



WMO ARTS & SCIENCE COLLEGE

"education and some more"

Affiliated to University of Calicut
(Aided by Govt. of Kerala)

P.O. MUTTIL, WAYANAD, KERALA - 673122

Phone : 04936-203382 (Office)
04936-207532 (Principal)

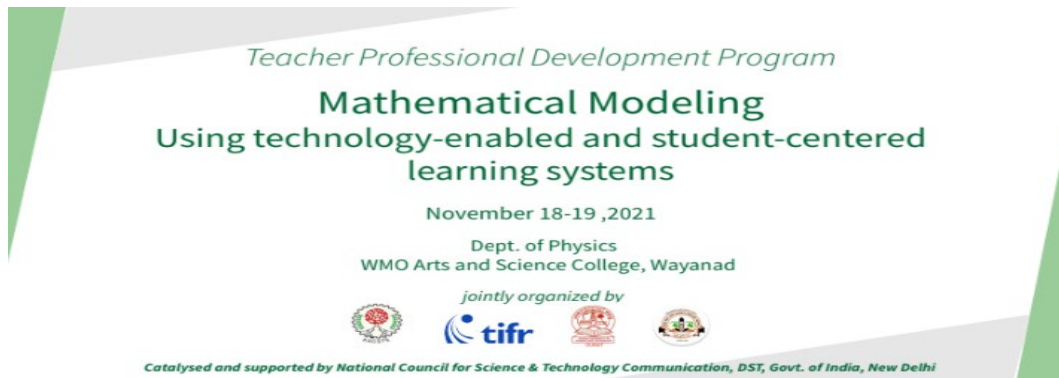
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Teacher Professional Development Program Using technology-enabled and student-centered learning systems

KSCSTE, in association with HBCSE -TIFR, Department of Physics, CUSAT and Department of Physics, WMO Arts and Science College Muttil, organized a teacher training program On 18/11/21 and 19/11/21 (2 days) on mathematical modelling. 20 faculties participated.

The 2-day training facilitated the use of computational models in physics teaching and learning. The program focused on physics derivations, and is open to physics faculty members who teach undergraduate level courses in colleges and university departments across Kerala.



The workshops will support the use of technology in teaching and learning, which allows the transition to interdisciplinary science practice. This transition is one of the key objectives of National Education Policy 2020



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Background

Contemporary science practice is based on computational modelling, and building of such models is central to interdisciplinary science and technology research. However, most science teaching and learning is not based on computational models. One way to introduce computational modelling to science classrooms is through new digital media representations. This is a global trend, closely connected to the teaching and learning of computational thinking and computational modelling. The proposed training program will illustrate how new digital media representations could be used to teach existing physics content in new ways. This would allow students to transition to computational modelling. The workshop will thus help build capacity in this educational innovation in India. The training program will be spearheaded by a team of faculty members, from Homi Bhabha Centre for Science Education (HBCSE), TIFR, and Cochin University of Science and Technology (CUSAT). HBCSE is a National Centre of the Tata Institute of Fundamental Research (TIFR), Mumbai, with a dedicated research group focusing on building new digital media representations for teaching and learning science and mathematical modelling

Program Schedule

18-11-2021			18-11-2021		
09:15 – 10:00	Registration & Inaugural session		09:15 – 10:00	Registration & Inaugural session	
10:00 – 10:30	Dr. Mashood KK, HBCSE, TIFR Mumbai	Introduction - Goals and Objectives of the workshop	10:00 – 10:30	Dr. Mashood KK, HBCSE, TIFR Mumbai	Introduction - Goals and Objectives of the workshop
10:30 – 11:00	Dr. Sasidevan V, Dept. of Physics CUSAT	Physics as an activity of mathematical modelling	10:30 – 11:00	Dr. Sasidevan V, Dept. of Physics CUSAT	Physics as an activity of mathematical modelling
11:00 – 11:15	Tea		11:00 – 11:15	Tea	
11:15 – 11:45	Dr. Mashood KK, HBCSE, TIFR Mumbai	Deconstructing derivations as an activity in mathematical modelling	11:15 – 11:45	Dr. Mashood KK, HBCSE, TIFR Mumbai	Deconstructing derivations as an activity in mathematical modelling
11:45 – 12:15	Dr. Mashood KK, HBCSE, TIFR Mumbai	Interactive Learnware on Simple Pendulum	11:45 – 12:15	Dr. Mashood KK, HBCSE, TIFR Mumbai	Interactive Learnware on Simple Pendulum
12:15 – 13:00	Dr. Mashood KK, HBCSE, TIFR Mumbai Aamir Sahil, Intern LSR Group HBCSE, TIFR Mumbai	Modelling Activity - A pendulum oscillating in a viscous medium	12:15 – 13:00	Dr. Mashood KK, HBCSE, TIFR Mumbai Aamir Sahil, Intern LSR Group HBCSE, TIFR Mumbai	Modelling Activity - A pendulum oscillating in a viscous medium
13:00 – 14:00	Lunch Break		13:00 – 14:00	Lunch Break	
14:00 - 14:50	Dr. Sasidevan V, Dept. of Physics CUSAT Dr. Charles Jose, Dept. of Physics CUSAT	Analytical method Vs Numerical method - Transitioning to computational thinking	14:00 - 14:50	Dr. Sasidevan V, Dept. of Physics CUSAT Dr. Charles Jose, Dept. of Physics CUSAT	Analytical method Vs Numerical method - Transitioning to computational thinking
4:50 – 5:30	Dr. Mashood KK, HBCSE, TIFR Mumbai	Derivation of wave equation using an interactive, manipulable learning software	4:50 – 5:30	Dr. Mashood KK, HBCSE, TIFR Mumbai	Derivation of wave equation using an interactive, manipulable learning software

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Attendance Sheets:

WorkShop on Teacher Professional Devolopment Program Mathmatical Modeling				
ATTENDANCE SHEET 19-11-2021				
SL No	Name of the participant	Affiliation	F/N	A/N
1	Abdul Rasheed	WMO Arts & Science College, Muttill	<i>[Signature]</i>	<i>[Signature]</i>
2	Amaya Sivan O V	WMO Arts and Science College, Muttill	<i>[Signature]</i>	<i>[Signature]</i>
3	Anas Swalih P. K	Farook college, Kozhikode	<i>[Signature]</i>	<i>[Signature]</i>
4	Anjali VK	NMSM Govt. College, Kalpetta	<i>[Signature]</i>	<i>[Signature]</i>
5	Apama KM	NMSM Govt. College, Kalpetta	<i>[Signature]</i>	<i>[Signature]</i>
6	Dr.Biju KG	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
7	Dr. Sirajudheen K K	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
8	Dr.Bhagyaraj C	St.Marys college, Sulthan Bathery	<i>[Signature]</i>	<i>[Signature]</i>
9	Febina CK	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
10	Fibin Vargheese T V	St Mary's College, Sulthan Bathery	<i>[Signature]</i>	<i>[Signature]</i>
11	Hashim NK	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
12	Muhammad Javad	Central University, Kasargod	<i>[Signature]</i>	<i>[Signature]</i>
13	Muhammed Abdurahman K	MES Ponnani College	<i>[Signature]</i>	<i>[Signature]</i>
14	Muhammed Sabeer NA	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
15	Neeraja Krishna	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
16	Nidhin soman p	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
17	Prince Philip	Mary Matha college, Manathavady	<i>[Signature]</i>	<i>[Signature]</i>
18	Safna Gafoor K V	WMO Arts and Science college Muttill	<i>[Signature]</i>	<i>[Signature]</i>
19	Salim K K	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
20	Sabeer V	Unity College, Mnajeri	<i>[Signature]</i>	<i>[Signature]</i>
21	Sithara Parveen	KMCT Engineering college, Calicut	<i>[Signature]</i>	<i>[Signature]</i>
22	Sithikraja R	WMO Arts and Science college, muttil	<i>[Signature]</i>	<i>[Signature]</i>
23	Sunil John	St. Mary's college, Sulthan Bathery	<i>[Signature]</i>	<i>[Signature]</i>

[Signature]

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WorkShop on Teacher Professional Development Program Mathematical Modeling

ATTENDANCE SHEET 18-11-2021

Sl No	Name of the participant	Affiliation	F/N	A/N
1	Abdul Rasheed	WMO Arts & Science College, Muttill	ABD	ABD
2	Amaya Sivan O V	WMO Arts and Science College, Muttill	Amg	Amg
3	Anas Swalih P. K	Farook college, Kozhikode	ANS	ANS
4	Anjali VK	NMSM Govt. College, Kalpetta	ANJ	ANJ
5	Aparna KM	NMSM Govt. College, Kalpetta	APR	APR
6	Dr.Biju KG	WMO Arts and Science college, muttil	DBK	DBK
7	Dr. Sirajudheen K K	WMO Arts and Science college, muttil	SSK	SSK
8	Dr.Bhagyaraj C	St.Marys college, Sulthan Bathery	DRB	DRB
9	Febina CK	WMO Arts and Science college, muttil	FEB	FEB
10	Fibin Vargheese T V	St Mary's College, Sulthan Bathery	FIB	FIB
11	Hashim NK	WMO Arts and Science college, muttil	HSH	HSH
12	Muhammad Javad	Central University, Kasargod	MJ	MJ
13	Muhammed Abdurahman K	MES Ponnani College	MAK	MAK
14	Muhammed Sabeer NA	WMO Arts and Science college, muttil	MS	MS
15	Neeraja Krishna	WMO Arts and Science college, muttil	NK	NK
16	Nidhin soman p	WMO Arts and Science college, muttil	NS	NS
17	Prince Philip	Mary Matha college, Manathavady	PP	PP
18	Safna Gafoor K V	WMO Arts and Science college Muttill	SG	SG
19	Salim K K	WMO Arts and Science college, muttil	SK	SK
20	Sabeer V	Unity College, Mnajeri	SV	SV
21	Sithara Parveen	KMCT Engineering college, Calicut	SP	SP
22	Sithikraja R	WMO Arts and Science college, muttil	SKR	SKR
23	Sunil John	St. Mary's college, Sulthan Bathery	SUN	SUN

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Brochures and Photos

Teacher Professional Development Program

Mathematical Modeling

Using technology-enabled and student-centered learning systems



Program sessions (2 days each) will be held between
18, 19 November 2021
10-20 participants in each session

Organised by
KSCSTE , HBCSE-TIFR , CUSAT
University of Calicut , WMO Arts and Science College

Catalysed and supported by National Council for Science & Technology Communication, DST, Govt. of India, New Delhi

Objectives

- ~ To introduce the process of mathematical modeling, and its extension to computational modeling, using physics derivations
- ~ To foster expertise in model-based reasoning and computational thinking, using new computational media and interactive simulations

Duration

A series of training programs will be conducted during September -December 2021. Each program will run for two days.

Locations

- ~Cochin University of Science and Technology Campus, Cochin
- ~University of Calicut Campus
- ~WMO Arts and Science College, Muttill, Wayanad

Workshop Mode


Each program will be conducted with a limited number of registered participants, strictly adhering to the state's COVID-19 regulations. If the number of applications are high, participants will be selected based on some distribution criteria (experience, location, gender). The program will be non-residential.

Participation

Interested faculty members in physics from colleges/ university departments in Kerala can participate in a two-day session.

Additional Notes

- Participants will receive a certificate after completion of the two-day training program
- ~The organizers will have the right to modify the date of the program, based on COVID-19 regulations. Any changes will be communicated to participants by email
- ~Lunch and tea will be served for all participants during the program
- ~Daily allowance will be provided to participants at the end of the program



Interested faculty members can register by scanning the QR code or by using the link below

<https://forms.gle/FE2ZNLbPhklyL56>

@ ✉ ☎

For further information, contact

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