




# Bharathiar University

State University | "A<sup>++</sup>" Grade by NAAC | 46<sup>th</sup> Rank in MoE-NIRF  
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

<p><b>Dr S. N. KARTHICK</b> Assistant Professor Department of Chemistry Bharathiar University</p> <p>Tamil Nadu <b>E-mail:</b> snkarthick@buc.edu.in <b>Phone:</b> 9994662441 <b>Office Number:</b> 0422-2428318</p>	
<p><b>Research Area</b></p> <ul style="list-style-type: none"><li>• Materials Electrochemistry</li><li>• Energy Conversion &amp; Storage</li><li>• Sensors &amp; Prototype Devices</li></ul>	<p><b>Courses Teaching</b></p> <ul style="list-style-type: none"><li>• Quantum Chemistry</li><li>• Molecular Spectroscopy</li><li>• Chemical Kinetics</li><li>• Thermodynamics</li><li>• Instrumental methods of chemical analysis</li><li>• Materials Electrochemistry</li><li>• Photocatalysis and electrocatalysis</li><li>• Electrochemical water splitting</li><li>• Sensors</li><li>• Energy Conversion &amp; Storage Devices</li></ul>
<p><b>Research Experience:</b> 20</p>	<p><b>Teaching Experience:</b> 9</p>
<p><b>Research Credentials</b> (as on August 2025 – Source: Google scholar) H-index: 28                      Citations: 2358                      i10-index: 47</p>	
<p><b>Publications</b> Books/Chapters: 1                      International Journals: 53</p>	
<p><b>Career</b></p> <p><b>Other Institutes</b></p> <ol style="list-style-type: none"><li><b>1. Designation : Post Doctoral Fellow</b> Institution Name : Pusan National University, Busan, South Korea. Period : October 2014 - November 2016</li><li><b>2. Designation : Post Doctoral Fellow</b> Institution Name : Pusan National University, Busan, South Korea. Period : March 2009 - February 2013</li><li><b>3. Designation : Post Doctoral Fellow</b> Institution Name : Indian Institute of Science, Bangalore., Karnataka. Period : June 2013 - September 2014</li><li><b>4. Designation : Post Doctoral Fellow</b> Institution Name : Central Electrochemical Research Institute (CECRI), Karaikudi, Tamil Nadu. Period : July 2008 - December 2008</li><li><b>5. Designation : Lecturer</b> Institution Name : Sri Kalishwari College, Sivakasi, Tamil Nadu. Period : August 2004 - January 2005</li></ol>	
<p><b>Education</b></p>	



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Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr S. N. KARTHICK , Assistant Professor , Department of Chemistry

## Ph. D.

Subject : Chemistry

Institution : Alagappa University, Karaikudi.

Affiliated University : Alagappa University, Karaikudi.

Year of Award : December 2008

## M. Phil.

Subject : Chemistry

Institution : Ayya Nadar Janaki Ammal College, Sivakasi.

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : June 2003

## M. Sc.

Subject : Chemistry

Institution : Ayya Nadar Janaki Ammal College, Sivakasi.

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : April 2003

## B. Sc.

Subject : Chemistry

Institution : Ayya Nadar Janaki Ammal College, Sivakasi.

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : April 2001

## Projects

### International Level

Ongoing - completed - 1

### National Level

Ongoing - 1 completed - 2

## Research Guidance

### Completed

PG - 24

### Submitted

Ph.D. - 2

### On Going

Ph.D. - 3

## Institutional Responsibilities

### Common Eligibility Test (CET-2020)

Period :Jul 2020 - Oct 2020

Nature of Responsibility :Deputy Coordinator

### Common Eligibility Test (CET-2021)

Period :Jul 2021 - Sep 2021

Nature of Responsibility :Deputy Coordinator

### Common Eligibility Test (CET-2023)

Period :Jun 2023 - Jun 2023

Nature of Responsibility :Centre Deputy Coordinator for CET 2023

### IVth Cycle NAAC Accreditation 2023

Period :Jul 2022 - Mar 2023

Nature of Responsibility :Member for the preparation committee

### CPP University Examination

Period :Jan 2018 - Feb 2018

Nature of Responsibility :University Representative for the conduct of CPP University Examination at Bangalore.

### 39th CONVOCATION

Period :Jul 2024 - Oct 2024

Nature of Responsibility :Committee Member



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## 38th CONVOCATION

Period :May 2023 - Aug 2023

Nature of Responsibility :Committee Member

## 36th CONVOCATION

Period :Oct 2019 - Dec 2019

Nature of Responsibility :Committee Member

## Programs organized

1. Interdisciplinary Research on Societal Applications: Challenges and Opportunities (IRSA - 2020) ( 2020-06-26 - 2020-06-27 )
2. Optical and Electrical Modelling Software for Semiconductor Devices. ( 2020-12-15 - 2020-12-15 )

## Collaborations

1. Prof. S. Sampath, Department of Inorganic and Physical Chemistry, Indian Institute of Science (IISc), Bangalore - 560012, India. - )
2. Dr. K.V. Hemalatha, Assistant Professor & Head (i/c), Department of Chemistry, Coimbatore Institute of Technology (CIT), Coimbatore - 6410114, India. - )
3. Dr. M. Sathish, Senior Principal Scientist, Central Electrochemical Research Institute (CECRI), Karaikudi - 630003, India. - )
4. Prof. M. Musthafa, Department of Chemistry, Indian Institute of Science Education and Research (IISER), Pune - 411008, India. - )
5. Dr. Vijayakumar, Advanced Energy Materials R&D Division, Dongkwang Co., Ltd., Gyeonggi-do 14057, Republic of Korea. - )

## Visits

1. Indian Institute of Science (IISc), Bangalore – 560012. ( 2018-10-18 - 2018-10-20 )
2. Central Electrochemical Research Institute (CECRI), Karaikudi – 630006. ( 2019-02-01 - 2019-02-02 )
3. Indian Institute of Technology Madras (IITM), Chennai – 600 036. ( 2024-08-27 - 2024-08-27 )

## Publications

### International Journals - 53

#### 53. Development of Boron-Doped Nickel Zinc Oxide Electrodes for Efficient Energy Storage in Asymmetric

##### Supercapacitors

Industrial & Engineering Chemistry Research 2025 64 (34), 16660-16667 (August 2025)

Kiruthika Paramasivam, Yogapriya Selvaraj, Manik Clinton Franklin, Sornalatha Manickam, Karthick Sivalingam Nallathambi, and Hemalatha Kuzhandaivel

#### 52. Electrochemical Efficacy of a Ni<sub>x</sub>S<sub>y</sub>/WS<sub>2</sub> Composite as an Efficient Electrode Material for a High

##### Performance Hybrid Supercapacitor and Aqueous Zn-Ni Battery

Energy & Fuels 2025 39 (4), 2265-2280 (January 2025)

Manik Clinton Franklin, Yogapriya Selvaraj, Lekshmi Sunil, Sornalatha Manickam, Vijayakumar Elayappan, Haigun Lee, Hemalatha Kuzhandaivel, and Karthick Sivalingam Nallathambi

#### 51. Impact of Nitrogen-Enriched 1T/2H-MoS<sub>2</sub>/CdS as an Electrode Material for Hybrid Supercapacitor,

ACS Applied Materials Interfaces, 16 (2024) 50587 (September 2024)

Manik Clinton Franklin, Sornalatha Manickam, Lekshmi Sunil, Akshaya Sisubalan, Vijayakumar Elayappan, Hemalatha Kuzhandaivel, Karthick Sivalingam Nallathambi

#### 50. Invasion of Zinc in BiFeO<sub>3</sub>/Bi<sub>25</sub>FeO<sub>40</sub> Perovskite-Structured Material as an Efficient Electrode for

##### Symmetric Supercapacitor

ACS Journal of Physical Chemistry – C, 128 (2024) 5418-5428 (March 2024)

Yogapriya Selvaraj, Kiruthika Paramasivam, Manik Clinton Franklin, Karthick Sivalingam Nallathambi, Vijayakumar Elayappan, Hemalatha Kuzhandaivel



## **49. Polymer-assisted synthesis of Co<sub>3</sub>O<sub>4</sub>/CoO microballs decorated N-doped carbon for symmetric supercapacitor**

Dalton Transactions, 52 (2023) 14621-14631 (September 2023)  
Kiruthika Paramasivam, Sornalatha Manickam, Karthick Sivalingam Nallathambi, Hemalatha Kuzhandaivel

## **48. Nickel doped CuO/Cu/Cu<sub>2</sub>O nanocomposite as an efficient electrode for electrochemical non enzymatic glucose sensor and asymmetric supercapacitor**

Journal of Applied Electrochemistry, 53 (2023) 1869 (April 2023)  
Hemalatha K.V., Kiruthika P., Sornalatha M., Karthick Sivalingam Nallathambi

## **47. Enhanced cyclic stability of cobalt doped Bi<sub>2</sub>FeO<sub>4</sub>/BiFeO<sub>3</sub> as an electrode material for a super long life symmetric supercapacitor device**

ACS Energy and Fuels, 37 (2023) 8624 (April 2023)  
Yogapriya S., Hemalatha K., Karthick Sivalingam Nallathambi, Vijayakumar E

## **46. One-pot synthesis of TEA functionalized and NiSe embedded rGO nanocomposites for supercapacitor application**

Dalton Transactions, 51 (2022) 1542 (December 2021)  
Sornalatha M., Hemalatha K.V., Yogapriya S., Manik Clinton F., Karthick S. N.

## **45. Low-temperature-synthesized Mn-doped Bi<sub>2</sub>Fe<sub>4</sub>O<sub>9</sub> as an efficient electrode material for supercapacitor applications**

New Journal of Chemistry, 45 (2021) 15223 (July 2021)  
Hemalatha K.V., Yogapriya S., Manik Clinton F., Sornalatha M, Karthick S. N.

## **44. Performance of 2-Hydroxy-1-Naphthaldehyde-2-Amino Thiazole as a Highly Selective Turn-on Fluorescent Chemosensor for Al (III) Ions Detection and Biological Applications**

Journal of Fluorescence, 31 (2021) 1041 (May 2021)  
Hemalatha K.V., Summaya Banu B., Immanuel David C., Nandhakumar R., Usha S., Karthick S.N.

## **43. Sulfur and nitrogen-doped graphene quantum dots/PANI nanocomposites for supercapacitors**

New Journal of Chemistry, 45 (2021) 4101 (January 2021)  
Hemalatha K.V., Sornalatha M, Suresh Kannan B., Manik Clinton F., Hee-Je Kim, Karthick S.N.

## **42. Enhanced solar to electrical energy conversion of titania nanoparticles and nanotubes-based combined photoanodes for dye-sensitized solar cells**

Materials Letters, 243 (2019) 180 (May 2019)  
Anandha Raj J., Suresh Kannan B., Chanyong Lee, Hyunjoo Lee, Balamuralitharan B., Sornalatha M., Moonsuk Yi, Hee-Je Kim, Karthick S.N., Yongseok Jun, Hemalatha K.V

## **41. Facile synthesis of pristine FeS<sub>2</sub> microflowers and hybrid rGO-FeS<sub>2</sub> microsphere electrode materials for high performance symmetric capacitor**

Journal of Industrial and Engineering Chemistry, 71 (2019) 191 (March 2019)  
Balamuralitharan. B., Suresh. K. B., Karthick S.N., Ananthakumar. R., Manab Kundu, Jin Soo Bk, In Ho Cho, Prabakar. K., Yongseok Jun, Hee-Je Kim

## **40. Superficial One-pot Synthesis of Doped Graphene Oxide Electrode for High Power Density Supercapacitor**

New Journal of Chemistry, 42 (2018) 11093 (May 2018)  
Malarkodi. D., Saravanan. N., B. Balamuralitharan, S. Selvam, S.N. Karthick, K. Prabakar, Chang-Sik Ha, Hee-Je Kim

## **39. Hybrid Reduced Graphene Oxide/Manganese Diselenide Cubes: A New Electrode Material for Supercapacitors**

Energy Technology, 5 (2017) 1953-1962 (April 2017)  
B. Balamuralitharan, S. N. Karthick, Suresh K. Balasingam, K. V. Hemalatha, S. Selvam, J. Anandharaj, K. Prabakar, Yongseok Jun, Hee-Je Kim

## **38. Electrolyte imprinted graphene oxide-Chitosan chelate with copper crosslinked composite electrodes for intense cyclic stable flexible supercapacitors**

Journal of Materials Chemistry A, 5 (2016) 1380 (December 2016)  
S. Selvam, B. Balamuralitharan, S. Jegatheeswaran, Mi Young Kim, S.N. Karthick, Boomi Pandi, M. Sundrarajan, K. Prabakar, Hee-Je Kim



**37. Drastic photocatalytic degradation of methylene blue dye by neodymium doped zirconium oxide as photocatalyst under visible light irradiation**

Optik, 127 (2016) 10288 (November 2016)

C. Dhandapani, R. Narayanasamy, S.N. Karthick, K.V. Hemalatha, S. Selvam, P. Hemalatha, S. Dinesh Kirupha, Hee-Je Kim

**36. Simultaneous electrochemical deposition of an e-rGO/?-CD/MnO<sub>2</sub> ternary composite for a self-powered supercapacitor based caffeine sensor**

Analytical Methods, 8 (2016) 7937 (October 2016)

S. Selvam, B. Balamuralitharan, S.N. Karthick, K.V. Hemalatha, Kandasamy Prabakar, Hee-Je Kim

**35. Effect of CuBr<sub>2</sub> salt treatment on the performance of nanocolloidal PPy: PSS multilayer thin film counter electrodes of dye sensitized solar cells**

Journal of Applied Polymer Science, 133 (2016) 43772 (April 2016)

S. Maruthamuthu, J. Chandrasekaran, D. Manoharan, S.N. Karthick, Hee-Je Kim

**34. Performance of sol-gel synthesized nanocrystalline TiO<sub>2</sub> in quantum dot sensitized solar cell with deposition of CdS/CdSe quantum dots by different techniques**

Science of Advanced Materials, 8 (2016) 645 (March 2016)

S.N. Karthick, K.V. Hemalatha, Hee-Je Kim, Moonsuk Yi, C. Dhandapani, R. Narayanaswamy

**33. CuBr<sub>2</sub> - induced charge screening on photoactive nanocolloidal polypyrrole:poly(styrene sulfonate) composite multilayer thin-film counter electrodes for high-efficiency dye-sensitized solar cells**

Polymer International, 65 (2016) 584 (March 2016)

S. Maruthamuthu, J. Chandrasekaran, D. Manoharan, S.N. Karthick, Hee-Je Kim, B. Saravanakumar

**32. Phase transition kinetics and surface binding states of methylammonium lead iodide Perovskite**

Physical Chemistry Chemical Physics, 18 (2016) 7284 (February 2016)

G. Rajendra Kumar, A. Dennyson Savariraj, S.N. Karthick, S. Selvam, B. Balamuralitharan, Hee-Je Kim, K.K. Viswanathan, M. Vijayakumar, K. Prabakar

**31. Multilayer photoactive nanocolloidal PPy:PSS as a novel substitute for Pt free counter electrode in DSSC**

Journal of Applied Polymer Science, 133 (2015) 43114 (November 2015)

S. Maruthamuthu, J. Chandrasekaran, D. Manoharan, S.N. Karthick, Hee-Je Kim

**30. Stacked Cu<sub>1.8</sub>S nanoplatelets as counter electrode for quantum dot-sensitized solar cell**

RSC Advances, 5 (2015) 100560 (November 2015)

A. Dennyson Savariraj, G. Rajendrakumar, S. Selvam, S. N. Karthick, B. Balamuralitharan, Hee-Je Kim, K. Viswanathan, M. Vijayakumar, K. Prabakar

**29. La-doped ZnO nanoflower as photocatalyst for methylene blue dye degradation under UV irradiation**

Journal of Materials Science: Materials in Electronics, 27 (2015) 2367 (November 2015)

P. Hemalatha, S.N. Karthick, K.V. Hemalatha, Moonsuk Yi, Hee-Je Kim, M. Alagar

**28. Prototype electrochromic device and dye sensitized solar cell using spray deposited undoped and 'Li' doped V<sub>2</sub>O<sub>5</sub> thin film electrodes**

Current Applied Physics, 15 (2015) 622 (September 2015)

M. Kovendhan, D. Paul Joseph, P. Manimuthu, A. Sendilkumar, S.N. Karthick, S. Sambasivam, K. Vijayarangamuthu, Hee Je Kim, Byung Chun Choi, K. Asokan, C. Venkateswaran, R. Mohan

**27. Robust, metallic Pd<sub>17</sub>Se<sub>15</sub> and Pd<sub>7</sub>Se<sub>4</sub> phases from a single source precursor and their use as counter electrodes in dye sensitized solar cells**

Journal of Materials Chemistry A, 3 (2015) 17144 (July 2015)

Suresh Kukunuri, S.N. Karthick, S. Sampath

**26. Influence of PVP template on the formation of porous TiO<sub>2</sub> nanofibers by electrospinning technique for dye-sensitized solar cell**

Applied Physics A: Materials Science & Processing, 120 (2015) 1211 (July 2015)

E. Vijayakumar, P. Pratheep, N. Sivasankar, S.N. Karthick, A. Subramania



**25. Novel high-temperature supercapacitor combined dye sensitized solar cell from a sulfated  $\beta$ -cyclodextrin/PVP/MnCO<sub>3</sub> composite**

Journal of Materials Chemistry A, 3 (2015) 10225 (March 2015)

S. Selvam, B. Balamuralitharan, S.N. Karthick, A. Dennyson Savariraj, K.V. Hemalatha, Soo-Kyoung Kim, Hee-Je Kim

**24. Improved photovoltaic performance of CdSe/CdS/PbS quantum dot sensitized ZnO nanorod array solar cell,**

Journal of Power Sources, 248 (2014) 439 (November 2014)

C. Justin Raj, S.N. Karthick, S. Park, K.V. Hemalatha, S.K. Kim, K. Prabakar, Hee-Je Kim

**23. 'Li' doping induced physicochemical property modifications of MoO<sub>3</sub> thin films**

Applied Surface Science, 284 (2013) 624 (December 2013)

M. Kovendhan, D. Paul Joseph, P. Manimuthu, S. Sambasivam, S.N. Karthick, K.Vijayarangamuthu, A. Sendilkumar, K. Asokan, Hee Je Kim, Byung Chun Choi, C. Venkateswaran, R. Mohan

**22. Highly efficient ZnO porous nanostructure for CdS/CdSe quantum dot sensitized solar cell**

Thin Solid Films, 548 (2013) 636 (December 2013)

C. Justin Raj, S.N. Karthick, K.V. Hemalatha, Hee-Je Kim, K. Prabakar

**21. Synthesis of self-light-scattering wrinkle structured ZnO photoanode by sol-gel method for dye-sensitized solar cells**

Applied Physics A – Materials science & processing, 116 (2013) 811 (November 2013)

C. Justin Raj, S.N. Karthick, K.V. Hemalatha, Soo-Kyoung Kim, Byung Chul Kim, Kook-Hyun Yu, Hee-Je Kim

**20. Curcumin dye extracted from Curcuma longa. L, used as sensitizers for efficient dye sensitized solar cells**

International Journal of Electrochemical Science, 8 (2013) 8320 (June 2013)

Hee-Je Kim, Kim Dong Jo, S.N. Karthick, K.V. Hemalatha, C. Justin Raj, Sunseong ok, Youngson choe

**19. Natural dye extracted from Rhododendron species flowers as a photosensitizer in dye sensitized solar cell**

International Journal of Electrochemical Science, 8 (2013) 6734 (May 2013)

Hee-Je Kim, Yeo-Tae Bin, S.N. Karthick, K.V. Hemalatha, C. Justin Raj, S.Venkatesan, Songyi Park, G. Vijayakumar

**18. Structural and magnetic investigations on metastable Ag-Fe nanophase alloy**

Journal of Alloys and Compounds, 557 (2013) 172 (April 2013)

Kalavathy Santhi, E. Thirumal, S.N. Karthick, Hee-Je Kim, V. Narayanan, A. Stephen

**17. Synthesis of nano-bound microsphere Co<sub>3</sub>O<sub>4</sub> by simple polymer-assisted sol-gel technique**

Journal of Nanoparticle Research, 15 (2013) 1474 (February 2013)

S.N. Karthick, K.V. Hemalatha, C. Justin Raj, Hee Je Kim, Moonsuk Yi

**16. Banyan root structured Mg doped ZnO photoanode for dye sensitized solar cells**

Journal of Physical Chemistry – C, 117 (2013) 2600 (January 2013)

C. Justin Raj, K. Prabakar, S.N. Karthick, K.V. Hemalatha, Min-Kyu Son, Hee-Je Kim

**15. Morphology and Electrochemical Properties of P(VdFHFP)/MgO-Based Composite Microporous Polymer Electrolytes for Li-Ion Polymer Batteries**

Polymer-Plastics Technology and Engineering, 51 (2012) 1427 (October 2012)

G. Vijayakumar, S.N. Karthick, R. Paramasivam, C. Ilamaram

**14. Performance of Kerria japonica and Rosa chinensis flower dyes as a sensitizer for dye sensitized solar cells**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 96 (2012) 305 (October 2012)

K.V. Hemalatha, S.N. Karthick, C. Justin Raj, Min-Kyu Son, Soo-Kyoung Kim, Hee-Je Kim

**13. Electrochemical properties of TiO<sub>2</sub> encapsulated ZnO nanorod aggregates dye sensitized solar cells**

Journal of alloy and compounds, 537 (2012) 159 (October 2012)

C. Justin Raj, S. N. Karthick, A. Dennyson Savariraj, K. V. Hemalatha, Park Song-Ki, Hee-Je Kim, K. Prabakar

**12. Preparation of TiO<sub>2</sub> paste using poly (vinylpyrrolidone) for dye sensitized solar cells**

Thin Solid Films, 520 (2012) 7018 (September 2012)

S.N. Karthick, K.V. Hemalatha, C. Justin Raj, A. Subramania, Hee Je Kim



## 11. Synthesis, structure stability and magnetic properties of nanocrystalline Ag-Ni alloy

Journal of Nanoparticle Research, 14 (2012) 868 (April 2012)  
Kalavathy Santhi, E. Thirumal, S.N. Karthick, Hee-Je Kim, Marimuthu Nidhin, V. Narayanan, A. Stephen

## 10. Magnesium doped ZnO nanoparticles embedded ZnO nanorod hybrid electrodes for dye sensitized solar cells

Journal of Sol-Gel Science and Technology, 62 (2012) 453 (March 2012)  
C. Justin Raj, S.N. Karthick, K.V. Hemalatha, Min-Kyu Son, Hee-Je Kim, K. Prabakar

## 9. Microstructure analysis of the ferromagnetic Ag-Ni system synthesized by pulsed electrodeposition

Applied Surface Science, 258 (2012) 3126 (January 2012)  
Kalavathy Santhi, S.N. Karthick, Hee-Je Kim, Marimuthu Nidhin, V. Narayanan, A. Stephen

## 8. Formation of anatase TiO<sub>2</sub> nanoparticles by simple polymer gel technique and their property

Powder Technology, 205 (2011) 36 (January 2011)  
S.N. Karthick, K. Prabakar, A. Subramania, Ji-Tae Hong, Jin-Ju Jang, Hee-Je Kim

## 7. Titanium oxide prepared by polymer gel assisted combustion method for dye sensitized solar cell

Current Applied Physics, 11 (2011) S127 (January 2011)  
S.N. Karthick, K.V. Hemalatha, Hyunwoong Seo, Daniel Ludeman, Jin-Kyoung Kim, K.Prabakar, Hee-Je Kim

## 6. A new class of P(VdF-HFP)-CeO<sub>2</sub>-LiClO<sub>4</sub>-based composite microporous membrane electrolytes for Li-ion batteries

International Journal of Electrochemistry, 2011 (2011) 926383 (January 2011)  
G. Vijayakumar, S.N. Karthick, A.Subramania

## 5. Titanium dioxide paste preparation for dye sensitized solar cell using hydrothermal technique

Journal of Ceramic Processing Research, 13 (2010) s136 (October 2010)  
S.N. Karthick, K.V. Hemalatha, C. Justin Raj, Hee-Je Kim, Moonsuk Yi

## 4. Preparation of nanocrystalline LiMn<sub>2</sub>O<sub>4</sub> thin film cathode material in spray pyrolysis method for Li-microbatteries

Journal of alloy and compounds, 489 (2010) 674 (January 2010)  
S.N. Karthick, S.Richard Prabhu Gnanakan, A.Subramania, Hee-Je Kim

## 3. Preparation and electrochemical behavior of LiMn<sub>2</sub>O<sub>4</sub> thin film by spray pyrolysis method

Thin Solid Films, 513 (2008) 8295 (October 2008)  
A.Subramania, S.N. Karthick, N.Angayarkanni

## 2. Effect of nanoscale CeO<sub>2</sub> on PVDF-HFP-based nanocomposite porous polymer electrolytes for Li-ion batteries

Journal of Solid State Electrochemistry, 12 (2008) 1135 (September 2008)  
A.Subramania, S.N. Karthick, N.Angayarkanni

## 1. Combustion synthesis of inverse spinel LiNiVO<sub>4</sub> nano-particles using behavior as the fuel

Materials Letters, 60 (2006) 3023 (March 2006)  
A. Subramania, N. Angayarkanni, S.N. Karthick, T.Vasudevan

## Books/Chapters - 1

### 1. Chapter I - Dye-sensitized solar cells: History, components, configuration, and working principle

Interfacial engineering in functional materials for dye-sensitized solar cells, 2019, John Wiley & Sons Inc. Hardback ISBN 9781119557333 (November 2019)  
S.N. Karthick, K.V. Hemalatha, Suresh Kannan Balasingam, F. Manik Clinton, S. Akshaya, Hee-Je Kim

## Projects

### Completed - 3

1. Development of new lead-free perovskite solar cell for high conversion efficiency. Others 95 Lakhs (July 2015 - November 2016)
2. Development of stable and effective electrocatalytic for dye sensitized solar cell. UGC-MRP 10 Lakhs (March 2018 - March 2020)
3. Synthesis and application of the anticancer compound. RUSA 2.0 - BCTRC 7.43 Lakhs (December 2020 - December 2016)



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State University | "A++" Grade by NAAC | 46<sup>th</sup> Rank in MoE-NIRF  
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

**Dr S. N. KARTHICK , Assistant Professor , Department of Chemistry**

## Ongoing - 1

1. Development of high specific energy supercapacitor in aid of multi-DST 29.99 Lakhs (October 2023 - October 2026)

metallic chalcogenides.