

**34th National Annual Convention of IAPT &
National Seminar On
“Recent Advances & Innovation In Physics Teaching & Research”
RAIPTR-2019**

13-15 OCTOBER, 2019

Organized in collaboration with
Department of Applied Sciences, Indian Institute of Information Technology Allahabad, Prayagraj

**TENTATIVE SCHEDULE
DATE: 12.10.2019 (SATURDAY)**

DAY ‘Zero’

TIME	PROGRAM Venue: Senate Hall, Admin Building
09:00 am - 11:30 am	National IAPT Executive Committee Meeting
11:30 am - 12:00 pm	High Tea
12:00 pm - 01:00 pm	National IAPT Executive Committee Meeting
01:00 pm - 02:30 pm	Lunch
02:30 pm - 04:15 pm	National IAPT Executive Committee Meeting
04:15 pm - 04:30 pm	Tea
04:30 pm - 06:00 pm	National IAPT Executive Committee Meeting

Two National Competitions (In parallel sessions)	
02:00 pm - 05:00 pm (5503, CC-3)	NCICP (National Competition on Innovation in Computational Physics) Coordinator - Prof. P.D. Lele, Ahmedabad
02:00 pm - 05:00 pm (5018, CC-3)	NCIEP (National Competition for Innovative Experiments in Physics) Coordinator - Prof. Rekha Ghorpade, Mumbai

CULTURAL EVENING	
6.00 pm to 7.00 pm (Main Auditorium)	Sitar and Sarod ‘Jugalbandi’ by Amit and Asit Goswami
7:30 pm – 9:00 pm	Dinner

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DATE: 13.10.2019 (SUNDAY)

DAY 1

Inaugural Session		
Venue: Main Auditorium		
TIME	PROGRAM	
10:00 am – 10:10 am	Saraswati-Vandana, Lighting of Lamp, Floral Welcome of Dignitaries and Guests	
10:10 am – 10:15 am	Introduction to the Program	Convener, IAPT
10:15 am – 10:25 am	Welcome Address by Director, IIIT- Allahabad	Prof. P. Nagabhushan, Hon'ble Director IIIT-Allahabad
10:25 am – 10:30 am	About IAPT Activities	Prof. K.N. JSHIPURA, General Secretary, IAPT
10:30 am – 10:35 am	Introduction to IAPT Convention	Prof. Vijay A. Singh, IAPT President
10:35 am – 10:45 am	NGPE Awards by the Chief Guest	Prof. B.P. Tyagi NSE & NGPE Chief Coordinator
10:45 am – 10:50 am	IAPT Dinbandhu Sahu Memorial Award by the Chief Guest	Prof. Vijay A Singh
10:50 am – 11:00 am	Felicitation by the Chief Guest of 1. Prof. Shiv Gopal Mishra (PM, Vigyan Parishad, Allahabad) 2. Prof. R N Kapoor (IAPT Veteran)	Prof. Vijay A. Singh
11:00 am – 11:05 am	Release of “Pragami Tarang” Magazine & Souvenir of RAIPTR-2019 by the Chief Guest	Dr. Tushar C. Pandya, from RC-7
11:05 am – 11:20 am	Address By the Chief Guest	Hon'ble Padma Vibhushan Prof. M. M. Joshi
11:20 am – 11:25 am	Vote of Thanks	Organizing Secretary
11:25 am – 12:00 Noon	High Tea & Group Photo Session	

***** Registrations will be scheduled from 8:30 am to 10:00 am at Auditorium's lawn**

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DAY 1

Academic Session 1		
Chair-1: Prof. U. S. Kushwaha Chair-2: Prof. R. Balakrishnan		
Venue: Main Auditorium		
TIME	PROGRAM	
12:00 pm – 12:30 pm	D P Khandelwal Memorial Lecture-1 Invited Talk & Book Inaugural by President IAPT	Prof. P.C. Deshmukh (IIT-Tirupati) “Get the most from the least whether classical or quantum mechanics”
12:30 pm – 01:00 pm	D P Khandelwal Memorial Lecture-2 Keynote Speaker’s Talk on IAPT Exams	Prof. B. P. Tyagi
01:00 pm – 01:15 pm	IAPT Dinbandhu Sahu Memorial Award (Dr. Punita Verma) Speech	Coordinated by Prof. K. N. Joshiपुरa
01:15 pm – 02:30 pm	Lunch	
Academic Session 1-A		
Chair-1: Prof. B P Tyagi Chair-2: Prof. P. Venkataramaih		
Venue: Admin Auditorium		
02:30 pm – 03:00 pm	Prof. K. N. Joshipura	Invited Talk (Lunar and planetary mission investigations: Physics plays the fundamental role)
03:00 pm – 03:30 pm	Oral Presentation	Oral Talk 1-3 (See Section #1)
03:30 pm – 04:00 pm	Tea Break	
04:00 pm – 06:00 pm	IAPT Annual General Body Meeting (AGM)	

Oral Talk Section #1		
TIME	Presenter	Topic
03:00 pm – 03:10 pm	Thakur Prasad Yadav	Experimental demonstration: A visualize process for physics teaching
03:10 pm – 03:20 pm	Jyoti Bhardwaj	Video Based Demonstration of Constructing 3-D Bravais Lattices
03:20 pm – 03:30 pm	Dr. R. Balakrishnan	Girls in Physics - Gender equality or inequality

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DATE: 14.10.2019 (MONDAY)

DAY 2

TIME	PROGRAM	
07:30 am – 09:00 am	Breakfast with Tea	
Innovations in Physics Teaching & Research		
Academic Session 2 Chair-1: Prof. B. P. Tyagi Chair-2: Dr. Rajesh Srivastava Venue: Admin Auditorium		
09:00 am - 09:45 am	Prof. P. Venkataramaih	Invited Talk (Teaching Physics- How to make it attractive)
09:45 am - 10:15 am	Prof Vijay A. Singh	Keynote Speaker (Physics & the City of Mumbai)
10:15 am - 11:15 am	Oral Paper Presentation	Oral Talk 4-9 (See Section #2)
11:15 am - 11:45 am	Tea Break	
Recent Advances in Physics Teaching & Research		
Academic Session 3 Chair-1: Prof. P. S. Yadav Chair-2: Dr. Anil Kumar Singh Venue: Admin Auditorium		
11:45 am - 12:00 pm	Prof. P. C. Deshmukh	Invited Talk (Time Delay in Atomic Dynamics)
12:00 pm – 12:15 pm	Dr. Mukesh Jewariya	Invited Talk (Redefinition of International system (SI) Units)
12:15 pm - 01:25 pm	Oral Paper Presentation	Oral Talk 10-16 (See Section #3)
01:25 pm – 3:00 pm	Lunch	
Academic Session 4 Chair-1: Prof. Vijay A. Singh Chair-2: Dr. Sanjay Sharma Venue: Admin Auditorium		
03:00 pm - 03:20 pm	Dr. Shirish Pathare (HBCSE)	Invited Talk (Physics Olympiad Experimental Program)
03:20 pm - 03:40 pm	Dr. Achintya Pal	Invited Talk (Innovative method of solution to celebrated Mice Problem)
03:40 pm - 04:00 pm	Dr. Anwesh Majumdar	Invited Talk (Towards a content-based epistemic measure in physic)
04:00 pm – 06:00 pm	Poster Presentation Venue: Main Auditorium Gallery	

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*****Note***: The posters' setup time in the Main Auditorium Gallery is scheduled during the Lunch.**

DATE: 14.10.2019 (MONDAY)

DAY 2

Oral Talk Section #2		
TIME	Presenter	Topic
10:15 am – 10:25 am	Dr. D. Sarala	Innovations in Physics Teaching
10:25 am – 10:35 am	Dr. L. A. Udachan	Innovative ways for Research at UG & PG Level
10:35 am – 10:45 am	Prof. Sarmistha Sahu	My Physics Teaching through Simulation
10:45 am – 10:55 am	Kalpna Awasthi	Google Classroom: Interactive Teaching and Learning
10:55 am – 11:05 am	Dr. V.S. Santhala	Online Physics Teaching and Learning
11:05 am – 11:15 am	Dr. Satendra Kumar	विज्ञान-रस (A Poetic form of Fundamental Physics)

Oral Talk Section #3		
TIME	Presenter	Topic
12:15 pm – 12:25 pm	Dr. Geetha R S	Physics Experiments Using Smartphone with Sensors
12:25 pm – 12:35 pm	Dr. Amit Kumar Jana	Role of hands-on demo experiments to promote physics teaching
12:35 pm – 12:45 pm	Dr. V.K. Saraswat	Marathon Numerical Achievement Test in Physics
12:45 pm – 12:55 pm	Bhanu Mani Dixit	Effective Assessment in Higher Education
12:55 pm – 01:05 pm	Dr. P Nagaraju	Designing low cost Experiments at the Undergraduate-level
01:05 pm – 01:15 pm	B. Siddlingeshwar	Computational Methods for Molecular Systems
01:15 pm – 01:25 pm	Usha Dasiga	Analysing skills involved in solving problems based on graphical representations

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DAY 2

Poster Presentation Section		
TIME	Presenter	Topic
04:00 pm – 06:00 pm	Pramod Kumar	Inverse magneto-caloric effect single crystal of Ca ₃ Ru ₃ O ₇
	D. Usharani	An Innovative Method of Laboratory Training
	Girish L. Vekaria	Physics and Living Organism Relation
	Sanjay B. Kansara	Study of human body: Innovative way of physics
	Akhilesh Kumar	ICT for Improvement of Quality of Education in India
	M. Prabhugouda	Designing Laboratory Experiments For UG And PG Levels
	Sangam Kumar	Constrained Motion Of A Cable-Connected Satellites System Under The Combined Influence Of Several Perturbative Forces
	Rajkumar Shanajaoba Singh	The Brachistochrone Problem
	Pijush Mondal	Understanding pendulum with oscillating support with help of Lagrangian mechanics
	Udayanandan K.	1. How Vibrations of a Membrane can be Made Musical? 2. A Study of Ideal Quantum Systems Using Virial Expansion
	G. S. Menaria	Physics Of Fort- Chittorgarh
	Shivakumar Siddanna	Impact of thickness on refractive index of chromium Nano films
	Dhakane S. F. Sudhir Phakatkar	To understand the solar safari in convenient scale
	Chitrlekha Alur	Analysis of trace element present in the medical plant colocasia
Amit Saha	EPR Spectroscopy in Study of Tumors and Cancers	
Krishnakant Rana	Quantum Treating Cancer	

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DAY 2

Poster Presentation Section		
TIME	Presenter	Topic
04:00 pm – 06:00 pm	Dr. V. Anuradha Dr. K. C. Radha Dr. S. Subhadramma	Study Of The Effect Of Soap Concentration On Surface Tension Of Water Through Laser Diffraction Methods
	Santosh Kumar Umar Ashok Kumar Mittal	Accuracy of students’ self-judgement about their conceptual understanding of Electric Force and Field
	Madhumita Ghosh Dastidar	Estimation of the width of Onion Epidermal Cells using Laser Diffraction
	Amit Kumar	Study of laser-induced persistent photo-dielectric effects in Se-Te-Sn-Cd chalcogenide glassy semiconductors (STSC ChGs)
	B. P. Relekar S. B. Mane	Career Opportunities For B. Sc. Students In Sugar, Alcohol, Ethanol And Allied Industries
	Nityendra Keshav Oke	Need of history of physics integrated into classroom teaching
	Mahendra Kumar	ICT an Effective Tool for Teaching Quantum Mechanics
	O. P. Gupta D. C. Gupta	XRD study of Transition metal ions doped in $(ZrO_2)_{0.8}(Y_2O_3)_{0.2}$ ceramic compound
	D. C. Gupta A. P. Srivastava O. P. Gupta	Use Of Information Technology In Physics Teaching
	D. K. Sharma	Variation of ionospheric parameters during different phase of solar activities over the low-mid latitude ionospheric region
	Harshal A. Sanghvi	Role Of Information Technology In Physics Education

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DATE: 15.10.2019 (TUESDAY)

DAY 3

TIME	PROGRAM	
07:30 am – 09:00 am	Breakfast and Tea	
Advanced Ideas in Physics Teaching & Research		
Academic Session 5 Chair-1: Prof. Sarmistha Sahu Chair-2: Prof. Manjit Kaur Venue: Admin Auditorium		
09:00 am - 09:15 am	Prof. S. K. Joshi, Coordinator	NCEWP (National Competition for Essay writing in Physics) Awards
09:15 am - 09:40 am	Dr. Michael Ponnambalam	Invited Talk (Tips for Putting Fire into Your Teaching)
09:40 am - 10:40 am	Oral Paper Presentation	Oral Talk 17-22 (See Section #4)
10:40 am - 11:20 am	Tea Break	
Excellence in Teaching Physics & Research		
Academic Session 6 Chair-1: Dr. Mukesh Jewariya Chair-2: Dr. Animesh Kr. Ojha Venue: Admin Auditorium		
11:20 am - 12:40 pm	Oral Paper Presentation	Oral Talk 23-30 (See Section #5)
12:40 pm – 2:00 pm	Lunch	
Valedictory Function Venue: Admin Auditorium		
02:00 pm - 03:00 pm	<ol style="list-style-type: none"> 1. Address by Prof. Vijay A. Singh, President, IAPT. 2. NAEST (National Anveshika Experimental Skill Test) awards (Prof. H.C. Verma). 3. NCICP (National Competition on Innovation in Computer for Physics) awards. 4. NCIEP (National Competition for Innovative Experiments in Physics) awards. 5. Remarks by Convener, IAPT Convention XXXIV. 6. Chairman’s Remarks. 7. Vote of thanks by General Chair & Secretary, RC-04, IAPT. 	
03:00 pm	High Tea	

*****Note***: A parallel session for Physics Experiments will run from 9:00 am to 12:30 pm in the Main Auditorium on 15-10-2019.**

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Oral Talk Section #4		
TIME	Presenter	Topic
09:40 am – 09:50 am	Vandita Srivastava	Retention Rates for Masters & Ph.D. Programmes and Role of ICT and UGR in Physics Education
09:50 am – 10:00 am	Sarbajit Dutta	Waveform Analysis of the Bouncing Ball Problem
10:00 am – 10:10 am	Abhijit Poddar	Integrating simulations in topic-specific Learning Management Systems in Electronics
10:10 am – 10:20 am	Mr. R.M. Shewale	Evaluation methods at college level
10:20 am – 10:30 am	Dr. K. M. Udayanandan	Equipartition Theorem for Periodic to Chaotic Oscillators
10:30 am – 10:40 am	D. N. Bhosale	Use of Blended Learning and Mobile Learning for Imparting Instructions in Physics at Under Graduate Level
Oral Talk Section #5		
11:20 am – 11:30 am	Dr. Namrata Chandel	Dielectric Relaxation & Thermally Activated A.C. Conduction in third generation multi-component glasses
11:30 am – 11:40 am	Dr. Swatantra Kumar Gupta	Modelling of Translucent Concrete using Optical Fibers
11:40 am – 11:50 am	K. Subramanian	Some Visualizations in Quantum Physics
11:50 am – 12:00 pm	Girish Vekaria	Physics principles: The heart of athletics
12:00 pm – 12:10 pm	Abhijit P Sarode	Role of Physics teacher in effective teaching in Colleges and Universities
12:10 pm – 12:20 pm	OSKS Sastri	Background gamma radiation surveying in the Indian peninsula with a portable USB gamma spectrometer
12:20 pm – 12:30 pm	Anil K Singh	Quantifying critical thinking in the teaching of Physics “Gendered action in the first-year students”
12:30 pm – 12:40 pm	M S Jogad	Pb-Silicate Neutron Diffraction data from Dhruva Reactor Experiment- Structure factor Correlation of atoms as an assignment

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DAY 3

Parallel Experimental Session By Prof. H. C. Verma Venue: Main Auditorium	
TIME	PROGRAM TITLE
09:00 am - 09:30 am	Experimental Exhibition and Demonstration
09:30 am – 10:30 am	Inside Story of the Rutherford Experiment
10:30 am - 11:00 am	Tea Break
11:00 am – 12:00 pm	Learning Physics from Simple Experiments
12:00 pm – 12:40 pm	Question and Answer Session