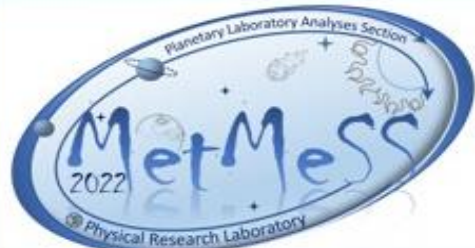


# Platinum Jubilee



## Physical Research Laboratory MetMeSS-2022



### **2<sup>nd</sup> Symposium On**

### ***“Meteoroids, Meteors and Meteorites: Messengers from Space”***

### **Programme**

**24<sup>th</sup> November, Thursday**

### **Inauguration**

- 9:30 - Introduction and Opening Remarks, Chairman, PSDN
- 9.35 Welcome Address, Director, PRL
- 9.45 Inaugural Speech, PRL Council Chairman
- 9.55 Symposium Overview by Convener, MetMeSS-2022
- 10.00 Release of abstract volume
- 10.05 Video on recent meteorite fall in India
- 10.10 Vote of Thanks

## Session-I: The First few million years of the Solar System: Many a little makes a mickle!

Session Chair: Debabrata Banerjee and Yogita Kadlag

Abstract #	Time	Speaker	Title of talk	Affiliation
S1-01	10:30-10:40	Yogita Kadlag	Quantification of physical properties and average atomic number of chondrules using micro-CT	PRL, Ahmedabad
S1-02	10:40-10:50	Mohammad Tauseef	$^{14}\text{C}$ activity concentration and $^{14}\text{C}/^{10}\text{Be}$ activity ratios in ordinary chondrites	Space Research and Planetology, University of Bern, Switzerland.

### Plenary Talk

11:00-12:00

Marc Chaussidon:

“When and how did the first planets form and differentiate in our solar system?”

(Institut de physique du globe de Paris, France)

S1-03	12.00-12:10	Aditya Patkar	Water concentration and oxygen isotope compositions in olivines from CM2 chondrites	Australian National University, Canberra
S1-04	12:10-12:20	Shreeya Natrajan	D/H systematics in Insoluble organic matter in CM chondrites	PRL, Ahmedabad
S1-05	12:20-12:30	Indhu Varatharajan	UV to FIR Reflectance Spectroscopy of Mukundpura (CM2) Meteorite at varying phase angles: A Potential Analogue to Ryugu and Bennu	Department of Geosciences, Stony Brook University, Stony Brook, NY
S1-06	12:30-12:40	Dipak K. Panda	Thermal metamorphic history of unequilibrated chondrites.	PRL, Ahmedabad
S1-07	12:40-12:50	Subhasmita Swain	Thermal Metamorphism of Rumuruti Chondrite	NISER, Bhubaneswar

Lunch: 12:50-13:50 hrs

Invited	14.00-14.30	NG Rudraswami	Extraterrestrial dust reaching the Earth surface	NIO, Goa
S1-08	14.30-14.40	Swarna Prava Das	Thermal Properties of Organic Matter in CM Chondrites using Raman Spectroscopy	NISER, Bhubaneswar
S1-09	14.40-14.50	Rishant Prakash	Geochemical studies of AOA (Amoeboid Olivine Aggregates) in Mukundpura (CM) and Allende (CV3) chondrites	IISc, Bangalore
S1-10	14.50-15.00	Avadh Kumar	Trapped <sup>20</sup> Ne in LL chondrites	PRL, Ahmedabad
S1-11	15.00-15.10	Arindam Dutta	Microdiamonds from ordinary chondrites and its cosmogenic significance	GSI, Kolkata
S1-12	15.10-15.15	Richeek Debnath	Dark Matter - Matter That Can't Be Touched	IISER Berhampur (POSTER)
<b>Questions/ comments/ future</b>				

## **Session-II: Achondrites and Terrestrial planets: Windows to the Universe!**

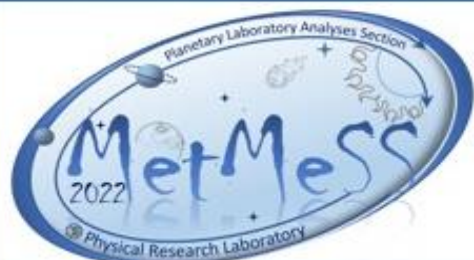
**Session Chairs: Rajneesh Bhutani & A. Basu Sarbadhikari**

<b>Abstract #</b>	<b>Time</b>	<b>Speaker</b>	<b>Title of talk</b>	<b>Affiliation</b>
Invited	15:20-15.50	J.S. Ray	Understanding Early Silicate Earth Differentiation.	NCESS, Trivandrum
S2-01	15:50-16:00	Gurpreet Kaur Bhatia	Early thermal evolution of the proto-Earth in the presence of primordial solar nebula	Maharishi Markandeshwar Engineering College, Mullana, Haryana
S2-02	16:00-16:10	Dipankar Pathak	Understanding volatile element depletion in early Solar System and the origin of volatiles in Earth using stable Sn isotope fractionation in bulk chondrites and chondrule-matrix separates	Institut für Geologie, Universität Bern, Baltzerstrasse, Switzerland
S2-03	16:10-16:20	Yash Srivastava	Understanding ancient mare volcanism from KREEP-free samples	PRL, Ahmedabad

S2-04	16:20:16:30	Anushikha Chaudhuri	Raman Spectral Characterization of Organic Matter in CI- and CM-like Clasts in a Polymict Eucrite	Department of Physical Sciences, Shiv Nadar University, Greater Noida, Uttar Pradesh
S2-05	16:30:16:40	Trishit Ruj	Skewed concentric crater fill deposits in the northern mid-latitudes of Mars Particulate asteroid and comet matter on the Earth.	Institute of Space and Astronautical Science (ISAS), Japan Aerospace Exploration Agency.
S2-06	16:40:16:50	Alka Rani	Geological Implications of Chemical Provinces on Mars	PRL, Ahmedabad
S2-07	16:50:17:00	Sumit Pathak	Geological investigation of class-3 lunar floor-fractured crater Taruntius	IIT. Kharagpur
S2-08	17:00:17:10	Harsh Thakur	The Lakangaon eucrite: a unique, non-cumulate piece of rock from the Vesta	IISc, Bangalore
S2-09	17:10:17:20	Aditya Das	Secondary minerals in Nakhilites: implication for hydration in Martian crust	PRL, Ahmedabad
S2-10	17:20:17:30	Sourajit Sahoo	Carbon isotopic variations of graphites and graphite-metal interface in Kendall County IAB iron meteorite	PRL, Ahmedabad
S2-11	17:30:17:40	Amit Basu Sarbadhikari	The Diyodar meteorite: A new fall in India	PRL, Ahmedabad
<i>Questions/ comments/ future</i>				

Invited	17:45-18.15	A.D. Shukla	Indian meteorites collection: Fall Characteristics and contribution to Planetary Research	PRL, Ahmedabad
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# Platinum Jubilee



## Physical Research Laboratory MetMeSS-2022



**25<sup>th</sup> November, Friday**

### **Session-III: Science from Meteor Radars, Radiation processing of organic matter and Space Weathering.**

**Session Chairs: Varun Sheel and Umesh Kadhane**

Abstract #	Time	Speaker	Title of talk	Affiliation
Invited	09:30-10:00	K Kishore Kumar	A Decade of Meteor Radar Observations of the Low Latitude Mesosphere Lower Thermosphere Dynamics.	SPL, Thiruvananthapuram
Invited	10:00-10:30	Umesh Kadhane	A molecular physics prospective of high energy radiation processing of organic matter in our solar system	IIST, Thiruvananthapuram
S3-01	10:40-10:50	S. S. Prijith	Meteor radar observations of quasi-two-day waves and weakening of diurnal tides in the mesosphere lower thermosphere	SPL, Thiruvananthapuram
S3-02	10:50-11:00	Eswar Sunkara	Advances in Meteor Radar Application for Upper Atmosphere Studies during Sudden Stratosphere Warnings	Madanapalle Institute of Technology and Sciences, Madanapalle, India

S3-03	11:00-11:10	M V Vinitha	Differentiation of Trapped $C_{16}H_{10}^+$ isomer using Low-energy collisions and Visible/VUV Photons; Murchison meteorite as a case study	Institut de Recherche en Astrophysique et Planétologie, CNRS France
S3-04	11:10-11:20	Pramitha M	Stratospheric Quasi Biennial Oscillation Modulations of Migrating Diurnal Tide in the Mesosphere and Lower Thermosphere Over the Low and Equatorial Latitudes	IISER, Thiruvananthapuram
S3-05	11:20-11:30	Veena C.P	Study of aerosol analogue of Titan: Tholin	IIST, Thiruvananthapuram
S3-06	11:30-11:40	Surya Snata Rout	Laboratory Simulations of Space Weathering: Pulsed Laser and $H^+$ -, $He^{2+}$ - and $Ar^+$ - ion Irradiation of Low-Fe Olivine	NISER, Bhubaneswar
S3-07	11:40-11:45	Priyal Singhal	Science behind meteor echoes	Panjab University, Chandigarh (POSTER)
<b>Questions/ comments/ future</b>				

## **Session-IV: Impacts: Shaken and Stirred! Puckered and Smithereens!**

**Session Chairs: Jayanta K. Pati and Sujoy Ghosh**

<b>Abstract #</b>	<b>Time</b>	<b>Speaker</b>	<b>Title of talk</b>	<b>Affiliation</b>
Invited	11.45-12:15	Sujoy K. Ghosh	Formation of High-Pressure Phases in Shocked Chondrite.	IIT, Kharagpur
S4-01	12.15-12:25	Prosenjit Ghosh	Oxygen isotope constraints on the origin of impact glasses from Lonar Crater, India	IISc, Banagalore
S4-02	12:25-12:35	Aryavart Anand	Chromium Isotopes Identify the Type of Impactor Involved in the Formation of Dhala Impact Structure, India	Max-Planck-Institute, Germany
S4-03	12:35-12:45	Kishan Tiwari	Vesicular olivines and pyroxenes in shocked Kamargaon L6 Chondrite: Implications for primary volatiles and its multiple impacts history	IIT, Kharagpur
S4-04	12:45-12:55	Dipansu Dipayan Behera	Impact shock origin of diamond in an Enstatite chondrite	NISER, Bhubaneswar

## Lunch: 13:00-14:00 hrs

### Plenary Talk

14:15-15:15

Yurimoto Hisayoshi:

**“Geochemical analysis of Hayabusa2 returned samples”**

*(Hokkaido University, Japan)*

S4-05	15:15-15:25	V.P. Singh	Cosmic spherules from various terrestrial environments	NIO, Goa
S4-06	15:25-15:35	Mayank Pandey	Geochemical characterisation of cosmic spherules collected from Central Indian Ocean Basin	NIO, Goa
S4-07	15:35-15:45	Surendra V Singh	Polypeptide synthesis in hypervelocity impact on amino acid-water ice targets	PRL, Ahmedabad
S4-08	15:45-15:55	Arijit Roy	Shock Induced formation of SiC	PRL, Ahmedabad
S4-09	15:55-16:05	Garima Arora	Chemical dating(U-Th-Pb) of the Asteroidal Impact Craters	PRL, Ahmedabad
S4-10	16:05-16:15	Rajesh Kumar Behera	High-pressure phases in heavily shocked Bori L6 chondrite	IIT, Kharagpur
S4-11	16:15-16:20	Chetna Sharma	Formation of dust impact signal	Panjab University (POSTER)

***Questions/ comments/ future***

## Session-V: Planetary Analogues: Analogues: Similar, but not the same!

Session Chairs: V J Rajesh and Satadru Bhattacharya

Abstract #	Time	Speaker	Title	Affiliation
Invited	16:20-16:50	Alik S Majumdar	Serpentinization of iron-rich olivine and its potential for abiotic methane synthesis in planetary bodies	IIT(ISM), Dhanbad
S5-01	16:50-17:00	Subham Sarkar	Spectroscopic and Planetary Perspectives of Puga Hot Spring Deposits	PRL, Ahmedabad
S5-02	17:00- 17:10	Divyanshi Shukla	Temperature of extremely high silicic magma-fluid system in the Bundelkhand craton (India) and its implications for lunar silicic magmatism	University of Lucknow, Lucknow
S5-03	17:10-17:20	Neha Panwar	Reflectance spectroscopy of Meteorites	PRL, Ahmedabad
S5-04	17:20-17:25	Preeti Kumari	Sambhar Lake in Rajasthan, India as a Potential Terrestrial Martian Analogue Site for Hypersaline Environments.	IIST, Trivandrum (POSTER)
S4-05	17:25 - 17:30	Javed Akhter Mondal	Earth without Life: A Global Network Model of Abiotic Phosphorus Cycling on Earth Through Time	University of Calcutta (POSTER)
<i>Questions/ comments/ future</i>				

	17:30 - 18:00	Kuljeet K. Marhas	Overview of Science Highlight of PLAS Group	PRL, Ahmedabad
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18:00- 18:15      Panel discussion.

18:15-18:20      MetMess-2022 Early Researcher Award

18:20              Vote of Thanks

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