

## Personal Profile

Name:	S.Ravishankara
Designation:	Associate Professor, Department of Physics
Qualification:	M.Sc., (Physics) Specialisation: Spectroscopy, From Mysore University, 1984
Parent Institution:	RBANM's First Grade College, #12, AnnaswamyMudaliar Road, Bangalore – 560 042
Permanent appointment from:	01-10-1988
Position in the parent institution:	From October 1988 till January 2019, worked as Head of the Department of Physics.
Currently position :	Associate Professor, Department of Physics, Government First Grade College, Yelahanka, Bengaluru – 560 064
Earlier deployments :	<ol style="list-style-type: none"> <li>1) Associate Professor, Department of Physics, Indira Gandhi Government First Grade College for Women, SAGARA, Shimoga District</li> <li>2) Associate Professor, Department of Physics, Government First Grade College for Women, HASSAN</li> </ol>
Teaching experience:	36 years
Before permanent placement(during 1984 to 88)worked as :	<ol style="list-style-type: none"> <li>1. Lecturer, Department of Physics, BMS College of Engineering, Basavanagudi, Bengaluru.</li> <li>2. Lecturer, Department of Physics, Sri Jayachamarajendra College of Engineering, ManasaGangotri, Mysuru.</li> </ol>
Additional responsibility discharged:	Worked as the Secretary of Bangalore University First Grade College Physics Teachers' Forum from 2008 to 2013
Research work:	<p>Completed a UGC funded Minor research project in 201, having title:  <b>"Phase Diagram Studies on Amphiphilic Systems"</b></p> <p>Plan outlay : Rs 50,000=00                      UGC Grants received : Rs 40,000=00</p>

### Consolidate report of the MRP :

**Topic of MRP: Phase diagram studies in amphiphilic systems.**

### Details of the experimental work:

- 1) Studied of the mixtures of compounds **sodium dodecyl sulfate**(SDS) ( $C_{12}H_{25}NaO_4S$ ) and **Cetyltrimethylammonium bromide** (CTAB) ( $C_{19}H_{42}NBr$ ) dissolved in water.

- 2) The study was aimed at preparing amphiphilic systems suitable for non-biological applications.
- 3) A large number of samples were prepared by varying the ratio of SDS & CTAB in the mixture and by varying percentage content of the mixture in water. The samples were maintained at suitable high temperature (  $\sim 50^{\circ}\text{C}$  ), as their solubility was low at room temperature.
- 4) Using microscope the samples were studied for their textures.

## Results

- 1) The textural observations were made on the 32 aqueous mixtures of SDS and CTAB of different proportions. Majority of the observations made are at room temperature and pressure condition. However to improve the miscibility, some of the samples were studied at slightly higher temperatures.
- 2) It is observed that in pure compounds (SDS & CTAB), hexagonal phase occurs at about 30%. But in the aqueous mixtures of SDS & CTAB, the hexagonal phase makes its appearance at about 20% itself.
- 3) This early occurrence of the hexagonal phase in mixtures is probably due to strong electrostatic interactions between the oppositely charged head groups leading to the formation of rod like micells.
- 4) The results were illustrated using GIBB's triangles.
- 5) It is observed that at higher concentrations of either of the samples, the mixtures get phase separated. The poor miscibility of the compounds was one of the challenges for our study. The problem of miscibility is especially acute for higher concentrations of CTAB.
- 6) Due to the budgetary restriction, in this project a very limited study of the phase behavior of SDS-CTAB-WATER systems using only optical microscopy.
- 7) Further experiments including X-ray diffraction studies are necessary to understand the structural features and the phase behavior of the aqueous mixtures of SDS and CTAB studied in the project. The same could not be taken up for want of funds and facilities.

Events organized and attended from 2009 onwards:

### Academic year 2009-2010

Sl. no.	Date/s	Event	Venue	Topic
1	2nd to 4th April, 2009	Attended UGC Sponsored National Seminar	Vijaya College, RV Road, Bangalore.	Astronomy and Astrophysics
2	28th April 2009	Organised University level workshop	Vivekananda Degree College, Bangalore.	Revision of B.Sc Physics syllabus (Final) of Bangalore University
3	27 <sup>th</sup> to 30 <sup>th</sup> July 2009	Attended state level workshop	Centre for Atmospheric & Oceanic Studies, IISc, Bangalore.	Climate Change.

4	22nd & 23rd Oct 2009	Attended UGC Sponsored National Seminar	Vivekananda Degree College, Bangalore.	Display Phosphors and Its Applications.
5	1st March 2010	Organised Guest Lecture	RBANM's First Grade College, Bangalore.	National Science Day

## Academic year 2010-2011

Sl. no.	Date/s	Event	Venue	Topic
1	17th & 18th August 2010	Organised University level workshop	Maharani Lakshmi Ammanni College for Women, Bangalore.	Revised Physics syllabus of 1st and 2nd Semester B.Sc
2	Completed the MRP on the topic "Phase Diagram Studies on Amphiphilic Systems" & submitted to the UGC.			

## Academic year 2011-2012

Sl. no.	Date/s	Event	Venue	Topic
1	24th February 2012	Organised University level workshop	LKE Society's S.Nijalingappa College, Bangalore.	Framing syllabus for 5 <sup>th</sup> & 6th Semester B.Sc Physics

## Academic year 2012-2013

Sl. no.	Date/s	Event	Venue	Topic
1	16th February 2013	Organised University level workshop	RBANM's First Grade College, Bangalore.	5th Semester B.Sc., Physics Syllabus
2	28 <sup>th</sup> Feb 2013	Organised State level workshop	RBANM's First Grade College, Bangalore.	Laser & Optical Fibre
3	2nd March 2013	Attended UGC Sponsored National workshop	MES Degree College of Arts, Commerce and Science, Bangalore.	Advances in the Physics of Dielectrics with Applications
4	26 <sup>th</sup> March 2013	Attended UGC CPE sponsored National Conference	S.Nijalingappa College, Bangalore.	Emerging Trends in material Science.
5	18 <sup>th</sup> January 2014	Resource person on the occasion of the 150 <sup>th</sup> birthday & National Youth Day celebration .	Smt. Indira Gandhi Government First Grade Women's College, Sagara, Shimoga district.	Relevance of Sri.Vivekananda's ideals (spiritual & political) for the present day.

Academic year 2013-2014

Sl. no.	Date/s	Event	Venue	Topic
1	6 <sup>th</sup> & 7 <sup>th</sup> Feb 2014	Attended UGC Sponsored National Seminar	Mount Carmel College, Bangalore.	Empowering Employability in Higher Education
2	28 <sup>th</sup> Feb 2014	Resource person & Quiz master on the occasion of National Science Day celebration	Smt. Indira Gandhi Government First Grade Women's College, Sagara, Shimoga district.	Quiz contest for degree students
3	15 <sup>th</sup> March 2014	Attended University level workshop	Maharani Lakshmi Ammanni College for Women, Bangalore.	Dual Power Supply in a Jiffy.

Academic year 2014-2015

Sl. no.	Date/s	Event	Venue	Topic
1	27 <sup>th</sup> August 2014	Attended UGC CPE sponsored National Seminar	Government Science College, Bangalore.	Frontiers in Nanoscience & Technology.
2	30 <sup>th</sup> Sept 2015	Guest speaker on the occasion of World Ozone Day Celebration	Government First Grade Women's' College Hassan	Ozone Layer

Academic year 2015-2016

Sl. no.	Date/s	Event	Venue	Topic
1	11 <sup>th</sup> & 12 <sup>th</sup> April 2016	Resource person and participant of University Level workshop	Vivekananda Degree College, Bangalore - 55	Revision of CBCS syllabus of Bangalore University
2	13 <sup>th</sup> April 2016	Resource person and participant of University Level workshop	KLE Society's S.Nijalingappa College, Bangalore - 10	Revision of CBCS syllabus of Bangalore University

Academic year 2016-2017

Sl. no.	Date/s	Event	Venue	Topic
1	11 <sup>th</sup> March 2017	Resource person for UGC sponsored one day State workshop	Smt. Indira Gandhi Government First Grade Women's College, SAGARA	Fabrication of Dual Power Supply(DPS)

Academic year 2019-2020

Sl. no.	Date/s	Event	Venue	Topic
1	10 <sup>th</sup> September 2020	Coordinator of International Webinar	Government First Grade College, Yelahanka, Bengaluru - 64	National Education Policy 2020

**List of eminent academicians and scientists/visitors to the department during my tenure as the Head of the Department:**

**1. Lt. Gen. (Dr) V.J. Sundaram, PVSM, AVSM, VSM (Rtd)**

Former Director, DRDL & RCI (Research Centre Imarat), Date of visit: 28<sup>th</sup> February 2013

Purpose of visit: Honored Guest to Inaugurate the state level seminar on "Laser & Optical fibre" and deliver the key note address.

**2. Prof. Sharath Ananthamurthy**

Professor & Chairman, Department of Physics, Bangalore University,

Date of **first** visit: 16<sup>th</sup> February 2013

Purpose of visit: Inauguration of the University level "One Day Workshop on The Syllabus of V-Semester B.Sc., Physics"

Date of **second** visit: 28<sup>th</sup> February 2013

Purpose of visit: Chief Guest for the state level seminar on "Laser & Optical fibre"

**3. Dr. Srinivas Talabattula** Associate professor, ECE Dept,

Indian Institute of Science, Bangalore-12

Date of visit: 28<sup>th</sup> February 2013

Purpose of visit: Resource person for the state level seminar on "Laser & Optical fibre" and deliver valedictory address

**4. Dr. Reji Philip**

Associate Professor -II, Light & Matter Physics Group, Raman Research Institute,

CV Raman Avenue, Sadshivanagar, Bangalore- 80.

Date of visit: 28<sup>th</sup> February 2013

Purpose of visit: Guest to Honour for the Inauguration of the state level seminar on "Laser & Optical fibre" & a Resource person

**5. Prof. N.G. Puttaswamy**

Former Chairman, Department of Physics,

Bangalore University & President, KAAS, Bangalore,

Date of visit: 28<sup>th</sup> February 2012,

Purpose of visit: Special Lecture

Topic of lecture: "THE RISE OF CLASSICAL PHYSICS (1550 - 1890)"

**6. Prof. S. Lokanathan**

Former Chairman, Department of Physics, University of Rajasthan, Jaipur,

Date: 28<sup>th</sup> February 2012

Purpose of visit:Special Lecture

Topic of lecture:“THE QUANTUM REVOLUTION (1890 - . . . .)”

**7. Prof. S. Chatterjee,**

Indian Institute of Astrophysics, 2nd Block, Koramangala, Bangalore-560034

Date of visit: 16<sup>th</sup> February 2013

Purpose of visit:Resource person, University level “One Day Workshop on The Syllabus of V-Semester B.Sc., Physics” for Theory & Experiments in Astrophysics

**8. Dr. B. RavindraReader ,**

Indian Institute of Astrophysics, 2nd Block,Koramangala, Bangalore-560034

Date of visit: 16<sup>th</sup> February 2013

Purpose of visit:Resource person, University level “ One Day Workshop on The Syllabus of V-Semester B.Sc., Physics” for Theory & Experiments in Astrophysics

**9. Prof.T.Sivarani**

(Postdoctoral Fellow, Department of Physics & Astronomy, Michigan State University, USA), Indian Institute of Astrophysics, 2nd Block,Koramangala, Bangalore-560034

Date of visit: 16<sup>th</sup> February 2013

Purpose of visit:Resource person, University level “ One Day Workshop on The Syllabus of V-Semester B.Sc., Physics” for Theory & Experiments in Astrophysics.

**10.Dr.ManojPuravankara**

(Postdoctoral Fellow , University of Rochester, USA)

Indian Institute of Astrophysics, 2nd Block,Koramangala, Bangalore-560034

Date of visit: 16<sup>th</sup> February 2013

Purpose of visit:Resource person, University level “ One Day Workshop on The Syllabus of V-Semester B.Sc., Physics” for Theory & Experiments in Astrophysics

**11.Dr.Priya Rose Thankamani**

Post-doctoral fellow,Light & Matter Physics Group,

Raman Research Institute, CV Raman Avenue, Sadshivanagar, Bangalore- 80.

Date of visit: 28<sup>th</sup> February 2013

Purpose of visit:Resource person for the state level seminar on "Laser & Optical fibre".

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