

Curriculum Vitae

Dr. P SIVA PRASADA REDDY

M.Sc., M.Tech., Ph.D.

Assistant Professor

Department of Physics

Dr. B.R. Ambedkar University- Etcherla

Srikakulam, A.P, India.

E-mail: psprasadreddy@gmail.com

Contact Number: 09704637253,
09603451023.



Academic Chronicle:

Ph.D. – CSIR- Indian Institute of Chemical Technology, India, 2018.

M.Tech – Nanotechnology – Karunya University, India, 2010.

M.Sc – Physics – Acharya Nagarjuna University, India, 2007.

Summary and Personal Statement:

With the keen interest in the field of nanomaterials and its application especially in the field of hydrogen gas characteristics is the key stepping stone to my research carrier. This motivation brings me to join as a research fellow at CSIR-Indian Institute of Chemical Technology (IICT), Hydrogen Gas Sensors DST project, in 2011. During my research stayed at IICT, I got experienced on various grounds of nanomaterials and their applications towards the Gas Sensors, thin film fabrication and Photocatalysis. I have registered my Ph.D in Andhra University-Visakhapatnam, India and I have completed Ph.D under the guidance of Dr. G. Sarala Devi, Principal Scientist, CSIR-Indian Institute of Chemical Technology (IICT). I am still interested in continuing my research works focusing on nano materials and nanocomposites for thin film fabrication.

My current research thirst is the Semiconducting ZnO nanoparticles and its nanocomposites for development Hydrogen gas sensors and also I have gain additional knowledge on Photocatalysis and thin film fabrication work with nanomaterials and nanocomposites.

My Research Interests:

1. Synthesis of nanomaterials from metal oxide for fabrication Gas sensors
2. Synthesis of nanocomposites by impregnation technique for fabrication Gas sensors
3. Synthesis of ordered nanomaterials varying pore morphology by surfactant based routes and their application supports in gas sensors.
4. Development of hydrogen gas sensors doping with noble metals to enhance the sensitivity and reducing operating temperature
5. Photocatalysis applications with nanomaterials and nanocomposites with different dyes
6. Fabrication of thin films by using Chemical Vapour Deposition technique

Work Experiences:

I. From 2007 to 2008 Teaching Experience: GRR & TPR DEGREE COLLEGE
Physics Lecturer

II. From 2011 to 2014 - Project Assistant- III

Responsibilities: I have Work done on the DST-Sponsored project entitled "Development of Hydrogen gas sensor based semiconducting nanomaterials and their nanocomposites. The main activity was to develop novel catalysts for Hydrogen gas sensor characterizing and its performance.

III. From 2015 to 2018

Responsibilities: The work focuses towards my PhD thesis titled "**Semiconducting ZnO nanoparticles and its nanocomposites for Hydrogen Gas Sensor**".

IV. From 30 Aug 2018 to till date

Currently Working as a Assistant Professor in Department of Physics in Dr B R Ambedkar University, Srikakulam.

V. From 18 Sep 2018 to 30 Sep 2019

I have worked as a course coordinator to the Department of Physics in Dr. B R Ambedkar University, Srikakulam.

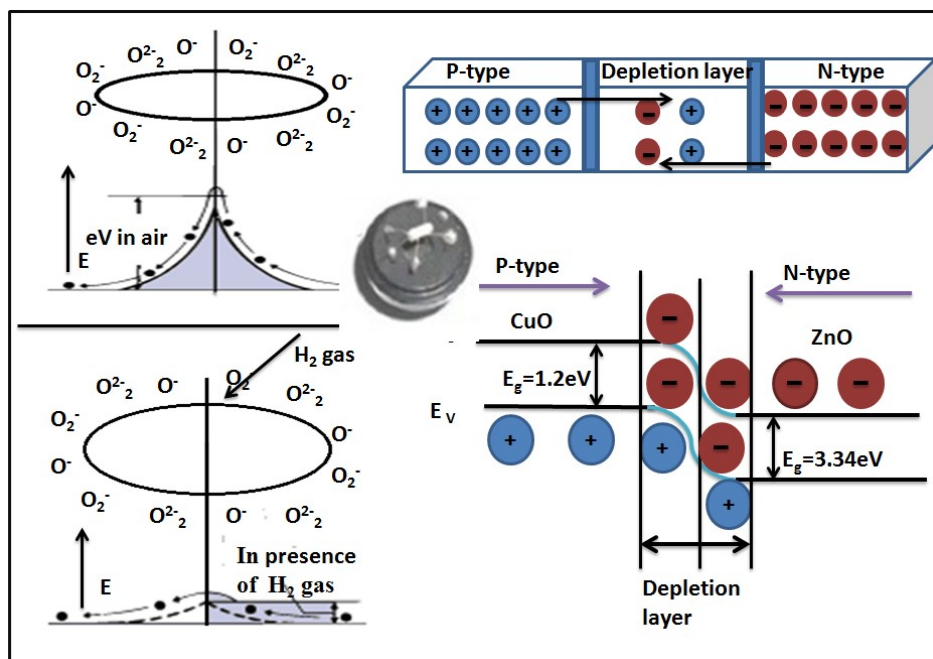
VI. FROM 7-7-2019 to till date

BOS Associate member in Department of Physics in Dr. B R Ambedkar University, Srikakulam.

Skills and Techniques known:

- a) Synthesis of novel nanomaterials for hydrogen gas sensors by sol- gel protocol
- b) Identifying / tailoring nano materials and analyses their suitability in gas sensors
- c) Physicochemical (XRD, SEM, TEM, XPS, BET surface area etc.) Measurements
- d) Synthesis of nanocomposites by impregnation method
- e) Sensor device fabrication by various techniques (Brush coating, Spin coating etc).
- f) Assembling and testing cross sensitivity of nanomaterials and nanocomposites.
- g) Photocatalysis application with nanomaterials and nanocomposites by changing the dye concentrations

Hydrogen Gas sensing Mechanism:



REFERENCES:**1) Dr. G. Sarala Devi**

Sr. Principal Scientist
Polymers and Functional Materials
Division
CSIR-Indian Institute of Chemical
Technology-Hyderabad
Phone: 91-40-27191532
E-mail: sarala@iiict.res.in

3) Dr. Pavuluri Srinivasu

Sr. Scientist
Inorganic and Physical Chemistry Division
CSIR-Indian Institute of Chemical
Technology- Hyderabad
Tel: 91-40-27191724
E-mail: pavuluri.srini@iiict.res.in

**2) Prof. G. Nageswara Rao
Formar Vice Chancellor**

Andhra University
Visakhapatnam
Andhra Pradesh
Mobile: 9849701527
E-mail: gollapallinr@yahoo.com

4) Prof. V. Venkata Ram

Department of Physics
Krishna University
Machilipatnam
Andhra Pradesh
Mobile: 9985198235
E-mail: vvramphd@gmail.com

DECLARATION:

I, Dr. P Siva Prasada Reddy, hereby declare that the information furnished above is true to the best of my knowledge and I bear the responsibility for the correctness of the above mentioned particulars.

Place : Srikakulam

Date : 09-09-2021



[PRASAD REDDY]

Participated and Papers presented at National and International Conferences:

- 1) Participated in the CSIR sponsored National symposium on recent trends in Material science” organized by Post Graduate Department of Physics, Andhra Loyola College, Vijayawada (2006).
 - 2) Participated in the National symposium on condensed matter physics, organized by Post Graduate Department of Physics, Andhra Loyola College, Vijayawada.(2007)
 - 3) Magnetic nanofluids for ultra high performance cooling ,
P Siva Prasada Reddy, Rajana J Kelath, Badma Priya and Ch. Lakshmi Rajesh,
National Conference on Nanomaterials [NCN-2008], Karunya University, Coimbatore.
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- 4) Participated in Research work shop on nanochemistry, Karunya University, Coimbatore, January 2009
 - 5) Hydrogen Gas Sensing Characteristics of ZnO Nanostructures and its composites, P. Siva Prasada Reddy, K.A. Shanth Kumar and G. Sarala Devi, National Conference on Nanomaterials [NCN-2012], Karunya University, Coimbatore.
 - 6) Sol-gel Synthesized ZnO: CuO Nanocomposite for H₂ gas sensing
G. Sarala Devi*, P. Siva Prasada Reddy, National Conference on Nano Science, Nano Engineering & Applications, [NCONSEA-2012], 27 – 28, April 2012.
 - 7) High sensitivity of ZnO: Nb₂O₅ nanocomposite base hydrogen gas sensor, P. Siva Prasada Reddy, K. Ramya and G. Sarala Devi, International Conference on Powder, Grannule and Bulk solids: innovations applications, On November 28-30, 2013.
 - 8) Synthesis, characterisation and magnetic studies of Fe₃O₄ nanoparticles, P. Siva Prasada Reddy, Govt College of UG&PG Ananthapuramu, National Seminar on Nanomaterials and Global perspective, on January 2015
 - 9) Gas Sensing Characteristics of ZnO: NiO nanocomposite towards hydrogen gas, P. Siva Prasada Reddy, Emerging trends in Pharmaceutical and Chemical Sciences, SV University, Tirupati-march -2016
 - 10) Participated in National Seminar on recent trends in chemical Speciation, kinetics and Nanomaterials-March, 2017, Andhra University, Visakhapatnam.
 - 11) Attended for saviskar 2019 conducted by college of engineering at Dr. B. R. Ambedkar university, Srikakulam
 - 12) Attended for the Faculty Development Programme from 21-01-2019 to 27-01-2019 At Dr. B. R. Ambedkar university, Srikakulam conducted by MGNCRE.
 - 13) Attended for the International workshop on New Frontiers in Biotechnology and Chemistry At Dr B R Ambedkar university, Srikakulam 2019.
 - 14) Presented Oral presentation in National Conference on CSBME 2019 at Andhra University, Visakhapatnam.
 - 15) Participated in National Seminar on Advanced functional materials at Acharya Nagarjuna University- Nagarjuna nagar –Guntur 2019
 - 16) Participated in National workshop in analytical instruments at Dr. B. R. Ambedkar university, Srikakulam-2019
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- 17) Participated and Member in Children Science Congress, Food Committee, Science and Technology exhibition and organiser for the nanomaterials session in Andhra Pradesh Science Congress -2019 at Dr. B.R. Ambedkar University-Srikakulam-2019
 - 18) Participated in privatization of secondary education in India: Issues and Challenges Conducted by Department of Education, Dr B R Ambedkar University-2019
 - 19) Participated in UGC Sponsored National Seminar on Recent trends in Nanoscience and nanotechnology conducted by Department of Nanotechnology at Acharya Nagarjuna University –Guntur-2020
 - 20) National Workshop on Assessment and Accreditation of HEI’S and Colleges- Organized by IQAC, Dr B R Ambedkar University- 2020
 - 21) Participated in the International Webinar on Advanced Materials (IWAM- 2020) held on 3 June 2020 organized by the Department of Physics, LRG Government Arts College, Tirupur.
 - 22) Participated in Emerging trends in Nanomaterials for microwave, integrated electronics and career applications organized by GMR IT-Rajam on 4-6-2020
 - 23) Participated in online national quiz programme on Basic Principles of Physics organized by Sir C R Reddy College-eleru on 6-6-2020 to 12-6-2020
 - 24) Attended webinar on **“Patents & Intellectual Property Rights”** dated on 10th June 2020, Organized by Department of Civil Engineering, RMD Sinhgad School of Engineering, Warje, Pune.
 - 25) Participated in 5 day Faculty Development Program on Recent trends in Applied Physics and materials Science (RAM-2020) conducted by DEPT of BS&H.QISCET ongole, association with data tech labs.
 - 26) Participated in **“Awareness on NAAC Accreditation”** organized by Department of ECE, SRI MITTAPALLI COLLEGE OF ENGINEERING.
 - 27) Participated in a one day webinar on **“Article Writing and Journal Publications”** organized by the Department of Electronics and Communication Engineering, Kings Engineering College on 17 June 2020.
 - 28) Participated in a one day webinar on Radiation processing of food materials organized by Dept. of physics St. Josephs Womens college-Visakhapatnam on 19-6-2020.
 - 29) Participated in the National Level e-Quiz on Covid -19 on June 04, 2020, organised by Internal Quality Assurance Cell conducted by CHEVALIER T. THOMAS ELIZABETH COLLEGE FOR WOMEN
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PUBLICATIONS

- (1) Hydrogen Gas Sensing Characteristics of ZnO Nanostructures
P Siva Prasada Reddy, K.A.Shanth Kumar and G.Sarala Devi.
Int. J. of Nanoscience and Technology, Vol.4, pp 1-8 (2013).
 - (2) Synthesis of Mn substituted CuFe₂O₄ Nanoparticles as LPG gas sensing material,
E. Ranjith Kumar, R. Jayaprakash, G. Sarala Devi and **P Siva Prasada Reddy**
Sensors & Actuators: B. Chemical, Vol.191, page186-191 (2014).
 - (3) Structural, Dielectric, Magnetic and Sensing Properties of manganese Substituted
CuFe₂O₄ Nanoparticles, E.Ranjith kumar, R.Jayaprakash, G. Sarala Devi and
P Siva Prasada Reddy, Journal of magnetism and magnetic materials, Vol.355,
Page 87- 92 (2014).
 - (4) Sol-gel Synthesized ZnO: CuO Nanocomposite for H₂ gas sensing
P Siva Prasada Reddy, G. Sarala Devi, National Conference on Nano Science,
Nano Engineering & Applications,[NCONSEA-2012], PROCEEDINGS, ISBN No:
978-81-924726-07, pg. 9327th – 28th, April (2012).
 - (5) Structural, dielectric and gas sensing behavior of Mn substituted spinel MFe₂O₄
(M=Zn, Cu, Ni and Co) ferrite nanoparticles, E. RanjithKumar, **P Siva Prasada Reddy**,
G.SaralaDevi, S.Sathiyaraj, Journal of Magnetism and Magnetic Materials, Vol. 398,
page 281 (2016).
 - (6) Sol-Gel Derived ZnO: Nb₂O₅ Nanocomposite as Selective Hydrogen (H₂) Gas Sensor
P Siva Prasada Reddy, G.Sarala Devi and K Ramya, Materials today:
proceedings, Vol.3(2), pp 224-229 (2016)
 - (7) Gas Sensing Studies of Manganese Substituted ZnFe₂O₄ Nanoparticles by Auto
Combustion and Evaporation Method, E. Ranjith Kumar, **P Siva Prasada Reddy**,
G.Sarala Devi, Aleksandr S. Kamzin, Journal of Advanced Physics, Vol. 5,pp. 1–6,
(2016).
 - (8) Zinc Stanate (Zn₂SnO₄): A suitable material for LPG gas Detection,
Hamoon Heydayat, **P Siva Prasada Reddy** and J V Ramana Rao, G. Sarala Devi
and G.Nageswara Rao, Journal of Alloys and Compounds, Volume 704,
Pages 413-419, (2017).
 - (9) Gas sensing characteristics of of ZnO: Nb₂O₅ nanocomposite base hydrogen gas sensor”
P Siva Prasada Reddy, M.V. Manasa, K.Sreenivasa Reddy, B.Adi Narayana Reddy,
G.Sarala Devi and G.Nageswara Rao, Jounal of advanced physics, Vol 6, page 418–
421 (2017).
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- (10) Enhanced visible –light photo catalysis and gas sensor properties of polythiophene Supported tin doped titanium nanocomposite, M. Ravichandra, **P Siva Prasada Reddy**, T.Siva Rao, SVN Pammi, K.Siva Kumar, Journal of physics and chemistry of solids, Volume 105, Pages 99-105 (2017).
- (11) Synthesis of SnO nanoparticles via hydrothermal route and gas sensor applications. P.Durga Prasad **P Siva Prasada Reddy** and G.Nageswara Rao, Int. Journal of Nanotechnology and applications, Volume 11, pages. 265-276 (2017).
- (12) Structural and Gas Sensing properties of ZnO: NiO nanocomposite towards H₂ Gas, **P Siva Prasada Reddy**, M.V. Manasa, K.Sreenivasa Reddy B.Adi Narayana Reddy, G.Nageswara Rao, G.Sarala Devi, International Journal of Recent Scientific Research, Vol. 8, Issue, 11, pages 21432-21437 (2017).
- (13) Studies on gas sensing behavior of ZnNb₂O₆ Nanocomposite for hydrogen, **P Siva Prasada Reddy**, M.V.Manasa, B.Adi Narayana Reddy, G.Nageswara Rao and G.Sarala Devi, Materials today communications Vol.15, Pages 30-35,(2018).
- (14) Magnetic and Dielectric studies Fe₃O₄ Nanoparticles, P Durga Prasad, **P.Siva Prasada Reddy**, G Nageswara Rao, Int . Journal of Scientific Research in Science and Technology (IJSRST), Vol -4, Issue-2, page 2287 (2018).
- (15) Selective CO₂ Gas Sensor via Noble Metal Functionalized Nano MoO₃: NiO , M.V. Manasa, G. Sarala Devi and **P.S. Prasada Reddy**, International Journal of New Technologies in Science and Engineering Vol. 5, Issue. 10, (2018) ISSN 2349-0780.
- (16) Molybdenum Oxide Nanoparticles: Synthesis, Characteristics and Applications in Green House Gas Sensing, M.V. Manasa, **P Siva Prasada Reddy**, B.Adi Narayana Reddy and G.Sarala Devi, Journal of Applied Physics, 7, 70–76 (2018).
- (17) High performance Hydrogen gas sensor using palladium impregnated ZnO: CuO nanocomposite, **P Siva Prasada Reddy**, M.V. Manasa, K.Sreenivasa Reddy, B.Adi Narayana Reddy, G.Sarala Devi and G.Nageswara Rao, Journal of Technology and Investment, 4, 11 (2018).
- (18) Synthesis, Characterizations and Photocatalytic applications of Fe₃O₄ nanoparticles P. Durga Prasad, **P Siva Prasada Reddy** and G.Nageswara Rao, Journal of Nanoscience and Technology (JNST), Volume 4, Issue 4, Pages 443 – 446 (2018) .
- (19) High Performance CO₂ Gas Sensor based on Noble Metal Functionalized Semiconductor Nanomaterials for Health & Environmental Safety, M V, Manasa; Devi, Sarala; **P S Prasada Reddy**; B. Sreedhar, Material research express, Volume 6, page number 12 (2019).
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(20) Hydrogen gas sensor: Significant role of p-n hetero junctions based nanostructures,
G Sarala Devi, **P S Prasada Reddy**, M V, Manasa, Journal of Electrochem.Soc,
Vol. **167** Page number 14 (2020),

(21) SnO₂: CuO Nanocomposite for Hydrogen Gas Sensing Characteristics
P S Prasada Reddy (to be communicated).

(22) Gas sensing characteristics and photocatalytic applications of Iron nanoparticles
P S Prasada Reddy (to be communicated)

Book Chapters

(1) Physical methods for the synthesis of nanoparticles, **P S Prasada Reddy**, M.Subba Rao
Immortal publications, page number 337 (2020)

(2) Chemical methods for the synthesis of nanomaterials
P S Prasada Reddy, M Subba Rao, Immortal Publications,

Convenor for the conducting of National Workshop on Intellectual Property Rights
Date: 7-8th September 2021 at Dr. B.R. Ambedkar University-Srikakulam.

Co-Convenor for the conducting of National Webinar on recent trends on nanomaterials
Date: 6th August 2020 at Dr. B.R. Ambedkar University-Srikakulam.
