Dr. NAVEEN KUMAR VELDURTHI

Assistant Professor
Department of Chemistry
National Institute of Technology, Jamshedpur.

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ACADEMIC PROFILE

- 2018- till date — Assistant Professor, Department of Chemistry, National Institute of Technology, Jamshedpur
- 2016-2018 — SERB-National Post Doctoral Fellow (NPDF)
  Under mentorship of Prof. Giridhar Madras,
  Department of Chemical Engineering,
  Indian Institute of Science, Bangalore.
- 2011-2016 — Ph.D. in Chemistry
  under supervision of Prof. Muga Vithal,
  Departemnt of Chemistry, Osmania University, Hyderabad.
- 2009–2011 — Teaching experience in Physical Chemistry for Post-Graduate level students at Jaagruthi Degree & P.G. College, Telangana.
- 2007-2009 — Master of Science in Chemistry (Specialization: Physical Chemistry) from University college of Science, Osmania University, Hyderabad

PERSONAL PROFILE

- Date of Birth : 6th Aug 1987
- Nationality : Indian
- Gender : Male
- Marital Status : Married

RESEARCH AND ACADEMIC EXPERIENCE

- AREA OF RESEARCH**:** Clean Energy Research
- Title of PhD Thesis**:** An investigation of the strategies to develop visible light active semiconductor photocatalysts for environmental remediation.

- Having experience in synthesis of various semiconductor oxides by sol-gel, hydrothermal, solid state and ion exchange methods.
- well acquainted with the characterization techniques like PXRD, IR, UV-VIS-DRS, XPS, Elemental analysis and interpretation of the results.
- Gained experience in teaching Physical Chemistry for Post-Graduate level students during 2009-2011.

ACHIEVEMENTS

- Received *'Certificate of Achievement'* for working as a Teacher Coordinator (June 2019) in *'Green Revolution Global Certification Program-Action against climate change'* which was initiated by International Centre for Culture and Education (ICCE) and supported by United Nations Framework convention on climate change (UNFCCC), NASA and World Bank Institute.
- SERB-National Post Doctoral Fellowship (NPDF) in July, 2016.
- CSIR-UGC-NET(Lectureship) twice in 2010 and 2011 with 83rd and 42nd ranks, respectively.
- GATE -2011 with All India 958 rank.

RESEARCH INTERESTS

- Photocatalytic water splitting for H_2 production and CO_2 reduction into solar fuels.
- Preparation of semiconductor metal oxides for solar-light-energy conversion.
- Heterogeneous catalysis and photocatalysis for environmental purification.

LIST OF PUBLICATIONS

Up-to-date List of Publications – 30

1. Cocatalyst free Z-schematic enhanced H_2 evolution over $LaVO_4/BiVO_4$ composite photocatalyst using Ag as an electron mediator
Naveen Kumar Veldurthi*, Neerugatti KrishnaRao Eswar, Satyapaul A. Singh, Giridhar Madras
Applied Catalysis B: Environmental (IF – 14.22) 220, 512–523 (2018)

2. Heterojunction $ZnWO_4/ZnFe_2O_4$ composites with concerted effects and integrated properties for enhanced photocatalytic hydrogen evolution
Naveen Kumar Veldurthi*, Neerugatti KrishnaRao Eswar, Satyapaul A. Singh, Giridhar Madras
Catalysis Science & Technology (IF – 5.72) 8, 1083-1093 (2018)

3. Cooperative effect between $BaTiO_3$ and $CaFe_2O_4$ in a cocatalyst-free heterojunction composite for improved photochemical H_2 generation

Naveen Kumar Veldurthi*, Neerugatti KrishnaRao Eswar, Satyapaul A. Singh, Giridhar Madras
International journal of hydrogen energy (IF – 4.08) 43, 22929-22941 (2018)

4. Synthesis, characterization and silver/copper-nitrogen substitutional effect on visible light driven photocatalytic performance of sodium hexatitanate nanostructures
Naveen Kumar Veldurthi, Radha Velchuri, Someshwar Pola, Guduru Prasad, Nagegownivari R. Muniratnam and Muga Vithal
Journal of Chemical Technology & Biotechnology (IF– 2.65) 90, 1507–1514 (2015)

5. Fabrication and Visible-light induced Photocatalytic Activity of Novel $NaNbO_3$ Oriented Composite Photocatalyst Coupled with N-$NaNbO_3$ and V-$NaNbO_3$
Naveen Kumar Veldurthi, Raju Reddy Jitta, G. Ravi, Ravinder Guje, Radha Velchuri, P. Venkataswamy, M. Vithal
ChemistrySelect (IF – 1.71)1 [11], 2783–2791 (2016)
(Note: This paper has been selected as one of hot papers on photocatalysis topic by Wiley publishers for the month of July, 2016)

6. Facile ion exchange synthesis and visible light photocatalytic studies of Cu^{2+}, Sn^{2+} and Ag^{+} substituted $LiMg_{0.5}Ti_{0.5}O_2$.
Naveen Kumar Veldurthi, G.Ravi, J.R.Reddy, Suresh Palla, N.R.Muniratnam, G.Prasad and M.Vithal.
Journal of the American Ceramic Society (IF – 3.09) 97[6], 1829–1836 (2014)

7. Interplay of photoabsorption, electronic structure and recombination rate of charge carriers on visible light driven photocatalytic activity of copper and nitrogen doped $Ba_3V_2O_8$
Naveen Kumar Veldurthi, Priyanka Bandipalli, G.Ravi, J.R.Reddy, Suresh Palla, Kotamarthi Bhanuprakash and M.Vithal
European Journal of Inorganic Chemistry (IF - 2.57) 2014, 5585–5595
(Note: This paper has been selected as one of hot papers on photocatalysis topic by Wiley publishers for the month of November, 2014)

8.Degradation of mixed dyes in aqueous wastewater using a novel visible light driven $LiMg_{0.5}Mn_{0.5}O_2$ Photocatalyst
Naveen Kumar Veldurthi, Suresh Palla, Radha Velchuri, Prasad Guduru, Vithal Muga
Materials Express (IF – 1.59) , 10/2015; 5(5), DOI: 10.1166/mex.2015.1255

9. Solar water-splitting with the defect pyrochlore type of oxides $KFe_{0.33}W_{1.67}O_6$ and $Sn_{0.5}Fe_{0.33}W_{1.67}O_6{\cdot}xH_2O$
Ravi G, Suresh Palla, **Naveen Kumar Veldurthi**, Reddy J.R., Hari Padmasri A., Vithal M.
International journal of hydrogen energy (IF – 4.08) 39, 15352-15361 (2014)

10. Preparation, characterization and photocatalytic studies of N, Sn-doped defect pyrochlore oxide $KTi_{0.5}W_{1.5}O_6$
Raju Reddy Jitta, Ravinder Guje, **Naveen Kumar Veldurthi**, Shrujana Prathapuram, Radha Velchuri, Vithal Muga.
Journal of Alloys and Compounds (IF – 4.17) 618, 815–823 (2015)

11. Facile ion-exchange Synthesis of visible light active Sn-doped defect pyrochlore $K_{0.51}Sb_{2.67}O_{6.26}$ and its Photocatalytic studies
Jitta Raju Reddy, **Naveen Kumar Veldurthi**, Suresh Palla, G. Ravi, Ravinder Guje and Vithal, Muga.
Journal of Chemical Technology and Biotechnology (IF – 2.65) 89, 1833–1841 (2014)

12**.** Defect pyrochlore oxides: as photocatalyst materials for environmental purification and energy production - a review.

J. R. Reddy, G. Ravi, **Naveen Kumar Veldurthi**, Ravinder Guje and M. Vithal.
Journal of Chemical Technology and Biotechnology (IF–2.65) 90, 1937–1948 (2015)

13. Photocatalytic degradation of methylene blue on nitrogen doped layered perovskites, $CsM_2Nb_3O_{10}$ (M = Ba and Sr)
J.R. Reddy, Sreenu Kurra, Ravinder Guje, Suresh Palla, **Naveen Kumar Veldurthi**, G. Ravi and M. Vithal.
Ceramics International (IF – 3.45) 41, 2869–2875 (2015).

14. Metathesis synthesis, characterization, spectral and photoactivity studies of $Ln_{2/3}MoO_4$ (Ln = La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Er and Y)
Radha Velchuri, Suresh Palla, G. Ravi, **Naveen Kumar Veldurthi**, J.R. Reddy, M. Vithal
Journal of Rare Earths (IF -2.84) 33(8), 837-845 (2015)

15. Synthesis, characterization and photocatalytic activity of Ag^+ and Sn^{2+} doped $KTi_{0.5}Te_{1.5}O_6$
Ravinder Guje, Ravi Gundeboina, Jitta Raju Reddy, **Naveen Kumar Veldurthi**, Sreenu K and M. Vithal
Photochemistry and Photobiology (IF-2.33) 92, 223–230 (2016)

16. Synthesis, Characterization and Photocatalytic Activity of $KAl_{0.33}W_{1.67}O_6$ and $Sn_{0.5}Al_{0.33}W_{1.67}O_6.xH2O$
G. Ravi, **Naveen Kumar Veldurthi**, Suresh Palla, Radha Velchuri, Someshwar Pola, J.R. Reddy and M. Vithal
Photochemistry and photobiology (IF – 2.33) 89(4), 824-831 (2013)

17. Preparation, Optical and Photocatalytic studies of Defect Pyrochlores: $KCr_{0.33}W_{1.67}O_6$ and $A_xCr_{0.33}W_{1.67}O_6.nH_2O$
G.Ravi, **Naveen Kumar Veldurthi**, MuvvaD.Prasad, N.R.Muniratnam, G.Prasad and M.Vithal
Journal of Nanoparticle Research (IF – 2.00) 15, 1939 (2013)

18. A series of novel double perovskite oxides NaMTi2O6 (M = Eu, Sm, and Gd): preparation, characterization and photocatalytic studies under visible and solarlight irradiation
K. Sreenu, **Naveen Kumar Veldurthi**, Jitta Raju Reddy, C. H. Sudhakar Reddy, M. Vithal
Journal of Materials Science: Materials in Electronics (IF – 2.19) 27, 4194–4200 (2016)

19. Antimony potassium tartrate: a novel single source precursor for the preparation of Sb_2O_3, KSb_3O_5, $K_{0.51}Sb_{0.67}{}^{III}Sb_2{}^{V}O_{6.26}$, and $KSbO_3$
J. R. Reddy, G. Ravi, P. Suresh. **Naveen Kumar Veldurthi**, Radha Velchuri and M. Vithal
Journal of Thermal Analysis and Calorimetry (IF - 2.47) 115, 1321–1327 (2014)

20. Nanostructured $KTaTeO_6$ and Ag-doped $KTaTeO_6$ Defect Pyrochlores: Promising Photocatalysts for Dye Degradation and Water Splitting
Perala Venkataswamy, CH. Sudhakar Reddy, Ravi Gundeboina, Gullapelli Sadanandam, **Naveen Kumar Veldurthi,** M. Vithal
Electronic Materials Letters (IF-1.88) July 2018, Volume 14, Issue 4, pp 446–460

21. Photocatalytic degradation of organic dyes with Sn^{2+} and Ag^+ substituted $K_3Nb_3WO_9(PO_4)_2$ under visible-light irradiation
Suresh Palla, , G. Ravi, Radha Velchuri, **Naveen Kumar Veldurthi**, J.R. Reddy and M. Vithal
Journal of Sol-Gel Science and Technology (IF-1.98) 75, 224–234 (2015)

22. Characterization, conductivity and photocatalytic studies of $AHfM(PO_4)_3$(A = Na and Ag; M = Ti and Zr) powders synthesized by sol–gel method
Suresh Palla, G. Ravi, J. R. Reddy, **Naveen Kumar Veldurthi**, Radha Velchuri, G. Prasad, N. R. Munirathnam, M. Vithal
Journal of Sol-Gel Science and Technology (IF-1.98) 67, 507–518 (2013)

23. Preparation of visible light active Ag and N- doped KVMoO6: Photodegradation of methylene blue
J. R. Reddy, Sreenu. K, **Naveen Kumar Veldurthi**, P. Shrujana, Ravinder Guje and M. Vithal
CLEAN – Soil, Air, Water (IF – 1.33) 43 (9999), 1–7 (2015)

24. Preparation, Characterization and Photoactivity of N - doped $KSbWO_6$
J.R. Reddy, G. Ravi, **Naveen Kumar Veldurthi**, Someshwar Pola, B.Vijaya kumar, B. Sreedhar and M. Vithal
Zeitschrift für anorganische und allgemeine Chemie (IF – 1.33), 639 (5), 794-798 (2013)

25. Synthesis, characterization and photocatalytic activity of $Ag^{+}$and Sn^{2+} substituted $KSbTeO_6$
Ravinder Guje, P.Shrujana, **Naveen Kumar Veldurthi**, Ravi Gundeboina, Nageshwar Rao Kappera, Vithal Muga
Chemical Papers (IF – 1.24) 69 (2), 269–278 (2015)

26. Photocatalytic performance of nitrogen-doped and Cu^{2+} and Ag^{+} co-doped sodium trititanate
G. Ravi, **Naveen Kumar Veldurthi**, Radha Velchuri, Ravinder Guje, Someshwar Pola, M. Vithal, N. R. Munirathnam
International Journal of Applied Ceramic Technology (IF – 1.07) 12 [3], 700–710 (2015)

27. Solvothermal synthesis, Characterization, Luminescence and photocatalyticactivity of Bi_2WO_6 : Eu nanocrystals
B. Vijaya Kumar, **Naveen Kumar Veldurthi**, J.R. Reddy and M. Vithal
Micro & Nano Letters (IF – 0.97) 7(6), 544–548 (2012)

28. Synthesis and Catalytic Performance of $Na_2HfM(PO_4)_3$and $Ag_{2-x}Na_xHfM(PO_4)_3$ (M=Fe and Al and $0.07 \leq x \leq 0.13$)
Suresh Palla , **Naveen Kumar Veldurthi** , Ravinder Guje , G. Prasad, N. R. Muniratnam and M. Vithal
Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry (IF-0.63) 45, 730–739 (2015)

29. Photocatalytic and Conductivity studies of Bi^{3+} substituted $La_2Zr_2O_7$
G.Ravi, Suresh Palla, J.R.Reddy, **Naveen Kumar Veldurthi**, B.Vijaya Kumar and M. Vithal
International Journal of Green Nanotechnology 4, 360-367 (2012)

30. Characterization and evaluation of biological and photocatalytic activities of selenium nanoparticles synthesized using yeast fermented broth
K. Gnaneshwar Goud, **Naveen Kumar Veldurthi**, M Vithal, Gopal Reddy
Applied Nanomedicine 1, 12-19 (2016)

PROFESSIONAL DEVELOPMENT

- Attended The Winter School-2016 on "Frontiers in Materials Science" in Bangalore organized by Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and University of Cambridge during December 5-9, 2016.
- Attended School on "Clean and Renewable Energy Technologies via Chemical Route" in Bangalore organized by Institute for Complex Adaptive Matter, University of California and Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) during 27th November to 2nd December, 2017.
- Pursuing an online course using edX platform on "Teamwork and Collaboration" from Rochester Institute of Technology, USA.

SEMINARS/CONFERENCES ATTENDED

Conference/Seminar	Title of paper Presented	Year
AP SCIENCE CONGRESS	NANOTECHNOLOGY ON DUTY IN MEDICAL APPLICATIONS	2008
1st INTERNATIONAL CONFERENCE ON FUNCTIONAL MATERIALS FOR DEFENCE, DIAT, PUNE.	PHOTOCATALYTIC AND CONDUCTIVITY STUDIES OF Bi^{3+} SUBSTITUTED $La_2Zr_2O_7$	2012
SCIENCE FOR SHAPING THE FUTURE OF INDIA, Indian Science Congress Association, Hyderabad	N/A	2012
International Conference on New Emerging Trends in Chemistry, The IIS University, Jaipur.	PREPARATION, CHARACTERIZATION AND PHOTOACTIVITY OF N - DOPED $KSbWO_6$	2013
IUMRS-ICA 2013, Indian Institute of Sciences, Bangalore	SEMICONDUCTOR PHOTOCATALYSIS FOR CLEAN WATER: CURRENT TRENDS AND CHALLENGES Available at https://www.youtube.com/c/NaveenVeldurthi	2013
National Conference on Advanced Materials for Energy Applications, Osmania University, Hyderabad	N/A	2014
Theme meeting on Recent Advances in Materials Characterization by Surface Analytical Techniques, BARC, Hyderabad.	N/A	2014

THIRD INTERNATIONAL CONFERENCE ON ADVANCED OXIDATION PROCESSES AOP-2014, Munnar, Kerala	Facile ion exchange synthesis and visible light photocatalytic studies of Cu^{2+}, Sn^{2+} and Ag^{+} substituted $LiMg_{0.5}Ti_{0.5}O_2$.	2014
IUMRS-ICYRAM 2016 Indian Institute of Science, Bangalore	Fabrication and Visible-light induced Photocatalytic Activity of Novel $NaNbO_3$ Oriented Composite Photocatalyst Coupled with N-$NaNbO_3$ and V-$NaNbO_3$	2016
8th International Conference on Photosynthesis and Hydrogen Energy Research for Sustainability, University of Hyderabad	Cocatalyst free Z-schematic enhanced H_2 evolution over $LaVO_4/BiVO_4$ composite photocatalyst using Ag as an electron mediator	2017
Conference on Advances in Catalysis for Energy and Environment (CACEE-2018) Tata Institute of Fundamental Research (TIFR), Mumbai	Cocatalyst free Z-schematic enhanced H_2 evolution over $LaVO_4/BiVO_4$ composite photocatalyst using Ag as an electron mediator	2018
International Conference on Nano Science and Technology ICONSAT-2018 IISc, Bangalore	Heterojunction $ZnWO_4/ZnFe_2O_4$ composites with concerted effects and integrated properties for enhanced photocatalytic hydrogen evolution	2018

Google Scholar Profile

https://scholar.google.co.in/citations?user=PnXW_7sAAAAJ&hl=en

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Nanomaterials Photocatalysis Water Splitting CO2 Utilization

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Citations	428	349
h-index	12	10
i10-index	13	12