

REPORT ON APT PROJECT PRESENTATION COMPETITION-2020

To encourage research aptitude among the young minds and motivate the inspiring and innovative ideas emerged during the post graduate studies Academy of Physics Teachers, Kerala initiated “**ALL KERALA PROJECT PRESENTATION COMPETITION 2020**”.

It was decided to conduct the competition in two categories namely Experimental Physics and Theoretical Physics. The competition was announced on 3rd September 2020. The last date for submission of abstract was 15th September 2020 which was further extended to 26th September 2020.



ALL KERALA PROJECT PRESENTATION COMPETITION 2020

For those who have completed M.Sc Physics
during 2020

**SUBMIT YOUR ABSTRACTS ON OR BEFORE
26 TH SEPTEMBER, 2020**

Register and submit the abstract through the link
<https://forms.gle/Q4uCoy4WNczt48f7A> or scan the QR code



Presentation and Evaluation
through Google Meet



Coordinator

Dr. Malini.K.A
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Joint Coordinators

Dr. Noble P. Abraham
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Academy of Physics Teachers, Kerala organises "ALL KERALA PROJECT PRESENTATION COMPETITION 2020" envisaging to inculcate research aptitude among the young minds and develop inspiring and innovative ideas during the post graduation studies. It provides a platform to present the project done in M.Sc Physics in front of a panel of eminent academicians.

We invite abstracts from students who have completed / will be completing M.Sc Physics from Colleges and Universities across Kerala in the year 2020. The project abstracts will be screened and shortlisted. Applicants with shortlisted projects will be invited to present the work through Google Meet. The best projects, in both Theoretical and Experimental areas, will be awarded prizes.

President

Dr.Titus.K.Mathew

Secretary

Dr.Harikrishnan.G

Coordinator

Dr.Malini.K.A

Guidelines

- 1.The competition shall be held in two categories: theory and experiment.
- 2.The work submitted should be original and any publication status (published/submitted/under review/rejected) should be specified in the application.
- 3.The candidate is required to obtain consent from the concerned supervisor(s).
4. The letter of consent should be mailed directly by the supervisor mentioning complete contact details to the joint coordinator (pskrishnaprasu@gmail.com) by 15th September 2020, 5 pm. Projects submitted without consent letter will be summarily rejected and will not be screened.Format of consent letter is given in <https://tinyurl.com/aptpproject20>
- 5.All submitted projects will be screened and a short list may be prepared, as required.
6. Applicants of short-listed projects will be invited for a live presentation through Google Meet in front of a panel of subject experts.
7. Decisions by the panel of experts chosen by the Academy will be final.
8. The submissions after September 26th ,2020, 5 pm will not be considered for screening.
- 9.Top grades in both category (Theory/Experiment) will be awarded with cash prizes and grade certificates.
10. An extended version of the project abstracts, selected by the panel of experts , shall be published in APT Tunes, the official publication of the Academy.



- Exciting Cash prizes are waiting for the Toppers!!!
- All the participants presenting the projects will be given participation certificates.

There were **13 abstracts** in the theoretical category and **24 in the experimental** category. There were two separate panels consisting of the following experts.

<u>Panel of experts</u>	
<u>Experimental</u>	<u>Theoretical</u>
1. Dr Riju C Issac (CUSAT)	1. Dr Sasidevan (CUSAT)
2. Dr Sudheendran (SKVC, Thrissur)	2. Dr Pramod Dominic (UC College Aluva)
3. Dr Reena Mary A P (Govt Victoria College, Palakkad)	3. Dr Suneera T P (Govt College, Madappally)

The abstracts were consolidated and send to the respective panel members. After initial screening individually each panel met online through google meet and shortlisted the finalists. Among the applicants 10 each were shortlisted for final presentation in the Experimental and Theoretical categories

	FINALISTS	
	Theoretical	Experimental
1	AMAL K S	AFRIN M N
2	Amala Jose	Anju Sreekumar
3	ANJANA ANIRUDHAN	Ann Maria J Puthur
4	Ayrin p winson	ARUJA JOSE
5	Bright Joseph	Ayana Ayyappan
6	KARTHIKA BHUVANENDRAN	Chandhini P
7	Meera Ramachandran	Dayana D
8	NITHYA M	Drishya p.p
9	SHIFANA KOYA	POOJA KV
10	Vaishnavi M Rajesh	Shilpa prince

The final round of APT Project presentation in the Experimental category was held on 26/11/2020 and in the Theoretical category was held on 28/11/2020 through the online platform Google meet from 9.30am onwards. The winners of each category are

ALL KERALA PROJECT PRESENTATION COMPETITION-2020

RESULTS

CATEGORY 1- EXPERIMENTAL (26/11/2020)		
1ST Prize	ARUJA JOSE	Department of Physics, Mar Thoma College, Tiruvalla
2nd Prize	ANJU SREEKUMAR	Post graduate and Research Department of Physics, St.Thomas College Kozhanchery
	VYSHNAVY PRASAD	
3rd Prize	AYANA AYYAPPAN	Department of Physics, Cochin University of Science And Technology (CUSAT).
CATEGORY 2 – THEORETICAL (28/11/2020)		
1ST Prize	NITHYA M	Department of Physics, Central University of Kerala.
2nd Prize	KARTHIKA BHUVANENDRAN	Department of Physics, Cochin University of Science And Technology(CUSAT).
3rd Prize	AMALA JOSE	Department of Physics, Central University of Kerala.

The winners of first three positions in both the categories were awarded with cash prize and certificates.

Winners certificate- model



Participant certificate -model



Screen shots of finals

Experimental

The screenshot shows a Google Meet interface with a presentation titled "X-ray diffraction Analysis". The presentation slide displays a graph of intensity versus 2θ (degrees) for $ZrO_2 \cdot 8H_2O$ nanoparticles. The graph shows three peaks at 2θ values of 20.4° , 20.8° , and 20.9° . The Debye-Scherrer formula is shown as $D = \frac{0.9\lambda}{\beta \cos \theta}$. The presentation is being shown by vyshnavy prasad.

Meeting details: Search for anything, Turn on captions, vyshnavy prasad is presenting.

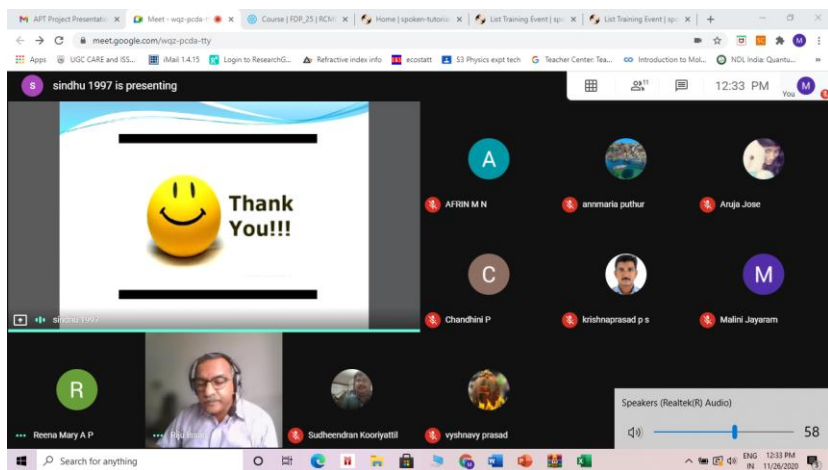
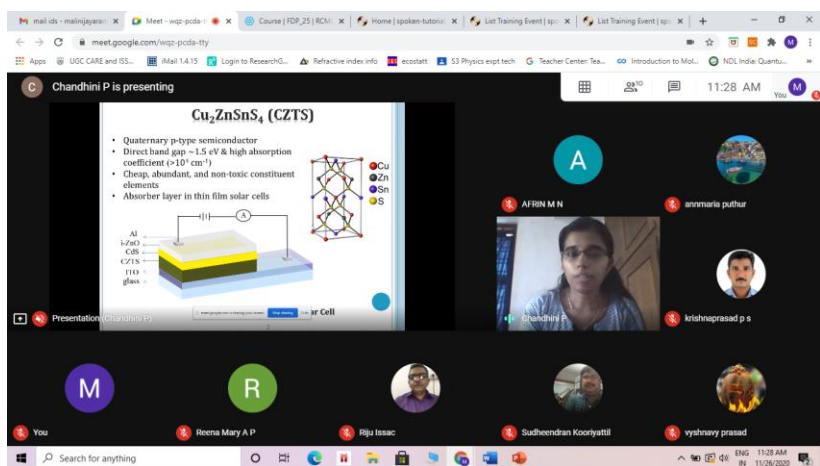
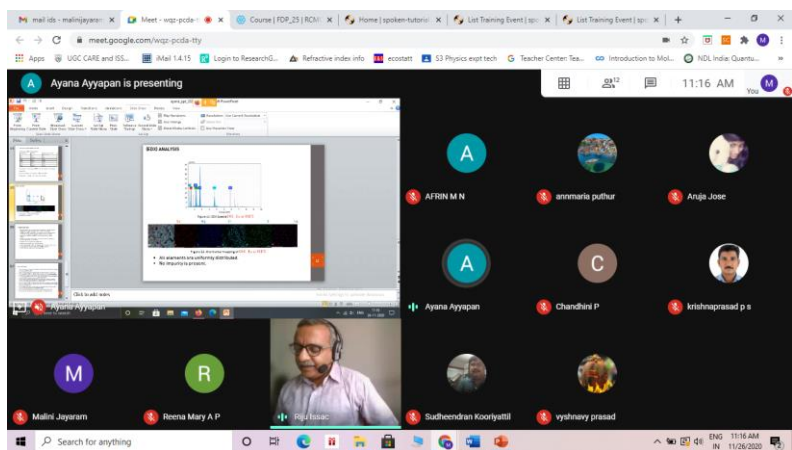
The screenshot shows a Google Meet interface with a presentation titled "Searching the Optical and UV Counterparts of Candidate Millisecond Pulsars". The presentation slide includes text about millisecond pulsars and a diagram of a pulsar. The presentation is being shown by anannaria puthur.

Meeting details: Search for anything, Turn on captions, anannaria puthur is presenting.

The screenshot shows a Google Meet interface with a presentation titled "b. CRYSTALLITE SIZE OF CMS AND CMSu". The presentation slide includes a table with data on crystallite size and a graph showing the reduction of single Monoclinic phase by increasing temperature. The presentation is being shown by Ayana Ayyapan.

Temperature (°C)	Sample	Phase	Crystallite size (nm)
800	CMS	Monoclinic, Tetragonal	13
800	CMSu	Monoclinic, Tetragonal	12
900	CMS	Monoclinic, Tetragonal	18
900	CMSu	Monoclinic, Tetragonal	15
1000	CMS	Monoclinic	21
1000	CMSu	Monoclinic	21
1100	CMS	Monoclinic	22
1100	CMSu	Monoclinic	19

Meeting details: Search for anything, Turn on captions, Ayana Ayyapan is presenting.



Meet attendance

Fouzana .K.P

Sindhu 1997

Ayana Ayyapan

Riju Isaac

Malini Jayaram

Aruja Jose

Sudheendran Kooriyattil

Mini Krishna

Reena Mary

Afrin M N

Binsha Nasrin

Chandhini P

Reena Mary A P

Vishnu Prasad

Vyshnavy Prasad

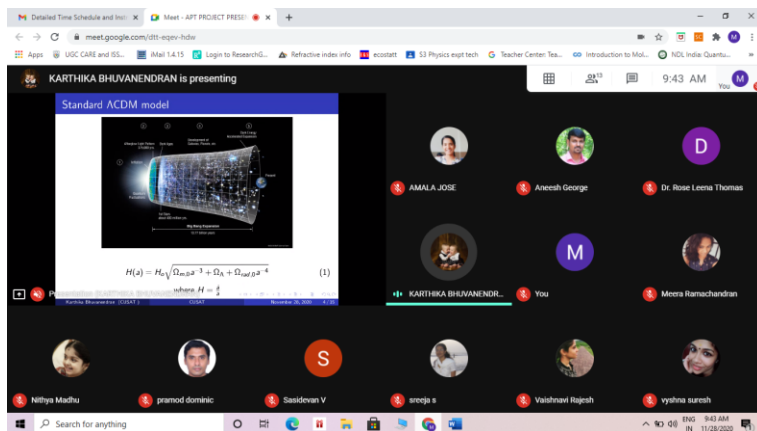
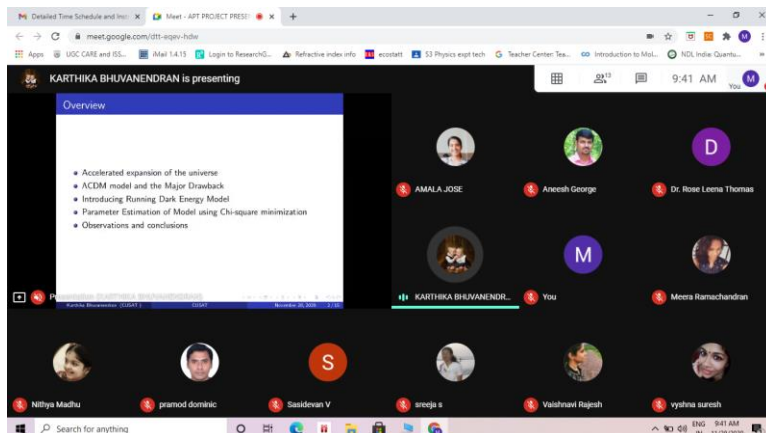
Annmaria Puthur

Krishnaprasad P S

Sithulya Sivadas

Prathibha Vasudevan

Theoretical final--screenshots



AMALA JOSE is presenting

What is graphene?

- Graphene is a single layer of sp² hybridized carbon atoms
- Honeycomb lattice

Figure 1: 3D image showing hexagonal lattice of graphene

Figure 2: Arrangement of electrons in carbon atom

Figure 3: Hybridization in carbon atom

AMALA JOSE

KARTHIKA BHUVANENDRAN

10:04 AM

ENG 10:04 AM IN 11/28/2020

ANJANA ANIRUDHAN is presenting

ANALYSIS USING GAUSSIAN SOURCE

Gaussian pulse in the presence and absence of wire medium

In the absence of wire medium

In the presence of wire medium

Abhishek MS

Aneesh George

ANJANA ANIRUDHAN

KARTHIKA BHUVANENDRAN

Madni Jayaram

Meera Ramachandran

Nithya Madhu

Physical science Ayin

pramod dominic

Sasidharan V

sreja s

Vaishnavi Rajesh

veena sreelith

10:32 AM

ENG 10:32 AM IN 11/28/2020

Physical science Ayin is presenting

Galaxy

- Gravitationally bound system of stars, stellar remnants, interstellar gas, dust and dark matter
- Word galaxy - Greek galaxias, literally 'milky' a reference to milky way

AMALA JOSE

Aneesh George

KARTHIKA BHUVANENDRAN

You

Nithya Madhu

pramod dominic

Sasidharan V

sreja s

Vaishnavi Rajesh

veena sreelith

10:50 AM

ENG 10:50 AM IN 11/28/2020

APT PROJECT PRESENTATION COMPETITION...

Physical science Ayin is presenting

Bright Joseph is presenting

►The information entropic measure such as Shannon entropy increases with increase in the quantum number, n . The overall increasing of entropy with increasing principal quantum number n in position space, reflect the global extension and concentration of density distributions in corresponding space.

►Here the unpredictability increases as we goes to the higher lying states, i.e the probability for getting an information or a message is greater in the low lying states such as 1, 2, etc. than as compared with states 8,9,10 and so on.

►The localization character of electron radial density distribution can also be captured by varying l for a given n .

Participants: You, Nithya Madhu, pramod dominic, Sasidevan V, sreeja s, AMALA JOSE, Bright Joseph, Dr. Jaya Krishnan, KARTHIKA BHUVANENDRAN.

APT PROJECT PRESENTATION COMPETITIO...

Bright Joseph is presenting

Radial Shannon entropy for principal quantum number $n \leq 9$ and angular quantum number l .

Participants: You, Nithya Madhu, pramod dominic, Sasidevan V, sreeja s, AMALA JOSE, Bright Joseph, Dr. Jaya Krishnan, KARTHIKA BHUVANENDRAN.

APT PROJECT PRESENTATION COMPETITIO...

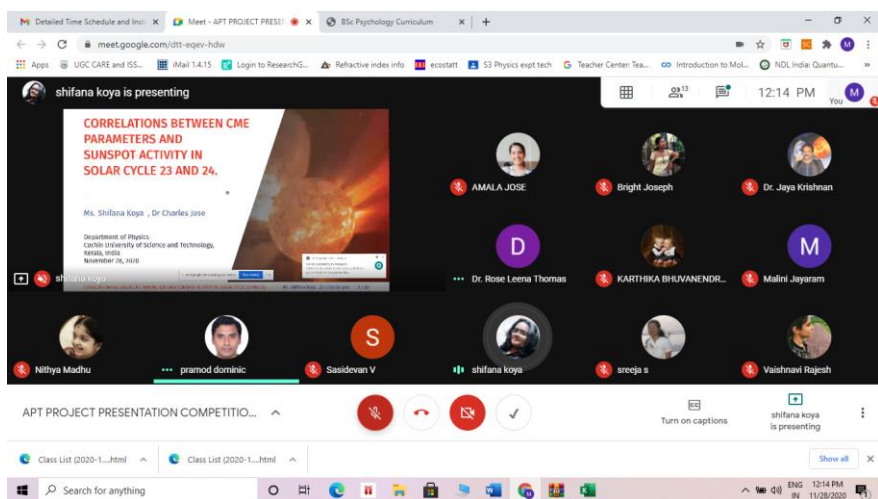
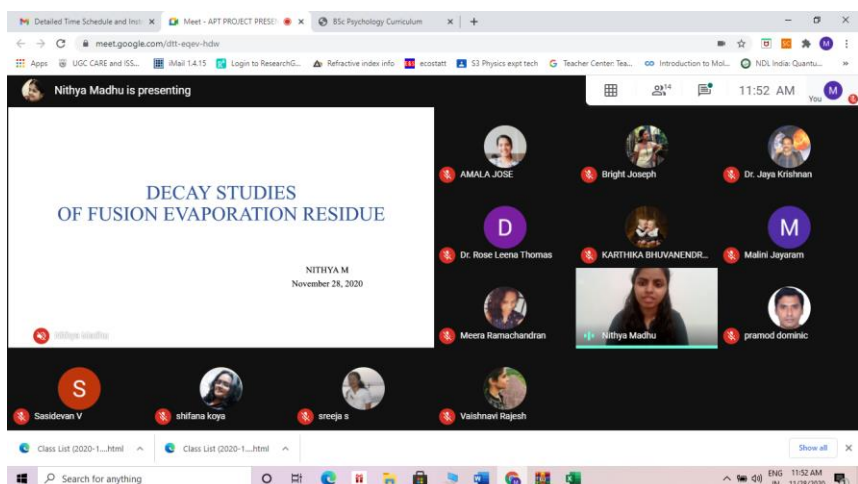
Meera Ramachandran is presenting

A voyage through stellar remnants

Participants: Dr. Rose Leena Thomas, KARTHIKA BHUVANENDRAN, You, Dr. Jaya Krishnan, Meera Ramachandran, Nithya Madhu, pramod dominic, Sasidevan V, sreeja s, AMALA JOSE, Bright Joseph.

APT PROJECT PRESENTATION COMPETITIO...

Class List (2020-1...html)



Meet attendance

Anjana Anirudhan

Sumayya Hanan A

Physical Science Aylin

Karthika Bhuvanendran

Pramod Dominic

Aneesh George

Malini Jayaram

Amala Jose

Bright Joseph

Dr. Jaya Krishnan

Nithya Madhu

Abhishek Ms

Vaishnavi Rajesh

Meera Ramachandran

Sreeja S

Veena Sreejith

Afiya Thasneem

Dr. Rose Leena Thomas

Sasidevan V

Organising committee

1. Dr Malini K A (Convener)
2. Dr Noble P Abraham
3. Dr Krishnaprasad P S
4. Dr Sreeja S
5. Dr Rose Leena Thomas

Thank you all

Dr Malini K A