

DEPARTMENT OF MICROBIOLOGY
STUDENT ACTIVITIES

Workshop on “Anaerobic Microbiology”

Date: 19.07.2019

III. B.Sc., Microbiology students attended a workshop on “Anaerobic Microbiology” organized by the department of Biotechnology, Bharathiar University in association with Department of Microbiology of Hindusthan College of Arts and Science on 19th June 2019 under DBT Star College Scheme. Dr. Prabakaran, Assistant Professor, Department of Biotechnology welcomed the gathering and introduced the Resource person. Dr. P. Lakshmanaperumalsamy, Former Emeritus Professor, Department of Environmental Science, Bharathiar University, Coimbatore. He explained about anaerobic microflora and the need for research in this field. He also detailed that this is the newly established facility available only in the department of Biotechnology, Bharathiar University. After the lecture, students were given hands on training in the anaerobic workstation. The various project facilities available for students under the department were explained by Dr. Prabakaran, who coordinated the event.





Workshop on “Polymerase Chain Reaction”

Date: 27.08.2019

The Department of Microbiology conducted a workshop for III year UG students on “Polymerase Chain Reaction (PCR)” in association with ABBES Biotech, Coimbatore on 27.08.2019. Totally, 66 students from III year B.Sc.-Microbiology participated in this workshop. The resource person Mr. Saravanaperumal from ABBES Biotech explained the principle of PCR and its application in the related fields of microbiology viz., molecular biology and genetic engineering. Further, he demonstrated the stage-wise procedure of PCR and gave hands-on-training to the students under his supervision.

Workshop on “Chromatographic Techniques”

Date: 28.08.2019

The Department of Microbiology conducted a workshop for II year UG students on “Chromatographic Techniques” in association with ABBES Biotech on 28.08.2019. All the students of II year B.Sc.-Microbiology participated in this workshop. Mr. Saravanaperumal from ABBES Biotech explained the principle and demonstrated the stage-wise procedure of Column and Thin Layer Chromatography such as preparation of chromatographic columns and buffers, method of elution, collection of sample fractions, etc. and made the students to perform the experiment under his supervision. He also denoted the application of above chromatographic techniques in the field of research and various bio-based industries.

Workshop on “Pure Culture Technique & Anaerobic Cultivation”

Date: 23.09.2019

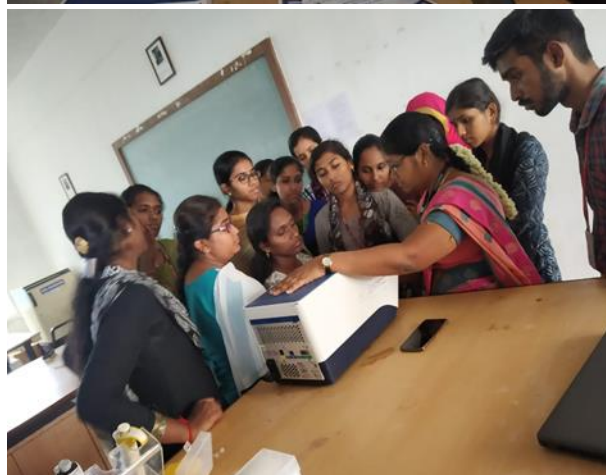
The PG & Research Department of Microbiology organized a workshop on Pure Culture Techniques & Anaerobic Cultivation of Microbes for students of III B Sc Biotechnology under DBT star college scheme on 23.09.2019. The programme was felicitated by Dr Lali Growther, Head, Department of Microbiology. The workshop was handled by Dr.N.Vanitha & Mrs.Ajitha C. In the beginning of the session brief introduction of the basic methods in Microbiology was explained to the students with a power point presentation. The session was followed by wet lab with hands on experiments done by students in batches and the results were observed and discussed. At the end of the session good feedback were received from the students about the workshop.



Workshop on “Polymerase Chain Reaction” for students of Nirmala college

Date: 12.10.2019

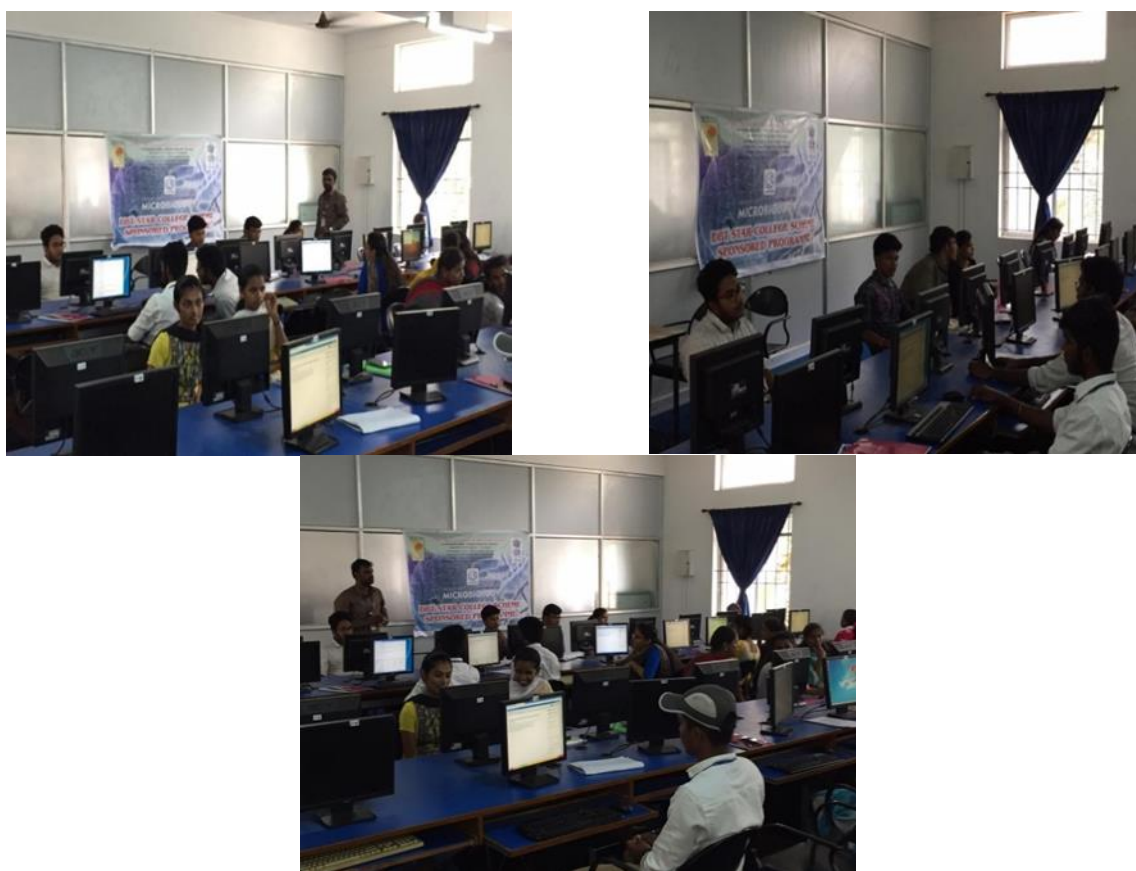
The department of Microbiology organized a workshop for Zoology students of Nirmala College for Women on 12.10.2019. Dr. Lali Growther, Associate Professor and Head, Department of Microbiology delivered a lecture on PCR, Principle and Types. Dr. R. Manju, Associate Professor, Department of Microbiology handled the hands on session on Standard PCR. III.B.Sc Microbiology students were the volunteers for the programme, who assisted Dr. R. Manju in preparation of samples and handling of the thermal cycler. The principle and instrumentation of Laboratory equipments like Cooling centrifuge, BOD incubator, Autoclave, Hot Air Oven, Gel documentation system and anaerobic Jar were explained to the students by Dr. N. Vanitha, Associate Professor, Department of Microbiology. The participants were awarded certificates.



Workshop on “Introduction to Basic Bioinformatics tools & its applications”

Date: 07.02.2020

A workshop on Bioinformatics entitled “Introduction to Basic Bioinformatics tools & its applications” was conducted on 07.02.2020 under DBT Star College Scheme. The workshop was conducted by Dr. Achuth J, Assistant Professor, Department of Microbiology for III B Sc Microbiology students. The goal of the workshop was to introduce the students to basic databases and tools in the area of bioinformatics. Also, students were given hands on experience in various tools to view, edit, search and retrieve both nucleotide as well as amino acid sequence. The students performed retrieval of nucleotide and amino acid sequences from various online databases such as NCBI/PDB/DDBJ. Subsequently, sequence similarity search for the retrieved nucleotide and amino acid sequences were carried out with BLASTn and BLASTp, similarity.



Guest lecture on “Microbiology of Food Safety”

Date: 13.06.2019

Department of Microbiology organized a Guest lecture on 13th June 2019 under DBT Star College Scheme. Dr. Lali Growther, Associate Professor & Head, Department of Microbiology welcomed the gathering and introduced the Resource person. Dr.V.Mahalakshmi, Head, Department of Microbiology, Madras Christian College explained about Food Safety and Laws

followed in India, comparison of International Food standards and Indian food standards, Preservation of food, identifying organisms that cause spoilage of food, HACCP technique, FSSAI and General Food Standards. She also briefed about healthy, Junk foods, World food safety Day (7th June) and clarified that food safety is every one's business.



Guest Lecture on “Publication and Scientific Misconduct”

Date: 02.08.2019

The Department of Microbiology organized a guest lecture on 02.08.2019 under DBT Star College Scheme. Dr.LaliGrowther, HoD - Dept. of Microbiology, welcomed the gathering and introduced the resource person. Dr.Palanisamy Manikandan, Associate Professor, Department of Medical Laboratory Sciences, College of Applied Medical Sciences, Majmaah University, Majmaah, Kingdom of Saudi Arabia was the resource person. He addressed the gathering on “Publication and Scientific Misconduct” in which he emphasized the need, precautionary measures to be taken while transforming research into quality publications.





Guest lecture on “HIV Prevalence and Prevention”

Date: 29-11-2019

“Guest Lecture - World AIDS Day” held on 29.11.2019. Guest Lecture on “World AIDS Day - Communities Make the Difference” 29.11.2019. The Department of Microbiology of HICAS organized a guest lecture under DBT Star College Scheme to commemorate World AIDS Day on 29.11.2019. To create awareness among student community in connection with “World AIDS Day” as declared by WHO, this programme was conducted. Dr. Lali Growther, HoD - Dept. of Microbiology, welcomed and introduced the resource person. Dr. K. Mahadevan, Professor, Department of Dermatology, PSG Institute of Medical Sciences & Research, Coimbatore was the resource person who delivered the lecture on “Communities Make the Difference” - the present year theme of “World Health Organization” on “AIDS”. He addressed the gathering on the effective ways to manage HIV infection, its prevention, testing, treatment and care. He also emphasized the key role played by student community in bringing down the number of HIV individuals in state and nationwide. The students of Department of Microbiology and Food Science attended the programme. Dr. Lali Growther, HoD, Department of Microbiology, proposed the vote of thanks.

Guest Lecture on “Small scale Industry”

Date: 11.12.2019

A guest lecture was organized by the Department of Microbiology under DBT Star College scheme on 11.12.2019. Dr. V. Chandrasekar, Director, Bioline Laboratories, Coimbatore was the resource person. He defined a Small scale Industry and the benefits of starting of a small scale Unit. He described that small scale units had flourished in India in the past decade and the selection of products is the key criteria for a successful venture. Before selecting a product, a market research will help identify the market potential and profitability. The product must be competent and the raw materials must be easily available. The vital component in any successful venture is the innovation. He elaborated the success stories of many small scale Industrial ventures. One of the unit, he described was his own mushroom cultivation unit established in Coimbatore. He discussed about the creative mind that he had adopted in his unit. He explained the different marketing methodologies available in the market and the creative ideas that he had developed for the same. This shed a light on the participants to use their creativity in establishing a small scale unit. He also elaborated the advantages of a small scale unit and the forms of ownership in such Industries. He made clear, the role of the Ministry of Micro, Small and Medium Enterprises. The role of Development Financial Institutions in the growth of small scale Industries and the challenges faced by the small scale Industrial units were discussed.

Guest lecture on “Funding Opportunities for Life Science Researchers”

Date : 12-12-2019

A guest lecture was organized by the Department of Microbiology under DBT Star College scheme on 12.12.2019. **R. Nagganatha Suganthan**, Founder Director, Utilis Biosciences Private Limited, Chennai, was the resource person. He explained about various funds and schemes to light on the innovative ideas of students. He explained the funding schemes from higher secondary level to research level. He proudly presented the Utilis laboratory as a example of successful utilization of a scholar funding scheme. The various schemes available under Technology development Board, Department of Science and Technology, UGC, AICTE, IIPC, EDC, CSIR, DRDO, DBT, DSIR, ICMR, ISRO, MOEF, MFPI, INSA and International funding agencies. The methodologies to apply for projects, the

way of presentations were discussed. The key components that affect the success of a project were highlighted.

Training programme on Biofertilizer & Biopesticides

Date: 06.01.2020 to 11.01.2020

The students of II B.Sc., Microbiology were taken to green life biotech, Somanur for an Industry oriented week long hands on training from 06.01.2020 to 11.01.2020 . Dr. Eshwaramoorthy, Director, Greenlife Biotech conducted hands on training on biofertilizers. They learned about bio-fertilizers, fermentation process, and its use in agricultural works. He provided hands on training in cultivation of different types of fungus in potato dextrose agar that serves as the source of bio-fertilizer for farmers and also he trained them on application techniques of different types of fungus like *Aspergillus niger*, *Aspergillus fumigates* bacteria like *Azospirillum*, *Rhizobium*, Phosphate solubilizers and potassium mobilizers. Bio-pesticides that are resistant to nematodes were also discussed. The Nematodes used in control are *Paecilomyces lilacinus*, *Pochonia chlamydosporia* and *Bacillus subtilis*. He taught about crop improvement, crop production and crop protection. They are the producers of bio-fertilizers that are available in both solid and liquid form and bio enhancers like vermicompost, sea weed, natural brassinolides, fulvic acid, alginic acid, and humic acid. Students were also taught about the preparations like prepared panchakavya and the biocontrol agents like *Pseudomonas fluorescens*, *Bacillus licheniformis*, *Streptomyces griseus*, and *Pseudomonas putida*.



Discussion Forum

Date: 05.02.2020

A discussion forum was arranged under DBT Star College Scheme in the IQAC Cell, Hindusthan College of Arts & Science for Microbiology and Biotechnology Faculty Members along with the Resource Person Dr. Nguyen Khoi Nghia, Associate Professor, Department of Soil Science, College of Agriculture Can Tho University, Vietnam. The resource person explained his current research on Role of microbes in Bioremediation of Environmental

Pollution and Dye degradation studies using White rot fungi. The session was open for discussion and he cleared the questions raised by faculty members on their research areas.

Training Programme on Food Safety

Date: 10.02.2020

The Department of Microbiology conducted a training programme on Food Safety Supervisor Course Advance (Level 2) Manufacturing on 10.02.2020. The session carried by Sugathan S. Nair- Lead Auditor-Certification Business, Bureau Veritas. The session was divided in four different modules where the students had training in personnel that can be designated as Food Safety Supervisors in the Food Manufacturing units, and they learned about food safety and hygiene requirements which are to be followed in their businesses. The training session had on spot assignments, activities and later students were assessed.



National Seminar on “Intellectual Property Rights”

Date: 18.02.2020

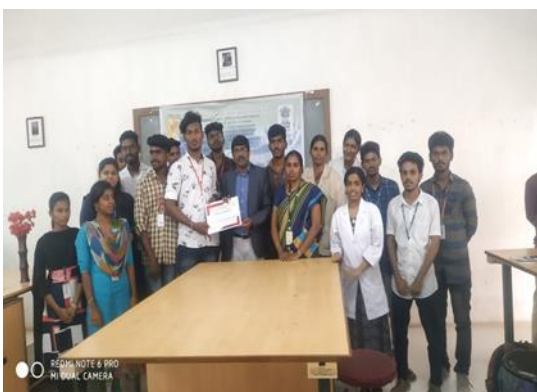
The Department of Microbiology conducted the National Seminar on “Intellectual Property Rights” on 18.02.2020 under DBT Star College Scheme. Dr. Lali Growther, HoD - Dept. of Microbiology HICAS welcomed the gathering and introduced the resource persons. Dr. Sentila Rajan, Guest Faculty, Department of Microbial Technology, Bharathiar University, Coimbatore addressed the students on “Overview of Intellectual Property Rights, Copy Rights and Drafting a Patent application. Ms. T. Vijayalakshmi, Patent Agent, 3M IPR Associates, Chennai and Mr. P. Ramanathan Advocate & IPR Attorney, Metayage IP Strategy Consulting, PSG Institute of Technology, Coimbatore presented on “Patent Filing in India and International” and “Legal Aspects and Commercialization of Patents” during their sessions, respectively. Students from PSG, Ramakrishna, Krishna and RVS College of Arts and Science and also UG students of Department of Microbiology of our institute participated in this programme. This encouraged students to innovate and protect their ideas.



Training Programme on Domain Specific Skill Training Programme

Date: 02-03-2020 – 04-03-2020

The PG and Research Department of Microbiology conducted the “Domain Specific Skill Training Program” sponsored by DBT Star college scheme for three consecutive days from 02.03.2020 - 04.03.2020 (UG Microbiology Lab). The II and III UG students of Microbiology were divided into 6 groups based on their interest towards specific domain and hands on training were provided for these students. The 6 different domains include, Medical Microbiology and Immunology handled by Dr Lali Growther and Mrs Ajitha C, Environmental Microbiology by Dr Hema Shenpagam, Food Microbiology and Quality Testing by Dr Manivannan and Ms Krithika T, Fermentation technology handled by Dr Arun kumar G and Herbal Drug Technology by Dr N Vanitha and Dr Manju, Molecular Biology by Dr Achuth. The Overview of the domain specific skill training programme was given by Dr. Lali Growther, HoD - Dept. of Microbiology. During valediction students presented what they have learnt through this training programme for three days in front of Dr. A. Ponnusamy., Principal, Hindusthan College of Arts and Science and gave their feedbacks.





Live Webinar on “Challenges and Opportunities in Microbiology and Biotechnology”

Date: 05-05-2020

The Departments of Biotechnology and Microbiology, Hindusthan College of Arts and Science organized a Live Webinar on “Challenges and Opportunities in Microbiology and Biotechnology” under DBT Star College Scheme, Ministry of Science and Technology, New Delhi on 5th May 2020 at 12.00 PM. Dr.G.Rajalakshmi, Professor and Head of Biotechnology welcomed the participants. Dr.Mohammed Rafiqkhan, Associate Professor of Biotechnology introduced the Chief Guest Dr. Gopikrishnan Venugopal, Scientist C, Bioprospecting Division, Centre for Drug Discovery and Development, Sathyabama Institute of Science and Technology, Chennai. The Chief Guest addressed the gathering with valuable notes on Opportunities for Bioscience in India and abroad. He insisted students to take up research projects, startups which will help them to become an Entrepreneur as well. He listed out the funding agencies too. The session was very interactive and student’s doubts were cleared as well. Dr. Lali Growther, Professor and Head of Microbiology rendered the vote of thanks. Nearly 75 participants which included our college Biotechnology and Microbiology final year students, Students from Dr.NGP Arts and Science College, Sri Ramakrishna College for Women and SNMV college of Arts and Science.

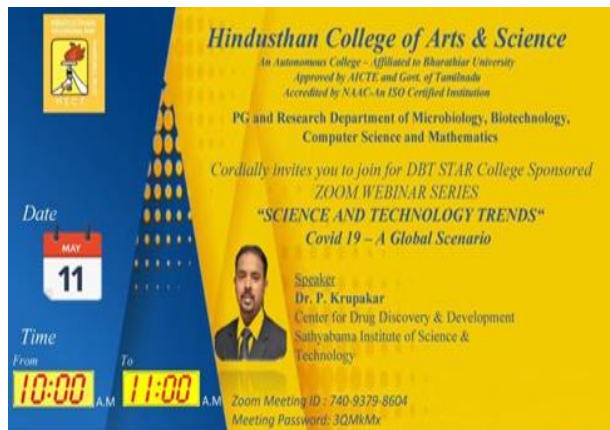


Live Webinar Series on “Science and Technology Trends”

Date: 11.05.2020 to 14.05.2020

The Departments of Biotechnology, Microbiology, Computer Science and Mathematics, Hindusthan College of Arts and Science organized a Live Webinar Series on “Science and Technology Trends” from 11th May to 14th May, 2020 under DBT Star College Scheme, Ministry of Science and Technology, New Delhi on 11th May 2020 between 10.00 AM - 11.00 AM. The speaker for the first day session was Dr.Krupakar Parthasarathy, Scientist D, Centre for Drug Discovery and Development, Sathyabama Institute of Science and Technology, Chennai. Dr.G.Rajalakshmi, Professor and Head of Biotechnology welcomed the participants. Dr.Mohammed Rafiqkhan, Associate Professor of Biotechnology introduced the Chief Guest. The Chief Guest addressed the gathering on the topic Covid 19 –Global scenario, with valuable notes and gave a detailed insight on Covid 19 pandemic, vector and transmission and its effects on world stocks. He insisted students the importance of Microbiology, Molecular Biology, Virology, RT PCR, Diagnostics, Biosafety and Risk Management. Dr. Lali Growther, Professor and Head of Microbiology rendered the vote of thanks. Dr.Mathivanan Jothi, Assistant Professor, Department of Human Genetics, NIMHANS, Bengaluru was the resource person for the second day. He explained in detail about how our immune system works, what are the cells involved in

defending when we are exposed to viral infection. Dr. S. Jagatheeswari, Assistant Professor, Department of Mathematics, Vellore Institute of Technology was the resource person for the third day and Dr. Sivaprakash Ramalingam, Senior Scientist and Ramalingaswami Fellow, CSIR - Institute of Genomics and Integrative Biology (IGIB), New Delhi was the speaker for the fourth day. His topic was on Genome Editing – Basic Science to Clinical Applications. The session was very interactive and student's doubts were cleared as well. Nearly 250 participants attended the session which includes our college Microbiology, Biotechnology, Mathematics and Computer Science faculty and final year students.



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PG and Research Department of Microbiology, Biotechnology, Computer Science and Mathematics

Cordially invites you to join for DBT STAR College Sponsored ZOOM WEBINAR SERIES
"SCIENCE AND TECHNOLOGY TRENDS"
Covid 19 - A Global Scenario

Date: MAY 11

Time: From 10:00 A.M. To 11:00 A.M.

Speaker:
Dr. P. Krupakar
Center for Drug Discovery & Development
Sathyabama Institute of Science & Technology

Zoom Meeting ID : 740-9379-8604
Meeting Password : 3QMKMx



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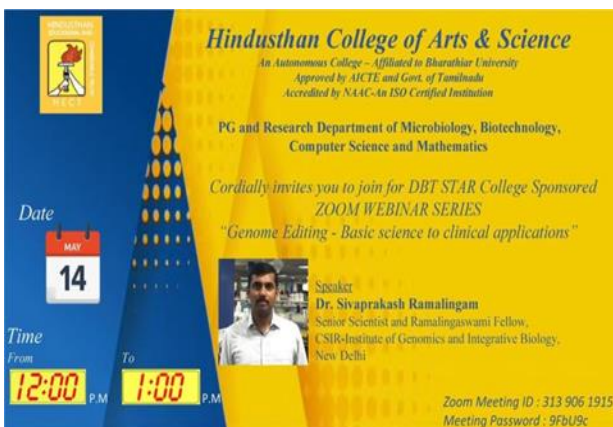
Cordially invites you to join for DBT STAR College Sponsored ZOOM WEBINAR SERIES
"SCIENCE AND TECHNOLOGY TRENDS"
Host immune response for effective removal of viral infection

Date: MAY 12

Time: From 10:00 A.M. To 11:00 A.M.

Speaker:
Dr. Mathivanan Jothi
Assistant Professor
Department of Human Genetics
NIMHANS
Bengaluru

Zoom Meeting ID : 764-8015-0801
Meeting Password : 3uwPU



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PG and Research Department of Microbiology, Biotechnology, Computer Science and Mathematics

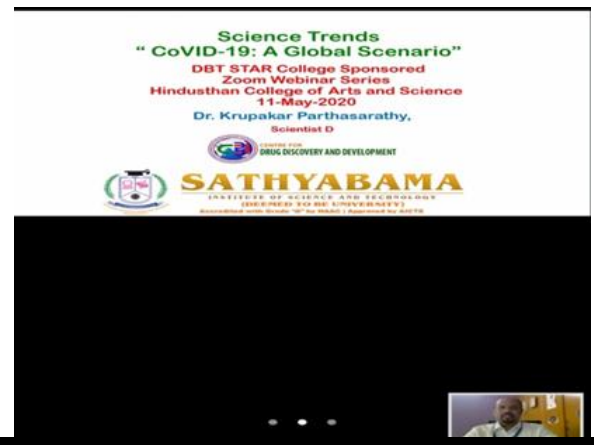
Cordially invites you to join for DBT STAR College Sponsored ZOOM WEBINAR SERIES
"Genome Editing - Basic science to clinical applications"

Date: MAY 14

Time: From 12:00 P.M. To 1:00 P.M.

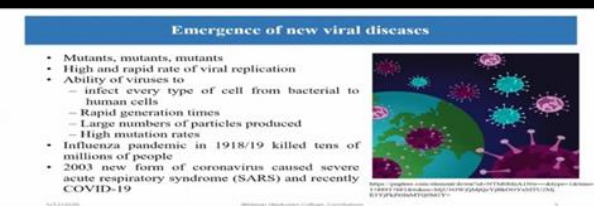
Speaker:
Dr. Sivaprakash Ramalingam
Senior Scientist and Ramalingaswami Fellow,
CSIR-Institute of Genomics and Integrative Biology,
New Delhi

Zoom Meeting ID : 313 906 1915
Meeting Password : 9fBU9c



Science Trends
"CoVID-19: A Global Scenario"
DBT STAR College Sponsored
Zoom Webinar Series
Hindusthan College of Arts and Science
11-May-2020
Dr. Krupakar Parthasarathy,
Scientist D

Center for Drug Discovery and Development
SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(INCORPORATED UNDER THE COMPANIES ACT, 1956)
Sathyabama Institute of Science and Technology
Sathyabama Road, Sathyabama, Chennai - 600 075, Tamil Nadu, India



Emergence of new viral diseases

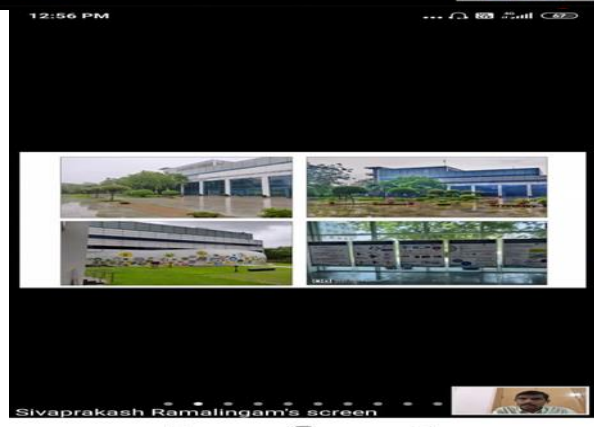
- Mutants, mutants, mutants
- High and rapid rate of viral replication
- Ability of viruses to
 - infect every type of cell from bacterial to human cells
 - Rapid generation times
 - Large numbers of particles produced
 - High mutation rates
- Influenza pandemic in 1918/19 killed tens of millions of people
- 2003 new form of coronavirus caused severe acute respiratory syndrome (SARS) and recently COVID-19

Image: COVID-19 virus particles. Source: CDC/Dr. David L. Martin. Adapted from: CDC/Dr. David L. Martin. Adapted from: CDC/Dr. David L. Martin. Adapted from: CDC/Dr. David L. Martin. Adapted from: CDC/Dr. David L. Martin.



12:56 PM

Sivaprakash Ramalingam's screen



12:56 PM

Sivaprakash Ramalingam's screen

Alumni Webinar Series

Date: 18.05.2020 to 21.05.2020

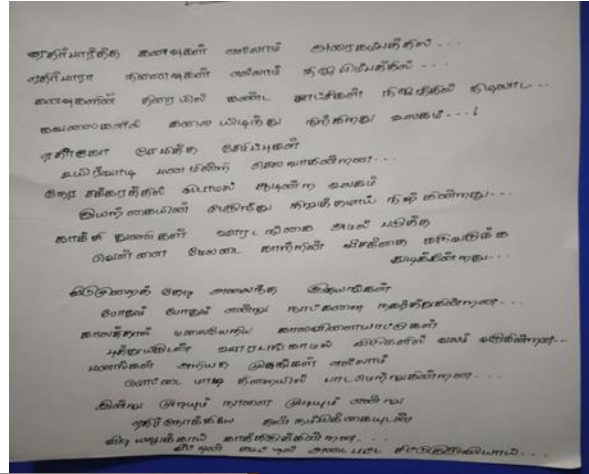
The Department of Microbiology, Hindusthan College of Arts and Science organized four day Alumni Webinar series from 18th May 2020 - 21th May 2020. The first day session entitled "A newly invented Vit A enriched Golden Rice" on 18th May 2020 between 5.00 PM – 6.00 PM. Dr. Lali Growther, Professor and Head of Microbiology welcomed the participants and introduced the resource person and alumni of our department Ms.Varsha, Project Assistant Grade III, Microbial Processing and Technology Department, CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Trivandrum. She addressed the gathering with valuable notes and gave a detailed insight on the basic concepts and steps involved in r DNA technology. The second day session entitled "Agro waste utilization-Waste to Taste" on 19th May 2020 between 11.00 AM –12.00 PM. The resource person and alumni Dr. Ayyappan Palaniappan, Post Doctoral Fellow, Department of Consumer and Food Science, University of Pretoria, South Africa elaborated on food waste and by-products in food industry. The third day session entitled "Distribution of Kinorhyncha in South Andaman Islands" on 20th May 2020 between 2.00 PM –3.00 PM. The resource person and alumni Dr.C.Jeeva, Project fellow (MoEF&CC), Pondicherry University Port Blair Campus, A&N Islands elaborated on his research area on Kinorhyncha and its applications. The fourth day session entitled "Scope of Jobs in Food Industry" on 21st May 2020 between 11.00 AM –12.00 PM. The resource person and alumni Miss. Nancy, QA Executive Microbiologist, Casino air caterers and Flight services elaborated on job opportunities in the area of Food Microbiology.

Online creativity Competition on "Corona Virus: An Invisible Enemy"

Date: 15-05-2020

The Departments of Microbiology, Hindusthan College of Arts and Science organized online competitions under DBT Star College Scheme on “Corona virus: An Invisible Enemy”. The competitions included "ART CARO NA" cartoon/drawing competition, "WRITING CARO NA" poem/ essay writing competition, "CAPTURE CARO NA" mobile photo/video making. The deadline for submission of entries was on 15th May 2020. The medium of language for the

competition can be Tamil, Malayalam, Hindi, and English. The students participated actively and showed their creativity.



Online Quiz Competition on "COVID 19"

Date: 19.05.2020

The Department of Microbiology, Hindusthan College of Arts and Science organized an online quiz competition on "Covid 19" - May 9th 2020 under DBT Star College Scheme. Around 20 questions were prepared related to COVID 19 pandemic to create awareness and shared the link to students, friends and faculty members. There was no registration fee and many actively participated in the quiz competition and E-certificate was provided to all the participants to their registered E-mail ID. All the UG and PG students of our department showed their interest through active participation.

Student Development Programme on “Medical Coding”

Date: 12.07.2019

Department of Microbiology organized a Student Development programme on Medical Coding under DBT Star College Scheme on 12th June 2019. DR. R. Manju, Associate Professor, Department of Microbiology welcomed the gathering and introduced the Resource person. Mr. K. Santhosh Kumar, Business Development Manager, Accent Techno soft explained about the career options available for life science students on Medical Coding. He also elaborated the interdisciplinary opportunities available for life science students.

