

1. Name

**Dr. M. Jeyanthinath, M.Sc., M. Sc.(by Research), PhD**

2. Designation and Present Institution (different lines separated by commas):

**Assistant Professor,  
Department of Materials Science,  
School of Chemistry,  
Madurai Kamaraj University,  
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Madurai -625 021.**

3. Postal Address for Communication (different lines separated by commas):

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**+91-452 -2459181**

6. Area of Technology (e.g. materials, health care, etc.):

**Semiconducting materials (Si, Ge, etc) semiconducting oxides (SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> etc.), Opto-electronic devices,**

## **Photovoltaic devices, Memory devices, Plasmons , Physical electronics and device characterizations**

7. E-mail address/es (different lines separated by commas):

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8. Brief account of your research interests with special focus on Nano Science and Technology (strictly within 300 words):

**I have a strong background in the fabrication of Si, Ge quantum dots (QDs) in the surface and in embedded oxide matrixes. These nanostructures have various potential applications in storage devices, photovoltaic or opto-electronic devices. During the doctoral thesis, we were mainly focusing on the fabrication of double stacked QDs for memory device applications. Moreover my thesis was finalized by showing that the Atomic Force microscopy (AFM) technique shall be used for the probing the embedded nano-dots. In addition to this I also made an attempt to show the effectiveness of Si QDs as a sensitizer in the optical amplifier with various oxide films. I am also interested in the synthesis of Si, Ge QDs through chemical methods. I have also had hands on experience in fabricating Ge QDs using MBE for the memory device application. During my employment I was mainly focusing on Si based solar cells. In this regard, I have produced a master thesis on fabrication of Si QDs in Silicon nitrate films using plasma enhanced chemical vapor deposition. Currently**

**at Madurai Kamaraj University we focus on synthesis  
of transparent conduction oxide nano-particles for opto-  
electronic devices**