



3/11/16

UNIVERSITY GRANTS COMMISSION-SOUTH EASTERN REGIONAL OFFICE
A.P.S.F.C. Building (4th Floor) 5-9-194, P.B. No.152, Chirag-Ali-Lane HYDERABAD- 500 001
Ph: 040-23204735; Fax: 040-23204734 Email: ugcsero@gmail.com

F.NO:4-4/2015-16(MRP /UGC-SERO)

October, 2016

MOST URGENT

The Principal
Stella Maris College
CHENNAI 600086.

PROPOSAL NUMBER : 997.

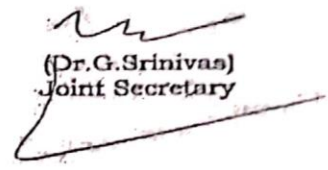
Sir/ Madam,

This has reference to the Minor Research Project titled Combating the Alzheimer's disease through Gold Nanoparticles using extracts of Vitex negundo submitted by E.Nandha Devi, Department of Bioinformatics of your college. In this regard I am to inform you that the UGC has provisionally considered the proposal for financial assistance to the tenure of Rs. 180000.. In case the Principal Investigator is interested in undertaking the project, the **enclosed Acceptance Certificate** may be filled in all respect and sent to this office immediately through **email:mrpugcsero@gmail.com**.

The proposal number mentioned above may be mentioned in the covering letter & in the Acceptance Certificate.

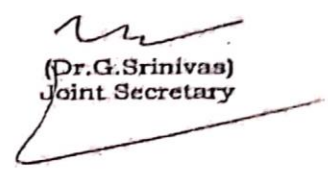
Encls: As mentioned

Yours faithfully


(Dr.G.Srinivas)
Joint Secretary

Copy to:

E.Nandha Devi
Department of Bioinformatics
Stella Maris College
CHENNAI 600086.


(Dr.G.Srinivas)
Joint Secretary

EXECUTIVE SUMMARY

Title of the project: Combating the Alzheimer's disease through Gold Nanoparticles using extracts of *Vitex negundo*

File No: F MRP-6976/16 (SERO/UGC) dated 3rd August 2017

In the Indian subcontinent many conventional medicinal herbs and plants are available bringing in a natural cure for many diseases. Cultures throughout the world have been using herbal and natural products of folk medicine to cure many diseases for centuries. Traditional medicinal plants are often economically favorable, locally available, and easily consumable substitutes for commercial medicines. The Polyphenol compounds exhibit a wide range of pharmacological activities such as antioxidant, antimicrobial, anti-inflammatory, neuro protective and anti-carcinogenic properties. However, there has been little research about their effects on cellular macromolecules. Despite the major advances in the modern medicine, the development of new drugs from natural products is still considered relevant. The valuation of plant products on the basis of medicinal and therapeutic properties forms a platform for the discovery of novel drug molecules from different plant sources. The integration of Ayurvedic wisdom with drug discovery also brings the need for a paradigm shift in the extraction process from sequential to parallel extraction. This integrated approach would lead to saving of cost and time, coupled with enhanced success rate in drug discovery.

In the present study the antioxidant properties of the *Vitex negundo* leaves extract shows a significant anti-oxidant property due to higher quantity of secondary metabolites in the DPPH radical scavenging activity, Hydrogen peroxide radical scavenging assay, and Nitric oxide radical scavenging assay. The *Vitex negundo* leaves extract also shows a considerable anti-microbial activity and anti-fungal activity against *Candida albicans*, *Aspergillus niger*, *Pseudomonas aeruginosa*, *Klebsiella oxytata*, *Bacillus subtilis* and *Staphylococcus aureus*. This study is critically relevant to understand the progression of these devastating diseases such as with the goal to discover a potential therapeutic target. This research work entails the extracts of *Vitex negundo* and leading to a possible and better solution for Alzheimer's disease. The presence of secondary metabolites in the extract of *Vitex negundo* leaves shows potential anti-oxidant activity as well as anti-microbial and anti-fungal properties. Further, the extract has to be subjected to GC-MS analysis, to identify the compounds present in the extracts. Additionally, the compounds have to be screened further to identify the higher binding affinity with the target protein by performing the computational docking analysis.

UC AND SOE OF UGC-MRP 2017-19

**CONSOLIDATED STATEMENT OF EXPENDITURE INCURRED ON THE MINOR
RESEARCH PROJECT (FOR THE ADMISSIBLE TENURE OF THE PROJECT):
FROM 01.04.2017 To 31.03.2019**

Name of the P.I. & Department: E. Nandha Devi, Department of Bioinformatics

Title of the Project: **Combating the Alzheimer's disease through Gold Nanoparticles using extracts of *Vitex negundo***

File No: F MRP-6976/16(SERO/UGC) dated 3rd August 2017

1. BOOKS & JOURNALS: NIL

2. EQUIPMENT: NIL

3. TRAVEL AND FIELDWORK (The PI has visited the following places for Data Collection only to carry out the Project):

| Sl. No. | Place visited | Mode of Travel | Voucher No. | Date of Travel | Amount (Rs./-) |
|-----------------------------------|------------------------------------|----------------|-------------|------------------------------|-----------------|
| 1. | Shenbaga forest area | Bus | Vr.1 | 25.08.2017 ✓ 27.08.2017 ✓ | 1342.00 ✓ |
| 2. | Shenbaga forest area | Bus | Vr.2 | 20.10.2017 22.10.2017 | 1798.00 ✓ |
| 3. | Bharathiyar University, Coimbatore | Train | Vr.3 | 09.11.2017 10.11.2017 | 630.00 ✓ |
| 4. | Bharathiyar University, Coimbatore | Train | Vr.5 | 13.12.2017 16.12.2017 | 630.00 ✓ |
| 5. | Chennai to Sivakasi | Bus | Vr.6 | 19.05.2018 | 800.00 ✓ |
| 6. | Sivakasi to Chennai Egmore | Train | Vr.7 | 25.05.2018 | 1235.00 ✓ |
| 7. | Chennai Central to Coimbatore | Train | Vr.8 | 24.07.2018 | 500.00 ✓ |
| 8. | Coimbatore to Chennai Central | Train | Vr.9 | 25.07.2018 | 500.00 ✓ |
| 9. | Chennai Central to Coimbatore | Train | Vr.10 | 24.09.2018 | 315.68 ✓ |
| 10. | Coimbatore to Chennai Central | Train | Vr.11 | 25.09.2018 | 315.68 ✓ |
| 11. | Chennai Central to Coimbatore | Train | Vr.12 | 13.12.2018 | 845.49 ✓ |
| 12. | Coimbatore to Chennai Central | Train | Vr.13 | 17.12.2018 | 315.00 ✓ |
| 13. | Chennai Central to Coimbatore | Train | Vr.14 | 20.02.2019 | 815.00 ✓ |
| 14. | Coimbatore to Chennai Central | Train | Vr.15 | 25.02.2019 | 815.49 ✓ |
| Travel and Fieldwork Total | | | | | 10857.00 |


4. CHEMICALS AND GLASSWARE:

| Sl. No. | Name of the Items Purchased | Bill No. | Date of Purchase | Amount (Rs./-) |
|--------------------------------------|-----------------------------|----------|------------------|------------------|
| 1. | Chemicals | 5163 | 08.02.2018 | 28688.00 |
| 2. | Interbioscreen-Chemicals | 31270 | 21.03.2019 | 66744.50 |
| 3. | Antioxidant chemicals | 3971 | 08.03.2019 | 19440.00 |
| 4. | Solvents and chemicals | 250 | 28.02.2019 | 6452.00 |
| 5. | Antimicrobial chemicals | 8319 | 09.03.2019 | 6594.00 |
| 6. | MTT assay chemicals | 8845 | 28.03.2019 | 13688.00 |
| 7. | Solvent | 8953 | 30.03.2019 | 843.00 |
| Chemicals and Glassware Total | | | | 142449.50 |

5. CONTINGENCY INCLUDING SPECIAL

| Sl. No. | Particulars | Bill No. | Date | Amount (Rs./-) |
|--|--------------------------|----------|------------|-----------------|
| 1. | Stationary | 010 | 21.09.2017 | 570.00 |
| 2. | International Conference | Vr.4 | 05.12.2017 | 2200.00 |
| 3. | GC-MS | 4152 | 15.03.2018 | 9000.00 |
| 4. | SEM | 3503 | 04.10.2018 | 4000.00 |
| 5. | GC-MS | 5009 | 10.12.2018 | 6750.00 |
| 6. | IR/HPLC | 5315 | 30.01.2019 | 1600.00 |
| 7. | Cell line | 613167 | 11.03.2019 | 4814.00 |
| Contingency Including Special Total | | | | 28934.00 |

All the Expenditure incurred is according to the Terms and Conditions laid down for Minor Research Project by the UGC


 SIGNATURE OF PRINCIPAL INVESTIGATOR
 HEAD. DEPT. OF BIOINFORMATICS
 STELLA MARIS COLLEGE (AUTONOMOUS).
 * 17, Cathedral Road, CHENNAI-600 086.


 SIGNATURE OF PRINCIPAL
 PRINCIPAL
 STELLA MARIS COLLEGE
 (AUTONOMOUS)
 17, Cathedral Road
 Chennai - 600 086

File No: F MRP-6976/16 (SERO/UGC) dated 3rd August 2017

Activities 2017-2019

Paper / Poster Presentations

| S. No. | College | Conference Topic | Paper/ Poster | Presentation Topic | Date |
|---------------|--|---|--------------------------|---|----------------------------|
| 1. | Dr. MGR Janaki College of Arts and Science for Women | International Conference on Molecular Signature - GenNxt | - | - | 13-14 September 2017 |
| 2. | IIT Chennai | International Conference on Biological Applications of Nanoparticles (ICON-BIO 2017) | Poster | Synthesis of gold nanoparticles from extracts of <i>Vitex negundo</i> | 4-5 December 2017 |
| 3. | Bharathiar University, Coimbatore | International Conference on Biosciences and Bioinformatics (ICBB 2017) | Paper | Identification of novel inhibitors for Glycogen Synthase Kinase-3 beta for the treatment of Alzheimer's disease | 14-16 December 2017 |

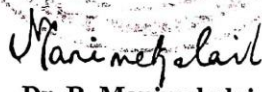
Dr. MGR JANAKI COLLEGE OF ARTS & SCIENCE FOR WOMEN
11 & 13, Durgabai Deshmuk Road, R.A.Puram, Chennai- 600 028.

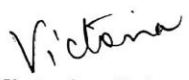
**Departments of Microbiology, Biochemistry and PG Departments of
Applied Microbiology and Bioinformatics & Clinical Trial Management**

This is to certify that E.NANDHA DEVI of STELLA MARIS
has participated/presented a Poster/paper titled _____

_____ at the International Conference on
"Molecular Signature - GenNext" held on 13th & 14th September 2017.


Dr. Latha Rajendran
Correspondent
Dr. MGR Janaki College


Dr. R. Manimekalai
Principal
Dr. MGR Janaki College


**Ms. Victoriya Salomi &
Dr. P. Sumithira**
Organizing Secretaries

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ICON-BIO 2017

Certificate of Presentation

INTERNATIONAL CONFERENCE ON BIOLOGICAL APPLICATIONS
OF NANOPARTICLES
(with special reference to magnetic nanoparticles)
(ICON-BIO 2017)

4th & 5th December 2017, IIT Chennai, INDIA

Hosted by :




This is to certify that

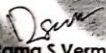
Mr. / Ms. / Dr. / Prof. Nandha Devi Elangovan, Stella Maris College


presented a Poster / Invited Talk / Oral Presentation in the

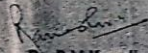
2017 International Conference on Biological Applications of Nanoparticles (ICON-BIO 2017)

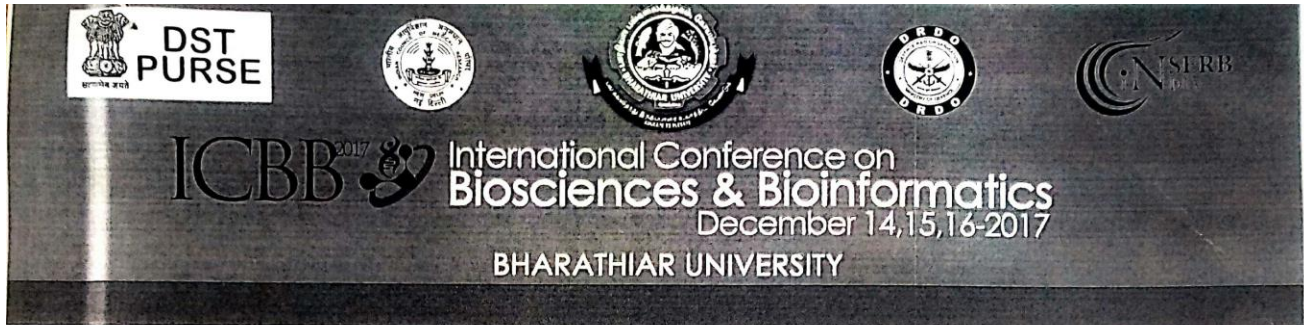
on December 4th and 5th, 2017 at IIT Chennai, INDIA.


Dr. C N Ramichand
CEO, MagGenome Technologies &
Saktin Lifesciences Pvt Ltd


Dr. Rama S Verma
Professor, IIT, Chennai


Dr. Peter Kopcansky
Director of Institute of Experimental Physics,
Slovak Academy of Sciences


Dr. R V Upadhyay
Dean, FOPAS, CHARUSAT



CERTIFICATE

This is to certify that Dr/Mr/Ms Nandha Devi Elangoran,
Stella Maris College has made an Invited Talk /
Oral/ Poster Presentation /Participated in the International Conference on " Biosciences &
Bioinformatics " organised by the Department of Biochemistry, Biotechnology, Microbial
Biotechnology and Bioinformatics, Bharathiar University, Coimbatore from 14th-16th December 2017.

N. Datta

CONVENOR

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P. Suresh

REGISTRAR

J. Ganapathi

VICE CHANCELLOR

