



**BHARATHIARUNIVERSITY  
COIMBATORE – 641 046**



**Format for 28<sup>th</sup> Annual Report Data for University Departments  
for the year 2009 (from 01.01.2009 to 31.12.2009)**

**1. Department Details:**

Name of the School	School of Biotechnology and Genetic Engineering			
Name of the Department	Microbial Biotechnology			
Name of the HOD, Phone No. and E-mail ID	Dr. K. Swaminathan, 9865467636, <a href="mailto:kswamibiotech@gmail.com">kswamibiotech@gmail.com</a>			
Year of Establishment	2008			
Telephone Number	0422 -2428292			
Website / E mail				
Special Status	SAP	FIST	DST	Others (pl. specify)

**2. Details of Faculty and Staff Members:**

Sl. No.	Name of the Faculty	Qualification	Designation	Specialization	Experience in years Teaching/ Research	E-mail ID & Phone No.
1	Dr. K.Swaminathan	Ph.D.	Professor and Head	Microbial Biotechnology	27	<a href="mailto:kswamibiotech@gmail.com">kswamibiotech@gmail.com</a> Ph. No: 9865467636
2	Dr. J.Angayarkanni	Ph.D.	Asst. Professor	Microbial Biotechnology	9	<a href="mailto:angaibiotech@rediffmail.com">angaibiotech@rediffmail.com</a> Ph.No: 9003790977
3	Dr. V. Brindha Priyadarisini	Ph.D	Asst. Professor	Microbial Biotechnology	4	<a href="mailto:brindha02@buc.edu.in">brindha02@buc.edu.in</a> Ph.No: 9843046557

**3. Research Schemes/Projects undertaken:**

Sl. No.	Funding Agency	Name of the Principal Investigator	Title of the Project	Amount( Rs)	Duration	
					From	To
1	BU-DRDO-CLS	Dr.K.Swaminathan	Environmental management and Biotechnology	4.2 crores	2005	2010
2	DRDO- LSRB	Dr.K.Swaminathan	Microbial lipase mediated transesterification of Jatropha curcus oil for biodiesel production	32,05,050	2007	2010
3	DRDO-CFEES	Dr.K.Swaminathan	Production of biofuel, ethanol from cellulosic wastes	9,88,000	2008	2010
4	ICMR	Dr. J. Angayarkanni	Semisynthetic complexes of ruthenium for topoisomerase II inhibition”,	6.882 L	2008	2011

5	DBT	Dr. J. Angayarkanni	Isolation of Telomerase inhibitor from soil microbe	15.2 L	2007	2010
6	UGC	Dr. J. Angayarkanni	Purification and characterization of pterin deaminase enzyme from soil fungus	7.87 L	2007	2010

**4. (a) Deputation of Faculty to present papers in Congresses/Conferences/Seminars/Workshops, Symposia, etc.**

Sl. No.	Name of the Faculty	Congress/Conference/Seminar /Workshop and Venue	Period	Title of the paper
1	Dr. J. Angayarkanni	28 <sup>th</sup> International Winter Workshop on Clinical, Chemical and Biochemical Aspects of Pteridines	March 1 – 8, 2009	Pterin deaminase – unexplored enzyme from rat liver exhibitin antitumor activity
2	Dr. J. Angayarkanni	AMI conference,	Dec – 15- 18, 2009	Association of Microbiologists of India

**4. (b). Faculty having acted as chief guest, key note speakers, resource person, chair person, external experts, etc.,**

Sl. No.	Faculty	Role	Event	Venue & Date	Title
1	Dr. K.Swaminathan	Subject expert	Staff selection and Promotion Committee	Various Universities, Research Institutes	
2	Dr. K.Swaminathan	Member	Doctoral Committee	Various Universities, and Autonomous colleges	
3	Dr. K.Swaminathan	Member	SC/ ST advisory committee	PSGCAS, Cbe.,	

**5. Seminars and Conferences Organized:**

Sl. No.	Name of the Faculty	Congress/Conference/Seminar/ Workshop/Symposia, etc. Organized	State/National/ International Level	Period
1	Dr. J. Angayarkanni	Man and Microbes	National	One day

**6 (a). Publication of Research Papers at the State/National/International Levels:**

Sl.No.	Title of the paper	Author(s)	Journal	Volume No, Issue No.	Year of Publication	Page (pp)
1.	Redox-mediated decolorization of recalcitrant textile dyes by <i>Trichoderma harzianum</i> WL1 laccase	S Sadhasivam, S Savitha, <b>K Swaminathan</b>	World Journal of Microbiology and Biotechnology	25	2009	1733-1741
2.	Hepatoprotective and curative properties of kombucha tea against carbon tetrachloride-induced toxicity	Murugesan GS, Sathishkumar M, Jayabalan R, Binupriya AR, <b>Swaminathan K</b> , Yun SE	J Microbiol Biotechnol	19(4)	2009	397-402
3.	Nitrate removal from synthetic medium and groundwater with aquatic macrophytes	P.M. Ayyasamy, S. Rajakumar, M. Sathishkumar, K. <b>Swaminathan</b> , K. Shanthi, P. Lakshmanaperumalsamy and S. Lee	Desalination	242	2009	286-296
4.	Modification of paper properties by the pretreatment of wastepaper pulp with <i>Graphium putredinis</i> , <i>Trichoderma harzianum</i> and fusant xylanases	S Savitha, S Sadhasivam, <b>K Swaminathan</b>	Bioresource technology	100	2009	883-889
5.	Genetic diversity among toxigenic clostridia isolated from soil, water, meat and associated polluted sites in South India	S Sathish, <b>K Swaminathan</b>	Indian Journal of Medical Microbiology	27	2009	311-20
6.	Metabolically inactive <i>Trichoderma harzianum</i> mediated adsorption of synthetic dyes: Equilibrium and kinetic studies	S Sadhasivam, S Savitha, <b>K Swaminathan</b>	Journal of the Taiwan Institute of Chemical Engineers	40(4)	2009	394-492
7.	A prototype of proposed treatment plant for sago factory effluent	S Savitha, S Sadhasivam, <b>K Swaminathan</b>	Journal of Cleaner production	17(15)	2009	1363-1372
8.	Deployment of <i>Trichoderma harzianum</i> WL1 laccase in pulp bleaching and paper industry effluent treatment	S Sadhasivam, S Savitha, <b>K Swaminathan</b>	Journal of Cleaner Production	18(8)	2009	799-806

9.	Nitrate removal using <i>Brevundimonas diminuta</i> MTCC 8486 from ground waters	S.Kavitha, R.Selvakumar, M.Sathishkumar, <b>K.Swaminathan</b> , P.Lakshmanaperumalsamy, A.Singh and S.K.Jani	Water Science and Technology	60	2009	517-524
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**6 (b). Abstracts:**

Sl.No	Author	Title	Event
1.	Sabarathinam. S, Priyadharshini. U, <b>Angayarkanni. J</b> , Palaniswamy. M.	Pterin deaminase – unexplored enzyme from rat liver exhibiting anti-tumour activity. <i>Pteridines</i> 20: 33.	28 <sup>th</sup> international winter workshop on clinical, chemical and biochemical aspects of pteridines
2.	Priyadharshini. U, Sabarathinam. S, <b>Angayarkanni. J</b> , Palaniswamy. M	Biological implications of unexplored enzyme pterin deaminase. <i>Pteridines</i> 20: 32-33.	28 <sup>th</sup> international winter workshop on clinical, chemical and biochemical aspects of pteridines
3.	Priyadharshini. U, <b>Angayarkanni. J</b> , Sabarathinam. S, Palaniswamy. M.	Purification and characterization of unexplored enzyme pterin deaminase from native isolate <i>Micrococcus luteus</i> BI252. <i>Pteridines</i> 20: 31-32.	28 <sup>th</sup> international winter workshop on clinical, chemical and biochemical aspects of pteridines
4.	Nisshanthinni.S.D, Priyadharshini. U, Antony K Teresa Infanta. S <b>Angayarkanni. J</b> , Palaniswamy. M	Microbial production and purification of pterins and its therapeutic applications	50 <sup>th</sup> Annual Conference “Association of Microbiologists of India”
5.	Antony K Teresa Infanta. S, Sivasamy.R, Jancy Magdalene. P, <b>Angayarkanni. J</b> and Palaniswamy. M	An efficient bioactive alkaloid, with topoisomerase II inhibition from <i>Streptomyces</i> Sp	50 <sup>th</sup> Annual Conference “Association of Microbiologists of India”
6.	Hemelatha. M, Vijayarani. N, <b>Angayarkanni. J</b> and Palaniswamy. M	Isolation and Partial Purification of Heme Oxygenase from <i>Staphylococcus aureus</i>	50 <sup>th</sup> Annual Conference “Association of Microbiologists of India”
7.	Ayub Nawaz. K. A, <b>Angayarkanni. J</b> and Palaniswamy. M	Unexplored Enzyme Pterin Deaminase in Mammalian Cell Lines	50 <sup>th</sup> Annual Conference “Association of Microbiologists of India”
8.	Sathyabama.S,Ranjith kumar.M,Vijayabharathi.R, Bruntha Devi.P and <b>Brindhya Priyadarsini.V</b>	Screening for a novel probiotic candidate from human faeces samples and its effectiveness against intestinal disorders	50 <sup>th</sup> Annual Conference “Association of Microbiologists of India”

<b>9.</b>	Ranjith kumar.M, Sathyabama.S, Vijayabharathi,R Bruntha Devi.P and <b>Brindha Priyadarsini.V</b>	Screening for an antifungal antibiotic from marine actinomycetes against <i>Trichophyton rubrum</i>	50 <sup>th</sup> Annual Conference  “Association of Microbiologists of India
<b>10</b>	R.Sivasamy, <b>J Angayarkanni</b> K. Krishnamurthi, S. Saravana Devi and M.Palaniswamy	Novel Nucleoside - Diphosphate kinase from <i>Streptomyces</i> Sp.	International conference on Molecular tools in Environmental Toxicology(MOLTOX)

**7. Publications of Books/Monographs: Nil**

<b>Sl. No.</b>	<b>Author</b>	<b>Name of the Book</b>	<b>Publisher/Place</b>	<b>Year</b>
1				
2				
3				



**9(a). Enrolment of Overseas Students’:**

Sl.No.	Degree and Subject	Nationality/State	Number of Students		Total
			M	F	
1	Ph.D., Microbial Biotechnology	Iran		1	1

**9 (b). Enrolment of Students’ from other states**

Sl.No.	Degree and Subject	Name	State	Number of Students		Total
				M	F	
1	II.M.Sc	Aiswarya.G Deepu Krishnan.P.R Ashwini Vijayaraghavan Shigee.K	Kerala	1	3	4
2	I.M.sc	Digvijay Singh Rathore	Bihar	1		1

**10. Research Degrees Awarded / Submitted:**

Sl. No.	Name of the Scholar	Name and Designation of the Supervisor	Title	M.Phil./ Ph.D.
1	R.Selvakumar	Dr.K.Swaminathan Professor and Head	Designing a house hold water purification system for arsenic and fluoride removal from drinking water	Ph.D
2	V. Sri Priya	Dr.K.Swaminathan Professor and Head	Transesterification of Nostoc Sp and westiellopsis Sp algal oil for Biodiesel Production	M.Phil
3	S.Ramalakshmi	Dr.K.Swaminathan Professor and Head	Studies on kinetics of Reactive yellow, Reactive black and fast green dyes adsorption by Alternaria raphani fungal biomass and activated carbon from aqueous solution	M.Phil
4	P. Jancy Magdalene	Dr. J. Angayarakanni, Assistant Professor	DNA Topoisomersae II Inhibitor from <i>Streptomyces</i> Species	M.Phil
5	Frieda Nancy	Dr. J. Angayarakanni, Assistant Professor	Purification and Characterization of Heme Oxygenase from <i>Candida albicans</i>	M.Phil

**11. Fellowships Awarded:**

Sl.No.	Agency*	Position (URF/JRF/SRF/RA)	Number of Fellowships		Total
			M	F	
1	CSIR, New Delhi	SRF	1	1	2
2	ICMR	SRF	1		1
3	UGC-MRP	JRF		1	1
4	DBT	JRF	1		1
5	UGC - RFSMS	JRF		2	2

\*(DSC/DRDO/AICTE/Ministry/CSIR, Others...)

**12. Scholarships Awarded:**

Nature of Scholarship	P.G.		M.Phil.		Ph.D.		Amount Rs.
	M	F	M	F	M	F	
B.C.(State)	-	-	-	-	-	-	-
B.C.M.(State)	-	-	-	-	-	-	-
M.B.C./D.N.C.(State)	-	-	-	-	-	-	-
SC/SCA/ST(National)	-	-	-	-	-	-	-
SC/SCA/ST(State)	1	1	1	-	-	-	24, 140/-
First Generation Free Education	-	-	-	-	-	-	-
Loan Scholarship	-	-	-	-	-	-	-
Others (Specify the name of the scholarship)	-	-	-	-	-	-	-
Total	1	1	1	-	-	-	24, 140/-

**13. Placement Details: Nil**

Name of the Placement Co-ordinator:

Phone No.

Sl.No	Number of Placements & Programme and campus interview	Number of Companies that visited the campus	Number of placements obtained through off campus interviews
1			
2			
3			

**14. (a) Outstanding achievements by Faculty members?:**

Sl.No	Name of the Faculty	Achievements	Agency
1	Dr. K. Swaminathan	A patent is registered (Sl.No. 011 009953; Dated. Dec.2009)	Govt. of India

**14. (b) Outstanding achievements by Students?:**

Sl.No	Name of the Student	Achievements	Agency
1	U. Priyadharshini	Travel Grant	DBT, DST, CSIR – New Delhi, India; International society of Pteridinology, Austria.
2.	Aiswarya.G	Cleared Net Exam	CSIR
3.	Sivasamy.R	Won II best poster award	Conference on Molecular tools in Environmental Toxicology, NEERI, Nagpur

**15. Infrastructure and research facilities available (Please specify equipments more than Rs. One Lakh Only):**

Sl.No	Name of the Equipment/Computer/Software/Others	Quantity
1	Mastercycler Gradient	1
2	Deep Freezer	1

**16. Extension activities carried out: Nil**

Sl.No	Name of the Activity	Date	Venue	Beneficiaries
1.	Planted nearly 300 trees in SomayamPalayam Village	October 2009	SomayamPalayam	Benefit to Villagers
2	Creation of blood donors database of Bharathiar University by Biogalaxy, Associated of Department of Microbial Biotechnology	November 2009	Bharathiar University	Donated 75 <sup>+</sup> Units of Blood

**17. Library / Learning Resources/ Information and Communication Technology Resources:  
Name of the Librarian or Faculty in-charge and qualification: University General Library**

S.No.	Particulars	Nos.	S.No.	Particulars	Nos.
1	No. of Books Available	-	8	No. of CDs and Digital Books	-
2	No. of Titles Available	-	9	No. of Indian Magazines	-
3	Books Added During the Year 2009	-	10	No. of Foreign Magazines	-
4	No. of Data bases Available	-	11	Average no. of Students Visiting the Library per day	-
5	No. of Online Journals	-	12	Average no. of Books Issued per day	-
6	No. of Indian Journals	-	13	Availability of Internet (Specify the Capacity) (E.g – 8 Mbps etc.,)	6 Terminals
7	No. of Foreign Journals	-	14	Availability of Language Lab	No

**18. Department Lab:**

Sl.No.	Name of the Lab	Purpose Research/Practical	Equipments	
			No.	Value
1	Microbial Biotechnology	Research/Practical	1	3, 12, 000.00
2	Cancer Therapeutics	Research/Practical	1	27, 768.00
3	Clinical Biotechnology	Research/Practical	14	5, 05, 633.00

**19. Others (Please Specify):**

**a. Collaborative  
Research**

Defense Research and Development Organisation, Govt. of India.

**b. Consultancy**

**c. No. of NET/SET/GATE Qualified students. 1**

**KEY ACADEMIC RATIOS**

<b>S.No</b>	<b>Particulars</b>	<b>Formula</b>	<b>Ratio</b>
<b>1</b>	<b>FACULTY RATIOS</b>		
1.1	Non-Teaching staff to Teaching Faculty Members' Ratio	Total No. of Non-Teaching Staff / Total number of Teaching staff	0
1.2	Ratio of publications per faculty	Total no. of publications / Total no. of Faculty members	3
1.3	Ratio of Paper presentation to Faculty	Total no. of papers presented/ Total no. of Faculty members'	3.33
1.4	Ratio of Workshops, Seminars, Conference organized to Faculty	Total no. of Seminars etc, organised / Total no. of Faculty	0.33
1.5	Ratio of participation	No. of Faculty who attended the programmes / Total number of teaching staff	0.66
1.6	Ratio of Projects to Faculty	Total number of Projects /Total no. of Faculty	2
<b>2</b>	<b>RESOURCE RATIOS</b>		
2.1	Ratio of Computers per student	Total no. of Computers in the Department/ Total No. of Students	0.25
2.2	Ratio of Books to students	Total no. of Books / Total no. of Students	#
2.3	Hostellers' Ratio	Total hostel inmates / Total students admitted	0.65
2.4	Constructed area per student	Total constructed area / Total number of students	26.66 sqft
<b>3</b>	<b>STUDENT RATIOS<sup>0</sup></b>		
3.1	Demand Ratio	Number of Students Applied / No. of Students Admitted	12.82
3.2	Student Faculty Ratio	Total number of Students/Total No. of Faculty members	19.33
3.3	Gender Ratio	Total number of female students / Total number of male students	1.03
3.4	Percentage of differently abled students admitted	No. of differently abled students admitted / Total no. of students admitted	-
3.5	Percentage of students from other state	No. of other state students admitted / Total no. of students admitted	0.15
3.6	Percentage of Foreign students admitted	No. of Foreign students admitted / Total no. of students admitted	1
3.7	Success Rate of Students	Total number of students passed / Total number of students appeared for final exam	91.66
3.8	Cost of education per student	Total Expenditure / Total no. of Students on roll	Rs. 0.23
3.9	Amount of scholarship per student	Total amount of scholarships / Total no. of Students getting scholarships	8046.66
3.10	Ratio of students given remedial coaching	No. of students given remedial coaching / Total no. of Students	Nil

# University General Library

4	<b>OTHER ACADEMIC RATIO</b>		
4.1	Percentage of student dropouts in the academic year 2008 – 2009	Number of dropouts / Number of students admitted	15
4.2	Ratio of placements to students	Total no. of Placements / Total no. of out going students	0.3
4.3	Ratio of students given competitive / Civil service Examination coaching	No. of students given coaching / Total no. of out going Students	Nil