

# RAJASEKHAR BHIMIREDDI

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## CURRENT STATUS

August 2018 till date

Working as a Research Associate at Central Research Instruments Facility, Sri Satya Sai Institute of Higher Learning (Deemed University), Prasanthi Nilayam, Anantapur District, Andhra Pradesh, India

## Senior Associate Scientist

March 2016-Sep 2017

Ultramarine & Pigments LTD., Ranipet, Vellore-632403, Tamilnadu, India

- **Achievements:** Developed New Inorganic Pigments (Mixed Metal Oxides) for Industrial scale
  - Developed the BiVO<sub>4</sub> yellow pigments up to 290 °C for Nylon Based Applications
  - Developed the inorganic pigments, PBr-24, PB-28, PB-50, PB-29, PB-36, PY-184
  - Developed the Ultramarine Blue Pigments for acid resistance (up to pH-2)

## POSTDOCTORAL FELLOWS

2013-2016

- Materials Research Centre, Indian Institute of Science (IISc), Bangalore, India.
- Principle Investigator: **Prof. K.B.R. Varma**
- Project title: **Preparation of nanocrystalline oxides and polymer nano-composites materials for Ferroelectric and dielectric applications.**

## Ph.D (CHEMISTRY)

2007 – 2013

- Department of Chemistry, Banaras Hindu University, Varanasi. India.
- Thesis Advisor : **Prof. R.N. Rai**
- Dissertation title: **Synthesis and Characterization of Binary Organic Crystalline Materials**

## SCIENTIFIC/TECHNICAL EXPERTISE

- Expert on preparation of Inorganic nanocrystalline materials
- Expert on preparation of polymer nano-composite materials
- Single Crystal Growth and Characterization of Organic Materials.
- Phase diagram, thermal analysis, and photoluminescence properties.
- Expert on preparation of inorganic pigments, Cobalt Blue (PB-28), Brown (PBr-24), Green (PB-50), Ultramarine Blue (PB-29), Pigment Blue (PB-36) and Bismuth Vanadate Yellow (PY-184)
- Expert on SiO<sub>2</sub> coating on the surface of pigment / ceramic using sol-gel technique for alkali resistance
- Sufficient exposure and knowledge on FTIR, SEM, Powder XRD, DSC, UV, Dielectric and Laser spectroscopy.

## PUBLICATIONS IN PEER-REVIEWED JOURNALS

1. **R. Bhimireddi**<sup>@</sup>, S. Tukaram and K.B.R. Varma, Polymer composite of poly (vinylidene fluoride)— 2-methyl-4-nitroaniline via hot-pressing technique; structural, optical and electrical properties, *Materials Research Express*, 6 (2019) 076303 [**@ Corresponding author**]
2. S. Tukaram<sup>#</sup>, **R. Bhimireddi**<sup>#</sup> and K.B.R. Varma, Enhanced piezoelectric properties of Sr<sub>1.7</sub>(Na<sub>0.5</sub>Bi<sub>0.5</sub>)<sub>0.3</sub>Bi<sub>4</sub>Ti<sub>5</sub>O<sub>18</sub> ceramics in the system Sr<sub>2-x</sub>(Na<sub>0.5</sub>Bi<sub>0.5</sub>)<sub>x</sub>Bi<sub>4</sub>Ti<sub>5</sub>O<sub>18</sub> (where 0 ≤ x ≤ 0.5), *J American Ceramic Society* 102 (2019) 4082–4091 [**# equal contribution**]
3. P.W. Jaschin, **R. Bhimireddi** and K.B.R. Varma, Enhanced Dielectric Properties of LaNiO<sub>3</sub>/BaTiO<sub>3</sub>/PVDF: A Three-Phase Percolative Polymer Nanocrystal Composite, *ACS Appl. Mater. Interfaces*, 10 (2018) 27278–86
4. S. Madolappa, B. Ponraj, **R. Bhimireddi** and K.B.R. Varma, Enhanced magnetic and dielectric properties of Ti-doped YFeO<sub>3</sub> ceramics, *J American Ceramic Society*, 100 (2017) 2641-2650
5. **R. Bhimireddi**, B. Ponraj and K.B.R. Varma, Structural, optical and piezoelectric response of lead free Ba<sub>0.95</sub>Mg<sub>0.05</sub>Zr<sub>0.1</sub>Ti<sub>0.9</sub>O<sub>3</sub> nanocrystalline powder, *J. American Ceramic Society*, 99 (2016) 896-904.
6. S. Tukaram, **R. Bhimireddi** and K.B.R. Varma, Nano/micro Sr<sub>2</sub>Bi<sub>4</sub>Ti<sub>5</sub>O<sub>18</sub> crystallites; size dependent structural, second harmonic and piezoelectric properties, *Materials Science and Engineering B* 211 (2016) 101–109.

7. S. Tukaram, **R. Bhimoreddi**, and K.B.R. Varma, Grain size-dependent dielectric, piezoelectric and ferroelectric properties of  $\text{Sr}_2\text{Bi}_4\text{Ti}_5\text{O}_{18}$  ceramics, *J Material Science*, 51, (2016) 9253-9266.
8. S. Madolappa, S. Kundu, **R. Bhimoreddi** and K.B.R. Varma, Improved electrical characteristics of Pr-doped  $\text{BiFeO}_3$  ceramics prepared by sol-gel route, *Materials Research Express*, 3 (2016) c
9. B. Ponraj, **R. Bhimoreddi**, K.B.R. Varma, Effect of nano and micron sized  $\text{K}_{0.5}\text{Na}_{0.5}\text{NbO}_3$  fillers on the dielectric and piezoelectric properties of PVDF, *J Advanced Ceramics*, 5 (2016) 308–320.
10. R.N. Rai, Shiva Kant, **R.S.B. Reddi**, S. Ganesamoorthy, and P.K. Gupta, Solid State Synthesis, Crystal Growth and Optical Properties of Urea and p-Chloronitrobenzene Solid Solution, *J Solid State Chemistry*, 233 (2016) 244–51.
11. S. Kundu<sup>#</sup>, **R. Bhimoreddi**<sup>#</sup>, K. Mishra, S.B. Rai and K.B.R. Varma, Investigations into the structural and down-shifting and up-conversion luminescence properties of  $\text{Ba}_2\text{Na}_{1-3x}\text{Er}_x\text{Nb}_5\text{O}_{15}$  ( $0 \leq x \leq 0.06$ ) nanocrystalline phosphor synthesized via sol-gel route, *Materials Research Express*, 2 (2015) 105015, [**# equal contribution**]
12. R.N. Rai, **R.S.B. Reddi** and U.S. Rai, Developments and future directions of phase diagram, physicochemical and optical studies of binary organic complexes, *Progress in Crystal Growth and Characterization of Materials*, 59 (2013) 73–111 (**Review Article**).
13. **R.S.B. Reddi**, S. Ganesamoorthy, P.K. Gupta, R.N. Rai, Phase equilibria, crystallization, thermal and microstructural studies on organic monotectic analog of nonmetal–nonmetal system; urea–4-bromo-2-nitroaniline, *Fluid Phase Equilibria*, 313 (2012) 121–26.
14. **R.S.B. Reddi**, V.S.A. Kumar Satuluri, R.N. Rai, Solid–liquid equilibrium, thermal and physicochemical studies of organic eutectics, *J Therm Anal Calorim*, 107 (2012) 183–88.
15. **R. Bhimoreddi** and R.N. Rai, Modification in hygroscopic nature of urea via formation of solid solution, and its particle size and second harmonic generation study, *Advanced Mater Research*, 584 (2012) 107-11.
16. C.S. Biswas, V.K. Patel, N.K. Vishwakarma, A.K. Mishra, **R. Bhimoreddi**, R.N. Rai, B. Ray, Synthesis, Characterization, and Drug Release Properties of Poly (N-isopropylacrylamide) Gels Prepared in Methanol–Water Cononsolvent Medium, *J. Applied Polymer Science*, 125 (2012) 2000–09.
17. **R.S.B. Reddi**, V.S.A. Kumar Satuluri, and U.S. Rai, R.N. Rai, Thermal, physicochemical and microstructural studies of binary organic eutectic systems, *J Therm Anal Calorim*, 107 (2012) 377–85.
18. K.P. Sharma, **R.S.B. Reddi**, R.N. Rai, Solid–liquid equilibria, thermochemical and microstructural studies of binary organic monotectic and eutectic alloy, *J Therm Anal Calorim*, 110 (2012) 545–50.
19. K.P. Sharma, **R.S.B. Reddi**, S. Bhattacharya, R.N. Rai, Synthesis, crystal growth, structural and physicochemical studies of novel binary organic complex: 4-chloroaniline–3-hydroxy-4-methoxybenzaldehyde, *J. Solid State Chemistry*, 190 (2012) 226–32.
20. R.N. Rai, S.R. Mudunuri, **R.S.B. Reddi**, V.S.A. Kumar Satuluri, S. Ganeshmoorthy and P.K. Gupta, Crystal growth and nonlinear optical studies of m-dinitrobenzene doped urea, *J. Crystal Growth*, 321 (2011) 72–7.
21. K.P. Sharma, **R.S.B. Reddi**, S. Kant, R.N. Rai, Thermal, physicochemical and microstructural studies of organic analog of nonmetal–nonmetal monotectic alloy, *Thermochimica Acta*, 498, (2010) 112–16.
22. S. Kant, **R.S.B. Reddi**, R.N. Rai, Solid–liquid equilibrium, thermal, crystallization and microstructural studies of organic monotectic alloy, *Fluid Phase Equilibria*, 291 (2010) 71–5.
23. **R.S.B. Reddi**, S. Kant, S. Ganesamoorthy, R.N. Rai, Phase Equilibria and Thermal Analysis of Binary Organic Eutectic System, *THERMANS*, (2010) 69-71
24. **R.S.B. Reddi**, S. Kant, U.S. Rai, R.N. Rai, Crystallization, thermal, phase diagram and microstructural studies of organic analog of metal–nonmetal monotectic alloy: 4-Bromochlorobenzene–succinonitrile, *J. Crystal Growth*, 312 (2009) 95–9.
25. R.N. Rai, **R.S.B. Reddi**, Thermal, solid–liquid equilibrium, crystallization, and microstructural studies of organic monotectic alloy: 4,4'-Dibromobiphenyl–succinonitrile, *Thermochimica Acta*, 496 (2009) 13–17.

## AWARDS

- **Outstanding Reviewer Awards** in year of 2016 from Materials Research Express, IOP Journals
- Dr. D.S. Kothari Postdoctoral Fellow, UGC, New Delhi
- Senior and Junior Research Fellow from BRNS, DAE Project
- Junior Research Fellow from UGC, New Delhi

## ACADEMIC PROFILE

- Master's degree in Chemistry (72.3%, 2005-2007), Banaras Hindu University, Varanasi, India.
- Bachelor's degree (79.3%, Maths, Physics, Chemistry, 2000-2005), Andhra Loyola College, Vijayawada, India.

## MEMBERSHIP

- Life member of Indian Thermal Analysis Society (ITAS)-LM-470

## PERSONAL PROFILE

Father Name : Nagi Reddy Bhimoreddi  
Date of Birth : 18<sup>th</sup> January 1983  
Sex : Male  
Marital Status : Married  
Nationality : Indian  
Language Known : English, Telugu and Hindi  
Physical Activities : Minor foot drop problem was developed during undergraduate, but it has never slowed down my daily life nor affected my academic capabilities

**Permanent address** : H.No.1-103, S/O Nagi Reddy Bhimoreddi, Atlapragada, A. Konduru Mandal, Krishna District-521226, Andhra Pradesh, INDIA. Ph: +91-9490701061

## REFERENCE ON REQUEST

1. **Prof. K.B.R. Varma**, Vice-Chancellor, Sri Satya Sai Institute of Higher Learning (Deemed University), Prasanthi Nilayam, Anantapur District-515 134, Andhra Pradesh, India, Phone: +91 9449055283, E-mail: [kbrvarma1@gmail.com](mailto:kbrvarma1@gmail.com)
2. **Prof. R.N. Rai**, Department of Chemistry, Institute of Science, Banaras Hindu University, Varanasi-221 005, India, Phone: +91-9451892155, E-mail: [rn\\_rai@yahoo.co.in](mailto:rn_rai@yahoo.co.in)
3. **Prof. S.B. Rai**, Department of Physics, Institute of Science, Banaras Hindu University, Varanasi-221 005, India, Phone: +91-9415695601, E-mail: [sbraibhu@gmail.com](mailto:sbraibhu@gmail.com)

## DECLARATION

I solemnly declare that the information furnished above is true, complete and correct to the best of my knowledge and belief.

**Date: 02/08/2019**

**(Rajasekhar Bhimoreddi)**