### **Department Of Botany-Biotechnology**

The Department of Botany established in 1972, at present offers UG, PG and Ph.D. programmes in Botany. The Department has been highly appreciated by NAAC for its achievements. *The Department has been identified as one of the highly rated Department under College of Excellence.* 

All the 5 faculty members possess Ph.D. (Science) Degree in Botany and are actively involved in research. There are 4 recognized research guides for Ph.D. in Botany and M.Sc. (by research) in Botany.

Two Major Research Projects sanctioned by UGC and One Major Research Project Sanctioned by NMPB, AYUSH, New Delhi has been completed. Similarly One Major Industrial Research Project sanctioned by Pepsico India Holdings Pvt. Ltd. has been completed. One Major Research Project sanctioned by UGC is in progress.

Department has founded 'Norkett, Chopra, Gangulee and Udar Memorial Lecture' for the students of Botany at University level, which is organised every year since last 7 years.

The Department aims to be a Centre of Excellence.

The Department of Biotechnology established in 2002, at present offers UG, PG and Ph.D. programmes in Biotechnology. There are 4 recognized research guides for Ph.D. in Biotechnology and M.Sc. (by research) in Biotechnology.

Name of the research centre:	Botany-Biotechnology
Year of establishment :	Botany (M.Sc.)-1985
	(Ph.D.)-1991
	Biotechnology- 2006-07
No. of Seats for Ph.D.:	Botany- 20
	Biotechnology-10

#### Research guides in the centre

**Dr. Naresh Chandra** Principal Former Pro Vice Chancellor, University of Mumbai



He has completed Post graduation and M. Phil in Botany. He has been awarded Ph.D. in 1979 for the thesis titled: "Bio-Chemical changes accompanying seed development and viability in *Mangifera indica L*". He has a rich teaching experience for U.G. Teaching for more than 36 years and P.G. Teaching for more than 21 years (3 years for M. Phil.). He is a recognized Research Guide of University of Mumbai for M.Sc. and Ph.D. (Science) Degree in Botany (since 1991) and Biotechnology (since 2007). He is the Fellow and Life Member, Indian Botanical Society (FBS). He has worked on a major research project sanctioned by UGC and on a major research papers in National as well as International journals. He is the Associate Editor (West Zone) of "Journal of Cell and Tissue Research".

He has been the Principal of Birla College of Arts, Science and Commerce, Kalyan since 15<sup>th</sup> October 1988. He has worked as the Pro-Vice Chancellor, University of Mumbai, twice (from 17<sup>th</sup> April 1997 to 4<sup>th</sup> May 2000 and from 12<sup>th</sup> April 2012 to 11<sup>th</sup> May 2015) and President, University of Mumbai College Principals' Association (2003–2012).

He has been Chairman / Member of several Expert Committees of Universities / UGC. As Chairman, Peer Team, NAAC visited many colleges in the country. He has visited several Universities/Institutions in UK, USA, Australia and China. In 2008 he was invited to attend *International Visitor Leadership Program on "Higher Education – Administration and Curriculum Development: A Project for India"*, at Washington and New York from 3<sup>rd</sup> to 7<sup>th</sup> November, 2008. Recently he has attended five days Workshop on "*Multidisciplinary Approach to University Leaders Development*" held at Harvard University, USA from 30<sup>th</sup> July, 2012 to 3<sup>rd</sup> August, 2012.

#### **Research Contribution:**

No. of Publications: 55; No. of papers presented: 43; Organized / participated in International / National / State Level Seminars / Conferences / Workshops: 69; Guided Ph. D. Students: 18 (Degree awarded); Students pursuing Ph. D.: 02

Thrust area of research

- Plant Tissue Culture
- Stress Physiology

- o Medicinal Plants
- o Phytochemistry
- o Environmental Biology

#### **Dr. Jossy Varghese**

Sr. Vice Principal and Head, Department of Biotechnology



He has completed Post graduation in Botany with specialization in Palynology in 1982 from Institute of Science, Mumbai. Awarded Ph.D. (Science) Degree in Botany in 2008 for the thesis titled "*In vitro* culture studies of *Helicteres isora* L." under the guideship of Dr. Naresh Chandra. He has been working as a faculty in Department of Botany, Birla College from July 1983.

Currently, he is the Sr. Vice Principal, Science, and Head, Dept, of Botany. He is also the Chairman, Examination Committee. He is also member of various committees. He is a Recognized Research guide for the University of Mumbai for, M. Sc. by Research in Botany and Biotechnology and Ph. D. (Science) Degree in Botany. He has completed 2 Minor Research Projects sanctioned by UGC. He has published 25 research papers in National Journals and presented 20 posters in National and International conferences. He has attended 25 Conferences and 18 workshops.

Currently 5 students are working under him for their Ph.D. (Science) Degree in Botany.

### Thrust area of research

- 1. Plant Tissue Culture,
- 2. Phytochemistry,
- Herbal Medicines,

### **Dr. Meeta Bhot** Associate professor



She has completed her Post graduation in Botany with specialization in Algae from University of Pune. Awarded Ph.D. in 2008 for the thesis titled "Tissue culture studies of croton varieties." She has been working as a faculty in Department of Botany, Birla College for the past 27 years. She has an experience of several years in Post graduate teaching and research. Guided several PG- research projects

Currently, she is an Associate Professor in the Department of Botany. She is the Director, Women's Studies Center and Convenor, Women Development Cell. She is the Co-ordinator for Art's Circle, Birla College. She is involved in organizing various seminars, conferences, and orientation programmes at Birla College in the capacity of Joint Secretary/Treasurer/ member of Local Organizing Committee etc. She is a Recognized Research guide for the University of Mumbai for, M. Sc. and Ph. D. Degree in Botany and Biotechnology.

#### **Research Contribution:**

No. of Publications: 23; No. of papers presented: 40; Seminar Conference Attended: 24; Workshops / Training/ Orientation programs Attended: 19; Students pursuing Ph. D.: 02 (Botany), 03 (Biotechnology). Guide M.Sc. – II Biotech, Herbal sciences and Botany students for their project work every year

#### Thrust area of research

- Plant Tissue Culture
  - o Microbiological Techniques
  - o Phycology
  - o Biotechnology

**Dr. Avinash Patil** Vice Principal and Associate Professor



He has completed Post graduation in Botany with specialization in Taxonomy of Spermatophyta from St. Xavier's College, Mumbai. He has been awarded Ph.D. in 2002 for the thesis titled 'PHYSIOLOGY OF CROP PLANTS: Response of *Vigna unguiculata* L. Var. Konkan Sadabahar to water stress' from University of Mumbai. He has been working as a faculty in Department of Botany, Birla College since 1990.

He is a member of-

RRC in Bioanalytical Sciences, University of Mumbai since 24<sup>th</sup> June, 2016 Ad-hoc Board of Studies in Bioanalytical Sciences, University of Mumbai since 31<sup>st</sup> August, 2015 IQAC since June 2011 Editorial Board, International Journal of Life Sciences.

Tree Authority Committee of Thane Municipal Corporation

District Environmental Impact Assessment Committee, Thane Collectorate since September 16, 2016

He is a life Member of-

Society of Science and Environment, India Society of Applied Biology and Biotechnology, Mumbai Society of Ethnopharmacology, Kolkatta, India The Indian Science Congress Association, Kolkatta, India.

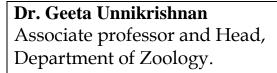
He is a Recognized Research guide for the University of Mumbai for, M. Sc. and Ph. D. (Science) Degree in Botany and Biotechnology. He has worked on Major Research Project sanctioned by UGC, NMPB (Dept. of AYUSH) and Pepsico India Holding Pvt. Ltd. He also worked on Minor Research Projects sanctioned by UGC and University of Mumbai. Provided consultancy to Thane Municipal Corporation, Thane for Bioremediation of Lakes. Visited Clayton State University, Atlanta, USA during March 2011 and University of West Georgia, Georgia, USA during March 2015 under faculty exchange programme.

#### **Research** Contribution:

No. of Publications: 40; No. of articles published in edited books: 05; No. of papers presented: 43; No. of Books authored: 04; No of talks delivered at Orientation/Refresher/Seminar/Conference: 11; Seminar Conference Attended: 44; Workshops / Training programs Attended: 23; Guided Ph. D. Students: 02 (Degree awarded); Students pursuing Ph. D.: 07; Major Research Projects Completed: 02; Industry Research Project Completed: 01; Consultancy Provided: 02.

#### Thrust areas of research:

- o Plant Tissue Culture,
- o Medicinal Plants
- o Herbal Medicines,
- o Ethnobotany
- o Taxonomy





She has completed Post graduation in Zoology with specialization in Animal Physiology. Awarded Ph.D. in 2002 for the thesis titled "Effects of Antidepressants in Rats". She has been working as a faculty in Department of Zoology, Birla College for the past 30 years. She has an experience of 20 years in Post graduate teaching and research. She has guided several PG- research projects.

She is currently the Head, Department of Zoology, Birla College. She has worked in capacity of co-ordinaor IQAC, PG Environmental Sciences, UGC Sponsored Addon Course in Bioinformatics and DBT-Star College Scheme. Recognized as a Research guide for M.Sc. (2006) and Ph.D (2009) Zoology and Ph.D. in Biotechnology (2010) (University of Mumbai). O2 Students have completed Ph.D in Biotechnology and 02 are

### pursuing Ph.D in Biotechnology and 02 in Zoology.

#### > Thrust area of research

- Animal Tissue Culture
- o Environmental Biotechnology
- Physiology
  Molecular Biology
  Bioinformatics

Ph.D. (Science) Degree in the subject of Botany	
Name of Guide	Dr. Naresh Chandra

No.	Name Of Student	Year of Award	Photograph
1.	Ms. Shubhangi Parulekar (M.Sc)	1987	
	Salt Tolerance studies in Rice(oryza Sativa)		
2.	Dr. Anita Phatak	1996	
	Effect of Nacl Salinity on some Aspects of		
	physiology of seed Germination, seedling		
	growth and early Plant growth of Cajanus cajan		
	(L)Millsp. Var. Konkan-Tur-1		
3.	Dr. Darshana Patil	1997	
	Physiology of crop plants: Response of Dolichos		
	lablab L. Va. Kon Val-2 to different levels of		
	salinity		
4.	Dr. G.T Paratkar	1998	
	Physiology of Halophytes: Studies on some		
	aspects of senescence in Salvadora persica (L.)		
5.	Dr. Marie Castello	2001	
	Invitro Culture studies of Bixa Orellana L.		
6.	Ms. Sugandha Godambe (M.Sc)	2002	
	Effect of Nacl salinity on germination and		
	seedling growth of Mung (Vigna radiate L. var.		
	TAP -7) and Nagli (Eleusine coracana Gaertn		
	var. Dapoli, Nagli-2)		
7.	Dr. Avinash Patil	2002	
	Physiology of crop plants : Response of vigna		100
	unguiculata (Linn ) Var. Konkan Sadabaharto		
	water stress		
8.	Dr. Chandrashekhar	2002	
	Urban ecosystem- A case study of the city of		
	Thane		

9.	<b>Dr. Sunita Shailajan</b> Standardization of herbal medicines: <i>Astracantha longifolia</i> (Neer)	2002	
10.	<b>Dr. Moitreyee Saha</b> <i>In vitro</i> culture studies of different varieties of <i>Carica Papaya L.</i>	2003	
11.	<b>Dr. Devaki B.</b> Differential requirements of Invitro culture of varieties of Ashwagandha (Withania somnifera L.) and identification of somaclonal variants by DNA fingerprinting	2007	
12.	<b>Dr. Jossy Varghese</b> In vitroculture studies of Helicteris isora Linn.	2008	
13.	<b>Dr. Meeta Bhot</b> Tissue culture studies of Croton varieties.	2008	
14.	<b>Dr. Anju Varshney</b> Antimicrobial activity of <i>Bacopa monnerii</i>	2013	

15.	<b>Dr. Puja Gupta</b> Study of Antidiabetic, Antimicrobial and Antioxidant property of plant parts of <i>Butea</i> <i>monosperma</i> (Lamk.) Taub.	2013	
16.	<b>Dr. Abhishek Sharma</b> Phytochemical and Pharmacological studies on <i>Bryophyllum pinnatum</i> (Lam) Kurz.	2014	

Ph.D. (Science) Degree in the subject of Biotechnology	
Name of Guide	Dr. Naresh Chandra

No.	Name Of Student	Year of Award	Photograph
1.	<b>Dr. (Mrs.) Maninder Kaur Dhaliwal</b> Study of production of carotenoids by pigmented yeasts.	2012	
2.	<b>Dr. (Ms.) Indu Sanadhya</b> Comparative study of Effect of Elicitors on production of secondary metabolites in calli derived from <i>Anthocephalus indicus</i> A. Rich.	2013	
3.	<b>Dr. (Ms.) Sayali R. Naphade</b> Biodegradation of hazardous pesticides using soil microbes.	2013	

4.	<b>Dr. (Ms.) Annika A. Durve</b> Bioaccumulation and nanoparticle synthesis of heavy metals using microbial isolates.	2014	
5.	<ul> <li>Mrs. Bharati Devaguptapu</li> <li>Transgenic approaches for nutritional quality improvement of food crops.</li> <li>(Synopsis submitted)</li> </ul>	Registered in 2008	
6.	Mrs. Vandana Gupta Application of organic wastes for biosorption of heavy metals and nanoparticle synthesis. (Ongoing)	Registered in 2016	

Ph.D. (Science) Degree in the subject of Botany	
Name of Guide	Dr. Anita Phatak

No.	Name Of Student	Year of Award	Photograph
1.	<b>Dr. Vijaya Lobo</b> Study of antioxidant properties of some Indian medicinal plants.	2011	
2.	Ms. Radhika B. J (MSc) Micropropagation studies on selected Dendrobium hybrid Hiang Beauty	2011	
3.	<b>Dr. Shashi Naghare</b> Phytochemical studies of <i>Mucuna pruriens</i> (L.) DC	2013	

4.	Ms. Geeta Kumary (MSc)	2013	
	Promising wild ornamental plants of		
	Thirvanananthapuram, District (Kerala).		
5.	Ms. Sulekha Phadke (MSc)	2016	
	Comparative study of phytochemical		
	constituents of different plant parts and callus		
	of Baliospermum montanum (Willd.) Muell		
	Arg.		
6.	Mr. Swapneel Koli	2016	
	Comparative study of phytochemical		
	constituents and antidiabetic potential of		25
	Lagenaria scceraria (Molina) Standl. and		10. S. D
	Trichosanthes dioica Roxb. frosts.		
1			

Ph	.D. (Science) Degree in the subject of Botany
Name of Guide	Dr. G. T. Dabhade

No.	Name Of Student	Year of Award	Photograph
1.	Dr. Vijay Kisan Hile	2007	
	Studies on mosses of Thal Ghats And		
	Tryambhak in Western Ghats		

Ph.D. (Science) Degree in the subject of Botany		
Name of Guide Dr. Madhuri Sharon		

No.	Name Of Student	Year of Award	Photograph
1.	<b>Dr. Sejal Shah</b> In Vitro culture of leaves and Roots of <i>Curculigo orchiodes</i> in presence of carbon Nano-particles	2007	

2.	<b>Dr. Arvind Gupta</b> Secondary metabolite contents and <i>in vitro</i> culture study of <i>Lasiosiphon eriocephalus</i> (Syn. <i>Gnidia glauca</i> )	2009	
3.	<b>Dr. Goldie Oza</b> Biosynthesis of nano-metal and/or its complex by algae and bacteria	2013	
4.	<b>Dr. Sunil Pandey</b> Biosynthesis of nano-metal and/or its complex by plants and fungi	2013	

Ph.D. (Science) Degree in the subject of Botany			
Name of Guide Dr. Jossy Varghese			

No.	Name Of Student	Year of Award	Photograph
1.	Mrs. Hareeshma Shiju Pharmacological studies on multipurpose tree species – <i>Khaya</i> <i>senegalensis</i> A.Juss. (Ongoing)	Registered in 2013	
2.	Mr. Sachin S. Lad. Study of Phytoremediation Properties of Some Plants from Industrial Area (Ongoing)	Registered in 2013	

3.	Ms. Misbah Hamid Shaikh Antioxidant and Antimicrobial Studies on <i>Gmelina arborea</i> Roxb. (Ongoing)	Registered in 2013	
4.	Ms. Anita Poonia "Study of two varieties of <i>Polyalthia longifolia</i> with special reference to antimicrobial, antioxidant and anticancer potential". (Ongoing)	Registered in 2015	
5.	Ms. Vibha Aggarwal Study of Bioactive compounds from fruit of two species of Annonaceae: with reference to Anticancerous activity against human cancer cell lines. (Ongoing)	Registered in 2016	

Ph.D. (Science) Degree in the subject of Botany		
Name of Guide Dr. Meeta Bhot		

No.	Name Of Student	Year of Award	Photograph
1.	Mr. Vishal Rasal Planktonic Diversity, Biomonitoring and Phytoremediation of selected urban lakes in Mumbai. (Ongoing)	Registered in 2013	

2.	Mrs. Ujwala Patil	Registered in	
	Bioprospecting of Algae.	2013	Can a s
	(Ongoing)		

Ph.D. (Science) Degree in the subject of Biotechnology	
Name of Guide	Dr. Meeta Bhot

No.	Name Of Student	Year of Award	Photograph
1.	Ms. Shivani Kakkar Bioprospecting of few fruit and vegetable peel waste	2017	
2.	Ms. Meenakshi Barua Evaluation of anticancer activity of few <i>Cassia</i> species (Ongoing)	Registered in 2014	
3.	Mrs Varsha Shelke In vitro culture study and evaluation of anticancer activity of Asclepias curassavica L. (Ongoing)	Registered in 2015	

# Ph.D. (Science) Degree in the subject of Botany

Name of Guide

Dr. Avinash Patil

No.	Name Of Student	Year of Award	Photograph
1.	<b>Dr. Priyanka Sharma</b> <i>In vitro</i> culture study and phytochemical analysis of <i>Crataeva tapia</i> Linn. sp. <i>odora</i> (Jacob.) Almeida (syn. <i>C. religiosa</i> var. <i>nurvula</i> Hook. f.)	2015	
2.	<b>Dr. Aqsa Ansari</b> Standardization of Unani Polyherbal Formulation for Vitiligo (Bars.)	2016	
3.	Ms. Kanchan Nene In vitro culture studies of Stevia rebaudiana Bertoni for production of steviol glycosides. (Ongoing)	Registered in 2013	
4.	Ms. Anuttara Shah Evaluation of nutritional content, <i>in vitro</i> studies and antioxidant properties of an important medicinal plant, <i>Moringa pterigosperma</i> Gaertn. (Ongoing)	Registered in 2013	
5.	Ms. Shraddha Vichare Phytochemical analysis, antioxidant activity and anti-obesity study of <i>Momordica dioica</i> Roxb. fruits. (Ongoing)	Registered in 2013	

6.	Mr. Yogesh Salavi Screening of Mangrove Plants for Medicinal Properties (Ongoing)	Registered in 2013	
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Ph.D. (Science) Degree in the subject of Biotechnology		
Name of Guide	Dr. Avinash Patil	

No.	Name Of Student	Year of Award	Photograph
1.	<b>Ms. Khyati Vadera</b> Screening of some Indian medicinal plants for anticancer activity	2017	
2.	Mr. Kishore Desai Characterization of <i>Mycobacterium</i> <i>tuberculosis</i> causing MDR-TB and XDR-TB through Genomic Studies. (Ongoing)	Registered in 2015	
3.	<b>Ms. Leena Koshti</b> <i>In vitro</i> culture studies of <i>Gymnema</i> <i>sylvestre</i> R. Br. for production of Gymnemic acid.	Registered in 2017	
4.	Ms. Priyanka Gupta Phytochemical Characterization and evaluation of <i>Careyaarborea</i> Roxb. for its antioxidant, antibacterial and <i>in vitro</i> anticancer studies.	Registered in 2017	

Ph.D. (Science) Degree in the subject of Biotechnology		
Name of Guide	Dr. (Mrs.) Geetha Unnikrishnan	

No.	Name Of Student	Year of Award	Photograph
1.	<b>Dr. (Mrs.) Sonali ZankarPatil</b> Thermophiles And Bioremediation: The New Insights From Hot Water Springs	2016	- (Mrs. I Sonali Z. Patia
2.	<b>Dr. (Mrs.) Anju R Unnithan</b> A Phytolarvicide Against Aedesaegypti,an edge over Dengue Fever: An Eco-Friendly Approach	2016	

Name of Investigator	Title of project	Amount Sanctioned
<ul> <li>PI-Dr. Naresh Chandra</li> <li>Completed</li> <li>PI-Dr. Anita Phatak and</li> <li>Co PI-</li> <li>Dr. Avinash Patil</li> <li>Completed</li> </ul>	<i>"In vitro</i> culture studies of <i>Lawsonia inermis</i> L. for generating coloured callus for the mass production of herbal hair dye and coloured streaks." <i>"Phytochemical analysis and Pharmacological evaluation of</i> <i>Averrhoa carambola</i> L., <i>Lagenaria vulgaris</i> Ser. and <i>Curculigo orchiodis</i> Gaertn. with reference to antidiabetic and antihyperlipaemic	Sanctioned by UGC Rs. 8.74 Lac Sanctioned by UGC Rs. 10.54 Lac
PI-Dr. Naresh Chandra Co PI- Dr. Anita Phatak, Dr. Avinash Patil, Dr. Darshana Patil)	properties." "Evaluation of some Indian Medicinal Plants for Anticancer properties"	Sanctioned by NMPB, Dept. of AYUSH <b>Rs. 23.00 Lacin</b> <b>2012</b>
PI- Dr. Avinash Patil PI-Dr. Meeta Bhot	Industrial Research Project from Pepsico India Holdings Pvt. Ltd. "Comparative study of few Indian <i>Cassia sp</i> . For its Anticancer Properties"	Sanctioned amount of Rs. 9.54 Lac in 2012 Sanctioned by UGC Rs. 10.20 Lac in 2013

## List of Major Research Projects

# List of Minor Research Projects

Name of Investigators	Title of project	Amount Sanctioned	Year
PI -Dr. Anita Phatak	Standardization of protocol for Micropropagation of <i>Gerbera</i>	Sanctioned by UGC <b>Rs.90,000/-</b>	2004-05
PI- Dr. Jossy	Phytochemical analysis	Sanctioned by UGC	2000-01
Varghese	of <i>Helicteris isora</i> L.	<b>Rs. 45,000/-</b>	
PI- Dr. Avinash	In vitro studies of	Sanctioned by UGC	2003-04
Patil	Jasminum sambac Ait	<b>Rs. 45,000/-</b>	

			1
PI- Mr. Suhas Karvekar	Oyster Mushroom Cultivation (Plurotus sajorcaju) as a Waste Management Tool in Urban and Semiurban Cities.	Sanctioned by UGC 45,000/-	2003-04
PI- Dr. Darshana Patil	<i>In vitro</i> culture studies of <i>Cardiospermum</i> <i>halicacabum</i> L.	Sanctioned by UGC Rs. 1.00 Lac	2009-10
PI- Dr. Jossy Varghese	"Study of pesticide degrading bacteria from soil"	Sanctioned by UGC Rs. 1.50 Lac	2011-12
PI- Dr. Meeta Bhot	Micropropagation of some croton varieties	Sanctioned by UGC <b>Rs. 45,000/-</b>	2000-01
PI- Dr. Meeta Bhot	Bioremediation of Heavy Metals"	Sanctioned by University of Mumbai <b>Rs.27,400</b>	2012-13
PI- Dr. Avinash Patil	'Determination of glycoside content in leaves of <i>Stevia</i> <i>rebaudiana</i> Bertoni by analytical methods'	Sanctioned by University of Mumbai <b>Rs. 20,000/-</b>	2013-14
PI- Dr. Avinash Patil	'In vitro studies of Averrhoa bilimbi L.'	Sanctioned by UGC. (Rs. 1,00,000/-)	
PI- Dr. Annika Gupta	Effect of heavy metals on microorganisms by FTIR analysis.	Sanctioned by University of Mumbai <b>Rs. 45,000/-</b>	2016-17

#### LIST OF PUBLICATIONS

- Anushi Jain, Aachal Jain, Vandana Mudaliyar, Annika Durve-Gupta, (2017). Isolation, Characterization and Application of Endophytic Bacteria isolated from Medicinal plants. International research journal of natural and applied sciences, 4(8):4-20 (Impact Factor: 5.46).
- Pratik Gosavi, Yogita Chaudhary and Annika Durve-Gupta, (2017). Production of biofuel from fruits and vegetable wastes. European Journal of Biotechnology and Bioscience. 5(3): 69-73 (Impact Factor : RJIF 5.44).
- Tejas Suryawanshi, Vineetha Nair, Pratima Patel and Annika Durve-Gupta, (2017). Extraction of cellulose and biofuel production from groundnut shells and its application to increase crop yield, World Journal of Pharmacy and Pharmaceutical Sciences. 6(6); 1820-1831. (SJIF Impact Factor 6.647).
- Darshana Patil, Avinash Patil, Swapnil Koli (2016). A review on Pharmacognosy, Phytochemistry, Pharmacology and HPTLC Fingerprint Profile of *Averrhoa bilimbi* L. Medicinal Plants – Phytochemistry, Pharmacology and Therapeutics; Volume 4: 223-232. Editors: V. K. Gupta *et al.* Published by Daya Publishing House a Division of Astral International Pvt. Ltd. New Delhi- 110002. (ISBN No: 978-93-5124-704-3)
- Ansari Aqsa, Darshana Patil and Avinash Patil (2016). Unani: An Approach to Holistic Medicine. Traditional and Folk Medicine: Recent Researches Volume 3: 313-321; Editor: V. K.Gupta; Published by Daya Publishing House a Division of Astral International Pvt. Ltd. New Delhi- 110002. (ISBN No: 978-93-5124-703-6)
- Hareeshma, S.; Poonia, A.A.; Varghese, J. and Shaikh, M. (2016). Pharmacognostic evaluation of *Khaya senegalensis* (Desr.) A. Juss. – A multipurpose tree species. Management Guru : Journal of Management Research. IV(4):273-277.[ISSN-2319-2429]
- Poonia, A.A.; Hareeshma, S. and Varghese, J. (2016). Pharmacognostical and phytochemical evaluation of leaf and stem of *Polyalthia longifolia* var angustifolia Thw. Management Guru : Journal of Management Research. IV(4):278-283.[ISSN-2319-2429]
- 8. Hareeshma, S. and Varghese J. (2016). Gas Chromatography Mass Spectrometry (GCMS) Analysis of Bioactive Compounds of *Khaya senegalensis* (Desr.) A. Juss.

Bionano Frontier. 9(2):232-235 [ISSN-0974-0678 (Impact Factor: 4.856, Naas Rating: 3.22]

- Sachin Lad and Jossy Varghese (2016). Comparative Biochemical evaluation of Leaf and Calli of *Calotropis gigantea* (L.) Dryand: A Natural Heavy Metal Accumulator. *Bionano Frontier*. 9(2):185-187. [ISSN-0974-0678 Impact Factor: 4.856, Naas Rating: 3.2]
- Sachin Lad and Jossy Varghese (2016). Establishment of an efficient protocol for callus culture of Castor (*Ricinus communis* L.): an oil medicinal plant. *Management Guru: Journal of Management Research*. IV(4): 163-168.[ISSN-2319-2429]
- Shaikh, M.; Hareeshma, S. and Varghese, J. (2016). Analysis of compound from Gmelina arborea Roxb. by gas chromatography mass spectroscopy (GCMS) analysis. Research dimension, multi disciplinary national research journal. II(5):291-294 [ISSN0976-8564].
- Abhishek Sharma, Meeta Bhot and Naresh Chandra. (2016). Gastroprotective effect of aqueous extract and mucilage from *Bryophyllum pinnatum* (Lam.) Kurz. Ancient Science of Life. 33(4):252-258.
- Abhishek Sharma and Naresh Chandra. (2016). Isolation and Antioxidant Activity of Caffeic Acid from Roots in Bryophyllum pinnatum(Lam.) Kurz. Asian Journal of Chemistry. 29(2): 267-270.
- 14. **Dhaliwal M.K.** and **Chandra N.** (2016). Isolation of carotenoids producing marine red yeast. *Indian Journal of Geo-Marine Science*, 45(8):1029-1034. NISCAIR publication.
- Bharati Devaguptapu, Naresh Chandra and Meeta Bhot (2016) Effect of Elicitors on the Iron and Calcium content of *in vitro* Potato (*Solanum tuberosum* L.) plantlets. *Imperial Journal of Interdisciplinary Research (IJIR)* Vol-2, Issue-11, ISSN: 2454-1362.
- Khyati Vadera and Avinash Patil (2016). *In vitro* Anticancer Activity of Selected Indian Medicinal Plants on Different Human Brest Cancer Cell Lines. *International Journal of Pharmaceutical Research and Bio-science* 5(6): 108-117. [ISSN-2277-8713 (Impact Factor: 5.567)].
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