P. R. GOVERNMENT COLLEGE (A) , KAKINADA

DEPARTMENT OF PHYSICS AND ELECTRONICS

ACADEMIC PROFILE

Name : Dr. Posupo Himakar

Designation : Lecturer In Physics

Qualifications : M.Sc.,P.G.D.C.A.,M.C.A.,M.Phil., SET., Ph.D.

Institutional Address : Pithapur Rajah's Government College
(Autonomous), Kakinada – 533001
Andhra Pradesh, India

Residential Addresas : H.No. 24-8-64/1, Old Bus Stand
KAKINADA-533 001

Date of Birth : 19.05.1975

Phone No. : 9849712317

E-mail id : himakarposupo@gmail.com

Date of joining into service : 01.10.2001

Educational Qualifications :

Name of the Degree	Year of passing	College/University	Area of Study
U.G	1995	Andhra University, Visakhapatnam	M.P.C.
P.G	1997	Andhra University, Visakhapatnam	PHYSICS
P.G.D.C.A.	1998	B.D.P.S, Mumbai	COMPUTERS
M.C.A	2004	Andhra University, Visakhapatnam	COMPUTERS
M.Phil.	2011	Andhra University, Visakhapatnam	MOLECULAR SPECTROSCOPY
SET	2015	Osmania University, Hyderabad	PHYSICS
Ph.D.	2023	Andhra University, Visakhapatnam	**Systematic studies on structural, magnetic and electrical properties of Co-Mg-Cu, Co-Ni-Cu and Co-Zn-Cu nano spinel ferrites**

Teaching Experience :

• Working as **Lecturer in Physics** at P.R. Government College(A), Kakinada from 03-10-2021 onwards and till now. During this tenure I took additional responsibilities as a Convener for AVE, Convener for Innovation and Incubation center and Convener for Solar Power as part of NAAC program until now (12-JULY-2025)

• Previously worked as **Lecturer in Physics** at Sri Konaseema Bhanoji Ramars College, Amalapuram from 01-10-2001 to 3-10-2021.

• Worked as **Head of the Department of Physics** From 01-07-2012 to 03-10-2021 at S.K.B.R. College, Amalapuram. During that time my Institution was accredited with NAAC B++ Grade.

• Acted as **Jury for Science fair** at Smt. P S Mpl.Crpn. Girls High School, Kakinada on 3 January 2025.

No. of Orientation/ Refresher

Courses attended : 2 Orientation courses and 1 Refresher course

Research experience : 10 years

Area of Research : Molecular Spectroscopy and Ferrite materials

No. of Research papers published : 10

Books published with ISBN No. : 1 (Nano Science and Nanotechnology in Engineering)
ISBN 978-81-971503-3-3

No. Of Patents : 01

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :22/03/2023

(21) Application No.202341020066 A
(43) Publication Date : 31/03/2023

(54) Title of the invention : A method of preparing nanographene based photonics and optoelectronics

(51) International classification	:B05D 010000, B82Y 300000, G02B 061200, G02B 064200, H01S 050237
(86) International Application No Filing Date	:PCT// :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Dr. T. Samuel
Address of Applicant :Assistant Professor of Physics, Dept. of BS&H, GMR Institute of Technology, Rajam, Vizianagaram, Andhra Pradesh, India, Pincode: 532127 ---------- ----------
2)Dr. S. J. Margarette
3)Dr. P. Himakar
4)Dr. B. Brahmaji
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. T. Samuel
Address of Applicant :Assistant Professor of Physics, Dept. of BS&H, GMR Institute of Technology, Rajam, Vizianagaram, Andhra Pradesh, India, Pincode: 532127 ---------- ----------
2)Dr. S. J. Margarette
Address of Applicant :Assistant Professor, Department of Physics, Anil Neerukonda Institute of Technology and Sciences (ANITS), Sangivalasa, Bheemili Mandal, Visakhapatnam, Andhra Pradesh, India, Pincode: 531162 ---------- ----------
3)Dr. P. Himakar
Address of Applicant :Assistant Professor, Department of Physics, P.R. Government College (A), Kakinada, E.G. District, Andhra Pradesh, India, Pincode: 533001 ---------- ----------
4)Dr. B. Brahmaji
Address of Applicant :Assistant Professor, Department of Physics, Anil Neerukonda Institute of Technology and Sciences, Sangivalasa, Visakhapatnam, Andhra Pradesh, India, Pincode: 531162 ---------- ----------

(57) Abstract :
The present invention relates to a method of preparing nanographene-based photonics and optoelectronics. Nanographene refers to graphene nanoflakes with a size range of 1-10 nm, which exhibit superior optical and electronic properties due to their unique two-dimensional structure. By incorporating nanographene into various matrices, such as polymers, the present invention provides a scalable and cost-effective approach to the preparation of a wide range of photonic and optoelectronic devices. The invention includes the preparation of nanographene-based photovoltaic cells, LEDs, photodetectors, optical sensors, transparent conductive films, and optical fiber sensors, among others. The use of nanographene enhances the performance of these devices, resulting in higher efficiency, faster response time, and improved sensitivity and selectivity. The resulting devices can be used in a wide range of applications, such as energy harvesting, communications, sensing, and displays.

No. of Pages : 21 No. of Claims : 10

No. Of Faculty Induction/Development Programs attended :

1. FDP on Capacity building of Faculty in Blended Teaching - Learning Environment - A practical Approach

On 21 and 22 April 2022 at P R Govt. College(A), Kakinada.

2. FDP on NAAC revised Accreditation Frame work from 17 June 2022 to 22 June 2022 at P R Govt. College(A), Kakinada.

3. FDP on New knowledge in Physics and energy materials; Advanced research techniques at Prasadampadu, Vijayawada organized by CCE from 06 - 10 th July 2020.

4. Faculty Development Programme for JKC Coordinator/Placement Officers and Full Time Mentors Organized by IQAC, Government College (Autonomous) Rajahmundry in Colloboration with RJDCE, Rajahmundry on 27 December 2019.

5. FDP program on INNOVATIVE TRENDS IN DESIGNING MATERIALS AND MATHEMATICAL MODELING FOR SUSTAINABLE DEVELOPMENT organized by Departments of Physics, Chemistry and Mathematics Vivekanandha Arts and Science College for Women, Sankagiri from 27-01-2025 to 31-01-2025.

6. Usage of ICT in Teaching and Learning Process 2-9 December 2019 at MVN JS and RVR College Malikipuram.

7. FDP for tools for online class room Post Covid -19 from 18-20 may 2020 P B Siddhartha College of Arts and Sciences, Vijayawada.

8. Training program on NMR spectroscopy from 6-8 March 2014 at Andhra University, Visakhapatnam.

No. Of Seminars/Webinars attended :

1. Two days National seminar on Present research in Green Sustainable energies 18-19 DEC 2019 At P R Govt. College(A), Kakinada.

2. National Webinar on "Nanostructured Materials for Controlling the Flow of Light"

Organised by Department of Physics & Department of Electronics in association with IQAC on 5th June, 2020

at Sri Y N College Narasapur.

3. One day International Seminar on e- Governance: problems and prospects at Govt. College(A), Rajahmundry on 8th March 2015.

No. Of International Conferences/Workshops attended :

1. A conference on Advanced Technology Oriented Materials from 8-9 December 2014 at Govt. College (A) , Rajahmundry.

Publications / Presentations :

1. Paper presentation on Structural DC electrical and magnetic investigation of Mg, ..Nano spinel ferrites at PRGC, Kakinada on 7th January 2022(LAMP -2022).

2. Paper presentation on Magnetic and DC electrical resistivity properties of Co substituted Ni-Cu-Zn Nano ferrites.

No.of Research international papers published: 10

1. Study on the Emission Characteristics of a Biodiesel using Nano Additives, Malasian Journal of Chemistry, 2025, Vol. 27(3), 481-489.

2.

Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 44 No. 6 (2023)

Synthesis, structural, morphology, and vibrational properties of Ba^{2+} doped $BiFeO_3$ multiferroic materials

[1*] G. M. Sravani, [2] B. Chandra Sekhar, [3] P. S. V. Shanmukhi, [4] Praveen Choppara, [5] P. Himakar, [6] K. Samatha

[1] [6] Department of Physics, Andhra University, Visakhapatnam, A. P., India
[2] Vignan's Institute of Engineering for Women, Visakhapatnam, A. P., India
[3] Department of Physics, Aditya College of Engineering and Technology, Surampalem, India.
[4] Department of Chemistry, P. R. Degree College (A), Kakinada-533001, A. P., India.
[5] Department of Physics, P. R. Degree College (A), Kakinada-533001, A. P., India.

3. Magnetic and DC Electrical Properties of Cu Doped Co–Zn Nanoferrites (Received August 27, 2020; accepted January 18, 2021) Journal of ELECTRONIC MATERIALS

https://doi.org/10.1007/s11664-021-08760-8

4. Effect of Cu substitution on the structural, magnetic, and dc electrical resistivity response of Co0.5Mg0.5-xCuxFe2O4 nano ferrites Received: 17 November 2020 / Accepted: 13 April 2021

Applied Physics A (2021) 127:371

https://doi.org/10.1007/s00339-021-04521-w

5. Effect of Al substitution on the structural and magnetic properties of Co-Zn

Ferrites http://dx.doi.org/10.1016/j.physb.2017.07.043

Received 14 May 2017; Received in revised form 18 July 2017; Accepted 19 July 2017 Physica B 522 (2017) 1–6

Available online 20 July 2017 0921-4526/

6. Structural, morphological, impedance and magnetic studies of nanostructured

LiNi0.45M0.1Mn0.45O2 (MaCu and Al) cathode materials for lithium-ion batteries

https://doi.org/10.1016/j.sajce.2017.10.005 1026-9185/

7. Synthesis and structural studies of Mg doped LiNi0.5Mn0.5O2 cathode materials for lithium-ion batteries IConAMMA-2017 IOP Publishing IOP Conf. Series: Materials Science and Engineering 310 (2018) 012126 doi:10.1088/1757-899X/310/1/012126

8. The Heartbeat Science: Unravelling the Mechanics of Cardiac Pumping in Humans and Animals, Dr.M. Surekha , Dr.K. Jayadev , G. Sridevi , A. Padmavathi , Dr.P. Himakar , Dr.K.Durga Rao and Dr.Somarouthu V.G.V.A.Prasad, ALOCHANA JOURNAL(ISSN NO:2231-6329), VOLUME 13 ISSUE 6 2024.

9. Sustainable Materials Design: Novel Methodologies for Eco-Friendly Innovation, Dr.M.Surekha, Dr.K.Jayadev , G.Sridevi, Dr.P.Himakar, Dr.K.Durgarao & A.Padmavathi*, Presentation at RESEARCH METHODOLOGY IN MATERIAL SCIENCE- 2025,Kaikaluru, ISBN: 978-93-90028-56-6, Chapter 22, Jan-2025.

10. Biomedical Applications of Physico-Chemical Nanomaterials: Recent Advances and Future Perspectives, A. Padmavathi1, Dr K.. Jayadev 1, Dr P. Himakar1, Dr K. Durgarao1 & Dr. Somarouthu V. G. V. A. Prasad1*, TWO DAY NATIONAL SEMINAR IDEAL COLLEGE,KKD, ISBN: 978-93-92760-68-6, Sl.No-10, 28-29 MARCH-2025.