

# MERUPO Victor Ishrayelu

Date of birth: 25/11/1985

Nationality: Indian

Email: [victorishrayelu@gmail.com](mailto:victorishrayelu@gmail.com), [Victor.Merupo.etu@univ.lemans.fr](mailto:Victor.Merupo.etu@univ.lemans.fr)  
[vishrayelu@cinvestav.mx](mailto:vishrayelu@cinvestav.mx),



## Research interests

Material Sciences, Nanomaterials, Crystallography & Semiconductor Oxides  
Thin film deposition, Modelling and Simulations, Photocatalysis applications, Energy science

## Education

Dec 2015 *Expected* dual Ph.D. in Physics, Université du Maine, Le Mans, France / Ph.D. in Electrical engineering, Cinvestav- IPN, DF, Mexico

May 2011 Master in Technology & Nanoscience, Vellore Institute of Technology, Vellore, Tamil Nadu, India

April 2008 Master in Science & Electronics, Andhra University, College of Science and Technology, Visakhapatnam, A.P, India

## Professional experience

2012 – 2015 Thesis topic: “Synthesis and characterization of metal doped bismuth vanadate nanostructured materials for photocatalysis applications” Université du Maine, Le Mans, France / Cinvestav- IPN, DF, Mexico, Thesis directors: Prof. V. Subramaniam (Cinvestav-IPN, Mexico), Prof. A. Kassiba (Universite du Maine, France)

2011 Master’s internship topic: “Simulation and Implementation of surface deformation characteristics of laser interference irradiated materials”. Vellore Institute of Technology, Vellore, Tamil Nadu, India. Supervisor: Dr. V. Velumrgan

2008 Master’s internship topic: “Prepared electricity billing by 8051 microcontroller”, Andhra University, College of Science and Technology, Visakhapatnam, A.P, India, Supervisor: Prof. M. Indira

## Research skills

Experimental: Metal-oxides nanoparticles synthesis via ball milling and sol-gel techniques and thin films depositions via rf sputtering, dip coating, ultrasonic spray pyrolysis techniques.

Nanolithography:

- Preparation of Si wafers for lithography (cleaning, drying, pre and post baking)
- Characterization of surface morphology for materials.
- Micro thin coating of polymers on Si wafer by Spin coating method.
- Irradiate the interference of Laser beams on materials

Hands-on experience:

- Plassys MP300 sputtering deposition
- Novocontrol broadband dielectric spectrometer
- 532 nm wavelength of coherent compass CW Green laser of 300mW.
- HRTEM, SEM, AFM techniques.
- Electrochemical Workstation
- High Resolution Optical Microscope, Hall Effect
- UV-Visible Spectroscopy, Four point probe resistance Measurement
- Metal deposition Coating unit

Computer Proficiency: Origin, Adobe photoshop, Diamond, Fullprof, X’pert HighScore Plus, Digital micrograph for TEM analysis.

Simulation Tools:

- MEDICI, MATLAB 7.0
- SPIP (Scanning Probe Image Processor),
- MOSES 1.2 (Monte Carlo Single Electron Simulator)
- Device simulation using TCAD

## **Publications**

Structural and optical characterization of ball-milled copper-doped bismuth vanadium oxide (BiVO<sub>4</sub>), Merupo et al, CrystEngComm, 2015, 17, 3366-3375

Structural, electronic and optical features of molybdenum doped bismuth vanadium oxide, Merupo et al, Materials Science in Semiconductor Processing 31 (2015) 618–623

## **Presentations**

V.Merupo, S. Velumani, A. Kassiba and M. A. García-Sánchez, “Structural and Optical properties of Molybdenum doped Bismuth vanadate powders” Oral presentation, 11th International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE)- 30 Sept-3 Oct-2014, Ciudad del Carmen, Mexico

V.Merupo, N. Errien, M.Edely, S. Velumani and A. Kassiba, “Silver doped BiVO<sub>4</sub> thinfilms with morphology of nanofibres deposited by rf sputtering technique”, Poster presentation XXIII INTERNATIONAL MATERIALS RESEARCH CONGRESS 2014, 17-22th August 2014, Cancun, Mexico.

V.Merupo, N. Errien, S. Velumani and A. Kassiba, “Solgel prepared copper doped BiVO<sub>4</sub> pellets for photocatalytic applications”. XXIII INTERNATIONAL MATERIALS RESEARCH CONGRESS 2014, 17-22th August 2014, Cancun, Mexico

V. Merupo, S. Velumani, N. Errien and A. Kassiba, MECHANOCHEMICAL SYNTHESIS AND CHARACTERIZATION OF Ag-BiVO<sub>4</sub> NANOCRYSTALLITES FOR PHOTOCATALYST APPLICATIONS, International Conference on Nano Materials: Science, Technology and Applications (ICNM' 13), 5-7 December 2013, Chennai, Tamil Nadu, India

V. Merupo, S.Velumani, N.Errien and A.Kassiba, SYNTHESIS AND INVESTIGATIONS OF Cu DOPED BiVO<sub>4</sub> FOR PHOTOCATALYTIC APPLICATIONS, XXII International Materials Research Congress 2013, 11-15th August 2013, Cancun, Mexico

V. Merupo, S.Velumani, N.Errien and A.Kassiba, SYNTHESIS AND INVESTIGATIONS OF Cu DOPED BiVO<sub>4</sub> FOR PHOTOCATALYTIC APPLICATIONS, Journées de l'Ecole Doctorale (JED) Conférence, 24-25 June 2013, University of Angers, Angers, France

V. Merupo, S. Velumani, R. Asomoza, G.S.Miguel Angle, A. Aldana and G.Ignasio, MECHANO-CHEMICAL SYNTHESIS AND CHARACTERIZATION OF Cu DOPED BiVO<sub>4</sub>, 4th mexican workshop on nanostructured materials (4MWNM), 19th- 22nd March 2013, Puebla, Mexico

V. Merupo, V.Velumurgan "2D SIMULATION OF Si NANOSECOND LASER DIRECT WRITING" Optical society of India symposium and International Conference on Contemporary Trends in Optics and Optoelectronics, IIST, Jan. 17-19, 2011, Thiruvananthapuram, Kerala

## **Languages**

Anglais – fluent

Espagnol – advanced beginner

Français – beginner

Telugu – mother tongue

Hindi – advanced beginner

## **Activities**

Designing committee member in : 1) International Symposium on nanotechnology (INSYN 2010) held at VIT University, Vellore; 2) International Materials Research Congress 2014 Cancun, Mexico.

## **Leisure activities:**

Playing cricket and badminton.