

## Department of Physics

### Research Publications of the Staff Member:

Sl. no	Name of the staff	No. of papers presented	
		National	International
1.	Mrs. D.Subashini	4	5
2	Dr.A.Sekar	3	5
3.	Dr.T.Ravishankar	-	16
4.	Dr.A.C.Ganesh Kumar	-	5
5.	Dr.T.Hema Thanka Christlet	1	7
6.	Dr.S.V.Rajasekaran	-	8
7	Dr. S. Karl Chinnu	-	5
8	Dr.S.Karthikeyan	1	19

#### Mrs. D. SUBASHINI

1. **D. Subashini**, S. Nalini Jayanthi, A.R. Prabhakaran, K. Thamizharasan, Spectral, thermal investigations and particle size determination of L-threonine single crystals. Advances in applied Science Research, Vol.4(2), 238-242 (2013)
2. **D. Subashini**, S. Nalini Jayanthi, A.R. Prabhakaran, K. Thamizharasan, A Study on optical, thermal, mechanical properties and particle size determination of non-linear optical L-threonine single crystals, Archives of Physics Research, \$(2), 14-21 (2013)
3. S. Nalini Jayanthi, **D. Subashini**, A.R. Prabhakaran, K. Thamizharasan, Growth and characterization of a non-linear optical crystal: Thiourea added L-histidine, International Journal of Advances in Engineering and Technology, 5(2), 85-92 (2013)
4. S. Nalini Jayanthi, **D. Subashini**, A.R. Prabhakaran, K. Thamizharasan, Optical,

thermal and mechanical studies on a novel nonlinear optical material; TLH crystals, Archives of Applied Science Research, 5(1), 241-246 (2013)

5. S. Nalini Jayanthi, **D. Subashini**, A.R. Prabhakaran, K. Thamizharasan, Studies on the growth aspects of semi-organic ammonium borodilactate: a promising new NLO crystal. International Journal of advances in Engineering and Technology, 6(1), 298-303 (2013).

#### **Dr. A. SEKAR**

Synthesis, characterisation and high pressure studies of  $\text{Yb}_{0.8}\text{Sr}_{0.2}\text{Ba}_2\text{Cu}_3\text{O}_{7-y}$  Superconductor, **A. Sekar**, V. Saravanan, N. Victor Jaya, K. Jeyabalan and L. K. Kaliyaperumal, *Modern Physics Letters B*, **Vol.10**, p. 573, 1996.

Synthesis and characterisation of  $\text{La}_2\text{CaCu}_3\text{O}_{7-y}$  compound, K. Jeyabalan, L. K. Kaliyaperumal, **A. Sekar**, S. Arumugam, N. Victor Jaya and J. Srinivas, *Modern Physics Letters B*, **Vol.12**, p. 427, 1998.

Design and fabrication of simple hydraulic attachment for Diamond Anvil Cells, **A. Sekar**, Ravhi S Kumar, N. Victor Jaya and S. Natarajan, *Review of Scientific Instruments*.

Synthesis and high pressure studies of the semiconductor  $\text{AgSbSe}_2$ , Ravhi S Kumar, **A. Sekar**, N. Victor Jaya and S. Natarajan, *Journal of Alloys and Compounds*, **V 285**, p.48, 1999.

Design and fabrication of a simple pneumatic loading attachment for Diamond Anvil Cells, Ravhi S Kumar, **A. Sekar**, N. Victor Jaya and S. Natarajan, *Review of Scientific Instruments*, **Vol. 70**, p. 3074, 1999.

High pressure x-ray diffraction studies of rare earth doped Bi-2212 system, Ravhi S Kumar, **A. Sekar**, N. Victor Jaya and S. Natarajan, *AIP Conf. Proc.* **Vol.483**, 265, 1999.

Structural studies of CuAlSe<sub>2</sub> and CuAlS<sub>2</sub> chalcopyrites at high pressures, Ravhi S Kumar, **A. Sekar**, N. Victor Jaya, S. Natarajan and S. Chichibu, *Journal of Alloys and Compounds*, **Vol.312**, p.4-8, 2000.

Catalyst-free synthesis of ZnO nanowires on Si by oxidation of Zn powders **A. Sekar**, S.H. Kim, A. Umar, Y.B. Hahn, *Journal of Crystal Growth*, **Vol. 277**, p. 471-478, 2005

**Dr. T. Ravishankar**

1. Ravishankar T, Chinnakali K, Arumugam N, Srinivasan PC, Usman A and Fun HK (2005). 3-Bromo-2-(4-bromo-2,5-dimethoxybenzyl)-1-phenylsulfonyl-H-indole, Acta Cryst E61, 2455-2457.
2. Ravishankar et al., (2005) 2-(2-Acetamido-5-methylbenzoyl)-1H-indole, Acta Cryst., E57, 3291-3293.
3. Ravishankar et al., (2005), 2,5-Dimethyl-7-phenylsulphonyl-5,6-dihydroindolo[2,3-c]benzazepin-12-one, Acta Cryst, E61, 2410-2412.
4. Ravishankar et al., (2005), 2-(3-Bromo-1-phenylsulfonyl-1-H-indol-2-ylmethylsulfanyl)-6-methyl-1H-benzimidazole, Acta Cryst. E61, 1184-1186
5. Ravishankar et al., (2005), 3-bromo-2-(2-bromo-4,5-dimethoxybenzyl)-1-phenylsulfonyl-1H-indole, Acta Cryst, E61, 998-1000.
6. Ravishankar et al., (2005) Acta Cryst., E61, 405-407
7. Ravishankar et al., (2003), Acta Cryst., C59, 137-140
8. Ravishankar et al., (2003), Acta Cryst., E59, 1903 – 1906
9. Ravishankar et al., (2003), Acta Cryst., E59, 1143-1145
10. Ravishankar et al., (2003), Acta Cryst., E59, 293-295

11. Ravishankar et al., (2003), Acta Cryst., E59, 290-292
12. Ravishankar et al., (2003), Acta Cryst., E59, 138-140
13. Ravishankar et al., (2002), Acta Cryst., E58, 1356-1358
14. Ravishankar et al., (2001), Acta Cryst., E57, 1211-1212
15. Ravishankar et al., (2001), Acta Cryst., E57, 1209-1210
16. Ravishankar et al., (2001), Acta Cryst., E57, 659-660

**Dr. A. C. GANESH KUMAR**

1. An investigation of silver ionic transport in the mixed system  $CdI_2Ag_2OMoO_3$   
J. Material Sci. Lett
2. Frequency dependent electrical conductivity studies on the mixed system  $CdI_2AG_2oMoO_3$   
Bull. Elect. Chem
3. Phase identification and electrochemical impedance studies on the ternary system  $CdI_2AG_2oMoO_3$   
Int. J. Eng & Mat Sci. 8, 352, 2001
4. A study of formation of solid Ionic conductors in the mixed system  $CdI_2AG_2oMoO_3$   
Ionics 8, 402, 2002
5. A study of ion transport in ternary mixed system  $CdI_2AG_2oMoO_3$   
Materials Science & Engineering B 156, 13100, 2003

**Dr. T. HEMA THANKA CHRISTLET**

1. Neural network algorithm for the early detection of Parkinson's disease from blood plasma by FTIR micro-spectroscopy

Shiek S.S.J Ahmed, Suresh Kumar, **T. Hema Thanka Christlet** and S. Winkins Santosh,

Vibrational Spectroscopy (2010) 53: 181-188

2. Metabolic profiling of Parkinson's disease: evidence of biomarker from gene expression analysis and rapid neural network detection

Shiek S.S.J Ahmed, Winkins Santosh, Suresh Kumar and **T. Hema Thanka Christlet**

Journal of Biomedical Science (2009) 16:63

3. Molecular modeling of sialyloligosaccharides into the active site of Influenza virus N9 neuraminidase

K. Veluraja, M. Xavier Suresh, **T. Hema Thanka Christlet** and Z.A.Rafi

Journal of Biomolecular Structure and Dynamics (2001) 19:33-45

4. A database analysis on O-glycosylation sites in proteins.

**T. Hema Thanka Christlet** and K.Veluraja

Biophysical Journal (2001) 80:952-960.

5. An analysis of the Complex Carbohydrate Structure Database

**T. Hema Thanka Christlet**, M. Biswas and K. Veluraja

Trends in Carbohydrate Chemistry (2000) 6:45-47

6. Molecular modeling of disaccharide fragments of sialyloligosaccharides into the active site of influenza A subtype N9 neuraminidase enzyme.

K. Veluraja, **T. Hema Thanka Christlet** and M. Xavier Suresh

Journal of Biosciences (1999) 24/S1, 144

7. A database analysis of glycosylation sites in proteins.

**T. Hema Thanka Christlet** and K. Veluraja

Journal of Biosciences (1999) 24/S1, 170

8. A database analysis of potential glycosylating Asn-X-Ser/ Thr consensus sequences

**T. Hema Thanka Christlet**, M. Biswas and K. Veluraja

Acta Crystallographica Section D (1999) 55:1414-1420.

Dr. S.V. RAJASEKARAN

1) Phase transformation in relaxor - ferroelectric single crystal  $[\text{Pb}(\text{Sc}_{1/2}\text{Nb}_{1/2})\text{O}_3]_{0.58} - [\text{PbTiO}_3]_{0.42}$

**Rajasekaran, S V**; Achary, S Nagabhusan; Patwe, S J; Jayvel, R; Mangamma, G; Tyagi, Ashok K has been accepted for publication in the *Journal of Materials Research*(2014).

2) Crystal structure, dielectric properties of  $(\text{K}_{0.5}\text{Na}_{0.5})\text{NbO}_3$  single crystal grown by flux method using  $\text{B}_2\text{O}_3$  flux

R. Saravanan, D. Rajesh, **S.V. Rajasekaran**, R. Perumal, M. Chitra, and R. Jayavel

**Cryst. Res. Technol.**, 1–7 (2013) / DOI 10.1002/crat.201200282

3) Effects of Copper Oxide Doping on the Properties of Sodium Potassium Niobate ( $\text{Na}_{0.5}\text{K}_{0.5}$ )  $\text{NbO}_3$  piezoelectric Single Crystals Grown by Flux Method

R. Saravanan, D. Rajesh, **S. V. Rajasekaran**, R. Peurmal, M. Chitra, and R. Jayavel

International Journal of Applied Physics and Mathematics, Vol. 2, No. 4, July 2012

4) Local inhomogeneity and surface degradation of  $\text{Fe}_{1.15}\text{Te}$  and  $\text{Fe}_{1.03}\text{Te}_{0.62}\text{Se}_{0.38}$  single crystals

**S. V. Rajasekaran**, T. Tite, Y.-M. Chang, R. Sankar, and F. C. Chou

Journal of Materials Science, 46 (23), p.7582-7587, Dec 2011

5) Growth and morphological aspects of  $\text{Pb}[(\text{Sc}_{1/2}\text{Nb}_{1/2})_{0.58}\text{Ti}_{0.42}]\text{O}_3$  single crystals by slow-cooling technique

**S. V. Rajasekaran**, Akhilesh Kumar Singh, R. Jayavel,

*Journal of Crystal Growth* 310 (2008) 1093-1098

6) Raman spectroscopy of polar nano regions in  $[\text{Pb}(\text{Sc}_{1/2}\text{Nb}_{1/2})\text{O}_3]_{0.58}-[\text{PbTiO}_3]_{0.42}$  single crystal,

**S. V. Rajasekaran**, V. Sivasubramanian, R. Jayavel,

*Japanese Journal of Applied Physics* 48 (2008) 6410-6412

7) Influence of niobium doping on the electrical properties of  $0.58\text{Pb}(\text{Sc}_{1/2}\text{Nb}_{1/2})\text{O}_3-0.42\text{PbTiO}_3$  single crystal,

**S. V. Rajasekaran**, R. Jayavel,

*Solid State Communication* 143 (2007) 466-470

8) Domain structure studies on  $\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3-\text{PbTiO}_3$  mixed crystal system,

S. Madeswaran, **S. V. Rajasekaran**, R. Jayavel, S. Ganesamoorthy, G. Behr,

*Materials Science and Engineering B* 120 (2005) 32-36

**Dr. S. KARTHIKEYAN**

1. Effect of Heavy Metals on Tissue Protein of an Edible Fish *Cirrhinus mrigala* as Dependent on pH and Water Hardness- **S.Karthikeyan** and P.Mani, *Biophysics*, 59(2) , 321–325, **2014**.
2. Effect of heavy metals mixture nickel and chromium on tissue protein of an edible fish *cirrhinus mrigala* using FTIR and ICP-AES Study- **S.Karthikeyan**, *Romanian Journal of Biophysics*, 24(2), 109-116, **2014**.
3. Spectroscopic Study of Characterisation of commercial Drug and its Mixture- **S.Karthikeyan**, *Proceedings of Indian National Academy of Science*, 79(3), 357-363, **2013**.
4. Analysis of a curve fitting model in the amide region applied to the muscle tissues of an edible fish: *Labeo rohita* fingerlings, - **S.Karthikeyan** and **R. Easwaran** *Journal of Biological Physics and Chemistry* **13** , 125–130, **2013**.
5. X-Ray Diffraction and Fourier Transform Study of Toxic Effect of Heavy Metals on Bone Tissues of Edible Fish *Cirrhinus mrigala*-**S.Karthikeyan** *Acta Physica Polonica A* 122(1) 236-239 **2012**.
6. FTIR and ICP-AES study of the effect of heavy metals nickel and chromium in tissues protein of an edible fish *Cirrhinus mrigala*-**S.Karthikeyan**, *Romanian Journal of Biophysics*,22(2):95-105 **2012**.
7. Evolution of ground water quality due to impact of local industries in and around Chidambaram town, Tamilnadu, India -**S.Karthikeyan** and S.Suresh *Journal of Water and Wellness* 1(2) 36-46 **2012**.
8. UV-Visible and Infrared analysis of Commercial drug and its mixtures **S.Karthikeyan** *Archives of Physics Research* 2(4) 72-79 **2011**.
9. Bioaccumulation and depuration of chromium in the selected organs and whole body tissues of freshwater fish *Cirrhinus mrigala* individually and in binary solutions with nickel- PL.RM.Palaniappan and **S.Karthikeyan** , *Journal of Environmental Sciences*, 21, 229-236 **2009**.
10. Spectroscopic Study of Characterization of commercial drug Paracetamol- **S.Karthikeyan**, P.Krishnamoorthy, R. Rajasekaran and S.Karthik, *Acta Ciencia Indica*, Vol XXXIV(3) 419-426 **2008**.
11. Bioaccumulation and elimination of Chromium in edible fingerlings of *Cirrhinus mrigala* exposed to Sub-lethal concentrations-**S.Karthikeyan**. C.Karthik and Selvi Sabhanayakam, *Biosciences Biotechnology Research Asia*, 4(2) 589-594 **2007**.
12. FT-IR study of effect of chromium on tissue protein of an edible fish *Cirrhinus mrigala*-



**S.Karthikeyan**, PL.RM. Palaniappan and Mrs. Selvi Sahbanayakam, *Asian Journal of chemistry*, 19 1329-1333 **2007**.

13. Influence of Ph and water hardness upon Nickel accumulation in edible Fish Cirrhinus mrigala – **S.Karthikeyan**, PL.RM. Palaniappan and Mrs. Selvi Sahbanayakam, *Journal of Environmental Biology*, 28(1) 2 489- 492 **2007**.
14. Bioaccumulation of Nickel in various organs of freshwater fish Cirrhinus Mrigala exposed to sublethal concentration- **S.Karthikeyan**, PL.RM. Palaniappan and Mrs. Selvi Sahbanayakam, *Indian Journal of Environmental Protection*, 25(7): 629-634, **2005**.
15. Studies of the effects of heavy metal Nickel on Gills of fingerlings of an Edible fish Cirrhinus Mrigala- PL.RM. Palaniappan, **S.Karthikeyan** and Mrs. Selvi Sahbanayakam, *Pollution Research*, 22 (2): 247-250, **2003**.
16. Impact of Mercury pollutant in Paravanur River, Neyveli area, Cuddalore district, Tamilnadu- N.Ramamurthy, K. Thillaivelavan and **S.Karthikeyan**, *Pollution Research*, 21(4):503-506, **2002**.
17. Predictions of noise level in the neighborhood of Chidambaram town Tamil nadu – V.Gopalasamy, **S.Karthikeyan** and N.Ramamurthy *Indian Journal of Environmental Protection*, 22(3):322-326, **2002**.
18. Spectro-Chemical Analysis of Pollutant of Paravanaru River, Neyveli area- N.Ramamurthy, K. Thillaivelavan and **S. Karthikeyan** , *Indian Journal of Environmental Protection*, 22(2): 165-169 **2002**.
19. Measurement of Noise levels in around Chidambaram town, Tamilnadu- N.Ramoorhty, **S.Karthikeyan** and V.Gopalasamy, *Indian Journal of Environmental Protection*, 20 (12): 921-924, **2000**.
- 20**. Effect of Sublethal Concentration of Chromium on gill tissues of the edible fish Cirrhinus Mrigala- PL.RM. Palaniappan, **S.Karthikeyan** and Mrs. Selvi Sahbanayakam, *Journal of Current Sciences*, 2(2):271-274 **2002**.