Name : Dr. C. Nithya

Designation : Assistant Professor

Department : Chemistry

Qualification : M.Sc., M.Phil., Ph.D.,

Experience : Teaching -14 Years

Research : 18 Years

Area of Specialization(s) : Energy Storage

Email (Official ID) : nithyac@psgrkcw.ac.in

Academic Qualifications

Degree	Branch	Institution/University Name	Year of Graduation
Ph.D.	Chemistry	CSIR-Central Electrochemical Research Institute/Bharathidasan University	2012
M.Phil.	Chemistry	School of Chemistry, Bharathidasan University.	2008
M. Sc.	Chemistry	School of Chemistry, Bharathidasan University.	2006
B.Sc.	Chemistry	NKR Govt. Arts College for Women/Periyar University	2004

Additional Qualifications

Diploma/ Vocational/ Certification	Area of Specialization	Institution/University/AgencyName	Year
Certification	Coursera	TECHNION Israel Institute of Technology	2022
Certification	Coursera	Technical University of Denmark	2022

Research Guidance

Programme	No. of Scholars	
	Completed	**Pursuing**
M.Phil.	1	-
Ph.D	1	3

Research Publications (Indexed) 44 Publications

1. High-Performing $LiMg_xCu_yCo_{1-x-y}O_2$ Cathode Material for Lithium Rechargeable Batteries - **C. Nithya**, R. Thirunakaran, A. Sivashanmugam, S. Gopukumar **ACS Appl. Mater. Interfaces,** 4 **(2012)** 4040–4046 **(ISSN: 1944-8244). (IF: 8.456)**
2. High performance Na_xCoO_2 as a cathode material for rechargeable sodium batteries – B. Venkata Rami Reddy, R. Ravikumar, **C. Nithya**, S. Gopukumar, **J. Mater. Chem. A**. 3 **(2015)** 18059-18063 (**ISSN: 0959-9428**. **(IF: 10.447)**
3. Effect of Mg doping on the local structure of $LiMg_yCo_{1-y}O_2$ cathode material investigated by X-ray absorption spectroscopy - .H. Cheng, C.J. Pan, **C. Nithya**, R. Thirunakaran, S. Gopukumar, C.H. Chen,

J.F. Lee, J.M. Chen, A. Sivashanmugam, B.J. Hwang, **J. Power Sources** 252 **(2014)** 292-297 **(ISSN: 0378-7753)**. **(IF: 7.467)**

4. rGO /nano Sb composite: A high performing Anode material for Na^+ ion Batteries and Evidence for Formation of Nanoribbons from Nano rGO sheet during Galvanostatic Cycling – **C. Nithya,** S. Gopukumar – **J. Mater. Chem. A –** 2 **(2014)** 10516-10525 **(ISSN: 0959-9428)**. **(IF: 10.733)**
5. Sb_2O_4@rGO Nanocomposite Anode for High Performance Sodium-Ion Batteries – R. Kiruthiga, **C. Nithya,** K.P. Bindhya, Nitesh Kumar, S. Gopukumar, **ACS Sustainable Chem. Eng.** 5 (2017) 5090-5098 **(ISSN: 2168-0485). (IF: 6.970)**
6. Morphology-oriented CuS nanostructures: Superior K-ion storage by surface enhanced pseudocapacitive effects – **C. Nithya,** T. Gowtham, **Sus. Energy & Fuels** 2020, 4, 3574 – 3587. **(IF: 6.813)**
7. Dopant-Free Main Group Elements Supported Covalent Organic–Inorganic Hybrid Conducting Polymer for Sodium-Ion Battery Application – V. Seenuvasan, S. Pandiaraj, C. Nithya*, M. Nithya and R. Karvembu. **ACS Applied Energy Mater**. **2022,** 5, 557-566. **(IF: 6.9)**
8. Bi_2S_3 Nanorods Deposited on Reduced Graphene Oxide for Potassium-Ion Batteries – **C. Nithya**, M. Jeevan Kumar Reddy, I. In, S. Kim, S. Gopukumar. **ACS Appl. Nano Mater**. 2023, 6, 6121–6132 **(IF: 6.114)**
9. Sb_2S_3 nanorods encapsulated reduced graphene oxide as an anode material for Na/K-ion batteries – **C. Nithya,** S. Vishnupriya, S. Dhanushree. **Surfaces & Interfaces** 2024, 44, 103630 **(IF: 6.2)**
10. Exploring the influence of Single-Walled carbon nanotubes substituted Mg–Ti alloy for hydriding and dehydriding properties - K.S. Nivedhitha, R. Venkatesh, N.R. Banapurmath, K. Ramesh, Ashok M. Sajjan , P. Bipin S. Chikkatti, Yogesh, Abhilasha Jain, **C. Nithya. Int. J. Hydrogen Energy** 2024, 59, 272 **(IF: 7.2)**
11. Heterostructure of Reduced Graphene Oxide Supported Tin (IV) Sulfide Nanopetals as an Anode Material for Sodium/Potassium-Ion Batteries: Evidence for the formation of C-S bond – C. **Nithya**, S. Dhanushree, Indu Elizabeth, Kriti Tyagi, P. Bavya. Electrochimica Acta 2024, 492, 144347. **(IF: 6.6)**

Patent

S.No	Name of the Faculty	Title of the Invention	Application No.	Date of Filing	Grant Date
1.	C. Nithya	Process for the preparation of high voltage nano composite cathode (4.9 V) for lithium ion batteries	13/880,704	30.05.2011	29.05.2018
2.	C. Nithya	Cathode Material and Lithium Ion Battery Therefrom	13/880,306	29.05.2011	30.01.2018
3.	C. Nithya	The Method for Preparing Lithium Ion Battery Pack of High Voltage Nanocomposite Cathode	2495/DEL/2010	30.03.2011	20.07.2016
4.	C. Nithya	High Voltage, High Performance Layered Cathode Material for Lithium Ion Batteries	2439/DEL/2010	13.10.2010	13.06.2022

Book Published

1. C. Nithya "High performing cathode materials for lithium ion batteries" LAP LAMBERT Academic Publishing, Germany, January 2016, ISBN: 978-3-659-82537-8.
2. Nivedita K.S, **C. Nithya**, R. Kumaran,"Synthesis and electrochemical study on nano structured Mg Based alloy" - LAP LAMBERT Academic Publishing, Germany, June 2018, ISBN: 978-620-0-22387-6.

Book Chapter Published

1. **C. Nithya**, S. Gopukumar, "Transition metal chalcogenides as anode materials for rechargeable batteries" Chapter 15 in "Nanobatteries and Nanogenerators" – Elseveir, November 2020. ISBN: 978-0-12-821548-7.
2. C. Nithya, S. Gopukumar. "Thermodynamic analysis of lithium storage" –, **Encyclopedia of Energy Storage,** 2022, 1, 286-294.
3. **C. Nithya –** "Bio-wastes for metal-ion batteries" - Chapter 18 in "Energy from Waste: Production and Storage" - CRC Press, March 2022. ISBN: 9781003178354.
4. **C. Nithya –** "Transition Metal Phosphates/Phosphonates for Lithium-ion Batteries" – contributed the chapter in the book entitled "Metal Phosphates and Phosphonates", March 2023, ISBN: 978-3-031-27062-8, P.No. 283.
5. **G. Subashini and C. Nithya –** "Transition Metal Chalcogenide-Based Flexible and Wearable Sensors" – contributed the chapter in the book entitled "Flexible and Wearable Sensors", March 2023, ISBN: 9781003299455. Chapter 10, P. No. 138-148.
6. S. Dhanushree, **C. Nithya*** – "Introduction to Nanocarbon" - contributed the chapter in the book entitled "NanoCarbon: A Wonder Material for Energy Applications", February 2024, ISBN: 978-981-99-9935-4. Chapter 1, P.No. 1-15.
7. **C. Nithya***, R. Kiruthiga – "Potassium-Ion Batteries: Recent Trends and Challenges" – contributed the chapter entitled "Advanced Technologies for Rechargeable Batteries" August 2024, ISBN: 9781003310174. Chapter 2, P.No. 14-33

Short Term Course

1. Short term training program on "Enviromental crisis and sustainable development" organized by NIT, Kuruksetra from 01.07.2025 to 05.07.2025

Acted as a Resource Person

- Chairing a session in international conference on green technology for environmental pollution prevention and control (ICGTEPC - 2014) on 27-29th September 2014.
- Chairing a session in International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM 2016) organized by Indian Institute of Science (IISc), Bangalore held on 11-15 Dec'2016.
- Session chair: International conference on energy conversion and storage (IC-ECS-2023) organized by Department of Sciences, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Coimbatore on 21.06.2023
- Delivered an invited talk on "Nanostructured composite anode materials for sodium ion storage applications" in the International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM 2016) organized by Indian Institute of Science (IISc), Bangalore held on 11-15 Dec'2016.
- Delivered an invited Talk "Biowaste as an electrode material for lithium-ion batteries" in BUDS-THINK 2021 organized by Department of Biochemistry and Chemistry, Bharathidasan University, Tiruchirappalli on 31st Mar'2021.

- Delivered an invited Talk “Electroanalytical Techniques and Their Applications” in Karyashara programme funded by science and Engineering Research Board organized by Department of Energy and Environment, NIT, Trichy on 22.10.2021 & 23.10.2021.
- Delivered an invited Talk “Familiarization of Electrochemical Methods” in high end workshop on Sophisticated Analytical and Testing Instruments "organized by the Department of Energy and Environment, NIT Tiruchirappalli on 27.01.2023 & 28.01.2023.
- Delivered an invited Talk “Biowastes for lithium-ion batteries” in one week workshop on Current Trends in Energy Storage and Electric Vehicle Technologies" organized by the Department of Energy and Environment, NIT Tiruchirappalli on 10.02.2023 & 11.02.2023.
- Delivered an invited Talk “ Energy Storage In Batteries: Basic Concepts” in one week workshop on “Current Trends and Futures Aspects of the Development of Fuel Cell & other Energy Storage Technologies" organized by the Department of Energy and Environment, NIT Tiruchirappalli on 29.05.2023.

Reviewer in Journal

WILEY INTERSCIENCE	THE AMERICAN CHEMICAL SOCIETY	THE ROYAL SOCIETY OF CHEMISTRY	ELSEVIER
Advanced Materials Advanced Energy Materials ChemPlusChem ChemPhysChem ChemSusChem Advanced Materials & Interfaces European Journal of Inorganic Chemistry Small	ACS Applied Materials & Interfaces ACS Sustainable Chemistry & Engineering Journal of Physical Chemistry C ACS Applied Energy Materials ACS Applied Nano Materials	RSC Advances Journal of Materials Chemistry A Nanoscale Advances Inorganic Chemistry Frontiers	Journal of Power Sources Chemical Physics Letters Electrochimica Acta Applied Energy Materials Chemistry & Physics Journal of Energy Storage

Paper Presentations in Conference

International - 7
National - 1

Presentations in Seminar - 4

Participation in Conference - 10

Participation in Seminars - 4

Participation in Workshop - 4

Participation in Faculty Development Programme - 5

Participation in Webinar - 5

Conference/Seminar/Workshop Organized - 5

Grants

S. No	Funding Source	Title of the project	Project cost (Rs)	Duration	Status
1	DST, India	High Performing Electrode Materials for Li/Na ion batteries and supercapacitors	85 lakhs	2012-2017	Completed (The sectoral monitoring committee graded this project as "Very Good")
2	DST, India	New electrode materials for potassium ion based energy storage technologies	31.99 lakhs	2018-2021	Completed
3	ANRF, India	Development of Pseudocapacitive based functional composite electrode for sodium-ion batteries	20.79 lakhs	2022-2025	**Ongoing**
4	CSIR-ASPIRE	Development of metal chalcogens/oxides with carbon as composite electrode material for Zinc-ion Batteries	27.52 lakhs	2024-2027	**Ongoing**

Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
The Indian Science Congress Association	Life Member	04.10.2023 to 31.07.2044

Awards/Honors

Awards/Honors	Agency/Institute	Year of Award
Materials Science Researcher Award	AFMD-24, SRM University	2024
NRDC National Meritorious Invention Award 2018	Ministry of Science and Technology, India	2019
ICONN 2019 Outstanding Woman Researcher Award	SRM ICONN 2019	2019
Outstanding Reviewer Award	Elsevier	2017, 2018
DST-Women Scientist Award (2017)	Department of Science & Technology, India	2017
DST-INSPIRE Faculty Award (2012)	Department of Science & Technology, India	2012
Awarded SRF	Ministry of New & Renewable Energy	2011
Best Oral Presentation Award	ACEPS-6, Chennai	2012
Rank Holder (M.Sc Chemistry)	Bharathidasan University	2006
Rank Holder (B.Sc Chemistry)	Periyar University	2006
Proficiency Award	NKR Govt Arts College for Women	2004

Indexing and Citations

Scopus/WOS – 44
Total Citations: 1774
h-index – 23
i10 index - 39
Total Impact factor – 286.78
Average impact factor – 6.51

Contribution

- Acting as a Coordinator for ASIHE Ranking activities (PSGRKCW)
- Acting as a BOS member for Srikailash College for Women, Salem