



**S. Sudhakar**  
**Senior Scientist**

### Contact

**Address** : Electrochemical Power Sources Division  
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### Academic Qualifications

M.Sc., M. Phil., Ph.D

### Experience

**Assistant Professor** – Dongguk University, Seoul, Republic of Korea  
(March 2009 – July 2010)

**Post Doctoral Researcher** – Chonbuk National University, Jeonju, Republic of Korea  
(August 2010 – May 2011)

**Scientist** - CSIR : National Physical Laboratory (Nov 2011 – Nov 2015)  
**Senior Scientist** - CSIR : National Physical Laboratory (Nov 2015 – Aug 2017)  
**Senior Scientist** - CSIR : Central Electrochemical Research Institute  
(Aug 2017 – Till Date)

### Research Experience

12 Years

### Additional Responsibilities

Co-ordinating Scientist from ECPS Division for Seminar & Training program

## Areas of Research

1. Silicon Thin Film Solar Cells: Development of Very High Frequency – PECVD process to achieve high growth rate of doped and undoped layers of amorphous & micro / nano-crystalline silicon thin films. Fabrication of single and tandem junction amorphous & micro-crystalline silicon p-i-n solar cells. Simulation studies on HIT and p-i-n solar cells.
2. Lithium ion batteries: Synthesis of advanced cathode materials for lithium ion batteries. Fabrication and testing of lithium ion cells (cylindrical, pouch and prismatic) for e-mobility and energy storage applications.

## Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	PDF	Nil	Nil
	Ph.D.	Nil	Nil
	M.Phil.	Nil	Nil
Projects	PG	12	Nil

## Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books/chapters/ monographs/manuals
30	18	03	09	Books: 02

## Funded Research Projects

### Ongoing Major Research Projects

S.No	Title	Funding Agency	Amount (Rs. In lakhs)	Duration
1	CSIR Innovation Centre for Next Generation Energy Storage Solutions (Member)	CSIR	9348.62	May 2020 – March 2022
2	Design and development of MXenes enabled carbon nanostructured materials for Li-S batteries (Co-Project Investigator)	DST	62.15	Three Years Dec. 2019 – Dec. 2022

## Completed Major Research Projects

S.No.	Title	Funding Agency	Amount (Rs. In lakhs)	Duration
1	Setting up of National Facility for Validation of Solar Cell Efficiency Measurement (Member)	NPL	50.0	One year (2015 – 2016)
2	Development of SSPG setup (Co-PI)	CSIR	30.0	One year (2015 – 2016)
3	R & D on Thin Film Solar Cells (Work Package Leader)	MNRE	4950.0	Five Years (2011 – 2016)

## Patents

1. Nil

## Distinctive Achievements / Awards

**Junior Research Fellowship** : Sponsored research project by Inter-University Accelerator Centre (IUAC), New Delhi (May 2004 – February 2008)

**Senior Research Fellowship** : CSIR-SRF (April 2008 – April 2009)

**Travel Fellowship Award** : Travel Fellowship Award by Department of Science and Technology, Government of India to participate and present research work in The 4<sup>th</sup> Asian Conference on Crystal Growth and Crystal Technology, Tohoku University, Sendai, Japan (May 21 – 24 2008)

**Young Scientist Award** : Japanese Young Scientist Award (2008) by Global COE Materials Integration, Tohoku University, Sendai, Japan

## Events organized in leading roles

### Number of Seminars / Conferences / Workshops / Events organized:

- Co-ordinator for Science Village Program, India International Science Festival (IISF – 2016), CSIR – NPL, New Delhi
- Co-ordinator for Science Village Program, India International Science Festival (IISF – 2017), CSIR – CLRI, Chennai
- Co-ordinator for Science Village Program, India International Science Festival (IISF – 2018), CSIR – NBRI, Lucknow
- Co-ordinator for Science Village Program, India International Science Festival (IISF – 2019), CSIR – CGCRI, Kolkata

## Events Participated

### Conferences / Seminars / Workshops:

International Seminars: **15**

National Seminars: **08**

## Membership in Professional Bodies

Life Member: Indian Association for Crystal Growth

Life Member: Society for Advancement of Electrochemical Science and Technology

### **Referee for the International Journals**

Science of Advanced Materials, Materials Research Bulletin, Thin Solid Films, Journal of Applied Physics, Journal of Alloys and Compounds

### **Advisory Board:**

- Editorial Board Member: International Journal of Science, Technology and Humanities since 2014
- Member – Board of Studies, Karunya University, Coimbatore (2014 – 2015)
- Member Senate – Manonmaniam Sundaranar University, Tirunelveli for a period of three years (2018 – 2021)

## Resource persons in various capacities

Number of Invited / Special Lectures delivered:

- **Jury Member - National Level Exhibition and Project Competitions (INSPIRE - NLEPC) organized by DST, Ministry of Science & Technology for the year 2012 - 2015**
- **Jury & Power Speaker in Science Conclave – iNNO tRIBE at Sri Venkateswara Vidyalaya, Chennai (January 2019)**

## Others

1. No. of PhD Thesis Evaluated: **11**
2. No. of PhD Public Viva Voce Examinations conducted: **08**

## Publications

Google Scholar citations: Not Mandatory