

## PROFILE

Dr. M. John Abel, M.Sc., M.Phil., Ph.D.  
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### Objectives:

To work diligently in a challenging environment that bring the best out of me.

### Teaching experience:

- **Assistant Professor:**
  - Courses : 1. *Properties of Matter and Acoustics*  
2. *Physics Laboratory*  
3. *Digital Computer Fundamentals*
  - Jul 2022 - Till date
  - Department of Physics,  
Annai Vailankanni Arts and Science College,  
Thanjavur - 7.
  
- **Teaching Fellow (Hourly basis)**
  - Courses : 1. *Engineering Physics*  
2. *Physics Laboratory*  
3. *Materials science*  
4. *Physics of materials*  
5. *Physics for Civil Engineering*
  - Nov 2021 - July 2022
  - Department of Physics,  
University College of Engineering, BIT (campus),  
Anna University, Tiruchirappalli.
  
- **Teaching Assistant**
  - Courses : 1. *Engineering Physics*  
2. *Physics Laboratory*  
3. *Materials science*  
5. *Physics for Civil Engineering*
  - Jun 2018 - Mar 2020
  - Department of Physics,

University College of Engineering, BIT (campus),  
Anna University, Tiruchirappalli.

**Academic details:**

- **Doctorate of Philosophy (Physics)**
  - **Anna University, Chennai**
  - Jan 2017 – Apr 2021
  - Date of Viva-Voce : 19<sup>th</sup> Apr 2021
  - General stream: Materials Science
  - **Thesis title : “Photocatalytic Activities Of Sunlight Irradiated  $AMn_2O_4$  (A=Cu, Ni, Co) Nanoparticles Synthesized Through Wet Chemical Route”**
  - Institution : Department of Physics,  
University College of Engineering, BIT (campus),  
Anna University, Tiruchirappalli.
  
- **Master of Philosophy (Physics)**
  - **Bharathidasan University, Tiruchirappalli**
  - CGPA: 7.9
  - Jun 2014 – Sep 2015
  - Date of Seminar: 10<sup>th</sup> Sep 2015
  - **Dissertation title: “Crystal Structure Determination and Refinement Via SHELX, SIR, CRYSTALS and OLEX2”**
  - Institution : Department of Physics,  
Rajah Serfoji Govt. Arts College,  
Thanjavur.
  
- **Master of Science (Physics)**
  - **Bharathidasan University, Tiruchirappalli**
  - CGPA: 7.0
  - Jun 2012 – Apr 2014
  - Institution : Department of Physics,  
Rajah Serfoji Govt. Arts College,  
Thanjavur.
  
- **Bachelor of Science (Physics)**
  - **Bharathidasan University, Tiruchirappalli**
  - CGPA: 7.3
  - Jun 2009 – Apr 2012
  - Institution : Department of Physics,  
Rajah Serfoji Govt. Arts College,  
Thanjavur.

### Research interests:

- Metal oxides semiconductors (Synthesis and Characterizations)
- Nanoparticles
- Thin Films
- Photocatalysis

### Software skills:

- Latex
- MS-Office
- Origin
- Xpert Highscore plus
- Inkscape

### Conferences:

- **Recent Advances in Nanotechnology (RAIN 2019)**
  - 16<sup>th</sup> & 17<sup>th</sup> Aug 2019
  - Presented a paper on "*Zn doped Copper ferrite nanoparticles for photocatalytic application*"
  - PG & Research department of Physics,  
A.V.V.M Sri Pushpam College (Autonomous), Thanjavur.
- **Recent Trends in Nano Materials and Thin films Research (RTNMTR 2018)**
  - 09<sup>th</sup> to 11<sup>th</sup> Feb 2018
  - Presented a poster on "*Studies on gas sensing application of Copper doped MnFe<sub>2</sub>O<sub>4</sub> nanoparticles*"
  - PG & Research department of Physics,  
A.V.V.M Sri Pushpam College (Autonomous), Thanjavur.
- **Workshop on Assembly Language Programming (WALP 2017)**
  - 21<sup>st</sup> & 22<sup>nd</sup> Nov 2017
  - *Participated*
  - PG & Research department of Physics,  
A.V.V.M Sri Pushpam College (Autonomous), Thanjavur.
- **National Seminar on Recent Advancements in Materials (NSRAM 2017)**
  - 24<sup>th</sup> & 25<sup>th</sup> Mar 2017
  - *Participated*
  - Department of Physics, UCE, BIT Campus  
Anna University, Tiruchirappalli.
- **Recent Developments in Nano Materials and Thin films Research (RDNMTR 2017)**
  - 4<sup>th</sup> & 5<sup>th</sup> Mar 2017
  - *Participated*

- PG & Research department of Physics,  
A.V.V.M Sri Pushpam College (Autonomous), Thanjavur.
- **National Conference on Thin Film Science and Nanotechnology (NCTFSANT 2015)**
  - 2<sup>nd</sup> & 3<sup>rd</sup> Mar 2015
  - *Participated*
  - PG & Research department of Physics,  
Rajah Serfoji Govt. College (Autonomous), Thanjavur.
- **Recent Trends in Nano Materials Science**
  - 27<sup>th</sup> Feb 2014
  - *Participated*
  - PG & Research department of Physics,  
Rajah Serfoji Govt. College (Autonomous), Thanjavur.

### List of Publications:

#### **International Journals:**

1. **M. John Abel**, A. Pramothkumar, N. Senthilkumar, K. Jothivenkatachalam, P. Fermi Hilbert Inbaraj, & J. Joseph Prince (2019). "*Flake-like CuMn<sub>2</sub>O<sub>4</sub> nanoparticles synthesized via co-precipitation method for photocatalytic activity*". **Physica B: Condensed Matter**, Vol.572, pp.117-124.
2. **M. John Abel**, A. Pramothkumar, V. Archana, N. Senthilkumar, K. Jothivenkatachalam & J. Joseph Prince (2020). "*Facile synthesis of solar light active spinel nickel manganite (NiMn<sub>2</sub>O<sub>4</sub>) by co-precipitation route for photocatalytic application*". **Research on Chemical Intermediates**. Vol. 46, pp. 3509–3525.
3. **M. John Abel**, V. Archana, A. Pramothkumar, N. Senthilkumar, K. Jothivenkatachalam, & J. Joseph Prince (2020). "*Investigation on structural, optical and photocatalytic activity of CoMn<sub>2</sub>O<sub>4</sub> nanoparticles prepared via simple co-precipitation method*". **Physica B Condensed Matter**, Vol. 601, pp. 412349.
4. T. Sumithra, C. Lydia Pearline, **M. John Abel**, A. Pramothkumar, P. Fermi Hilbert Inbaraj, & J. Joseph Prince (2019). "*Studies on structural and optical behavior of SnO<sub>2</sub>/CuMn<sub>2</sub>O<sub>4</sub> nanocomposite developed via two-step approach for photocatalytic activity*". **Materials Research Express**, 6(11), 115047.
5. J. Revathi, **M. John Abel**, V. Archana, T. Sumithra, R. Thiruneelakandan, J. Joseph prince. (2020). "*Synthesis and characterization of CoFe<sub>2</sub>O<sub>4</sub> and Ni-doped CoFe<sub>2</sub>O<sub>4</sub> nanoparticles by chemical Co-precipitation technique for photo-degradation of organic dyestuffs under direct sunlight*". **Physica B: Condensed Matter**, 412136.
6. J. Revathi, **M. John Abel**, C. Lydia Pearline, T. Sumithra, P. Fermi Hilbert Inbaraj, & J. Joseph Prince. (2020). *Influence of Zn<sup>2+</sup> in CoFe<sub>2</sub>O<sub>4</sub> nanoparticles on its photocatalytic activity under solar light irradiation*. **Inorganic Chemistry Communications**, Vol. 121, pp.108186.

7. C. Lydia Pearline, **M. John Abel**, A. Pramotheekumar, N. Senthilkumar, P. Anbalagan, & J. Joseph Prince. (2020). *Investigation on structural, optical and electrochemical behavior of NiO/ZnMn<sub>2</sub>O<sub>4</sub> ternary nanocomposites via two-step synthesis approach for supercapacitor application*. **Chemical Papers**, pp.1-11.
8. D. Deivatamil, **M. John Abel**, R. Thiruneelakandan, & J. Joseph Prince. (2020). *Fabrication of MnFe<sub>2</sub>O<sub>4</sub> and Ni: MnFe<sub>2</sub>O<sub>4</sub> nanoparticles for ammonia gas sensor application*. **Inorganic Chemistry Communications**, Vol. 123, pp.108355.
9. V. Archana, **M. John Abel**, D. Deivatamil, J. Revathi, & J. Joseph Prince (2020). *Sunlight active photocatalytic studies of Fe<sub>2</sub>O<sub>3</sub> based nanocomposites developed via two-pot synthesis technique*, **Inorganic Chemistry Communications**, Vol. 124, pp.108417.
10. D. Deivatamil, **M. John Abel**, S. Sivaranjani, R. Thiruneelakandan, and J. Joseph Prince, (2021). *Effect of Cu<sup>2+</sup> concentration on MnFe<sub>2</sub>O<sub>4</sub> nano-crystals in its NH<sub>3</sub> Sensing property*. **Inorganic Chemistry Communications**, Vol. 127, pp. 108546.
11. P. Nancy Dayana, **M. John Abel**, P. Fermi Hilbert Inbaraj, S. Sivaranjani, R. Thiruneelakandan, & J. Joseph Prince (2021). *Zirconium Doped Copper Ferrite (CuFe<sub>2</sub>O<sub>4</sub>) Nanoparticles for the Enhancement of Visible Light-Responsive Photocatalytic Degradation of Rose Bengal and Indigo Carmine Dyes*. **Journal of Cluster Science**, 1-11.
12. P. Raju, D. Deivatamil, **M. John Abel**, & J. Joseph Prince (2021). *Antibacterial and catalytic activity of Cu doped ZnO nanoparticles: structural, optical, and morphological study*. **Journal of the Iranian Chemical Society**, 1-12.
13. D. Deivatamil, **M. John Abel**, P. Nancy Dayana, R. Thiruneelakandan, & J. Joseph Prince (2021). *A comparative study on pure and cobalt doped manganese ferrite (Co: MnFe<sub>2</sub>O<sub>4</sub>) nanoparticles in their optical, structural, and gas sensing properties*. **Solid State Communications**, Vol. 339, pp. 114500.
14. R. Vijaya Shanthi, R. Kayalvizhi, **M. John Abel**, & K. Neyvasagam (2022). *MgO nanoparticles with altered structural and optical properties by doping (Er<sup>3+</sup>) rare earth element for improved photocatalytic activity*. **Applied Physics A**, 128(2), 1-15.
15. R. Vijaya Shanthi, R. Kayalvizhi, **M. John Abel**, & K. Neyvasagam, (2022). *Optical, structural and photocatalytic properties of rare earth element Gd<sup>3+</sup> doped MgO nanocrystals*. **Chemical Physics Letters**, 139384.
16. R. Vijaya Shanthi, R. Kayalvizhi, **M. John Abel**, & K. Neyvasagam, (2022). *Analysis on the combined effect of Gd<sup>3+</sup> and Er<sup>3+</sup> lanthanides in the microscopic, physicochemical and photocatalytic characteristics of MgO nanoparticles*. **Optical Materials**, 125, 112118.
17. Vinotha, K., Jayasutha, B., **M. John Abel**, & Vinoth, K. (2022). *In<sup>3+</sup>-doped CuS thin films: physicochemical characteristics and photocatalytic property*. **Journal of Materials Science: Materials in Electronics**, 33(29), 22862-22882.

**Personal data:**

Date of Birth : 09-03-1992  
Sex : Male  
Father's Name : Martin Mark A  
Nationality : Indian  
Marital Status : Single  
Religion : Christian  
Address for communication : Plot No. 61, Bank staff colony 5<sup>th</sup> street,  
Madhakottai road, RSGC (post),  
Thanjavur - 613 005

I hereby declare that all the above furnished details are true to the best of my knowledge.

**M. JOHN ABEL**