# ADD ON COURSE IN AYURBIOLOGY
# ACTIVITY REPORT 2018-2019

**FACULTY: SCIENCE**

**DEPARTMENT/ COMMITTEE BIOCHEMISTRY**

**IQAC ACTIVITY No: SVC/ ADD-ON COURSE/ AYURBIOLOGY -02**

| **NAME OF THE ACTIVITY: Add on course in AyurBiology.** | | | |
|---|---|---|---|
| **DATE** | **FACULTY** | **DEPARTMENT/COMMITTEE** | **COORDINATORS NAME** |
| August 2018 to December 2018 | SCIENCE | Biochemistry | Dr. Anju Kaicker<br>Dr. Nandita Narayanasamy |
| **TIME** | **VENUE** | **NUMBER OF PARTICIPANTS** | **NATURE: Outdoor/Indoor** |
| Saturdays 10:00-12:00 | SVC | 30 | Outdoor/indoor |
| **SUPPORT/ASSISTANCE:** | Course fees of 3500/- per student. | | |

BRIEF INFORMATION ABOUT THE ACTIVITY (**CRITERION NO. -I,II,III and V** ):

| | |
|---|---|
| TOPIC/SUBJECT OF THE ACTIVITY | Though *Ayurveda* is an ancient science, its principles and practices are relevant even today; particularly in the health care sector. The need for a modern scientific evaluation of *Ayurveda* has been recognized. Till date research in *Ayurveda* has however focussed on studies on medicinal herbs and their constituent bioactive compounds for herbal drug development and identification of New Chemical entities. However, it is important now to also explore new educational and research programs in *Ayurveda*, that focus on integrating it with the current understanding of Modern Biology that would enable a more rational approach towards harnessing knowledge of Ayurveda for modern day healthcare. |
| OBJECTIVES | This course of *Ayurveda Biology* intends<br>• To generate a knowledge interface between *Ayurveda* and life sciences for applications in contemporary healthcare Science. |

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|---|---|
| | • To provide a platform to students of Modern Biology an understanding of the systemic theoretical foundations, principles and practices of *Ayurveda.*<br>• To work towards bridging the understanding of traditional Indian health sciences with *modern Life Science.* |
| METHODOLOGY | The course is conducted with help from Dr Bhavana Parashar, Sr. Scientist at Trisutra Center , IGIB, Delhi<br><br>Coordinators sit with Dr Bhavana and formulate the course outline and decide on speakers to be contacted.<br><br>A time table with speakers is tabulated, speaker are contacted and lectures are mostly scheduled on Saturday morning any time between 10:00 am to 1:00 pm<br><br>2 Saturdays were allocated for a field visit to IGIB Trisutra Center and to All India Institute of Ayurveda (AIIA)<br><br>Students are tested through<br>a. Conducting a survey and filling of 10 questionnaires on Prakrati Assessment.<br>b. A paper review on any publication relating to Ayurbiology<br>c. A course end MCQ based test. |
| OUTCOMES | Students learn the basic principles of Ayurveda like body composition bases on PanchMahabhutas and Doshas. They learn the concept of prakriti and learn how to assess an individuals' Prakriti.<br><br>The influence of managing diet, lifestyle, breathing and sleep on balancing of Doshas is taught which makes them understand the importance of a wellness schedule in managing ones' health.<br><br>They understand the relationship of prakriti to modern Physiology. And learn modern techniques that can help in confirming Prakriti analysis by Questionnaire.<br><br>The understand the shift from Prakriti to Vikriti that defines the imbalance in prakriti that lead to ill health.<br><br>They are introduces to Management of health through diet and sleep theraphy Panchakarma treatment, leech treatment and ayur pharmacological methods.<br><br>The field visits to IGIB and an Ayurvedic hospital gives them a practical exposure to the science of Ayurveda. |

**PROOFS & DOCUMENTS ATTACHED (Tick mark the proofs attached):**

| | | | | |
|---|---|---|---|---|
| Notice & Letters | **Student list of participation** | **Activity report** | **Photos** | Feedback form |

| | | | | |
|---|---|---|---|---|
| | √ | √ | √ | |
| **Feedback analysis** | News clip with details | Certificate<br>√ | Any other | |

| IQAC Document No: | Criterion No: | Metric No: |
|---|---|---|
| Departmental file no | IQAC file No; | |

| NAME OF TEACHER & SIGNATURE | NAME OF HEAD/ COMMITTEE INCHARGE & SIGNATURE | IQAC COORDINATOR (SEAL & SIGNATURE) |
|---|---|---|
| Dr. Anju Kaicker<br><br>Dr. Nandita Narayanasamy | Dr. Anju Kaicker<br><br>Dr. Nandita Narayanasamy | N. Latha<br>Dr. N. Latha<br>Coordinator, IQAC<br>Coordinator, IQAC<br>Sri Venkateswara College<br>(University of Delhi)<br>Dhaula Kuan, New Delhi-110021 |

For Reference

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|---|---|---|---|---|
| Criterion I | Curricular Aspects (planning & Implementation) | | Criterion V | Student Support & Progression |
| Criterion II | Teaching Learning & Evaluation | | Criterion VI | Governance |
| Criterion III | Research, Innovations & Extension | | Criterion VII | Institutional Values & Best Practices |
| Criterion IV | Learning Resources and Infrastructure | | | |

**Add On Course**
**2018-19**

# *AyurBiology: Bridging our understanding of Ayurveda and Modern Medicine*

**Sri Venkateswara college**

**Course coordinators:**
**Dr. Anju Kaicker**
**Dr. Nandita Narayanasamy**
**Dr. Bhavana Parasher**

## Introduction: Ayurveda Vs AyurBiology: An insight.

Ayurveda, meaning Ayu = Life and Veda = knowledge; is a 5,000-year-old system of holistic (whole body) and natural healing. It is traces its origins in the Vedic culture of India and is considered to be one of the oldest healing sciences. Ayurvedic medicine is based on the belief that health and well-being depends on the delicate balance between internal and external influences and on the energies that modulate the functioning of both; mind and body.

*Ayurveda* focusses on health management through holistic principles wherein ill health is viewed as a disruption of energy flow in the entire body and does not specifically target any particular organ or organ system. The premise is that that there are three doshas : Vata, Pitta and Kapha and that disease and illness originate from an imbalance in these three energies. Every individual according to Ayurveda has a specific balance of the 3 energies that constitute his/her *Prakriti*. The *Prakriti* of an individual determines their response to stimuli (Internal and External) as well as their susceptibility to disease. The interventions practised in Ayurveda to cure ill-health aim at correcting the specific imbalance in an individual's *Prakriti* and hence is highly personalized. The primary goal of Ayurvedic medicine is to help people live long, healthy and balanced lives without the need for invasive therapies.

## Aim of the course:

Though *Ayurveda* is an ancient science and its principles and practices are relevant even today, particularly in the area of public health and Disease control management; it is not widely accepted as a scientific practise of medical treatment. To change this perception, of late, the need for a scientific evaluation of *Ayurvedic practices* has been recognized. Till date however, research in *Ayurveda* has been focussed on studies on medicinal herbs and their constituent bioactive compounds for herbal drug development and identification of New Chemical entities. However, it is now important to explore new educational and research programs in *Ayurveda*, that focus

on integrating this holistic science with the current understanding of Modern Biology.

This Add on course is focused on the theme of *AyurBiology*, and intends to generate a knowledge interface between *Ayurveda* and Modern Biology for applications in contemporary Healthcare Sciences. The program aims at providing a platform to students of Modern Biology an understanding of the systemic theoretical foundations, principles and practices of *Ayurveda.* Thus, it works towards bridging together the understanding of traditional Indian health sciences with *Modern LifeScience*.

Detailed lectures are held on the concept of prakriti and influence of diet , environment, seasons, life style and age on prakriti. Molecular basis of prakriti and dosha are taught using relevant examples and emphasis is put on integrating the trisutra concept with modern medicine. Clinical examination methods used in ayurveda for personalized management of health & disease are discussed at length and culminated with a visit to an ayurvedic clinic. The students are also taken to Ayurveda Institutes to expose them to the working environment of an ayurvedic hospital. They saw a rich collection of our indigenous herbs and formulation of medicines from these plants. Mechanism of action and benefits of panchkarma and leech therapy were discussed. The students were assessed on the basis of assignments that are given to them periodically and an end term examination consisting of multiple-choice questions.

# Outline of Course Content:

**Unit 1: Introduction- week 1 : 2hr.**

The contemporary relevance of Ayurveda in modern times: Basic tenets of holistic and personalised medicine- examples of relevance in Drug discovery, Non-pharmacological LS interventions, disease biology

- History of Ayurveda and Vedic culture:
- Ethics and regulations in Ayurvedic Practices
- Methodology and experimentation used in for validation of an ayurvedic medication or therapy.

**Awareness Questionnaire Distribution / collection**

**Unit 2: Title: Dosha- Prakriti- environment and phenotypes: Principles of Ayurveda.**

**Weeks 2; 2hr lecture and Week 3 : 4hr practical session at IGIB**

- Trisutra Ayurveda: Basic tenets of holistic and personalised medicine-
- Understanding the concept of dosha & body constitution.
- The concept of Prakriti
- Phenotypic Assessment methods using modern physiological and anthropometric parameters

**Assignment 1.** Prakriti assessment by questionnaire

Correlating Prakriti methods with other phenotyping methods

***Unit 3: Title: Anagatbadhapratishedha*: Personalised preventive diet and lifestyle regimen. Weeks 4 and 5 : 2hrs lectures each week**

Ayurvedic concept of Nutrition; Seasonal & daily regimen including diet management for health maintenance: Influences of diet, environment, seasons, life style, age on Prakriti

- Medicine v/s health supplement; spices v/s medicine
- Diet & nutrition according to your body constitution, place and time as well as Dosha Concept of Agni (digestive fire) & Ama (biological toxins)
- Ayurvedic dietetics & nutrition.
- Imbalance (to keep away from common health issues
- Yogic diet-Satavic, Rajasic & tamasic food.
- Importance of physical activity and Sleep in health and disease

Effects of Yoga on physiological parameters such as Autonomic functions

**Assignment 2**: Self-assessment of Lifestyle through Questionnaire.

Understanding of variability in health with respect to ones *Prakriti;*How to make best of their Prakriti and maintain it

***Unit 4:*** **Title: Ayurgenomics for exploring concepts of Ayur Biology. Weeks 6 and 7**

- The need for and methods used to Bridging the gap between Modern Biology, genomics and Ayurveda
- Understanding the molecular basis of Prakriti and Tridosha Biology.
- Research avenues in AyurBiology/ Ayurgenomics

**Week 8: 4hrs 4hrs lec-dem practical session, Visit to lab AIIMS**

**Unit 5: Title: *Roga Samprapti- Dosha- Dushya Sammurchhana.* Week 8**

- Health to disease transitions: Prakriti to Vikriti transitions.
- Concept of Dushyas viz; *Dhatu, srotas, Agni* (digestive fire) mala & *Ama* (biological toxins)

**Unit 6: Title: *Roga rogi pariksha:* Diagnosis in Ayurveda. Week 9**

- Clinical examination methods described in Ayurveda for personalised management of health & Disease.
- Relation to modern diagnostic methods.

**Unit 6: *Vyadhihara Chikitsa*: Therapeutic treatment modalities described in Ayurveda.**

**Week 10 : 4 hrs; Visit to AIIA**

- Internal Medication Stratergies: Shodhana: Detoxification (*panchakarma*) and Shamana: Medication for rejuvenation (*Rasayana*) etc.
- External Medication Stratergies: Massage (*Abhyangam*), *shirodhara* and other local therapied with herbal formulations.
- Ayurvedic Drug formulations and prescriptions according to Prakriti assessments**.**
- Nanoparticle vis- a-vis- Bhasma; Metals in modern medicine

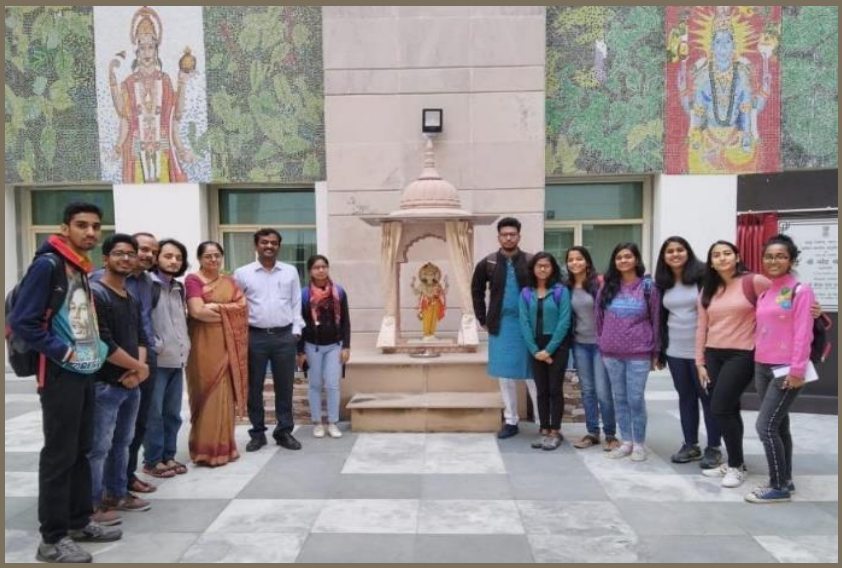
**Assignment 3**: Discussion and presentations of Modern scientific evidence of some of the Therapeutic practices:

**Week 12**

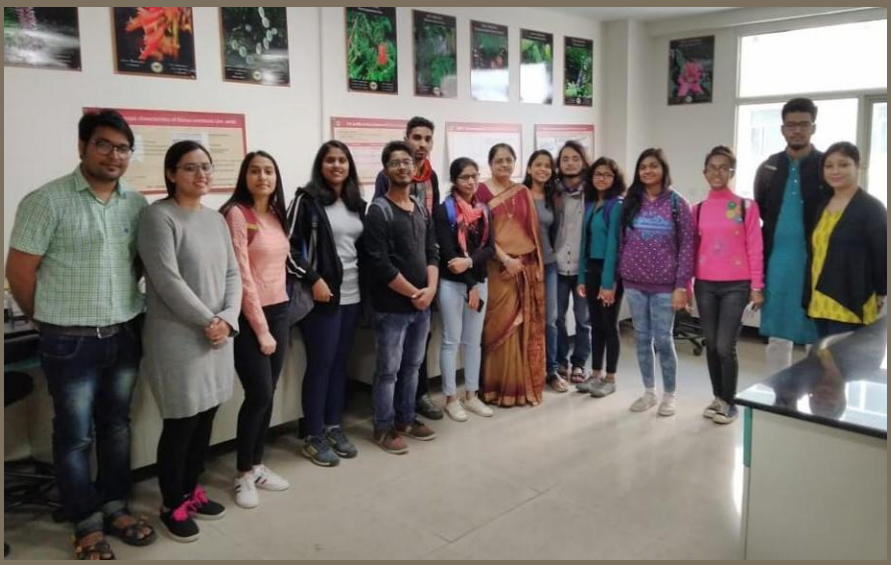
**Final Assessment MCQ based paper and Assignment 4**:

Correlation of Ayurveda and its applicability with Modern Medicine: a paper review.

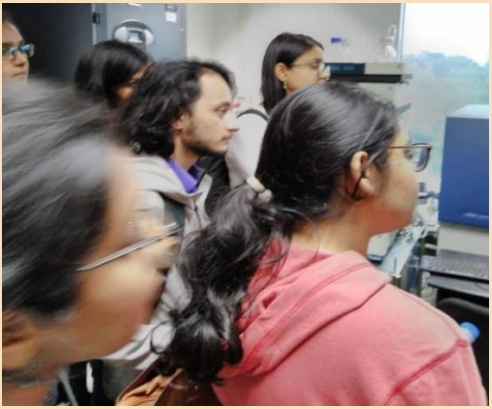
**Students with Dr Kaicker and resource persons of AIIA at the courtyard with Lord Dhanvantri statue where daily Yoga is practiced and taught.**

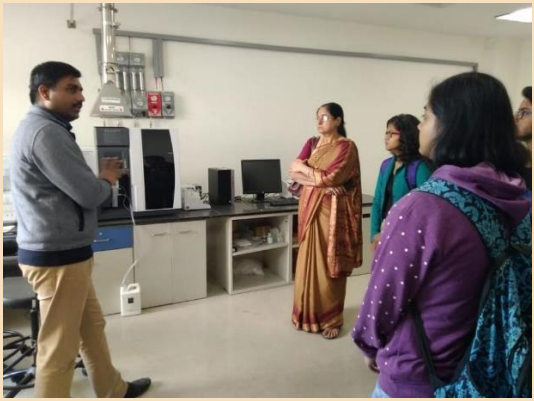


**Students with Dr Kaicker and resource persons of AIIA during their visit to the Medicinal plant museum at All India Institute of Ayurveda**

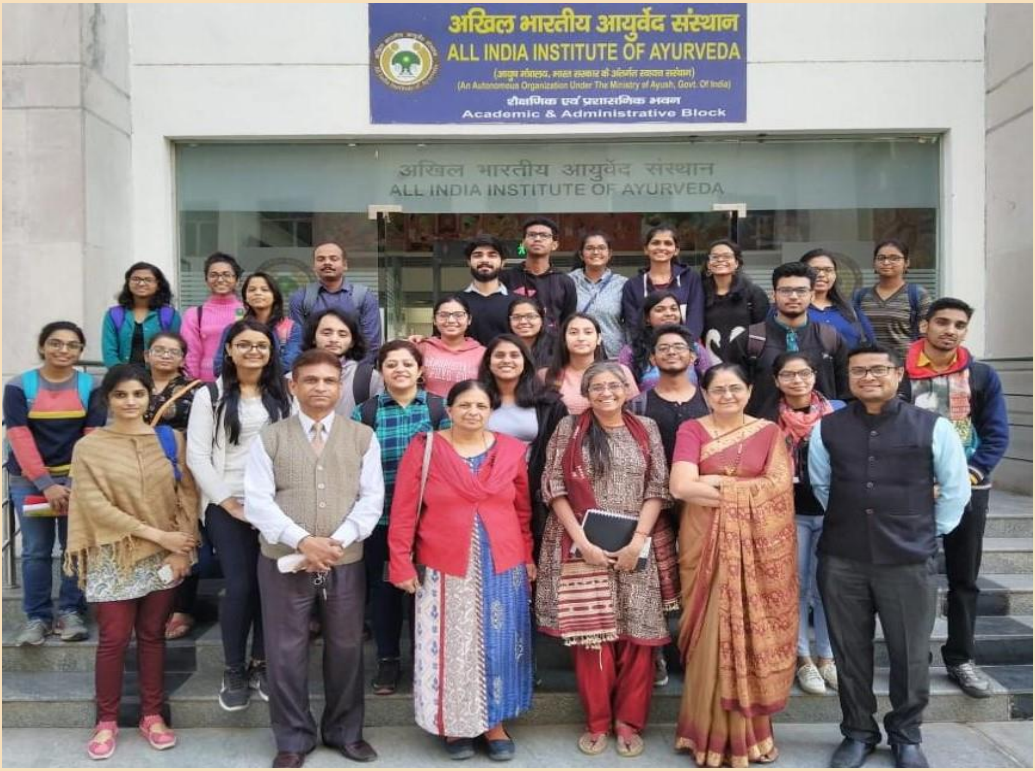


Students with Dr Kaicker and resource persons at AIIA understanding analytical techniques used in Quality Control of ayurvedic formulations





**Class of 2018 with Director, AIIA, and Cource Coordinators Dr Nandita Narayanasamy and Dr Anju Kaicker and staff of AIIA during their visit to All India Institute of Ayurveda.**



**Student Feedback**:

The students realized the importance of lifestyle in managing a healthy state of mind and body. They realized the importance of diet, nutrition,sleep and physical activity in their daily regime. The ayurvedic belief that health and well being depends on the delicate balance between internal and external influences on the energies of mind and body was well grasped by the students in this short span of time. Visit to IGIB was beneficial for them as they learnt more about the integration of genomics with ayurveda and also could see the research avenues open to them in this integrated field. The course helped to bridge together the understanding of traditional Indian health sciences with *modern Life Science.*

*Sumeru Panta ( one of The students) : "But out of all, the transition from the notion of considering Ayurveda as an ancient medicinal practice to the knowledge of Tri-Doshas, the concept of personalized medicine and the amalgamation of Ayurveda with modern medicine , for me was a game changer*

## Resource Persons

1. **Dr. Bhavana Prasher:CSIR – TRISUTRA AyurGenomics Unit, IGIB, New Delhi**
2. **Dr. Mitali Mukerji:CSIR TRISUTRA AyurGenomics Unit, IGIB,New Delhi**
3. **Prof. Sudhir Kumar: CBPACS**
4. **Dr. Bharat Krushna Kuntia: Project Scientist, AIIMS**
5. **Prof. Rama Jayasunder, Department of NMR and MRI facility,AIIMS**
6. **Dr R.M Acharya, Swami Vivekananda Yoga Anusandhana Sansthanam, Delhi**
7. **Dr. K.K. Deepak, Department of Physiology, AIIMS.**

**List of Students Registered for the AyurBiology course 2018-2019**

Ayur Biology (DBT) 2018-2019 Masks obtained

| Roll no. | Students Name | Out Of 50 |
|---|---|---|
| 4018001 | Komal Yadav | 34 |
| 4018003 | NUPUR | 33 |
| 4018004 | Mayank Saini | 34 |
| 4018005 | Rridhi kapila | 32 |
| 4018006 | VASANT KUMAR | 24 |
| 4018007 | Naintara Jain | 43 |
| 4018008 | VAISHALI GOYAL | 33 |
| 4018009 | PRANJAL YADAV | 34 |
| 4018010 | Nikita Yadav | 30 |
| 4018012 | BHAVNESH BISHNOI | 32 |
| 4018013 | Preeti Apurve Sharma | 35 |
| 4018014 | CHARUL | 32 |
| 4018016 | Avanthsa Sai Ramya | 25 |
| 4018018 | Srishti Shankar | 20 |
| 4018019 | Parvathy Raveendran | 20 |
| 4018020 | Aniruddh Tyagi | 24 |
| 4018023 | VRINDA KHANNA | 21 |
| 4018024 | Sumedha Mondal | 28 |
| 4018025 | Aayush | 35 |
| 4018026 | Mansi Bansal | 20 |
| 4018027 | Samruddhi Pradhan | 34 |
| 4018028 | SUSHMITA SAHOO | 32 |
| 4018029 | Surender | 25 |
| 4018031 | NITISH MISHRA | 22 |
| 4018032 | Sneh Sharma | 33 |
| 4018033 | Smriti Koul | 34 |
| 4018034 | poornima pathak | 20 |
| 4018035 | Payal Panwar | 22 |
| 4018036 | Harshit Chauhan | 29 |
| 4018037 | Sumeru Panta | 34 |

# SRI VENKATESWARA COLLEGE

(UNIVERSITY OF DELHI)

## CERTIFICATE OF COMPLETION

This to certify that Mr./ Ms. Sumeru Panta has successfully completed the add on course in Ayur Biology, held from August to November, 2018.

| Dr. Nandita Narayansamy | Dr. Anju Kaicker | Dr. P. Hemalatha Reddy |
|---|---|---|
| (CO-ORDINATOR) | (CO-ORDINATOR) | (PRINCIPAL) |