




University Faculty Details Page on DU Web-site

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Title	Prof./Dr./Mr./Ms.	First Name	Rajendra Kumar	Last Name	Saxena	
Designation	Professor					
Department	Microbiology					
Address (Campus)	Department of Microbiology University of Delhi South Campus, New Delhi-110021					
(Residence)	B-03, St. Stephen's College, University of Delhi, Delhi-110007					
Phone No (Campus)	011-24116559					
(Residence) optional	011-27666262					
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Email	rksmicro@yahoo.co.in , rksmicro@hotmail.com					
Web-Page						
Education						
Subject	Institution	Year	Details			
Ph.D.	University of Delhi, Delhi, India	1977	Thesis topic: Studies on the control of reproductive differentiation in <i>Aspergillus nidulans</i> under submerged culture conditions.			
M.Sc.	University of Sagar, Sagar (M.P.)	1971 1st Div.	Subjects: Botany			
B.Sc.	University of Sagar, Sagar (M.P.)	1969 1st Div.	Subjects: Botany, Zoology, Chemistry & Hindi			
Career Profile						
Organisation / Institution	Designation	Duration	Role			
K. M. College, University of Delhi	Lecturer, Senior lecturer	1975-85	Teaching and research			
Microbiology Department University of Delhi, South Campus, New Delhi, India	Reader	1985 - 1996	Teaching and research			
Microbiology Department University of Delhi, South Campus, New Delhi, India	Professor	1996 - Contd.	Teaching and research			
Research Interests / Specialization						
<ol style="list-style-type: none"> 1. Microbial enzymes of Industrial importance: Process development & applications. 2. Bioactive molecules from microbes and their applications. 3. Microbial production of industrially important carbohydrates. 4. Anaerobic fermentation technology: Production of biomolecules. 5. Biomining (metal accumulation by microbes) and effluent treatment 						

6. Induction, Biochemical and Molecular regulation of asexual differentiation of microbes and mass inoculum production.
7. Microbial lipids and their Industrial exploitations, Microbial Protoplasts.
8. Liposome technology: its application in food microbiology.
9. Cyanobacterial Metabolism
Teaching Experience (Subjects/Courses Taught)
Under graduate: Botany (B.Sc. Hons. and General) 9 years
Post graduate course in Microbiology M.Sc. and M.Phil (Biotechnology) 32 years (approx.)
Honors & Awards

HONOURS :-

1. Fellow of the Biotech Research Society of India (BRSI) in 2005
2. Fellow of Indian Academy of Microbiological Sciences (FAMS) from Indian Academy of Microbiological Sciences

AWARDS :-

1. S. S. Rana Memorial Award from Association of Microbiologists of India (AMI) 1994
2. Malaviya Memorial Award- Senior faculty 2013 from Biotech Research Society of India (BRSI)

Best Poster Award:-

Best Poster award (2013) "Asian Congress on Biotechnology (ACB) 2013 , IIT Delhi during 15-19 Dec., 2013

Best Poster award (2013) "Asian Congress on Biotechnology (ACB) 2013 , IIT Delhi during 15-19 Dec., 2013

Best oral presentation (2013) European Biotechnology Congress 16-18th May, Bratislava Slovakia

Best Poster Award (2011) "BRSI Conference NHBT" held at Trivendrum on 21-24 Nov.2011

Best Poster Award (2011) "BRSI Conference NHBT" held at Trivendrum on 21-24 Nov.2011

1st Position at National level for Young Indian Next Practices Award (2011) in i3 National Fair organized by DST, Agilent Technologies, and Confederation of Indian Industries. 2011" held at New Delhi on 16th Nov., 2011.

2nd Position at National level for India Innovation Initiative (2011) award organized by DST, Agilent Technologies, and Confederation of Indian Industries. 2011" held at New Delhi on 16th Nov., 2011.

Selected at regional level (Northen zone) i3 National fair held on 7th Nov., 2011 at University of Delhi South Campus, New Delhi

Selected at regional level (Northen zone) i3 National fair held on 7th Nov., 2011 at University of Delhi South Campus, New Delhi

Best paper award (2011) “Russian-Indian Symposium on Glycosciences” held at N. D. Zelinsky Institute of Organic Chemistry held at Moscow, Russia.

Best Poster award (2009) “Third Indo-Italian seminar on Green Chemistry” held at Department of Chemistry, University of Delhi, Delhi India.

Best Paper award (2006) IUPAC Second International Symposium on Green Sustainable Chemistry held at New Delhi, India

Best Paper award (2004) at ICOB-4 & ISCNP-24 IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medical Applications held at New Delhi, India

Best paper award (2001) at the Conference on Biotechnology – the Science and the Business organized by All India Biotech Association held at Indian Institute of Technology, Delhi

Two Best paper awards (2000) at the International Conference on Microbial Biotechnology : Trade and Public Policy held at Department of Microbiology, Osmania University, and Hyderabad.

Best paper award (2000) at the international symposium on trends in medicinal chemistry and biocatalysis held at Department of Chemistry, University of Delhi

Best paper award and two consolation awards (1998) at National Seminar on Perspectives in Interfacial Areas of Chemistry and Biology.

Best paper award (1997) at the Annual Conference of Association of Microbiologists of India.

Best paper award (1994) at the Annual Conference of Association of Microbiologists of India.

Best paper award (1994) at the National seminar on application of biotechnology in molasses based and allied Industries.

Best paper award (1993) at the 62nd Annual Meeting of Society of Biological Chemists of India.

Second Best award for paper (1990) at the Annual Conference of the Association of Microbiologists of India.

Publications (LAST FIVE YEARS)			
<u>Books / Monographs</u>			
<u>Year of Publication</u>	<u>Title</u>	<u>Publisher</u>	<u>Co-Author</u>
<u>In Indexed/ Peer Reviewed Journals</u>			
<u>Year of Publication</u>	<u>Title</u>	<u>Journal</u>	<u>Co-Author</u>
2009	Production of milk clotting protease from <i>Bacillus subtilis</i>	Appl. Biochem. Biotech	Dutt, K., Gupta, P., Saran, S., Misra, S. and Saxena, R. K.
2009	Principal and strategies of microbial production of 1,3-propanediol and its application	Biotechnology Advances	Saxena, R.K. Anand, P. Saran, S. and Isar, J.
2009	Characterization of cross-linked immobilized lipase from thermophilic mould <i>Thermomyces lanuginosa</i> using glutaraldehyde	Biores. Technol	Gupta, P., Dutt, K., Misra, S., Raghuvanshi, S. and Saxena, R.K.
2009	Moonlighting protein in <i>Starkeyomyces koorchalomoides</i> : characterization of dihydrolipoamide dehydrogenase as a protein acetyltransferase utilizing acetoxycoumarin as the acetyl group donor.	Biochimie	Tyagi, T.K., Ponnann, P., Singh, P., Bansal, S., Batra, A., Collin, F., Guillonneau, F., Jore, D., Patkar, S.A., Saxena, R.K. , Parmar, V.S., Rastogi, R.C. and Raj, H.G.
2010	Microbial production of 1,2- Propanediol and its applications.	Ind. Journal Micorbiol	Saxena, R.K. Anand, P. Saran, S., Isar, J. and Agarwal. L.
2010	Optimization of lipase production from <i>Aspergillus terreus</i> by response surface methodology (RSM) and its synthesis of partial glycerides under solvent free conditions	Ind. Journal Micorbiol	Kaushik, R., Marwah, R.G., Gupta P., Saran, S., Saso, L., Parmar, V.S. and Saxena R.K
2010	A greener solution for darker side of biodiesel: utilization of crude glycerol in 1, 3 propanediol production.	Journal of Biofuels.	Anand, P., Yadav, S., Jahan, F., Saxena, R. K.
2010	Production of 1, 3 regiospecific lipase from <i>Bacillus</i> sp. RK-3 and its potential to synthesize cocoa butter substitute	Mal.J.Microbiol.	Saxena, R. K. , Misra, S., Rawat, I., Gupta, P., Dutt, K. and Parmar, V.S.
2011	<i>Bacillus sphaericus</i> : the highest bacterial tannase producer with potential for gallic acid synthesis.	Bioscience and Bioengineering	Raghuvanshi, S., Dutt, K., Gupta, P., Misra, S., Saxena, R. K.
2011	A novel downstream process for 1,3-propanediol from glycerol-based fermentation.	Applied Microbiology and Biotechnology.	Anand, P., Saxena, R.K, Marwah, R.G.
2011	Comparative study on different strategies involved for xylitol purification from culture media fermented by <i>Candida tropicalis</i> .	Sep. & Puri. Technology	Misra, S., Gupta, P., Raghuvanshi, S., Dutt, K., Saxena, R.K.
2011	Production of 1, 3 regiospecific lipase from <i>Bacillus</i> sp. RK-3: Its potential to synthesize Cocoa Butter Substitute.,	Malaysian Journal of Microbiology	Saxena R. K. , Misra, S., Rawat, I., Gupta, P., Dutt, K., Parmar, V. S.

2011	Fermentation behavior of osmophilic yeast <i>Candida tropicalis</i> isolated from the nectar of <i>Hibiscus rosa sinensis</i> flowers for xylitol production.	Antonie van Leeuwenhoek, International Journal of General and Molecular Microbiology	Misra, S., Raghuwanshi, S., Gupta, P., Dutt, K., Saxena, R.K.
2011	A comparative study of solvent-assisted pretreatment of biodiesel derived crude glycerol on growth and 1,3-propanediol production from <i>Citrobacter freundii</i>	New Biotechnology	Anand, P., Saxena, R.K.
2011	Diastereoselective acetylation studies on 4-C-Hydroxymethyl-1,2- <i>O</i> -isopropylidene-3- <i>O</i> -alkyl- β -L-threo-pentofuranose: Key Precursor for Biocompatible Sugar- PEG Copolymers.	Trends in Carbohydrate Research	Mathur, D., Bohra, K., Bhatia, S., Kumar, M., Verma, P., Saxena, R.K. , Parmar V.S., Prasad, A.K.
2012	Efficient 1-5 regioselective acylation of primary hydroxyl groups of fermentative derived xylitol catalyzed by an immobilized <i>Pseudomonas aeruginosa</i> lipase.	Biotechnol. Bioproc. Engg.	Misra, S., Raghuwanshi, S., Gupta, P. and Saxena, R.K.
2012	Enzymatic treatment of black tea (CTC and Kangra orthodox) using <i>Penicillium charlesii</i> tannase to improve the quality of tea.	Journal of Food Processing and Preservation	Raghuwanshi, S., Misra, S. and Saxena, R.K.
2012	Production of microbial cellulose by a bacterium isolated from fruit.	Applied Biochemistry & Biotechnology.	Jahan, F., Kumar, V., Rawat G. and Saxena, R.K.
2012	Examine growth inhibition pattern and lactic acid production in <i>Streptococcus mutans</i> using different concentrations of xylitol produced from <i>Candida tropicalis</i> by fermentation.	Anaerobe	Misra, S., Raghuwanshi, S., Pritesh, G. and Saxena, R. K.
2012	Bioprocessing of jatropha seed oil and deoiled seed hulls for the production of biodiesel and biogas.	Biomass & Bioenergy	Deeba, F., Kumar, V., Gautam, K, Saxena, R.K. and Sharma, D.K.
2012	Fermentation behavior of an osmotolerant yeast <i>D. hansenii</i> for xylitol production	Biotechnol. Prog.	Misra, S., Raghuwanshi, S. and Saxena R.K.
2012	A novel thin-layer chromatography method to screen 1,3-propanediol producers.	J.Ind. Microbial Biotechnol	Anand, P. and Saxena R.K.
2012	Pandemism of swine flu and its prospective drug therapy.	Eur. J.Clinical Microbiol & infec.diseases	Saxena, R.K. , Tripathi, P. and Rawat, G.
2012	Evaluation of the versatility of the tannases produced from <i>Aspergillus niger</i> and <i>Penicillium variable</i> with respect to gallic acid production, gallate ester synthesis, animal feed improvement, tannery effluent degradation and tannin stain removal.	Research in Biotechnology	Sharma, S. and Saxena R.K.
2012	Statistical approach to study the interactive effects of process parameters for enhanced xylitol production by <i>Candida tropicalis</i> and its potential for the synthesis of xylitol Monoesters.	Food Science and Technology International	Misra, S., Raghuwanshi, S. and Saxena, R.K.
2012	Evaluation of corncob hemicellulosic hydrolysate for xylitol production by adapted strain of <i>Candida tropicalis</i> .	Carbohydrate Polymers	Misra, S., Raghuwanshi, S. and Saxena, R.K.
2012	Efficient production of L-asparaginase from <i>Bacillus licheniformis</i> with low-glutaminase activity: Optimization, scale up and acrylamide degradation studies	Bioresource Technology	Mahajan, R.V., Saran, S., Kameswaran, K., Kumar, V., Saxena, R.K.
2013	A rapid, efficient and sensitive plate assay for detection of		

	L-asparaginase producing microorganism.	FEMS Letters .	Mahajan, R.V., Saran, S., Saxena, R.K
2013	Expanding horizons of shikimic acid: Recent progresses in production & its endless frontiers in application & market trends. 97(10): 4277-4287.	Appl Microbiol Biotechnol.	Rawat, G., Tripathi, P and Saxena R.K.
2013	Organic synthesis of maize starch based polymer using <i>Rhizopus oryzae</i> lipase, scale up and its characterization	Prep. Bioche. Biotech.	Kumar, V., Yadav, S., Jahan, F., Raghuwanshi, S. and Saxena R.K.
2013	Chemoenzymatic synthesis of 3'-deoxy-3'-(4-substituted-triazole-1-yl)-5-methyluridine	Nucleosides, Nucleotides and Nucleic Acids	Arya, A., Mathur, D., Tyagi, A., Kumar, R., Kumar, V., Olsen, C. E., Saxena, R. K.
2014	Eco-friendly methodology for efficient synthesis and scale up of 2-ethylhexyl-p-methoxycinnamate using <i>Rhizopus oryzae</i> lipase and its biological evaluation	J. Ind. Microbiol. Biotech.	Kumar, V., Jahan, F., Kameswaran, K., Mahajan, R. and Saxena, R.K.
2014	A novel approach for biobutanol production by <i>clostridium acetobutylicum</i> using glycerol: a low cost substrate	Renewable Energy	Yadav, S., Rawat, G., Tripathi, P. and Saxena, R.K.
2014	Purification and Characterization of a novel and robust L-asparaginase having low- glutaminase activity from <i>Bacillus licheniformis</i> : in-vitro evaluation of anti-cancerous properties	Plos One	Mahajan, R V., Rajendran, V. J., Kumar, V., Saran, S., Ghosh, P. C. and Saxena R. K.
2014	Efficient Production Methodology For Biodiesel From Non-Edible Karanja Oil and Its Fuel Characterization Study.	International Research of Extensive Research,	Kumar, V., Jahan, F. and Saxena R.K.
2014	L-Asparaginase From Bacillus Sp. Rks-20: Process Optimization And Application In The Inhibition Of Acrylamide Formation In Fried Foods.	J. Proteins and Proteomics.	Mahajan,R. V., Mihooliya, N. K. , Saran, S. and Saxena, R. K.
2014	Shikimic acid, a base compound for the formulation of swine/avian flu drug: statistical optimization, fed-batch and scale up studies alongwith its application as an antibacterial agent.	Antonie van Leeuwenhoek.	Tripathi, P., Rawat, G., Yadav, S. and Saxena, R.K.
2014	Development of a Highly Sensitive, Fast and Efficient Screening Technique for the Detection of 2,3-Butanediol by Thin Layer Chromatography.	J .Chromatogr Sep Tech	Saran S, Yadav S, Saxena, R.K.
2014	Enhanced Nitrilase Production By Rhodococcus Pyridinivorans Sn2 Using An Optimized Biphasic Fermentation Approach And Its Use For Nicotinic Acid Synthesis	J. Proteins and Proteomics	Kameswaran, K., Mahajan, R. V and Saxena, R. K.
2015	High production of erythritol from <i>Candida sorbosivorans</i> and its inhibitory effect on biofilm formation of <i>Streptococcus mutans</i>	BioresourceTechnology	Saran, S., Mukherjee, S., Dalal, J. And Saxena, R.K.
2016	Current status of microbial production, enzymatic regulation and applications of succinic acid	'Industrial Biotechnology and Bioengineering- Volume VB: Production, Isolation and Purification of Industrial Products' (Eds: Dr. Ashok Pandey) published by	Saxena, R.K. , Saran,S., Isar, J. and Kaushik, R.

		Elsevier, USA.	
2016	Process optimization for cultivation and oil accumulation in an oleaginous yeast <i>Rhodosporidium toruloides</i> A29	Fuel	Saran, S., Mathur, A., Dalal, J., Saxena, R.K.
2016	Biocatalytic Synthesis of Novel Partial Esters of a Bioactive Dihydroxy 4-Methylcoumarin by <i>Rhizopus oryzae</i> Lipase (ROL) Molecules	Molecules	Kumar, V., Mathur, D., Srivastava, S., Malhotra, S., Rana, N., Singh, S., Singh, B., Prasad, A., Varma, A., Len, C., Kuhad, R. C., Saxena, R.K. and Parmar, V.S.

Articles

Conference Presentations

1. R.K.Saxena, Butanol: A Burning issue for the second generation biofuels . Symposium is “Microbes, Microbial Products And Biotherapeutics For Societal Needs” Department of Microbiology of Panjab University, Chandigarh 17 -18th Feb., 2015
2. R.K.Saxena, Bacterial cellulose: a sustainable alternative to plant cellulose and an important biopolymer, National Conference on Bioprocessing INDIA 2014 at Institute of Chemical Technology (Formerly UDCT), Mumbai, India during 17-20th Dec., 2014
3. R.K.Saxena, Global R & D Summit 2014 organized by FICCI, New Delhi during 12-13 Nov., 2014
4. R.K.Saxena, Bacterial cellulose: a sustainable alternative to plant cellulose and an important biopolymer .International Conference on Emerging Trends in Biotechnology at Jawahar Lal Nehru University, New Delhi during November 6-9, 2014.
5. Frontier Discoveries and Emerging Opportunities in Life Sciences held at Dr. Harisingh Gour University Sagar, India, February 13-15, 2014
6. CARBO-XXVIII) held on Forest Research Institute, Dehradun, India, January 20-22, 2014.
7. The Macrotrends conference on Science and Technology held at during December 20-21 2013 at Paris.
8. Asian Congress on Biotechnology 2013 organized by IIT, Delhi under the aegis of Asian Federation of Biotechnology from 15 – 19 December at India Habitat Centre, New Delhi, India.
9. ICABB 2013 & X Convention of the Biotech Research Society, India November 25-27, 2013 / Pune.
10. International Conference on Advances in Biotechnology and Bioinformatics” ICABB 2013 & X Convention of the Biotech Research Society, India November 25-27, 2013 / Pune.
11. International Conference on “Advances in Biotechnology and Bioinformatics” ICABB 2013 & X Convention of the Biotech Research Society, India November 25-27, 2013 / Pune.
12. V International Conference on Environmental, Industrial and Applied Microbiology, “BioMicroWorld 2013” held during 2nd – 4th October, 2013 at Madrid, Spain.
13. European Biotechnology Congress, 16- 18 May 2013, Bratislava, Slovakia.

14.	3rd National Science Day Symposium held at University of Delhi South Campus on 27th & 28th February, 2013.
15.	The International conference on "International symposium on LIGNOBIOCON- 2012" held at University of Delhi South Campus, New Delhi 2012.
16.	5th International Biotechnology Symposium and Exhibition 2012 (IBS 2012) held at EXCO in Daegu, Korea, September 16 - 21, 2012.
17.	The International conference on 53rd Annual Conference of Association of Microbiologists of India (AMI) "International Conference on Microbial World: Recent Innovations And Future Trends", Bhubaneshwar November 22-25, 2012, India.
18.	International conference on "New Horizons in Biotechnology" held at Trivandrum, 2011.
19.	Russian Indian symposium on "Glycosciences" held at N.D. Jelinsky Institute of Organic Chemistry, Moscow, 2011
20.	An Indo French Seminar on "Diagnostics" held at Hyderabad 2011
21.	2nd International Conference on "Drug discovery and Therapy " held at Dubai, UAE 2010.
22.	An Indo French Seminar on "Diagnostics" held at Hyderabad 2011.
23.	14th International Biotechnology Symposium and Exhibition on "Biotechnology for the sustainability of human society" held at Rimini, Italy, 2010.
24.	1st International conference on "New frontiers in biofuels" held at Delhi Technological University, New Delhi, 2010.
25.	4th Indo-Italian seminar on Green Chemistry and natural products. Department of Chemistry University of Delhi 2010.
26.	International Symposium on Trends in Drug Discovery and Development", held at Department of Chemistry, University of Delhi , 2010.
27.	6th Indo-Italian Workshop on Chemistry and Biology of Antioxidants", held at Department of Chemistry, University of Delhi 2009.

Total Publication Profile *optional*

Books

NIL

In Indexed/ Peer Reviewed Journals

177

Articles

9

Conference Presentations

218

Public Service / University Service / Consulting Activity

Public Service :- Gave seminars in different colleges and institutes in India and Abroad

University service :- Dean, Faculty of Interdisciplinary and applied sciences
Head, Department of Microbiology

Consulting Activity :- Worked for Tata Chemical Ltd. (TCL), Reliance and Maharishi Ayurved Products (MAP)

Professional Societies Memberships

1. British Mycological Society (Annual member).
2. Association of Microbiologists of India, AMI (Life Member).
3. Society of Biological Chemists of India (Annual member).
4. The Society of Ecotransformations (Life Member).
5. Eco-transformation Centre for environment and rural upliftment (Life member).
6. Society for the Promotion and Development of Ecofriendly Polymers (Life Membership).

7. Biotech Research Society of India, BRSI (Life Member).

Projects (Major Grants / Collaborations)

1. Completed :	
One	Liposome as a carrier for Antifungal drugs in the control of Aspergillosis in Lung of Experimental Animals (CSIR) for Rs. 7.2 Lakhs
Two	Isolation, purification and characterization of porins of Cup-I mutants of <i>E.coli</i> K-12 (DAE) for Rs. 6.5 Lakhs
Three	Process optimization for a thermostable lipase from <i>Aspergillus terreus</i> (DBT) for Rs. 45.0 lakhs.
Four	Production and Characterization of Intermediate thermostable (ITS) α -amylase for the (EMB) Enzyme Modified Bread Technology (DBT) for Rs. 17.0 lakhs.
Five	Mass Inoculum production of <i>Ceriporiopsis subvermispota</i> and <i>Phanerochaete chrysosporium</i> for biobleaching and biopulping for Paper industry (DBT) for Rs. 22.0 lakhs.
Six	Process development for removal of heavy metals from waste waters using cyanobacterial biomass (DBT) for Rs. 18.0 lakhs.
Seven	De-functionalization of Carbohydrates as a feedstock for the manufacture of industrially important compounds (CSIR). for Rs. 30.0 lakhs.
Eight	Production, purification and characterization of a bleach-stable alkaline protease from <i>Bacillus</i> sp. and its application in detergent formulation (CSIR) for Rs. 8.3 lakhs.
Nine	Discovery of novel bioactive molecules from fungi (CSIR) for Rs. 16.0 lakhs. (phase-I)
Ten	Production, stabilization and formulation of commercially important microbial lipases, their potential usage in oil and fat modifications for specific tailor-made products. (DBT) for Rs. 27.0 lakhs.
Eleven	Production, purification and characterization of Industrially important Tannase from Aspergillii. (DST) for Rs. 20.5 lakhs.
Twelve	Biotechnology for Leather : Towards cleaner processing (CSIR). for Rs. 57.75 lakhs (Phase-I)
Thirteen	Discovery of novel bioactive molecules from the microbial flora of Rajasthan (CSIR) for Rs. 14.50 lakhs (Phase-II)
Fourteen	Production and applications of microbial lipases (DST) (Indo Russian joint project) for Rs. 25.0 lakhs.
Fifteen	Enzymatic Synthesis of Xylitol from Hemicellulose from Tata Chemicals Limited (TCL) for Rs. 46.43 lakhs.
Sixteen	Production and process optimization of 1,3-propanediol from glycerol from Tata Chemicals Limited (TCL) for Rs. 55.36 lakhs.
Seventeen	Process Engineering and industrial exploitation of important hydrolases from DBT for Rs. 54.00 lakhs
Eighteen	Enzyme mediated food processing from Ministry of Food Processing for Rs. 64.50 lakhs
Nineteen	Enzymatic conversion of indigenous non-conventional oils and fats for bio-diesel production from Ministry of New and Renewable Energy (MNRE) for Rs. 22.63 lakhs
Twenty	Biotechnology for Leather: Towards cleaner processing (CSIR). For Rs. 103.57 lakhs (Phase-II)
Twenty One	Microbial cellulose: A sustainable alternative to conventional fibers: Process development, scale up, purification & potential applications (CSIR) for Rs. 22.00 lakhs
Twenty two	Butanol: A sustainable alternative fuel: production, process optimization, purification, scale up and

	evaluation (DBT) for Rs. 54.78 lakhs
Twenty three	Production of Shikimic acid: a potential candidate for developing drug formulation for swine and avian flu (ICMR) for Rs. 68.78 lakhs
Twenty four	Joint Indo-Finland RFBR "Butanol from sustainable sources" (DST) for Rs. 34.12 lakhs
Twenty five	Joint Indo-Russian Enzymatic Transformation of Fucodians as a base for Drug Design, structural and functional investigations from Indian and Russian seaweeds (DST) for Rs.40.36 lakhs
Other Details	

(Signature of Faculty Member)

(Signature & Stamp of Head of the Department)