



**Sri Ramakrishna Mission Vidyalaya College of Arts and Science
Coimbatore - 641 020**

(An Autonomous Institution affiliated to Bharathiar University and Re-accredited by NAAC with 'A' grade)

Internal Quality Assurance Cell

3.3. Innovation Ecosystem

3.3.1. Institution has created an Eco system for innovations, creation and transfer of knowledge supported by dedicated centers for research, entrepreneurship, community orientation, incubation, etc

Research Centres

S.No.	Name of the Research Centres
1.	Tamil
2.	English
3.	Cooperation
4.	Social Work
5.	Mathematics
6.	Physics
7.	Chemistry
8.	Electronics
9.	Computer Science
10.	Library and Information Science
11.	ARIC Research Centre



PRINCIPAL
SRI RAMAKRISHNA MISSION VIDYALAYA
COLLEGE OF ARTS AND SCIENCE
COIMBATORE-641020.

RESOURCE PERSONS



Dr. Babu Balraj

Postdoctoral Fellow
Department of Electrical Engineering
National Tsing Hua University
Hsinchu, Taiwan.



Dr. P. Rajasekar

Assistant Professor of Chemistry
School of Advanced Sciences
VIT University
Vellore, Tamil Nadu.



Dr. Divya Velpula

Women Scientist - A
Jawaharlal Nehru
Technological University
Hyderabad, Telangana.



Sri S. Chandrasekar

Research Fellow
Department of Physics
National Chung
Hsing University
Taichung, Taiwan.



Sri Antilen Jacob

Research Scholar
Magnetic Materials Laboratory
Department of Physics
National Institute of Technology
Trichy, Tamil Nadu.



Dr. R. Marnadu

Department of Physics
Sri Ramakrishna Mission Vidyalaya
College of Arts and Science
Coimbatore.

ADVISORY COMMITTEE

PATRON

Swami Nirmaleshananda
Secretary, SRMV CAS, Coimbatore

CHAIRMAN

Dr. R. Thangavel
Principal, SRMV CAS, Coimbatore

ORGANIZING COMMITTEE

CONVENER

Dr. J. Chandrasekaran
Head, Department of Physics

COORDINATORS

Dr. M. Sethuraman

Dr. R. Suresh

MEMBERS

Dr. M. Ramamurthy

Dr. R. Jayaprakash

Dr. R. Bharathikannan

Dr. K. Sathishkumar

Dr. S. Ramanathan

Dr. C. Mahendran

Dr. D. Sridher

Dr. P. Jayamurugan

Dr. S. Gopi

Online Hands-on-Training Programme

Characterization Techniques

25th March, 2021



Department of Physics
Sri Ramakrishna Mission Vidyalaya
College of Arts and Science
Coimbatore - 641 020

ABOUT THE INSTITUTION

Ramakrishna Mission Vidyalaya was founded by 'Ayya' Sri. T. S Avinashilingam in the year 1930, to implement great education ideals placed before the country by Sri Ramakrishna, Swami Vivekananda and Mahatma Gandhi. It cherishes a life of purity, discipline, simplicity and inculcates the ideals of devotion to duty and sincerity in service.

Sri Ramakrishna Mission Vidyalaya College of Arts and Science, a constituent institution of Ramakrishna Vidyalaya was started in the year 1964 with Pre-University course. The Degree Programmes were started in the year 1966 and Post Graduate Programmes in the year 1971. The M.Phil programmes were started in the year 1978 and affiliation for Ph.D programmes was granted in the year 1979. The college has completed 57 years of noble service in the field of higher education.

The college has undergone the NAAC Re-Accreditation (3rd cycle) with the vision:

"Imparting moral ethical and socially relevant holistic education to develop multidimensional personality of every youth to be an asset of our nation"

and is awarded 'A' grade with CGPA 3.25.

ABOUT THE DEPARTMENT

The Department of Physics was established in 1964 with a view to indoctrinate the scientific thoughts among the students. In addition to UG and PG Programmes, active M.Phil and Ph.D research in the fields of Solar Energy, Thin Film Technology, Crystal Growth, Non-Linear Optics, Conducting Polymers, Nano Technology, Solar Cells, Molecular Quantum Mechanics and

Ultrasonics are being carried out. So far, more than 300 M.Phil and 67 Ph.D degrees were awarded. The Department has published more than 525 research articles in SCI indexed international journals. The Department has carried out five major and four Minor research projects to the tune of 1.2 crores funded by UGC, DST and DRDO. It is a FIST sponsored department having advanced research instrumentation facilities.

OBJECTIVE OF THE HANDS-ON-TRAINING

The proposed Hands-on-Training programme is planned for one day with technical lectures on characterization techniques like UV-ViS, PL, FT-IR, TGA-DTA, SEM, TEM, STM, AFM, and VSM and instrumental demonstration

REGISTRATION

- ❖ No Registration Fee
- ❖ E-Certificate will be provided for all the participants

USEFUL LINKS

Registration link

<https://forms.gle/iCUroN1WvpgU7A337>

Google Meet link

<https://meet.google.com/jwb-zayu-qom>

Contact: 08667758336

PROGRAMME SCHEDULE

10.30-11.00 am	INAUGURATION
Session - I	
11.00-11.45 am	TECHNICAL LECTURE-I
11.45-12.00 pm	DEMONSTRATION
Session - II	
12.00-12.45 pm	TECHNICAL LECTURE-II
12.45-1.00 pm	DEMONSTRATION
1.00- 2.00 pm	LUNCH BREAK
Session - III	
2.00-2.45 pm	TECHNICAL LECTURE-III
2.45-3.00 pm	DEMONSTRATION
Session - IV	
3.00-3.45 pm	TECHNICAL LECTURE-IV
3.45-4.00 pm	DEMONSTRATION
Session - V	
4.00-4.45 pm	TECHNICAL LECTURE-V
4.45-5.00 pm	DEMONSTRATION
Session - VI	
5.00-5.30 pm	TECHNICAL LECTURE-VI
5.30-5.45 pm	DEMONSTRATION
5.45-5.50 pm	VALEDICTORY

CONVENER:

Dr. J. Chandrasekaran
Head, Department Of Physics
SRMV College of Arts and Science
Coimbatore - 641 020
Contact No. : 9865902727.

INVITATION



Sri Ramakrishna Mission Vidyalaya College of Arts and Science Coimbatore - 641 020

DEPARTMENT OF PHYSICS

Cordially invites you to

ONLINE HANDS-ON-TRAINING PROGRAMME ON CHARACTERIZATION TECHNIQUES

25th March, 2021

Swami Nirmaleshananda

Secretary, SRMV CAS, Coimbatore - 641 020

Benedicts

Dr. R. Thangevel

Principal, SRMV CAS, Coimbatore - 641 020

Presides

Dr. Divya Velpula

Women Scientist - A, Centre for Nano Science and Technology
Institute of Science and Technology
Jawaharlal Nehru Technological University, Hyderabad, Telangana India

Dr. B. Babu

Post Doctoral Fellow
Department of Electrical Engineering
National Tsing Hua University, Hsinchu, Taiwan

Deliver the Technical Lectures

Time: 10.30 am - 06.00 pm

PROGRAMME

Date: 25.03.2021

Time: 10.30 am - 06.00 pm

INAUGURATION

10.30 am	Prayer Song	
10.35 am	Welcome Address	Dr. J. Chandrasekaran Head, Department of Physics, SRMV CAS Coimbatore
10.40 am	Presidential Address	Dr. R. Thangavel Principal, SRMV CAS, Coimbatore
10.45 am	Benedictory Address	Swami Nirmaleshananda Secretary, SRMV CAS, Coimbatore
10.55 am	Vote of Thanks	Dr. M. Sethu Raman Associate Professor of Physics, SRMV CAS Coimbatore

SESSIONS

Ses sion	Time	Resource Person	Topic
I	11.00 am - 12.00 pm	Sri Antilen Jacob Research Scholar, Magnetic Materials Laboratory, Department of Physics National Institute of Technology Trichy, Tamil Nadu.	Principle and Working mechanism of TGA and VSM Analysis
II	12.00 am - 1.00 pm	Dr. R. Marnadu Department of Physics, SRMV CAS	Conductivity and Diode Characteristics
1.00 - 2.00 pm Lunch			
III	2.00 - 3.00 pm	Dr. Babu Balraj Post Doctoral Fellow, Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan	Mechanism and Demonstration of STM (Scanning Tunneling Microscope)
IV	3.00 - 4.00 pm	Dr. Divya Velpula Women Scientist - A, Centre for Nano Science and Technology, Jawaharlal Nehru Technological University, Hyderabad, Telangana	Principle and instrumentation of UV, FT-IR and TEM Analysis
V	4.00 - 5.00 pm	Dr. P. Rajasekar Assistant Professor of Chemistry School of Advanced Sciences, VIT University Vellore, Tamil Nadu.	XRD pattern analysis and Rietveld Refinement measurements
VI	5.00 - 5.45 pm	Sri S. Chandrasekar Research Fellow, Department of Physics, National Chung Hsing University, Taichung, Taiwan	Working Principle and Demonstration of SEM and EDAX Analysis

5.45 - 5.55 pm Vote of Thanks **Dr. R. Suresh**, SRMV CAS

National Anthem

All are Welcome



**Sri Ramakrishna Mission Vidyalaya College of Arts and Science
Coimbatore – 20**

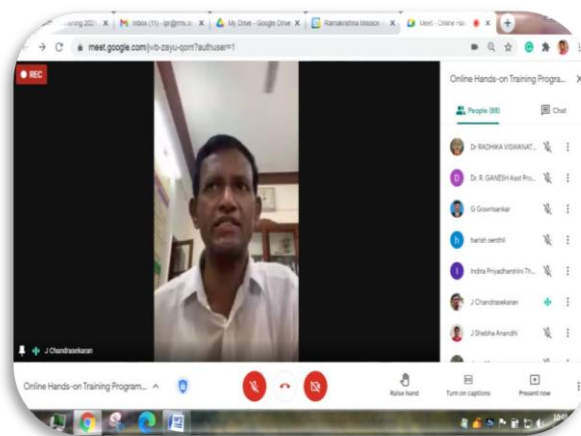
DEPARTMENT OF PHYSICS

***“ONLINE HANDS-ON-TRAINING PROGRAMME ON CHARACTERIZATION
TECHNIQUES”***

REPORT

A one-day **“Online Hands-on-Training Programme on Characterization Techniques”** was organized by Department of Physics on 25th March, 2021. Totally 93 Students and Research scholars from various institutions were participated and benefitted.

The Online Hands-on-Training Programme began with prayer song. Dr. J. Chandrasekaran, Head, Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore welcomed the gathering.



Dr. R. Thangavel, Principal, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore delivered the presidential address. Rev. Swami Nirmaleshananda, Secretary, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore delivered the benedictory address. Dr. M. Sethu Raman, Associate Professor, Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore proposed the vote of thanks in the inaugural session.

Session - I (11.00 am 12.00 noon)

The technical deliberations were planned into six sessions. The first session was handled by Sri Antilen Jacob, Research Scholar, Magnetic Materials Laboratory, Department of Physics National Institute of Technology, Trichy, Tamilnadu. He highlighted the various process involved in the TGA, DSC and VSM measurements and also gave an online training on Advanced Instrumentation Techniques with the instruments available in their Research Facility Centre.



Session - II (12.00 noon to 1.00 pm)



In the second session, Dr. R. Marnadu, Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science explained the technical details of Conductivity measurements and Diode characteristics and also demonstrate the working mechanism of Keithley 6517B electrometer.

Session - III (2.00 to 3.00 pm)

Dr. Babu Balraj, Post Doctoral Fellow, Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan delivered the technical lecture in the third session. He elucidated the principles and imaging techniques of STM (Scanning Tunneling Microscope). He exposed the working mechanism and hands-on-training on advanced instruments like STM and TEM through experiential learning.

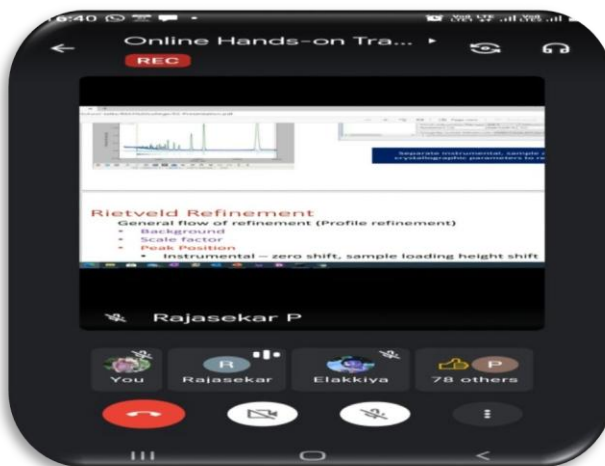


Session - IV (3.00 to 4.00 pm)

The fourth session was delivered by Dr. Divya Velpula, Women Scientist - A, Centre for Nano Science and Technology, Jawaharlal Nehru Technological University, Hyderabad, Telangana. She described the concepts, theories, working principles and various components of UV-ViS and FT-IR spectrometers.

Session - V (4.00 to 5.00 pm)

In the fifth session Dr. P. Rajasekar, Assistant Professor of Chemistry, School of Advanced Sciences, VIT University, Vellore, Tamil Nadu delivered the technical lecture on XRD pattern analysis and Rietveld Refinement measurements. He revealed the salient features of refinement parameters in crystallographic planes using Rietveld process.



Session - VI (5.00 to 5.45 pm)

The last session was delivered by Sri S. Chandrasekar, Research Fellow, Department of Physics, National Chung Hsing University, Taichung, Taiwan. He delivered the working principle of SEM and EDAX analysis and also explained the experiential exposure of aforesaid instruments through online training.



Dr. R. Suresh, Coordinator, Assistant Professor of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore proposed the vote of Thanks in the valedictory session.

Outcome(s)

- The participants gained knowledge on the various advanced characterization and imaging techniques like SEM, TEM and STM.
- The participants realized the experiential exposure of TGA, VSM, SEM, TEM, XRD, STM, UV, FT-IR and EDX analysis.
- Empowered the research temper of the participants

1. M. Leel Ramani

2. Ramani

Conveners

DEPARTMENT OF PHYSICS
SRI RAMAKRISHNA MISSION VIDYALAYA
COLLEGE OF ARTS AND SCIENCE,
COIMBATORE - 641 020.

Head of the Department

Dr. J. CHANDRASEKARAN Ph.D
Associate Professor & Head of Physics
SRMV College of Arts and Science
Coimbatore - 641 020

Principal

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COLLEGE OF ARTS AND SCIENCE
COIMBATORE-641020.