# DEPARTMENT OF FISHERIES TECHNOLOGY AND MICROBIOLOGY, COLLEGE OF FISHERIES, RATNAGIRI, MAHARASHTRA.

# Proforma of information to be collected for the University departments for uploading on University website

#### 1. Name of the Department: Department of Fisheries Technology and Microbiology

**2. About Department**: The Department conducts UG and PG programmes in the subject of Fish Processing Technology. The syllabus of fifth Deans Committee of ICAR is implemented for conduct of B. F. Sc. programme since the academic year 2016-17. The Department imparts the technical knowledge and skills to the undergraduate students in the field of Fish Processing Technology and Microbiology as to empower them to cater the need of fish processing sector efficiently. In addition, the post graduate degree programmes viz. M. F. Sc. and Ph.D. in Fish Processing Technology has been offered by this department. The research work carried out by the post graduate research scholars under the guidance of experienced faculty members are based on need based research to serve the fisher folks, traders, processers as well as on various emerging issues.

#### **3. Academic Programs:**

As per the recommendations of Indian Council of Agricultural Research (ICAR), the restructured post graduate curricula and syllabus has been implemented for Ph.D. degree programme. The salient features of the degree programme are as follows :

Sr.	Subject	Master's	Doctoral
no.		programme	programme
1.	Major	20	12
2.	Minor	8	6
3.	Supporting	6	5
4.	Seminar	1	2
5.	Research	30	75
6.	Common Courses (Non Credit)	5	-
	Total Credits	70	100

a. Doctoral Programmes Name of the programme: Ph.D. in Fish Processing Technology Intake capacity : 02

Semester No.	Term No.	Course Code	Credits	Title of the course offered by the Department
Ι	Ι	FPT601*	2+1	Principles and Techniques of Seafood Analysis
Ι	Ι	FPT602*	2+1	Functional Properties of Fish and Shell-fish Proteins
Ι	Ι	FPT603*	2+1	Biotechnological Applications in Fish Processing
Ι	Ι	FPT605	1+1	Emerging Trends in Seafood Processing
Ι	Ι	FPT606	1+1	Nutraceuticals of Aquatic Origin
Ι	Ι	FPT607	2+1	Toxins and Contaminants

Ι	Ι	FPT608	1+1	Additives in Fish Processing
II	II	FPT604*	2+1	Quality Management Systems
II	II	FPT609	1+1	Sensory and Physical Analyses
II	II	FPT610	2+1	Environmental I impact of Fishery Industries
II	II	FPT611	1+1	Food Labeling
II	II	FPT612	2+1	Water Quality Management in Seafood
				Processing
III	III	FPT691	0+1	Doctoral Seminar I
IV	IV	FPT691	0+1	Doctoral Seminar II
II to VI	II to VI	FPT699	0+75	Doctoral Research
Course Cur	rricula and	syllabi: Please	see pdf fil	e: PG_Syllabus_ICAR

Semester No	Term No	Course	Credits	Title of the course offered by the Department
110.	110.	Coue		Department
Ι	Ι	FPT501*	2+1	Low Temperature Preservation of Fish and ShellFish
Ι	Ι	FPT502*	2+1	Thermal Processing of Fish and Fishery Products
Ι	Ι	FPT503*	2+1	Applied Fisheries Microbiology
Ι	Ι	FPT507*	1+1	Trade Regulations, Certification and
				Documentation in Export of Fish and Fishery Products
Ι	Ι	FPT508	1+1	Design, Maintenance of Fish Processing Plants and Instrumentation
Ι	Ι	FPT509	1+1	Microorganisms of Public Health Significance
Ι	Ι	FPT510	1+1	Molecular Techniques In Seafood Quality
				Analysis
II	II	FPT504*	2+1	Fish Quality Assurance, Management and Certification
II	II	FPT505*	2+1	Applied Fisheries Biochemistry
II	II	FPT506*	2+1	Value Added Fishery Products
II	II	FPT511	1+1	Packaging of Fish and Fishery Products
II	II	FPT512	1+1	Fish Byproducts and Waste Utilization
II	II	FPT513	0+1	Multivariate Analysis in Food Processing and
				Product Development
III	III	FPT 599	0+15	Master's Research
IV	IV	FPT 591	0+1	Master's Seminar
IV	IV	FPT 599	0+15	Master's Research

**b. Masters Programmes Name of the programme:** M. F. Sc. (Fish Processing Technology) **Intake capacity** : 06

Course Curricula and syllabi: Please see PDF file : PG\_Syllabus\_ICAR

#### c. Bachelor Programmes: B. F.Sc.

#### Intake capacity : 40

The syllabus recommended by Fifth Dean Committee has been implemented from the academic year 2016-2017. The Department has a responsibility of teaching 23 credits to the undergraduate students up to VI Semester. During the time frame of these semesters, the students are introduced with the technical knowledge of various subjects as Microbiology, freezing technology, canning technology, quality assurance, value addition of products and fish by products. While imparting the scientific information, skill of lab techniques required in commercial units are imparted through various practical sessions of these subjects. The detailed course layout is as follows:

Semester No.	Term No.	Course No.	Credits	Title of the course offered by the department
Ι	Ι	FPT 111	1+0	Fish in Nutrition
Ι	Ι	AHM 111*	2+1	Fundamentals of Microbiology
Π	II	FPT 122	2+1	Food Chemistry
III	III	FPT 233	1+1	Freezing Technology
IV	IV	FPT 244	1+1	Fish Canning Technology
IV	IV	FPT 245	1+1	Fish Packaging Technology
V	V	FPT 356	2+1	Microbiology of Fish and Fishery
				Products
V	V	FPT 357	1+1	Quality Assurance of Fish and
				Fishery Products
VI	VI	FPT 368	2+1	Fish Products and Value Addition
VI	VI	FPT 369	1+1	Fish by-products and Waste
				Utilization
VII	VII	FPT 471	0+10	Fish Processing Technology (Students
				READY Programmes)
VIII	VIII	FPT 482	0+10	Fish Processing Technology (Students
				READY Programmes)

New Syllabus of B. F. Sc. as recommended by V Deans' Committee

Student READY (Rural Entrepreneurship Awareness Development Yojana) programme is a new initiative of Indian Council of Agricultural Research to reorient graduates of Agriculture and allied subjects for ensuring and assuring employability and develop entrepreneurs for emerging knowledge intensive agriculture. This envisages the introduction of the programme in all the Agricultural Universities as an essential prerequisite for the award of degree to ensure hands on experience and practical training depending on the requirements of respective discipline and local demands. This programme includes five components:

- 1. Experiential Learning,
- 2. Rural Awareness Works Experience (RAWE)
- 3. In-Plant Training / Industrial attachment,
- 4. Hands-on training (HOT) / Skill development training and
- 5. Students Projects.

All these components are interactive and are conceptualized for building skills in project development and execution, decision-making, individual and team coordination, approach to problem solving, accounting, quality control, marketing and resolving conflicts, etc. with end to end approach. The students will be required to have any three of the five components listed above depending on the requirement of their graduate education, but it should be implemented for the complete year, so that their education up to level of III year may get right information in IV year and finally they should attend right stage of entrepreneurship. Maharashtra state is endowed with 720 km of coastline and wide continental shelf of 1.1 lakh sq. km. The present fishing fleet of Maharashtra is using only 55,529 sq. km up to 40 fathoms of continental shelf. Almost 11,745 mechanised and 10,689 non-mechanised vessels are contributing to marine fish landing of Maharashtra. About 65% of total marine fish landings are utilized for consumption in fresh form as well as exported in frozen state. Almost 33% is sun dried and only 2% is salted. Mainly frozen shrimps, fish like ribbon fish, mackerel, sciaenid's, sardines, tilapia are processed and exported in frozen conditions. Besides, fish like sardine, pink perch, snappers etc are processed for preparation of surimi and then exported in frozen form. A large amount of fish is processed into fish meal and fish oil as fishery by-products. Several other forms of processing such as value-added products from underutilised fish like acetes, oysters, clams, Bombay duck, etc are processed into chutney, pickles, curry products, cutlet, fish fingers, imitation products etc.

Experiential Learning (EL) helps the student to develop competence, capability, capacity building, acquiring skills, expertise and confidence to start their own enterprise and turn "Job Creators instead of Job Seekers". This is a step towards "Earn while Learn" concept. The Rural Awareness Works Experience (RAWE) helps the students primarily to understand the rural situations, status of technologies adopted by fishermen/processer, prioritize the fishermen /processers problems and to develop skills and attitude of working for overall development in rural area. Technology and globalization are ushering an era of unprecedented change. The need and pressure for change and innovation is immense. To enrich the practical knowledge of the students, in-plant training is mandatory. Hands-on training aims to make conditions as realistic as possible. The biggest benefit of hands-on training is the opportunity for repeated practice. Student project work provides several opportunities to students to learn several aspects that cannot be taught in a class room or laboratory. In order to provide such opportunities to the graduates of agricultural science, student's project is proposed as one of the components of the Student READY. This programme will be very useful and beneficial to the students/ graduates in gaining the competence for entrepreneurship, in building confidence, skill and acquire Indigenous Technical Knowledge (ITK) of the locality and thereby, preparing the pass-out graduates for self-employment and will play the key role in overall personality development. Student READY Programme is implemented during VII and VIII semesters and has following components:

#### In-plant Training in Fish Processing Technology (0+10=10) :

Technology and globalization are ushering an era of unprecedented change. The need and pressure for change and innovation is immense. To enrich the practical knowledge of the students, in-plant training shall be mandatory in the last semester for a period of up to 10 weeks. In this training, students will have to study a problem in industrial perspective and submit the reports to the university. Such in-plant trainings will provide an industrial exposure to the students as well as to develop their career in the high-tech industrial requirements. In-Plant training is meant to correlate theory and actual practices in the industries with the following objectives:

- i) To expose the students to Industrial environment, this cannot be simulated in the College / university.
- To familiarize the students with various raw materials, equipment's / machines, processing methods, products and their applications along with relevant aspects of marketing management.
- iii) To make the students understand the psychology of the workers, and approach to problems along with the practices followed at factory
- iv) To make the students understand the scope, functions and job responsibilities in various departments of industry.



### 4. Infrastructure

**a. Laboratories:** Modular Kitchen for value addition, Byproduct Laboratory for development of by-products from fish and shellfish, Fish Biochemistry, Microbiology Laboratory and Processing Hall

**b.** Name of the important instruments/facilities: MAP machine, Freeze dryer, Meat mincer, bone cutter, sealing machine, Texture analyzer, Colour analyzer, Viscometer, Electrophoresis unit, Research microscopes, Refrigerated centrifuge and Protein analyzer.

**c.** Activities: Students undertake practical / research work on protein estimation, amino acids, physical properties of proteins, value addition and fish by-products from fish and shell fish Biochemical analysis, microbiological analysis etc.

## 5. Photographs:



**Digestion Unit** 

**Distillation Unit** 











# 6. Faculty of Fisheries Technology

### Academic Staff:

Recent Photograph	Dr. Asif Umar Pagarka	ar
	Post Held	Professor and Head,
		Department of Fish Processing
		Technology & Microbiology,
		College of Fisheries, Ratangiri.
and and a second	Date of Birth	29 <sup>th</sup> June, 1969
	Qualification	B.F.Sc, M.Sc, (CIFE), PhD
		(IIT,Kharagpur)
	Area of	Fisheries Science, Fish
	Specialization	Processing Technology and
	Specialization	Microbiology
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	Guided	/
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	(Advisory	10
	(Advisory Member)	19
	Weinber)	
	Present area of	Fisheries Science, Fish Processing
	Research	Technology and Microbiology,
		Biochemistry
	Contact details	
	Land line No.	02352 232241
	Mobile	9403509307
	Fax	aupcof@gmail.com
	Email	

Recent Photograph	Dr. Dabir I. Pathan	
	Post Held	Professor (CAS)
	Date of Birth	26 <sup>th</sup> April 1968
	Qualification	B. F. Sc. M.Sc. Ph.D.
	Area of	Aquaculture
1 mm cm /	Specialisation	Fish Nutrition and Feed
(and	I I I I I I I I I I I I I I I I I I I	Technology
1-1		Fish Processing Technology
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	F Sc (Advisory)	20
	member)	27
	Present area of	Fish Processing Technology
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	Contact datails	
	L and line No.	-
	Land Inte NO.	02552 252241
	For	9422433099
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Descrit Diseternical		daon pathan@gman.com
Recent Photograph	S. I. Snaranganer	Associate Professor (CAS)
	Post Held	Associate Floressol (CAS)
		13 Dec.1904
	Qualification	M.Sc.(Fisheries)
	Area of	Fish Processing Technology
alon the	Specialization	
	Research projects	-
	guided	-
	Ph. D.( Guide)	
	Ph.D. (Advisory	1
	member)	
	M. F. Sc. (Guide)	11
	M. F. Sc. ( Advisory	20
	member)	
	Present area of	Fish Processing Technology
	Research	Tish Trocessing Teenhology
	Contact details	
	Contact details	02352 231122
	Contact details Land line No.	02352 231122
	Contact details Land line No. Mobile Fax	02352 231122 9405675606
	Contact details Land line No. Mobile Fax Email	02352 231122 9405675606 - shrikant sharangdher@gmail.com
	Contact details Land line No. Mobile Fax Email	02352 231122 9405675606 - <u>shrikant.sharangdher@gmail.com</u>

Recent Photograph	Dr. J. M. Koli	
	Post Held	Professor (CAS)
	Date of Birth	01/06/1969
	Qualification	B. F. Sc., M.Sc. (Marine
		Biology) and Ph. D (Post
		Harvest Technology)
	Area of	Value addition and fish and
	Specialization	shellfish by-products
A an in 1	Research projects	
and the second second	guided	
200	Ph. D.( Guide)	5
A	Ph.D. ( Advisory	9
- M	member)	
	M. F. Sc. (Guide)	18
	M. F. Sc. (Advisory	
	member)	32
	Present area of	Fish Processing Technology,
	Research	Value addition and fish and
		shellfish by-products
	Contact details	
	Land line No.	-
	Mobile	9403322376/9405957722
	Fax	-
	Email	jmkoli@gmail.com
Recent Photograph	V. V. Vishwasrao	
	Post Held	Assistant Professor
	Date of Birth	9/4/19/6
	Qualification	M. F. Sc (FPT)
	Area of	Fish Processing Technology
	Specialization	
	Research projects	
	guided	-
A 60	Ph. D.(Guide)	-
	Ph.D. (Advisory	
	member)	02
	M. F. Sc. (Guide)	03
	M. F. Sc. ( Advisory	05
	Decemt constant	X7-lass and a fight some heads
	Present area of	value added fish products
	Contact dataila	
	Lond line No	
	Land line No. Mobile	9775155699
	Fax	8275455088
	Fmail	- vinavakvishwasrao9@gmail.com
	Linun	<u>vina yak visitwastao ye ginan.com</u>

Recent Photograph	Dr. A. S. Desai	
	Post Held	Assistant Professor
	Date of Birth	21/06/1978
Recent Photograph     Recent Photograph     Recent Photograph	Qualification	Ph. D (Fish Processing
		Technology), New Zealand
	Area of	Food fortification, extrusion,
	Specialization	waste utilization, and protein
	<u>^</u>	chemistry
	Research projects	
	guided	
Construction	Ph. D.( Guide) Ph.D.	01 (In Progress)
	(Advisory member)	-
	M. F. Sc. (Guide)	4
	M. F. Sc. ( Advisory	
	member)	12
	Present area of	Food fortification, extrusion,
	Research	waste utilization, and protein
		chemistry.
	Contact details	
	Land line No.	-
	Mobile	09860288777
	Fax	-
	Email	fishbiologist99@gmail.com
Recent Photograph	S. S. Sawant	
	Post Held	Assistant Professor
	Date of Birth	24/02/1978
	Qualification	
	Area of	M. F. Sc. (Fish Processing
	Specialization	Technology)
	Research projects	
	guided	
	Ph. D.( Guide)	-
	Ph.D. ( Advisory	-
	member)	
	M. F. Sc. (Guide)	06
	M. F. Sc. ( Advisory	12
	member)	
	Present area of	Fish Processing Technology
	Research	
	Contact details	
	Land line No.	-
	Mobile	8007084189
	Fax	-
	Email	sai_sawant786@yahoo.co.in

## 7. Research:

a. Research staff: The name of the research staff member like SRA and JRA. - NIL

b. Publications:

Books/Manuals: 1. Freezing Technology- I

- 2. Freezing Technology-II
- 3. Microbiology of Fish and Fishery Products
- 4. Processing and Product Development
- 5. Fish Canning Technology

**Booklet/Bulletin: 1** 

Leaflet published:

- i) Value Added Fish Product: 8
- ii) Hygiene and Sanitation: 2
- iii) Solar Drier: 1

Souvenir/Proceedings of Seminar/Symposia/Conference/Workshop Organized : 2

Training manuals of the training program organized :

- i) "Value Added Product Development" training manual published by the FPTM Department: 4
- ii) "Fish By-Product Development" training manual published by the FPTM Department: 3

Journal Research papers

List	List of Research Papers Published from June, 2020 to May, 2021						
Sr.	Name of the	Name of	Title of Research	Date of			
No.	Authors/Autho r	the Journal	Article	Publication			
		with ISSN					
1	2	3	4	5	6		
Dr. A	A. U. Pagarkar	· · · ·					
1.	Bhattacharyya, T., <b>Pagarkar, A. U.,</b> Sreekanth, G. B., Dhakar, H. S., Haldankar, P. M. and Chakurkar, E. B.	Advanced Agricultural Research & Technology Journal, COSFAD 2019 Special Issue 3 (2) 140-151	Effect of substrate of capture and culture fish quality: A view point.	n (2019) n			
2.	Pawar, P. P., <b>Pagarkar, A. U.,</b> and Rathod N. B	J Food Sci Technol., Springer, https://dc org/10.1007/s1319 -019-04028-6	Effect of chilled storage on quality characteristics i. of battered and breaded 7 snack product from large sized Catla ( <i>Catla catla</i> )	(2019)			
3.	Pawar N.S., Bhosale B.P., Metar S.Y., Nirmale V.H., Chogale N.D. and <b>Pagarkar, A.U.</b>	Journal of Indian Fisheries Association, 46(1):58-66, 2019	Biological studies or Indian squid, Uroteuthis duvauceli (O' orbigny) along the Ratnagiri coas of India.	(2019)			

4.	Gaikwad, B. V., <b>Pagarkar, A. U.,</b> Kudale, A. S., Chogale, N. D., Shinde, V. V., Mohite, S. A., Chaudhari, K. J.,	J. Exp. Zool. India., 23 ( Suppl. 1), 855- 859.	Effect of nutritional quality on frozen stored surimi prepared from Lesser sardine ( <i>Sardinella</i> spp.) added with different natural phenolic compounds.	(2020)	
5.	Chogale, N. D., <b>Pagarkar, A. U.,</b> Metar, S. Y., Satam, S. B., Sadawarte, V. R., Sawant, A. N., Shinde, K. M. and Singh H.	J. Exp. Zool. India., 23 (Suppl. 1), 919- 923.	The role of the public aquarium of Marine Biological Research Station on raising public awareness to aquatic environment.	(2020)	
6.	Shingare, P. E., <b>Pagarkar, A. U.,</b> Chaudhari, K. J., Dhaker, H. S., Meshram, S. J., Sawant, N. H., Naik, S. D., Satam, S. B., Shingare, S. P., . Sawant, B. T., Sapkale, P. H., Bondre, R. D., Patil, S. D., Sawardekar, S. V. and Narangalkar, A. N	<i>J. Exp. Zool. India.</i> , 23 ( Suppl. 1), 983- 985.	Eco-friendly and sustainable Asian seabass culture system : An alternate candidate species other than shrimp for brackishwater aquaculture	(2020)	
7.	Shingare, P. E., Chaudhari, K. J., <b>Pagarkar, A. U.,</b> Dhaker, H. S., Naik, S. D., Shingare, S. P., Sawant, N. H.and Kunkerkar, R. L.	<i>J. Exp. Zool. India.</i> , 23 ( Suppl. 1), 961- 963. ISSN 0972- 0030	Role of rice cum fish culture as an additional source of Income in Konkan region of Maharashtra.	(2020)	
8.	Patil A.R., N.D. Chogale, <b>A.U.</b> <b>Pagarkar</b> , J.M. Koli, B.P. Bhosale, D.I. Pathan, S.S. Sawant and S.S. Sarang	International Journal of Fisheries and Aquatic Studies; 8(6): 232- 236	Biochemical and shelf life characteristics of air packed pangasius ( <i>Pangasianodon</i> <i>hypophthalmus</i> ) during chill storage.	(2020)	

	Gaikwad, B. V., <b>Pagarkar, A. U.,</b> Kudale, A. S., Chogale, N. D., Shinde, V. V., Mohite, S. A., Chaudhari, K. J., Dhaker, H. S., Bhosale, B. P., Naik, S. D., Balange, A. K. and Sawant N. H.		Effect of nutritional quality on frozen stored surimi prepared from Lesser sardine ( <i>Sardinella</i> spp.) added with different natural phenolic compounds. <i>J.</i> <i>Exp. Zool. India.</i> , 23 ( Suppl. 1), 855-859	(2020)	
9.	Pagarkar A.U., Satam SB., Chogale ND., Shinde KM., Bhatkar, VR., Shingare PE., Mohite, SA., Naik, SD., Metar SY., Sadawarte VR., Bhosale, BP., Rathod, NB & Haldankar,PM.	Fishery Technology 58 (2021) : 214 – 218,	Quality changes in Ready- to-eat fish spread prepared from low-cost Croaker fish ( <i>Otolithus Sp.</i> ) and natural ingredients,	(2021)	
10.	Shingare P.E., Chaudhari K.J., Pagarkar A.U., Shingare S.P., Satam S.B., Wasave S.M., Yadav B.M., Patil S.V., and Shinde K.M	Maharashtra Journal of Agriculture Economics, Feb, 2021, 24(1): 213p.	Cost and return analysis of Shrimp Farming in Uran area of Raigad district of Maharashtra.	2021	
11.	Kedar, J. G., <b>Pagarkar, A. U</b> ., Rathod, N. B., Baug,T. E.	Journal of Agriculture Food Science and Technology, 10(2): 106-116,	Influence of Treatment with Sodium Benzoate and Packaging on quality of Catla ( <i>Catla</i> <i>catla</i> ) steaks during Chilled Storage,	(2022)	
12.	Rathod, N.B., Nirmal, N.P., Pagarkar, A., Özogul, F., Rocha, J.M.	Microorganisms , 2022, 10, 773.	Antimicrobial Impacts of Microbial Metabolites on the Preservation of Fish and Fishery Products: A Review with Current	(2022)	

2	Dr. D. I. Pathan				
1	Monalisha	J. Exp. Zool. India	Efficacy of	Vol. 24, No. 1, pp.	
	Mishra, S. T.		ethanolic potato	365-375-2021	
	Sharangdher, M.		peel extracts on the		
	T. Sharangdher,		ice storage		
	S. B. Patange, G.		characteristics of		
	N. Kulkarni, R.		minced croaker		
	K. Sadawarte, V.		(Otolithus ruber)		
	V. Vishwasrao,		to prevent lipid and		
	J. M. Koli, A.		protein oxidation		
	Desai, S. Sawant		-		
	and <b>D. Pathan</b>				
2	A.R. Patil, N.D.	International	Biochemical and	Vol. 8(6): 232-236.	
	Chogale, A.U.	Journal of	shelf life	2020	
	Pagarkar, J. M.	Fisheries and	characteristics of		
	Koli, B.P.	Aquatic Studies	air packed		
	Bhosale, D. I.		Pangasius		
	Pathan, S.S.		(Pangasianodon		
	Sawant and S. S.		hypophthalmus)		
	Sarang. 2020.		during chill		
			storage.		
3	Prof. S. T. Sharang	gdher	1		
1	Monalisha	Journal of	Utilization of	Vol. 23, No. 1, pp.	
	Mishra, S. T.	Experimental	potato peel extract	821-825, 2020	
	Sharangdher,	Zoology, India	in fish processing:		
	R. K. Sadawarte,		an Overview		
	S. B. Patange, G.				
	N. Kulkarni, V.				
	R. Sadawarte,				
	M. T.				
	Sharangdher, V.				
	V. Vishwasrao				
	and M. C. Kale				

	2	P. A. Shinde, V.	J. Exp. Zool. India	Development of	Vol. 24, No. 1, pp.	
		V. Vishwasrao,	_	pizza using minced	195-2012021	
		S. T.		meat of fish,		
		Sharangdher,		Lepturacanthus		
		S. S. Sawant, V.		savala (Cuvier,		
		B. Mulve and J.		1829)		
		M. Koli				
ľ	3	Monalisha	J. Exp. Zool. India	Efficacy of	Vol. 24, No. 1, pp.	
		Mishra, S. T.		ethanolic potato	365-375-2021	
		Sharangdher,		peel extracts on the		
		М. Т.		ice storage		
		Sharangdher, S.		characteristics of		
		B. Patange, G.		minced croaker		
		N. Kulkarni, R.		(Otolithus ruber)		
		K. Sadawarte, V.		to prevent lipid and		
		V. Vishwasrao,		protein oxidation		
		J. M. Koli, A.		1		
		Desai, S. Sawant				
		and D. Pathan				
	4	A. R. Patil, N.	J. Exp. Zool. India.	Vacuum packaging	Vol. 23. Supplement	
		D Chogale A	01 2hpt 2001, 11014,	is a tool for shelf	1. pp. 807-810, 2020	
		U Pagarkar J		life extension of	1, pp. 007 010, 2020	
		M Koli B P		fish product a		
		Bhosale S. T.		review		
		Sharangdher				
		B V Gaikwad				
		and G N				
		Kulkarni				
ł	5	P Pednekar S	I Evn Zool India	Development of	Vol 23 No 2 pp	
	5	Т. Геспека, Б. Т	<b>J</b> . LAP. 2001. India	soup powder using	1633-1643-2020	
		1. Sharangdhar I		Sculla servata and	1055-1045-2020	
		M Koli M T		its storage study		
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	G N Kulkarni				
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	T Sharangdher	<b>J</b> . EAp. 2001. India	soup powder using	1633-1643-2020	
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2	Mulye and J. M. Koli	J. Exp. Zool. India	Efficacy of	Vol. 24, No. 1, pp.	
2	Mulye and J. M. Koli Monalisha Mishra, S. T.	J. Exp. Zool. India	Efficacy of ethanolic potato	Vol. 24, No. 1, pp. 365-375-2021	
2	Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M.	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the	Vol. 24, No. 1, pp. 365-375-2021	
2	Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher,	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage	Vol. 24, No. 1, pp. 365-375-2021	
2	Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G.	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, G. N. Kulkarni, R.	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, G. N. Kulkarni, R. K. Sadawarte, <b>V.</b>	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> )	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao,	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A.	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidation	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidation	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidation	Vol. 24, No. 1, pp. 365-375-2021	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan Monalisha	J. Exp. Zool. India Journal of	savala (Cuvier, 1829)Efficacyof ethanolicpeel extracts on the icestorage characteristicscharacteristicsof mincedcroaker (Otolithusruber) to prevent lipid and protein oxidationUtilizationof	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp.	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan Monalisha Mishra, S. T.	J. Exp. Zool. India Journal of Experimental	savala (Cuvier, 1829)Efficacyof ethanolicpeel extracts on the icestorage characteristicscharacteristicsof mincedcroaker (Otolithusruber) to prevent lipid and protein oxidationUtilizationof potato	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp. 821-825, 2020	
2	S. Sawani, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan Monalisha Mishra, S. T. Sharangdher, R.	J. Exp. Zool. India Journal of Experimental Zoology, India	savala (Cuvier, 1829)Efficacyof ethanolic potato peel extracts on the iceicestorage characteristics of minced croaker (Otolithus ruber) to prevent lipid and protein oxidationUtilizationof potato peel extract in fish processing :	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp. 821-825, 2020	
2	S. Sawant, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan Monalisha Mishra, S. T. Sharangdher, R. K. Sadawarte, S.	J. Exp. Zool. India Journal of Experimental Zoology, India	savala (Cuvier, 1829)Efficacyof ethanolic potato peel extracts on the iceicestorage characteristicscharacteristicsof minced croaker (Otolithus ruber) to prevent lipid and protein oxidationUtilizationof potato peel extract in fish processing : an	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp. 821-825, 2020	
2	S. Sawani, V. B. Mulye and J. M. Koli Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, S. Sawant and D. Pathan Monalisha Mishra, S. T. Sharangdher, R. K. Sadawarte, S. B. Patange, G.	J. Exp. Zool. India Journal of Experimental Zoology, India	savala (Cuvier, 1829)Efficacyof ethanolic potato peel extracts on the iceicestorage characteristicscharacteristicsof minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidationUtilizationof potato peel extract in fish processing : an Overview	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp. 821-825, 2020	
2	<ul> <li>S. Sawani, V. B.</li> <li>Mulye and J. M.</li> <li>Koli</li> <li>Monalisha</li> <li>Mishra, S. T.</li> <li>Sharangdher, M.</li> <li>T. Sharangdher, M.</li> <li>T. Sharangdher, M.</li> <li>T. Sharangdher, R.</li> <li>K. Sadawarte, V.</li> <li>V. Vishwasrao,</li> <li>J. M. Koli, A.</li> <li>Desai, S. Sawant</li> <li>and D. Pathan</li> <li>Monalisha</li> <li>Mishra, S. T.</li> <li>Sharangdher, R.</li> <li>K. Sadawarte, S.</li> <li>B. Patange, G.</li> <li>N. Kulkarni, V.</li> </ul>	J. Exp. Zool. India Journal of Experimental Zoology, India	savala (Cuvier, 1829)Efficacyof ethanolic potato peel extracts on the iceicestorage characteristicscharacteristicsof minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidationUtilizationof potato peel extract in fish processing : an Overview	Vol. 24, No. 1, pp. 365-375-2021 Vol. 23, No. 1, pp. 821-825, 2020	

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	R. Sadawarte, M T				
	Sharangdher, V.				
	V. Vishwasrao				
	and M. C. Kale				
5	Dr. A. S. Desai				
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	Margaret A.	Processing and	formation, in vitro	/jfpp.1485)	
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	Charles S. Brennan		properties of fish		
	Dieiman		oil and wheat		
			starch blend		
2	Т. В.	Journal of	Quality assessment	23(1), 883-846.	
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	S. Sawant.	Zoology of	dried seafoods sold		
	A.S. Desai	India,	at Ratnagiri		
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3	Desai, A.S.,	Journal of Food	Physiochemical,	DOI: <u>10.1007/s11694</u>	
	Margaret A.	Measurement	structural and in	<u>-021-00882-1</u>	
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	Charles S	Characterisation.	properties of starch		
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			oil and wheat		
			gluten.		
4	Desai, A.S.,	European Food	How the inclusion	247, pages1177–	
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	Zeng & Charles		starch digestibility,		
	Brennan		amino acid		
			profiling and		
			properties of		
			breads.		
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	V. Vishwasrao,		to prevent lipid and		
	J. M. Koli, A.		protein oxidation.		
	Desai, S. Sawant				

	and D. Pathan				
6	Prof. S. S. Sawan	t			
	P. A. Shinde, V. V. Vishwasrao, S. T. Sharangdher, <b>S.</b> <b>S. Sawant</b> , V. B. Mulye and J. M. Koli	J. Exp. Zool. India	Development of pizza using minced meat of fish, <i>Lepturacanthus</i> savala (Cuvier, 1829)	Vol. 24, No. 1, pp. 195-2012021	
2	Monalisha Mishra, S. T. Sharangdher, M. T. Sharangdher, M. T. Sharangdher, S. B. Patange, G. N. Kulkarni, R. K. Sadawarte, V. V. Vishwasrao, J. M. Koli, A. Desai, <b>S.</b> <b>Sawant</b> and D. Pathan	J. Exp. Zool. India	Efficacy of ethanolic potato peel extracts on the ice storage characteristics of minced croaker ( <i>Otolithus ruber</i> ) to prevent lipid and protein oxidation	Vol. 24, No. 1, pp. 365-375-2021	
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Research Activities and achievements (Including Projects)

c. Variety/Implementation Released/Products Developed: 40

d. Research Recommendation: Joint Agresco

# FISH PRODUCT TECHNOLOGY DEVELOPED BY DEPARTMENT OF FISH PROCESSING TECHNOLOGY & MICROBIOLOGY (FPTM) STAFF WITH RECOMMENDATIONS APPROVED IN JOINT AGRESCO

Sr. No	Year of Joint Agres co Reco mme ndati on	Recommendations in Joint Agresco	PI and Co-PI of the Research Project	Fish Product Technology Developed By Staff Members
1	2004	Green mussel in curry can be stored at $20^{0}$ C for six months in acceptable condition.	Dr. V. R. Joshi, Prof. S.T. Sharangdher, Dr. S. B. Patange and Dr. J. M. Koli	Green Mussel In Curry
2	2004	Bombil chutney prepared by adopting the method standardized by the University can be stored at room temperature in airtight polythene bag upto 90 days.	Prof. B. P. Bhosale, Prof. N. D. Chogale and Dr. S. B. Patange	Bombil Chutney
3	2008	The production of fish snack extruded product (by using twin crew extruder) is recommended by mixing low cost fish powder, corn starch, Bengal gram flour in the ratio of 15:75:10. For keeping the fish snack extruded product in good condition for a period upto two months, packaging in aluminum film lined with polyester- polyethylene and nitrogen flushing is recommended.	Dr. A. U. Pagarkar, Dr. J. M. Koli and Dr. A.S. Desai	Fish Snack Extruded Product
4	2008	The treatment of fresh raw skin with 0.5% chilled NaCl solution for washing followed by treatment with NaOH (0.3%) in 1:5 (W/V) ratio for 30 min at 50C and rinsing with tap water thrice, further treatment withCH3COOH (0.07 N) in 1:10 (w/v) for 9 hrs at room temperature and rinsing with tap water; and extraction of gelatin in potable water at 450C overnight; filtration of the mixture and drying in filtrate under vacuum at 450C is recommended for the optimum production of edible grade gelatin from pink perch fish.	Dr. S. B. Patange, Prof S. T. Sharangdher and Dr. J. M. Koli	Fish Gelatin 20

	2012	is recommended for the preparation of Acetes Snack product using twine screw extruder and to pack acetes snack product is aluminum film lined polyster poly with nitrogen flushing to get an acceptability for two months at ambient conditions.	Dr. J. M. Koli and Dr. A.S. Desai	Product
6	2013	Pickle prepared from clam meat by using two percent lemon extract an other ingredients stored in pet bottle remain in good condition for six months	Dr. V. R. Joshi, Prof. S.T. Sharangdher, Dr. S. B. Patange and Dr. J. M. Koli	Clam Pickle
7	2013	Ready to fry noodles prepared by using rice flour and fish meat of Dhoma (85:15)	Dr. A. U. Pagarkar and Dr. V. R. Joshi	Ready To Fry Noodles
8	2014	Oyster pickle prepared with two percent coconut vinegar and packed in pearl pet plastic bottles is found to be acceptable upto six months in room temperature	Dr. V. R. Joshi, Prof. S.T. Sharangdher, Dr. S. B. Patange and Dr. J. M. Koli	Oyster Pickle
9	2014	Ready to cook shrimp noodles	Dr. A. U. Pagarkar and Dr. V. R. Joshi	Shrimp Noodles
10		It is recommended to use combination of medical gloves (inside) and cotton hand gloves (outside) during fish dressing operation for safety and better work capacity.	Dr. A. U. Pagarkar, Dr. V.V. Aware, Dr. N.A. Shirsat, Dr.S.V. Patil and Er. V.B. Kadam	Fish Processing Safety Device
11	2018	It is recommended to use batter developed by DBSKKV for less oil absorption and better quality of coating to pangasius finger	Dr. A. U. Pagarkar, Satam, S. B., Chogale N.D., Naik, S. D., Sawant, A. N., Shinde K. M., S. Y. Metar, K. S. Sawant and Singh, H.	Pangasius Finger
12	2020	It is recommended to use DBSKKV developed technology for preparation of ready to eat fish spread product from low cost Dhoma fish, with natural colour, have shelf life upto 21 days in refrigerated display unit at $0 - 4$ <sup>0</sup> C.	Dr. A. U. Pagarkar, S. B. Satam, N. D. Chogale, K. M. Shinde, S. Y., Metar, S. D. Naik, S. A. Mohite, H. Singh, V. R. Bhatkar, P. E. Shingare, and V. R. Sadavarte	Fish Spread

## e. Research Outcome/ Finding:

- > Several value added fish products were developed from low cost fish.
- > Modern packaging (MAP) methods were developed for fish and fish products.
- Utilizations of fish waste in converted in fertilizers, pharmaceutical and nutraceuticals products

Sr.	NAME OF THE	FISH PRODUCT		
INU.				DEVELOPED
RGS	TC Sponsored Project	1		1
Sr. No.	Title of the Project	Name of PI and Co-PI	Year/Period and Fund Allocations (In Lakhs Rs)	Technology Developed
1	Pilot scale demonstration of fish ball in curry	Dr. V. R. Joshi, Dr. A.U. Pagarkar	2011-2013 ( <b>24.51</b> )	Fish Ball in Curry, Fish Kamaboko Fish paste products
2	Pilot scale demonstration of value added products from Acetes using its functional properties	Dr. V. R. Joshi, Dr. A.U. Pagarkar Prof. S.T. Sharangdher, Prof. V.V. Vishwasrao,	2012-2014 ( <b>47.56</b> )	Acetes Chakali, Acetes Wada, Acetes Ball in Curry
3	Development of vacuum and modified atmospheric packaging for retailing of fish and shell fish	Dr S. B. Patange , Prof S. T. Sharangdher	2013-2015 ( <b>34.13</b> )	-
4	Pilot scale demonstration of fish and fishery based by- products	Dr. J. M. Koli, Prof S. T. Sharangdher, Dr. S. Y Metar	2014-2016 ( <b>67.25</b> )	Fish Gelatin, Fish Meal, Fish Silage, Chitin and Chitosan
NFD Sm	B Sponsored Project	Name of DL and Co. DL	Veen and	Technology
Sr. No.	The of the Project	Name of P1 and Co-P1	Funds allocations (In lakhs)	Developed
	Pilot scale demonstration of "Retort pouch packaging of thermal fishery products of Konkan region of Maharashtra".	Dr S. B. Patange, Prof S. T. Sharangdher	2012-2014 ( <b>47.21</b> )	BangadyacheTikhale, Tasaryache Saar, Kolambi Curry in Goan Style, Fish Ball in Curry
Sr.	Title of the Project	Name of PI and Co-PI	Vear and	Technology
No.	The of the Troject		Funds allocations (In lakhs)	Developed
1	Improvised methods of fish drying	Dr. V. P. Joshi, Dr. B. R. Chavan, Prof, S. T. Sharangdher, Dr. J. M. Koli and Dr. V. R. Joshi	2005-2006 ( <b>1.00</b> )	Developed Solar Panel Drier

## g. Ongoing Research Projects/Programmes/Scheme: Nil MFSc (Fish Processing Technology) Students : 2020-2022

Sr	M.F. Sc Students Thesis Title	Student Name
51.	MI.I. SC Students Thesis The	
No		
1	Preparation of Shrimp Soup Powder from	Yash Vishnupant Charthad
	Parapenaeopsis stylifera (H. Milne Edwards, 1837) and	
2	Extraction of bioactive compounds from fish and	Miss. Shreya Suryakant
	shellfish waste to enhance the physiochemical properties of	Mayekar
3	Study on physicochemical properties and yield of sea	Miss. Uriben Mahendra
	weed polysaccharide extracted by different methods	bhai Patel
4	Efficacy of bacteriological peptone prepared from fish	Miss. Priyanka Pradip
	waste by different methods of hydrolysis.	Shelar
5	Assessment of hygiene & sanitation status onboard	Miss. Savita Vijay Shinde
	trawler cum purse seiner and Ratnagiri city fish market	

# > MFSc (Fish Processing Technology) Students : 2021-23

Sr.	M.F. Sc Students Thesis Title	Student Name
No		
1	Development and storage studies of wafers prepared from	Miss. Sampada P. Gedam
	Trichiuruslepturus	
2	Development and chilled storage study of masala coated	Mr. Shubhendra D. Kadam
	Tilapia steaks	
3	Chilled storage study of battered and breaded product prepared	Miss. Shweta M. Mangale
	from Kiddi shrimp(Parapenaeopsisstylifera) (H. Milne	
4	Development and storage study chutney prepared from shrimp	Mr. Panchakarla Sedyaaw
	head waste	
5	Chilled storage study of marinated and vacuum packed steaks	Mr. Bhaviksingh K. Parmar
	of Otoliths cuuieri (Trewavas, 1974)	
6	Incorporation of dried spinach powder and fish protein	Miss. Nilam D. Rathod
	hydrolysate to enhance the physiochemical and sensory	
Ph.D (F	Sish Processing Technology) Students :	
Sr.	Ph. D Students Thesis	Student Name
No.		
1	Study on inhibitory effect of mangrove leaf extracts on	Mr. Suyash S. Patil
	proteolysis in seafood.	
2	Itilization of segurad as a value added ingradient to only and	Mr. Makarand T. Sharanadhar
۷.	the physicochemical and putritional quality of balance	wii. wiakaranu 1. Sharangunar
	me physicochemical and nutritional quality of bakery & shack	

## FISH PRODUCT TECHNIQUES DEVELOPED BY POST GRADUATE STUDENTS OF FPTM DEPARTMENT OF COLLEGE OF FISHERIES, RATNAGIRI

Sr. No.	Year	M.F.Sc Students Thesis Title	Submitted By	FISH PRODUCT TECHNOLOGY DEVELOPED
1	1999	Preparation of fish ball and fish cutlet from Mackerel minced meat	Miss. Anjali Kamat	FIAH BALL AND FISH CUTLET
2	1999	Cooked chilled storage of fish ball prepared from pink perch meat	Mr. Amjad Balange	FISH BALL
3	2000	Development of Kamaboko by microwave cooking	Mr. Amol Thorat	КАМАВОКО
4	2000	Development microwave cooked fish sausage in natural casing	Mr. Amol Thorat	FISH SAUSAGE
4	2002	Studies of preparation of Fish/Shrimp Analogues	Mr. Yogesh Patil	FISH/SHRIMP ANALOGUES
5	2002	Studies of preparation of Lobster Analogues	Mr. Sachin Satam	LOBSTER ANALOGUES
6	2003	Preparation of fish soup powder from Croaker fish	Miss. Mugdha Warang	FISH SOUP POWDER
7	2006	Preparation of Bombay duck pickle and its storage characteristics	Mr. Yogesh Deochar	BOMBAY DUCK PICKLE
8	2008	Utilization of brown seaweed ( <i>Sargassum sp</i> .) for preparation of edible soup	Mr. Rakesh Yadav	BROWN SEAWEED SOUP
9	2015	Preparation of battered and breaded products from Dhoma fish ( <i>Otolithus sp.</i> )	Mr. Aniket Pilankar	BATTERED AND BREADED PRODUCTS
10	2015	Development of Mud crab ( <i>S. serrata</i> ) soup powder	Miss. Prajakta Pednekar	MUD CRAB SOUP POWDER
11	2015	Development of fish Burger using minced meat from Ribbon fish.	Miss. Ragini Bharankar	FISH BURGER
12	2017	Development of fish Samosa by using minced meat of Indian Mackerel	Miss. Mrunali Dange	FISH SAMOSA
13	2017	Development of fish Pizza using minced meat from Ribbon fish.	Miss. Pradnya Shinde	FISH PIZZA
14	2018	Development of oyster soup powder by using hooded oyster	Miss. Neha Bhalekar	OYSTER SOUP POWDER
15	2018	Development of fish biscuit by using minced meat of Ribbon fish	Mr. Gangadhar Chitkare	FISH BISCUIT
16	2019	Development of soup powder from edible clams and it's storage study.	Mr. Ajinkya H. Murade	CLAM SOUP POWDER

## 8. Extension Activities

Extension programmes organised by Fish Processing Technology & Microbiology Department in the year 2021 - 22.

	-Extension Programmes undertaken by dept. of FPTM in the year - 2021-22						
Sr.	Date	Place	Title of	Sponsored			Total
no.			Extension if any Trainees		nees	no. of	
			Programme		Μ	F	Trainees
1	22/09/2021	Tawsal, Guhagar, Ratnagiri	Demonstration of Value added fish products Preparation	NFDB	9	16	25
2	24/09/2021	Gawkhadi Ratnagiri	Demonstration of Fish By- Products Preparation	NFDB	8	17	25
3	25/09/2021	Gawkhadi Ratnagiri	Demonstration of Value added fish products Preparation	Dept.	8	17	25
4	27/09/2021	Dhawunwalli, Rajapur, Dist. Ratnagiri	Awareness programme on 'Hygeine Sanitation & Cleaning practices to be followed on Fishing Harbours, Fish Landing centres & Fish markets, with special reference to COVID-19 pandemic.	NFDB	2	23	25
5	28/09/2021	Dhawunwalli, Rajapur, Dist. Ratnagiri	Demonstration of Value added fish products Preparation	Dept.	2	23	25
6	29/09/2021	Janshi, Rajapur, Dist. Ratnagiri	Demonstration of Improvised method of salt curing & drying of	NFDB	-	25	25

			fishes				
7	30/09/2021	Janshi,	Demonstration	Dept.	-	25	25
		Rajapur, Dist.	of Value				
		Ratnagiri	added fish				
			products				
			Preparation				
8	8/02/2022	Kondye,	Demonstration	NFDB	-	22	22
		Lanja, Dist.	of Improvised				
		Ratnagiri	method of salt				
			curing &				
			drying of				
			fishes				
9	9/02/2022	Kot,	Demonstration	NFDB	-	22	22
		Lanja, Dist.	of Fish By-				
		Ratnagiri	Products				
		-	Preparation				
10	13/10/2022	RKVY, COF,	Demonstration	ATMA	-	40	40
		Dist.	of Value				
		Ratnagiri	added fish				
		-	products				
			Preparation				

Photographs of Extension activities –

**Technical Guidance on Fisher sites:** 

Visited to Brackishwater Shrimp Culture Pond at Kasheli, and discussed their postharvest related problems



Visited to fisher women groups Drying Unit at Mirkarwada on "International Fisheries Day" 21<sup>st</sup> November-2022 and discussed their problems



Visited to fisher women group Fish Drying Unit at Varvade, Tal. Dist. Ratnagiri and discussed their problems and given suggestions



**One Day Awareness & Physical Demonstration Program** on **Fish and Shell fish By-Products organized** by **Department of Fish Processing Technology & Microbiology**, College of Fisheries, Ratnagiri and **Sponsored by National Fisheries Development Board, Hyderabad** on **Friday, the 24th September, 2021at 10.00 Hrs. at Gavakhadi, Taluka and District : Ratnagiri**.





One Day Awareness & Physical Demonstration Program on "Skill development programme on Improvised Salt Curing and Fish Drying Techniques" organized by Department of Fish Processing Technology & Microbiology, College of Fisheries, Ratnagiri and Sponsored by National Fisheries Development Board, Hyderabad on Wednesday, the 29<sup>th</sup> September, 2021 at 10.00 Hrs at Fisherman's Village : Janashi, Taluka ; Rajapur, District : Ratnagiri.





One Day Awareness & Physical Demonstration Program on "Sanitation and Hygiene practices to be followed on Fishing Harbours, Fish Landing Centers and Fish Markets with special reference to Covid 19 Pandemic" on Monday, the 27th September, 2021 at 10.00 Hrs. at Fisherman's Village Dahulvalli, Taluka ; Rajapur, District : Ratnagiri.





**One Day Awareness & Physical Demonstration Program** on **Value Added Fish Products organized** by **Department of Fish Processing Technology & Microbiology**, College of Fisheries, Ratnagiri and **Sponsored by National Fisheries Development Board, Hyderabad** on Wednesday, the 22nd September, 2021 at 10.00 Hrs. at Ornamental Fish Shed, At Post : Fisherman Village Tavsal, Taluka : Guhagar, District : Ratnagiri.





Demonstration programme on Value added fish products preparation for Women self help groups from Ratnagiri, conducted in collaboration with ATMA, Ratnagiri, on 13 th October, 2022 at RKVY, practical hall, College of Fisheries, Shirgaon, Ratnagiri. Total no. of participants – 40





d. Radio Talks delivered by the staff members of the Department/Section: Provide the relevant detail.

Sr.	Name of Topic				Name of staff member	Month	
No.							
1.	Masey Tikavinyacha Aadhunik Padhati.			lhati.	Prof. S. T. Sharangdher	July, 2020	
2.	Masali	Hataltana	Parisar	ani	vaiktik	Dr. J. M. Koli	September, 2020
	swachat	a					

#### 9. Contact Information :

Name of the Head: Dr. A. U. Pagarkar

Name of the Department: Fish Processing Technology & Microbiology.

Postal Address: College of Fisheries, Shirgaon, Ratnagiri – 415 629, Maharashtra.

Mobile Number: 9403509307

E-mail ID : aupcof@gmail.com/fptmcofextension@gmail.com

### 10. News and Events : Success story of Entrepreneur :

Sr.	Name & Address of Entrepreneur	Name Product	Name & Contact Number
No.			
1	Dhairya Bachat Gat	1. Jawala Chutney	Mrs. Kimya Surve
	At & Post : Golpa,	2. Shrimp Pickle	9975170045.
	Tal. Pawas, Dist. Ratnagiri.		
2.	Mahapurush Mahila Bachat Gat	1. Oyster Pickle	Mrs. Kalavati Gopinath Navale
	At & Post : Burambewadi,		9326354958
	Tal. Rajapur, Dist Ratnagiri.		