



## Report on “International e-Conference on Plasma Theory and Simulations (PTS-2020)”

**Date of Event** : September 14 & 15, 2020

**Venue** : Department of Pure & Applied Physics,  
Guru Ghasidas Vishwavidyalaya (Online)

**PTS 2020 International e-Conference on Plasma Theory and Simulations 14 & 15, September 2020**

**About PTS 2020**  
We are pleased to inform you that Department of Pure and Applied Physics, Guru Ghasidas Central University, Bilaspur (India) is going to organize two days International e-Conference on Plasma Theory and Simulations (PTS 2020) through ZOOM Cloud Meetings. The scope of PTS 2020 is to discuss the recent progress and to establish a view on the future of theoretical and simulation research in plasma physics.

**Patron:**  
Prof Anjila Gupta  
(Hon'ble Vice Chancellor)  
**Chairperson:**  
Prof P K Bajpai (HOD)  
**Convener:**  
Dr R P Prajapati

**International Advisory Committee:**  
Avinash Khare (IN)  
Michel Bonitz (DE)  
F Haas (BR)  
R Ganesh (IN)  
S A Khrapak (DE)  
R K Chhajlani (IN)  
G Hoshoudy (EG)  
B P Pandey (AU)  
N P S Saini (IN)  
J Parashar (IN)  
S Dubey (IN)  
P K Sharma (IN)  
Prerana Sharma (IN)

**Technical Committee:**  
S Kaothekar  
Bivash Dolai  
S Argal  
A Bhargava

**Topics to be covered**  
➤ Basic Plasma Phenomena  
➤ Space and Astrophysical Plasmas  
➤ Quantum Plasmas  
➤ Dusty (Complex) Plasmas  
➤ Laser Plasma Interactions  
➤ Magnetic Fusion Plasma  
➤ MHD and Fluid Dynamics

**Confirmed Invited Speakers:**  
Avinash Khare (SCU)  
R Keppens (IOU)  
Michel Bonitz (KUG)  
R Ganesh (IPR)  
S A Khrapak (DLR)  
R K Chhajlani (VU)  
B P Pandey (AU)  
N P S Saini (GNDV)  
J Parashar (SAIL)  
S K Tiwari (IIT)  
V Saenra (IITD)  
A P Misra (VBU)

**Local Organizing Committee:**  
G K Patra (Dean)  
H S Tewari  
M N Tripathi  
P Thekur  
J Singh  
R P Patel  
A K Singh  
R K Pandey  
M P Sharma  
T G Raddy  
P Das  
P Rambabu  
T Trivedi  
S P Patel  
D Uthra  
V Kumar  
S Tigga  
A Singh

**Submission of Abstract: 30 August 2020**  
**Notification of Acceptance: 3 September 2020**  
**Conference Dates: 14 & 15 September 2020**

**Registration & Abstract submission link**  
<https://forms.gle/VxunyzuEwDSKNMIQ6>

**Contact:**  
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Guru Ghasidas Central University, Bilaspur (India)  
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PTS 2020 brochure



### Details of Event Proceedings

Date (DD-MM-YYYY)	Details of the Session	Details of Resource Person	Number of Participants
14-09-2020	Inaugural Session (10.30-11.40 AM)	1. Dr. R. P. Prajapati, Convener 2. Prof. P. K. Bajpai, HOD 3. Prof. G. K. Patra, Dean 4. Prof. Anjila Gupta, Hon'ble Vice Chancellor, GGV 5. Prof. Avinash Khare, Hon'ble Vice Chancellor Sikkim Central University, Sikkim	159
14-09-2020	Session-1 (11.45 AM-02.00 PM)	R. Shrivastava, IIT Roorkee	115
14-09-2020	Session-2 (03.00 PM - 05.45 PM)	Punit Kumar, Lucknow University	160
15-09-2020	Session-3 (10.30 AM-01.30 PM)	M. Bose, Jadavpur University)	176
15-09-2020	Session-3 (01.15 PM - 01.30 PM) (Poster Session)	P. K. Sharma, BUIT, Bhopal	155
15-09-2020	Session-4 (02.30 PM-05.30 PM)	R. Khanal, Tribhuvan University, Nepal	159
15-09-2020	Session-4 (05.15 PM - 05.30 PM) (Closing Remarks & Feedback)		153



### **Abstract of the Event:**

Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (India) organized two days International e-Conference on Plasma Theory and Simulations (PTS 2020) on 14 & 15 September 2020 through online mode. This is yet another feather in the academic cap of the department where such interactions have been going on almost consistently. The e-Conference covered diverse research areas of theoretical and simulations areas of Plasma Physics including Basic Plasma Phenomena, Dusty Plasma, Quantum Plasma, Laser Plasma Interactions, Nonlinear interactions, Magnetic Fusion Plasma, Space and Astrophysical Plasma and MHD and Fluid Dynamics. These are some of the niche areas that are contributing to the growth of science & Technology including towards futuristic research and technology including Plasma based accelerators and space programs.

The conference received wider attention from the scientific community as is evident from registrations and spontaneous response received for the event from all over the globe. In this event 350 participants were registered who specifically working in the field of theoretical and simulation plasma studies and the participations include from premier institutes and universities of India, USA, Germany, Egypt, Belgium, Nepal, Iran and Pakistan. It is more heartening that many of the invited lectures will be delivered by experts from abroad.

The department offers PG program in Physics with specializations in condensed matter, Nuclear Physics, Plasma Physics, Astrophysics and Molecular Spectroscopy. The webinar will provide an opportunity to the researchers and faculty members of the department to not only sharpen their knowledge in the field but also develop newer networks.

Theoretical understanding of various aspects of Plasma Physics has matured and developed at a very fast pace in last few decades and impacted the fields of nuclear physics, astrophysics, and accelerator physics to name a few. The exciting lectures followed by live interactions with the eminent scientists in the field will enable the participants of the conference to interact and discuss recent advancements in the emerging fields of theoretical and simulation plasma research.

The key notes address was given Prof. Avinash Khare, Hon'ble Vice Chancellor Sikkim Central University, Sikkim. Prof R. Shrivastava, IIT Roorkee, Dr. Punit Kumar, Lucknow University, Prof. R. Khanal, Tribhuvan University, Nepal, Prof. M. Bonitz, Institut für Theo. Phys. und Astrophy. Christian -Albrechts-Universität Kiel, Germany, Birendra Pandey, Macquarie University, Sydney, Australia, Dr. A.P. Misra, Vishva Bharati Univ. Shantiniketan, W.B., Prof. R. Ganesh Institute for Plasma Research Gandhinagar, Gujarat were present in the conference. Out of 94 research works , 13 were presented in the form of invited talk, 12 in terms of oral presentation and 69 as posters covered all aspects.

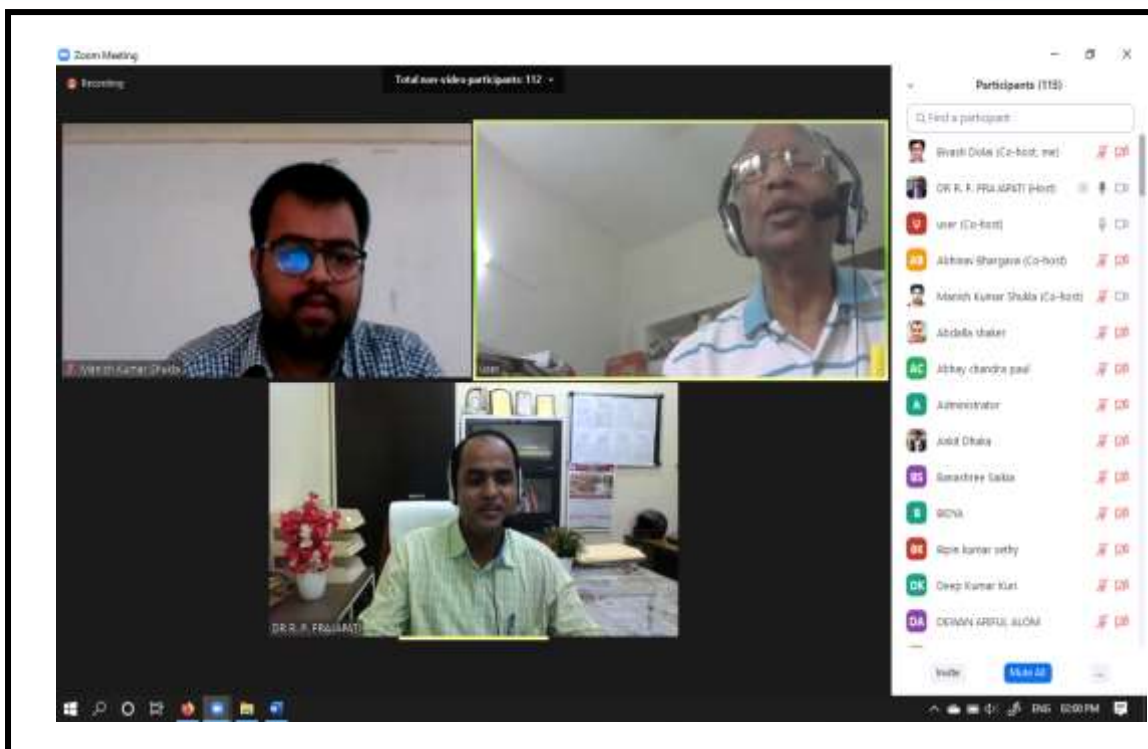


Photo of PTS-2020 (Session - 1) on 14-09-2020

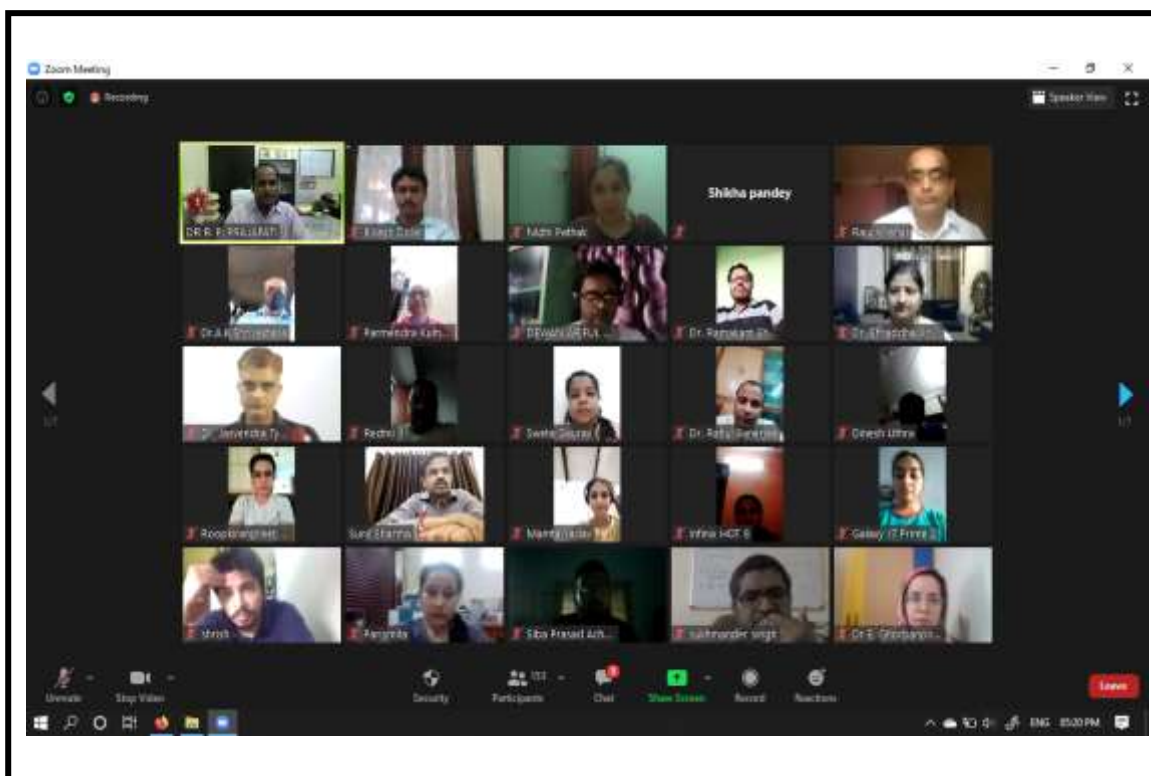


Photo of PTS-2020 (Session - 4) (Closing Remarks & Feedback) on 15-09-2020