



THE MADURA COLLEGE

An Autonomous Institution affiliated to Madurai Kamaraj University

Re-accredited (3rd cycle) with 'A' grade by NAAC

Vidya Nagar, T.P.K. Road, Madurai – 625 011

DEPARTMENT OF BIOTECHNOLOGY

BRIEF REPORT ON PROGRAMME / EVENT ORGANISED

1. Title of the programme/event : “Biotechnology in Human Welfare”
2. Nature of the event : Virtual Seminar & E-Poster presentation
3. Date : 4th and 5th January 2021
4. Platform : Google Meet
5. Google Meet Link : <https://meet.google.com/viz-frjj-gqx>
6. Duration : 5:00 Hours
7. Venue : Mohan Hall
8. Hosting Department/Cell : Biotechnology
9. Funding agency & grant (if any) : Madura College Board
10. Beneficiaries : UG & PG students
11. Number of participants : 100 participants (4th January 2021) 87 participants (5th January 2021)
12. Number of poster presentations : 8
13. Details of Resource person(s) :

S. No	Name and designation	Topic of Talk	Remarks
1	Dr. G. Velmurugan, Ph.D., Scientist, KMCH Research Foundation, KMCH Hospital, Coimbatore	“Microbes: Key Drivers of the World”	Inspiring talk on the basics and advancements in the „Microbiology“ research with emphasis on role of microbes in health and disease.
2	Dr. M. Pushpanathan, Ph.D., Research Associate, Dept of Evolutionary Biology, Harvard University, Cambridge, USA	“Uncovering Genetic Changes Associated with Hip Dysplasia and Osteoarthritis”	Research oriented discussion on the genetic basis and understanding of a congenital disorder „Hip dysplasia“.

14. Brief account on proceedings of the programme supplemented with supporting documents and photographs

An overview of Structure and organisation of the Virtual seminar

Virtual seminar on “Biotechnology in Human welfare” funded by MCB was organised by the Department of Biotechnology on 4th & 5th of January 2021. On each day, seminar was divided into two sessions, guest lecture by the resource person followed by E-poster presentations by the students. After confirming the convenient dates of the resource persons, Invitation/Brochure of the virtual seminar was designed and communicated to the UG & PG students of Biotechnology and Microbiology in advance. Students were asked to submit their abstracts and E-posters a day before the seminar. The details and conditions for abstract submission, poster presentation, communication e-mail id and last dates were mentioned in the brochure. It was also planned to provide E-certificates for the participants and 3 Best poster awards.

Proceedings of Day-1 (4th January, 2021)

Virtual seminar on “Biotechnology in Human Welfare” started at 10:00 am with the recorded version of our College Prayer song. Ms. Suguna, Assistant Professor, Dept of Biotechnology hosted the seminar. The prayer song was followed by the online relay of recorded version of the special Inaugural address delivered by our Principal, Dr. J. Suresh. The inaugural address was an ideal primer and orientation for the students, in which the Principal mentioned recent developments in the field of Biological Science, importance of students to get introduced to the same and wished the best for the seminar. Inaugural address was followed by a short tribute video played in memory of our beloved Director of the Self- Financed stream, Major. Dr. K. M. Rajasekaran who passed away on 7th December, 2020. The video was made by aB.Sc., Biotechnology III-year student, R. Hariharan. A short video on our Department of Biotechnology, featuring the history, salient features, motto and facilities such as laboratory, instruments, classrooms and library was played. The video was once again a fabulous contribution from Mr. R. Hariharan. A B.Sc., Biotechnology I-year student, Ms. Rathnasri rendered her voice for the video. After the department video, our Co-ordinator, Dr. N. Panneerselvam welcomed the online gathering and introduced the speaker, Dr. G. Velmurugan, Scientist, KMCH Hospitals to the audience.

The speaker then took over the session and gave a brainstorming talk in the title “Microbes: key drivers of the world”. The presentation was made simple but informational introducing the students to the broad world of microbes, their role in disease and health. His lecture clearly

insisted the roles of microbes in earth on different aspects. Students could gain knowledge on the importance of gut microbiome for normal health and also disease conditions. He also elaborated the recent advancements in the microbiome research. He shared his PhD work briefly in which he discussed that the pesticide induced change in the gut microbiome leads to higher prevalence of diabetes among farmers. Dr. Velmurugan also explained about the Indo-French Project which he received recently to study the factors behind the higher mortality rate among the COVID-19 patients of Indian migrants in United Kingdom. He concluded his talk after 45 min, which was followed by a short discussion/question session. The plenary talk was then followed by E-poster presentations by 4 students from Department of biotechnology and Dept of Microbiology. Dr. G. Velmurugan and Dr. N. Panneerselvam acted as judges and evaluated the poster presentations. Each student was allowed to present their poster for 3-4 min. The students who presented posters and the title of the poster are given below.

Poster presentations on 4th January 2021

S.No	Name of the Student	Course & Year of study	Title of the Poster
1	Ms. T. K. Deepshika	BSc., Biotechnology (III – Year)	“Drug delivery by nanoparticles-an emerging technology”
2	Mr. M. Sabareesh & Mr. N. Perarasu	M.Sc., Microbiology (II – Year)	“Leucoreduction Filters”
3	Ms. S. Jothipriya	B.Sc., Biotechnology (III-year)	“Ziconotide (Analgesic) - A pain killer from the mollusks”
4	Mr. R. Vishnukumar	B.Sc., Biotechnology (II-year)	“How mRNA-1237 vaccine works?”

After the poster presentation for around 30 min, Dr. N. Arul Muthu Kumaran, Assistant Professor, Department of Biotechnology concluded the proceedings of the day by proposing „Vote of thanks“.

Proceedings of Day-2 (5th January, 2021)

Guest speaker and the participants entered through the link by 9:45 am. The session for the second day started at 10:00 am with the college payer song followed by the Inaugural address of our Principal. Our Co-ordinator, Dr. N. Panneerselvam then welcomed the participants and introduced the plenary speaker of the day, Dr. M. Pushpanathan, Ph.D., Research Associate, Harvard University, USA by highlighting his honors and achievements.

The speaker, Dr. Pushpanathan then took over the session for the next 45 minutes with his plenary talk entitled “Uncovering Genetic Changes Associated with Hip Dysplasia and

Osteoarthritis”. He mentally oriented the students by refreshing the basic concepts of human genetics, congenital disorders and anatomy of the hip/leg and described about the genetic disorder, hip dysplasia so that students even at UG level can understand his research findings. The speaker discussed about his detailed biological experiments in mouse models to study the genetic basis of the disease and also highlighted the interpretations from the study. In this way, it turned out to be a great opportunity for the students to learn, how a research is carried out to prove a concept/hypothesis. Students would also have realized the fascination, complexity and dedication behind scientific research.

Dr. Pushpanathan mentioned that hip dysplasia patients have displaced leg, but the disease phenotype develops only during older age. However, the genetic variation/mutation responsible for the disease is present from the birth. He could clearly explain through intelligent experiments that, the mutation leads to increased expression of the affected gene only during late adult stage of human. He emphasized that early diagnosis of the disease causing mutation and correction of the same by gene therapy might help to prevent the onset of disease. The seminar session came to an end after a brief discussion/question session that followed the lecture. Faculties and students raised few questions and doubts which were comprehensively explained by the speaker.

The seminar was then followed by the E-poster presentation by the students. A total of four students from Department of Biotechnology and Department of Microbiology presented their posters for 3-4 min. Dr. Panneerselvam and the invited speaker of the previous day, Dr. G. Velmurugan evaluated the posters. The names of the students who presented their posters and the title of their posters are given below.

Poster presentations on 5th January 2021

S.No	Name of the Student	Course & Year of study	Title of the Poster
1	Ms. S. Dharani	M. Sc., Microbiology (I – Year)	“Microbiome: Probiotics role in gut”
2	Ms. V. Kayavizhi	B. Sc., Biotechnology (II – Year)	“Nutrigenomics”
3	Ms. R. Rajeswari	B.Sc., Microbiology (II-year)	“Hallmarks of Cancer”
4	Mr. S. Mahalakshmi	B.Sc., Biotechnology (II-year)	“DNA profiling”

With the E-poster session on the second day, all technical sessions of the seminar came to an end. Dr. S. Baskaran, Assistant Professor, Department of Biotechnology concluded the two days virtual seminar on “Biotechnology in Human welfare” by addressing „votes of thanks“.

Best Poster awards and E-certificates

Google forms were sent to the participants to provide E-certificates. Based on the evaluation of the judges, results for three best posters awards and one consolation prize was declared on 8th January 2021. The following is the results for Best poster awards.

Poster Presentation Awards – Virtual Seminar on “Biotechnology in Human Welfare”- 2021

Best Poster category

Name of the Student	Course & Year of study	Title of the Poster
Ms. T. K. Deepshika	BSc., Biotechnology (III – Year)	“Drug delivery by nanoparticles-an emerging technology”
Ms. V. Kayavizhi	B. Sc., Biotechnology (II – Year)	“Nutrigenomics”
Ms. S. Dharani	M. Sc., Microbiology (I – Year)	“Microbiome: Probiotics role in gut”

Consolation Prize

Name of the Student	Course & Year of study	Title of the Poster
Mr. M. Sabareesh & Mr. N. Perarasu	M.Sc., Microbiology (II – Year)	“Leucoreduction Filters”

Virtual Seminar on

Biotechnology in Human Welfare

**04 & 05
January, 2021**

Platform: Google meet

**Department of Biotechnology
The Madura College, Madurai 625 011**

Meeting Link: <https://meet.google.com/viz-frjj-gqx>

The objectives of the e- Conference includes:

- To discuss latest developments in biotechnology and allied fields
- To provide platform for students for presentation
- To foster integration of the latest developments in research

Talk 1

Microbes: Key Drivers of the World

Dr. G. Velmurugan
Scientist, KMCH Research Foundation
Kovai Medical Center & Hospital, Coimbatore

Talk 2

Uncovering Genetic Changes Associated with Hip Dysplasia and Knee Osteoarthritis

Dr. M. Pushpanathan
Research Associate, Dept. of Human Evolutionary Biology, Harvard University, Cambridge, USA

e-Poster Presentation:
Students are encouraged to present "e-poster" on the theme "Biotechnology in Human Welfare". e-poster should contain only one powerpoint slide with the dimension of A3. The last date for submission of prepared poster is on/before 03/01/2021.

Abstract Submission:
Abstract for the e-posters must be typed in MS word, in Times New Romans format, 12 font size, with 1.5 line space. The last date for submission of abstract is on/before 02/01/2021.

About the College

The Madura College (Autonomous), is an academic institution which stands like a towering titan between centuries. It has a hoary past spanning a century and a quarter. It has served the cause of higher education with dedication all these decades. The College offers 16 Under-Graduate Programmes, 11 Post-Graduate Programmes, 8 M.Phil Programmes and 9 Ph.D Programmes. The history of the college reads like a romantic tale.

About the Department:

The Department of Biotechnology was established in the year 2008 with the vision to raise disciplined and competent students of high caliber, to become socially committed and ethically strong, to meet the challenges as biotechnocrats and entrepreneurs. The departments has well established laboratories and updated library.

Programme Schedule

04.01.2021 (Monday)

9.45 a.m - Prayer Song
9.50 a.m - Welcome address
10.00 a.m - Talk 1
11.00 a.m - e-Poster Presentation
11.30 a.m - Vote of Thanks

05.01.2021 (Tuesday)

9.45 a.m - Prayer Song
9.50 a.m - Welcome address
10.00 a.m - Talk 2
11.00 a.m - e-Poster Presentation
11.30 a.m - Vote of Thanks

Patrons

Sri. N. S. Krishnan
President, MCB

Sri. S. Seetharaman
Vice-President

Sri. S. Natanagopal
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Sri. R. Sridharan
Sri. S. Sridharan
Sri. R. S. Srinivasan
Sri. S. Suresh

Organizing Secretaries

Dr. J. Suresh
Principal

Dr. N. Pannerselvam
Convener and Co-ordinator

Ms. R. Suguna
Assistant Professor

Dr. P. Vimal
Assistant Professor

Dr. N. Krithiga
Assistant Professor

Dr. N. Arul Mutha
Assistant Professor

Sri. S. Baskaran
Assistant Professor

For contact: mc.biotechdept@gmail.com

Sponsored by

Madura College Board
Madurai

Invitation / Brochure of the Seminar

The screenshot shows a Google Meet session in progress. The main area is filled with a grid of participant icons, many of which are labeled with IDs such as '2018RC005', '2018RC015', '2018RC012', etc. A 'REC' indicator is visible in the top left corner. The right sidebar displays 'Meeting details' with options for 'People (91)', 'Chat', 'Add people', and 'Host controls'. Below this, there are sections for 'RAISED HANDS' (showing '2020RCL014 LOGESHWAR...') and 'IN CALL' (listing participants like 'baskaran S (You)', '2018LRC003 DEEPSHIK...', '2018LRC005 DIVYESW...', etc.). The bottom of the screen shows the meeting controls (mute, video, chat, etc.) and the system tray with the time '11:11 AM 1/4/2021'.

Google web link with active participants and the speaker on 04.01.2021

Microbes,
the key drivers of the world

KMCH
RESEARCH FOUNDATION

Chemomicrobiomics
Laboratory

G. Velmurugan M.Sc., Ph.D.,
Scientist, Chemomicrobiomics Laboratory
KMCH Research Foundation
Kovai Medical Center & Hospital
Coimbatore 641 014

meet.google.com is sharing your screen. Stop sharing Hide

Madura College,
04 January, 2021

வேலமுருகன். க. Velmurugan G

Online Guest Lecture given by Dr. G. Velmurugan on 04.01.2021

meet.google.com/viz-frjj-gqx?authuser=0

REC

baskaran S suguna R Pushpanathan Muthurulan sreegayathri S

2020pgr007 Meenakshi Shri J A. Asha arulmuthukumar N 2020RCL017 MEENAKSHI M

2020RCL01 Abdul Hameed 2020RCL008 HARITHA M 2020RCL009 JANANI A 2020RCL014 LOGESHWAR...

2018LRC003 DEEPSHIKHA T.K. 2020LCR030 SOUNDARYA M G 2020LCR034 VIJAYALAKSHMI... 2020RCL027 REKA V

Meeting de... ^

Raise hand Turn on captions Present now

Meeting details

People (72) Chat

Add people Host controls

RAISED HANDS

2020RCL014 LOGESHWAR...

IN CALL

baskaran S (You)

2018LRC003 DEEPSHIK...

2018LRC005 DIVYESW...

2018LRC007 JOOTHI P...

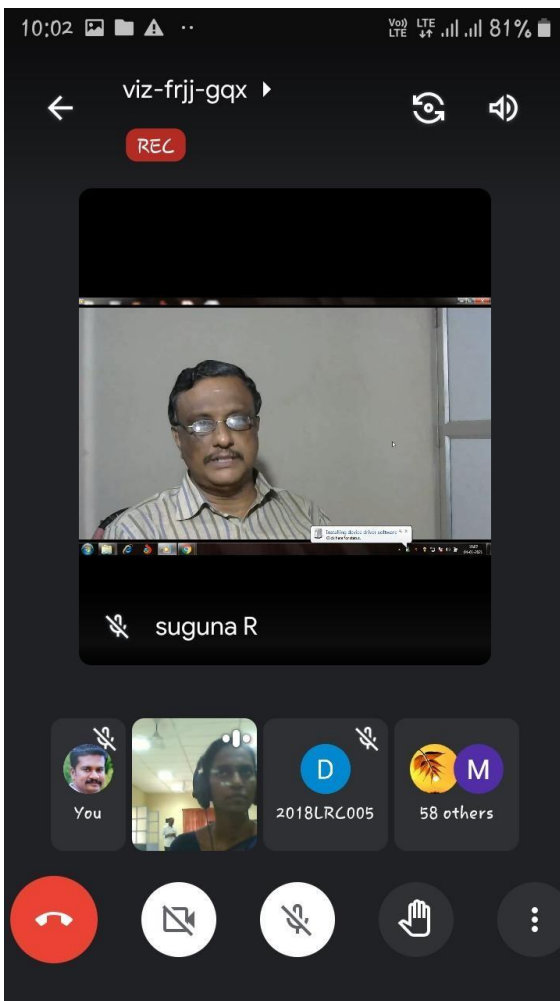
2018LRC012 MAHEMA S.

10:11 AM
05-Jan-21

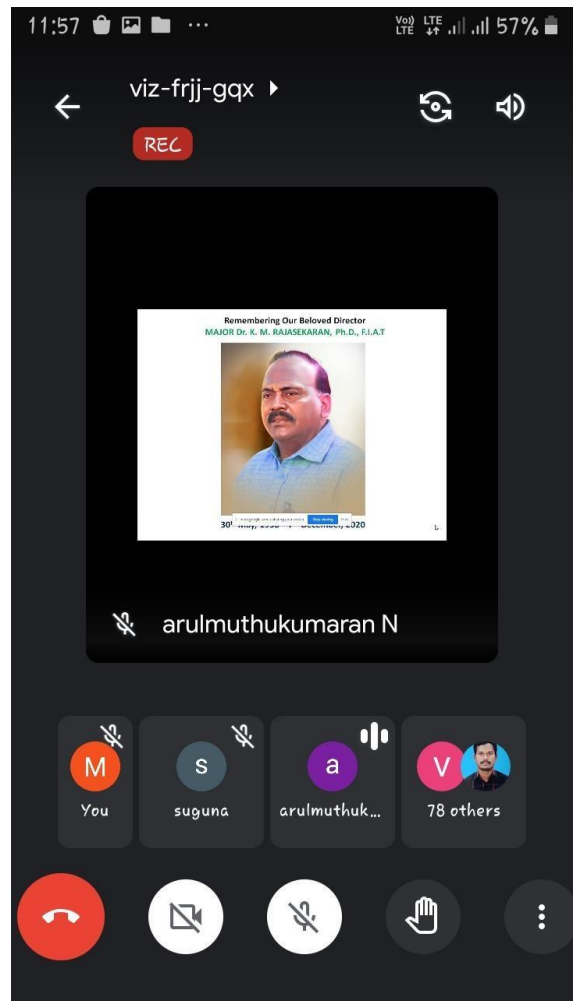
Online Guest Lecture given by Dr. M. Pushpanathan on 05.01.2021

INORGANIC NANOPARTICLES	DRUG DELIVERY BY NANOPARTICLES-AN EMERGING TECHNOLOGY	LIPID BASED NANOPARTICLES																																				
<p>Inorganic Nanoparticles</p> <p>Inorganic materials such as gold, iron and silica have been used to synthesise nanostructured materials for drug delivery. They have unique physical, electrical, magnetic and optical properties.</p> <p>Variability in size, structure and geometry well suited for therapeutic applications. Toxicity and solubility limits.</p> <table border="1"> <tr><td>Target</td><td>Allergic</td><td>Iron-deficient anemia</td></tr> <tr><td>Disease</td><td>American Region</td><td>Iron-deficient anemia</td></tr> <tr><td>Tissue</td><td>Sand</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Source</td><td>American Region</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Feature</td><td>AKAC</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Target</td><td>American Region</td><td>Iron-deficient anemia</td></tr> </table> <p>In this technique, we are not going to invent drugs. But to target the already existing drugs to the specific site.</p> <p>Reference s Engineering precision nanoparticles for drug delivery . https://www.nature.com/articles/s41573-020-0090-8</p>	Target	Allergic	Iron-deficient anemia	Disease	American Region	Iron-deficient anemia	Tissue	Sand	Iron-deficiency in chronic kidney disease	Source	American Region	Iron-deficiency in chronic kidney disease	Feature	AKAC	Iron-deficiency in chronic kidney disease	Target	American Region	Iron-deficient anemia	<p>POLYMERIC NANOPARTICLES</p> <p>In recent years, the development of nanoparticles has expanded into a broad range of clinical application. Nanoparticles have been developed to overcome the limitation of free therapeutics and navigate biological barriers.</p> <p>Polymeric NPs are synthesized from natural or synthetic materials, monomers or preformed polymers allowing for a variety of structures and characteristics. They can be formulated for a good delivery vehicles because they are biocompatible and have simple formulation parameters.</p> <p>CONCLUSION As it is a emerging tech, we have to reach its advanced level. There we can have a disease free world. The days are counting for the complete eradication of disease</p>	<p>LIPID BASED NANOPARTICLES</p> <p>Lipid – based NPs include subset structures but are most typically spherical platforms comprising at least one lipid bilayer surrounding at least one internal aqueous compartment.</p> <p>Formulation implying with a range of physicochemical Low encapsulation efficiency, chemical properties. High bio availability.</p> <table border="1"> <tr><td>Target</td><td>Algeria</td><td>Iron-deficient anemia</td></tr> <tr><td>Disease</td><td>American Region</td><td>Iron-deficient anemia</td></tr> <tr><td>Tissue</td><td>Sand</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Source</td><td>American Region</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Feature</td><td>AKAC</td><td>Iron-deficiency in chronic kidney disease</td></tr> <tr><td>Target</td><td>American Region</td><td>Iron-deficient anemia</td></tr> </table> <p>DEEPSHIKHA T.K 2018LRC003</p>	Target	Algeria	Iron-deficient anemia	Disease	American Region	Iron-deficient anemia	Tissue	Sand	Iron-deficiency in chronic kidney disease	Source	American Region	Iron-deficiency in chronic kidney disease	Feature	AKAC	Iron-deficiency in chronic kidney disease	Target	American Region	Iron-deficient anemia
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Feature	AKAC	Iron-deficiency in chronic kidney disease																																				
Target	American Region	Iron-deficient anemia																																				

E-poster presentation by an UG student from Dept. of Biotechnology



Inaugural Address by the Principal



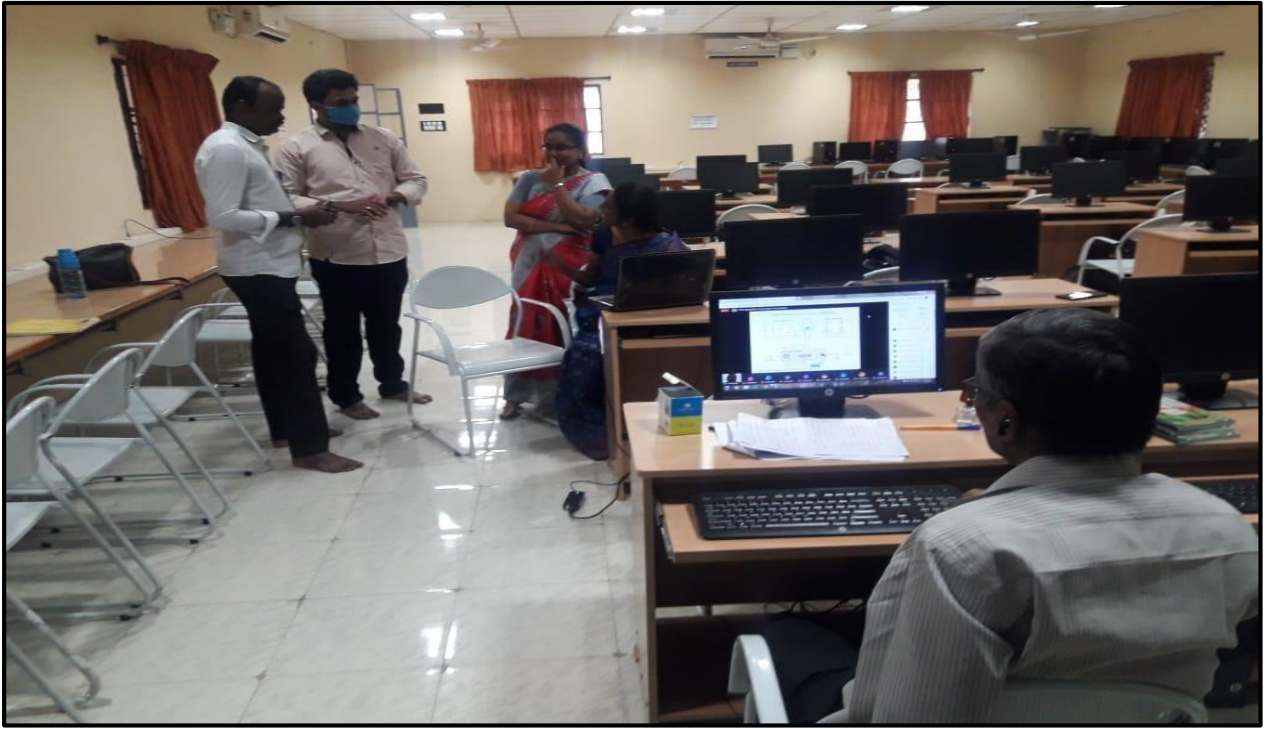
A Tribute video for the Former Director (SF), The Madura College, Late. Major. Dr. K. M. Rajasekaran



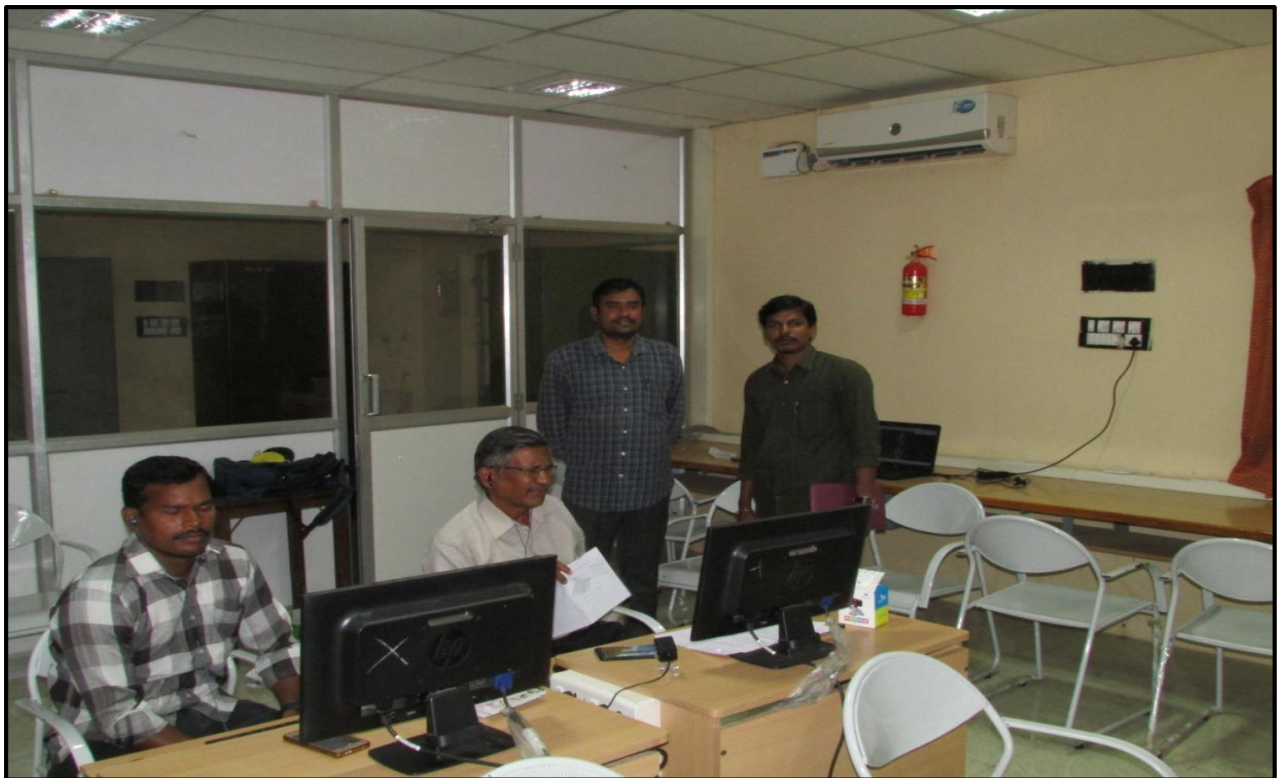
Co-ordinator and organisers listening to the seminar

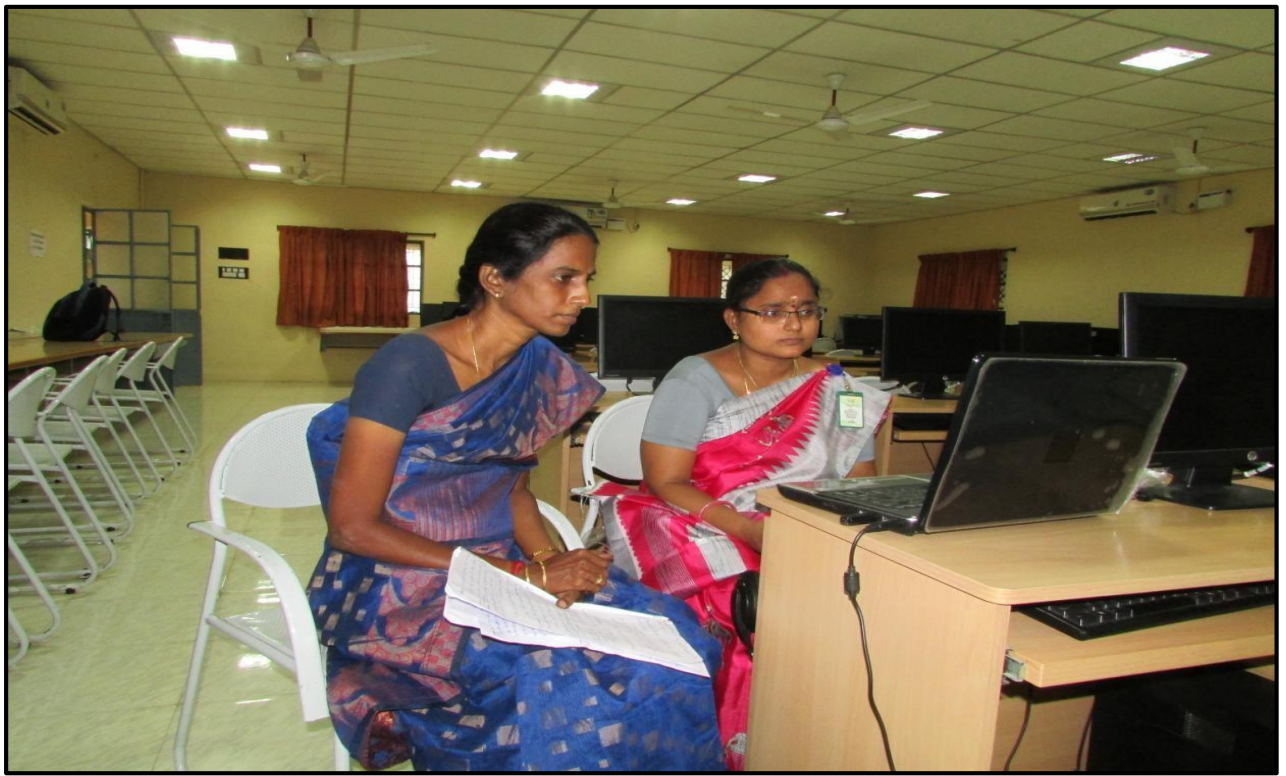


Organisation of the virtual seminar using the internet facilities of the Mohan Hall



Glimpses during the seminar at Mohan Hall





THE MADURA COLLEGE

Self financing stream
An Autonomous insitution affiliated to Madurai Kamaraj Universtity
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Certificate Of Participation

This is to certify that Dr.N.Krithiga from Department of Biotechnology/Microbiology, The Madura College has participated in Virtual Seminar in Biotechnology in Human Welfare organised by the Department of Biotechnology, and funded by Madura College Board held on 4th and 5th January 2021.

SLIDESMANIA.COM

Dr.N.Panneer Selvam
Co Ordinator

Dr.J.Suresh
Principal

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THE CO-ORDINATOR
DEPARTMENT OF BIO TECHNOLOGY
THE MADURAI COLLEGE (AUTONOMOUS - SF)
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Principal
PRINCIPAL
THE MADURA COLLEGE (Autonomous)
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