DBT Funded Training Program
## Bioinformatics for Metagenome data analysis (NGSDAT 2019)
March 19-22, 2019

Bioinformatics Centre, ICAR-Indian Institute of Spices Research, Kozhikode, Kerala
Department of Genomic Science, Central University of Kerala, Kasaragod, Kerala

<u>Schedule</u>

Day 1: Tuesday, 19 March 2019		
09:30 am – 10:00 am	Registration	
10:00 am – 10.30 am	Welcome Inaugural session and workshop background & group photo	
10:30 am – 11:00 am	Pre evaluation	
11.00 am – 11.45 pm	**Lecture** Metagenomics: An NGS tool for exploring the microbiomes	Dr. Santhosh J Eapen (Principal Scientist and Head, Division of Crop Protection & Co-ordinator (Bioinformatics) ICAR-IISR)
11:45 am – 12.45 pm	**Lecture** Next Generation Sequencing- Chemistry and Platforms	Dr. A. Ishwara Bhat, Principal Scientist (Plant Pathology, ICAR-Indian Institute of Spices Research)
12:45 pm – 1.30 pm	**Lecture** Metagenome analysis	Dr. Tony Grace (Assistant Professor, Department of Genetics, Central University of Kerala)
01:30 pm - 02:30 pm	Lunch break	
02:30pm -03:30pm	**(Lecture & Practical's)** Introduction to the Linux system; command lines for data analysis	Ms. Neethu Isaac, (Junior Research Fellow, ICAR-IISR)
3.30 pm – 3.45 pm	Tea/Coffee	
3.45 pm – 5.00 pm	**(Lecture & Practical's)** Introduction to various data formats, Quality Control, Trimming, Filtering of Low Quality Reads.	Mrs. Blessy M. Baby (Ph.D. Scholar, ICAR-IISR)
Day 2: Wednesday, 20 March 2019		
09:30 am – 10.00 am	**Lecture:** General workflow of Metagenome data analysis	Dr. Muhammed Manzoor A.P. (Research Associate, ICAR-IISR)

10:00 am – 10.15 am	Setting up your computers	
10.15 am to 10.30 am	Introduction to MOTHUR	Dr. Sudeep D Ghate (Post Doctoral Fellow, Yenepoya University)
10:30 am – 11:00 am	Getting started with MOTHUR	
11.00 am- 11: 20 pm	Tea/Coffee	
11.20 am -1.00 pm	MOTHUR contd.	
01:00 pm - 02:00 pm	Lunch Break	
02:00 pm - 03:30 pm	MOTHUR contd.	
3.30 pm – 03.45 pm	Tea/Coffee	
03.45 pm – 04.30 pm	MOTHUR contd.	
Day 3: Thursday, 21 March 2019		
09:30 am – 10:30 am	MOTHUR: General statistical data analysis	
10: 30 am – 11:20 am	Tea break	
11.20 am-12.00 pm	Data analysis using Microbiome Analyst	Dr. Sudeep D Ghate (Post Doctoral Fellow, Yenepoya University)
12.00 pm- 1: 00 pm	Data analysis using other offline/online tools	Dr. Muhammed Manzoor A.P. (Research Associate, ICAR-IISR)
01:00 pm - 02:00 pm	Lunch Break	
3.15 pm – 5:00 pm	Getting started with QIIME	Mr. Kumar Arvind. (Ph.D student, Central University of Kerala)
Day 4: Friday, 22 March 2019		
09:30 am – 10:30 am	**Lecture** Rhizosphere soil metagenomics: A case study in black pepper	Dr. P. Uma Devi (ICAR-IISR)
10.30 am to 11.15 am	Practical's on QIIME	
11:15 am – 11:30 am	Tea break	
11: 20 am – 1:00 pm	Practical's on QIIME	
01:00 pm - 02:00 pm	Lunch Break	
02:00 pm -03:30 pm	Valedictory Session Post evaluation, Feedback submission and certificate distribution	Guest: Dr. Belle Damodara Shenoy (Scientist, National Institute of Oceanography, Visakhapatnam)
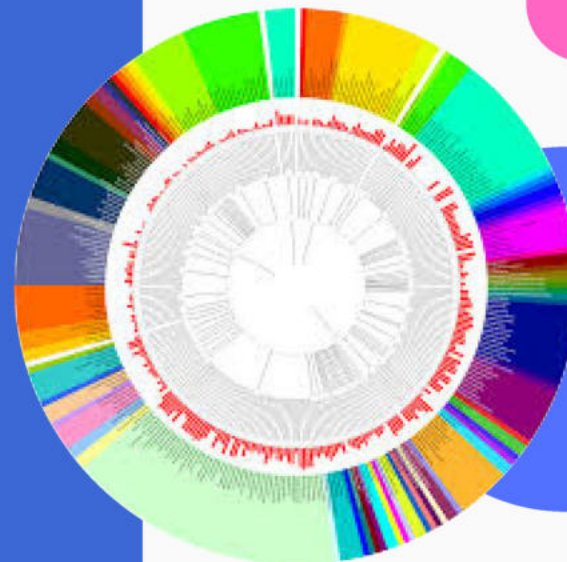
Registration Fee

Registration Fee
ICAR employees & students   - ₹ 2000/-
University/State/Central Govt - ₹ 2500/-
employees & students Others - ₹ 3000/-

Registration fees are inclusive of training kit, refreshment and a working lunch on all training days. Expenses on travel, boarding and lodging should be borne by the sponsoring institution. Registration fees can be paid as DD/cheque drawn in favour of 'ICAR Unit - IISR' or through online (State Bank of India, Kozhikode Main Branch, IFSC: SBIN0000861 A/c No. 30302810771)
Accommodation can be arranged on request in "Sougandhikam" the scientist hostel of the institute.

Important Dates

Online registration ends on : 28 Feb. 2019
Intimation to selected
candidates on   : 05 Mar. 2019
Acceptance of reg. fees
ends on   : 10 Mar. 2019

CONTACT US

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NGSDAT 2019

BIOINFORMATICS FOR METAGENOME DATA ANALYSIS

MARCH 19-22, 2019

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Bioinformatics Centre
ICAR - Indian Institute of Spices Research
Kozhikode, Kerala

Dept. of Genomic Science
Central University of Kerala
Kasaragod, Kerala

OVERVIEW

Metagenomics is the study of genetic material recovered directly from any environmental samples to explore the diversity, function, and ecology of microbial communities. It has diverse applications ranging from microbial proteins in biotechnology to microbes supporting plant growth, nutrient recycling in agriculture. The metagenomics field is growing rapidly with the recent advances in sequencing technologies. However, data is generated faster than users are able to share, analyze and interpret. In order to address this issue, the Bioinformatics Centre, ICAR-IISR is organizing a short-term training program "Bioinformatics for Metagenome Data Analysis" during 19-22 March 2019. This is the seventh in the Next Generation Sequence Data Analysis Training (NGSDAT) series the Centre is organizing with the financial support of Department of Biotechnology, New Delhi.

This training program will cover different steps in metagenomics analysis from data retrieval, quality control, filtering, assembly/clustering to taxonomic classification, functional assignment, comparative metagenomics and applications of metagenomics derived research. A substantial part of the training program will be devoted to hands-on experience with bioinformatics resources and tools relevant in metagenomics data analysis. Topics will be delivered using a mixture of lectures (20%), practical sessions (60%) and open discussions (20%). Practical work during the course will use small example datasets.

COURSE OUTLINE

- An overview of the metagenomics – principles, methods and instrumentation
- An overview of software tools, workflows for analysis and interpretation of metagenomics datasets
- Metagenome assembly, binning, and extracting genomes from metagenomes
- Taxonomic and functional annotation of metagenomic data
- Designing appropriate microbiome-focused experiments
- Appropriate statistical analysis of metagenomics datasets

WHO CAN ATTEND

Post graduates, PhD students, post-doctoral researchers and scientists who are doing or planning to start research on metagenomics. Basic familiarity with Linux environment and NGS data analysis is required.

HOW TO APPLY

Interested candidates are requested to apply through online application form available on our website : spices.res.in/pages/bioinformatics-centre OR 14.139.189.27/ngsdat19. Applicants from ICAR institutes will be given preference. Those selected candidates will be intimated through e-mail and they have to send the registration fee along with the nomination letter from head of the institution by the prescribed date.
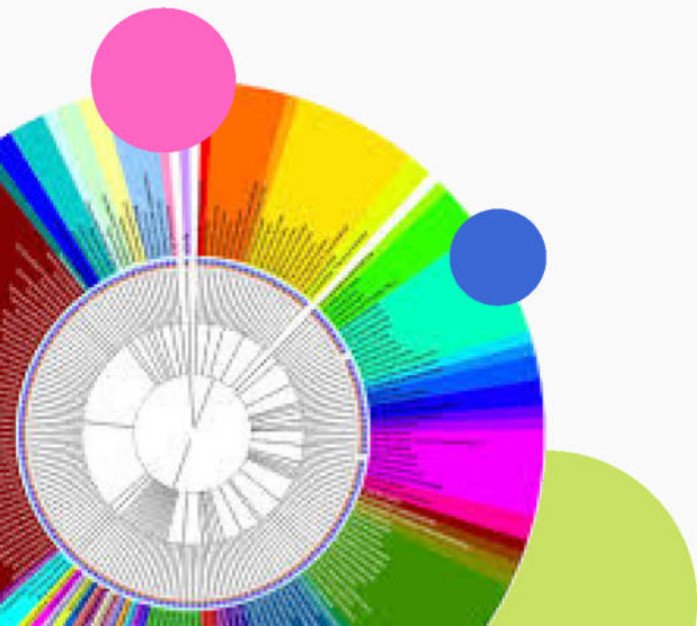
Report: Bioinformatics for Metagenome Data Analysis. Workshop NGS-DAT 2019

Metagenomics Training Workshop.

The short-term training on "Bioinformatics for Metagenome Data Analysis" (NGSDAT 2019) was jointly organized by Bioinformatics Centre, ICAR-IISR and Department of Genomics Science, Central University of Kerala (CUK), Kasaragod during 19-22 March 2019. The training was funded by Department of Biotechnology and was the seventh in the NGS data analysis series, the Centre is organizing. Nineteen participants from 17 institutions across the country attended the training. The programme started with an inaugural lecture by Dr. Tony Grace, CUK while the

plenary lecture was delivered by Dr. Belle Damodara Shenoy, National Institute of Oceanography, Visakhapatnam. Dr. Sudeep D Ghate (Yenopoyo University, Mangalore), Mr. Kumar Arvind (CUK, Kasaragod) and Dr. Muhammed Manzoor (ICAR-IISR, Kozhikode) anchored the training. Dr. K Nirmal Babu, Director, ICAR-IISR distributed certificates to the

participants and resource persons.

KeyWords : Research methodology, Skill Development, Bioinformatics, Metagenomics, next generation sequencing,

Site link

[http://webcache.googleusercontent.com/search?q=cache:2gO14I9OkRYJ:www.spices.res.in/file/824/download%3Ftoken%3DGPqc5FOD+&cd=2&hl=en&ct=clnk&gl=in] http://www.spices.res.in/file/824/download?token=GPqc5FOD]