

CURRICULUM VITAE

M. AHILA

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CAREER SUMMARY

To build career in a growing organization, where I can utilize my skills and get opportunities to prove my abilities by accepting challenges, fulfilling the organizational goal as well the progressive growth through continuous learning and commitments.

EDUCATION

- **(2014-2018) : Ph.D, Physics, Manonmaniam Sundaranar University, Tirunelveli (Government University)**
Thesis: Synthesis and characterization of Bi₂O₃ nanostructures: Gas sensing and energy storage application
Supervisor: Dr. D. Pathinettam Padiyan
- **(2012-2013) : Master of Philosophy, Physics, Manonmaniam Sundaranar University, Tirunelveli (Government University).**
- **(2011-2012) : Bachelor of Education, Physical Science, Tamil Nadu Teachers Education University, (Government University)**
- **(2009-2011) : Master of Science, Physics, Manonmaniam Sundaranar University, Tirunelveli (Government University)**
- **(2006-2009) : Bachelor of Science, Physics, Manonmaniam Sundaranar University, Tirunelveli (Government University)**
- **(Feb. 2007-Aug. 2007) : Diploma in Office Automation, Certificate course in computer programming, Vamfras infotech, Nagercoil**

AWARDS AND HONOURS

- Best Outgoing Student award from Government Higher Secondary School, Monikettipottal
- Secured **University 6th Rank** and **College 1st Rank** in Master of Science
- Secured **College 1st Rank** in Bachelor of Education
- Secured **University 1st Rank** in Master of Philosophy
- Received best paper award for the paper “**Photoluminescence and photocatalytic properties of Bi₂O₃ nanostructures**” presented at International conference on Nanoscience and Nanotechnology for Energy applications (Eapp-2016) held at Sathyabama University, Chennai on June 27th-29th, 2016

RESEARCH INTEREST

- Nanostructures formation
- Anodization process, sol-gel method
- Semiconducting thin films
- Gas sensor
- Photocatalytic degradation
- Supercapacitor
- Characterization techniques:- XRD, FT-Raman, DRUV, PL, HR-SEM, AFM, FTIR, CV, EIS

FELLOWSHIPS AWARDED

- Awarded Senior Research Fellowship (SRF, 2016) UGC-BSRF, New Delhi.
- Awarded Junior Research (JRF, 2014) UGC-BSRF, New Delhi.

LIST OF RESEARCH PUBLICATIONS

Research Papers published in SCI Journals	: 9
Research Paper published in Edited volumes	: 1
Research Papers presented in Seminars/Conference	: 7

Research papers published in Journals

Cumulative impact factor: 20.913

1. J. Celina Selvakumari, S.T. Nishanthi, J. Dhanalakshmi, **M. Ahila**, D. Pathinettam Padiyan, Bio-active synthesis of tin oxide nanoparticles using eggshell membrane for

energy storage application, Applied surface science, 441 (2018) 530-537 (May-31) (I.F: 4.439)

2. **M. Ahila**, E. Subramanian, D. Pathinettam Padiyan, Influence of annealing on phase transformation and specific capacitance enhancement in Bi_2O_3 , Journal of electroanalytical chemistry, 805 (2017) 146-158 (October-17) (I.F: 3.235)
3. **M.Ahila**, M.Malligavathy, E.Subramanian, D.Pathinettam Padiyan, Controllable synthesis of α and β - Bi_2O_3 through anodization of the thermally evaporated bismuth and its characterization, Journal of Solid state ionics, 298 (2016) 23-34, (December-15) (I.F: 2.751)
4. **M. Ahila**, E. Subramanian, D. Pathinettam Padiyan, Optical properties of codiumtomentosum seaweed like Bi_2O_3 nanostructure and its gas sensing activity, Ionics. (Accepted-October 29) (I.F: 2.347).
5. J. Dhanalakshmi, **M.Ahila**, J. Celina Selvakumari, D.Pathinettam Padiyan, Impact of structural, morphological and electrical properties of $\text{Gd}_x\text{Ti}_{1-x}\text{O}_2$ nanocomposites on the photocatalytic degradation of Rhodamine B dye, Journal of Materials Science Materials in Electronics, 28(21) (2017) 16384-16396 (July-15) (I.F: 2.324)
6. V. Balasubramanian, J. Celina Selvakumari, J. Dhanalakshmi, **M. Ahila**, D. Pathinettam Padiyan, Electrochemical analysis of graphene/ $\text{Mo}_9\text{Se}_{11}$ nanocomposites towards energy storage application, Journal of Materials Science Materials in Electronics, 29 (9) (2018) 7885-7892 (I.F: 2.324).
7. **M.Ahila**, J.Dhanalakshmi, J.Celina Selvakumari, D.Pathinettam Padiyan, Heat treatment effect on crystal structure and design of highly sensitive room temperature CO_2 gas sensors using anodic Bi_2O_3 nanoporous formed in citric acid electrolyte, Journal of Material Research Express, 3(10) 2016, 105025 (October-13), (I.F: 1.151).
8. J. Celina Selvakumari, **M.Ahila**, M. Malligavathy, D. Pathinettam Padiyan, Structural, morphological, and optical properties of tin(IV) oxide nanoparticles synthesized using Camellia sinensis extract: a green approach, International journal of Minerals, metallurgy and Materials, 24(9) (2017) 1043-1051 (September-5) (I.F: 1.261)
9. **M.Ahila**, M. Malligavathy, E. Subramanian, D. Pathinettam Padiyan, Effect of anodization time on the growth of twinned pyramid crystals of bismite from polyhedral

bismuth particle by facile electrolysis based oxidation, Journal of Particulate Science and Technology, 35(1) (2017) 1-5(February-2) (I.F:1.081)

Research paper published in edited volumes

1. **M. Ahila**, D. Pathinettam Padiyan, Photoluminescence and photocatalytic properties of Bi_2O_3 nanostructures, Nano Hybrids and Composites, 17 (2017) 166-170.

Research Papers presented in Seminars/Conference

1. **M. Ahila**, (2012). *Professionalism in Facing the Challenges of Education* on National Level Seminar of Ruban college of Education on 10th and 11th February, Thadikkarankonam.
2. **M.Ahila**, (2015). *Room temperature gas sensor for the detection of NO_2 using anodized Bi_2O_3 thin film* on 18th international workshop on physics of semiconducting devices on 7-10th December, Indian institute of Science, Bangalore.
3. **M.Ahila**, (2016). *Correlating phase transformation and structure distortion in Bismite polymorphs visualized by Raman microscopy* on International conference on frontiers in nanoscience& nanotechnology on 26-28th February, Sastra University, Thanjavur.
4. **M.Ahila**, (2016). *Photoluminescence and photocatalytic properties of Bi_2O_3 Nanostructures* on International Conference on Nanoscience and Nanotechnology for Energy applications (Eapp-2016) on 27-29th June, Sathyabama University, Chennai. (ISBN: 978-93-83409-13-6).
5. **M.Ahila**, (2017). *Influence of sequential annealing on structural and morphological properties of ABO layer and its application towards CO_2 gas sensor* on International Workshop on Advanced Functional Materials and Devices (IWAFMD-2017) on 8-12th January, Manonmaniam Sundaranar University, Tirunelveli.
6. **M.Ahila**, (2017). *Synthesis of Bi_2O_3 and its energy storage capacitive performance analyzed by electrochemical characterization* on International conference on Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) on 10-12th February, Mahatma Gandhi University, Kottayam.
7. **M. Ahila**, (2017). *Influence of anodization voltage and time on the crystal structure of TiO_2 arrays and its characterization* on National seminar on Advances in materials

science (NSAMS-2017) on 2-3rd March, Manonmaniam Sundaranar University, Tirunelveli.

SEMINARS/CONFERENCE PARTICIPATED

1. National Seminar on “Renewable Energy-Energy for the future” on 18th August 2008 at Holy Cross College, Nagercoil.
2. National Level Conference on Advances in Material Science conducted by Holy Cross College, Nagercoil on 30th January 2009.
3. Workshop on Eclipses and Safe Observing Techniques held at Scott Christian College, Nagercoil on 21st December 2009.
4. State Level Seminar on Recent Trends in Materials Science on 17th December 2012 at Sadakathullah Appa College, Tirunelveli.
5. National Seminar on Structural Bioinformatics-2013 held at Manonmaniam Sundaranar University, Tirunelveli on 15th March 2013.
6. National Seminar on Recent Trends in Physics-2013 held at Manonmaniam Sundaranar University, Tirunelveli on 18th March 2013.
7. National Seminar on Advances in Materials Science held at Manonmaniam Sundaranar University, Tirunelveli on 29th and 30th September 2014.
8. Workshop on X-ray diffraction studies on Materials held at Manonmaniam Sundaranar University, Tirunelveli on 16th March 2015.
9. TEQIP-II Sponsored Workshop on Electrochemical Technologies in Hydrogen Production and Utilization for Electrical Energy held at IIT Delhi during 8-9th October 2015.

PERSONAL QUALITIES

Good Conceptual, Analytical, Interpersonal and Logical skills.

Self-motivation and ability to work individually as well in group environment.

Ability to perform under pressure and meet deadline

Quick and always eager to learn new technologies

PERSONAL DETAILS

Gender : Female
Date of birth : 30/05/1989
Marital status : Single
Citizenship : Indian
Language known : Tamil & English

REFERENCES

1. Dr. D. Pathinettam Padiyan
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