**RESUME**

**GENERAL INFORMATION**

| | |
|---|---|
| NAME | DR R SOMASHEKAR |
| DATE OF BIRTH | 21ST MARCH 1953 |
| CORRESPONDING ADDRESS | DR R SOMASHEKAR, PROFESSOR , 673, 7TH MAIN, 9TH CROSS, VIJAYANAGAR FIRST STAGE, MYSORE 570017, KARNATAKA |
| PHONE NO | MOBILE: 9449130134<br>LANDLINE : 0821-2516935 |
| EMAIL | rs@uomphysics.net |

**2. PRESENT POSITION**

| | |
|---|---|
| A. DESIGNATION | PROFESSOR (Guest) |
| B ORGANISATION | REGIONAL INSTITUTE OF EDUCATION |
| C PAY SCALE | CONSOLIDATED |
| D DATE OF APPOINTMENT TO PRESENT POST | AUGUST 2015<br>AFTER RETIREMENT AS PROFESSOR(1998-2015) , DEPARTMENT OF STUDIES IN PHYSICS, UNIVERSITY OF MYSORE, MYSORE. |
| E DETAILS OF EXPERIENCE | LECTURER :11 years; 4TH APRIL 1979 TO 3RD APRIL 1990<br>READER : 10 years ;4TH APRIL TO 1998 3RD APRIL<br>PROFESSOR:17 years 4TH APRIL 1998 TO 30TH JUNE 2015 (INCLUDING EXTENSION OF THREE MONTHS AFTER RETIREMENT).<br>Total of 37 years experience |

**3: Details of experience possessed as per eligibility criteria:**

| Sl no | Post held | Pay scale | Organisation | Nature of duties | Experience in years and |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| | | | | | months |
| 1 | Lecturer | 700-1500 | University of Mysore | Teaching, research and dept administration duties | 11 years |
| 2 | Reader | 3700-5700 | University of Mysore | Teaching, research and dept administration duties | 8 years |
| 3 | Professor | 37000 | University of Mysore | Teaching, research and dept administration duties | 16 years five months |
| 4 | Professor (after retirement, on contract basis) | Consolidated of rs 1,00,000=00 per month | Regional institute of Education, Mysore | 17th Augus 2015 to date | 1 year and five months |
| 5 | Research associate | 1300 pounds per month | UMIST, University of Manchester, UK | Research | 2 years(1987-1989) |
| 6 | Visiting professor | 560,000 yen per month | TUAT , Tokyo, Japan, under JSPS program | Research and teaching | 10 months (1999-2000) |
| 7 | Visiting professor | Local hospitality | Dept of Pharmacy, University of Malyasia | Research | 1 month (2013) |
| 8 | Visiting professor | 4000 dollars | Wayne state Universitiy, USA | Research and teaching | 1 month (june, 2014) |
| 9 | Visiting scientist | Rs 25000 per month | JNCASR, Bangalroe | Research | Three months Sept, Nov and Dec 1997 |
| 10 | Visiting professor | Local hospitality | School of mathematical sciences, University of Nottingham, UK | Research | One month June (2016) |
| 11 | NAAC NODAL OFFICER | NIL | UNIVERSITY OF MYSORE | PREPARE FIVE YEARS SSR REPORT | ONE YEAR |

## 4 EDUCATION QUALIFICATIONS

| SL NO | QUALIFICATION | UNIVERSITIY | YEAR | SUBJECTS | % ACHIEVED | DISTINCTION |
|---|---|---|---|---|---|---|
| 1 | Ph D | MYSORE | 1982 | PHYSICS/LIQUID CRYSTALS | - | - |
| 2 | M.SC | MYSORE | 1975 | PHYSICS/SOLID STATE | 68 PERCENT | 7TH RANK |
| 3 | B.SC | MYSORE | 1973 | PHYSICS/ MATHS | 66.6 | FIRST CLASS |

## 5 ADMINISTRATIVE EXPERIENCE : POST AND RESPONSIBILITIES HELD

| SL NO | POST | ORGANISATION | DURATION | | EXPERIENCE |
|---|---|---|---|---|---|
| | | | FROM | TO | |
| 1 | CHAIRPERSON HEAD OF THE DEPARTMENT | UNIVERSITY OF MYSORE | 2ND FEB 2013 | 31ST MARCH 2015 | TWO YEARS |
| 2 | CHAIRMAN , BOARD OF STUDIES | UNIVERSITY OF MYSORE | 2ND FEB 2013 | 30/06/15 | TWO YEARS |
| 3 | MEMBER , BOARD OF STUDIES | UNIVERSITI OF MYSORE | 2000 | 2015 | 15 YEARS OF VARIOUS UNIVERSITIES |
| 4 | MEMBER , BOARD OF APPOINTMENT | BANGALORE UNIVERSITY | 2003 | 2016 | 13 YEARS |
| 5 | MEMBER , BOARD OF APPOINTMENT | GULBARGA UNIVERSITY | 2013 | 2015 | 2 YEARS |
| 6 | MEMBER , BOARD OF APPOINTMENT, | MANGALORE UNIVERSITY | 2013 | 2014 | ONE YEAR |
| 7 | MEMBER BOARD OF APPOINTMENT | CENTRAL UNIVERSITY OF KERALA | 2012 | 2015 | THREE YEARS |
| 8 | MEMBER EXECUTIVE COUNCIL | CENTRAL UNIVERSITY OF KARNATAKA | 2015 | 2018 | THREE YEARS |

| | | | | | |
|---|---|---|---|---|---|
| 9 | MEMBER OF PROFESSIONAL BODIES | INSTITUTE OF PHYSICS, UK | 1987 | 1989 | TWO YEARS C.PHYS |
| 10 | MEMBER, INDIAN PHYSICS ASSOCIATION | INDIA | 1979 | 2015 | 36 YEARS |
| 11 | MEMBER ASSESSOR | NAAC, BANGALORE | 2006 | TO DATE | 10 YEARS |

**6 (A) ACADEMIC/TEACHING EXPERIENCE AND RESPONSIBLITIES**

| SL NO | POST | ORGANISATION | DURATION | | EXPERIENCE |
|---|---|---|---|---|---|
| | | | FROM | TO | |
| 1 | Lecturer | Universsity of Mysore | 4th April 1979 | 3rd April 1990 | 11 years |
| 2 | Reader | -do- | 4th April 1990 | 3rd April 1998 | 8 years |
| 3 | Professor | -do- | 4th April 1998 | 30th June 2015 | 17 years |
| 4 | Research Associate | UMIST, University of Manchester, UK | April 1987 | March 1989 | 2 years |
| 5 | JSPS Visiting professor | TUAT, Tokyo, Japan | Dec 1999 | Nov 2000 | 10 monts |
| 6 | Visiting professor | Wayne State University, USA | 23rd May 2014 | 22 June 2014 | 1 month |
| 7 | Visiting Scientist | JNCASR, Bangalore | 22nd Nov 1996 | 17th Dec 1996 | 1 month |
| 8 | Visiting Scientist | JNCASR, Bangalore | 22nd Nov 1997 | 17th Dec 1997 | 1 month |
| 9 | Visiting professor | School of Mathematical Sciences, Univeristy of Nottingham, UK | 23rd June 2016 | 14th July 2016 | 20 days |

**(B) PARTICIPATION AND CONTRIBUTION IN RELEVANT AREAS IN HIGHER EDUCATION**

| | Organisation | Area of specialisation |
|---|---|---|
| Visiting professor | JSPS, Japan | Biophysics |

| | | |
|---|---|---|
| Visiting Professor | Univeristy of Nottingham | Mathematical sciences |
| Visiting Professor | Dept of Pharmceuticals, Univ of Malaysia, Malaysia | Pharmaceuticals |
| Visiting professor | Wayne State university, USA | Condensed matter physics |
| Resource person | Academic staff college | Physics special lectures several times during the last 36 years. |
| Others | Research Associate, UMIST, Manchester, UK | Polymer physics |
| | | |

**(C) INVOLVEMENT WITH FORMULATION OF ACADEMIC PROGRAMME**

| Sl no | Nomenclature of innovative academic programmes formulated | Date of Approval by academic council | Year of introduction |
|---|---|---|---|
| 1 | M.Sc physics syllabus revision | June 2014 | Sept 2015 |
| 2 | B.Sc Physcis Syllabus revision | June 2014 | Sept 2015 |
| | | | |

**(D) IMPORTANT MOUS FORMULATED FOR ACADEMIC COLLABORATION: NIL**

**(E) POSITION OF CHAIRS**

| Sl No | Name of Chair | Name of Agencies/Departments involved | Period of holding the chair |
|---|---|---|---|
| 1 | Chairperson | Physics Dept | 2 years |
| 2 | Chairperson | Board of studies in Physics | 2 years. |
| | | | |

**7 INTERNATIONAL ACADEMIC EXPOSURE IF ANY**

International
1. Invited talk at the International Conference ”Powder Diffraction held during 21st-28th August 1995 at Slovakia
2. International Liquid Crystal Conference held in Bangalore, India during Jan 1-3, 1996.
3. Conference on Technology and Fibres, Coventry, UK in Dec 1988
4. Japan Crystallographic meeting, Sendai, Japan, Nov 2000
5. Japan Polymer meeting, Sendai, Japan Oct, 2000.

6. Sixth International Conference on Solvothermal reactions held at Department of Studies in Geology, University of Mysore, Mysore, India during 24-28 Aurgust, 2004.
7. Invited talk at 52nd Congress of ISTAM (An International Meet ) at BNMIT, Bangalore, December 14-17, 2007.
8. Invited talk at 52nd DAE Solid State Physics symposium held at Mysore , December 27-31, 2007. Title: Elastic constants of fibers using WAXS
9. Invited talk at National seminar on characterisation of pharmaceuticals materials held at Universiti Technologi Malaysia (UiTM) on 31st October 2013.
10. I was invited for the period May,14th 2014 to June 3rd , 2014 by the Department of Physics and Astronomy, Wayne State University , Detroit , USA , "as visiting professor " under exchange program along with my research Student Mr Thejas urs.
11. I was invited by Mathematical Science, University of Nottingham , UK, as a visiting professor, during 1.June.2016 to 30$^{th}$ June 2016.

**8: SCHOLARLY ACHIEVEMENTS:**

Contribution in Books
1. Title of the Book: Powder Diffraction Ed: S P Sen Gupta; Chapter 10; Title: Crystal size and strain parameters of fibres using Warren's Fourier method
Author: R Somashekar; Allied Publishers Ltd; New Delhi.
2. Title of the Book: Defects and microstructure analysis by diffraction Eds: J Fiala, H J Bunge and R L Snyder, Publisher: Oxford University Press:
Chapter 8: Title:Crystal Size and distortion parameters in Fibres using WAXS: Author: R Somashekar.
3. Title of the book: International Tables of Crystallography, Volume H:
Chapter on Fibres and Polymers
Author: R Somashekar
Pub: Oxford University Press, UK Book to be released in 2013-2014.
4. Title of the Book: Handbook on sustainable polymers: Chemistry and Physics:
Chapter on : Crystal Structure of Wild and Domestic Silk Fibres Using Linked-Atom-Least Squares Method
Authors: Thejas Urs and R Somashekar
Pub: Taylor and Francis, USA
Book published in 2014.

Reviewer for International/National Journals
1. Reviewer for Journal of Applied Crystallography, IUCr, UK
2. Reviewer for Bulletin of Materials Science, IAS, Bangalore, India
3. Reviewer for International Journal of Biological Macromolecules, USA
4. Reviewer for Indian Journal of fibre and Textile Research, NISCAIR, Calcutta, India
5. Reviewer for POLYMER, Wiley Publications, USA
6. Reviewer for Iranian Journal of Polymers, Iran
7. Reviewer for PRAMANA-J.Phys., IAS, Bangalore, India
8. Reviewer for European Applied Physics, UK

**B: PUBLICATIONS:**
**PAPERS PUBLISHED BETWEEN 2019 -**

Determination of crystal structure and elastic constants of MCU-5 cotton fiber using WAXS dataVV Manju, S Divakara, K Byrappa, R Somashekar AIP Conference Proceedings 2115 (1), 030032 2019

**PAPERS PUBLISHED BETWEEN 2017 -18**

291 Structure and Electrical Conductivity of Irradiated $BaTiO_3$ Nanoparticles
B Shameer Ahmed, MB Nandaprakash, K Namratha, K Byrappa, ... physica status solidi (b) 255 (6), 1700581 1 2018

292 PVA/NaCl/MgO nanocomposites-microstructural analysis by whole pattern fitting method
KS Prashanth, SS Mahesh, MB Nandaprakash, R Somashekar, ... American institute of physics, Conference proceedings 1957, 030002 2018

293 Laser Ablation Synthesized Copper Nanoparticles for Cancer Treatment: An Animal Cell Line Studies
Mahadevaiah, KK Nawneet, GK Gowtham, G Thejasurs, R Somashekar American Journal of cancer prevention 6 (2), 35-40 2018

294 Modelling of X-ray patterns using Fourier transforms: Application to nanomaterials
SR Madhuri, NS Namitha, MB KusumaUrs, GK Gowtham, TG Urs, ... Indian J. Physics 92 (12), 1525-34 2018

295 Characterization and microstructure of HPMC/Gly:AgNO3 polymer composites
HT Ananda, G ThejasUrs, R Somashekar American Institute of Physics(Conference Proceedings) 1942, 0400021 - 4 2018

296 Setting up Z-scan experiment to study nonlinear optical properties of polymer composites: Characterization of ADP doped PVA/PVP polymer films
GK Gowtham, H Somashekarappa, CKN Raman, R Somashekar American Institute of Physics (Conf.Proce.) 1942, 0600241-4 2018

297 Studies on physical properties of wine palm and Roselle natural fibers
VH Dinesh, CB Mahesh, GK Gowthan, GU Thejas, MB Nandaprakash, ... Journal of natural fibers 1, 10 2018

298 Polyurethane/Soya Protein Isolate Green Composites: Spectral, Microstructural, Thermal, Swelling, and Biodegradation Behaviors
BS MADHUKAR, DG BHADREGOWDA, K HEMALATHA, ... Advances in Polymer Technology 37 (2), 21679-21681 2018

299 Fibre Diffraction and Whole Powder Pattern Fitting in Polymers
R Somashekar Emergent Research on Polymeric and Composite Materials, 1-37 2018

300 Rapid synthesis of gold nanoparticles using silk fibroin: characterization, antibacterial activity, and anticancer properties 1* 2017

B LakshmeeshaRao, G Mahadev, S Asha, B Byrappa,K:Narayana, ...
Gold Bull, 1-9

301 Change in shape of the crystallite size with wood flour and their native cellulose using WAXS studies
K Ranjitha, G Gayathri, R Tomar, M Poletto, V Annadurai, R Somashekar
AIP Conference Proceedings 1859 (1), 020054 2017

302 Evaluation of mechanical, thermal, and morphological behaviors of polyurethane/mahua seed cake green composite
BS Madhukar, DGB Gowda, BS Madhukar, R Somashekar
Advances in Polymer Technology 36 (2), 186-195 2017

303 Determination of crystallite shapes in polymer composites using X-ray diffraction results
TG Urs, Y Sangappa, K Byrappa, R Somashekar
AIP Conference Proceedings 1832 (1), 040012 2017

304 Comparison of pair correlation values in variety of cotton fibers
MB Nandaprakash, S Divakara, SS Mahesh, R Somashekar
AIP Conference Proceedings 1832 (1), 040023 2017

305 Effect of $NiCuZnFe_2O_4$ on the microcrystalline properties of PVA/CMC polymer blends
K Hemalatha, G Thejas Urs, D Mahadevaiah, H Somashekarappa, ...
Materials Research Innovations 21 (2), 122-128 2017

306 Structure-property relation in HPMC: CoCl¬ 2 polymer composites using functional data analysis
TGK Urs, GK Gowtham, R Somashekar, H Somashekarappa
Acta Crystallographica Section A 73, C939 2017

307 Imaging of crystallite shapes in various silk forms using PXRD
GK Gowtham, TG Urs, D Mahadevaiah, K Byrappa, R Somashekar 2017
Acta Crystallographica Section A 73, C935

308 Imaging of crystalline regions in cotton fibers using powder XRD
TG krishne Urs, K Bharath, S Yallappa, R Somashekar
Foundations of Crystallography 70, C564 2017

309 Journal of Applicable Chemistry
HC Anitha, S Sreenivasa, NR Mohan, V Chandramohan, G Shivaraja 1 2017
Journal of Applicable Chemistry 6 (1), 30-40

310 effect of gamma irradiation on hydrothermally synthesized barium titanate nanoparticles
B Shameer Ahmed, K Namratha, MB Nandaprakash, R Somashekar, ...
Radiation effects and defects in solids 1 2017

311 Determination of force constant and refractive index of a semiconducting polymer composite using UV/visible spectroscopy: a new approach
TG Urs, GK Gowtham, MB Nandaprakash, D Mahadevaiah, Y Sangappa, ...
Indian Journal of Physics 91 (1), 53-56 1 2017

**B.1 KINDLY PROVIDE LIST OF SCHOLARLY PUBLICATIONS IN RECOGNISED PROFESSIONAL AND /OR ACADEMIC JOURNALS**

**TOTAL PUBLICATIONS; 290**

**LIST OF RESEARCH PUBLICATIONS OF PROF R SOMASHEKAR**

**1. Solution Combustion Synthesis of Cr2O3 Nanoparticles and Derived PVA/Cr2O3 Nanocomposites-Positron Annihilation Spectroscopic Study ; K.S Prashanth, S.S Maheshb, M.B Nanda Prakash,L.M. Munirathnamma, S.Ningaraju , H.B.Ravikumar, R.Somashekarand B.M Nagabhushanad,Materials Today: Proceedings, 3, 3646-3651, (2016)**

**2. Evaluation of gold,silver and silver-gold nanoparticles as radiosensitizers for radiation therapy in cancer treatment; B. Shameer Ahmed, Anil G. Rao, B M Sankarshan, C.S. Vicas, K.Namratha, T.K. Umesh,R. Somashekar, K. Byrappa , Oncology and Cancer research journal, 4(3), 42-51 (2016)**

**3. Functional data analysis techniques for the study of structural parameters in polymer compos-ites,TG Urs, K Bharath, Y Sangappa, R Somashekar Journal of Applied Crystallography49,594 (2016)**

**4. Polyurethane/Soya Protein Isolate Green Composites: Spectral, Microstructural, Thermal, Swelling, and Biodegradation Behaviors,BS MADHUKAR, DG BHADRE GOWDA, K HEMALATHA,Advances in Polymer Technology (2016)**

**5. Stochastic analysis of experimentally determined physical parameters of HPMC: NiCl2 polymer composites,Y Sangappa, R Somashekar, DAE SOLID STATE PHYSICS SYMPOSIUM 1731 (1), 040007(2016)**

**6. Whole-Pattern Fitting and Positron Annihilation Studies of Magnetic PVA/-Fe2O3 Nanocom-posites,KS Prashanth, SS Mahesh, MBN Prakash, S Ningaraju, HB Ravikumar, BrazilianJournal of Physics 46 (3), 262-272 (2016)**

**7. Effect of NiCuZnFe2O4 on the microcrystalline properties of PVA/CMC polymer blends K Hemalatha, G Thejas Urs, D Mahadevaiah, H Somashekarappa,Materials Research Inno-vations, 1-7, (2016)**

**8. Study on mechanical and microcrystalline on vinyl ester hybrid nanocomposites by WAXS;PShahryar, H Soleyman, S Basavarajaiah, R Somashekar, G Naser,Iranian Chemical Commu-nication 4, 1-15(2016)**

**9. Radial distribution function of natural fibres and synthetic water soluble polymers using X-raydiffraction; GT Urs, MBN Prakash, HT Ananda, R Somashekar, Indian Journal of Fibre and Textile Research, 41, 9-12(2016)**

**10. Effect of Microwave Irradiati on on the Microstructural Properties of Bivoltine Silk Fibroin Films; Mahadevaiah, T Urs G, K Byrappa, R Somashekar,Procedia Engineering, 141, 53-59 (2016)**

**11. Functional data analysis of experimental parameters obtained in PVA doped CdCl2 polymer composites; MBNandaprakash, G K Urs, R Somashekar, DAE SSP symposium, Am.J.Phys.Proceedings,1731, 070007 (2015)**

**12. Determination of force constant and refractive index of a semiconducting polymer composite using UV /Visible spectroscopy : a new approach; T G Urs, GK Gowtham, MB Nandaprakash,D Mahadevaiah, Y Sangappa and R Somashekar, Indian Journal of Physics 1-4 (2016).**

**13. X-ray studies of two liquid crystalline compounds, Usha M.K, Vinutha N., Somashekar R., and Revannasiddaiah D, Mol.Cryst.Liq.Cryst., 623, 265-274 (2015)**

**14. Variation of Profile Parameters in Dyed Silk Fibers, Hemalatha K., Somashekarappa H.,GopalkrishneUrs R., Annadurai V., Somashekar R., Bulletin Of Pure Applied Sciences-Physics, 34d, 8593(2015)**

**15. Preparation and characterization of conductive PVA/Gly:Na2SO4 poymer composite, H T Ananda, G Thejas Urs, and R Somashekar,Polymer Bulletin (Springer), 16 (2015)**

**16. Micro-Structure, Ac Conductivity and Spectroscopic Studies of Cupric Sulphate Doped PVA/PVP Polymer Composites,K Hemalatha, H Somashekarappa, R Somashekar, Advances in Materials Physics and Chemistry , 5 (10), 408 (2015)**

**17. Evaluation of Mechanical, Thermal, and Morphological Behaviors of Polyurethane/Mahua Seed Cake Green Composite,BS MADHUKAR, DGB GOWDA, R SOMASHEKAR,Advances in Polymer Technology(2015)**

**18. Structural and thermal properties of irradiated Bombyx mori silk fibroin films,R Madhukumar, S Asha, BK Sarojini, R Somashekar, BL Rao,SOLID STATE PHYSICS: Proceedings of the 59th DAE Solid State Physics(2015)**

**19. Study on micro structural and electrical properties of FeCl3 doped HPMC/PVP polymer blend films,H Somashekarappa, Y Prakash, RGK Urs, R Somashekar,SOLID STATE PHYSICS:Proceedings of the 59th DAE Solid State Physics(2015)**

**20. Spectroscopic studies of PVA/Gly: Na2SO4 polymer composites,R Somashekar SOLID STATE PHYSICS: Proceedings of the 59th DAE Solid State Physics(2015)**

**21. Synthesis and Characterization of Carbon Soot Particles Doped HPMC Polymer Composites,GK Gowtham, VN Hegde, S Meshk, SK Sukrutha, R Somashekar,Journal of Research Updates in Polymer Science 4 (2), 62, (2015)**

**22. Effect of microwave radiation on Bt cotton and non BT cotton fibers: waxs studies,AR Niran-jana, R Somashekar,ıBulletin of Pure Applied Sciences-Physics34 (1), 53-61,(2015)**

**23. Spectroscopic analysis of PVA/CMC: NiCuZnFe2O4 polymer nanocomposites,R Somashekar,AIPConference Proceedings 1665, 070032(2015)**

**24. Crystal and molecular structure of muga wild silk fibres based on [Ala-Gly] n sequence using LALS technique,Thejas Urs G., Ananda H.T.,Nanda Prakash M.B., Byrappa K., Somashekar R.,Indian Journal of Fiber and Textile Research40 (June), 131-136,(2015)**

**25. Phase behaviors of PU/SPI green composites using SAXS profiles,S Madhukar B.S., Bhadre Gowda D.G., Annadurai V., Somashekar R.,ıAvances in polymer technology, 21526-**

**21536,(2015)**

**26. Smectic translational order parameter in two liquid crystalline compounds,N Vinutha, MK Usha, R Somashekar, D Revannasiddaiah,Phase Transitions88 (ahead-of-print), 540-546 (2015).**

**27. Influence of Electron Irradiation on Tassar Non-mulberry Silk Fibers; Y Sangappa, S Asha, BL Rao, M Gowda, R Somashekar; J Fashion Technol Textile Eng,3, 2-7 (2015)**

**28. Study of optical and conducting properties of FeCl3doped PVA polymers, G. Thejas Urs, Radhika V. Hurkadli, R.V. Basavaraj,M. Niranjana, A. Manjunath, R. Somashekar,Progress in crystal growth and characterisation of Materials, (2014)**

**29. Effect of UV irradiation on optical, mechanical and microstructural properties of PVA/NaAlg blends, T. Sheela , R.F. Bhajantri, V. Ravindrachary, Sunil G. Rathod, P.K. Pujari,Boja Poojary, R. Somashekar; Radiation Physics and Chemistry, 103, 45-52 (2014)**

**30. Characterization of montmorillonite doped PVA/SA blends using X-ray diffraction ,K Hemalatha,H Somashekarappa, R Somashekar, Proceedings in American Institue of Physics.,1591 819-820(2014).**

**31. Pair correlation studies of CdCl2 doped PVA polymer films using X-ray data, Nanda Prakash M.B., Thejas Urs G., Anand H.T. and Somashekar R.,Aip Conf. Proc.,,1591 816-818 (2014)816818.**

**32. Effect of microwave radiation on Jayadhar cotton fibers: WAXS studies Niranjana A.R., Ma-hesh S., Divakara S., and Somashekar R.Aip Conf. Proc.,,1591 787-788 (2014)**

**33. Radial distribution studies on water soluble polymers using XRD line profile data,Thejas Urs G ., NandaPrakash M.B., Ananda H.T. and Somashekar R.,Aip Conf. Proc.,,1591, 170-172 (2014)**

**34. Effect of processing on the microstructure of finger millet by X-ray diffraction and scanning electron microscopy;D Usha, P Parameswara, R Somashekar, NG Malleshi; Journal of Food Science and Technology, 51 (3), 494 (2014)**

**35. Online Studies on Structural and Conducting Properties of Goethite Nanoparticles Doped HPMC Polymer Films ,Thejas Urs G, Mahadevaiah D., and Somashekar R.,Journal Of Poly-mers, Eds. Yeong-Soon Gal, Hindawi Publishing Corporation2014 1-6 (2014)**

**36. Physical, chemical and surfae properties of alkali-treated indian hemp fibers; Sangappa Y, Lakshmeesha Rao B; S Asha, R Madhukumar and R Somashekar; Composite Interface, 21(2),153-159 (2014).**

**37. Studies on microwave-irradiated kopak cotton fibers (Bombax ceiba): using SAXS technique;V Annadurai, G Urs, R Somashekar,Composite Interfaces, 21(1), 87-94 (2014).**

**38. StructureProperty Relationship of Biobased Polyurethanes Obtained from Mixture of Natu-rally Occurring Vegetable Oils,M Chethana, BS Madhukar, R Somashekar,Advances in Poly-mer Technology.,33,1 (2014).**

**39. Characterization of Zinc Nanoferrite Doped HPMC Polymers Using X-Ray Diffraction,M**

**Ma-hadevaiah, R Somashekar, T Demappa,Chitkara University,(2014).**

**40. Poly (Vinyl Alcohol)/Zincoxide-Ceriumoxide Nanocomposites: Electrical, Optical, Structural and Morphological Characteristics,HN Chandrakala, H Shivakumaraiah, R Somashekar,Indian Journal of Advances in Chemical Science,2, 103-106(2014).**

**41. Determination of Stacking Faults and Micro Structural Parameters in PVA/ZnO Nanocom-posite Films using Whole Pattern Fitting Technique ,KS K.S. Prashanth, SS Mahesh, BMNagbhushana, MB Nanda Prakash, Indian Journal of Advances in Chemical Science,2, 36-41(2014).**

**42. Microstructural Parameters of Bivoltine Silk Films using X-Ray Diffraction Studies ,Mahade-vaiah, G , Thejas Urs, K Byrappa, R Somashekar,Indian Journal of Advances in ChemicalScience,2, 3-5(2014).**

**43. Variation of Crystallite Ellipsoids for Varieties of Cotton Fibers Using Whole Powder Pat-tern Fitting Technique,MB Nanda Prakash, G ThejasUrs, HT Ananda, R Somashekar,Indian Journal of Advances in Chemical Science,2, 1-2(2014)**

**44. 1-D paracrytalline model to simulate a Bragg reflection: Computation of crystallite size andlattice strain,MB Nanda Prakash, G ThejasUrs, HT Ananda, R Somashekar,Crystal Structuretheory and applications,3, 48-55 (2014).**

**45. Translational order parameter in the smectic-B phase of 4-hexyl-40 -[2-(4-isothiocyanatophenyl)ethyl]-1,10 -biphenyl; M.K. Usha, N. Vinutha, R. Somashekar and D. Revannasiddaiah, Phase Tran-sitions, 86(10) 1033-1037 (2013).**

**46. Structure-property relation in HPMC polymer films plasticized with Sorbitol;Y Prakash, HSomashekarappa, R Somashekar,AIP Conference Proceedings 1536, 493 (2013)**

**47. Effect of microwave radiation on hydroxy propyl methyl cellulose polymer films and HPMC/poly(vinylpyrrolidone) polymer blend films using the wide-angle X-ray technique;H Somashekarappa,Y Prakash, Mahadevaiah, T Demappa, R Somashekar, Radiation Effects and Defects in Solids,168(11-12), 912-923 (2013).**

**48. The Influence of ginger spent loading on mechanical, thermal and microstructural behaviours of**
**polyurethane green composites;M Chethana, BS Madhukar, R Somashekar, S Hanta, Journal of Composite Materials, (2013).**
**49. Physico-mechanical , AC-conductivity and microstructural properties of FeCl3 doped HPMC**
**polymer films; Y Prakash, H Somashekarappa, A Manjunath, Mahadevaiah and R Somashekar;**
**Advances in Materials Research, 2(1) 37-40 (2013).**
**50. Effects of high energy electrons on physical and tensile properties of non-mulberry silk fibers;**
**Sangappa, B Lakshmeesha Rao, S Asha, S Ganesh, R Somashekar and Thimma Reddy; Fibers**
**and Polymers, 14(6), 1032-1039 (2013).**
**51. Microstructural and electrical properties of CoCl doped HPMC/PVP polymer blend films, H**
**Somashekarappa, Y Prakash, K Hemalatha and R Somashekar, AIP Conference proceedings,**

**1512, 532, (2013)**
**52. Characterization of the conventional and organic cotton fibres, K MurugeshBabu, M Selvadas,**
**R Somashekar, Journal of the textile Institute, 1-12, (2013)**
**53. Effect of ZnO Nanoparticles on Structural and Mechanical Properties of HPMC Polymer Films,**
**B LakshmeeshaRao, Mahadeviah, S Asha, R Somashekar, Sangappa;AIP Conference proceed-**
**ings, 1512, 588-589, (2013)**
**54. Effect of Alkali Treatment on the Physical and Surface Properties of Indian hemp Fibers, Sangappa, B LakshmeeshaRao, S Asha, R Somashekar;AIP Conference proceedings, 1512, 586-588, (2013)**
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**1. Invited talk at the International Conference "Powder Diffraction held during 21st-28th August**

**1995 at Slovakia**
**2. International Liquid Crystal Conference held in Bangalore, India during Jan 1-3, 1996.**
**3. Conference on Technology and Fibres, Coventry, UK in Dec 1988**
**4. Japan Crystallographic meeting, Sendai, Japan, Nov 2000**
**5. Japan Polymer meeting, Sendai, Japan Oct, 2000.**
**6. Sixth International Conference on Solvothermal reactions held at Department of Studies in Geology, University of Mysore, Mysore, India during 24-28 Aurgust, 2004.**
**7. Invited talk at 52nd Congress of ISTAM (An International Meet ) at BNMIT, Bangalore, December 14-17, 2007.**
**8. Invited talk at 52nd DAE Solid State Physics symposium held at Mysore , December 27-31, 2007. Title: Elastic constants of fibers using WAXS**
**9. Invited talk at National seminar on characterisation of pharmaceuticals materials held at Universiti Technologi Malaysia (UiTM) on 31st October 2013.**
**10. I was invited for the period May,14th 2014 to June 3rd , 2014 by the Department of Physics and**
**Astronomy, Wayne State University , Detroit , USA , ”as visiting professor ” under exchange program along with my research Student Mr Thejas urs.**

**National**

**1. NP and SSP Symposium held at Pune, Dec 1977**
**2. NP and SSP Symposium held at Varanasi, Dec 1982**
**3. Indian Science Congress held at Mysore, Jan 1982**
**4. NP and SSP Symposium held at Mysore, Dec 1983**
**5. National Conference on Liquid Crystals and their applications held at Baroda, 1994**
**6. National Conference on Liquid Crystals held at Mysore , Dec 1993**
**7. National Conference on X-ray Crystallography held at Mysore, Jan 16, 1995**
**8. Workshop on Advanced Materials , Mangalore, Dec, 1997**
**9. Discussion meeting on Advanced Topics of Liquid Crystals, RRI, Bangalore, Dec 28-31, 1998.**
**10. AsCA meeting held at IISc, BANGALORE. Nov 2001.**
**11. NSC acquaintance programme held in Department of Physics, JnanaBharati, Bangalore 2002.12. National Conference on Tropical Sericulture for Global Competitiveness, CSRTI, Mysore, 5-7th**
**November, 2003.**
**13. National conference on emerging trends in physics, electronics and engineering sciences, 25-**
**26th September 2006, Mysore**
**14. () 13th National conference on liquid crystals, 9-11th October 2006, Mysore**
**15. Invited talk at 38th National Seminar on Crystallography, held at Mysoreand organised by**
**Department of Studies in Geology, University of Mysore, Mysore 570006, Feb, 11-13th , 2009. Title: Microstructural parameters of natural fibers using WAXS data**
**16. Attended ”NAAC Assessors Interaction Meeting” held at NAAC, Bangalore during 3rd and**
**4th June 2009.**
**17. Two invited talk at ”National seminar on X-ray diffraction techniques” held at Gulbarga University, Gulbarga, March 2,3 , 2010.**
**18. NAAC Peer committee member for a college in Pune, 2010.**
**19. NAAC Peer Committee member coordinator for a college in Perambalur, 2010**

**20. Attended two-day meeting at Syndicate chamber university of Mysore, for common academic**
**table for the universities in Karnataka in Jan 2011.**
**21. Attended two-day workshop on ”Science and Technology research in Karnataka Universities ”**
**at Department of Studies in Physics, Manasagangotri, Mysore, 570006, organised by VGST, Karnataka Government, Bangalore during March 8th and 9th , 2010.**
**22. Organised one-day workshop on Astrophysics and Astronomy for M.Sc students in October,**
**2013.**
**23. Organised one-day workshop on Computational study of Materials in Feb 2014.**
**24. Conducted Academic Audit of Maharani’s Government Science College Mysore for two days**
**on 2nd and 3rd March 2015.**
**25. Invited talk at Rani Bahadur Auditorium on Characterisation of Materials organised by RMP**
**and University of Mysore, 2015**
**26. Conducted Academic Audit of Gulbarga University, Gulbarga, 2016 for three days in April 2016.**
**27. NAAC peer committee member coordinator for a College in Kerala in August 2016.**
**28. NAAC peer committee member coordinator for a College in West Bengal in October 2016.**

**D: Participation and contribution in National /International fora in the area of your academic and professional expertise.**

**Title of the Book: Defects and microstructure analysis by diffraction Eds: J Fiala, H J Bunge and R L Snyder, Publisher: Oxford University Press:**
**Chapter 8: Title:Crystal Size and distortion parameters in Fibres using WAXS: Author: R Somashekar**

**Title of the Book: Handbook on sustainable polymers: Chemistry and Physics:**
**Chapter on : Crystal Structure of Wild and Domestic Silk Fibres Using Linked-Atom-Least Squares Method**
**Authors: Thejas Urs and R Somashekar**
**Pub: Taylor and Francis, USA**
**Book published in 2014**

**Title of the book: International Tables of Crystallography, Volume H:**
**Chapter on Fibres and Polymers**
**Author: R Somashekar**
**Pub: Oxford University Press, UK Book to be released in 2013-2014.**

**9: Research Projects**

**RESEARCH PROJECTS**
**1. Title: Basic research on Liquid crystals, CSIR project, amount in Rs: 7 Lakhs; Status: completed.**
**2. Title: Studies on Small angle X-ray scattering by silk fibres; CSIR project; amount in Rs: 3.5**
**lakhs; Status: completed.**
**3. Title: Studies on Atomic and Molecular clusters Status: Completed.**

**4. Title: Studies on effect of electron irradiation on polymers using WAXS**
**Principal Investigator: Dr Sangappa, Dept of Physics, Mangalore University, Mangalore**
**Co-Investigator: Dr R somashekar, DOS in Physics, Mysore**
**Amount: Rs 7 Lakhs**
**Status: Ongoing**
**5. Studies on second harmonic generations in banana shaped liquid crystals; Dr Nagappa , Prin-**
**cipal Investigator, I am Co-principal Investigator, Agency:UGC; Amount: Rs 767,000=00**
**6. Physical,mechanical and thermal properties of Indian Hemp fibers": Dr Sangappa, Mangalore**
**University is Principal Investigator, I am Co-principal investigator, Agency, DST, New Delhi, Amount : Rs 19,14,000/- Date 25-01-2011**
**7. Radiation processing of non-mulberry silk fibers; Dr Sangappa, Principal Investigator, I am**
**co-principal investigator, DAE-BRNS project, 22,00,000/- 2010, for three years.**

**Co-ordinator, University with Potential for Excellence (Focussed Area -1), University of Mysore,**
**Mysore (100Crores)**
**Co-ordinator, Centre with potential for excellence in particular area(CPEPA) , University of Mysore, Mysore.**

**10: CONSULTING EXPERIENCE:**

**X-ray Powder analysis of some compounds supplied by M/s MaxPharm India Ltd, Nanjungud,was carried out and a sum of Rs 2500/- was credited to the University funds.**

**M/s Max Pharm India Ltd after appreciating our earlier work gave another set of samples and we have sent report to the company**

**11: Research Guidance:**

**RESEARCH SUPERVISION**

**1. R Gopalakrishnaurs, Ph D Degree awarded in 1993 by University of Mysore, Studies on microcrystalline parameters of natural silk fibres using WAXS.**
**2. H Somashekarappa, Ph D Degree awarded in 1999 by University of Mysore, Studies on micro-**
**crystalline parameters in natural polymers using WAXS.**
**3. V Annadurai, Ph. D Degree awarded in 2001 by University of Mysore, Studies on small angle**
**scattering of x-rays by silk fibres**
**4. G K Padmashree, Ph D Degree awarded in Sept 2005, Studies on atomic and molecular clusters**
**5. S S Mahesh, Ph.D Degree awarded in 3rd Dec 2007, Studies on molcular and crystal structural**
**differences among varieties of silk fibers**
**6. Sangappa Yellappa, Awarded 25.05.2008, Studies on natural and man man-made polymers using X-ray diffraction method.**
**7. Samir O M, Awarded Jan 2009, Studies on effect of intrinsic strain and crystalline shape parameters on the structure of cotton fibers.**
**8. Parameswara P, Awarded ,14th March 2012 , Studies on paracrystalline modeling of x-ray**

**scattering data of polymers9. Divakara S, Awarded 11th July 2011, Studies on microstructural parameters and stacking faults**
**in polymers using whole powder pattern fitting method.**
**10. Niranjana A R, Awarded on 6th October (2015), Studies on structural parameters in varieties**
**of cotton fibers using WAXS technique.**
**11. Ananda H T, Awarded on 18th December 2015 Characterization of water soluble polymer blends using X-ray technique**
**CO-GUIDE**

**1. A Manjunath, Ph D degree awarded in July 7th 2009 by University of Mysore Studies on structure-property relation in polymers and polymer blends unsing X-ray diffraction technique.**
**2. B K Kendaganna Swamy, Ph D degree awarded in October 2002 by University of Mysore, Studies on synthesis and characterisation of castor oil based polyurethanes.**

**10. AREA OF SPECIALISATION (UPTO 100 WORDS)**

**I did my B.Sc and M.Sc in University of Mysore and later joined Prof D Krishnamurti, FASc., for research. I was awarded Ph D in 1982 for a topic on Liquid crystals. In 1979, I was appointedas a lecturer in Department of Studies in Physics, MG Mysore in a permanent position. I continued my research work on different fields like crystals, Deby waller factor, rotatorydispersion of crystals, crystal structure using X-rays. In 1987 I was selected as research associate on world wide basis by Prof I H Hall, Department of Applied and pure Physics, UMIST, Manchester, UK for two years. During this period I learned several techniquest to analyse polymers. After the return to department I started my work on man-made and naturalpolymers especially on silk, cotton, and jute fibers. My students and myself could publish several high impact papers on these topics. We could develop several in-house techniques toanalyse X-ray diffraction pattern from polymers and natural polymers. In fact on this basis, I was invited for an international conference by International Union of Crystallographers (IUCr,UK) for a conference on Diffuse scattering. A monograph was brought out on this occasion wherein I have contributed a chapter and the monograph was published by Oxford UniversityPress, UK in 1999. Later , Prof Kenji Okuyama invited me as a visiting professor to work on silk in his biotechnology dept on JSPS fellowship in 1999-2000 for one year. Here We could publishan important paper on crystalline structure of Silk -I modifi cation of silk fiber. Aftercoming back I continued the research on polymers by developing programs for the analysis of X-raydata of both SAXS and WAXS. Prof Chris Gilmore, University of Scotland and Editor of International Table of Crystallography , Volume -H invited me to contribute a chapter on 'Fibersand Polymers". I am the only person from India for having participated in programs on polymers. I have contributed a chapter on Fibers and polymers to this International table andIt will be published in the near future. I was invited to address and international conference on drugs using WAXS in Univ.Tech Malyasia in 2013 and I was also invited as a professor , by DrRatna Naik , Department of physics and astronomy , Wayne state University, Detroit, USA in 2014 for research and teaching. I have also contributed a chapter on Title of the Book: I didmy B.Sc and M.Sc in University of Mysore and later joined Prof D Krishnamurti, FASc., for research. I was awarded Ph D in 1982 for a topic on Liquid crystals. In 1979, I was appointedas a lecturer in Department of Studies in Physics, MG Mysore in a permanent position. I continued my research work on different fields like crystals, Deby waller factor, rotatorydispersion of crystals, crystal structure using X-rays. In 1987 I was selected as research associate on world wide basis by Prof I H Hall, Department of Applied and pure Physics, UMIST,Manchester,**

**UK for two years. During this period I learned several techniquest to analyse polymers. After the return to department I started my work on man-made and naturalpolymers especially on silk, cotton, and jute fibers. My students and myself could publish several high impact papers on these topics. We could develop several in-house techniques toanalyse X-ray diffraction pattern from polymers and natural polymers. In fact on this basis, I was invited for an international conference by International Union of Crystallographers for a conference on Diff use scattering. A monograph was brought out on this occasion wherein I have contributed a chapter and the monograph was published by Oxford UniversityPress, UK in 1999. Later , Prof Kenji Okuyama invited me as a visiting professor to work on silk in his biotechnology dept on JSPS fellowship in 1999-2000 for one year. Here We could publish an important paper on crystalline structure of Silk -I modification of silk fiber. After coming back I continued the research on polymers bydeveloping programs for the analysis of X-raydata of both SAXS and WAXS. Prof Chris Gilmore, University of Scotland and Editor of International Table of Crystallography , Volume -H invited me to contribute a chapter on 'Fibersand Polymers". I am the only person from India for having participated in programs on polymers. I have contributed a chapter on Fibers and polymers to this International table andIt will be published in the near future. I was invited to address and international conference on drugs using WAXS in Univ.TechMalyasia in 2013 and I was also invited as a professor , by DrRatna Naik , Department of physics and astronomy , Wayne state University, Detroit, USA in 2014 for research and teaching. I have also contributed a Title of the Book:Handbook on sustainable polymers: Chemistry and Physics:Chapter on : Crystal Structure of Wild and Domestic Silk Fibres Using Linked-Atom-Least Squares Method;Authors: Thejas Urs and Somashekar;Pub: Taylor and Francis, USA Book published in 2014. Handbook on sustainable chapter on Chemistry and Physics:Chapter on : Crystal Structure of Wild andDomestic Silk FibresLinked-Atom-Least Squares Method; Authors: Thejas Urs and R Somashekar; Pub: Taylor and Francis, R USApublished in 2014.**