

Curriculum Vitae

Dr. P SIVA PRASADA REDDY

M.Sc (Physics) M.Tech (Nanotechnology) Ph.D

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Academic Chronicle:

Ph. D – Andhra University, India, 2018.

Master of Technology – Nanotechnology (75 %) – Karunya University, India, 2010.

Master of Science – Physics (67 %) – 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, since 2011. During my research stay at IICT, I got experienced on various grounds of nanomaterials and their applications towards the Gas Sensors and photocatalysis. Since 2011, I have been working on the project of IICT and registered for PhD at 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 in the Semiconducting ZnO nanoparticles and its nanocomposites for development Hydrogen gas sensors and also I have gain additional knowledge on photocatalysis 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: CSIR-Indian Institute of Chemical Technology (IICT)

From 2018 – till date Assistant Professor (Ad-hoc) at Dr. B.R. Ambedkar University, Etcherla, Srikakulam.

Responsibilities: Handling Theory and Laboratory classes for M.Sc Physics Students

From 2015 to 2017 – Research Fellow

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

From 2011 to 2014 - Project Assistant- III

Responsibilities: Worked on the project titled "Development of Hydrogen gas sensor based semiconducting nanomaterials and their nanocomposites. The main activity was to develop novel catalysts for Hydrogen gas sensor and characterizing and the performance.

From 2007-2008 Teaching Experience: GRR & TPR DEGREE COLLEGE
Physics Lecturer

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
 - h) The mineralization of dye along with colour removal
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Papers presented at National and International Conferences

- 1) 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.
- 2) Hydrogen Gas Sensing Charecteristics of ZnO Nanostructures, P. Siva Prasada Reddy, K.A.Shanth Kumar and G.Sarala Devi, National Conference on Nanomaterials [NCN-2012], Karunya University, Coimbatore.
- 3) 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.
- 4) Magnetic nanofluids for ultra high performance cooling”,
P Siva Prasada Reddy, Rajana J Kelath, Badma Priya D and Lakshmi Rajesh Ch,
National Conference on Nanomaterials [NCN-2008], KarunyaUniversity, Coimbatore.
- 5) Participated in the “National symposium on condensed matter physics” organized by Post Graduate Department of Physics, Andhra Loyola College, Vijayawada.
- 6) Participated in the “CSIR sponsored National symposium on recent trends in Material Science” organized by Post Graduate Department of Physics, Andhra Loyola College, Vijayawada.

REFERENCES:

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Prof. Dr G.Nageswara Rao

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DECLARATION:

I, 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 :
Date :



[PRASAD REDDY]

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, ISBN NO: 09743081, vol.4, (2013) pp 1-8.
- (2) Synthesis of Mn substituted CuFe_2O_4 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, (2014) page186-191.
- (3) Structural, Dielectric, Magnetic and Sensing Properties of manganese Substituted
 CuFe_2O_4 Nanoparticles, E.Ranjith kumar, R.Jayaprakash, G. Sarala Devi and
P Siva Prasada Reddy, Journal of magnetism and magnetic materials, Vol.355,
(2014)87- 92.
- (4) Sol-gel Synthesized ZnO: CuO Nanocomposite for H_2 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) ZnNb_2O_6 Nanocomposite for hydrogen gas sensor, **P Siva Prasada Reddy**, K.Ramya
and G.Sarala Devi, Materials today Proceedings, Vol.3(2) (2016) 224-229.
- (6) Structural, dielectric and gas sensing behavior of Mn substituted spinel MFe_2O_4
($\text{M}=\text{Zn}$, Cu, Ni and Co) ferrite nanoparticles, E. RanjithKumar, **P Siva Prasada Reddy**,
G.SaralaDevi, S.Sathiyaraj, Journal of Magnetism and Magnetic Materials, Vol. 398,
(2016) page281.
- (7) Gas Sensing Studies of Manganese Substituted ZnFe_2O_4 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,(2016) pp.
1–6.
- (8) Zinc Stanate (Zn_2SnO_4): 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, (2017)
Pages 413-419.
- (9) High sensitivity of ZnO: Nb_2O_5 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, Journal of advance physics, Vol 6, (2017) 418–421.
- (10) Magnetic and Dielectric studies Fe_3O_4 Nanoparticles Incorporated, P Durga Prasad
P.Siva Prasada Reddy, G Nageswara Rao, Int . Journal of Scientific Research in
Science and Technology (IJSRST), Vol -4, Issue-2, (2018) 2287.
- (11) 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, (2017) Pages 99-105.
- (12) 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, (2017) pp. 265-276 .

- (13) Studies on Gas Sensing Behavior of ZnO: Nb₂O₅ Nano Composite towards Hydrogen, **P Siva Prasada Reddy**, M.V. Manasa, B.Adi Narayana Reddy, G.Nageswara Rao, G.Sarala Devi, Materials today communications, Vol 15, (2018) pp 30.
- (14) 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, (2017) pp. 21432-21437.
- (15) Molybdenum Nanoparticles Synthesis Characteristics and Applications in Green –House Gas Sensing, M.V. Manasa, **P Siva Prasada Reddy**, B.Adi Narayana Reddy and G.SaralaDevi, Journal of Applied Physics, 7, (2018) 70–76 .
- (16) 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 innovation,1,(2018) 4-11.
- (17) 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, (2018) Pages 443 - 446 .
- (18) 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), (2016) pp 224-229.
- (19) Morphological studies of CdS nanoparticles and its photocatalytic applications **P Siva Prasada Reddy**, G.Sarala Devi (to be communicate)
- (20) MoO₃: NiO nanocomposite for Green –House Gas Sensing, M.V. Manasa, **P Siva Prasada Reddy**, B.Adi Narayana Reddy, G.SaralaDevi. (to be communicate)
- (21) Yolk - Shell ZnO: SnO nanocomposite for H₂ gas sensing, **P Siva Prasada Reddy**, M.V. Manasa, K.Sreenivasa Reddy, B.Adi Narayana Reddy, G.Nageswara Rao, G.Sarala Devi*(to be communicate)
- (22) Morphology and crystalline studies of Zinc Oxide nanoparticles, P.Durga Prasad, **P Siva Prasada Reddy** and G.Nageswara Rao (to be Communicate).
- (23) SnO₂: CuO Nanocomposite for Hydrogen Gas Sensing Characteristics **P Siva Prasada Reddy**, G.Sarala Devi (to be communicate).