# Dr. V.Vasu Associate Professor

Head

Department of Computational Physics

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Educational Qualification: M.Sc., Ph.D.,

## PROFESSIONAL EXPERIENCE:

- Research Associate, Indian Institute of Technology, Madras (from February 1991 to October 1994)
- Associate Professor and Head, Department of Physics, Madurai Kamaraj University College, Madurai
- Associate Professor, School of Physics, Madurai Kamaraj University (from June 2007 onwards)

## FIELD OF SPECILIZATOIN

• Semiconductor Devices, Thin films

## RESEARCH SPECILIZATOIN

- Oxide Semiconductors
- *Carbon nanotubes*
- Density functional theory

#### E-LEARNING SITE : <u>www.youtube.com/c/vasuvphysics</u>

#### RESEARCH SUPERVISION

Program	Completed	Ongoing
Ph.D	13+1	4
M.Phil	30	

#### ON-GOING RESEARCH PROJECT: ....Nil...

S.No	Title of the project	Funding agency	Total grand	Year

#### HONOUR/AWARDS/RECOGNITION

- Passed GATE 1986
- Awarded CSIR Research Associateship

#### PUBLICATIONS

### (Citation of some of my papers are more than 25 with the maximum of 85)

- "Assessment of the design efficacy of Eu<sup>2+</sup> ion embedded thick scattering layers for operational photovoltaics", Brindha V.G. Mohan, Jeyanthinath Mayandi, Kottaisamy Muniasamy, and VASU VEERAPANDY. Applied Surface Science Advances, 2021, 4, 100067 <u>https://doi.org/10.1016/j.apsadv.2021.100067</u>
- Demonstration of a simple encapsulation technique for prototype silicon solar cells, Brindha V.G. Mohan, Jeyanthinath Mayandi, Joshua M Pearce, Kottaisamy Muniasamy, and Vasu Veerapandy, Materials Letters. 274 (2020): 1280281-5.
- Enhancement of power conversion efficiency of an angular Luminescent Solar Concentrator employing a silica reinforced PMMA:CASN:Eu2+ composite, Brindha V.G. Mohan, V. Vasu, A. Robson Benjamin and M. Kottaisamy, Materials Today: Proceedings, xxx (2020) :1-9
- Structural, electronic and dehydrogenation properties of the magnesium hydride-a DFT study, R.Shrivalli and V.VASU, International Journal of Advance Engineering and Research Development, 6 (8) (2019) 130-139
- Nature of electronic states of substitutional nitrogen in anatase supercell: a DFT study, Suresh A, Kanimozhi B, Ahmed A B M, VASU V, Soundharajan N, Mater. Res. Express, 6 (2019) 085908
- 6. Effect of morphology on the photocatalytic property of PANI/TiO2 on some synthetic dyes, Lavanya Raveendran, Vasu Veerapandy, Brindha V.G. Mohan, Kanimozhi Balakrishnan and Pushpalatha Selvarajan. Mater. Res. Express 6 (2019):125040
- 7. Luminescent solar concentrators (LSCs) -The solar waveguides, Brindha V. G. Mohan, Kottaisamy Muniasamy, Smagul Karaznov, A. Robson Benjamin and Vasu Veerapandy, Current Science, 114(08) (2018) 1656-1664
- Hydrogen adsorption on single walled carbon nanotubes-tungsten trioxide composite, D.Silambarasan, V.J.Surya, V.VASU, K.Iyakutti, T.R.Ravindran and M.Jeyanthinath, International Journal of Hydrogen Energy42 (40) (2017) 25294-25302 (Impact factor 3.419)

- Gamma (γ)-ray irradiated multi-walled carbon nanotubes (MWCNTs) for hydrogen storage, D. Silambarasan, V.J. Surya, K. Iyakutti, K. Asokan, V. VASU and Y. Kawazoe, Appl. Surf. Sci. 418 (2017) 49–55 (Impact factor 3.150)
- CarbonNanotubes as Future Energy Storage System, V. VASU and D. Silambarasan, Mechanics, Mat. Sci. & Engg 9(1) (2017) (Impact factor 0.12) Investigation of hydrogen storage in MWCNT-TiO<sub>2</sub> composite, D. Silambarasan, M. Kanmani, M. Jeyanthinath, T.R. Ravindran and V. VASU, Physica-E 80 (2016) 207-211. (Impact factor 1.904)
- 11. Technology for Sustainable Agriculture from Waste, R. Joshua and V.VASU, Journal of Asian Scientific Research, 5(5) (2015) 228, (Impact factor 0.467)
- Single-step preparation and hydrogenation of single walled carbon nanotubes-titanium dioxide composite, D. Silambarasan, V.J. Surya, K. Iyakutti and V.VASU, Intl. Journal of Hydrogen Energy, 39(1) (2014) 391-397, (Impact factor 3.419, Cited 3)
- Properties and Photocatalytic Application of Electron beam Evaporated Titanium Dioxide (TiO2) Thin Films, R. Lavanya and V.VASU, International Journal of ChemTech Research, 6(6) (2014) 3371-3373
- Functionalization of single-walled carbon nanotubes with uracil, guanine, thymine and l- alanine. D. Silambarasan, V.VASU, and K. Iyakutti, Chemical Physics Letters 604 (2014) 83-88, (Impact factor 1.860, Cited 9)
- Water soluble polymer-SWCNT based composite for hydrogen storage D. Silambarasan, V. VASU and K. Iyakutti, IEEE Transactions on Nanotechnology 13(2) (2014) 261-267 (Impact factor 1.702, Cited 3)
- Reversible hydrogen storage in functionalized single-walled carbo nanotubes D. Silambarasan, V. VASU, V.J. Surya, K. Iyakutti and T.R. Ravindran, *Physica-E 60 (2014) 75-79* (Impact factor 1.904, Cited 9)
- Hydrogen storage in TiO<sub>2</sub> functionalized (10, 10) single walled carbon nanotube (SWCNT) First principles study, R. Lavanya, V.J. Surya, I. Lakshmi, K. Iyakutti, V.VASU, H. Mizuseki and Y. Kawazoe, International Journal of Hydrogen Energy, 39(10) (2014) 4973-4980 (Impact factor 3.419, cited 16)
- First principle studies on hydrogen storage in single-walled carbon nanotube functionalized with TiO<sub>2</sub>, M. Kanmani, R. Lavanya, D.Silambarasan, K. Iyakkutti, V.VASU and Y. Kawazoe, Solid State Communication, 183 (2014) 1-7 (Impact factor 1.458, Cited 4)
- 19.Cost Effective Technology on Water Purification, R.Joshua and V.VASU, Middle-East Journal of Scientific Research 19(8) (2014) 1067-1071
- Single Walled Carbon Nanotube-Metal Oxide Nanocomposite for Reversible and Reproducible Storage of Hydrogen. D. Silambarasan, V. J. Surya, V.VASU and K. Iyakutti, Applied Materials and Interfaces, 5 (2013) 11419-11426 (Impact factor 7.145, Cited 18)
- 21.Optical studies of Ag<sub>2</sub>O thin film prepared by electron beam evaporation method. G. Saroja, **V.VASU** and N. Nagarani, Open Journal of Metal 3 (2013) 57-63 (Cited 4)

- 22. Investigation of single-walled carbon nanotubes-titanium metal composite as a possible hydrogen storage medium, D.Silambarasan, V.J.Surya, V.VASU and K. Iyakutti, International Journal of Hydrogen Energy, 38(34) (2013) 14654-14660 (Impact factor 3.419, Cited 10)
- 23. The effect of ZnO thin films and its structural and optical properties prepared by Sol-Gel spin coating. N.Nagarani, G. Saroja and V.VASU, Open Jl. of Metal 3 (2013) 8-11
- 24.Structural and optical characterization of ZnO thin films by so-gel method. N. Nagarani and V.VASU, Journal on Photonics and Spintronics, 2(2) (2013) 19-21 (cited 13)
- 25.Desorption studies on hydrogenated single walled carbon nanotubes functionalized with borane (BH<sub>3</sub>), D. Silambarasan, V. J. Surya, V.VASU, and K. Iyakutti, Advanced Material Research 678 (2013) 185-188 (Impact factor 0.23)
- 26. Preparation and characterization of tungsten trioxide (WO<sub>3</sub>) thin films. R. Lavanya, G. Saroja and V.VASU, Adv. Mat. Res. 678 (2013) 32-36 (Impact factor 0.23, Cited 2)
- 27.One-step process of hydrogen storage in single walled carbon nanotubes-tin oxide nano composite, D. Silambarasan, V.J. Surya, V.VASU and K. Iyakutti, International Journal of Hydrogen Energy, 38 (2013) 4011-4016 (Impact factor 3.419, Cited 21)
- 28.Characteristics of stored rain water and its treatment technology using Moringa Seeds, R.Joshua and V.VASU, Intl. Jl. of Life Sciences Biotech. and Pharma Research 2(1) (2013) 155-174 (Cited 5)
- 29.Role of Single Walled Carbon Nanotube in Nanophase MgH2 hydrogen storage system, R.Lavanya, K.Iyakutti, V.J.Surya, V.VASU, Y.Kawazoe and HM Izuseki, Asian Journal of Chemistry 25 (2013) S391-S393
- 30.*Electrochemical incorporation of hemin in ZnO-PPy nanocomposite on Pt electrode as NOx sensor*. S.Prakash, S.Rajesh, C.Karunakaran, V.VASU, *Analyst*, 137(24)(2012) 5874-5880 (Impact factor 4.107, Cited 11)
- 31. Integrated technology for sustainable agriculture. R.Joshua, V.VASU and P.Vincent, Intl. Jl. of Life Sciences Biotech. And Pharma Research 1(4) (2012) 118-133
- 32.Investigation of Hydrogen desorption from hydrogenated Single Walled Carbon Nanotubes functionalized with Borane. D.Silambarasan, V.VASU, V.J. Surya and K. Iyakutti, IEEE Tran. on Nanotech., 11(5) (2012) 1047-53 (Impact factor 1.70, Cited 12)
- 33.Molecular dynamics simulation studies on structural and conformational changes in Tyrosin-67 Nitrated Cytochrome c. S. Rajasingh, S. Prakash, G. Muneeswaran, S. Rajesh, K. Muthukumar, V.VASU and C. Karunakarn, Molecular Simulation 28(6) (2012) 459- 467 (Impact factor 1.678, Cited 2)
- 34.Dry Fish Processing with Solar Dryers: An Environment-Friendly Alternative, R.Joshua and V.VASU, The IUP Jl. of Environmental Sciences, VI(1) (2012) 57-66
- 35.*Treatment on removal of turbidity and iron in rain water for drinking purpose in rural sector.* **V.VASU**, R. Joshua and P. Vincent, *Pollution Research 31(1) (2012) 103-106.*

- 36.Copper nanoparticles entrapped in SWCNT-PPy nanocomposite on Pt electrode as NOx electrochemical sensor. S.Prakash, S.Rajesh, S.K.Singh, Kalpana Bhargavad, G. Ilavazhagan, V.VASU, and C.Karunakaran, Talanta, 85(2) (2011) 964-969 (Impact factor 3.545, Cited 1)
- 37.Electrochemical incorporation of MnTMPyP in ZnO-PPy nanocomposite on Pt electrode as NOx sensor. S.Prakash, S. Rajesh, S.K. Singh, G.Ilavazhagan, V.VASU and C.Karunakaran, Sensor Letters 9 (2011) 1623-1628 (Impact factor 2.08, Cited 4)
- 38.Experimental investigation of hydrogen storage in single walled carbon nanotubes functionalized with borane. D. Silambarasan, V.J. Surya, V.VASU and K. Iyakutti, Intl. Journal of Hydrogen Energy, 36 (2011) 3574-3579 (Impact factor 3.419, cited 26)
- 39.Solar Sprayer An Agriculture Implement, R. Joshua, V.VASU and P. Vincent, International Journal of Sustainable Agriculture 2(1) (2010) 16-19, (Cited 19)
- 40.Conformational Flexibility Decreased due to Y67F and F82H Mutation in Cytochrome c: Molecular Dynamics Simulation Studies. S. Rajasingh, S. Prakash, V.VASU and C. Karunakarn, Jl. of Molecular Graphics and Modelling 28(3) (2009) 270-277 (Impact factor 1.932, Cited 9)
- 41.Structural and Optical characterization of ITO/PS heterojunctions. B. Natarajan, N. Jeyakumaran, S. Ramamurthy and V.VASU, Surface Reviews and Letters 15(3) (2008) 301-306 (Impact factor 0.49, Cited 2)
- 42.Structural and Optical properties of n-type porous silicon Effect of light illumination. N. Jeyakumaran, B. Natarajan, N. Prithivikumaran, S. Ramamurthy and V.VASU, Surface Reviews and Letters 15(6) (2008) 897-901 (Impact factor 0.49, Cited 2)
- 43.Structural and Optical properties of n-type porous silicon Effect of etching time N. Jeyakumaran, B. Natarajan, S. Ramamurthy and V.VASU, Int. Jl. of nanoscience and Nanotechnology 3(1) (2007) 45-51 (Impact factor 1.478 cited 15)
- 44.Effect of Chlorination on Photoluminescence Properties of Porous Silicon. B.Natarajan, V.Ramakrishnan, V.VASU and S.Ramamurthy, International Journal of Nano Science 6(1) (2007) 17-22 (Impact factor 1.071, Cited 1)
- 45.Structural and Photoluminescence studies of n-porous Silicon Effect of HF concentration.
  N. Jeyakumaran, B. Natarajan, S. Ramamurthy and V.VASU, Surface Reviews and Letters 14(2) (2007) 293-300 (Impact factor 0.49)
- 46.Structural and Photoluminescence properties of porous silicon: Effect of HF concentration.
  B.Natarajan, V.Ramakrishnan, V.VASU and S.Ramamurthy, Surface Review and Letters 13(4) (2006) 351-356 (Impact factor 0.49 Cited 6)
- 47.Structural and Photoluminescence properties of porous silicon: Effect of Surface passivation.
  B.Natarajan, V.Ramakrishnan, V.VASU and S.Ramamurthy, Surface review and letters. 12(4) (2005) 645-649 (Impact factor 0.49 cited 5)

- 48.Carrier transport mechanism in Indium Tin Oxide (ITO)/Silicon heterojunctions: Effect of Chlorine. V.VASU and A. Subrahmanyam, Applied Physics A 80(4) (2005) 823-827 (Impact factor 1.694 Cited 17)
- 49.Transport Mechanism of Spray Pyrolytic grown Indium Tin Oxide/Indium Phosphide junctions. V.VASU, A.Subrahmanyam and P.Manivannan, Journal of Applied Physics 77(10) (1995) 5220-5224 (Impact factor 2.101 Cited 8)
- 50.Spray Pyrolytic grown ITO/InP junctions: Effect of Tin doping. V.VASU, A.Subrahmanyam, J.Kumar and P.Ramasamy, Semiconductor Science and Technology 8(1993) 437-440 (Impact factor 2.098 Cited 11)
- 51.Photovoltaic properties of Spray Pyrolytically grown Indium Tin Oxide (ITO)/Silicon junctions – dependence on substrate temperature. V.VASU and A.Subrahmanyam, Semicond. Science and Technology 7(1992) 1471-1475 (Impact factor 2.098 Cited 9)
- 52. Photovoltaic properties of In<sub>2</sub>O<sub>3</sub>-InP junctions. A.Subrahmanyam, V.VASU, P.Santana Raghavan, J.Kumar and P.Ramasamy, Material Science and Engineering B14 (1992) 365-368 (Impact factor 2.331 Cited 8)
- 53.Photovoltaic properties of Indium Tin Oxide (ITO)/Silicon junctions prepared by spray pyrolysis – Dependence on oxidation time. V.VASU and A.Subrahmanyam, Semicond. Science and Technology 7(1992) 320-323 (Impact factor 2.098 Cited 26)
- 54. *Physical properties of sprayed SnO2 films*. **V.VASU** and A.Subrahmanyam, *Thin Solid Films* 202 (1991) 283-288 (Impact factor 2.026 Cited 34)
- 55.Electrical and Optical properties of Sprayed SnO<sub>2</sub> films: Dependence on the oxidizing agent in the starting material. V.VASU and A.Subrahmanyam, Thin Solid Films 193/194 (1990) 973-980 (Impact factor 2.026 Cited 42)
- 56.Reaction kinetics of the formation of Indium Tin Oxide films grown by spray pyrolysis. V.VASU and A. Subrahmanyam, Thin Solid Films 193/194 (1990) 696-703 (Impact factor 2.026 Cited 85)
- 57.Electrical and Optical properties of pyrolytically sprayed SnO<sub>2</sub> films dependence on substrate temperature and substrate nozzle distance. V.VASU and A. Subrahmanyam, Thin Solid Films 189 (1990) 217-225 (Impact factor 2.026 Cited 50)

#### In Conference: Published in Proceeding

- Structural ordering of multi-walled carbon nanotubes (MWCNT) caused by gamma (γ)ray irradiation, D. Silambarasan, K. Iyakutti, K. Asokan and V.VASU, AIP Conf. Proc. 1665 (2015) 050088.
- Possibility of Hydrogen Storage in SWCNT/TiO<sub>2</sub>/SnO<sub>2</sub> Hybrid System An Ab-initio Study, R. Lavanya, V.J. Surya, K. Iyakutti, V.VASU and Y. Kawazoe, AIP Conf. Proc. 1591, 285 (2014).

- First principles study of hydrogen storage in SWCNT functionalized with MgH<sub>2</sub>, R. Lavanya, K. Iyakutti, V.J. Surya, V.VASU and Y. Kawazoe, AIP Conf. Proc. 1512, 344-345 (2013).
- Hydrogen Adsorption/Desorption in Functionalized Single-Walled Carbon Nanotubes, D. Silambarasan, V.VASU, V. J. Surya and K. Iyakutti, 56<sup>th</sup> DAE Solid State Symp., SRM University, Chennai, Dec. 19-23, 2011, AIP Conf. Proc. 1447 (2012) 253-254
- Transition metal (Co, Cu, and Ni) oxides-doped ZnO-PPy nanocomposite on Pt modified electrodes for NOx detection. S.Prakash, S. Rajesh, S.Rajasingh, C. Karunakaran and V.VASU, Applications of Nano Materials: Electronics, Energy and Environment (2012) 257-264
- Hydrogenation in SWCNTs functionalized with borane, D. Silambarasan, V.J. Surya, V.VASU and K. Iyakutti, 55<sup>th</sup> DAE-Solid State Phy. Symposium, Manipal University, Manipal, 26<sup>th</sup> to 30<sup>th</sup> December 2010, AIP Conf. Proc. 1349 (2011) 291-292
- Photoluminescence study of Cupric Telluride thin films. K. Neyvasagam, G. Muralidharan, V.VASU and N. Soundararajan, IV National Conference on Thermophysical Properties, Kollam, Kerala, 20-23 September 2007, AIP conference proceedings, 1004 (2008) 182-186
- 8. Studies on Transport Mechanism in Indium Tin Oxide (ITO)/p-Indium Phosphide (InP) Solar Cells prepared by Reactive Electron Beam Evaporation and Spray Pyrolysis Techniques. A.Subrahmanyam, V.VASU and P.Manivannan, 1994 IEEE First World Conference on Photovoltaic Energy Conversion, Dec 5-9, Waikola, Hawaii, USA Vol-II, p. 1922-1925
- Studies on ITO/Si junctions prepared by spray pyrolysis technique. A.Subrahmanyam and V.VASU, Proc. Conference on Physics and Technology of Semiconductor Devices and Integrated Circuits, Feb. 1992, IIT Madras, p 334
- 10. Electrical and Optical properties of Sprayed Indium Tin Oxide films. V.VASU and A.Subrahmanyam, Proc. Conference on Physics and Technology of Semiconductor Devices and Integrated Circuits, Feb. 1992, IIT Madras, p 390

#### **In International Conferences**

- "First principles calculations of the optical properties of CaAlSiN<sub>3</sub>", Brindha V.G. Mohan, Kanimozhi Balakrishnan and Vasu V, 6<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN 2021) organized by SRM Institute of Science and Technology, Chennai, February 1<sup>st</sup> to 3<sup>rd</sup>, 2021, p1371-72.
- First principles studies on Ir2MnAl Heusler alloy as a potential spintronic material, B. Kanimozhi and V. Vasu, 6th International Conference on Nanoscience and Nanotechnology (ICONN)

2021) organized by SRM Institute of Science and Technology, Chennai, February 1st to 3rd, 2021.

- Algal reinforced polymer composites for luminescent solar concentrators, Brindha V.G. Mohan, Kottaisamy M, Robson Benjamin A, VASU V, Proceedings of International Web Conference On Advanced Materials (IWCOAM-2019), St. Joseph's College, Trichy, February 28<sup>th</sup> and March 1<sup>st</sup>, 2019, p9.
- Enhancement in power conversion efficiency of angular luminescent concentrator employing RE ion based polymer composites, Brindha V.G. Mohan, Kottaisamy M, Srikumar S.R., VASU V, Frontier Areas in Chemical Technologies – 2019, Alagappa University, Karaikudi, July 25<sup>th</sup> and 26<sup>th</sup>, 2019, p19.
- Density functional theory analysis of the structural and electronic properties of TiO2 rutile and anatase polymorphs, B. Kanimozhi and V. VASU, Proceedings of International Web Conference On Advanced Materials (IWCOAM-2019), St. Joseph's College, Trichy, February 28<sup>th</sup> and March 1<sup>st</sup>, 2019.
- First principles calculations of the phase stability of rutile SnO<sub>2</sub>, B. Kanimozhi, Srikumar and V. VASU, Frontier Areas in Chemical Technologies – 2019, Alagappa University, Karaikudi, July 25<sup>th</sup> and 26<sup>th</sup>, 2019PP- 36
- Hydrogen storage behavior of single walled carbon nanotubes-tungsten trioxide composite, D. Silambarasan, V. J. Surya, V.VASU, K. Iyakutti and T. R. Ravindran International Conference on Recent Trends in Materials Science and Applications, Sri Meenatchi Govt. Arts College for Women, Madurai, January 6, 2017
- Gamma (γ)-ray Irradiated Multi-walled Carbon Nanotubes (MWCNTs) for hydrogen storage, D. Silambarasan, V. J. Surya, K. Iyakutti, K. Asokan, V.VASU and Y. Kawazoe, Asian Consortium on Computational Materials Science (ACCMS), SRM University, Kattankulathur, September 22-24, 2016.Structural and optical properties of Mn doped ZnO thin films, N.Nagarani and V.VASU Intl. conf. on cond. matter phy., Devanga Arts College, Aruppukottai, Dec 22-23, 2014
- First Principles Study of Hydrogen Storage in bulk and Nano MgH<sub>2</sub>, K.Iyakutti, Y. Kawazoe, R. Lavanya, V.J. Surya and V.VASU, Asian Consortium on Computational Materials Science (ACCMS-VO7) -2012, Institute for Materials Research, Tohoku University, Sendai, Japan, November 23-25, 2012
- 10. The effect of Zn concentration on structural and optical properties of ZnO thin film by spin coating method, N.Nagarani, G.Saroja and V.VASU, Intl. conf. on recent trends in advanced materials, VIT, Vellore, Feb. 20-22, 2012
- 11. Desorption studies on hydrogenated single walled carbon nanotubes functionalized with borane (BH<sub>3</sub>), D. Silambarasan, V.J. Surya, V.VASU and K. Iyakutti, Intl. Conf. on Nanoscience and Nanotech., CIT, Coimbatore, July 6-8, 2011.
- 12. Conformational flexibility decreased due to Y67F and F82H mutations in cytochrome C: molecular dynamics simulation studies. S. Rajasingh, S.Prakash, V.VASU and C. Karunakaran, Intl. Conf. on advances in free radicals research, natural products, Organized by Nizam's Institute of Medical Sciences, Hyderabad, University of Hyderabad, Davis Heart and Lung

Research institute, Ohio State University, Columbus, USA held at Hyderabad, 11<sup>th</sup> to 13<sup>th</sup> January 2010 p 119

- 13. Structural and optical properties of n-type porous silicon Effect of light illumination. N. Jeyakumaran, B. Natarajan, S. Ramamurthy and V.VASU, Intl. Conf. on Advanced materials and composites, National Institute of interdisciplinary science and technology, CSIR, Trivandrum, October 2007 p.752
- Structural and Photoluminescence studies of n type porous Silicon Effect of current density. N. Jeyakumaran, B. Natarajan, S. Ramamurthy and V.VASU, Intl. Conf. on Nanomaterials and its applications, NIT, Trichy, February 2007
- 15. Structural and Photoluminescence studies of porous Silicon Effect of aging. B. Natarajan, N. Jeyakumaran, S. Ramamurthy and V.VASU, Intl. Conf. on Nanomaterials and its application, NIT, Trichy, February 2007.
- Photoluminescence studies of porous silicon. B.Natarajan, V.VASU and S.Ramamurthy, 7<sup>th</sup> Intl. conf. of optoelectronics, fiber and photonics, 9-11 December 2004, Cochin University of Science and Technology, Cochin, p.370
- Effect of Substrate temperature on the Photovoltaic behaviour of In<sub>2</sub>O<sub>3</sub>/InP prepared by spray pyrolysis technique. V. VASU and A. Subrahmanyam, Proc. 6<sup>th</sup> International Photovoltaic Sci. and Engg. Conference, Feb. 1992, New Delhi, India, p. 1083

#### In National Conferences

- Structural Ordering of Multi-walled Carbon Nanotubes (MWCNTs) Caused by Gamma (γ)-ray Irradiation, D. Silambarasan, K. Iyakutti, K. Asokan and V.VASU, 59<sup>th</sup> DAE Solid State Symposium, VIT University, Vellore, December 16-20, 2014. V
- Effect of preparation method on photocatalytic properties of titanium dioxide (TiO2) thin films, R. Lavanya and V.VASU, National Seminar on X-ray Crystallography (NSXC - 2014), School of Physics, Madurai Kamaraj University, Madurai, Tamilnadu, September 29 - October 1, 2014
- 3. Effect of Gamma (γ)-ray Irradiation in Multi-walled Carbon Nanotubes (MWCNTs), D. Silambarasan, K. Iyakutti, K. Asokan and V.VASU, National Seminar on X-ray Crystallography, Madurai Kamaraj University, Madurai, Sept -29 to Oct-1, 2014.
- 4. Photocatalytic properties of spin coated titanium dioxide (TiO2) thin films, R. Lavanya and V.VASU, National Symposium on Nanosciences and Nanotechnology (NSNN-2013), Karunya University, Coimbatore, September 30 & October 1, 2013
- 5. Optical studies of Al doped ZnO thin film prepared by spin coating method, Technology importance in crystalline and amorphous materials, N.Nagarani, G.Saroja and V.VASU, Kalasalingam University, Krishnankoil, March 1-2, 2013
- 6. First Principles investigation on hydrogen storage in single walled carbon nanotubes functionalized with titanium oxide. R.Lavanya, V.J.Surya, V.VASU, K.Iyakutti and Y.Kawazoe, National Conference on Physics of New Materials, Noorul Islam University, April 20-21, 2012.

- 7. Hydrogen storage in single walled carbon nanotubes-metal oxide composites, D. Silambarasan, V.VASU, V. J. Surya and K. Iyakutti, National Conference on Physics of New Materials, Noorul Islam University, April 20-21, 2012
- 8. *Preparation and characterization of ZnO thin films by sol-gel method*, N. Nagarani and **V.VASU**, Intl. Conf. on Nanoscience and Nanotechnology, CIT, July 6-8, 2011
- 9. Experimental Investigation of Hydrogen storage in SWCNTs, D. Silambarasan, V. J. Surya, V.VASU and K. Iyakutti, Recent Developments And Applications on Nanosystems, School of Chemistry, MKU, Madurai, March 10-11, 2011.
- 10. Hydrogen storage in SWCNTs functionalized with Borane, D. Silambarasan, V. J. Surya, V.VASU, and K. Iyakutti, National Seminar on Nanostructured Materials and Applications, School of Chemistry, MKU, Madurai, March 4-5, 2011.
- Principal component analysis of saquinavir resistant 150V, 154M, V82A mutant of HIV-1 protease: insight into the drug resistant mechanisms. S. Prakash, S. Rajasingh, V.VASU and C. Karunakaran, Symposium on recent trends in Biophysics, Department of Physics, Banaras Hindu University, Varanasi 13<sup>th</sup> to 15<sup>th</sup> February 2010 p 135
- 12. Structural and Photoluminescence studies of n type porous silicon Effect of etching time. N. Jeyakumaran, B. Natarajan, S. Ramamurthy and V.VASU, Natational Conf. on Smart Materials, SV University, Tirupathi, February 2007.
- 13. The effect of chlorination on morphological and optical properties of porous silicon Effect of etching time. B. Natarajan, N. Jeyakumaran, S. Ramamurthy and V.VASU, National Conference on Smart Materials, SV University, Tirupathi, February 2007.
- 14. Computer aided design of novel Styrylquinoline inhibitors for epidermal growth factor receptor Tyrosine Kinase in Cancer Therapy. S. Prakash, S. Rajasingh, V.VASU, A. Rajendran and C. Karunakaran, 36<sup>th</sup> National Seminar on Crystallography, January 22-24. 2007, Department of Crystallography and Biophysics, Madras University, p 37
- 15. Essential Dynamics of TYr67Phe Mutant Cytochrome C: Role of Tyrosine in the active site. S. Rajasingh, S. Prakash, V.VASU and C. Karunakaran, 36<sup>th</sup> National Seminar on Crystallography, January 22-24. 2007, Department of Crystallography and Biophysics, Madras University, p 146
- 16. Role of chlorine on Photovoltaic behavior of Electron Beam Evaporated Indium Tin Oxide (ITO)/Silicon Junctions. V.VASU, National Seminar on Futuristic Aspects of Electrochemical Science and Technology, 23-24 July 2003, Central Electrochemical Research Institute, Karaikudi, India, p.28

#### Name of the Place Title Date Author(s) conference $14^{th}$ 16<sup>th</sup> VIT International Conto V.Vasu Carbon ference on Material December University, nanotubes as Processing 2016 Vellore *future energy* and Applications source Physics of Solar V.Vasu Kudankulam Nuclear 28-09-2016 Yadava Power Project spon-College for Cells sored National Semi-Women. nar on Nuclear Madurai Green Energy of the future UGC sponsored con-29-01-2015 Pope's Col-Carbon nanotube V.Vasu ference on "Renewable" lege. Thoothukudi energy for green future" 8<sup>th</sup> and 9<sup>th</sup> Feb-UGC sponsored Na-VHNSN Applications of V.Vasu tional Seminar on Oxide Semiruary 2013 College. Material Research conductor Virudhunager (NSMR-2013) 21<sup>st</sup>-22<sup>nd</sup> Recent Advances in School of Introduction to Crystal Growth and March 2012 Physics, X-ray crystal-Crystallography Madurai lography (RACC -2012) Kamaraj University 15<sup>th</sup> March V.Vasu UGC sponsored Na-National Hydrogen tional Seminar on College, Storage in 2012 Recent Trends in Trichy Carbon Crystal Growth and Nanotubes Nano Materials V.Vasu UGC sponsored Na-21<sup>st</sup> January VHNSN Physics of Solar tional conference on Cells 2010 College, Renewable energy Virudhunager sources and Technology 24<sup>th</sup> October Applications of V.Vasu One-day workshop on Latha 2009 Recent Trend in Nano-Mathavan Nanoscience and Technology Engineering Technology College, Madurai V.Vasu UGC sponsored State 10<sup>th</sup> September Sacred Heart Porous silicon Level Seminar on Re-2009 College, and their apcent Trends in Tirupattur plications Material Science UGC sponsored Na-21<sup>st</sup> August Sree Sevugan Nanostructured tional Conference on Annamalai 2009 Porous Silicon Recent Advances in College, Materials Science -Devakottai 2009 (RAMS'09)

#### PAPER PRESENTATION IN CONFERENCE/SEMINAR/WORKSHOP

### PROFESSIONAL EXPERIENCE

S.No	Institution	Position	From(Date)	To(Date)	Duration
1	Madurai Kamaraj University	Associate Professor	10-06-2007	Till date	11 Yrs
2	Madurai Kamaraj University College, Madurai	Assistant Pro- fessor / Asso- ciate Profes- sor and Head	20-10-1994	10-06-2007	13 Yrs

## RESEARCH COLLABRATION (Both National and International)

Name of the collaboration	Institution	Collaboration details	Collaboration output (papers/patents/research/o nline)
Dr. A. Subrahmanyam	IIT, Madras	Research	Research Papers
Dr. K. Asokan	IUAC, New Delhi	Research	Research Papers
Dr. T.R. Ravindran	IGCAR, Kalpakkam	Research	Research Papers

## COMPLETED RESEARCH PROJECT

S.No	Title of the project	Funding agency	Total grand	Year
1	Dynamics-Function Correlation Studies	UGC	<i>Rs. 22,500</i>	2007-
	on Drug Resistant Mutant Proteins in			2009
	Computer Aided Drug Design for HIV			
	and Cancer Therapy			
2	Studies on Electrochromic properties of	UGC	Rs. 9,42,500	2012-
	titanium oxide thin films			2014

## CONFERENCE/SEMINAR/WORKSHOP/TRAINING ORGANIZED

Туре	Name	Date(s)	Place	Role Played	Funding Agency
Workshop	Advanced Mate- rial Characteri- zation Techniques	26 <sup>th</sup> and 27 <sup>th</sup> March 2018	School of Physics	Convener	UGC-DSA
Refresher Course in Physics	Emerging areas in Condensed Matter Physics	16 <sup>th</sup> Nov 2018 to 6 <sup>th</sup> Dec 2018	School of Physics	Coordinator	UGC-HRDC
Seminar	Physics and Beyond	15-03-2017	School of Physics	Organizing Secretary	MKU

Seminar	Recent Trends in Advanced Materials	8 <sup>th</sup> and 9 <sup>th</sup> March 2012	School of Physics	Organizing Secretary	DST-PURSE
Seminar	Two days Seminar in Experimental Physics	6 <sup>th</sup> — 7 <sup>th</sup> January 2009	School of Physics	Organizing Secretary	UGC-DRS
Refresher Course	Eleventh Refresher Course in Experimental Physics	22 <sup>nd</sup> Dec. 2008 to 7 <sup>th</sup> Jan. 2009	School of Physics	Local Coor- dinator	Indian Academy of Sciences
Seminar	Recent Advances in Nanomaterials	$18^{th} - 19^{th}$ Feb. 2008	School of Physics	Organizing Secretary	UGC-DRS

#### BOOK PUBLISHED

Title of the Book/chapter	Author	Publisher	Year	ISBN number
Titanium dioxide	V.Vasu	Nirmal	2015	978-8-193-
Photocatalysis: An overview		Publications,		17516-3
(Chapter)		New Delhi		
Studies on ITO/Si junctions	A.Subrahmanyam	Narosa	1991	978-3-662-
prepared by spray pyrolysis	and V.VASU	Publishing Co,		09937-7
technique (Chapter)		New Delhi		

#### NEWS OUTLET:

One of the research articles featured in the International PV Magazine <u>https://www.pv-maga-</u> zine.com/2020/05/27/pouch-lamination-technique-for-solar-cell-encapsulation/

## MEMBERSHIP IN ACADEMIC BODIES

- Academic Council Member (from 30-11-2017 onwards)
- Senate Member, MK University (from 3-09-2003 to 2-09-2006)
- Academic Council Member, Madurai Kamaraj University (15-12-2000 to 15-09-2002)

#### MEMBERSHIP IN PROPOSIONAL BODIES

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- •

#### INTELLECTUAL PROPERTY RIGHTS (Patents)

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## ADMINISTRATIVE EXPERIENCE

Role played	Responsibilities	Period (Month & year)
Assistant Professor/Associate	Teaching and Research	October 1994 to June 2007
Professor and Head		
Madurai Kamaraj University		
College, Madurai		
Associate Professor	Course Adviser	June 2007 to October 2013
Warden	Functioning of Two Hostels	September 2007 to July 2010
	VOC and Bharathi	
Chairperson i/c	Administrating School of	5 <sup>th</sup> August 2017 onwards
	Physics activities	
Head, Department of	Administrating Department	23 <sup>rd</sup> October 2017 onwards
Computational Physics	activities	

## CONTACT

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