

## CURRICULUM VITAE



Dr. E.S. SOWBAKKIYAVATHI

**E-MAIL:**

[sowmiyaelindjeane@gmail.com](mailto:sowmiyaelindjeane@gmail.com)

**Contact:**

**Mob: 9655644797**

**Address:**

Annai Villa,  
6/107c, 6<sup>th</sup> cross  
street,  
2<sup>nd</sup> main road,  
Teachers colony,  
Tirunelveli-11.

**Personal Profile:**

**Date of Birth :**

**25/06/1995**

**Sex : Female**

**Nationality : Indian**

**Religion : Hindu**

**Marital Status: Married**

**Language Proficiency:**

**English and Tamil**

### **ACADEMIC CHRONICLE**

COURSE	SCHOOL / COLLEGE	BOARD / UNIVERSITY	Year of passing	CLASS
SSLC	Immaculate Hr. Sec. School	Tamil Nadu	2009-10	First
HSC	Immaculate Hr. Sec. School	Tamil Nadu	2011-12	First
B.Sc. Physics	Idhaya Arts & Science College for Women, Puducherry.	Pondicherry University	2012-15	Distinction
M.Sc. Physics	KMCPGS, Puducherry	Pondicherry University	2015-17	Distinction
Ph.D. Physics	Pondicherry University	Pondicherry University	2017-21	-

### **TITLE OF THE THESIS**

DEVELOPMENT OF TRANSITION METAL CHALCOGENIDES DECORATED POLYANILINE COMPOSITE NANOFIBERS BASED COUNTER ELECTRODES FOR DYE SENSITIZED SOLAR CELL.

### **AREA OF INTEREST**

1. Solar cells.
2. Quantum computational methods and its spectroscopic techniques.
3. Mathematical Physics

### **AWARDS**

- **Gold Medalist at UG and PG level.**
- Got “**Best Oral Presentation Award**” at the National Conference on “Advanced Functional Materials for Energy Conversion and Storage Devices” organized by Coimbatore Institute of Technology, Coimbatore.

## TEACHING EXPERIENCE

- I have **THREE** years of teaching experience for PG students during my Ph.D. journey.
- I have served as a physics tutor for the NEET course.

## PUBLISHED PAPERS

1.	<i>Development of MoSe<sub>2</sub>/PANI composite nanofibers as a Pt- free counter electrode material to boost the photoconversion efficiency of dye sensitized solar cell.</i> <b>E.S.Sowbakkiyavathi</b> , Vignesh Murugadoss, Ramadasse Sittaramane & Subramania Angaiah <i>Journal of Solid State Electrochemistry.</i>
2.	<i>Development of Tungsten diselenide/Polyaniline composite nanofibers as an efficient electrocatalytic counter electrode material for dye sensitized solar cell.</i> <b>E.S.Sowbakkiyavathi</b> , Vignesh Murugadoss, Ramadasse.S, Subramania Angaiah <i>Solar Energy.</i>
3.	<i>Cobalt Selenide decorated polyaniline composite nanofibers as an efficient photocathode for dye sensitized solar cell.</i> <b>E.S. Sowbakkiyavathi</b> , M. Vignesh, S. Ramadasse, A.Subramania <i>Polymers for Advanced Technologies</i>
4.	<i>Development of Nickel selenide/polyaniline composite nanofibers as a counter electrode material for high-performance dye sensitized solar cell.</i> <b>E.S.Sowbakkiyavathi</b> , Vignesh Murugadoss, Ramadasse.S, Subramania Angaiah <i>New Journal of Chemistry – under revision.</i>
5.	<i>Review on transition metal chalcogenides as an efficient counter electrode for dye-sensitized solar cell.</i> <b>E.S. Sowbakkiyavathi</b> , A. Subramania <i>Energy &amp; Environmental Science, - under communication</i>
6.	<i>Recent trends on transition metal chalcogenides as an electrode material for high-performance Supercapacitors.</i> <b>E.S.Sowbakkiyavathi</b> , Arunachalam Kumar, A. Subramania, <i>- under communication.</i>
7.	<i>Spectroscopic investigations of 5(4-Methylphenyl)-5-Phenylhydantoin by DFT methods.</i> K. Manivannane, K. Jayasheela, T. Prabhu, <b>E.S. Sowbakkiyavathi</b> , K. Roopakala, S.Periandy <i>International journal of basic and applied research.</i>
8.	<i>Spectroscopic investigations (ft-raman, ft-ir, nmr and uv) and structural analysis of 2- hydroxy-3-methoxy benzyl alcohol.</i> K. Manivannane, K. Jayasheela, T. Prabhu, K. Roopakala, <b>E.S. Sowbakkiyavathi</b> , S. Periandy <i>International journal of basic and applied research.</i>
9.	<i>Docking and spectroscopic investigations on Chlorambucil using DFT methods.</i> Manivannan. S, Jayasheela. K, Prabhu. T, <b>Sowbakkiyavathi. E.S.</b> , Periandy. S <i>International Journal of research and analytical reviews.</i>
10.	<i>Density functional computations, FT-IR, FT-Raman, NMR and UV analysis of 3-formyl-2-thienylboronic acid.</i> Parveen begaum. K, Prabhu. T, Jayasheela. K, Periandy.S, Roopakala.K, <b>Sowbakkiyavathi. E.S.</b> <i>Adalya Journal.</i>

## OTHER ACTIVITIES

- Computer language: Diploma in Computer Application (DCA).
- Software: Gaussian and Origin.
- Diploma in YOGA for human excellence.

## PROJECT AND SEMINARS – PG level

1. Presented project on **“Quantum Computation on 7-hydroxyl-4-chromone”** during M.Sc.
2. Participated in UGC National Seminar on **“Recent Trends in Nano Science, Solar Cells and Microwaves”** held on 24-03-2016 KMCPGS, lawspet.
3. Participated in **“REFLECTION”** hosted by the department of physics on 26-02-2016 and 27-02-2016 Pondicherry University, kalapet.
4. Participated in the **“National Conference on Recent Advances in Molecular Spectroscopy (NRAMS)”** on 14-09-2016 KMCPGS, lawspet.
5. Organized and Participated in the **“National Conference on Nano and Molecular Physics”** held on October 2016 KMCPGS, lawspet.
6. Organized and participated in **“National Science Day in tribute of Sir C.V.Raman”** held on February 2017, KMCPGS, lawspet.

## PAPER PRESENTATION – Ph.D.

1. Presented a paper entitled **“CoSe/PANI composite nanofibers as an efficient photocathode for DSSC”** in the **National Conference on Advanced Functional Materials for Energy Conversion and Storage Device** on 3-4 January 2019 organized by the Department of Chemistry, Coimbatore Institute of Technology, Coimbatore, Tamil Nadu.
2. Presented a paper as a poster entitled **“MoSe<sub>2</sub> decorated PANI composite nanofibers as a Pt- free photocathode material for DSSC”** in **International Conference on Advanced Materials for Sustainable Energy and Sensors (INCAMSES – 2019)** organized by the Department of Physics, Alagappa University, Karaikudi, held during 16-17 September 2019.
3. Presented a paper in an Oral session entitled **“Nickel selenide decorated polyaniline composite nanofibers as a counter electrode for high-performance DSSC”** in the **Twenty-first National Convention of Electrochemists (NCE-21)** held during January 30-31, 2020 at Vellore Institute of Technology (VIT), Chennai, Tamil Nadu.

4. Presented a paper as a poster entitled “Development of WSe<sub>2</sub>/PANI composite nanofibers as an efficient counter electrode material for high-performance DSSC” in the **International Workshop-cum-Conference on Smart Materials and their Applications in Recent Technologies (SMART-2020)** held during 4-5 March 2020 at the Department of Chemistry, Periyar University, Salem, Tamil Nadu.

<b>SEMINAR &amp; CONFERENCE – Ph.D.</b>
---

1. Participated in the **One day National Seminar on Nanotechnology** held on 5th February 2018 organized by the Department of Physics, Kanchi Mamunivar Government Institute for Postgraduate Studies & Research, Puducherry.
2. Participated in the seminar on “**Familiarization of HRTEM & XRS**” conducted by Central Instrumentation Facility, Pondicherry University on March 22- 23, 2018.
3. Participated in the **National level Workshop on Plagiarism Tools and Publication Techniques** organized by the PG & Research Department of Mathematics, Government Arts College, C. Mutlur, Chidambaram, Tamil Nadu, on 7th February 2020.
4. Participated in the **International Conference on Interdisciplinary approached to Environment, Ecosystems & Sustainable Development** jointly organized by the Union Territory of Puducherry Legal Services Authority, Pondicherry University, KMGIPSR for promoting sustainability in campuses and communities held on February 22, 2020.
5. Participated in the **One day workshop on Plagiarism in Research** held on 24-02-2020 at Kanchi Mamunivar Government Institute for Postgraduate Studies & Research, Puducherry, organized by IQAC.
6. Participated in the **One-day National level Colloquium on Intellectual Property Rights & Patents** at Kanchi Mamunivar Government Institute for Postgraduate Studies & Research, Puducherry, on 28-02-2020 organized by IQAC.
7. Attended the **International webinar on “An overview of Supercapacitors”** organized by the Department of Physics, KPR Institute of Engineering and Technology on 12.06.2020.
8. Attended the webinar on “**Electrospun 1D- Nanomaterials and their Applications in DSSC**” organized by the Department of Physics, Saveetha Engineering College on 23.06.2020.
9. Attended three-day “**International Webinar Lecture Series on Lasers, Optics & Photonics**” organized by Chikkanna Government Arts College, Tiruppur, Tamil Nadu from June 11-13, 2020 to commemorate the UNESCO International Day of Light.
10. Attended “**International Virtual Conference on Advanced Nanomaterials Applications (VCAN 2020)**” organized by Centre for Nanotechnology Research, VIT Vellore, during 17<sup>th</sup>-19<sup>th</sup> June 2020.
11. Attended **International Virtual Conference on “Innovative Strategies in Chemical Science and Technologies (ISCST 2020)”** organized by the Department of Chemistry, Bhaktavatsalam Memorial College for Women on 27<sup>th</sup> & 28<sup>th</sup> June 2020.

<b>DECLARATION</b>
--------------------

---

I hereby declare that all statements made in the curriculum vitae are true, complete, and correct to the best of my knowledge and belief.

Thanking you.

Yours truly,

Date :

**(SOWBAKKIYAVATHI. E. S.)**

Place :Puducherry