

CURRICULUM VITAE

Dr. ABDUL NAYEEM M.Sc., Ph.D.

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Academic Qualifications and Degrees:

[2009] Ph.D. in Botany (Plant Biotechnology), Karnataka University, Dharwad, India. (<http://www.kud.ac.in/>)

Title of the thesis: “*In vitro* androgenesis in *Cucumis* species”.

Research Advisor: Dr. H. Niranjana Murthy, Professor, Dept of Botany, Karnataka University, Dharwad, India.

[2003] M.Sc. in Biotechnology; Gulbarga University, Gulbarga, India. (<http://www.gulbargauniversity.kar.nic.in/>)

Title of dissertation: “Development of an immunodiagnostic protocol for *Colletotrichum falcatum* causing red rot disease in Sugarcane & *In vitro* regeneration of sugarcane variety CoC. 671”.

[2001] B. Sc. (Chemistry, Botany and Zoology), Veerashaiva College, Gulbarga University, India. (<http://www.veerashaivacollege.in/>).

Academic/Research Experience:

[Jan 2014—Till date] Dean – Research & Development, The Oxford College of Science, Bangalore, India.

[Oct 2012-Dec 2013] Associate Dean – Research & Development, The Oxford College of Science, Bangalore, India.

[Jan 2011 - Till date] Assistant Professor, Post Graduate department of Biotechnology, The Oxford College of Science, Bangalore, India. (http://www.theoxford.edu/college_of_science/biotechnology_faculty.htm)

[Jan 2009 - Dec 2010] Post Doctoral Research Associate; Indian Institute of Horticultural Research, Bangalore, India. (<http://www.iihr.res.in/>)

Title of the work: ‘Development of transgenic chilli for resistance to fungal diseases’.

Research Advisor: Dr. J. B. Mythili, Principal Scientist, Division of Biotechnology, Indian Institute of Horticultural Research (IIHR), Hessaraghatta, Bangalore-560089.

[July 2008 – Dec 2008] Senior Research Fellow, University of Agricultural Sciences, Dharwad, India. (www.uasd.edu/)

[Nov 2003 – June 2006] Junior Research Fellow, Karnataka University, Dharwad, India. (<http://www.kud.ac.in/>)

Achievements/Other information:

1. [2006] State Level Eligibility Test for Lecturers (SLET) in Biotechnology, conducted by University Grants Commission (UGC), New Delhi. (<http://www.ugc.ac.in/>).
2. [2003] Secured fourth rank in M.Sc. (Biotechnology), Gulbarga University, Gulbarga, India.
3. National Service Scheme (NSS): Worked as volunteer in National Service Scheme (NSS) during graduation from 1998-2000 sponsored by Gulbarga University, Gulbarga, India.

Brief summary of the Ph. D. work entitled “*In vitro* androgenesis in *Cucumis* species”.

The effect of genotype on embryogenesis and plant regeneration in anther cultures of fifteen cultivars of *Cucumis sativus* L. (Cucurbitaceae) has been studied. Genotype specificity was evident among cucumber cultivars. For induction of embryogenesis, anthers from buds pretreated and were cultured on culture medium containing sucrose supplemented with growth regulators. Induction of embryogenesis from cultured anthers varied with several genotypes of cucumber. Both direct as well as callus mediated embryogenesis was observed during the studies. For differentiation of embryos, embryogenic callus with globular embryos was subcultured. Addition of ABA significantly influenced embryo maturation and subsequent conversion to plantlets. In all the treatments, cv. Himangi showed highest response followed by Green Long, Calypso and others. Cytological analysis of the root tips of regenerated plants showed haploid number of chromosomes.

For the induction of embryogenesis in cultured anthers of muskmelon, two cvs. NS 7455 and Sona were used. The anthers were cultured on culture medium supplemented with sucrose supplemented with growth regulators individually at different concentrations. Only callus mediated embryogenesis was observed. In the experiments with combination of auxin and cytokinins, addition of low concentration of cytokinin to auxin containing medium increased the embryo yield significantly. Anthers of cvs. NS 7455 and Sona gave highest response. Cold pretreatment of flower buds significantly increased the embryo production in both the cultivars. Among different sugars supplemented to medium, highest

embryogenesis was observed in sucrose containing medium for both cvs. NS 7455 and Sona.

Brief summary of the DBT-Post Doctoral Research Associate Program:

During the DBT-Post Doctoral research Associate (DBT-PDF Program) tenure under the supervision of Dr. J. B. Mythili, Principal Scientist, Division of Biotechnology, Indian Institute of Horticultural Research (IIHR), Hessaraghatta, Bangalore-560089, the title of the research was “Development of transgenic chilli for resistance to fungal diseases”.

Some specific objectives were:

1. Development of efficient regeneration and transformation system in chilli.
2. To generate transformed plants of chilli through Agrobacterium mediated transformation with *Trichoderma harzianum* chitinase gene.
3. Molecular analysis of transformants generated by PCR, Dot Blot and Southern Blot analysis.

After transformation studies, totally eight putative transformants were obtained. The putative transformants were screened for gene integration by PCR, restriction digestion, Dot Blot and Southern Blot analysis.

Isolation and cloning of NPR gene

Simultaneously I have carried out isolation and cloning of NPR gene from *Arabidopsis thaliana* which induces systemic acquired resistance in plants. During this work, I was regularly doing genomic DNA, Plasmid DNA and RNA isolation, PCR, RT-PCR for cDNA synthesis, ligation, bacterial transformation and vector construction methodologies. I have successfully isolated and cloned the *NPR1* gene. The nucleotide sequences were deposited to NCBI database.

Publications in Scientific Journals:

1. JB Mythili, PR Rajeev, G Vinay & A Nayeem: Synergistic effect of silver nitrate and coconut water on shoot differentiation and plant regeneration from cultured cotyledons of *Capsicum annum* L. *Indian Journal of Experimental Biology*, Vol. 55, (2017), 184-190. [Impact factor: 1.165 (JCR)]
2. Pethani Savaji, Savaliya Navanit and Abdul Nayeem (2014): Phytochemical Extraction and Antibacterial Studies of *Caesalpinia bonducella* Seed Extracts. *Mapana J Sci*, 13, 4 (2014), 47-54.
3. Praveen N, Poornananda M Naik and Abdul Nayeem (2014): Polyphenol Composition and Antioxidant Activity of *Andrographis paniculata* L. Nees. *Mapana J Sci*, 13,4 (2014), 33-46.
4. Abdul Nayeem, Rashmi M. Panchaksharadhyia. and Vedamurthy A. Basappa (2013): *In vitro* plant regeneration using adventitious roots as explants in *Tylophora indica*. *Asian Journal of Plant Science and Research*, 2014, 4(1):15-18
5. Rashmi, M. P., Vinaya,M., Vedamurthy,A. B.And Nayeem, A.(2013): Effectiveness of auxins in inducing *in vitro* adventitious root formation in

Tylophora indica (Burm. F.) Merrill, *Journal of Cell And Tissue Research* Vol. 12(3). [Impact factor: 4.7 (NAAS)]

6. Ill-Min Chung, Ateeque Ahmad, Eun-Hye Kim, Seung-Hyun Kim, Woo-Suk Jung, Jin-Hoi Kim, Abdul Nayeem, and Praveen Nagella: Immunotoxicity activity from the essential oils of coriander (*Coriandrum sativum*) seeds (2012). *Immunopharmacology and Immunotoxicology*. (Impact factor: 1.356)
7. P.A. Sangannavar, P. M. Hegde, V. M. Choudki, S. G. Savita, G. L. Vanti, S. Barkeer, Abdul Nayeem, H. M. Vamadevaiah, B. Khadi and I. S. Katageri: *In vitro* and *in vivo* studies on induction of multiple shoots and regeneration in cotton (*G. arboreum* l. and *G. barbadense* l.) (2012). *Journal of Cell and Tissue Research* vol. 12(1) 3069-3074. [Impact factor: 4.7 (NAAS)]
8. N. Praveen, S.H. Manohar, P.M. Naik, A. Nayeem, J.H. Jeong, and H.N. Murthy: Production of andrographolide from adventitious root suspension cultures of *Andrographis paniculata*. (2009). *Current Science*. Vol. 96, NO. 5: pp 694-697. (Impact factor: 0.935)
9. N. Praveen, S.H. Manohar, P.M. Naik, A. Nayeem, and H.N. Murthy: In vitro regeneration of Brahmi shoots using semisolid and liquid cultures and Quantitative Analysis of Bacoside A. (2009). *Acta Physiologiae Plantarum* Vol. 31: pp 723-728. (Impact factor: 1.305)
10. B.R. Patil, B.M. Khadi, S.K. Deshpande, Rajesh Patil, Kavita Patil and Abdul Nayeem: Research strategies for increasing oil content in cotton – Conventional and Molecular approaches (2009). *Journal of Oil Seed Research*, Vol. 26. pp. 249-251. (NAAS Impact factor: 3.97)
11. L.V. Hiregoudar, H.N. Murthy, J.G. Bhat, A. Nayeem, B.P. Hema, E.J. Hahn and K.Y. Paek: Rapid clonal propagation of *Vitex trifolia* (2006): *Biologia Plantarum* 50 (2): pp 291-294. (Impact Factor: 1.692)

Papers presented in conferences

1. Abdul Nayeem, Atul Chandra, Ganesha R, Dhondup Namgyal, and Kiran Kumar S: Production and optimization of Cellulase enzyme by *Aspergillus niger* using pineapple peel as substrate at Jnanarjana 2K14, 6th National Science Conference on “Beyond the frontiers in Science & Technology” on 27-28th March 2014 at The Oxford College of Science, Bangalore.

Book Chapter:

1. B.R. Patil, B.M. Khadi, I.S. Katageri and Abdul Nayeem: Molecular farming- Cotton transgenics with improved fiber strength using cellulose synthase genes from Arabidopsis. In: *Lecture notes for winter school* on research and development needs in transgenic farming era. Sponsored by Indian Council for Agricultural Research and Published by *University of Agricultural sciences, Dharwad*. (2008) pp. 184-186.

Nucleotide sequences submitted to NCBI database:

1. Capsicum annum cultivar G4 polygalacturonase-inhibiting proteins (PGIP) mRNA, complete cds. Accession No.: HM132879

2. Arabidopsis thaliana non-expressor of PR1 (NPR1) mRNA, complete cds.
Accession No.: HQ845963

Publications Cited in SCOPUS

Abdul Nayeem

Karnatak University India, Department of Botany, Dharwad, India

Author ID: 11440554100

Documents: 3

Citations: 47 total citations by 46 documents

h-index: 3

Co-authors: 10

Subject area: Agricultural and Biological Sciences, Molecular Biology

SCOPUS EXPORT DATE: 07 Apr 2015

1. Praveen, N., Naik, P.M., Manohar, S.H., **Nayeem, A.**, Murthy, H.N.
In vitro regeneration of brahmi shoots using semisolid and liquid cultures and quantitative analysis of bacoside A
(2009) Acta Physiologiae Plantarum, 31 (4), pp. 723-728. Cited 15 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0->

DOCUMENT TYPE: Article

SOURCE: Scopus

2. Praveen, N., Manohar, S.H., Naik, P.M., **Nayeem, A.**, Jeong, J.H., Murthy, H.N.
Production of andrographolide from adventitious root cultures of *Andrographis paniculata*
(2009) Current Science, 96 (5), pp. 694-697. Cited 11 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0->

DOCUMENT TYPE: Article

SOURCE: Scopus

3. Hiregoudar, L.V., Murthy, H.N., Bhat, J.G., **Nayeem, A.**, Hema, B.P., Hahn, E.J., Paek, K.Y.
Rapid clonal propagation of *Vitex trifolia*
(2006) Biologia Plantarum, 50 (2), pp. 291-294. Cited 21 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0->

DOCUMENT TYPE: Article

SOURCE: Scopus

Poster Presentations in National and international Conferences:

1. A Poster presentation on “Phytochemical extraction, qualitative analysis, antimicrobial and anticancer studies of *Centella asiatica*” in 7th Annual KSTA National Conference - Science, Technology & Productization – A means for Growth on 5-6 February 2015 at The Oxford College of Science, Bangalore.
2. A Poster presentation on “Studying the role of TLRS - mediated responses and characterization of oral biofilm in healthy and inflamed oral samples” in 7th Annual KSTA National Conference - Science, Technology & Productization – A means for Growth on 5-6 February 2015 at The Oxford College of Science, Bangalore.
3. A Poster presentation on ‘Studies on amylase production from *Aspergillus oryzae* by solid-state fermentation’ in 6th National conference on “Beyond the frontiers in Science & Technology” on 27-28th March 2014 at The Oxford College of Science, Bangalore.
4. A Poster presentation on ‘Antibacterial studies of *Caesalpinia bonducella* seed extracts’ in 6th National conference on “Beyond the frontiers in Science & Technology” on 27-28th March 2014 at The Oxford College of Science, Bangalore.
5. A Poster presentation on ‘Biosorption of zinc by heavy metal resistant fungi isolated from Bellandur lake’ in 6th National conference on “Beyond the frontiers in Science & Technology” on 27-28th March 2014 at The Oxford College of Science, Bangalore.
6. A Poster presentation on ‘*In Vitro* Induction of Adventitious Roots in *Tylophora indica*’ in National conference on ‘Biotechnological approaches in medicinal and aromatic plants’ organized by Maharani’s Science College, Bangalore, India; March 2013.
7. A Poster presentation on ‘*In Vitro* Plant Regeneration Using Adventitious Roots as Explants in *Tylophora Indica*’ in National conference on ‘Biotechnological approaches in medicinal and aromatic plants’ organized by Maharani’s Science College, Bangalore, India; March 2013.
8. A Poster presentation on “*Tylophora indica* – Natural medicine as antidote, a review” in National conference on ‘Bioactive compounds and Therapeutics’ organized by The Oxford college of Science, Bangalore, India; February 2012.
9. A Poster presentation on “*Lantana camara* - A multipurpose medicinal plant, a review” in National conference on ‘Bioactive compounds and Therapeutics’ organized by The Oxford college of Science, Bangalore, India; February 2012.
10. A Poster presentation on “Prominence of Production management in Pharmaceutical companies” at International Conference on “Managerial Challenges In Contemporary Business” organized by The Oxford College of Business management, Bangalore.

11. A Poster presentation on 'Effect of genotype on embryogenesis and plant regeneration in anther culture of cucumber' in National Symposium on 'Plant propagation, Conservation, modification and characterization' organized by Plant Tissue Culture Association of India (PCTA) at Institute of Himalayan Bioresource Technology (IHBT, CSIR) Palampur, India; April 2009.
12. A Poster presentation on 'Production of andrographolide from adventitious root suspension cultures of *Andrographis paniculata*' at 2nd National Conference on Biotechnology for Industrial and Rural Development (NCBIRD 2008), Organized by P.G. Dept. of studies in Biotechnology, Gulbarga University, Gulbarga, on 17th to 19th January 2008. (II prize)
13. A Poster presentation on 'In vitro regeneration of Brahmi on solid and liquid medium and analysis for Bacoside A' at 2nd National Conference on Biotechnology for Industrial and Rural Development (NCBIRD 2008), Organized by P.G. Dept. of studies in Biotechnology, Gulbarga University, Gulbarga, on 17th to 19th January 2008.
14. A Poster presentation on 'Rapid clonal propagation of *Vitex trifolia*, a medicinal plant'; ICAR national symposium on "Biotechnological Interventions in improvement of Horticultural Crops"; Kerala Agricultural University, Thrissur, Kerala. India; January 2005.

National and international Conferences attended:

1. 7th Annual KSTA National Conference - Science, Technology & Productization – A means for Growth on 5-6 February 2015 at The Oxford College of Science, Bangalore.
2. National conference on 'Biotechnological approaches in medicinal and aromatic plants' organized by Maharani's Science College, Bangalore, India; March 2013.
3. National conference on 'Bioactive compounds and Therapeutics' organized by The Oxford college of Science, Bangalore, India; 27-28, February 2012.
4. 5th Annual KSTA Conference on 'Science and Technology for societal Transformation' organised by Karnataka Science and Technology Academy, December 2012
5. International Conference on "Managerial Challenges In Contemporary Business" organized by The Oxford College of Business management, Bangalore, 2012.
6. National Symposium on 'Plant propagation, Conservation, modification and characterization' organized by Plant Tissue Culture Association of India (PCTA) at Institute of Himalayan Bioresource Technology (IHBT, CSIR) Palampur, India; April 2009.
7. 2nd National Conference on Biotechnology for Industrial and Rural Development (NCBIRD 2008), Organized by P.G. Dept. of studies in

Biotechnology, Gulbarga University, Gulbarga, on 17th to 19th January 2008.

8. “Biodiversity and Conservation of angiosperms with special reference to endangered, endemic and medicinal plants” held at JSS College, Dharwad on 23rd and 24th March 2007.
9. ICAR national symposium on “Biotechnological Interventions in improvement of Horticultural Crops”; Kerala Agricultural University, Thrissur, Kerala. India; January 2005.
10. “International Conference on Agri-Biotechnology” held at University of Agricultural Sciences, Dharwad, Karnataka, India on 15th and 16th December 2004.

Trainings/Workshops attended:

1. A workshop on ‘NMR Bench top Spectrometer’ sponsored by Cole-Parmer India, held at The Oxford college of Science, Bangalore, India; 10th November, 2011.
2. Attended 3 days training in molecular genetics and immunology at Bangalore Genei Pvt. Ltd., Bangalore, India.
3. Attended 22 days summer school training program in Applied Human Genetics at Hospital for Genetic Diseases, Osmania University, Hyderabad, India.

Faculty development programme attended:

1. Faculty Development Program ‘Bio Pharma Industry’ by Biocon Academy from 3rd July to 14th July, 2017.
2. Faculty Development Program on ‘Immuno Molecular Diagnostics’ sponsored by Vision Group on Science and Technology. Government of Karnataka at The Oxford College of Science, Bangalore; 22-25 January, 2013
3. Faculty development programme on effective implementation of problem based on Mentoring Skills at The Oxford College of Science, Bangalore. on 8th Jan 2011.
4. Faculty development programme on resurrecting the vanishing art of lecturing At The Oxford College of Science, Bangalore. on 29th Jan 2011.

Lecture series attended:

1. Lecture series on ‘Advanced Biotechnology’ organised by The Oxford college of Science, Bangalore, India; 19th October, 2011.
2. Academies’ lecture workshop on ‘Biotechnological aspects of environmental degradation & protection’ sponsored by The Indian Academy of Sciences, held at The Oxford college of Science, Bangalore, India; 13-14, October, 2011.

Details of externally funded Project (CISEE Project):

Title of the Project: “Micropropagation and Pharmacological studies in *Alstonia Scholaris*, a medicinal plant”.

Designation: Coordinator

Funding agency: Vision Group on Science and Technology (VGST), Govt. of Karnataka, under CISEE Program for a period of 3 years in 2011-12.

Amount: 30 Lakhs.

Student Project Guided:

1. Phytochemical extraction and pharmacological studies in *Basil* seeds.
2. Phytochemical extraction and anti bacterial studies of *Citrus* leaf extracts
3. Production of alpha amylase by Solid state fermentation
4. Lead and Zinc Biosorption of heavy metal by micro organism
5. Phytochemical extraction, analysis, antimicrobial and anticancer activities of *Centella asiatica*.
6. Genetic diversity studies in tomato using molecular markers.
7. Induction of adventitious roots from leaf explants of *Tylophora indica*, a medicinal plant.
8. *In vitro* plant regeneration using adventitious roots as explants in *Tylophora indica*, a medicinal plant.
9. Studies on *Cellulase* Production in some fungi using pineapple waste.
10. Antibacterial activity studies of *Caesalpinia bonducella* seed extract.

Personal information:

Father's Name : Makhadum Hussain N

Date of Birth : 05-06-1979

Nationality : Indian

Gender : Male

Marital Status : Married

Religion : Islam

References:

1. Dr. H. Niranjana Murthy

Professor, P.G. Department of Botany
Karnatak University, Dharwad-580 003
Karnataka, India
E-mail: nmurthy60@yahoo.co.in
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3. Dr. J. B. Mythili

Principal Scientist
Division of Biotechnology,
Indian Institute of Horticultural Research (IIHR)
Hessaraghatta Lake Popst, Bangalore – 560 089
Karnataka, India.

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I hereby declare that all statements made in this application are true, complete and correct to the best of my knowledge and belief.

(Dr. Abdul Nayeem)