



DEPARTMENT OF PHYSICS

Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya

(Deemed to be university u/s 3 of UGC Act 1956 | Accredited with "A" Grade by NAAC)
Enathur, Kanchipuram-631561. Tamil Nadu, India

Spectra

Newsletter

Volume 5

About the department

Department of physics serves with the dynamic mission to achieve excellence in both academic and research perspectives. Physics acts as the core of science, as most of the invention are brought forth by it. The department has awarded 24 Ph.D. and more than 200 M.Phil. degrees. The teachers and scholars of the department have published around 200 research articles so far. The research activities of the department include synthesis of nano particles and characterization, study of molecular structure and composition through spectroscopic analyses, molecular interaction studies through ultrasonic investigation, synthesis and characterization of thin films by physical vapour deposition, crystal growth techniques, mineralogical and heavy metals analyses, etc. Thin film coating unit (PVD). Gaussian 09 software, Brookfield viscometer, Sieve shaker and Ultrasonic interferometer for solids and liquids are available for research. The department of Physics extends its instrumentation facilities to other departments and institutions.

Patrons

His Holiness

Pujyasri Sri Sankara

Vijayendra Saraswati

Swamigal

Chairman

Prof.Dr.Vempaty Kutumba

Sastry

Chancellor, SCSVMV

President

Prof.Dr. G.Srinivasu

Vice-Chancellor, SCSVMV

Advisory Board

Prof. Dr.G.Sriram

Registrar, SCSVMV

Prof. Dr.K. Venkataramanan

Dean, Faculty of Science,

SCSVMV

Chief Editor

Dr.M.Sundarrajan

HoD - Physics

Issue Editors

Dr. M.Sundarrajan

HoD-Physics

Dr.R.Raja,

Asst. Professor of Physics

Dr.J.Suganthi,

Asst. Professor of Physics

National Science day Celebration (NSD 2020) 28.03.2020

National Science Day was celebrated on 28th February 2020, at 10.30 am at Adi Sankara Auditorium, University premises. Prof. Dr. K. Venkatramanan, Convener- NSD 2020 & Head of the department welcomed the gathering. Dr.K.Rajalakshmi, Coordinator NSD-2020 & Assistant Professor of Physics read the National Science Day Report. Prof.Dr.S.Balaji, Dean, Faculty of Science, SCSVMV, delivered Presidential address. Around 300 students participated in all the events with great enthusiasm. The winners and runners of various events were awarded prizes during the function. Mrs.J.Suganthi, Coordinator-NSD-2020 & Assistant Professor of Physics proposed vote of thanks. The program concluded with National Anthem.



Research Discussion with Foreign Expert Dr. Ananthagopal – 12.04.2020

A discussion was arranged with Prof. Dr. Anantha Iyengar Gopalan, Visiting Professor, Kyungpook National University, Daegu, South Korea. The department students and faculty members interacted for various future research ideas and activities.



SOCIAL ACTIVITIES

The staff co-ordinators and student volunteers of the dept. of physics participated in various events of Unnat Bharat Abhiyan of our Mahavidyalaya

"Kanchi Univ For All" - 2020

Alumni of Sri Chandrasekharendra Saraswati Viswa Maha Vidyalaya (SCSVMV) Deemed to be University, Kanchipuram, Tamilnadu, distributed essential groceries that includes Rice, Toor Dal, Oil and Vegetables to the needy people in the surroundings of Hyderabad, Telangana State and also some places in Andhrapradesh. The Alumni group are raising funds from the family of SCSVMV Alumni and Groceries & vegetable packages were distributed to more than 500 families during first phase of lock down.

Social Activities



Webinar - Awareness On National Education Policy 27.09.2020

The Unnat Bharat Abhiyan Unit of SCSVMV organized webinar to create Awareness on National Education Policy, NEP 2020 on 27-09-2020, for the benefit of Educators, Students, Parents and other stakeholders in the Educational System. Prof. Dr.S.V.Raghavan, Vice-Chancellor of the Deemed to be University was the Chief Guest for the programme and delivered the keynote address.

श्रीचन्द्रशेखरेन्द्रसरस्वतीविश्वमहाविद्यालयः
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya
(Deemed to be University u/s 3 of UGC act 1956) (Accredited by NAAC with 'A' Grade)
Enathur, Kanchipuram, Tamil Nadu
www.kanchiuniv.ac.in
Sponsored and run by Sri Kanchi Kamakoti Peetam Charitable Trust

UNNAT BHARAT ABHIYAN CELL
presents a Webinar to create Awareness on

NATIONAL EDUCATION POLICY 2020


KEYNOTE ADDRESS

 **Prof. Dr. S.V. Raghavan**
Vice-Chancellor
SCSVMV

REC J JAYASRUTHI M 111960018 is presenting BHANUKESHVAR D TITHEL and 22 more 3:30 PM

GANDHIJI'S VIEW ON EDUCATION

By education, I mean
an all-round
drawing of the best in child



K KOTTOMAN J TITHEL, K KOTTOMAN J TITHEL, L LADIVAN M TITHEL, L LADIVAN M TITHEL, js j.Popezi, S S.P.PODDAR

Gandhi Jayanthi Celebrations 02.10.2020

The program started with Gandhiji's Bhajans by the students of SCSVMV. Dr. V. Ragavendran, UBA staff coordinator welcomed the gathering. Ms.M.Jeyasruthi, student of II B.Sc. Physics and UBA volunteer given a speech on "Gandhian principles in UBA" followed by Ms.D.Bhavatharani's speech on the topic "Gandhiji's contribution towards Education System" who is also a student of II B.Sc. Physics and UBA volunteer. Finally, Prof.Dr.K.Venkatramanan, UBA coordinator of the University addressed the gathering and explained the importance of Gandhi Jayanthi celebrations and motivated the participants. About 40 student and staff volunteers actively took part in the event through live online stream.

Campus Placement

Recruiting Companies



National Science Day – NSD 2022 – 28-02-2022

The Department of Physics, Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, celebrated National Science Day on February 28, 2022. Prof. Dr. K. Venkatramanan, Convener-NSD 2022 & Head of the department welcomed the gathering. Dr.V.Ragavendran, Coordinator NSD-2022 & Assistant Professor of Physics briefed about the NSD celebrations and past events held. As a part of National Science Day celebrations [NSD 2022], the department organized various competitions like Power Point Presentation, Poster Presentation and Painting completions on the theme " Integrated approach in S&T for sustainable future " and "Green India" to encourage students and to popularize Science and Technology among the young talented minds. Dr.R.Raja, Assistant Professor of Physics proposed vote of thanks. The program concluded with National Anthem.



Fresher's day Celebration – 28-02-2022

Senior students of the department of Physics organized Fresher's day on February 28, 2022 by 11 am at Physics lab to welcome the 1 year B.Sc. and M.Sc. students of the department. All students and faculty members attended the welcome meeting.



In-House Workshop On Molecular Modelling Using GAUSSIAN Software– 10/03/2022

An In-house workshop on molecular modeling is organized by the department of Physics on 10/03/2022. Dr.V.Ragavendran, Assistant Professor of the department of Physics of our Mahavidyalya acted as resource person. Dr.M.Sundarrajan, Assistant Professor of the department of Physics welcomed the gathering and appreciated the staff members for their interest in attending the workshop. Dr.R.Raja and Dr.J.Suganthi felicitated the gathering. All the faculty members, lab instructors and PG students of the department participated in the workshop and got benefitted.



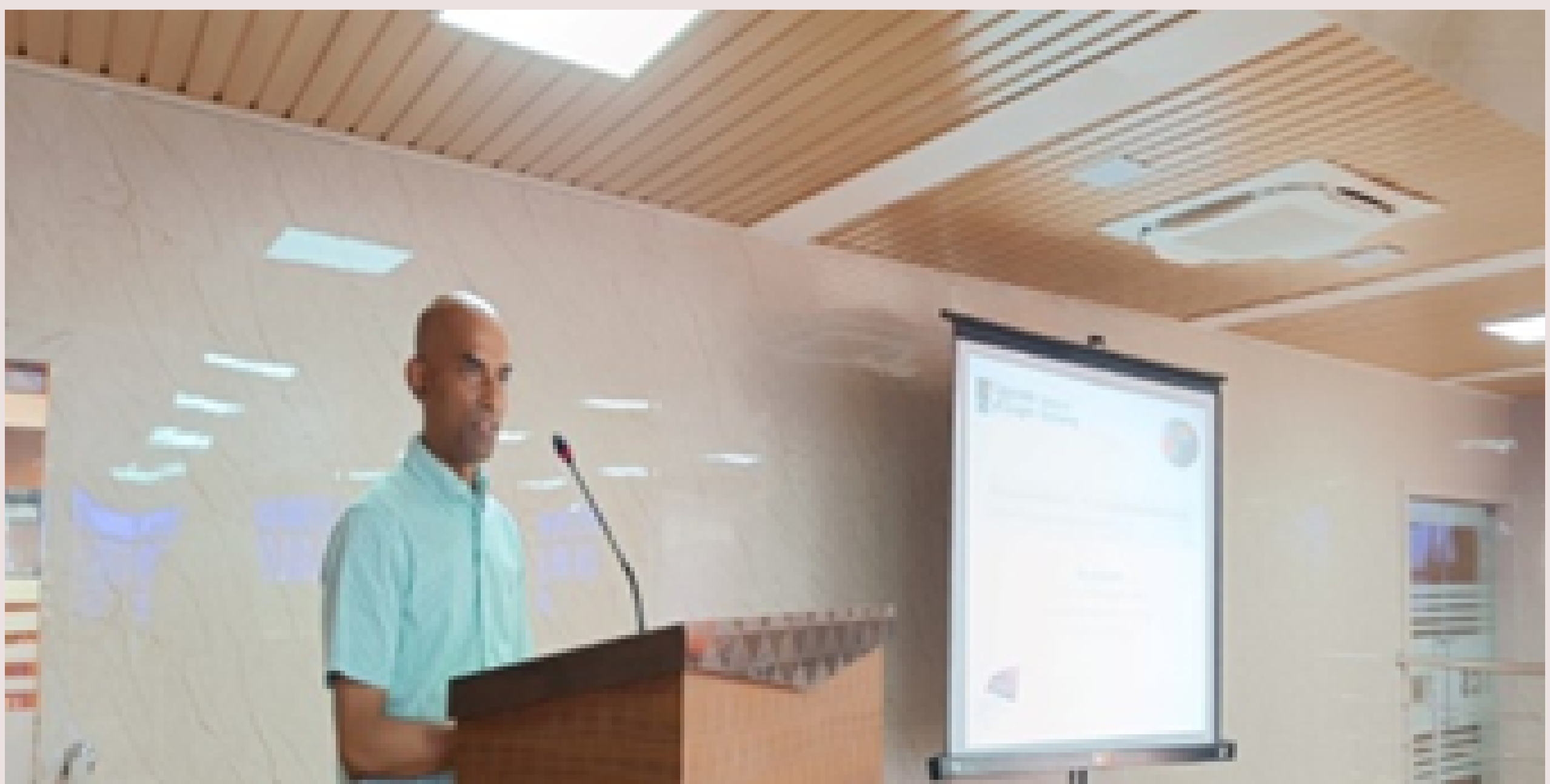
Farewell Day Celebration – 25-03-2022

Junior students of the department of Physics organized Farewell day on March 25, 2022 by 10 am at B.Ed seminar hall. All students and faculty members attended the meeting. The function started with welcome address by Ms.Indhuja of III year B.Sc., Physics. All the faculty members of the department felicitated the gathering. Final year students of the department gave feedback about their study and stay in SCSVMV. In order to bring out the innate talent of the students, various interesting games and cultural programmes were organized. The programme ended up with vote of thanks by Ms.Sushmitha of III B.Sc Physics.



International Seminar on “Research To Realization” 29-06-2022

An international seminar on “Research to Realization” was organized by Department of Physics, SCSVMV on 29.06.2022. Prof. Roy Vellaisamy, Professor of Intelligent Systems, James Watt School of Engineering, University of Glasgow delivered the keynote address on the topic “Research to Realization - From molecular level interaction to real-time monitoring electronic systems”. Prof.Dr.S.V.Raghavan, Honourable Vice-Chancellor, SCSVMV honoured the chief guest.



Placement details 2017- 2022

Reg. No.	Name	Year of passing	Company Name
111860037	Srikavi. R	2021	Infosys
111760004	G.Apsara	2020	Sutherland, Infosys
111760008	R. Dharani	2020	Sutherland, Wipro
111760017	B.Hemasundari	2020	Sutherland
111760018	S.Hemanth	2020	Sutherland
111760023	P.Keerthana	2020	Sutherland, Infosys
111760024	R.Keerthana	2020	Sutherland
111760028	T.Kokila	2020	Infosys
111760038	K.Priyadharshini	2020	Sutherland
111760046	E.Santhiya	2020	CTS
111760053	S.Sindhu	2020	Sutherland
111760057	L.Tharunkumar	2020	Infosys
111760059	A.Varsha	2020	Infosys, Sutherland
111760061	B.Vigneshwar	2020	Infosys, Sutherland

JOURNAL PUBLICATIONS

- K Venkatramanan, et al “Conducting polymer based visible light photocatalytic composites for pollutant removal: Progress and prospects”, Environmental Technology & Innovation, Vol 28, (Nov 2022), Article No 102698. (IF : 7.1 / Q1 / WoS & SCOPUS)
- V. Ragavendran et al, "Quantum chemical computational studies of 1, 3-diammonium propylarsenate: a semi organic crystalline salt", Inorganic and Nano-Metal Chemistry, Vol. 52(10), (Oct 2022) pp 1352-1363. (IF : 1.7 / Q2 / SCIE & SCOPUS)
- V. Ragavendran et al, “Synthesis, structural-spectral characterization and theoretical studies of Pyridinium-4carbohydrazide 2, 4, 6trinitrophenolate”, Journal of Molecular Structure, Vol. 1262, (Aug 2022), pp 132779. (IF : 3.841 / Q2 / SCI & SCOPUS)
- K. Venkatramanan, et al “Contactless phase change material based photovoltaic module cooling: A statistical approach by clustering and correlation algorithm”, Journal of Energy Storage, Vol 53, (Sep 2022), Article No 105139. (IF : 9.4 / Q1 / SCIE & SCOPUS)
- V. Ragavendran et al, “Synthesis, crystal growth, crystal investigation, optical, thermal, DFT and NLO studies of 2methylanilinium- 4methylbenzenesulfonate organic single crystal: Experimental and computational approach”, Materials Today Proceedings, Vol. 66(4), (Sep 2022), pp 1769-1778 (SCOPUS).
- K Venkatramanan, et al, “Chapter 3 - Introduction to various sustainable energy storage technologies”, Sulfide and Selenide Based Materials for Emerging Applications, (June 2022), Pages 33-57. (Elsevier Book Chapter)
- V. Ragavendran et al, “Structural and Vibrational Investigation of Benzil-(1,2Diphenylethane-1,2-Dione): Experimental and Theoretical Studies”, Journal of Chemistry, Vol. 2022, (Apr 2022), Article No 5968496, (IF : 3.241 / Q2 / SCI & SCOPUS)

JOURNAL PUBLICATIONS

- K. Venkatramanan et al, "A Brief Review on various applications of NanoSilica and coated Nano-Silica", International Advanced Research Journal in Science, Engineering and Technology, Vol 9(3), (Mar 2022), 189-196.
- V. Ragavendran et al, "Synthesis, structural-spectral characterization and density functional theoretical studies of pyridine-4-carbohydrazide bis(4-hydroxynitrobenzene)", Journal of Molecular Structure, Vol. 1247, (Jan 2022), pp 131362. (IF : 3.841 / Q2 / SCI & SCOPUS)
- K. Venkataramanan et al, Siu Chuen Lau, Yang Lu, Kwok-Ho Lam, and Vellaisamy A. L. Roy, "Defect Engineering Boosted Ultrahigh Thermoelectric Power Conversion Efficiency in Polycrystalline SnSe", ACS Applied Materials & Interfaces, Vol. 13(49), (Dec 2021), pp 58701-58711. (IF : 9.5 / Q1 / SCIE & SCOPUS)
- K. Venkatramanan et al, "Efficient heat batteries for performance boosting in solar thermal cooking module", Journal of Cleaner Production, Volume 324, (Nov 2021), Article No 129223. (IF : 11.1 / Q1 / SCIE & SCOPUS)
- K. Venkatramanan et al, "Effect of flame retardant on the physical and mechanical properties of natural rubber and sugarcane bagasse composites", Journal of Polymer Research, Vol. 28, (Nov 2021), Article number: 455. (IF : 2.8 / Q2 / SCIE & SCOPUS)
- V. Ragavendran et al, "Virtual and experimental high throughput screening of substituted hydrazones on β -Tubulin polymerization", Bioorganic Chemistry, Vol. 114, (Sep 2021), Article No 105094. (IF : 5.1 / Q2 / SCI & SCOPUS)
- V. Ragavendran et al, "An organic benzimidazolium benzilate (BDDBA) crystal: structural description, spectral investigations, DFT calculations, thermal, photoluminescence, linear and nonlinear optical analysis", Chemical Physics Letters, Vol. 776, (Aug 2021), Article No 138705. (IF : 2.029 / Q2 / SCIE & SCOPUS)

JOURNAL PUBLICATIONS

- V. Ragavendran et al, "Synthesis, structural-spectral characterization and theoretical studies of Pyridinium-4carbohydrazide (2R,3R)-2,3dihydroxybutanedioate", Journal of Molecular Structure, Vol. 1237, (Aug 2021), Article No 130365. (IF : 3.841 / Q2 / SCI & SCOPUS)
- V. Ragavendran et al, "Structural and vibrational spectroscopic elucidation of Nitrogen Rich Energetic Salt-2, 4-diamino-6-methyl-1, 3, 5-triazinium levulinate dehydrate", Asian Journal of Chemistry, Vol. 33(8), (June 2021), pp 1891-1904. (SCOPUS)
- V. Ragavendran et al, "Crystal structure, spectral investigations, DFT and antimicrobial activity of brucinium benzilate (BBA)", Journal of Molecular Modeling, Vol 27, (Apr 2021), Article No. 223. . (IF : 1.810 / Q3 / WoS & SCOPUS)
- V. Ragavendran et al, "Reinforcement of 'imine-hydroxyl chelation pocket' by encapsulating into the β -CD cavity for the sterically protective detection of Al^{3+} ", Journal of Molecular Liquids, Vol. 323, (Feb 2021), Article No. 114949. (IF : 6.0 / Q1 / SCIE & SCOPUS)
- K. Venkatramanan et al, "Current advancements on charge selective contact interfacial layers and electrodes in flexible hybrid perovskite photovoltaics", Journal of Energy Chemistry, Volume 54, (Mar 2021), pp 151-173. (IF : 13.1 / Q1 / WoS)
- K. Venkatramanan et al, "Facile Use of Silver Nanoparticles-Loaded Alumina/Silica in Nanofluid Formulations for Enhanced Catalytic Performance toward 4-Nitrophenol Reduction", Int. J. Environ. Res. Public Health, Vol. 18, (Mar 2021), Article no. 2994. (IF : 5.4 / Q2 / PubMed & SCOPUS)
- K. Venkatramanan et al, "An overview of the experimental techniques for characterization of laser-welded metal joints", Elsevier : MaterialsToday Proceedings, Vol. 39(1), (Mar 2021), pp 572-581. (SCOPUS)

JOURNAL PUBLICATIONS

- K. Venkatramanan et al, "Polyethylene Glycol Coated Magnetic Nanoparticles: Hybrid Nanofluid Formulation, Properties and Drug Delivery Prospects", *Nanomaterials*, Vol. 11(2), (Feb 2021), Article no : 440. (IF : 5.3 / Q1 / SCIE & SCOPUS)
- K. Venkatramanan & R. Padmanaban et al, "Acoustic, thermal and optical properties of organic based disodium tartrate salt," *International Journal of Science & Research Archive*, Vol. 2(1), (Jan 2021), pp 12-27.
- V. Ragavendran et al, "Experimental and computational insights into the synthesis and characterization of a novel Schiff base ligand 2, 2'-[(1z, 14e)-2, 5, 8,11,14-pentaazapentadeca-1, 14-diene-diyl] diphenol", *CSI Transactions on ICT*, Vol. 9, (Jan 2021), pp 71-81. (INSPEC)
- V. Ragavendran et al, "Experimental and theoretical (DFT) investigation of crystallographic, Spectroscopic and Hirshfeld surface analysis of anilinium arsenate", *Journal of Molecular Structure*, Vol. 1223, (Jan 2021) Article No 128965. (IF : 3.841 / Q2 / SCI & SCOPUS)
- K. Venkatramanan et al "National Education Policy (NEP) 2020 and SCSVMV" *SPRINGER : CSI Transactions on ICT*, Vol. 9, (Nov 2020), pp 11-15. (INSPEC)
- K. Venkatramanan et al "Philosophical reflections about the virtual world", *SPRINGER : CSI Transactions on ICT*, Vol. 9, (Nov 2020), pp 37-47. (INSPEC)
- K. Venkatramanan et al, "Indigenous heat flux differential scanning calorimeter (HF-DSC)", *SPRINGER : CSI Transactions on ICT*, Vol. 9, (Nov 2020), pp 49-57. (INSPEC)
- K. Venkatramanan et al "Development of educational model of power compensated differential scanning calorimeter (PC-DSC)", *SPRINGER : CSI Transactions on ICT*, Vol. 9, (Nov 2020), pp 59-70. (INSPEC)

JOURNAL PUBLICATIONS

- K. Venkatramanan et al, "Cost-Effective Production of TiO₂ with 90-Fold Enhanced Photocatalytic Activity via Facile Sequential Calcination and Ball Milling Post-Treatment Strategy", *Materials*, Vol. 13(22), (Nov 2020), Article No. 5072. (IF : 3.4 / Q2 / SCIE & SCOPUS)
 - R. Raja et al, "Growth, structural, spectral, thermal, electrical and optical characterization of a novel optical material: Triethanolamine picrate single crystals for optical applications", *Chinese Journal of Physics*, Volume 67, (Oct 2020), pp 27-36. (IF : 2.638 / Q2 / SCIE & SCOPUS)
 - K. Venkatramanan et al, "Physical Characteristics of Keyhole in 316L Stainless Steel Joint During an Autogenous Pulsed Laser Beam Welding", *Springer Proceedings in Materials*, Vol. 7, (Sep 2020), pp 519-531. (SCOPUS)
 - K. Venkatramanan & R. Padmanaban et al, "Acoustic, Rheological and Optical Properties of Binary Mixtures of Aqueous Solutions of PEG 200—A Comparative Analysis", *Springer Proceedings in Materials*, Vol. 7, (Sep 2020), pp 239-244. (SCOPUS)
 - K. Venkatramanan et al, "Recent Progress in the Abatement of Hazardous Pollutants Using Photocatalytic TiO₂-Based Building Materials", *Nanomaterials*, Vol. 10(9), (Sep 2020) Article No 1854. (IF : 5.3 / Q1 / SCIE & SCOPUS)
 - V. Ragavendran et al, "Syntheses, quantum mechanical modeling, biomolecular interaction and invitro anticancer - tubulin activity of thiosemicarbazones", *Bioorganic Chemistry*, Vol. 102, (Sep 2020), Article No 104081. (IF : 4.831 / Q1 / SCIE & SCOPUS)
- V. Ragavendran et al, "Characterization and optical limiting behavior of BaSnO₃ powder prepared by the conventional solid state method", *Materials Today: Proceedings*, Vol. 29(4), (Aug 2020) pp 1091-1097. (SCOPUS)

JOURNAL PUBLICATIONS

- K. Venkatramanan et al, "On the characterization of descending nature of cirrus clouds over a tropical site, Gadanki", International Journal of Remote Sensing, Vol. 41(17), (June 2020), pp 6550-6569. (IF : 3.151 / Q1 / SCI & SCOPUS)
 - V. Ragavendran et al, "Single crystal X-ray diffraction, spectral characterization, evaluation of electronic and chemical reactivity of tertbutylammonium Nacetylglycinate monohydrate A DFT study", Journal of Molecular Structure, Vol. 1220, (June 2020), Article No 128764. (IF : 3.841 / Q2 / SCI & SCOPUS)
 - J. Suganthi et al, "Structural, morphological and biological study of copper doped TiO₂ thin films by spray pyrolysis", AIP Conf Proc., Vol. 2220(1), (May 2020), pp 020059. (SCOPUS & WoS)
 - K. Venkatramanan et al, "Lidar Observed Optical Properties of Tropical Cirrus Clouds Over Gadanki Region", Frontiers in Earth Science, Vol. 8(140), (May 2020), pp 1-8. (IF : 2.9 / Q1 / SCIE & SCOPUS)
 - K. Venkatramanan et al, "Wearable and flexible thin film thermoelectric module for multi-scale energy harvesting", Journal of Power Sources, Vol. 455, (Apr 2020), Article No. 227983. (IF : 9.2 / Q1 / SCIE & SCOPUS)
 - V. Ragavendran et al, "DFT calculations as an efficient tool for prediction of Raman and infra-red spectra and activities of newly synthesized cathinones", Open Chemistry - De Gruyter, Vol 18, (Apr 2020), pp 185-195. (IF : 1.216 / Q3 / SCIE & SCOPUS)
- K. Venkatramanan et al, "Conductive and convective heat transfer during welding of AISI316L stainless steel using pulsed Nd: YAG laser", Elsevier : MaterialsToday Proceedings", Vol. 22(3), (Feb 2020), pp 465-472. (SCOPUS)

JOURNAL PUBLICATIONS

- K. Venkatramanan et al “Mono and hybrid nanofluid based heat sink technologies – A review”, Journal of Physics: Conference Series, Vol. 1644, (2020), pp 012048-1-16. (SCOPUS)
- V. Ragavendran et al, “Apoptosis effects of phenyl tagged isoxazolebenzoxadiazole hybrids On MDA MB-231 cancer cell line”, European Journal of Molecular & Clinical Medicine, Vol. 7(11), (2020), pp 6879-6894
- K. Rajalakshmi et al, “NBO, Hirshfeld Surface and MESP Study Of N-(4Aminobenzoyl) Glycine”, International Journal of Advance Scientific Research and Engineering Trends, Vol. 5(2), (2020), pp 5-11.
- K. Rajalakshmi et al, “NBO and Topology (Mesp, Elf, Lol) Analysis of 2Hydroxypropanamide”, International Journal of Advance Scientific Research and Engineering Trends, Vol. 5(4), (2020), pp 50-58.

STUDENT PUBLICATIONS

B. Hemalatha (M.Sc), “Structural and Morphological Study of Thermally Evaporated Gold Intermixed Silver Thin Films”, International Journal of Scientific Research and Review, Vol.8, (2019), pp 84-88

P. Dhivya (M.Phil), “Acoustic, Rheological and Optical Properties of Binary Mixtures of Aqueous Solutions of PEG 200 - A Comparative Analysis”, Springer Proceedings in Materials, Vol. 7, (Sep 2020), pp 239-244. (SCOPUS)