

## DEPARTMENT OF MICROBIOLOGY

### 1.INTRODUCTION

The Department of Microbiology was established in the year 1988. There are **2** Professors, **1** Associate professor, **3** Assistant professors and **8** Tutors cum post graduate students who are actively involved in teaching and research activities.

**Dr Beena PM** is the Professor & Head of the Department.

Sl No.	Name of the Faculty	Designation	Worked	
			From	To
1.	Dr Radha Varadharajan	Professor & HOD	1/1/1988	30/8/1991
2.	Dr Shankar Narayan	Professor & HOD	31/8/1991	23/3/1992
3.	Dr Suguna Hemachander	Professor & HOD	24/3/1992	31/1/2003
4.	Dr S.R. Prasad	Professor & HOD	1/2/2003	15/12/2009
5.	Dr P.M. Beena	Professor & HOD	16/12/2009	Till Date

### 2.PROGRAMMES OFFERED:

1. Undergraduate(UG) **MBBS phase II**
2. Postgraduate (PG) **M.D** course in Medical Microbiology
3. **PhD** course- at present one student is pursuing PhD course in the department
4. **BSc. MLT** course

5. **BSc O.T. Technology**

6. **BSc Nursing course**

### **3.FACILITIES**

To train Medical students in Microbiology so that they can **Diagnose, treat and prevent infectious diseases.**

To train PG students in different methodologies in identifying and diagnosing infectious diseases and investigate epidemic of infectious diseases.

To train PG students in teaching methods which enable them to take up teaching assignments in Medical Colleges/Institutions.

They are introduced to basic research methodology so they can conduct fundamental and applied research work in branches of Medical Microbiology.

The students are made aware of ethical issues related to human subjects and animals.

The curriculum is prepared both for UG and PG students and revised once in 3 years.

Academic calendar of events are prepared every year and monthly teaching time table for the students is displayed well in advance.

### **UG Teaching programmes:**

**Lecture** classes, **Tutorial** classes, Small group **Discussions**, **Demonstrations**, **Clinical Case based learning**, **Assignments**, **Objective triggered self directed learning**, **Pre assessment test** and **Student Seminars** are conducted regularly as teaching-learning methods. The internal assessment tests are conducted every **6 months** with total of **3** internal assessment examinations by the end of their one and half year course.

**Improvement tests** are conducted for poor performers.

**PCT (part completion test)** are introduced and conducted after completion of small portions.

**Objective structured practical evaluation (OSPE)** and **Viva-Voce** are conducted during their internal practical exams.

Term wise **Internal marks** and the **Attendance percentage** of the students are sent to their parents at the end of each term.

**Feedback** from the students at the end of the course is taken regarding the teaching-learning activities and their suggestions are taken to improve teaching learning techniques.

**Interdepartmental** horizontal and vertical teaching programmes are regularly conducted by the department for both UG & PG students.

Modern teaching facilities like **Over head projections** and **Power point presentations** are used for lecture and practical classes. Access to **E-learning** on all topics in Microbiology is also available for the students.

**Mentorship programmes** undertaken to monitor the learning/ social activities of the students, to identify slow learners and to counsel them

with suggestive measures like small portion tests and assignments for improving their grades. Each faculty is allotted 10-15 students for the mentorship programme. Mentorship cards are prepared and details of each student like internal exam marks, attendance, remarks when parents meet the concern teachers are documented.

**PG teaching programme:** Regularly four teaching programmes per week like **Seminars/Discussions on topics related to Recent advances, Journal club, Culture/Slide seminars** and **Review of culture report** are conducted. Every day the PG students are trained in proper **Interpretation and Reporting** of culture positive samples and serological tests.

They are introduced to basic **Research methodology** which helps them to work on a dissertation on a chosen topic under the guidance of a recognized PG teacher.

PG students are posted in other departments like Pathology, Biochemistry, Surgery, ICU and Paediatrics within the institute for training during their 2<sup>nd</sup> year. PGs are also posted to other institutions like NIMHANS for gaining knowledge in specific tests in diagnosis of viral diseases.

They are regularly permitted to attend **CME** programmes, **Conferences** and **Work Shops** conducted at state and national level to update their knowledge.

Postgraduates by the end of the course are trained to publish an article in a journal of repute and also to present 2 papers (oral and poster) in state/national conferences. They are trained to take active participation in **Clinico-Pathological case presentations** conducted every month and

**Inter departmental seminars** once every month. Internal Assessment of both theory and practical exams conducted once in 6 months. Regular review of their dissertation work is done once in 6 months.

**Museum:** The department has museum with 160 charts and 35 specimens with a Catalogue.

**Library:** There are 194 books in the department library which the faculty and the students can access at any time.

Other activities: The department regularly participates in **External Quality Assurance Programme** offered by Indian association of Medical Microbiologists. The department undertakes extension activities like actively participates in **Hospital Infection Control Programme**. The department has brought out a manual on prevention of hospital associated infections and updates antibiotic policy on regular basis. Active role in investigating outbreaks of gastroenteritis/Dengue Epidemic in the surrounding regions of Kolar District. Conducts regular training programmes for technicians and Nurses in standard universal precautions. The department takes pride in training faculty from other colleges regarding use of WHONET. The department also undertakes practical hands on training for DMLT students from KGF colleges. Development of **Sub speciality Lab for Leptospirosis** - advanced tests like indirect immunofluorescence and Microscopic agglutination test are done.

Infrastructure for PCR lab is established



- 7) Rekha S, Gokul BN, Beena PM, Prasad SR. Multidrug resistant *Acinetobacter* isolates from patients admitted to Kolar. *Journal of Clinical and Biomedical Sciences*. 2011; 1: 3-7.
- 8) Sanjeev H, Rajini M, Prasad SR. Human dirofilariasis: An uncommon case of sub cutaneous infection with *dirofilariarepens* with a brief review of literature. *NitteUniv Jour Health Sci* 2011;1:1-3.
- 9) Bindiganavile N.Gokul, Godfred A. Menezes, and Harish BN. ACC-1 B-Lactamase-producing *Salmonella enterica* Serovar Typhi, India/CDC *Emerging Infct Dis* 2010;16(7):1170-1171.
- 10) Deepa EK, Prasad SR, Muninarayana C. Cholera outbreak in a village of Kolar district, Karnataka, Lost opportunities for prevention ? *The Journal of the Academy of Clinical Microbiologists* 2010; 12(1): 19-23.
- 11) Malini A, Deepa EK, Gokul BN, Prasad SR. Characterisation of Nonfermenting Gram negative bacilli and their role as health care associated pathogens. *Journal of Laboratory Physicians* 2009;1(2): 62-66.
- 12) Preethi, Sudha VB, Singh OK, Prasad SR, Padma Venkatasubramanian. Killing of Enteric Bacteria in drinking water by copper devices that could be used at home : Laboratory evidence. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 2009;103:819-822.

- 13) Lakshmaiah V, Arun MS, Malini A, Prasad SR. Polyserositis due to *Salmonella enteritidis* Transactions of the Royal Society of Tropical Medicine and Hygiene 2009;103:1180-1182.
- 14) Malini A, Deepa EK, Manohar PV, Borappa K, Prasad SR. Soft tissue infections with *Arcanobacterium haemolyticum*: report to three cases. Indian Journal of Medical Microbiology 2008; 26:192-195.
- 15) Prasad SR, Rajini M. Leptospirosis: An overview. The Journal of Academy of Clinical Microbiologists 2008;10:89-97.
- 16) Rajini M, Prasad SR, Reddy RR, Bhat RV, Vimala KR. Postoperative infection of laparoscopic surgery wound due to *Mycobacterium chelonae*: Indian Journal of Medical Microbiology 2007; 25:163-165.
- 17) Prasad SR, Rajini M. Suppurative lesion due to *Salmonella typhi*- letter to the Editor. The Journal of Academy of Clinical Microbiologists 2005;7:47-48 .
- 18) .Deepthi P, Sandeep SR, Rajini M, Rajeshwari H, Shetty A Cholera outbreak in a village of South India- Timely action saved lives Journal Ind Pub Health Accepted for publication.



19.Parimala S, Gokul B N, Bhaskaran A, Beena P M.  
Serratiamarcescens: An Unusual pathogen associated with snake  
bite cellulitis. Journ Infect Dev Ctries. Accepted for publication.

## **6.RESEARCH**

### **On going research projects:-**

1.To study the prevalence of Beta haemolytic Streptococci in and  
around Kolar. External funded project by Ganga Gen  
BiotechnologiePvt.ltd. (Ongoing)

2. Prevalence of Rubella antibodies and Rubellainfection among  
the undergraduate Medical and nursing students of Sri Devaraj  
Urs Medical College, residing in hostel. Funded by  
SDUAHER, Tamaka, Kolar. (Ongoing)

3. Speciation and antifungal susceptibility of Candida Isolates.  
Funded by SDUAHER, Tamaka, Kolar. (Ongoing)

4.. MRSA infections in a tertiary care hospital at Kolar, Karnataka :  
Antibiotic phenotypes and the temporal variations of MRSA.  
(Ongoing).

5.Laboratory surveillance of Dengue in Kolar region and an  
attempt to develop a case definition for hospitalized patients.  
(Ongoing).

### **Projects Completed:-**

1. Bacteriological profile of patients with chronic suppurative otitis media. (Completed and Poster presented at State level Conference IAMM 2012 )
2. Screening for inducible Amp C betalactamase production among members of Enterobacteriaceae. (Completed and Poster presented at State level Conference IAMM 2012)
3. Antibiotic phenotypes of MRSA : study in a tertiary care hospital at Kolar. (Completed and Poster presented at State level Conference IAMM 2012)
4. Streptococcus pneumonia infections in patients admitted at a tertiary care hospital at Kolar. (Completed and Poster presented at State level Conference IAMM 2012 )
5. Inducible clindamycin resistance due to expression of erm gene in Staphylococcus aureus isolates from a rural tertiary care hospital Kolar. (completed and Poster presented at State level Conference IAMM 2012 and paper sent for Ethical clearance)
6. Laboratory surveillance of Cholera in Kolar District during 2001-2012: Serotypes, Biotypes and antibiogram of the isolates. (Completed – Manuscript under preparation)
7. Seroprevalence of antibodies to syphilis among pregnant woman and congenital syphilis in neonates born to seropositive mothers at Kolar, Karnataka..(Completed – Manuscript under preparation).

8. Speciation and antifungal susceptibility of Candidal isolates among patients attending R.L. Jalappa Hospital and research Centre, Kolar. ( Poster presented at State level Conference IAMM 2012)

9. Nasal carriage of MRSA among interns of Sri Jalappa Hospital, Tamaka, Kolar.-a student project (Completed and Poster presented at AXON at Coimbatore)

10. Maternal and congenital syphilis in Kolar region, Karnataka: Issues and concerns. Archana BR, Prasad SR ( Completed & sent for publication to South East Asian Journal of Tropical Medicine and public health.)

11.Laboratory surveillance of cholera in Kolar district during 2001 to 2012 : Biotypes, serotypes, and antibiogram of the isolates. Swetha K, Beena PM, Prasad SR. (Completed & sent for publication to Journal of Laboratory Physicians.)

## **7. HIGHLIGHTS**

Our PG student was awarded Gold Medal for having secured highest marks among the Paraclinical subjects in 2011.

## **8. CONFERENCES ATTENDED FOR THE LAST 3 YEARS**

1. Immuno- diagnosis of infectious diseases- IAMM-KC Annual Conference at St. Johns Medical College on 18-2-2012.Dr.S.R.Prasad, Dr.Swetha, Dr.Archana ,Dr.Savitha, Dr.Anitha.Dr.Trupthi ,Dr.Vidhya.
  
2. Current concepts in Immunology -.Annual conference XVI of IAMM-KC held at St. Johns Medical college, Bangalore on 19th Feb 2012. Dr,Beena,Dr.S.R.Prasad, Dr.Rajini, Dr.JeevanShetty, Dr.Tanveer, Dr.Parimala, Dr.Swetha, Dr.Archana , Dr.Savitha, Dr.Anitha. Dr.Trupthi Dr.Vidhya.
  
3. Fourth International Conference on Genetic and Molecular diagnosis in Modern Medicine : Focus on counseling Strategies, 29-30<sup>th</sup> January 2011. Dr Harshavardhana S.
  
4. Microcon 2009 –CME/Workshop and Conference at JSS Medical College, Mysore from 3<sup>rd</sup> to 8<sup>th</sup> November 2009. - Dr.S.R.Prasad, Dr.Rajini, Dr.Rekha Sri Ram, Dr.Tanveer, Dr.Parimala, Dr.Savitha
  
5. National institute of Mental Health and Neuro at Banaglore Sciences, Workshop on Research Methodology held at NIMHANS Bangalore on 15<sup>th</sup> to 17<sup>th</sup> December 2011 Dr.Rekha Sri Ram, Dr.HarshaVardhana .
  
- 6.XV annual conference Indian Association of Medical Microbiology, Krnataka Chapter on 26<sup>TH</sup> & 27<sup>th</sup> February 2011 at Rajarajeshwari Medical college & Hospital Bangalore. Dr SR Prasad, Dr Gokul, Dr

Rajini, Dr Jeevan Shetty, Dr Rekha Sriram, Dr Savitha N, Dr Parimala, Dr Swetha, Dr Archana.

7. Asia Pacific quality Network conference 2011 on quality assurance in higher education and achievements on 2<sup>nd</sup> to 4<sup>th</sup> March 2011 hosted by NAAC Bangalore.

Dr SR Prasad.

8. Conference –South Zonal Conference Microbiology March 2011 Infectious Diseases at Puducherry on 11/03/11 to 12/03/11. Dr Savitha , Dr Swetha, Dr Archana.

9. 2<sup>nd</sup> National Research workshop on 9/3/11 to 10/3/11 “Application of new biology to medical research in the Indian context” SDUMC, Kolar.

10. Department of Microbiology hosted XIV Annual Conference Indian Association of Medical Microbiology KC Microcon-KC, at Sri DevarajUrs Medical College, Kolar, on March 20<sup>th</sup> and 21<sup>st</sup> 2010.

## **9. DISSERTATIONS- COMPLETED**

1. A study of Dermatophytoses in Rural patients. PG- Dr Sajitha K, Guide- Dr SR Prasad.

2. Nonfermenting Gram negative bacilli from clinical specimens: Identification, Antibigram and Relevance. PG- Dr Vinutha M.S , Dr Beena PM
3. Rapid slide culture technique to improve case detection in Revised National Control Programme (RNTCP). PG- Dr Sanjeev, Guide- Dr SR Prasad
4. Serological study of Brucella infections in the Highrisk population and in patients with fever in and around Kolar. PG- Dr Dhanalaxmi, Guide- Dr SR Prasad.
5. Evaluation of Multiple Laboratory methods for the diagnosis of Extra Pulmonary Tuberculosis. PG-Dr Parimala, Dr TV Rao.
6. Evaluation of superficial and deep specimens for isolation and identification of bacterial isolates from Diabetic foot infections. PG-Dr Savitha N, Guide- Dr BN Gokul.
7. Distribution of Malassezia species in patients with pityriasisversicolor in kolar region. PG- DrArchana, Guide: DrBeena PM.
8. Ventilator associated pneumonia, bacterial spectrum, quantitative profile and antibiotic sensitivity pattern at RL Jalappa Hospital and Research Centre. PG- DrSwetha Guide: DrBeena PM
9. Sputum microscopy after universal sample processing to diagnose smear negative pulmonary tuberculosis under RNTCP. PG- DrSavitha P Guide: Dr SR Prasad.

## **ONGOING**

10. Bacteriological Profile in Blood cultures in tertiary care hospital in Kolar. PG- DrVidhya R, Guide: Beena PM.

11. Detection of Carbapenemase production among clinical isolates of Enterobacteriaceae in rural tertiary health care centre. PG-Dr Trupthi Guide: Dr SR Prasad.
12. Evaluation of three genus specific serological tests for the diagnosis of Leptospirosis. PG- DrAnitha D, Guide: Dr SR Prasad
13. Microbial keratitis caused by common bacterial, fungal and parasitic infections in Kolar region. PG- DrBipin Guide: Dr SR Prasad
14. Speciation and antibiotic susceptibility of Enterococci isolated from the patients and normal population. PG- DrSudha Guide: DrBeena PM.

## **10. ANY OTHER:**

### WORKSHOP /CME /GUEST LECTURES/PRESENTATIONS

1. Acute otitis media – Sri Devaraj Urs Medical College, Kolar in collaboration with departments of ENT and Paediatrics, Sri Devaraj Urs Medical College, Kolar on 17-4-2012. All the Staff from the department participated.
2. Eighth Infectious disease certificate course organized by P.D. Hinduja National Hospital & Medical Research Centre, Mumbai from 25<sup>th</sup> September to 2<sup>nd</sup> October 2011.

3. Post Graduate orientation workshop by Dr. S.R. Prasad as resource person, on 3<sup>rd</sup> and 6<sup>th</sup> August 2011 at Adichunchanagiri Institute of Medical sciences, Bellur.
4. Emerging /Re-emerging infectious diseases at Sri Devaraj Urs Medical College,  
17- 8-2011.
5. GI &Hepatobiliary surgeries at Sri Devaraj Urs Medical College,  
Kolar on  
27-4-2012.
6. Diarrhoeal diseases Recent trends and isolates - Quarterly meet of IAMM-Karnataka chapter at Belgaum on 9-7-11.
7. Recent advances in virology - Karnataka chapter at Sullia on 11-11-2011. KVG Medical college.
8. Eleventh Sri Dorabji Tata Symposium on diagnostics in infections at Indian Institute of Science, Bangalore.-10<sup>th</sup> and 11<sup>th</sup> March 2010.
9. CME/Workshop on Leptospirosis diagnostics - 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> February 2010 at Tirupati XIII Annual Conference. - Dr.T.V.Rao, Dr.Parimala
10. Guest Lecture on Antibiotic resistance –Dr. Rajini at SDUMC, Kolar, July .2011
11. Guest Lecture on Tuberculosis awareness – “Lab Microscopy” on World TB day 24<sup>th</sup> March 2012 Dr. RekhaSriram at SDUMC, Kolar
12. Guest Lecture on Orientation Programme to interns on 12-3-2012 - Dr.Jeevan Shetty at SDUMC, Kolar
13. MRSA Infections.-Dr Gokul BN. Indian Association of Medical Microbiologists, Karnataka Chapter, 3rd Quarterly meet at Vydehi Institute of Medical Sciences, Bangalore- May 2008.
14. Antibiotic phenotypes of MRSA : study in a tertiary care hospital at



Kolar Dr SavithaP, at IAMM-KC Annual Conference at St. Johns  
Medical College, Bangalore on 18-2-2012.

15. Streptococcus pneumoniae infections in patients admitted at a tertiary  
at IAMM-KC Annual Conference at St. Johns Medical College,  
Bangalore on 18-2-2012.

16. Inducible clindamycin resistance due to expression of erm gene in  
staphylococcus aureus isolates from a rural tertiary care hospital  
Kolar.-DrVidhyaR. At IAMM-KC Annual Conference at St. Johns  
Medical College, Bangalore on 18-2-2012.

17. Screening for inducible Amp C B- lactamase production among  
members of Enterobacteriaceae.-Dr Trupthi at IAMM-KC Annual  
Conference at St. Johns Medical College, Bangalore on 18-2-2012.

18. Speciation of Candida and their antifungal sensitivity pattern at R.L.J  
Hospital & Research Centre ,Kolar.- Dr Swetha K, at IAMM-KC  
Annual Conference at  
St. Johns Medical College, Bangalore on 18-2-2012.

19. Bacteriological profile of patients with chronic supportive otitis  
media.- Archana BR, RekhaSriram, P.M.Beena, Narayana GK at  
IAMM-KC Annual Conference at  
St. Johns Medical College, Bangalore on 18-2-2012.

20. Necrotising fasciitis due to multi drug resistant  
acinetobacterbaumani: treatment options- DrParimala S at IAMM-  
KC Annual Conference at St. Johns Medical College, Bangalore on  
18-2-2012.

