

Dr. S. Shailajha M. Sc., Ph. D
Assistant Professor
Department of Physics
Manonmaniam Sundaranar University
Abishekapatti
Tirunelveli 627 012
E-mail: drsshailajha@msuniv.ac.in

Educational Qualification:

- 2004 – 2008 Ph. D. (Physics) Annamalai University, Chidambaram, Tamilnadu, India.
Title: “Studies on Molecular interactions in Ternary liquid systems and few glass samples using Ultrasonic Technique”
- 2002 - 2004 M.Sc., (Physics) Annamalai University, Chidambaram, Tamilnadu, India (First Class)
- 1999 - 2002 B.Sc., (Physics) A.V.C College, Mayiladudhurai, Bharathidasan University, Tamilnadu, India (First Class)

Academic Affiliation:

- 2009 Onwards Assistant Professor, Department of Physics,
Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India
- 2009 Lecturer in Physics, A.E.C.College, Tamilnadu, India.

Post-doctoral positions/other:

- 2011 INSA Summer Research Fellow with Prof. V. Murugesan,
Supercomputer Education Research Centre,
Indian Institute of Science, Bangalore.

Abroad Visit:

- 2012 **Professor Norlida Kamarulzaman Ph.D.,**
Applied Science & Technology
Universiti Teknologi MARA
Kolej Amira Uitm Puncak Alam Road, 42300
Shah Alam, Selangor,
Malaysia

Professional Affiliation:

- Departmental Liaison Officer, IQAC, M.S.U. 2022 onwards.
- Member of Energy Audit Committee, M.S.U. 2022 onwards.
- Reviewer – Springer Publications (Journal of Material Science: Materials in Electronics) 2022.
- Reviewer – Springer Publications (Journal of Inorganic and Organometallic Polymers and Materials) 2022.
- Inspection Committee Member, 2022.
- BOS Member, M.S.U, 2022.

- *Subject Expert (VC Nominee) for the recruitment of Assistant Professor in Physics, Vyasa Arts and Science Women's College, 2022.*
- *Doctoral Committee member of M. Sharmila from Department of Physics, Sadakathullah Appa College, MSU, 2018 onwards.*
- *Observer, Online Ph.D Viva, 2022.*
- *Reviewer – Springer Publications (Journal of Material Science: Materials in Electronics) 2021 onwards*
- *Reviewer – Springer Publications (Journal of Inorganic and Organometallic Polymers and Materials) 2021.*
- *Doctoral committee member of H. Dhilshath Raihana from Department of Chemistry, MSU, 2019 onwards.*
- *Doctoral Committee member of K. Karthick from Department of Chemistry, MSU, 2018 Onwards.*
- *University Representation, Sri Ram Nallamani Yadava College of Arts & Science, Tenkasi, 2018 onwards.*
- *Executive Warden, Women's Hostel, M.S.U, June 2017 – Nov 2018.*
- *B. Sc, M. Sc Physics Course Faculty, DD & CE, 2017 onwards.*
- *Academic Council Member, St.Mary's College, Tuticorin, 2017 onwards.*
- *Member – Advisory Committee.*
- *Faculty-in-charge for B.Sc. /M.Sc. Physics Courses of ODL (DD & CE), 2017 onwards.*
- *Faculty-in-charge for B.Sc. /M.Sc. Physics Courses of DD & CE, 2017 onwards.*
- *Executive Warden for Women's Hostel, 2017-2018.*
- *Co-ordinator of Physics Alumni Association meet, 2017.*
- *Reviewer – Elsevier Publications (Journal of Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Journal of Material Science, etc.,)*
- *Observer, Central Board of Secondary Education, New Delhi, 2012 onwards.*
- *Faculty-in-charge for purchase chemicals & glasswares, 2010 onwards.*
- *Member of an Inspection Commissions.*
- *Observer, Ph. D Viva-voce Examinations.*
- *Observer, Pre-Ph. D Viva voce.*
- *Member - Board of Studies, M. S. University, Tirunelveli, India*
- *Member - World Academy of Science and Engineering Technology (WASET).*
- *Member - The International Association of Computer Science and Information Technology (IACSIT)*
- *Member - Science and Engineering Institute (SCIEI).*
- *Remedial Coaching Course In-Charge, August 2011.*
- *Faculty-in-charge for UGC-NET/SET Coaching Schemes 2011.*
- *Faculty-in-charge for Bank Exam Coaching Schemes 2011.*
- *Taught DD & CE Classes for PG Students, 2010 – 2012.*
- *Women's Welfare Committee Member, September 2010 onwards.*
- *Flying Squad in Mumbai and Pune M.S University centres, 2010.*

Area of Research:

- *Bioactive glass/ceramics Materials*
- *Silver Bio-Nanomaterials, Theoretical Studies.*
- *Ultrasonics*

Seminar/ Conference / Workshop Organized:

1. *Women's Day Celebration*
Centre for Women Empowerment & Women Studies,
Manonmaniam Sundaranar University, Tirunelveli
8th March, 2023
(Organizing Committee Member)
2. *5th International Conference on Recent Trends in Applied Science and Technology*
(ICRTAST – 2021)
Department of Physics, Chemistry and Life Science
Manonmaniam Sundaranar University, Tirunelveli
25th - 28th November 2021
(Organizing Committee Member)
3. *National Conference on Energy Materials (NCEM-2018),*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli
28th & 29th June 2018
(Organizing Committee Member)
4. *Refresher Course on Physics (RCP – 2018),*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli
March 2–3, 2018
(Convener)
5. *Workshop on Current Trends in Emerging Materials for Technological Applications,*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli
August 18, 2017
(Programme Co-ordinator)
6. *6th National Seminar on Advances in Materials Science NSAMS – 2017,*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,
March 2–3, 2017
(Organizing Committee Member)
7. *International Workshop on Advanced Functional Materials and Devices – IWAFMD2017,*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,
January 8 – 12, 2017
(Organizing Committee Member)
8. *Fifth National Seminar on Advances in Materials Science (NSAMS-2014),*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,
September 28- 29, 2014
(Organizing Committee Member)
9. *Fourth National Seminar on Advances in Materials Science (NSAMS-2012),*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,

January 23-24, 2012
(Organizing Committee Member)

10. *Workshop on Advances in Physics - 2011*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,
March 10- 11, **2011.**
(Secretary)
11. *One Day In-House Seminar on Physics in Honour of Prof. Dr. N. Arunachalam,*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli,
September 30, 2010
(Secretary)
12. *One day “Workshop on Advances in Physics – 2010”*
Department of Physics, Manonmaniam Sundaranar University, Tirunelveli
March 5, 2010.
(Convener)

Honors / Award / Nomination to prestigious in State / National / International level:

1. ***Observer – NEET Examination, May 2024.***
2. ***Women Achiever Award (Teaching Category)***
Dr. S. Shailajha
From all over M.S. University affiliated Colleges
(Tirunelveli, Thoothukudi, Nagercoil, Kanniyakumari)
Centre for Women Empowerment & Women Studies, M.S.U
8th Mar 2024.
3. ***Judge in Cosplay for Mano-Intramural Competitions, Organized by Youth Welfare***
Department & Centre for Students Affairs, M.S.U. 2023.
4. ***Judge in Literary Competitions for International Women’s Day Celebration, Organized by***
the Centre for Women Empowerment & Women Studies, M.S.U. 2023.
5. ***Prize for the best interaction***
“Intellectual Property Right”, Conducted by Patent Information Centre, TNSCST on
4th Aug 2022.
Prize Book: “Grass Roots Innovation”
6. ***NPTEL-SWAYAM Online Course Completed Certificate***
Subject :Biomedical Nanotechnology
Duration :Aug –Sep 2022 (4 weeks)
Marks : 62% with Elite Medal
Type of Certificate :Elite
7. ***Chaired Session in the 5th International Conference on Recent Trends in Applied Science***

and Technology (ICRTAST – 2021)
Department of Physics, Chemistry and Life Science
Manonmaniam Sundaranar University, Tirunelveli,
25th - 28th November 2021.

8. **Inter/Multi-Disciplinary Refresher Courses Course on MOOCs and E-Content Development, UGC – Human Resource Development Centre (HRDC), Pondicherry University, 01 – 14th, October 2021. (Representative of the Course)**
9. **NPTEL-SWAYAM Online Course Completed Certificate**
Subject :Biomaterials for Bone Tissue Engineering Applications
Duration :Jul –Sep 2019 (8 weeks)
Marks :94% with Gold Medal (Topper)
Type of Certificate: Elite+Gold
10. **Best Minutes Award for Paper Presentation in “The Indian Science Congress” Manipur University, Imphal, on 16th to 20th March, 2018.**
Title: “Biosynthesis and Characterization of Silver nanoparticles using Tinospora Cordifolia leaf extract and their antimicrobial Activity”
11. **Reviewer - Materials Science and Engineering C (Elsevier Journal).**
12. **Reviewer – Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy.**
13. **Best paper Award in State level Seminar on Recent trends in Material Science (RTMS – 2015), 16th February 2015.**
Title: Biosynthesis of Silver Nanoparticles from Leaf Extract of Azadirachta Indica and its Application of Antimicrobial Activity
14. **Best Paper Award in National Conference (NCAMA – 2014), 4th and 5th April 2014.**
Title: Ecofriendly Synthesis and anti-bacterial application of Ag and AgO nanofiber using O.Florum and S.Trilobatum
15. **Chaired Session in “National Seminar on Recent Trends in Physics 2013” on 18th March 2013 at Department of Physics, Manonmaniam Sundaranar University, Tirunelveli.**
16. **Chaired Session in ICBESE 2012- International Conference on Biological, Ecological and Environmental Science and Engineering on Feb 19- 21, 2012 at Kuala Lumpur, Malaysia.**
17. **DST – SERB Sanctioned International Travel Grant for Attending International Conference on Biological, Ecological and Environmental Science and Engineering, Feb 19 – 21, 2012 at Kuala Lumpur, Malaysia.**
18. **Awarded Summer Research Fellowship 2011, Supercomputer Education Research Centre,**

Indian Institute of Science, May – July, 2011 Bangalore.

Faculty Development Programme:

1. **NPTEL-SWAYAM Online Course Completed Certificate**
Subject: Biomedical Nanotechnology
Duration: Aug –Sep 2022 (4 weeks)
Marks: 62% with Elite Medal
Type of Certificate: Elite
2. **Inter/Multi-Disciplinary Refresher Courses Course on MOOCs and E-Content Development**
UGC – Human Resource Development Centre (HRDC), Pondicherry University, 01 – 14th, October 2021.
3. **NPTEL-SWAYAM Online Course Completed Certificate**
Subject: Biomaterials for Bone Tissue Engineering Applications
Duration: Jul –Sep 2019 (8 weeks)
Marks: 94% with Gold Medal (Topper)
Type of Certificate: Elite+Gold
4. **UGC-Sponsored Short-term Course in Gender Sensitization**
University of Kerala, Kariavattom, Trivandrum, 21st – 29th December, 2018.
5. **Short term Course on Faculty Empowerment Programme on Students Success (FEPS – 2018)**
Manonmaniam Sundaranar University, Tirunelveli, 18th – 24th January 2018.
6. **Refresher Course on Experimental Physics**
Indian Academy of Sciences, Bangalore, 6 – 21st June 2013.
7. **Orientation Programme**
University of Calicut, Calicut 1 – 28th February 2011.

Research Publications:

1. *Optimizing Hydroxyapatite Growth in Sol-Gel Synthesized Antimicrobial Aluminum Titanate Biomaterials*
Shanmugapriya B, S. Shailajha, and Sakthi @ Muthulakshmi S
Journal of Sol-Gel Science and Technology, (2024)
Impact Factor: 2.5
Publisher: Springer (Under Review)

2. *Calcium silicate biocomposites: effects of selenium oxide on the physic-mechanical features and their in-vitro biological assessments*
S. Sakthi Muthulakshmi, S. **Shailajha**, B. Shanmugapriya and K. Chidhambara Priya Dharshini
Biomedical Materials, (2023)
Impact Factor: 4.0
Publisher: IOP
3. *Bio-physical investigation of calcium silicate biomaterials by green synthesis- osseous tissue regeneration*
S. Sakthi Muthulakshmi, S. **Shailajha**, B. Shanmugapriya
Journal of Materials Research, (2023)
Impact Factor: 3.0
Publisher: Springer
4. *Dielectric, ac-conductivity, magneto-impedance, magneto-dielectric, magneto-conductivity properties of novel magnetic core materials*
R. Sankaranarayanan, S. **Shailajha**, S. Seema, M.S. Kairon Mubina,
Journal of Applied Physics, (2023)
Impact Factor: 2.877
Publisher: Springer
5. *Enhanced magneto-electric properties of ZnAl₂O₄@NiFe₂O₄ nanocomposites in magnetic sensor applications*
R. Sankaranarayanan, S. **Shailajha**, S. Seema, M.S. Kairon Mubina,
Journal of Superconductivity and Novel Magnetism, (2023)
Impact Factor: 1.675
Publisher: Springer
6. *Plasmonic core-shell nanoparticles of Ag@TiO₂ for photocatalytic degradation of Rhodamine B*
C. Parvathiraja and S. **Shailajha**,
Journal of Applied Nanoscience, (2022): 1-16
Impact Factor: 3.674
Publisher: Springer
7. *High Performance Visible light Photocatalyst antibacterial applications of ZnO and Plasmonic decorated ZnO nanoparticles*
C. Parvathiraja and S. **Shailajha**,
Journal of Applied Nanoscience, (2022): 1-17
Impact Factor: 3.674
Publisher: Springer
8. *Bone Formation with high Bacterial inhibition and low toxicity behavior by melding of Al₂O₃ on Nanobioactive glass ceramics via Sol-gel Process*
M.S. Kairon Mubina, S. **Shailajha**, R. Sankaranarayanan, M. Iyyadurai

Journal of Sol-gel Science and Technology 103, (2022): 151-171

Impact factor: 2.326

Publisher: Springer

9. *Investigation on structural and H₂ gas sensing response of AlCdZnNiFe₂O₄ sensor material*
R. Sankaranarayanan, S. **Shailajha**, C. Dineshkumar, A. Felchiya jasmine
Ceramics International, 48 (1), (2021): 720-731
Impact factor: 4.527
Publisher: Elsevier
10. *Enriched Biological and Mechanical properties of Boron doped SiO₂-CaO-Na₂O-P₂O₅ bioactive glass ceramics*
M.S. Kairon Mubina, S. **Shailajha**, R. Sankaranarayanan, S. Thiruthuva Smily
Journal of Non-Crystalline solids, 570 (2021): 121007.
Impact factor: 3.531
Publisher: Elsevier
11. *Influence of divalent ions on Structural, Magnetic and Electrical response of Co_zCd_yZn_xNi_(1-x-y-z)Fe₂O₄ core materials*
R. Sankaranarayanan, S. **Shailajha**, M.S. Kairon Mubina, and C. P. Anilkumar
Journal of Magnetism and magnetic materials, (2021), 167892
Impact factor: 2.993
Publisher: Elsevier
12. *Bioproduction of CuO and Ag/CuO Heterogeneous Photocatalysis- Photocatalytic dye degradation and biological activities.*
C. Parvathiraja, S. **Shailajha**
Journal of Applied Nanoscience, (2021), 1-15.
Impact factor: 3.198
Publisher: Springer
13. *Biosynthesis of silver nanoparticles by Cyperus pangorei and its potential in structural, optical and catalytic dye degradation*
C. Parvathiraja, S. **Shailajha**, S. Shanavas & J. Gurung
Journal of Applied Nanoscience (2021):1-15
Impact factor: 3.198
Publisher: Springer
14. *Effect of Ni²⁺ and Fe³⁺ Ion Concentrations on Structural, Optical, Magnetic, and Impedance Response of NiFe₂O₄ Nanoparticles Prepared by Sol-Gel Process*
R. Sankaranarayanan, S. **Shailajha**, M.S. Kairon Mubina, and C. P. Anilkumar
Journal of Superconductivity and Novel Magnetism (2020): 1-12
Impact Factor: 1.244
Publisher: Springer
15. *Effect of Zn²⁺ ions on structural, optical, magnetic, and impedance response of Zn_x@ Ni_{1-x}Fe₂O₄ core materials prepared by two-step polyacrylamide gel method.*

- R. Sankaranarayanan, **S. Shailajha**, M.S. Kairon Mubina, and C. P. Anilkumar
Journal of Materials Science: Materials in Electronics (2020): 1-14.
Impact Factor: 2.195
Publisher: Springer
16. *In vitro* bioactivity, mechanical behavior and antibacterial properties of mesoporous SiO₂-CaO-Na₂O-P₂O₅ nano bioactive glass ceramics
 M.S. Kairon Mubina, **S. Shailajha**, R. Sankaranarayanan and L. Saranya
Journal of Mechanical Behavior of Biomedical Materials 100 (2019) 103379
Impact Factor: 3.485
Publisher: Elsevier
17. *Modified Polymer Network Gel Preparation on Ag/ZnO Quasi sphere Nanostructure with Enhanced Structural and Optical Properties*
 C. Parvathiraja, **S. Shailajha**, S. Shanavas, G. Abinaya, M.S. Kairon Mubina, and A. Roberto
Mater. Res. Express: **6**, p 0950a2 2019
Impact Factor: 1.449
Publisher: IOP
18. *Photocatalytic and antibacterial activity of bio-treated Ag nanoparticles synthesized using Tinospora cordifolia leaf extract*
 C. Parvathiraja, **S. Shailajha**, S. Shanavas, and M.S. Kairon Mubina
Journal of Materials Science: Materials in Electronics (JMSE), 30: 8515-8525, 2019
Impact Factor: 2.019
Publisher: Springer
19. *Volumetric approach to the interaction of L-Proline in aqueous Metformin Hydrochloride solutions for temperature range 298.15-318.15 K*
 K. Rajagopal, M. Mohamed Roshan, **S. Shailajha** and G. Roy Richi Renold
Journal of Chemical Thermodynamics (JCT), Volume 133, 312-319, 2019
Impact Factor: 3.178
Publisher: Elsevier
20. *Interactions of L-Threonine with an aqueous anti-diabetic drug solution at various temperatures: A Volumetric approach*
 Rajagopal K, **S. Shailajha**, Mohamed Roshan M, and Roy Richi Renold G.
European Journal of Biomedical and Pharmaceutical Sciences, Volume 5, Issue 5, 558- 566, 2018,
Impact Factor: 6.044
21. *Temperature –Dependent Volumetric and Viscometric properties of L-Phenylalanine in Aqueous Metformin hydrochloride solutions*
 Rajagopal K, **S. Shailajha**, Mohamed Roshan M, and Roy Richi Renold G.
World Journal of Pharmaceutical Research, Volume 6, Issue 14, 938-957, 2017
Impact Factor: 8.084
22. *Viscosities of L-Proline and L-Threonine in (0.05, 0.10, 0.15, and 0.20) Mol.Kg⁻¹ aqueous*

Metformin Hydrochloride solutions at different Temperatures
Rajagopal K, S. **Shailajha**, Mohamed Roshan M, and Roy Richi Renold G.
European Journal of Biomedical and Pharmaceutical Sciences, Volume 4, Issue 11, 411-419,
2017

Impact Factor: 6.044

23. *Spectral Studies on CuO in Sodium-Calcium Borophosphate Glasses*
S. **Shailajha**, K. Geetha, and P. Vasantharani
Bulletin of Material Science, 2016
Impact Factor: 1.783
Publisher: Springer
24. *Elastic and Mechanical properties of high purity Na- Ca- P- B: Cu Glasses – Quenching Route*
S. **Shailajha**, K. Geetha, and P. Vasantharani
Journal of Scientific Research and Advances, Vol. 2, 108-114, November 3, (2015)
ISSN: 2395 – 0226
25. *Effects of Copper on the preparation and characterization of Na-Ca-P borate glasses*
S. **Shailajha**, K. Geetha, P. Vasantharani and S. P. Sheik Abdul Kadhar
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 138,
846–856, (2015).
Impact Factor: 4.098
Publisher: Elsevier
26. *Molecular Structure, Vibrational Spectra and ¹³C and ¹H NMR Spectral analysis of 1-Methylnaphthalene by AB initio HF and DFT methods*
S. **Shailajha**, U. Rajesh Kannan, and S. P. Sheik Abdul Kadhar and E. Isac Paulraj
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 133, 720–729,
(2014).
Impact Factor: 4.098
Publisher: Elsevier
27. *An innovation in Brick Technology-Addition of Sludge to Red Clay Bricks and their interaction studied applying Spectroscopic techniques*
S. **Shailajha** and D. Maria Sahaya Teena
World Academy of Science, Engineering and Technology, 62, 1492 (2012)
pISSN : 2010-376X, eISSN : 2010-3778
28. *Molecular Interaction Studies on Aniline Containing Organic Liquid Mixtures Using Ultrasonic Technique*
P. Vasantharani, T. Balu, R. Ezhilpavai and S. **Shailajha**
Global Journal of Molecular Sciences, 4(1), 42 (2009)
ISSN NO: 1990-9241
29. *Acoustic Properties of Borate Glasses Doped with Ag₂O*
S. **Shailajha** and P. Vasantharani
Global Journal of Molecular Sciences, 4(1), 29 (2009)

ISSN NO: 1990-9241

30. *Ultrasonic Investigation on Aqueous Ternary Electrolytic Solutions*
S. Shailajha, P.Vasantharani and S. Sangeetha
Annamalai University Science Journal 45 (2008) pp: 73-78.
31. *Evaluation of Some Acoustical Parameters in Ternary Mixtures of 1-ols in Tea at 303, 308 and 313K*
S. Shailajha, P.Vasantharani and AN. Kannappan
Annamalai University Science Journal 45 (2008) pp: 67-72
32. *Ultrasonic Velocity Studies on the Influence of Electrolytes on Molecular Interactions in Aqueous Solutions of Ethylene Glycol*
P.Vasantharani, S. Shailajha, AN. Kannappan
Asian Journal of Experimental Chemistry, 3, 64 (2008)
ISSN NO: 0973-4783
33. *Theoretical Evaluation of Ultrasonic Velocity in Organic Liquid Mixtures*
P.Vasantharani, S. Shailajha, AN. Kannappan, R. Ezhil Pavai
Journal of Applied Sciences, 8(12), 2329 (2008),
ISSN NO: 1812- 5624

Participated/Papers presented in National and International Conference / Symposia/ Workshop:

1. *In-vitro Biological Investigations and mechanical behavior of selenium oxide doped calcium silicate biocomposites for bone tissue regeneration.*
S. Shailajha and Sakthi @ Muthulakshmi. S
International conference on Advanced Materials, Devices and Technologies (ICAMDT-2023)
Sri Venkateswara University, Tirupati, 6th -7th November 2023
ISBN No.: 978-81-19093-38-0
2. *Calcium silicate biocomposites: effect of zirconia on mechanical stability and in-vitro biological activity*
Sakthi @ Muthulakshmi. S and S. Shailajha
International conference on Advanced Materials, Devices and Technologies (ICAMDT-2023)
Sri Venkateswara University, Tirupati, 6th -7th November 2023
ISBN No.: 978-81-19093-38-0
3. *Bio-physical investigation of aluminum titanate biomaterials-osteo tissue regeneration*
Shanmugapriya. B, S. Shailajha and Sakthi @ Muthulakshmi. S
International conference on Advanced Materials, Devices and Technologies (ICAMDT-2023)
Sri Venkateswara University, Tirupati, 6th -7th November 2023
ISBN No.: 978-81-19093-38-0

4. *Bio-Physical Investigation of Gelatin Cross-Linked Calcium Silicate Biomaterials by Green Synthesis- Osseous Tissue Regeneration*
Sakthi @ Muthulakshmi S and **S. Shailajha**
International Conference on Chemistry for Sustainable Development-ICCSO 2023
Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore,
22nd -23rd February 2023
5. *In-vitro Investigation of SiO₂ doped Al₂O₃:TiO₂ Nanocomposites for Orthopaedic Applications*
Shanmugapriya B, **S. Shailajha**, Sakthi @ Muthulakshmi S
International Conference on Chemistry for Sustainable Development-ICCSO 2023
Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore,
22nd -23rd February 2023
6. *One-day Workshop on “Intellectual Property Right”*
Dr. S. Shailajha
IQAC, M.S.U. 15th Feb 2023.
7. *One-day Training on “Preparation of Revised Bloom’s Taxonomy-based Internal and Semester Exam Question Papers”*
Dr. S. Shailajha,
IQAC, M.S.U. 24th Jan 2023.
8. *Short Term Course on Surface Engineering of Nano-materials*
Dr. S. Shailajha,
Conducted by Prof. Kaushik Pal, IIT Roorkee NPTEL, December 8 – 10, 2022.
9. *Bio-physical Investigation of Selenia doped Calcium Silicate Biomaterials-Osseous Tissue regeneration*
Sakthi @ Muthulakshmi S, **S. Shailajha**, Shanmugapriya B
Conference on Quantum Materials, Nanoscience, & Nanotechnology-CONQUEST 2022
Bannari Amman Institute of Technology, Erode, **4th-5th November 2022**
ISBN No.: 978-93-5737-587-0
10. *Synthesis of Al₂O₃-TiO₂ Biomaterials by Sol-gel Technique Study of Mechanical Behaviour*
Shanmugapriya B, **Shailajha S**
Conference on Quantum Materials, Nanoscience, & Nanotechnology-CONQUEST 2022
Bannari Amman Institute of Technology, Erode, **4th-5th November 2022**
ISBN No.: 978-93-5737-587-0
11. *“Intellectual Property Right”*,
Dr. S. Shailajha,
Patent Information Centre, TNSCST on 4th Aug 2022.
12. *Ornament making using crystals for a Triumphant Entrepreneur*
S. Shailajha
Centre for Women Empowerment & Women Studies,

Manonmaniam Sundaranar University, Tirunelveli
18th August 2022.

13. *Quilling & Dream catcher for a Crafty Entrepreneur – II*
S. Shailajha
Centre for Women Empowerment & Women Studies,
Manonmaniam Sundaranar University, Tirunelveli
20th May 2022.
14. *A Two Day Online Workshop on e-survey tools*
S. Shailajha
Department of Education
Manonmaniam Sundaranar University, Tirunelveli
29-30th March 2022.
15. *In-vitro bioactivity and mechanical behavior of biosynthesized wollastonite (CaSiO₃) nanomaterials from natural sources-Bone tissue regeneration applications*
Dr. S. Shailajha
Research Conclave 2022
Indian Institute of Technology, Indore, 10 – 12th February 2022.
16. *Bone formation with high bacterial inhibition and low toxicity behavior by melding of Al₂O₃ on Nanobioactive glass ceramics”*
M.S. Kairon Mubina, S. Shailajha, R. Sankaranarayanan, M. Iyyadurai
Research Conclave 2022
Indian Institute of Technology, Indore, 10 – 12th February 2022.
17. *In-vitro bioactivity and mechanical behavior of CaSiO₃ wollastonite bio-nanomaterials synthesized from natural sources for bone tissue regeneration.*
Sakthi @ Muthulakshmi S and S. Shailajha
Research Conclave 2022
Indian Institute of Technology, Indore, 10 – 12th February 2022.
18. *5th International Conference on Recent Trends in Applied Science and Technology (ICRTAST – 2021)*
S. Shailajha
Department of Physics
Manonmaniam Sundaranar University, Tirunelveli
25 - 28th November 2021.
19. *Enhancement in Cytocompatibility and Antibacterial activity of SiO₂-CaO-Na₂O-P₂O₅-MgO nanobioactive glass ceramics by incorporation of Al₂O₃ for orthopaedic applications*
M.S. Kairon Mubina, S. Shailajha, R. Sankaranarayanan, M. Iyyadurai
International Conference on Biotechnology for Environment and Health (ICBEH)
School of Bio Sciences and Technology
Vellore Institute of Technology (VIT), 25 – 27th, November 2021

20. *Nanomaterials for Biomedical Applications*
S. Shailajha
MHRD – RUSA 2.0 “Biomaterials” Functional synthetic materials for biomedical applications (Theme – 2)
National Centre for Nanoscience and Nanotechnology
University of Madras, Madras, **14th August 2021.**
21. *7th International Day of Yoga Webinar on “Yoga for Wellness”*
S. Shailajha
Department of Physical Education and Sports,
Manonmaniam Sundaranar University, Tirunelveli, **20th June 2021.**
22. *The Role of Gelatin in Nano Bioactive Glass Ceramics (nBGC)-Gelatin (Gel) Hybrid Scaffolds for Bone Tissue Engineering*
M.S. Kairon Mubina, **S. Shailajha** and R. Sankaranarayanan
3rd International Conference on Emerging Trends in Materials Science, Technology and Engineering (ICMSTE2K21)
Department of Mechanical Engineering,
Syed Ammal Engineering College, Ramanathapuram, India, **4th to 6th, March 2021.**
23. *In Vitro Biocompatibility of 45S5 Nano Bioactive Glass Ceramics by the combined synthesis of Sol-Gel and Co-Precipitation Method,*
M.S. Kairon Mubina, **S. Shailajha** and R. Sankaranarayanan
India – UK Second International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH-2019)
PG & Research Department of Physics,
Bishop Heber College, Tiruchirappalli, India, **4th to 6th February 2019.**
24. *Enhanced Magnetic sensitivity of $Zn_x@Ni_{1-x}Fe_2O_4$ Nanocomposites by Polyacrylamide Gel Method*
R. Sankaranarayanan, **S. Shailajha**, and M.S. Kairon Mubina
India – UK Second International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH-2019)
PG & Research Department of Physics,
Bishop Heber College, Tiruchirappalli, India, **4th to 6th February 2019.**
25. *India – UK Second International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH-2019) – Participated*
S. Shailajha
PG & Research Department of Physics,
Bishop Heber College, Tiruchirappalli, India, **4th to 6th February 2019.**
26. *Functionalized Silver doped Hydroxyapatite nanocomposites for controlled Antibacterial and Cytotoxicity*
M.S. Kairon Mubina, **S. Shailajha**, and G. Anusuya
Two-Day National Seminar on Emerging Trends in Physics (NSETP-2019),
Department of Physics, Sadakathullah Appa College, **10th to 11th January 2019.**

27. *Preparation, Investigation and Electromagnetic Properties of Hard-Soft Magnetic Core-Shell nanocomposites for magnetic sensors by Polyacrylamide SolGel route*
R. Sankaranarayanan, **S. Shailajha**, M.S. Kairon Mubina and C. P. Anilkumar
Third International Conference on Soft Materials (ICSM 2018),
Malviya National Institute of Technology, Jaipur, **09th to 14th December 2018.**
28. *One day Seminar on “Prevention of Sexual Harassment at Working Places & Creation of Legal Awareness” (PSHCLA '18)*
Dr. S. Shailajha
Centre for Women Empowerment & Women Studies,
Manonmaniam Sundaranar University, Tirunelveli in collaboration with National
Commission for Women, Govt. of India, New Delhi, **3rd October, 2018.**
29. *Biosynthesis and Characterization of Silver nanoparticles using Tinospora Cordifolia leaf extract and their antimicrobial Activity*
S. Shailajha, C. Parvathiraja, M.S. Kairon Mubina and R. Sankaranarayanan
105th Indian Science Congress
Manipal University, Imphal, Manipur, **16th to 20th March, 2018.**
30. *One day Research Development Programme on “Lemuria Continent National Conference”*
Dr. S. Shailajha
Manonmaniam Sundaranar University, Tirunelveli, **21st December, 2017.**
31. *Carica Papaya Leaf Extract Mediated Green Synthesis of Silver Nanoparticles and its Characterization*
S. Shailajha, R. Sankaranarayanan, D. Danielraj, C. Parvathiraja and M.S. Kairon Mubina
ICN:31-2017 International Conference on Nanotechnology: Ideas, Innovations &
Initiatives -2017
Centre of Nanotechnology, Department of Mechanical & Industrial Engg, IIT Roorkee,
Roorkee, India, **December 06 – 08, 2017.**
32. *Facile Green Synthesis of silver nanoparticles using Zingere officinale extract-structural and optical properties*
S. Shailajha, M.S. Kairon Mubina, B. Mariammal, C. Parvathiraja and R.
Sankaranarayanan
International Symposium on Nanomaterials for Clean Energy and Health Applications
(ISNCHA – 2017),
Coimbatore Institute of Technology, Coimbatore, India, **December 06 – 08, 2017.**
33. *A One-day Orientation Programme for Government, Aided and Autonomous College Teachers of Manonmaniam Sundaranar University*
Dr. S. Shailajha
Centre for Curriculum and Faculty Development & Department of Education
Manonmaniam Sundaranar University, Tirunelveli, **15th September 2017.**
34. *One day Training Programme on “ Effective Utilization of E- Resources ”*

Dr. S. Shailajha

University Library & Internal Quality Assurance Cell, Manonmaniam Sundaranar University, Tirunelveli. 10th August 2017.

35. *A One-day Training on “High Impact Teaching Skills (HITS)”*
Dr. S. Shailajha
Internal Quality Assurance Cell
Manonmaniam Sundaranar University, Tirunelveli, 19th July 2017
36. *Modified Polymer-Network Gel Preparation of Ag/ZnO Quasi Sphere Nano Composites with Enhanced Structural and Optical properties*
S. Shailajha, G. Abinaya and C. Parvathiraja
International Workshop on Advanced Functional Materials and Devices
Manonmaniam Sundaranar University, Tirunelveli, 8-12 January 2017
37. *Ecofriendly Synthesis and anti-bacterial application of Ag and AgO nanofiber using O.Florum and S.Trilobatum*
S. Shailajha, S. Ashapriyadharshini.
State level Seminar on recent trends in Material Science
Sadakathullah appa college, Tirunelveli, 16.02.2015
38. *Photoluminescence properties of Cu²⁺ ions doped in Sodium- Calcium Borophosphate glasses*
S. Shailajha, K. Geetha, and P. Vasantharani
National Conference on Advanced Materials and its Applications (NCAMA – 2015)
Hindustan University, Chennai, 29.01.2015 – 30.01.2015.
39. *Mechanical Properties of Cu doped Borophosphate Glasses.*
S. Shailajha, K. Geetha, and P. Vasantharani
National Seminar on “Recent Advances on Luminescent Materials”(RALM – 2015).
Annamalai University, Chidambaram, 23.01.2015- 24.01.2015.
40. *Optical and magnetic studies of pure and metal doped magnetic nanoparticles*
S. Shailajha and R. Swetha
International Conference on magnetic materials and applications (ICMAGMA-2014)
Pondicherry University, Pondicherry on 15.09.2014- 17.0-9.2014
41. *Molecular Structure, Vibrational Spectra and ¹³C and ¹H NMR spectral analysis of 1-Methylnapthalene by AB initio HF and DFT method*
S. Shailajha and R. Swetha
5th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS – 2014), Muscot Hotel, Trivandrum, 08.07.2014 - 12.07.2014
42. *Ecofriendly and Rapid Biosynthesis of Silver Nanoparticles using Leaf Extract of Medicinal Plants and its Antimicrobial Activity*
S. Shailajha, S. Ashapriyadharshini and K. Jothi
6th National Symposium for Material Research Scholarls (MR-14) IIT, Bombay

13.05.2014 - 14.05.2014

43. *One day Workshop on Advance Characterization Techniques*
S. Shailajha, S. Ashapriyadharshini and K. Jothi
6th National Symposium for Material Research Scholarls (MR-14) IIT, Bombay
12.05.2014
44. *Synthesis, Characterization and Comparison of Tin Oxide Nanosheets annealed at Different Temperature*
S. Shailajha and T. Veeralakshmi
National Conference in Advanced Materials and its applications (NCAMA – 2014)
Annamalai University, 04.04.2014-05.04.2014
45. *Preparation and Characterization of CdS, CdSe and CdO Nanoparticles and Nanosheets*
S. Shailajha and N.Sudha
National conference in Advanced Materials and its applications (NCAMA – 2014)
Annamalai University, 04.04.2014-05.04.2014
46. *Synthesis and Characterization of CuO Nanosheets by Quick Precipitation Method with Capping agent*
S. Shailajha and J. Subbulakshmi
National conference in Advanced Materials and its applications (NCAMA – 2014)
Annamalai University, 04.04.2014-05.04.2014
47. *Biosynthesis of Silver Nanoparticles from Leaf Extract of Azadirachta Indica and its Application of Antimicrobial Activity*
S. Shailajha and V. Avudaiammal
National conference in Advanced Materials and its applications (NCAMA – 2014)
Annamalai University, 04.04.2014-05.04.2014
48. *Synthesis and Characterization of Highly Crystalline γ - Fe₂O₃ Nanoparticles Doped with Sn, Ni and Zn*
S. Shailajha and R. Swetha
2nd National Conference on Hierarchically Structured materials (NCHSM 2014),
SRM University, 24.03.2014 – 25.03.2014
49. *Ultrasonic Assisted Synthesis of ZnO Nanorods and Cd doped ZnO Nanosheets*
S. Shailajha and E. Jenitta
2nd National Conference on Hierarchically Structured materials (NCHSM 2014)
SRM University, 24.03.2014 – 25.03.2014
50. *Structural Investigation of CuO Doped Borate Glasses by XRD, FT-IR and UV Spectroscopic Methods*
S. Shailajha, K. Geetha and P. Vasantharani
International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS 2013),
Bishop Moore College, Mavelikara, 06.08.2013- 09.08.2013

51. *A Two-day Workshop on ACQUISITION OF micro-skills IN TEACHING*
S. Shailajha
 Department of Education in collaboration with curriculum development cell,
 Manonmaniam Sundaranar University, Tirunelveli on 21-22, **March 2013.**
52. *Synthesis and Structure analysis of Aluminium doped Zinc oxide (AZO) nanoparticles (Oral Presentation)*
S. Shailajha
 International Conference on Material Science (ICMS-2013)
 Department of Physics, Tripura University (A Central University), Suryamaninagar,
 Tripura, on February 21-23, **2013.**
53. *One day Workshop on “Violence Against Women”*
S. Shailajha
 Department of Criminology and Criminal Justice
 Manonmaniam Sundaranar University, Tirunelveli, 30th **January, 2013.**
54. *Two day Workshop on “Mobilization of Impact – Making R & D Projects”*
S. Shailajha
 Curriculum Development Cell
 Manonmaniam Sundaranar University, Tirunelveli, 11 & 12 **December 2012.**
55. *An innovation in Brick Technology-Addition of Sludge to Red Clay Bricks and their interaction studied applying Spectroscopic techniques*
S. Shailajha and D. Maria Sahaya Teena
 ICBESE 2012: **International Conference on Biological, Ecological, and Environmental Science, and Engineering, February 19-21, 2012 at Kuala Lumpur, Malaysia**
56. *National Seminar on Advances in Materials Science, NSAMS-2012, Department of Physics, Manonmaniam Sundaranar University, Tirunelveli, 23rd & 24th January 2012.*
57. இரு மற்றும் முத்திரவக் கலவைகளில் மீயொலித் திசைவேகத்தை தேற்றவியல் மூலம் ஒப்பிடுதல்
 ச. ஷைலஜா, கு. கீதா மற்றும் பா. வசந்தராணி
 தமிழக அறிவியல் பேரவை பதினொன்றாவது கருத்தரங்கம் ஆய்வு கோவை ஜீன் 26-27, 2011
 (பக்கம் 5).
58. *National Seminar on Structural Bioinformatics-2011, Manonmaniam Sundaranar University, Tirunelveli, India, March 4, 2011.*
59. *Comparative study of Theoretical Ultrasonic Velocities of Binary and Ternary Mixture”*
S. Shailajha P. Vasantharani and K. Geetha
 National Conference on Recent Advances in Molecular Physics (NCRAMP’11), Department
 of Physics, Queen Mary’s College(A), Chennai, 10th & 11th **February, 2011.**
60. வெள்ளியால் மாசுபடுத்தப்பட்ட போரேட் கண்ணாடியின் ஒலிப் பண்புகள்
 ச. ஷைலஜா மற்றும் பா. வசந்தராணி
 தமிழக அறிவியல் பேரவை தேசியக் கருத்தரங்கம் ஆய்வுக் கோவை அக்டோபர் 07 – 08, 2010
 (பக்கம் 123).

61. *Physiochemical Studies on Borate Glasses Doped with Silver*
S.Shailajha and P. Vasantharani
**International Conference on Recent Frontiers in Applied Spectroscopy (ICORFAS-2010),
 September 22- 24, 2010, Department of Physics, Annamalai University.**
62. கரிம திரவ கலவைகளில் மீயொலித் திசைவேகத்தை தேற்றவியல் மூலம் மதிப்பிடுதல்
 ச. ஷைலஜா மற்றும் பா. வசந்தராணி
 தமிழக அறிவியல் பேரவை பத்தாவது கருத்தரங்கம் ஆய்வுக் கோவை மே 21-23, 2010
 (பக்கம் 92)
63. *National Seminar on Structural Bioinformatics – 2010 Funded by Department of
 Biotechnology, Manonmaniam Sundaranar University, Tirunelveli, Government of India,
 February 26, 2010.*
64. *One day Workshop on “IUAC acquaintance programme on Accelerator based Science and
 Technology” October 20, 2009 at VIT University, Vellore.*
65. *Studies on Intermolecular Interactions in Ternary Mixtures of n-Hexane with Triethylamine
 in Primary Alcohols at Various Temperatures: an Ultrasonic Study*
S. Shailajha and P. Vasantharani
*DST & UGC Sponsored National Seminar on Theoretical and Chemical Sciences (Tacs
 2008), February 22nd & 23rd, 2008.*
66. *Studies on intermolecular interactions in Ternary Mixtures of n-Hexane with Triethylamine
 in Primary alcohols at Various Temperatures: an Ultrasonic Study*
S. Shailajha P. Vasantharani and R. Ezhil Pavai.
*DST & UGC Sponsored National Seminar On Theoretical And Chemical Sciences (TACS
 2008), February 22nd & 23rd, 2008.*
67. *Ultrasonic Investigation On Aqueous Ternary Electrolytic Solutions*
S. Shailajha N. Sangeetha and P. Kalaimagal.
Porc, 94th Indian Science Congress Conference Part II, January 3-7, 2007.
68. *Molecular Interaction Studies in Binary Liquid Mixtures-an Ultrasonic Study, Porc, 94th
 K.Karthikeyani Vijayakumari, S. Abirami and S. Shailajha.*
Indian Science Congress Conference Part II, January 3-7, 2007.
69. *One Day Workshop on Water Management in Annamalai University, January 25, 2006.*
70. *Workshop on Research Methodology, Economics Department, Annamalai University, 2005.*

Book Published:

Book Title: *Integrated M.Sc. Physics Laboratory Manual*

Authors: *Dr. S. Shailajha; Dr. S. Arunavathi*

Funded by: *MHRD, Pandit Madan Mohan Malavia National Mission on Teachers and Teaching (PMMMNTT)*

No. of Students completed and ongoing research:

Ph. D		M.Phil		M. Sc.		Integrated M. Sc.	
<i>Awarded</i>	<i>05</i>	<i>Awarded</i>	<i>17</i>	<i>Awarded</i>	<i>60</i>	<i>Awarded</i>	<i>03</i>
<i>Submitted</i>	<i>01</i>	<i>Ongoing</i>	<i>00</i>	<i>Ongoing</i>	<i>00</i>	<i>Internship</i>	<i>06 (Completed)</i>
<i>Ongoing</i>	<i>02</i>			<i>Internship</i>	<i>11 (Completed)</i>	<i>Other Department Internship</i>	<i>01 (Completed)</i>

Research Projects:

- 1. DST-CRG, Proposal Submitted, 2023.*
- 2. CM Project Proposal Submitted, 2023.*
- 3. TANII Major Project Applied, (2022-2023).*
- 4. TANSCH Major Project Applied, 2022.*
- 5. Dr. APJ Abdul Kalam Fellowship Project fund sanctioned (2018-2021) (Completed),*
- 6. Tamil Nadu Government fund sanctioned (2017-2018) (Completed).*