a. **Name**: PRAMOD H. BORSE
b. **Qualification** PhD *(PHYSICS-Nano)*
c. **Designation** SCIENTIST -***F***
d. **Contact information**:

International Advanced Res. Center For Powder Metallurgy & New Materials, (ARCI), *Opp*. Balapur, New Airport Road, Hyderabad, Telangana, India 500005.
Phone: 040-24452426, 9490447615
Email : phborse@arci.res.in
URL : https://www.researchgate.net/profile/Pramod_Borse

e. **Education:** BSc, MSc, & PhD in Physics from Department of Physics, SPPU, Pune, India
f. **Professional Career:** 26 years of experience in Renewable Energy, & Nano Material Physics, of which 8 years of experience *outside India*

Present *(Since-2014)*: ***Scientist -F,*** **ARC-International**, Hyderabad, **India**

Past : *Scientist -E,* ARC-International, Hyderabad, **India**
Research Professor, Chemical Engg. Dept. POSTECH, **S. Korea**
Post-Doctoral fellow, Materials Engg. Dept. POSTECH, **S. Korea**
Assistant Professor in Physics, Pune University, Pune, **India**
Research PhD Scholar, Physics, Pune University, Pune, **India**
Research Assistant, National Chemical Laboratory, Pune, **India**

g. **Research Areas of Interest** –
Energy Materials: Luminescent, Solar, Thermoelectric, Magnetic
Renewable Energy generation, Sensors, Environment Agriculture Sensors
Thin-film deposition: Physical, Chemical, Radiation(synchrotron/laser) Assisted methods
Condensed Matter Physics – Material modeling by computational physics

h. **Research Guide** :
Guided 2 PhD students and 20 Master Students
i. Honours and Awards :

- Elected Fellow of Maharashtra Academy of Sciences FMAS
- Brain Korea postdoctoral Research Fellowship (BK-21), POSTECH, S.Korea, 2001
- Fast Track Scheme for Young Scientists award, Government of India, 2002
- Reviewer for various Elsevier, **RSC** , ***ACS*** , Wiley and AIP journals
- Recognized PhD guide for Osmania University, Andhra University, and University

of Hyderabad

j. **Membership with Professional and Scientific bodies** :

- Fellow of Maharashtra Academy of Sciences (MAS) since Dec 2018
- Life Member of Indian Physics Association (IPA)
- Life member Material Research Society of India (MRSI)
- Life member Solar Energy Society of India (SESI)
- Life Member of Indian society for electro analytical chemistry
- Special Member of International Solar Energy Society *(since 2009)*
- Special Member of Optical Society of America(OSA) *(since 2009)*
- OSI Fellow, Optical society of India *(since 2010)*
- Member American Physical Society(APS) *(since 2009)*
- Member of Institute of Physics *(IOP), UK (since 2009)*

k. **Publications & Patents:**

a. International Peer reviewed papers -

1. Kumar, K.S, Medhi, H., Banik, D., Suresh, M.B., **Borse, P.H.**, Paik, P, Novel mesoporous SiO_2 conjugated graphene oxide 2D layers: Frequency and temperature dependent dielectric properties", Mater.Chem Phys., Vol.230, p 337-346, 2019
2. Pareek, A., Paik P., Joardar, J, Murugan, K., and **Borse, P.H**, Effective Fabrication of conducting polymer modified CdS photoanodes for photoelectrochemical cell, Thin Solid Films 2018; 661(1), 84-91
3. C.W.Ahn, **P.H. Borse,** J.H.Kim, J.Y.Kim, C.Cho, J.H.Yoon, B.Lee, J.S.Bae, J.S.Lee and H.G.Kim Effective charge separation in site-isolated Pt-nanodot deposited $PbTiO_3$ nanotube arrays for enhanced photoelectrochemical water splitting, Applied Catalysis B-Environmental 2018; 224(8), 804-809
4. Dom, R., Kim H.G. and., **Borse, P.H**, Photo Chemical Hydrogen Generation from Orthorhombic $CaFe_2O_4$ Nanoparticles Synthesized by Different Methods , Chemistry Select 2017; 2 (8), 2556-2564.
5. Dom, R., Baby L.R., , Kim H.G. and., **Borse, P.H**, Fe controlled charge-dynamics in ZnO for Solar hydrogen generation , Intern Jou Hydrogen Energy 2017; 42 (9), 5758-5767.
6. Pareek, A., Paik P., Kim H.G. Joardar J. and., **Borse, P.H**, Nano-architecture based photoelectrochemical water oxidation efficiency enhancement by CdS photoanodes, Mater Res. Express 2017; 4 (2), 026203-026203.
7. Pareek, A., Paik P., Kim H.G. and., **Borse, P.H**, Ultrathin MoS_2-MoO_3 nanosheets functionalized CdS photoanodes for effective charge transfer in photoelectrochemical (PEC) cells , Jou Mat Chem A 2017; 5 (4), 1541-1547**.**
8. Pareek, A., Thotakuri R., Dom R, Kim H.G. and., **Borse, P.H**, Nanostructure Zn-Cu co-doped CdS chalcogenide electrodes for opto-electric-power and H_2 generation , Intern Jou Hydrogen Energy, 2017; 42 (1), 125-132.
9. **P.H. Borse**, "Nanostructured Electrodes of Metal Sulfide-Chalcogenides for

Energy Applications", Nanotech Insights, 2016; 7 (3 & 4), 22-28.
10. Rani, S., **Borse, P.H.**, Pareek, A., Rajalakshmi, N., Dhathathreyan, K.S. Photo-current enhancement in carbon quantum dots functionalized titania nanotube arrays Journal of Nanoscience and Nanotechnology, 2016; 16 (6), 5999-6004.
11. Pareek, A., Gopalakrishnan A., **Borse, P.H.** Efficiency and stability aspects of CdS photo anodes for solar hydrogen generation technology, Journal of Physics: Conference Series 2016;755, 012006
12. Pareek, A., Paik, P., **Borse, P.H.** Stable hydrogen generation from Ni- and Co-based co-catalysts in supported CdS PEC cell Dalton Transactions, 2016; 45 (27), 11120-11128.
13. Murugan, K., Joardar, J., Gandhi, A.S., Murty, B.S., **Borse, P.H.** Photo-induced monomer/dimer kinetics in methylene blue degradation over doped and phase controlled nano-TiO_2 films RSC Advances, 2016; 6 (49), 43563-43573.
14. Dom, R., **Borse, P.H.**, Hong, K.-S., Choi, S., Lee, B.S., Ha, M.G., Kim, J.P., Jeong, E.D., Kim, H.G. Nanocrystalline magnesium ferrite prepared for photocatalytic applications by using the polymerized complex method, Journal of the Korean Physical Society, 2015; 67 (9), 1639-1645.
15. Pareek, A., Paik, P., Borse, P.H, **Borse, PH**. Role of transition metal-hydroxide (M-OH_x, M=Mn, Fe, Ni, Co) Co-catalyst loading: Efficiency and stability of CdS photoanode Materials Research Society Symposium Proceedings 2015, 1776, 1-6.
16. Dom, R, Chary, AS , **Borse, PH**. Solar hydrogen generation from spinel $ZnFe_2O_4$ photocatalyst: Effect of synthesis methods. INTERNATIONAL JOURNAL OF ENERGY RESEARCH 2015;39(10):1378-1390
17. Pareek, A., Paik, P., **Borse** PH. Nanoniobia modification of CdS photoanode for an efficient and stable photoelectrochemical cell. Langmuir 2014;30(51):15540-15549.
18. Dom, R., Kim, H.G., **Borse** PH. Efficient hydrogen generation over (100)-oriented ZnO nanostructured photoanodes under solar light. CrystEngComm 2014;16(12): 2432-2439.
19. Pareek, A., Purbia, R., Paik, P., Hebalkar, N.Y., Kim, H.G., **Borse** PH. Stabilizing effect in nano-titania functionalized CdS photoanode for sustained hydrogen generation. Int J Hydrogen Energy 2014;39(9): 4170-4180.
20. **Borse** PH, Lim, K.T., Yoon, J.-H., Bae, J.S., Jeong, E.D., Kim, H.G. Investigation of the physico-chemical properties of $Sr_2FeNb_{1-x}W_xO_6$ ($0.0 \leq x \leq 0.1$) for visible-light photocatalytic water-splitting applications. Journal of the Korean Physical Society 2014;64(2): 295-300.
21. **Borse** PH., Das D. Advance Workshop Report on Evaluation of Hydrogen Producing Technologies for Industry Relevant Application ARCI, Hyderabad, India 8–9 February 2013(Vol36,p811470,2013-erratum). Int J Hydrogen Energy 2014;39(4):1903-1903.
22. Pareek, A., Paik, P., **Borse** PH. Characterization of Nano-Titania Modified CdS /Polysulfide Electrolyte Interface by Utilizing Mott-Schottky and Electrochemical Impedance Spectroscopy. Electroanalysis 2014;26(11):2403-2407.
23. Cha, Y.J., Bae, J.S., Hong, T.E., Kim, H.G., **Borse** PH. Structural, optical and visible-light photocatalytic properties of $Sr_3FeNb_2O_9$ oxide. Journal of the Korean Physical Society 2014;65(4):520-525

24. Hong, K.S., Jeong, E.D., Kim, H.G., **Borse** PH. Optical properties and glass-forming region of the K_2O-Sm_2O_3-TeO_2 glass system. Journal of the Korean Physical Society 2014;65(9):1453-1456
25. Vijayasankar, K., Hebalkar, N.Y., Kim, H.G., **Borse** PH. Controlled band energetics in Pb-Fe-Nb-O metal oxide composite system to fabricate efficient visible light photocatalyst. Journal of the Korean Physical Society 2013;14(4):557-562.
26. Pareek, A., Hebalkar, N.Y., **Borse** PH. Fabrication of a highly efficient and stable nano-modified photoanode for solar H2 generation. RSC Advances 2013;3(43):19905-19908.
27. Dom R, Baby L.R., **Borse** PH. Enhanced solar photoelectrochemical conversion efficiency of ZnO:Cu electrodes for water-splitting application. International Journal of Photoenergy, 2013, Art. No. 928321.
28. **Borse** PH., Das D. Advance Workshop Report on Evaluation of Hydrogen Producing Technologies for Industry Relevant Application ARCI, Hyderabad, India 8–9 February 2013. Int J Hydrogen Energy 2013;38(11):11470-11471.
29. Dom R, Siva Kumar G., Hebalkar NY, Joshi S.V., **Borse** PH. Eco-friendly ferrite nano-composite photoelectrode for improved solar hydrogen generation. RSC Advances 2013 ;3(35):15217-15224.
30. Pareek A, Dom R, **Borse** PH. Fabrication of large area nanorod like structured CdS photoanode for solar H_2 generation using spray pyrolysis technique. Int J Hydrogen Energy 2013;38(1):36-44.
31. Dom R, Subasri R, Hebalkar NY, Chary AS, **Borse** PH. Synthesis of a hydrogen producing nanocrystalline $ZnFe_2O_4$ visible light photocatalyst using a rapid microwave irradiation method. RSC Advances 2012;2(33):12782-91.
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33. Jeong ED, Yu SM, Yoon JH, Bae JS, Cho CR, Lim KT, **Borse** PH, Kim HG. The co-dopant concentration dependence on visible light photocatalytic efficiency in $SrTi_{1-x}Fe_{[x/2]}Cr_{[x/2]}O_3$ $(0.01 \leq x \leq 0.2)$ perovskite photocatalysts. Journal of Ceramic Processing Research 2012;13(5):517-22.
34. **Borse** PH, Cho CR, Yu SM, Yoon JH, Hong TE, Bae JS, Jeong ED, Kim HG. Improved photolysis of water from ti incorporated double perovskite Sr_2FeNbO_6 lattice. Bulletin of the Korean Chemical Society 2012;33(10):3407-12.
35. Dom R, **Borse** PH, Cho CR, Lee JS, Yu SM, Yoon JH, Hong TE, Jeong ED, Kim HG. Synthesis of $SrFe_{12}O_{19}$ and $Sr_7Fe_{10}O_{22}$ systems for visible light photocatalytic studies. Journal of Ceramic Processing Research 2012;13(4):451-6.
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37. **Borse** PH, Kim JY, Lee JS, Lim KT, Jeong ED, Bae JS, Yoon J-, Yu SM, Kim HG. Ti-dopant-enhanced photocatalytic activity of a $CaFe_2O_4/MgFe_2O_4$ bulk heterojunction under visible-light irradiation. Journal of the Korean Physical Society 2012;61(1):73-9.
38. **Borse** PH. Photocatalytic and photoelectro-chemical investigations of Fe/ Sn/ Nb

containing oxides for energy application: Comparative study. Journal of Physics: Conference Series 2012;365(1).
39. **Borse** PH, Cho CR, Lim KT, Hong TE, Jeong ED, Yoon JH, Yu SM, Kim HG. Comparision of Zn_2TiO_4 and rutile TiO_2 photocatalysts for H_2 production under UV and near-visible light irradiation. Journal of Ceramic Processing Research 2012;13(1):42-6.
40. Dom R, Sivakumar G, Hebalkar NY, Joshi SV, **Borse** PH. Deposition of nanostructured photocatalytic zinc ferrite films using solution precursor plasma spraying. Mater Res Bull 2012;47(3):562-70.
41. **Borse** PH, Cho CR, Lim KT, Bae JS, Jeong ED, Hong TE, Kim HJ, Kim HG. Effect of co-dopant ratio (Cr/Fe) on visible light photocatalytic activity of Cr-Fe co-doped TiO_2 nanoparticles. Journal of Ceramic Processing Research 2011;12(5):592-8.
42. Jeong ED, Jin JS, Kim HJ, Hong TE, Cho CR, Lim KT, Kim HG, **Borse** PH. Metal-ion dependent band energetics in $SrM_{0.5}Ti_{0.5}O_3$ (M = ru, rh, ir, pt, pd) like structures for solar applications. Journal of Ceramic Processing Research 2011;12(6):712-5.
43. **Borse** PH, Jang JS, Lee JS, Khan FN, Ha MG, Kim JP, Bae JS, Jeong ED, Kim HG. Enhanced photocatalytic properties due to electron-rich ti-ion doping in ZnFe2O4 under visible light irradiation. Journal of the Korean Physical Society 2011;59(4):2750-5.
44. **Borse** PH, Cho CR, Lim KT, Lee YJ, Bae JS, Jeong ED, Kim HG. Ratio dependence of the visible light photocatalytic efficiency for $Zn2Ti_{0.9}Cr_yFe_{[0.1-y]}O_4$: Cr/Fe ($0.02 < y < 0.08$) photocatalyst synthesized by using a solid state reaction method. Journal of the Korean Physical Society 2011;59(1):65-70.
45. **Borse** PH, Cho CR, Lim KT, Lee YJ, Hong TE, Bae JS, Jeong ED, Kim HJ, Kim HG. Synthesis of barium ferrite for visible light photocatalysis applications. Journal of the Korean Physical Society 2011;58(6):1672-6.
46. Kim HG, **Borse** PH, Jang JS, Ahn CW, Jeong ED, Lee JS. Engineered nanorod perovskite film photocatalysts to harvest visible light. Adv Mater 2011;23(18):2088-92.
47. Dom R, Subasri R, Radha K, **Borse** PH. Synthesis of solar active nanocrystalline ferrite, MFe_2O_4 (M: Ca, zn, mg) photocatalyst by microwave irradiation. Solid State Commun 2011;151(6):470-3.
48. Jang JS, **Borse** PH, Lee JS, Lim KT, Jung O-, Jeong ED, Bae JS, Kim HG. Photocatalytic hydrogen production in water-methanol mixture over iron-doped $CaTiO_3$. Bulletin of the Korean Chemical Society 2011;32(1):95-9.
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50. Jang JS, Lee JS, **Borse** PH, Lim KT, Jung O-, Jeong ED, Won MS, Kim HG. Platinum nanoparticle co-catalyst-induced improved photoelectrical properties in a chromium-doped SrTiO3 photocatalyst. Journal of the Korean Physical Society 2009;55(6):2470-5.
51. Jang JS, **Borse** PH, Lee JS, Lim KT, Jung O-, Jeong ED, Bae JS, Won MS, Kim HG. Energy band structure and photocatalytic property of Fe-doped Zn_2TiO_4 material. Bulletin of the Korean Chemical Society 2009;30(12):3021-4.

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53. Jang JS, Yoon SS, **Borse** PH, Lim KT, Hong TE, Jeong ED, Jung O-, Shim YB, Kim HG. Synthesis and characterization of aurivillius phase Bi5Ti 3FeO15 layered perovskite for visible light photocatalysis. J Ceram Soc Jpn 2009;117(1371):1268-72.
54. Kim HG, **Borse** PH, Jang JS, Jeong ED, Jung O-, Suh YJ, Lee JS. Fabrication of $CaFe_2O_4$/$MgFe_2O_4$ bulk heterojunction for enhanced visible light photocatalysis. Chemical Communications 2009(39):5889-91.
55. **Borse** PH, Jang JS, Hong SJ, Lee JS, Jung JH, Hong TE, Ahn CW, Jeong ED, Hong KS, Yoon JH, Kim HG. Photocatalytic hydrogen generation from water-methanol mixtures using nanocrystalline $ZnFe_2O_4$ under visible light irradiation. Journal of the Korean Physical Society 2009;55(4):1472-7.
56. Jang JS, **Borse** PH, Lee JS, Jung O-, Cho C-, Jeong ED, Ha MG, Won MS, Kim HG. Synthesis of nanocrystalline ZnFe2O4 by polymerized complex method for its visible light photocatalytic application: An efficient photo-oxidant. Bulletin of the Korean Chemical Society 2009;30(8):1738-42.
57. Jeong ED, **Borse** PH, Jang JS, Lee JS, Cho CR, Bae JS, Park S, Jung O-, Ryu SM, Won MS, Kim HG. Physical and optical properties of nanocrystalline calcium ferrite synthesized by the polymerized complex method. Journal of Nanoscience and Nanotechnology 2009;9(6):3568-73.
58. Hong SJ, Jun H, **Borse** PH, Lee JS. Size effects of WO_3 nanocrystals for photooxidation of water in particulate suspension and photoelectrochemical film systems. Int J Hydrogen Energy 2009;34(8):3234-42.
59. Jang JS, Hong SJ, Lee JS, **Borse** PH, Jung O-, Hong TE, Jeong ED, Won MS, Kim HG. Synthesis of zinc ferrite and its photocatalytic application under visible light. Journal of the Korean Physical Society 2009;54(1):204-8.
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61. Jeong ED, **Borse** PH, Jang JS, Lee JS, Jung O-, Chang H, Jin JS, Won MS, Kim HG. Hydrothermal synthesis of Cr and Fe co-doped TiO_2 nanoparticle photocatalyst. Journal of Ceramic Processing Research 2008;9(3):250-3.
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65. Bae SW, **Borse** PH, Lee JS. Dopant dependent band gap tailoring of hydrothermally prepared cubic SrTixM1-xO3 (M=Ru,rh,ir,pt,pd) nanoparticles as visible light photocatalyst. Appl Phys Lett 2008;92(10).

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magnetic ni nanoparticles in x-ray irradiated electroless solution. Nanotechnology 2004;15(6):S389-92.

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b. Patents – 2 patents

1. Karanjai M, Borse P.H., Kumar Ayagari Shivkumar, PROCESS OF ELECTROLESS NICKEL/NICKEL PHOSPHIDE (EN) DEPOSITION ON GRAPHITE SUBSTRATES, Indian Patent Appl No 201811041418 dated 01-11-2018
2. Pramod H. Borse and Rekha Dom, (2015) " Method of Deposition of double perovskite of Sr Fe Nb-O film on substrate by spray coating technique & the coated substrate thereof" Indian patent No.: IN 2014DE01151A, Nov 6, 2015

c. Book Chapters

l. A.Pareek, **Borse Pramod H.** Surface-Modification' and 'Composite-Engineering' of Metal Chalcogenide Electrodes for Solar Hydrogen Production Sustainable utilization of natural resources,

chapter 8 in *Photocatalytic Nanomaterials for Environmental Applications*, *Mat.Res.Forum LLC, Edited by R.Tayade, V. Gandhi* 2018; Pages 235–257.

2. **Borse Pramod H.** "Hydrogen from water" Sustainable utilization of natural resources, Editor Mondal/Dalai, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742, CRC Press 2017, Pages 441–457, Print ISBN: 978-1-4987-6183-3.

3. Dom R,G.Siva Kumar, Joshi S.V., **Borse PH**; Design and development of ferrite composite film electrode for photoelectrochemical energy application. *Mat.Sci.Forum,* 2014;781; 45-.

4. Dom R, **Borse PH**; Investigation of solar photoelectrochemical hydrogen generation ability of ferrites for energy production. *Mat.Sci.Forum,* 2013;764; 97-.

5. I Ganesh, Dom R, **Borse PH**, G.Sundararajan; Fabrication and photoelectrochemical characterization of Fe, Co, Ni and Cu-doped TiO_2 thin films. *Mat.Sci.Forum,* 2013;764; 266-.

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8. S.K.Kulkarni, A. A. Khosravi, **P.H.Borse**, N.Deshmukh, W.Vogel & J. Urban.; Structural & Optical properties of Semiconductor Nanoparticles in Physics of Semiconductor Nanostructures. Edited by K.P. Jain, pg. 73, 1997.

9. Kulkarni S.K., Kundu M., **Borse P.H.**, Nanoparticles of II - VI semiconductors in Proceedings of the conference in Materials Modelling & Design, Springer Proceedings in Physics, Edited by Dr. Vijay Kumar,1996.

d. International and National Conferences

1. Pramod H Borse (invited talk); Nano-Engineering of photoanode surface for photoelectrochemical hydrogen generation, at 6th International hydrogen and fuel cell conference (IHFC 2017) at Pune, India, held on 2017.12.10-2017.12.12
2. Pramod H Borse; Design and Fabrication of Photo Electrode Nano Materials for Solar Hydrogen and other Energy Application, at Indo Korea Workshop on Computational Material Science, 2017 at JNCASR, Bangaluru, held on 2017.03.24-2017.03.25
3. Pramod H Borse; *(Invited talk)* Nano-Functionalization of Photoelectrode for Solar Hydrogen Generation, at National conferenc on Hydrogen Energy & Advanced Materials (NCHEAM-2017), 2017 at University of Kerala, Trivendram, held on 2017.03.16-2017.03.17
4. Sanyam Jain, R.Gopalan & Pramod H Borse; Spray Pyrolysis Deposition of Tin Sulfide for Thermoelectric Energy Application, at Chemical Engineering towards Sustainable Development (CHEMCON 2016) at IIT Chennai, held on 2016.12.27-2016.12.30
5. Pramod H Borse; Recent Developments in Dry and Wet Solar Cell, at Short Term Training on Advances in Drinking Water Technology & Solar Energy, 2016 at SGGSIT, Nanded, held on 2016.12.23-2016.12.25
6. Jyothy Chandran & Pramod H Borse; Simple Large Area Deposition of Nanostructure Metal Sulfide and Selenide Films for Opto-electric and Thermoelectric Application, at 1st International Conference on Coatings, Thin Films, Multilayer Devices & Systems, at NFTDC, Hyderabad, held on 2016.12.14-

2016.12.16.

7. Pramod H Borse; Efficiency and stability aspects of CdS photoanode for solar hydrogen generation technology, at Inetrnational conferenc on recent trends in Physics, 2016 at DAAU, Indore, held on 2016.02.13-2016.02.14.
8. R.Dom & P.H.Borse; Comparison of Water Photo-splitting properties of Nanocrystalline Zinc Ferrite Prepared by Polymerized Complex and solid state reaction Method, EMEE2015, at CBIT, 2015.03.23.
9. Pramod H Borse, Hunt for efficient and stable hydrogen producing photocatalytic nano/materials-a ladder to renewable energy, in One day national seminar on Nanomaterial Research, at Sri Ramakrishna Engineering College, Coimbatore, Tamilnadu on 2015.02.21
10. Alka Pareek, & P.H.Borse; Electrochemical characterization of Ag-loaded nano-titania modified CdS /polysulphide electrolyte interface, International conference on environment and energy , at JNTU Hyderabad on 2014.12.15-2014.12.17.
11. A.Pareek & P.H.Borse; Characterization of nano-titania modified CdS /polysulphide electrolyte interface by utilizing electrochemical impedance spectroscopy, at 11th ISEAC-International Discussion Meet on Electrochemistry and its Applications (11th ISEAC-DM-2014), at Amritsar, 2014.02.20-2014.02.25
12. Rounith R. Malyala and P.H.Borse; Investigation of cell performance with cost effective cation-exchange membrane for a two-compartment "*solar light driven photoelectrochemical cell*,Chemcon 2013, held by Indian Chemical Engineering congress at ICT, Mumbai 2013.12.27-2013.12.30.
13. A. Pareek & P.H.Borse; Stability improvement of CdS photoanode by control over adsorbed titania nanoparticle phase, IUMRS- 2013, IISC, Bangalore, on 2013.12.16-2013.12.20
14. Dom R. Chary A.S., Borse P.H.; Investigation of Physico-Chemical Properties of M Fe_2O_4 (M: Ca, Zn, Mg) Photocatalysts Synthesized by Microwave Irradiation at APMS 2013 *National* conference organized by Vasavi college of engineering, Hyderabad India –2013.07.19-2013.07.20.
15. Dom R. Chary A.S., Borse P.H.; Microwave synthesis of solar active nanoscrystalline $ZnFe_2O_4$ photocatalysts at NSAM *National* seminar -2013 organized by Department of physics, Osmania University, Hyderabad, Hyderabad India –2013.02.27-2013.02.28
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19. **Borse PH.**; Photocatalytic and photoelectro-chemical investigations of Fe/ Sn/ Nb

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