

## **Dr. BALARAM KIRAN AVASARALA**

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### **PERSONAL PROFILE**

Chemistry appeals to my practical and analytical nature; the part of me starts asking: "How?" and "Why?" and doesn't give up until I have the answers. My love of Chemistry has led me to take the challenges and opportunities, such as handling high-end equipments like HRGC-HRMS, GC-MS/MS, XRD, XPS and so, where my analytical chemistry and practical skills were tested and proved me as a professional analyst and researcher.

### **EDUCATION**

- PhD - Inorganic and Analytical Chemistry, Andhra University, Visakhapatnam, 2010  
Thesis Title: "Synthesis, Characterization and Evaluation of Photocatalytic Activity of Beryllium Magnesium Doped Titania"  
Advisor: Prof. T. Siva Rao
- M.Sc - Applied Environmental Chemistry, Andhra University, 2005
- B.Sc - Applied Chemistry, Andhra University, 2003

### **RESEARCH SUMMARY**

2005 – 2010 Research Scholar, Andhra University; Advisor: Prof. T. Siva Rao

- Synthesis of alkaline earth metal doped TiO<sub>2</sub> using sol-gel method.
- Characterization of beryllium and magnesium doped TiO<sub>2</sub> using X-ray diffraction study, UV-visible absorption spectroscopy, X-ray photoelectron spectroscopy, scanning electron microscopy and FT-IR techniques.
- Photocatalytic activity of the doped TiO<sub>2</sub> samples has been evaluated by the study of photocatalytic degradation dye and pesticide.

### **PUBLICATIONS**

- Balaram Kiran Avasarala, Siva Rao Tirukkavalluri and Sreedhar Bojja. *Magnesium doped titania for photocatalytic degradation of dyes in visible light*; Journal of Environmental & Analytical Toxicology (2016, 6 (358), 1-8 IF: 2.72)
- Balaram Kiran Avasarala, Siva Rao Tirukkavalluri and Sreedhar Bojja. *Photocatalytic degradation of monocrotophos pesticide—An endocrine disruptor by magnesium doped*

- titania*; Journal of Hazardous Materials (2011, 186, 1234-1240; IF: 3.925)
- Balam Kiran Avasarala, Siva Rao Tirukkavalluri and Sreedhar Bojja. *Enhanced photocatalytic activity of beryllium doped titania in visible light on the degradation of methyl orange dye*; International Journal of Materials Research (2010, 101 (12), 1-8, IF: 0.86)
  - Balam Kiran Avasarala, Siva Rao Tirukkavalluri and Sreedhar Bojja. *Synthesis, characterization and photocatalytic activity of alkaline earth metal doped titania*; Indian Journal of Chemistry (2010, 49A, 1189-1196; IF: 0.92)
  - T. Siva Rao, Teshome Abdo Segne, T. Sunitha, A. Balam Kiran and C. Subrahmanyam. *Photocatalytic degradation of dichlorvos in visible light by Mg<sup>2+</sup>-TiO<sub>2</sub> nanocatalyst*; Advances in Materials Science and Engineering (2012, doi:10.1155/2012/168780; IF: 0.50)

## CONFERENCES

- Presented a Paper at International Conference on “Nanoscience, Nanotechnology & Advanced Materials”, organized by Department of Chemistry, GITAM University, Visakhapatnam, during 17-19, December 2010.
- Presented a paper at National Seminar on “Modern Trends in Analytical Methods of Analysis”, Organized by Department of Chemistry, Sri Krishnadevaraya University, Anantapur, during 25-27, February, 2008.
- Presented a paper at International Conference, “95 th Indian Science Congress” held at Andhra University, Visakhapatnam, during 3-7, January, 2008.
- Presented paper at Regional Seminar on “Environmental Pollution with Special Reference to Pesticide Pollution”, Organized by P.B.Siddhartha College of Arts & Science, Department of Chemistry, Vijayawada, India, during 28-29, July, 2006.

## EMPLOYMENT HISTORY

**September 2014-till date    Assistant Professor, Department of Chemistry, Jazan University**

- Teaching graduate students, theoretical and practical classes about various analytical principles and instrumental techniques, volumetric analysis, gravimetric analysis and engineering chemistry
- Imparting hands-on training to students and researchers on GC-MS, HPLC, AAS, XRF, IR, Flame and UV-Visible spectrophotometric techniques.
- Undertaking research for final year graduate students with special emphasis on industrial and practical issues, for a positive output useful to the government policy makers and also practical knowledge to students on analytical chemistry importance and role.

- Adhering with online attendance system.
- Teaching through interactive board and white board.
- Semester system curriculum with internal and external examination pattern.
- Following two-tier review for answer scripts evaluation and online results declaring system.
- University established and runs under the management of Government of Saudi Arabia
- Adhering to government's unique quality system in all aspects of education such as: curriculum and syllabus preparation, periodic review and upgradation of syllabus, all attendance related issues, exam question paper preparation, evaluation of answer scripts, results announcement and students research.

**July 2013-January 2014                      Group Leader, Trace Analysis Lab, VIMTA Labs Pvt Ltd**

- Allotment of work and assistance to scientists in smooth functioning of work.
- Reviewing and releasing of reports.
- Resource allocations and feasibility updates with clients.
- Imparting On-the-job training and handling various presentations to concerned staff.
- Analysis of Dioxins and Furans; Dioxin like PCB's using HRGC-HRMS (Waters make).
- Analysis of pesticide residues in different matrices using GC-MS/MS, GC-MS (Head Space; Purge & Trap), LC-MS/MS.
- Analytical Method Development, validation and writing SOP's for pesticide residue analysis, Dioxins & Furans, Chromatography, Mass Spectrometry and other techniques.
- Calibration of instruments and various routine equipments.
- Preparation of protocol and report for the method development and validation for various analytical and pharmaceutical projects.
- Attending client and regulatory audits and addressing for the success of the same.
- 'Uncertainty Measurement' assessment and statistical evaluation.
- Shift Management
- Successful implementation of GXP's.

**July 2012 – June 2013                      Senior Scientist, Trace Analysis Lab, VIMTA Labs Pvt Ltd**

- Reviewing and releasing of reports.
- Imparting On-the-job training and handling various presentations to concerned staff.
- Analysis of Dioxins and Furans; Dioxin like PCB's using HRGC-HRMS (Waters make).
- Analysis of pesticide residues in different matrices using GC-MS/MS, GC-MS (Head

Space; Purge & Trap), LC-MS/MS.

- Analytical Method Development, validation and writing SOP's for pesticide residue analysis, Dioxins & Furans, Chromatography, Mass Spectrometry and other techniques.
- Calibration of instruments and various routine equipments.
- Preparation of protocol and report for the method development and validation for various analytical and pharmaceutical projects.
- 'Uncertainty Measurement' assessment and statistical evaluation.

**January 2011 – June 2012      Scientist, Trace Analysis Lab, VIMTA Labs Pvt Ltd**

- Imparting On-the-job training and handling various presentations to concerned staff.
- Analysis of Dioxins and Furans; Dioxin like PCB's using HRGC-HRMS (Waters make).
- Analysis of pesticide residues in different matrices using GC-MS/MS, GC-MS (Head Space; Purge & Trap), LC-MS/MS.
- Analytical Method Development, validation and writing SOP's for pesticide residue analysis, Dioxins & Furans, Chromatography, Mass Spectrometry and other techniques.
- Calibration of instruments and various routine equipments.
- Involved in method development, validation and preparation of protocol and reports for various analytical and pharmaceutical projects.
- 'Uncertainty Measurement' assessment and statistical evaluation.

**June 2010 – December 2010      Trainee Scientist, Trace Analysis Lab, VIMTA Labs Pvt Ltd**

- Analysis of Dioxins and Furans; Dioxin like PCB's using HRGC-HRMS (Waters make).
- Analysis of pesticide residues in different matrices using GC-MS/MS, GC-MS (Head Space; Purge & Trap), LC-MS/MS.
- Analytical Method Development, validation and writing SOP's for pesticide residue analysis, Dioxins & Furans, Chromatography, Mass Spectrometry and other techniques.
- Involved in method development, validation and preparation of protocol and reports for various analytical and pharmaceutical projects.

**AWARDS AND AFFILIATIONS**

- Meritorious Research Fellowship from UGC in 2008.
- Jawaharlal Nehru Fellowship from JNMRF in 2008.
- Reviewer of "Journal of Hazardous Material," since 2011.

- Member of - Coastal Chemical Research Society, since 2012

#### **TECHNICAL SKILLS:**

- Participated in the winter school in “NMR spectroscopy” program, Organized by UGC – Networking Resource Centre in Chemistry, School of Chemistry, University of Hyderabad, during 19-31, October, 2009.
- Well-versed with analytical techniques such as XRD, XPS, SEM, Mass Spectrometers (MS, MS-MS, HRMS), DRS, TG-DTA, FT-IR, UV-Visible spectrophotometer, GPC.

#### **PROJECTS HANDLED**

- Handled analysis of samples, such as water (drinking, ground, treated, waste, municipal, tap), soil (agricultural, waste, sedimentary) and air emission samples (dragger tubes, filter papers, thimbles, scrubber water), food and pharma products (both raw and finished), as per various regulatory requirements, all through the employment career.
- Handled project on air quality monitoring-in and around Visakhapatnam, India, which involved, sampling by high volume sampler and analysis of SO<sub>x</sub>, NO<sub>x</sub>, SPM, using both wet and instrumental methods.
- Handled project on water quality monitoring-in and around Narsapur, India, which involved, sampling and analysis of various parameters, using both wet and instrumental methods.

#### **WORK SKILLS:**

- Excellent written, verbal communication and presentation skills.
- Ability to work independently as well as in a team environment.
- Strong interpersonal skills, problem solving ability.
- Adaptable, creative and professional.
- Good at drafting and literature collection
- Ability to effectively relate to officials of scientific and professional institutions.
- Proven leadership and staff management skills.
- Thorough knowledge on the working areas shown by, international publications as part of

research and successful elevation in career as part of job.

### **SOFTWARE SKILLS:**

Well versed with the use of computer software's such as Masslynx, Targetlynx, Quanlynx, Analystv4.0, LIMS, MS Office, MS Word, Microsoft Power point, Origin, Lotus notes, ChemDraw and familiar with Internet.

### **PERSONAL DETAILS**

Date of Birth : 13.07.1983

Sex : Male

Marital Status : Married

Nationality : Indian,

Address:

Present : Department of Chemistry, Jazan University,  
Jazan, Kingdom of Saudi Arabia

Permanent : H.No: 1-149/1, Vepagunta, Visakhapatnam,  
Andhra Pradesh, India – 530047