CURRICULUM VITAE

Dr. V. Manickam
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Educational Qualifications:

Doctor of Philosophy (Ph.D)

Branch	:	**Interdisciplinary Electronics-Chemistry**
Title of PhD Thesis	:	**Fabrication of Solid State Sensors and Development of Electronic Instrumentation for Humidity and Industrial Gases.**
Month / Year of passing	:	October – 2012
College/University	:	Loyola College / University of Madras

Master of Science (M.Sc)

Branch	:	**Electronics**
Month / Year of passing	:	April – 2001
Percentage / Class	:	72 / First class
College/University	:	St.Joseph's College / Bharathidasan University

Bachelor of Science (B.Sc)

Branch	:	**Electronics**
Allied subjects	:	Physics and Mathematics
Month / Year of passing	:	April – 1999
Percentage / Class	:	65.6 / First Class
College/University	:	St.Joseph's College / Bharathidasan University

Field of Research Interest:

- Embedded system development (MSP430 series)
- Humidity and gas sensors (chemical sensors) fabrication.

- Development of smart sensor based on nanolithography and MEMS for technological applications in nuclear reactor, environmental pollution control etc.,
- Plasma Enhanced Chemical vapor deposition (PECVD) of novel material for solar energy conversion.
- Pulsed Laser ablation as a tool for novel nanomaterial synthesis.

Exposure to Techniques:

- Spectroscopic techniques, UV-Visible, FT-IR, EPR, NMR, XRD, XPS
- Surface measurements – SEM, TEM, BET, AFM.
- Thermal analysis – TG/DTA
- Pulsed laser ablation
- Solid-state electrical conductivity measurements.
- Hall effect measurements

Projects guided at M.Sc level

1. "Way guidance system using GPS and 89c55wd controller" by Mr. Arul Selva Prabhu submitted to Bharathidasan university.
2. "Automatic power saving escalator using PLC and SCADA" by Mr. R. Robert Kennedy submitted to Bharathidasan University.
3. "Gas monitoring System using ATmega8 microcontrollers" by Ms. P. Deepa submitted to Bharathidasan University

Teaching Experience:

- Part–time lecturer in Physics at Loyola College (Evening), Chennai with teaching responsibility to undergraduate students from October 2002 to April 2005 (3 years and 7 months).
- Presently teaching in St.Joseph's College, Trichy-620005, Since August 2011.

Awards/Fellowships:

1) **Junior Research Fellow**, Department of Atomic Energy, Kalpakkam granted by Government of India grant No. IGC/Accts./Cash/C1266

2) **Dr. R. Chadrasekar memorial fellowship (RCMF)** from university of Pune.

3) Received Approval from Bharathidasan University to be eligible as Assistant Professor in the Department of Electronics.

Patents:

1) **V. Manickam**, Suman Pokhrel, Francis P. Xavier, K. S. Nagaraja, "A DIGITAL HUMIDITY SENSOR" Patent . No.207248 (2003)

Papers published in Journals:

1. **V. Manickam**, E. Prabhu, V. Jayaraman, K.I.Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. **"Gas sensing properties of $Fe_2(MoO_4)_3$-Fe_2O_3 thick film**". Proceedings of 11th National seminar on physics and technology of sensor(NSPTS-11), Pune. 2006, C27.1-C27.4.
2. **V. Manickam**, E. Prabhu, V. Jayaraman, K. I. Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. "**Electrolytic sensor for trace level determination of moisture in gas streams**" Measurement 43 (2010)1636-1643.
3. **V. Manickam**, E. Prabhu, V. Jayaraman, K. I. Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. **"Nanotube Iron (III) molybdate synthesis, electrical conductivity and reducing gases sensing properties of screen printed thick films**" Sensors and actuators B (communicated)
4. **V. Manickam**, E. Prabhu, V. Jayaraman, K. I. Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. "**A novel $Cu_2In_2O_5$ based NO_x sensor and its cross sensitivity to reducing gases**" Sensors and actuators B (communicated)
5. **V. Manickam**, E. Prabhu, V. Jayaraman, K. I. Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. "**Thermopower measurements using microheaters and its instrumentation**" Measurement science and technology (communicated)

In Conference Proceedings & Presentations:

1. **V. Manickam**, A.M. Edwin Suresh Raj, John Pragasam and K. S. Nagaraja. "PC based humidity sensor for environmental analysis". "National Conference on Environment, Biodiversity and Bioethics: Current trends and Future Directions". September 20-22, 2001. Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai (2001)
2. **V. Manickam**, E. Prabhu, V. Jayaraman, K.I.Gnanasekar, T. Gnanasekaran and K. S. Nagaraja. " Gas sensing properties of $Fe_2(MoO_4)_3$-Fe_2O_3 thick film". National seminar on physics and technology of sensor (NSPTS-11), Pune. 2006, C27.1-C27.4. **(Best paper award)**
3. R. Sundaram, B. Jeyaraj and K. S. Nagaraja*, **V. Manickam**, "Humidity Dependent Electrical Conductivity Studies On $Cu_2in_2O_5$ – In_2O_3 By

Synthesis Of Combustion Method" Annual IIT Madras Chemist symposium july 12 (2006)

4. J. Sherin percy prema leela, K. Chitra, **V. Manickam** and K.S. Nagaraja, " Study of electrical properties of copper molybdate-copper oxide humidity and gas sensor" "National seminar on environmental biosensors" January 11-12, 2007, Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai (2007).
5. S. Dhanalakshmi, K. Chitra, **V. Manickam** and K.S. Nagaraja, " Analysis of electrical properties of Nickel molybdate as humidity sensor". "National seminar on environmental biosensors" January 11-12, 2007, Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai (2007).

Software Exposure:

- C, Embedded C, Q basic,
- Matlab, Proteus, PSPICE
- LABVIEW, Keyance and omron