ***Advances in Materials Science and Engineering*** **2018**, 1-11 **(IF 1.3).**
2. Synthesis and Characterization of Graphene based Iron Oxide (Fe_3O_4) Nanocomposites. **G. Sunita Sundari** *et al.,* ***Rasayan Journal of Chemistry*** **2018,** *11* (3), 1113-1119 **(Impact Factor 0.3)**.
3. Preparation and dielectric properties of PVP-based polymer electrolyte films for solid-state battery application. **G. Sunita Sundari** *et al.,* ***Polym. Bull.*** **2018***, 75*, 925-945 **(IF 2.42)**.
4. Structural and Dielectric Properties of PVP Based Composite Polymer Electrolyte Thin Films . **G. Sunita Sundari** *et al.,* ***Journal of Inorganic and Organometallic Polymers and Materials*** **2017,** 26, 1107-1452 **(IF 1.308**).

5. Electrical Conduction Behaviour of PVP- based Composite Polymer Electrolytes. **G. Sunita Sundari** *et al.,* ***Rasayan Journal of Chemistry*** **2017,**10, 279-285 **(IF 0.3).**
6. Structural And Optical Characterization of Organic Light Emitting Diodes. **G. Sunita Sundari** *et al.,* ***Rasayan Journal of Chemistry*** **2017, 10,** |298 -304 **(IF 0.3).**
7. Spectroscopic properties of PVP based composite polymer electrolyte films for solid state battery application. **G. Sunita Sundari** *et al.,* ***Rasayan Journal Of Chemistry*** **2016**, 9, 348-354 **(IF 0.4).**
8. Effect of Al_2O_3 on PVP based Polymer electrolyte films doped with Mg Cl_2 $6H_2O$ For Solid State Battery applications. **G. Sunita Sundari** *et al.,* **International *Journal of chemtech Research*** **2016**, 9, 383-391 **(IF 0.6).**
9. Ionic Conductivity and Discharge Studies of PVP -$MgSO_4.7H_2O$ Polymer Electrolyte for Solid State Battery Applications. **G. Sunita Sundari** *et al.,* ***International Journal of Chemical Science*** **2016,** 14,936-948 **(IF 0.18).**
10. Structural and Electrical properties of PVDF based Ag+ ion Conducting polymer Elect rolyte for Battery Applications. **G. Sunita Sundari** *et al*., ***International Journal of ChemTech Research*** **2016,** 9, 624-631 **(IF 0. 6).**
11. Optical, thermal and electrical studies of PVP based solid polymer electrolyte for solid state battery applications. **G. Sunita Sundari** *et al.,* ***International Journal of ChemTech Research*** **2016**, 9,165-175 **(IF 0. 6).**
12. Ionic conductivity and battery characteristic studies of a new PAN-based Na+ ion conducting gel polymer electrolyte system. **G. Sunita Sundari** *et al.,* ***Indian Journal of Physics*** **2016**, 90, 289-296 **(IF 3.8).**
13. Studies on electrical properties of potassium acetate Complexed with polyvinyl alcohol for Electrochemical cell. **G. Sunita Sundari** *et al.,* **Materials *Today: Proceedings*** **2015**, 3, 11-20 **(IF 0.2).**
14. Electrical conductivity, Transport and Discharge characteristics of a sodium acetate trihydrate Complexed with poly vinyl alcohol for Electrochemical cell. **G. Sunita Sundari** *et al.,* ***International Journal of ChemTech Research*** **2015**, 8, 803-810 **(IF 0.6).**
15. Transport properties of PVA based ion conducting polymer electrolyte complexe d with sodium Acetatetrihydrate. **G. Sunita Sundari** *et al.,* ***International journal of Nanotechnology and Application*** **2014,** 4, 1-8 **(IF 3.78).**
16. Influence of Plasticizer on a PEO based K^+ ion conducting polymer electrolyte system for Battery applications. **G. Sunita Sundari** *et al.,* ***International Journal of Chem. Tech. Research 2014,*** 6, 5178-5186 **(IF 0.6).**
17. Fabrication and Electrical Characterization of PEM Fuel Cell based on (PEO+KHCO3) Polymer Electrolyte Membrane. **G. Sunita Sundari** *et al.,* ***International Journal of Innovative research in Science, Engineering and Technology*****. 2013,** 2, 5838-5847 **(IF 0.998).**
18. Structural and A. C. Conductivity Studies of (PVdF+ $NaClO_4$) Solid Polymer Electrolyte system for an Electrochemical cell applications. **G. Sunita Sundari** *et al.,* ***Asian Journal of Chemistry***, **2013,** 25, 459-463 **(IF 0.2).**
19. Effect of Plasticizer on a New (PEO+NaHCO3) Solid polymer electrolyte system for Battery Characterization studies. **G. Sunita Sundari** *et al.,* ***International Journal of Chemical and Biochemical Sciences*** **2012**, 1, 59-64 **(IF 0.6).**

20. Spectroscopic Characterization and Electrical study of Nano crystalline PEO based conducting Polymer electrolyte system for IEM fuel cell. **G. Sunita Sundari** *et al.,* ***International Journal of Chem. Tech. Research 2011*****,** 3, 1203-1212 **(IF 0.6).**

21. Conductivity Studies of (PEO+$KHCO_3$) Solid Electrolyte system and its application as an Electrochemical Cell. **G. Sunita Sundari** *et al.,* ***International Journal of Engineering Science and Technology****.* **2010**, 5, 130-139 **(IF 0.9).**

CONFERENCE CONTRIBUTIONS (ORAL AND POSTER)

1. Polymer Electrolytes for the application of Batteries **(Oral) G. Sunita Sundari** *et al.,* National Conference on Nanoscience and Nanotechnology: emerging Nanotechnologies for sustainable Development 2018, 15-16th March, 2018 at Andhra University, Vishakhapatnam, Andhra Pradesh, India.
2. Spectroscopic and electrochemical studies of (1-x) PMMA-x (CH_3{COOLi}: TiO_2 nano composite polymer electrolytes for rechargeable battery applications **(Oral) G. Sunita Sundari** *et al.,* National Conference on novel Materials and Technologies, 16-17th Sept. 2017 SV University, Tirupati, Andhra Pradesh, India.
3. Structural, Spectroscopic, Optical & Electrical properties of PVA-based solid polymer electrolyte films **(Oral) G. Sunita Sundari** *et al.,* Recent Innovations in Engineering Materials 2017, 31st Aug 2017 at SRKR Engineering College, Bhimavaram, Andhra Pradesh, India.
4. Composition dependence of Structural, Spectroscopic, Optical & Electrical properties of PMMA -based solid polymer electrolyte films **(Oral) G. Sunita Sundari** *et al.,* National conference on current developments in functional materials and their applications 2017, 22-23rd Dec 2017, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Andhra Pradesh, India.
5. Optical and Electrical studies of PVP based ion conducting polymer electrolyte for polymer battery application **(Poster) G. Sunita Sundari** *et al.,* International Conference on Nano Science and Nanotechnology for Energy Applications 2016, 27-29th June, 2016, Sathyabhama University, Chennai, Tamilnadu, India **(Be st Poster).**
6. Studies on electrical properties of Potassium acetate complexed with poly vinyl alcohol for electro chemical cell applications **(Poster) G. Sunita Sundari** *et al.,* National Conference on Emerging Trends of Advanced Functional Materials 2015, 3-4th Sept, 2015, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Andhra Pradesh, India **(Be st Poster).**
7. Structural and Dielectric Properties of PVP Based Composite Polymer Electrolyte Thin Films **(Poster) G. Sunita Sundari** *et al.,* International Conference on Nano Science and Nanotechnology 2013, 18-20th March 2013, SRM University, Chennai, Tamilnadu, India.
8. Optical and Structural, Electrical properties of PVDF based Ag+ ion conducting Polymer Electrolyte for Battery Applications **(Oral) G. Sunita Sundari** *et al.,* National Seminar on Nanotechnology for Sustainability of Rural India 2014, 19th Feb 2014, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Andhra Pradesh, India.
9. A.C Impedance studies of poly(vinylidiene fluoride) based solid Polymer Electrolyte **(Poster) G. Sunita Sundari** *et al.,* Recent Trends in Nan science and technology for device applications 2013, 4-5th April, 2013, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Andhra Pradesh, India**. (Be st Poster Award).**

10. Transport and fabrication studies of PEM Fuel cell based on solid (PEO+KHCO3) conducting polymer Electrolyte Membrane System **(Oral) G. Sunita Sundari** *et al.,* National Conference on Nano Science and Nanotechnology 2013, 4-5th April, 2013, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Andhra Pradesh, India.
11. Structural and A C Conductivity studies of (PVdF + $NaClO_4$) Solid electrolyte system for an electrochemical cell applications **(Oral) G. Sunita Sundari** *et al.,* National Conference on Nano Science and Nanotechnology 2014, 21st February,2014, Mahatma Gandhi University, Nalgonda, Telangana State, India.

REFERENCES

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DECLARATION

I hereby declare that the information given above is true to the best of my knowledge and belief.

Yours Sincerely,

Signature: G. Sunita Sundari
Print name: **G Sunita Sundari**