

## Profile:



Dr. Indu Anna George  
Associate Professor and Head,  
Department of Life Sciences  
University of Mumbai  
Kalina Campus, Vidyanagari,  
Santacruz (E).  
Mumbai 400 098.

**RESEARCH DOMAIN:** Research areas encompass studies in Plant Biotechnology with a special focus on Plant Tissue Culture, Plant Molecular Biology, Secondary Metabolite Production and allied techniques. The plants examined are either rare or of horticultural/ medicinal or economic value. The focus of these studies is to reduce the depletion of the natural stands and yet provide continuous and reliable raw material for commercial success.

**TEACHING DOMAIN:** Teaching topics are related to Biotechnology. Areas of interest are Plant Development, Physiology, Plant Tissue Culture, Cell Biology and topics in Biochemistry.

### ACADEMIC RECORD:

Ph. D. (Life Sciences), University of Mumbai: April 1997.

Thesis title: *In vitro* studies on some Indian Medicinal Plants- Neem (*Azadirachta indica* A. Juss).

Guide: Prof. A. R. Kulkarni.

M. Sc. (Biotechnology), University of Poona: April 1989.

B. Sc. (Botany), University of Poona: April 1987

UGC-CSIR NET: Qualified UGC JRF/SRF 1989.

### CONTRIBUTION TO ADMINISTRATION AND ACADEMICS

#### IN LEADERSHIP/ GUIDING ROLES (SELECTED):

- Head, Department of Life Sciences, University of Mumbai. (2016 - )
- I/C Director, Western Regional Instrumentation Centre (WRIC); (2018 - )
- VC nominee for Board of Studies of Life Sciences: Ramnarain Ruia College, Sophia College and St. Xavier's College.
- Member Of Organizing Committees/ Coordinator: Conferences/ Symposia and Seminars

RESEARCH ACTIVITY AND STUDENTS GUIDED:

**M. Sc. By Research:**

#	Student Name	Thesis title	Year
1.	Mr. Nachiket Kashikar	<i>In vitro</i> studies of <i>Cissus quadrangularis</i> Linn.	2005
2.	Ms. Manisha Patil	Evaluation of antimicrobial activity of <i>Frerea indica</i> .	2008
3.	Ms. Luiza Lobo	Antimicrobial properties of <i>Hibiscus cannabinus</i> .	2009
4.	Ms. Meenu Dahiya	Isolation of antimicrobial compound(s) from <i>Cissus quadrangularis</i> . L.	2009
5.	Ms. Prajakta Parab	Secondary Metabolite production in <i>Bixa orellana</i> L tissue cultures.	2009
6.	Ms. Anjali Navgire	Plant Tissue Culture studies on <i>Hibiscus ablemoschus</i> .	2010

**Ph. D:**

#	Student Name	Thesis title	Year
1	Ms. Meenakshi K	Micropropagation, molecular profiling and Nanoparticle synthesis in <i>Amherstia nobilis</i> & <i>Barleria</i> Species	2018

INVITED TALKS:

#	Institution	Title of the Talk	Year
1	Biofacets: Intercollegiate Invited Talk – PTC at Patkar College. Jan 2105	Emerging Trends in Plant Tissue Culture	2015
2	Resource Person: Refresher Course in Biotechnology at Kalina	Advantage: Plant Tissue Culture	2017
4	International Conference on Trends in Plant Sciences and Agrobiotechnology at IIT Gawahati Fen 14th to 16th 2019.	Rooted in tradition.	2019
5	Resource person: Certificate Course; Khalsa College: 27th February 2020 14 h.	Conservation yet Harnessing the Potential of Medicinal Plants.	2020

RESEARCH GRANTS:

#	Title of the Project	Funding Agency	Amount	Year
1.	Encapsulation and cold storage response of <i>Abelmoschus moschatus</i> nodal segments.	University of Mumbai	22500.00	2010
2.	<i>In vitro</i> production and elicitation of fragrance	University of	40000.00	2018

	constituents from <i>Millingtonia hortensis</i> Linn	Mumbai		
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#### PATENTS:

#	Inventors	Title	Filed	Status & Date
1	Mansi Shah and Indu Anna George	A method of production of Natural pigments from <i>Cassia alata</i>	15/06/2018	Published 06/07/2018

#### PUBLICATIONS:

1. Indu A. George and A.R. Kulkarni (1997): Micropropagation of Neem- *Azadirachta indica* A Juss. *Annals of Forestry*. **5**(1): 50-54.
2. Kashikar N. D. and George I. (2006) Antimicrobial activity of *Cissus quadrangularis* L. *Indian Journal of Pharmaceutical Sciences*. **68**(2); 245- 247.
3. Prajakta S. Parab and Indu Anna George (2009): Miniaturization of bixin extraction protocol from *Bixa orellana* L. seeds. *Bionano Frontier* **2**(2);6-7
4. Anjali Navgire and Indu George (2010): Micropropagation from axenic seedlings of *Abelmoschus moschatus* Medic (Kasturi Bhendi). *Biosciences Biotechnology Research Asia*. **7**(1); 289-295. <http://www.biotech-asia.org/?p=9539>
5. Meenu Dahiya and Indu George (2012): Antimicrobial Principles from *Cissus quadrangularis*. *Bionano Frontier*. **5**(1); 49-53.
6. Ruchita Rane and Indu Anna George (2013): Encapsulation and cold storage study of *Abelmoschus moschatus* Medik nodal segments. In: Current Trends in Life Sciences; Lambert Academic Publishing, Germany; Eds.: U. S. Bagde *et al.*, 67- 74
7. Meenakshi K. and George Indu A. (2016): Green synthesis of silver nanoparticles using *Barleria cristata*. *Research Journal of Biotechnology*. **11**(9); 45 – 48.
8. Meenakshi K and Indu A. George (2016) Bioreduction of Copper Sulphate using *Amherstianobilis*. *Bionano Frontier* **9** (2); 289 - 291
9. Ruchita V. Rane and Indu A. George (2016) Salt Tolerance Study in *Abelmoschus moschatus* Medik L. *Bionano Frontier* **9** (2); 213 - 217
10. Meenakshi K., Suruchi Jamkhedkar and Indu Anna George (2016): Molecular profiling of some *Barleria* species using *rbcl*, *matK* gene sequences and RAPD markers. *Journal of Applied Horticulture* **18** (3), 203 -206.

11. Meenakshi, K., Salunkhe, P., Indu, A.G. (2018): Effect of silver nanoparticles synthesized using aqueous leaf extract of *Amherstia nobilis* on marine biofilms. *Plant Archives*. **18** (1); 251 – 255
12. Sonawane, V.R., George, I.A. (2018): The Toxicity of Mangosteen Rind Extracts on *Daphnia*. *International Research Journal of Pharmacy*. **9** (3); 103 – 104; <http://dx.doi.org/10.7897/2230-8407.09350>
13. Mansi R. Shah, Indu Anna George (2019): Increased biomass and pigment production from *Cassia alata* L. callus cultures and their potential as a textile dye. *Industrial Crops & Products*. **128**; 346–353; <https://doi.org/10.1016/j.indcrop.2018.11.018>
14. Mansi R. Shah, Indu Anna George (2020): Pigment elicitation and sun protection factor of callus induced from *Cassia tora* seedling explants. *Plant Cell, Tissue and Organ Culture*. **143** (1); 201 – 210. DOI 10.1007/s11240-020-01913-3

#### GENBANK SEQUENCE SUBMISSIONS:

#	Authors	Sequence description	Numbers	Year
1	Meenakshi K, Sureshkumar U., Rateesh R. And George I. A.	Molecular Identification of <i>Amherstia nobilis</i> . Definition: <i>Amherstia nobilis</i> maturase K (matK) gene, partial cds; chloroplast. (10 January 2013)	Accession No.: KC470024 to KC470025. [Total: 2]	2013
2	Meenakshi K, Sureshkumar U., Rateesh R. And George I. A.	Comparative Analysis of <i>Barleria</i> Species using <i>rbcL</i> and <i>matK</i> gene sequences. Partial cds., plastid.	Accession No: KF890169 to KF890176 [Total: 8]	2013