



University College of Engineering Villupuram
Kakuppam, Villupuram – 605103.

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Dr.B. Dominic Joshua
Assistant Professor

- **Research Area:** Molecular Spectroscopy
 (FT-IR and FT-Raman Spectroscopy)

➤ **Educational Qualifications:**

Qualification	Department	Year (from-To)	Percentage	Class
Ph.D.,	Physics	2005-2008	Distinction	First
M.Phil.,	Physics	1994-1995	80.33	First
M.Sc.,	Physics	1992-1994	81.75	First Gold Medal
B.Sc.,	Physics	1989-1992	69.77	First

➤ **Experience:**

Name of Company/ Institutions	Designation of Post	From	To	Relieved on	Experience in Years
UCEV	Asst. Prof.	20/08/2008	Till Date		10
Idhaya College	Lecturer	04/07/2006	29/05/2008	29/05/2008	02
Sri Aravindar College	Lecturer	26/06/2002	30/03/2006	30/03/2006	04
Pauls Engg. College	Lecturer	25/08/1998	31/05/2002	01/06/2002	04

- **Awards:** M.Sc., Pondicherry University First – **Gold Medalist.**

➤ **Additional/Academic Responsibilities at UCEV:**

ADDITIONAL RESPONSIBILITIES

- Organised National Level Technical Symposium ‘Agnimithra’ at University College of Engineering Villupuram in the academic year 2011-2012.
- Conducted a Motivation and Career Guidance Camp (NAMBIKKAI) for the First Year Students of University College of Engineering Villupuram and University College of Engineering Tindivanam in the academic year 2010-2011.
- Preparation of the Biennial Day report of University College of Engineering Villupuram for the year 2008-2010,
- Preparation of Annual Report of the College every year since 2008 to till date.
- Coordinator for the Student’s Scholarship Cell from 2014 to till date.
- From 2015 onwards, I was entrusted with the additional responsibility of Library i/c.
- Acted as a overall Coordinator for the UCEV Annual Day 2018.

ACADEMIC RESPONSIBILITIES

- As a Academic Co-ordinator for the First Year, conducting Assessment and Model examinations, time table schedule, academic calendar, allocation of subjects to the respective Staff members for the concerned Departments.
- Conducting Class Committee meetings after each assessment examination to discuss the performance of the students and their aptitude.

RESEARCH GUIDANCE:

Number of Students Guided and Completed Ph.D., : **ONE**

Entitled : “Experimental Studies on Stability and Performance Characteristics of Calophyllum Inophyllum Biodiesel in a Direct Injection Compression Ignition Engine”

Year of Completion : November 2018.

➤ Professional Activities:

- For the smooth conduct of the Anna University theory Examinations, I was appointed as a Chief Anna University Representative which effects from Jan 2009 to till date. The duties such as distribution of the question papers/CDs and to collect the examinations related confidential materials to and from the colleges assigned to the nodal centre.
- For more than Three years I have been appointed as Assistant Chief Examiner for Central Valuation for Physics Board at Zonal Centre (University College of Engineering Tindivanam).
- Examining B.E./B.Tech., Degree Anna University Chennai Examinations (Physics Practical) at various affiliated Colleges such as Annai Theresa College of Engineering, University College of Engineering Tindivanam , IFET, VRS etc.
- Also performing as an External Examiner for both Physics theory and practical for Annamalai University to B.E./B.Tech., Degree programmes .
- Nominated as Chief Superintendent to conduct Anna University Chennai Theory Examinations at University College of Engineering Villupuram.
- B.E./B.Tech., Degree Examination, question paper preparing under the autonomous Scheme for various autonomous affiliated institutions/Colleges.

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- To study the performance of the students, as ordered by Anna University of Technology Chennai, I have conducted self evaluation exam (Profiling Test) related with Mathematics and English.
 - Co-ordinated TNPSC Examinations (Village Administrative Officer), which was conducted by Government of Tamil Nadu, acted as a Chief Superintendent at University College of Engineering Villupuram.
 - For Central Valuation of Anna University Chennai, I was nominated as Chairman of Physics Board since 2015.



List of Seminar/Short Term Course/FDP/Workshop Attended:

“Environmental science” organized by Thiruvalluvar University, Vellore, 9th August 2004, One Day.

“Faculty Development Programme” organized by ICFAI, National College on 27th Jan 2007, One Day.

“Faculty Development Programme” organized by IFET College of Engineering, Villupuram. on 2nd and 3rd June 2008, Two Days

“How to Prepare Research Project Proposal” organized by Anna University of Technology Chennai, on 6th August 2011, One Day.

“Faculty Development Programme on Thermal Engineering” organized by Centre for Faculty Development , Anna University Chennai on 20th to 26th June 2013, Seven Days.

“Faculty Development Programme on Engineering Mechanics” organized by Centre for Faculty Development , Anna University Chennai on 9th to 15th December 2013, Seven Days.

“Faculty Development Programme on Engineering Physics – II” organized by Centre for Faculty Development , Anna University Chennai on 15th to 21st December 2014, Seven Days.

“Faculty Development Programme on Circuit Analysis EC8251” organized by Centre for Faculty Development. Anna University Chennai. on 1st to 7th December 2017, Seven Days.

National Workshop on “PYTHON PROGRAMMING” organized by CSE Department, University College of Engineering Villupuram on 13th and 14th October 2017, Two Days.

Workshop on “Intellectual Property Rights and Innovation” organized by CSE Department, UCEV on 18th January 2018, One Day.

National Workshop on “BIG DATA and IoT” organized by CSE Department at UCEV on 24th and 25th January 2018, Two Days.

National Workshop on “VRAR FOR 360 MEDIA PREPARATION-VIRTUAL REALITY AND AUGMENTED REALITY” organized by CSE Department, UCEV on 9th and 10th April 2018, Two Days.



➤ **Publications:**

Books:

Engineering Physics –I
Author: Dr.B. Dominic Joshua
ISBN No.978-81-89843-70-0

Engineering Physics – II
Author: Dr.B. Dominic Joshua
ISBN No. 978-81-89843-71-7

Engineering Physics Practical
Author: Dr.B. Dominic Joshua
ISBN No.978-81-89843-72-4.



International Journals:

1. **FTIR, FT-Raman spectra and ab initio DFT vibrational analysis of 2-amino-5-chloropyridine**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 64, Issue 3, June 2006, Pages 586-594

N. Sundaraganesan, S. Ilakiamani, B. Anand, H. Saleem, B. **Dominic Joshua**

2. **FTIR, FT-Raman spectra and ab initio DFT vibrational analysis of 2,4-dichloro-6-nitrophenol**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 65, Issue 5, December 2006, Pages 1053-1062

N. Sundaraganesan, B. Anand, B. **Dominic Joshua**

3. **Vibrational spectroscopy investigation using ab initio and density functional theory analysis on the structure of 2-amino-4,6-dimethoxypyrimidine**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 65, Issue 5, December 2006, Pages 1186-1196

N. Sundaraganesan, K. Sathesh Kumar, C. Meganathan, B. **Dominic Joshua**

4. **FTIR, FT-Raman spectra and ab initio, DFT vibrational analysis of 2,4-dinitrophenylhydrazine**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 66, Issue 1, January 2007, Pages 17-27.

N. Sundaraganesan, S. Ayyappan, H. Umamaheswari, B. **Dominic Joshua**

5. **Vibrational spectra and assignments of 5-amino-2-chlorobenzoic acid by ab initio Hartree-Fock and density functional methods**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 66, Issue 2, February 2007, Pages 381-388.

N. Sundaraganesan, B. **Dominic Joshua**, K. Settu

6. **Vibrational spectroscopy investigation using ab initio and density functional theory analysis on the structure of 3-aminobenzotrifluoride**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 67, Issue 1, May 2007, Pages 214-224.

N. Sundaraganesan, S. Illakiamani, C. Meganathan, B. **Dominic Joshua**

7. FT-Raman and FT-IR spectra, ab initio and density functional studies of 2-amino-4,5-difluorobenzoic acid

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 67, Issue 2, June 2007, Pages 287-297.

N. Sundaraganesan, S. Ilakiamani, B. **Dominic Joshua**

8. Vibrational spectroscopy investigation using ab initio and density functional theory analysis on the structure of 2-amino-5-methylphenol

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 67, Issue 2, June 2007, Pages 550-558.

N. Sundaraganesan, B. Anand, B. **Dominic Joshua**

9. Comparison of experimental and ab initio HF and DFT vibrational spectra of benzimidazole

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 67, Issues 3-4, July 2007, Pages 628-635.

N. Sundaraganesan, S. Ilakiamani, P. Subramani, B. **Dominic Joshua**

10. Vibrational spectra and assignments of 2-amino-5-iodopyridine by ab initio Hartree-Fock and density functional methods

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 67, Issues 3-4, July 2007, Pages 830-836

N. Sundaraganesan, C. Meganathan, B. Anand, B. **Dominic Joshua**, Christine Lapouge

11. FT-IR, FT-Raman spectra and ab initio HF, DFT vibrational analysis of 2,3-difluoro phenol

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 68, Issue 3, November 2007, Pages 561-566.

N. Sundaraganesan, B. Anand, C. Meganathan, B. **Dominic Joshua**

12. Vibrational spectroscopy investigation using ab initio and density functional theory analysis on the structure of 5-amino-o-cresol

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 68, Issue 3, November 2007, Pages 619-625.

N. Sundaraganesan, C. Meganathan, H. Saleem, B. **Dominic Joshua**

13. Vibrational spectroscopy investigation using ab initio and density functional theory analysis on the structure of 3,4-dimethylbenzaldehyde

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 68, Issue 3, November 2007, Pages 680-687.

N. Sundaraganesan, S. Ilakiamani, B. **Dominic Joshua**

14. **Vibrational spectra and fundamental structural assignments from HF and DFT calculations of methyl benzoate**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 68, Issue 3, November 2007, Pages 771-777.

N. Sundaraganesan, B. **Dominic Joshua**

15. **Vibrational spectra and assignments of 3-aminobenzyl alcohol by ab initio Hartree-Fock and density functional method**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 69, Issue 1, January 2008, Pages 198-204.

N. Sundaraganesan, B. Anand, C. Meganathan, B. **Dominic Joshua**, H. Saleem.

16. **Molecular structure and vibrational spectra of indole and 5-aminoindole by density functional theory and ab initio Hartree-Fock calculations**

Journal of Molecular Structure: THEOCHEM, Volume 850, Issues 1-3, 15 February 2008, Pages 84-93.

N. Sundaraganesan, H. Umamaheswari, B. **Dominic Joshua**, C. Meganathan, M. Ramalingam

17. **FT-IR, FT-Raman spectra and ab initio HF, DFT vibrational analysis of p-chlorobenzoic acid**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 69, Issue 3, March 2007, Pages 871-879

N. Sundaraganesan, B. Anand, C. Meganathan, B. **Dominic Joshua**

18. **FT-IR, FT-Raman spectra and quantum chemical calculations of 3,4-dimethoxyaniline**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 70, Issue 1, June 2007, Pages 50-59.

N. Sundaraganesan, M. Priya, C. Meganathan, B. **Dominic Joshua**, J.P. Cornard

19. **Vibrational spectra and quantum chemical calculations of 3,4-diaminobenzoic acid**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 70, Issue 2, July 2007, Pages 376-383.

N. Sundaraganesan, B. **Dominic Joshua**, C. Meganathan, R. Meenashi, J.P. Cornard

20. **Molecular structure, vibrational spectra and NBO analysis of phenylisothiocyanate by density functional method**

Journal of Molecular Structure: THEOCHEM, Volume 863, Issues 1-3, 30 August 2008, Pages 44-49.

P. Mani, H. Umamaheswari, B. **Dominic Joshua**, N. Sundaraganesan

21. **Molecular structure and vibrational spectra of 3-chloro-4-fluorobenzonitrile by ab initio HF and density functional method**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 71, Issue 3, 1 December 2008, Pages 1134-1139.

N. Sundaraganesan, C. Meganathan, B. **Dominic Joshua**, P. Mani, A. Jayaprakash

22. **FT-IR, FT-Raman spectra and ab initio HF and DFT calculations of 4-N,N'-dimethylamino pyridine**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Volume 71, Issue 3, 1 December 2008, Pages 898-906.

N. Sundaraganesan, S. Kalaichelvan, C. Meganathan, B. **Dominic Joshua**, J. Cornard.

National Journals:

23. Ultrasonic Absorption Studies in Aqueous Solution of Amino Acids with Polar and Non-polar side chains

B. Dominic Joshua, T.K. Nambinarayanan & A. Srinivasa Manja

Journal of Acoustical Society of India

Volume 28, year: 2000.

24. FT-IR, FT-Raman spectra and *ab-initio* DFT vibrational analysis of 2-chloro-5-aminopyridine

N Sundaraganesan*, B Dominic Joshua, M Rajamoorthy & C H Gangadhar

Indian Journal of Pure and Applied Physics

Volume 45, Number 12, December 2007

25. Vibrational spectroscopic studies supported by HF, DFT calculations of 2,4,6-triaminopyrimidine

N. Sundaraganesan, B.Dominic Joshua, C. Meganathan & S. Sebastian

Indian Journal of Chemistry

Volume 47A June 2008.

26. FT-IR, FT-Raman spectra and *ab initio* HF and DFT calculations of 2-nitro- and 4-nitrobenzaldehydes

S. Kalaichelvan, N. Sundaraganesan, B. Dominic Joshua

Indian Journal of Chemistry

Volume 47A, November 2008.

27. Molecular structure and vibrational spectra of 2-chlorobenzoic acid by density functional theory and *ab-initio* Hartree-Fock calculations

N Sundaraganesan *, B Dominic Joshua & T Radjakoumar

Indian Journal of Pure and Applied Physics

Volume 47, Number 4, APRIL 2009.

National Conferences:

Attended Seventh National Symposium on Ultrasonic conducted by the Ultrasonic Society of India, New Delhi, 1996 and presented three Research Articles

Title of the Papers :

Ultrasonic Studies of Polyethylene glycol in Tetrahydrofuran

Ultrasonic Studies of Polyethylene glycol in aprotic solvents

Ultrasonic Studies of solutions of Polyvinylpyrrolidone in N,N-dimethyl formamide.

Attended Ninth National Symposium on Ultrasonics conducted by the Ultrasonic Society of India, New Delhi, 1998 and presented one Research Article.

Title of the Papers :

Ultrasonic Studies in Aqueous solutions of some aminoacids with polar and non-polar side chains (Journal of Acoustical Society)

Ultrasonic Absorption studies in aqueous solutions of amino acids with polar and non-polar side chains (Journal of Acoustical Society)

Attended International Conference on Engineering Materials and Renewable Energy (**ICEMRE-2018**) and published SIX research papers entitled:

1. Molecular Structure and Vibrational Spectra of 2,6-dimethoxyphenol by DFT and ab initio HF Calculations.
2. Vibrational Spectroscopy investigation using ab initio and DFT analysis on the structure of 2,6-dichlorobenzoic acid.
3. Vibrational Spectroscopy investigation using ab initio and DFT analysis on the structure of 2-amino-p-cresol.
4. FT-Raman and ab initio HF and DFT vibrational analysis of 3,5-difluorophenol
5. Molecular Structure and vibrational spectra of 2-aminothiophenol by ab initio and HF and DFT functional methods.
6. Synthetic and Characterization of Nano particle of vanadium pentoxide coated Titanium metal for orthopedic implant applications.

PERSONAL PROFILE:

Name : Dr. B. DOMINIC JOSHUA

Date of Birth : 25-04-1972

Marital Status : Married

Father's Name : J.D. Aloysius Balu (late)

Occupation : Assistant Engineer (Marine) Rtd.

Nationality : Indian

Languages Known : English and Tamil

Native Place : Puducherry

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Villianur Manaveli
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