

## NAYANA JOSE C

### Personal Information:

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Sex : Female

Nationality : Indian

Date of birth : May 31 , 1976

Marital status : Married

### Education

**Ph.D.** 1999-2005 Biochemistry Amala Cancer Research Centre, Mahatma Gandhi University, Kerala, India. Advisor: Professor Dr.K.K. Janardhanan. Ph.D

**MSc.** 1998 University of Kerala, Kerala, India. In (Biochemistry) grade: First class.

**BSc.** 1996 Calicut University, Kerala, India. In (Chemistry) grade: First class

### MS Project

Hepatoprotective effect of *Boerhaavia diffusa* on ethanol fed rats

### Research/ Teaching Experience

- 1999 January-2003February March Full time Research Scholar In Amala Cancer Research Centre
- 2003March-2005March Part time research scholar In Amala Cancer Research Centre

- 2003 March - 2004 November As a teaching assistant at College of Veterinary & Animal Sciences Mannuthy, Thrissur
- 2004 November - 2005 October As a teaching assistant at College of Fisheries , Panangad, Cochin, Kerala India
- **2008 September – 2010 March As a post-doctoral fellow at Moodak Lab, Department of Surgery Columbia University, New York, with a focus in botanical infection control**
- 2011 January - present Lecturer in The Cochin College
- **2019 December- 2020 June As Associate Research Scientist in Infection control Laboratory, Department of Surgery, Columbia University, New York**

Use of multiple animal models especially mice and rats.

Expertise in the induction of tumors in animals and study anti tumor activities.

Experience in dissection, various methods of blood collection and handling of laboratory animals.

Enzyme assays: Spectrophotometric. Spectrometric assays of antioxidant enzymes, liver injury markers etc

Microbiology techniques – sterilization, antimicrobial testing, Bacterial Mutagenesis work, mycelium culture, FDA (USA) approved antimicrobial testings, etc

Biotechnology works – Tissue culture

Ability to write publications and scientific reports

Strong skills in public speaking, conducting platform presentations.

**Ph.D thesis (1999- 2005):**

The antioxidant and antitumor activities of Oyster mushrooms *Pleurotus species* (Biochemistry)

The antioxidant and antitumor activities of *Pleurotus florida* and *Pleurotus sajorcaju* were studied. Antitumor activities were studied using Ehrlich's ascites carcinoma (EAC) and Dalton's lymphoma ascites cells. Both solid and ascites tumor models were studied. Anticarcinogenic activity of both these mushrooms were determined by using the carcinogen 7,12 Dimethyl benzantracene. The nephroprotection , study against Cisplatin and hepatoprotective study against CCl<sub>4</sub> and anti-inflammatory activities using carrageenan induced acute paw edema and formalin induced chronic paw inflammation and Tetra decanoyl phorbol 13 acetate induced skin edema of *Pleurotus florida* and

*Pleurotus sajorcaju* were also done in animals. Biochemical parameters in kidney, liver and serum and histopathological examinations were done. Antiplatelet aggregating activities of both these mushrooms were studied.

### **Assisted MS project works:**

1. Evaluation of hepatoprotective effect of Oyster mushroom in paracetamol treated mice (Bharathiar University, TamilNadu, India)

2. A study on the edible mushroom and evaluation of antitumor, antioxidant, cytotoxic *Pleurotus eous* (Bharathiar University, TamilNadu, India)

### **Papers/Posters presented in Scientific meetings:**

- Paper presented on the 13<sup>th</sup> Annual Conference and International symposium on preventive cardiology 2000 held at Jaipur, India
- Poster presented on the the XIXth Annual Convention and National Symposium on Biology of cancer held at Kerala
- Poster presented on the 41<sup>st</sup> Annual conference of association of microbiologists of India held at Jaipur, India

### **Seminars attended**

- National conference on Molecular Diagnostics 1998 held at Thiruvananthapuram , Kerala
- National seminar on HIV Infection and Aids 2002 held at Thrissur, Kerala
- International Conference on Ethnopharmacology and Alternative Medicine, 2006 held at Thrissur, Kerala
- International Conference on Sustainable Agriculture 2008 Held at Kottayam, Kerala
- National seminar on Role of Biochemistry and Biotechnology in Prevention and Management of life style disorders, 2013 held at Palai, Kottayam
- National seminar on Basic and advanced Biochemical Techniques Relevance in interdisciplinary Research Scenario 2013, B.K College Amalagiri
- National seminar on Food, environmental and Medical toxicology 2014, The Cochin College, Kochi
- National Seminar on Institutional Development Plan for Quality Improvement 2015, The Cochin College, Kochi
- Workshop on Restructuring the Curriculum and syllabus of the undergraduate programme in Biochemistry 2017, MG University, kottayam
- National workshop on Research Reporting and managing citing Reference Resources with Zotero 2015 The Cochin College, Kochi
- International Conference on Traditional and Alternative medicine 2017, St. Thomas College, Pala

## **Papers published:**

- 1) **Nayana Jose** and K.K.Janardhanan (2000) Antioxidant and antitumor activity of *Pleurotus florida*, *Current Science* 79: 941-943
- 2) **Nayana Jose** T.A.Ajith and K.K.Janardhanan (2002) Antioxidant Antiinflammatory and Antitumor activities of culinary Medicinal mushroom *Pleurotus pulmonarius* ( Fr.) Quel. (Agaricomycetidae).. *International Journal of Medicinal mushrooms* 4:329-335
- 3) T.A. Ajith, **Nayana Jose**, and K.K.Janardhanan (2002) Amelioration of cisplatin induced nephrotoxicity in mice by Ethyl Acetate extract of a polyporous fungus *Phellinus rimosus* *Journal of Experimental clinical and Cancer research* 21:2.213-217
- 4) **Nayana Jose**, T.A. Ajith and K.K.Janardhanan (2001) Antioxidant, Antiinflammatory and Antitumor activities of *Pleurotus sajor-caju* (Fr.) Sing. *International Journal of Medicinal mushrooms* 3:166
- 5) **Nayana Jose**, T.A. Ajith and K.K.Janardhanan (2004) Antiinflammatory and antiplatelet aggregating activity of an oyster mushroom *Pleurotus florida*. *Phytotherapia Research* 18:43-46
- 6) **Nayana Jose**, T.A. Ajith and K.K.Janardhanan (2004) Oyster mushroom extract protects antioxidant defense system in cisplatin induced nephrotoxicity in mice *Oriental Pharmacy and Experimental Medicine* 4(1): 22-27
- 7) Bhaskaran Lakshmi, **Nayana Jose**, T.A. Ajith and K.K.Janardhanan (2004) Antimutagenic activity of methanolic extract of culinary- Medicinal Oyster mushroom, *Pleurotus ostreatus* (Jacq.: Fr.) Kumm (Strain florida Eger nom.nud.) and its protective effect against Benzo[a]Pyrene induced Hepatic damages *International Journal of Medicinal mushrooms* 6:139-149
- 8) B. Lakshmi, T.A. Ajith, **Nayana Jose** and K.K. Janardhanan (2006) Antimutagenic activity of methanolic extract of *Ganoderma lucidum* and its effect on hepatic damage caused by benzo[a]pyrene *Journal of Ethnopharmacology* 107 (2): 297-303
- 9) **Nayana Baiju** And S.M Modak (2007) Broad spectrum disinfectant composition containing a synergistic composition of cinnamon oil and citric acid *International Journal of Essential Oil Therapeutics* 1: 117-121
- 10) H. Ramachandran, **N. Baiju**, S. H. Dongre, S. M. Modak (2010) Efficacy of synergistic combination of botanicals as broad spectrum preservatives in personal and health care products *International Journal of Essential Oil Therapeutics* 4, 124-131

### **Awards and honors:**

Recipient of Fr. Gabriel Award for the best paper published in Amala Research Bulletin (2002).

### **Patents Awarded**

- 1. Skin and Surface Disinfectant Compositions Containing Botanicals**  
Shanta M. Modak, **Nayana Baiju**, Lausepina Caraos. Patent No US 9,511,040 B2  
Dec 6, 2016
- 2. Broad spectrum natural preservative Composition** Shanta M. Modak, Santhosh Kumar Dongre, **Nayana Baiju**, Lausepina Caraos. Patent No 9,497, 975 B2 , Nov 22, 2016
- 3. Botanical Antimicrobial Compositions** Shanta M. Modak, Santhosh Kumar Dongre, **Nayana Baiju**, Lausepina Caraos. Harikrishnan Ramachandran Patent No 9,968101 B2 , May 15, 2018
- 4. Biofilm Resistant Surfaces** Shanta M. Modak, Arnab kumar Ghosh Santhosh Kumar Dongre, Ronald Citron , **Nayana Baiju**, Patent No 9,981,069 B2, May 29, 2018
- 5. Skin and Surface Disinfectant Compositions Containing Botanicals** Shanta M. Modak, **Nayana Baiju**, Lausepina Caraos. Patent No. 10,542,760 Jan 28, 2020
- 6. Antimicrobial compositions containing low concentrations of Botanicals**  
Shanta M. Modak, **Nayana Baiju**, Lausepina Caraos. Patent No. 9687429 June 27, 2017

