

Platinum Jubilee



Physical Research Laboratory MetMeSS-2021



Symposium

“Meteoroids, Meteors and Meteorites: Messengers from Space”

Programme

29th November, Monday

9:30	Login for the Inaugural Session	
9:35-9:40	Opening Remark	Dr. Varun Sheel, Chairman-PSDN, PRL
9:40-9:50	Welcome	Dr. Anil Bhardwaj, Director, PRL
9:50-10:00	Inaugural Address	Shri A.S. Kiran Kumar, Chairman, PRL Council
10.00-10.05	Inauguration of MetMeSS-2021 and Release of book of Abstracts	Shri A.S. Kiran Kumar, Chairman, PRL Council
10:05-10:10	Overview of MetMeSS-2021	Dr. Kuljeet Kaur Marhas, Convener, MetMeSS-2021
10.10-10:15	Vote of Thanks	Dr. Dwijesh Ray, LOC Member, MetMeSS-2021

10:15-10:50

Keynote Speaker

Prof. Trevor Ireland

“Oxygen isotopes and the structure of the solar system”

School of Earth and Environmental Sciences, University of Queensland

Session-1: Stardusts & Starbits!

(Pre-Solar Grains, Interplanetary Dust Particles, Early Solar System Solids)

Session Chair: Sandeep Sahijpal & Kinsuk Acharyya

Abstract #	Time	Speaker	Title of talk	Affiliation
	11:00-11:15	Kuljeet K. Marhas	Overview of Pre-solar dust, early solar system sloid	Physical Research Laboratory, Ahmedabad
S1-01	11:15-11:30	Ritesh K. Mishra	Meteoritic evidence of multiple superflares during the birth of the Solar system	Ametek Instruments India Ltd. Bangalore, India.
S1-02	11:30-11:40	Kinsuk Acharyya	Dust-grains: Journey from the interstellar medium to planetary bodies as a catalytic agent to form the simple through complex organic molecules	Physical Research Laboratory, Ahmedabad
S1-03	11:40-11:50	Jayesh Pabari	Interplanetary Dust at Mars in Light of MAVEN Observations	Physical Research Laboratory, Ahmedabad
S1-05	11:50-11:58	Manish Sanghani*	Evidence of a Population II Star as a Stellar Source of a Presolar SiC Grain?	Physical Research Laboratory, Ahmedabad
S1-06	11:58-12:06	Arijit Roy*	Minerals in the ISM are Made in an Instant	Physical Research Laboratory, Ahmedabad

S1-07	12:06-12:14	Chaitanya Giri	Sequestered Graphene in CAIs of Allende and QUE 94366 CV3 meteorites: Implications for future asteroid sample-return and in-situ sampling missions.	Tokyo Institute of Technology, Tokyo, Japan
S1-08	12:14-12:22	Sana Ahmed*	Interstellar Comet 2I/Borisov: Complex Organics in the Primordial Disk?	Physical Research Laboratory, Ahmedabad
S1-09	12:22-12:27	Advait Unnithan *	Interaction of Silicate grains with Galactic Cosmic Rays in Interstellar medium.	St. Xavier's College, Mumbai
S1-10	12:27-12:32	S. V. Singh*	A possible explanation for the microstructures observed in meteorites	Physical Research Laboratory, Ahmedabad
S1-11	12:32-12:37	Malaidevan P.	Microcontroller based Automated Freeze-Thaw Instrument.	Physical Research Laboratory, Ahmedabad
Questions/ comments/ future				

-----**Lunch: 12.50-13.50 hrs**-----

Session-2: Chondrites & Micrometeorites: Events and Processes

Session Chairs: Sujoy Ghosh & Anil D. Shukla

Abstract #	Time	Speaker	Title of talk	Affiliation
Invited	13:50-14:05	Sandeep Sahijpal	Chondrites overview.	Punjab university
S2-01	14:05-14:15	Sujoy Ghosh	Natural bridgmanite in the Katol meteorite	Indian Institute of Technology Kharagpur, Kharagpur
S2-02	14:15-14:25	N.G Rudraswami	Micrometeorites: samples of chondritic components.	National Institute of Oceanography, Goa
S2-03	14:25-14:33	Dipak K. Panda	AOA (Amoeboid olivine aggregates): Nebular and Parent body Processes in Mukundpura.	Physical Research Laboratory, Ahmedabad
S2-04	14:33-14:41	Arindam. Dutta	Petrochemical and shock characterization of four Indian meteorite (chondrite) finds / falls	Geological Survey of India (GSI), Kolkata
S2-05	14:41-14:49	Dafilgo Fernandes*	Investigating micrometeorites from Antarctica and deep-sea sediments of the Indian Ocean:	National Institute of Oceanography, Goa

			Particulate asteroid and comet matter on the Earth.	
S2-06	14:49-14:57	Mayank Pandey*	Preliminary results of micrometeorites collected From Maitri Station Antarctica	National Institute of Oceanography, Goa
S2-07	14:57-15:05	Dipankar Pathak*	Understanding impact volatilization events in meteorites and their parent bodies, through volatile stable isotope systematics.	Institut für Geologie, Universität Bern, Baltzerstrasse, Switzerland)
S2-08	15:05-15:13	Shristi Sharma*	Calcium Isotopic Compositions of Ordinary Chondrites.	Florida State University, Tallahassee, USA.
S2-09	15:13-15:21	Shreeya Natrajan	The origin and evolution of insoluble organic matter in CMS- A NanoSIMS study.	Physical Research Laboratory, Ahmedabad
S2-10	15:21-15:29	Shivani Baliyan*	Carbonates in meteorites and asteroids: Implications for aqueous alteration.	Physical Research Laboratory, Ahmedabad
S2-11	15:29-15:37	Kishan Tiwari*	Shocked induced phase transformations and melting textures in Kamargaon L6 chondrite: Evidence for multiple impacts and constraints on shock conditions and thermal history	Indian Institute of Technology, Kharagpur
S2-12	15:37-15:42	Avadh Kumar	Meteorite-Asteroid relation using Cosmic ray exposure ages in Ordinary chondrites	Physical Research Laboratory, Ahmedabad
S2-13	15:42-15:47	Malika Singhal*	Luminescence Characterization of Minerals from Murchison and Murray	Physical Research Laboratory, Ahmedabad
<i>Questions/ comments/ future</i>				

-----**Break: 16:00-16:15 hrs**-----

Session-3: Journey to Differentiated Worlds (Earth-Mars-Moon-Asteroids)

Session Chairs: Nachiketa Rai, Debabrata Banerjee & Amit Basu

Abstract #	Time	Speaker	Title of talk	Affiliation
Invited	16:15-16:30	Ramananda Chakrabarti	Overview of differentiated planets.	Indian Institute of Sciences, Bangalore
S3-01	16:30-16:45	G. Srinivasan	Compositional Constraints on Late Veneer from Chalcogen Elements	Independent Researcher, Bhopal
S3-02	16:45- 16:55	Narendra Bhandari	Evidence and Consequence of presence of Niobium-94 in Gebel Kamil iron meteorite	Science and Spirituality Research Institute, Ahmedabad
S3-03	16:55-17:05	Amit Basu	Compositional Constraints on the Origin of Volcanism on Mars	Physical Research Laboratory, Ahmedabad
S3-09	17:05-17:15	Gurpreet K. Bhatia	Early thermal evolution of Earth's embryos due to heat of ^{26}Al and impact-generated steam atmosphere	Maharishi Markandeshwar (Deemed to be University), Mullana, India
S3-04	17:15-17:23	Yash Srivastava *	Petrogenesis of A-881757: A non-KREEP Low Ti Lunar Meteorite Basalts	Physical Research Laboratory, Ahmedabad
S3-05	17:23-17:31	Vishal Goyal*	Early Evolution of Mass-Averaged Temperature of the Moon	Punjab University, Chandigarh, India
S3-06	17:31-17:39	P. Layak*	Constraining the composition of the parent planetesimal for the acapulcoite and Lodranite suite of meteorites- A trace element approach	Indian Institute of Technology, Roorkee
S3-07	17:39-17:44	Rahul Das Gupta*	Formation of carbonate-sulfide association in the martian meteorite ALH84001 and implications for the nature of water-rock interactions on the martian surface in the Noachian Era	Physical Research Laboratory, Ahmedabad
S3-08	17:44-17:49	Satvika Jaiswal*	Light noble gas study in Eucrites and diogenites	Banasthali Vidyapith, Rajasthan,

----- **Invited Talk** -----

18:05-18:25

Prof. Sara Russell

“Meteorite collection and Curation”

Natural History Museum, London

18:30- 19:00

Prof. K. Rajeev

“Atmospheric Entry of Meteors: Effects and a Probing Tool”

Space Physics Laboratory, VSSC, Thiruvananthapuram.

Platinum Jubilee



Physical Research Laboratory MetMeSS-2021



Symposium on “Meteoroids, Meteors and Meteorites: Messengers from Space”

30th November, Tuesday

9:15-9:30 Invited talk- Speaker Introduction

----- **Invited Talk** -----

9:30- 10:00

Prof. Dante Lauretta

“OSIRIS-REx Update and Expectation”

Lunar Planetary Laboratory, university of Arizona”

10:00- 10:30

Prof. Shogo Tachibana

“Black pebbles and sand returned from C-type asteroid Ryugu”

The University of Tokyo & JAXA Institute of Space and Astronautical Science, Japan

Session-4: Atmosphere and Meteors

Session Chairs: Amit K. Patra & Varun Sheel

Abstract #	Time	Speaker	Title	Affiliation
Invited	10:40-10:55	K. Kishore Kumar	Overview of atmosphere and Meteors	SPL, Thiruvananthapuram, India
S4-01	10:55-11:10	G. Kishore Kumar	Tropical Mesospheric Semi-annual Oscillation using Meteor radar observations	Savitribai Phule Pune University, Pune
S4-02	11:10- 11:20	Keshav Tripathi	V0 layer in the Venus ionosphere: is it of meteoric origin?	Space Physics Laboratory (SPL), VSSC, Trivandrum, India.
S4-03	11:20-11:30	M. Pramitha	Meteor Radar Estimations of Gravity Wave Momentum Fluxes in the Mesosphere –Lower Thermosphere and their source spectra characterisation using Ray tracing modelling	National Institute of Technology (NIT), Calicut, India.
S4-04	11:30-11:40	N. Koushik	Tropical Signatures of Sudden Stratospheric Warming Events as Observed by Meteor Wind Radars	Space Physics Laboratory (SPL), VSSC, Trivandrum, India
S4-05	11:40 - 11:48	Masoom Jethwa *	Study of meteor induced metallic ions in the Martian atmosphere	Physical Research Laboratory, Ahmedabad
<i>Questions/ comments/ future</i>				

12:00-12:30 Down the Memory Lane: PRL meteorite studies.

-----**Lunch: 12:30-13:30 hrs**-----

Session-5: Impact Shocking and Shattering!!!

Session Chairs: Deepak Dhingra & Dwijesh Ray

Abstract #	Time	Speaker	Title	Affiliation
Invited	13:30-13:45	Jayanta K. Pati	Overview of impact crater/structure	University of Allahabad, Prayagraj , India
S5-01	13:45-13:55	Dwijesh Ray	The Ramgarh structure is 2.4 km or 10 km in size? Not settled yet!	Physical Research Laboratory, Ahmedabad
S5-02	13:55- 14:03	Saranya R. Chandran*	Quantifying erosion rate for terrestrial meteorite (simple) impact craters using paleoclimate and other parameters	University of Kerala, Thiruvananthapuram, India
S5-03	14:03-14:11	Anuj kumar singh*	Fabric disposition of granitoid clasts in monomict breccia from the Dhala Structure, India	University of Allahabad, Prayagraj , India
S5-04	14:11-14:19	Rahul Das Gupta *	Constraints on the age and diameter of the Dhala crater based on the provenance of the sedimentary rocks on the Central Elevated Area and the morphological characteristics of the crater	Physical Research Laboratory, Ahmedabad
S5-05	14:19-14:27	S. James*	Terrestrial Impact Craters as Potential Sites for Exploration of Economic Resources	University of Kerala, Thiruvananthapuram, India
S5-06	14:27-14.35	Asif Iqbal Kakkassery	A Geomorphologic Study of Possible Glacio-Fluvial Landforms in An Unnamed Impact Structure in Xanthe Terra, Mars	Department of Earth and Space Sciences, Indian Institute of Space Science and Technology, Valiamala P.O, Thiruvananthapuram 695 547, Kerala Government College Kasaragod, Vidyanagar, Kasaragod, Kerala
S5-07	14.35-14.43	P. M. Thesniya*	Morphology and Ejecta Emplacement Dynamics of the Das Crater on the Lunar Farside: Insights into the Impact Dynamics and Cratering Mechanics of the Moon	Indian Institute of Space Science and Technology, Thiruvananthapuram
S5-08	14:43-14:48	Harshal Ponekar	Numerical Modelling of Lonar Impact Crater	Savitribai Phule Pune University, Pune
Questions/ comments/ future				

Session-6: Planetary Analogue: Similar Environment of Dissimilar World!

Session Chairs: V. J. Rajesh & Satadru Bhattacharya

Abstract #	Time	Speaker	Title	Affiliations
Invited	15:00-15:15	Saibal Gupta	Overview of Planetary analogue	IIT Khargpur, Kolkata
S6-01	15:15-15:25	Sarajit SenSarma	Origin of the extremely high-silica terrestrial igneous rocks: Implications to understanding Lunar and Martian high silicic magmatism	University of Lucknow, Lucknow
S6-03	15:25- 15:33	Souvik Mitra	Jarosite formation at Kachchh provides water-limited weathering window onto Mars.	Presidency University, Kolkata
S6-04	15:33-15:41	Anil Chavan*	Theatre headed valleys in Deccan traps: a potential analogue for the Martian studies.	K.S.K.V. Kachchh University, Bhuj, India
S6-05	15:41-15:46	Subham Sarkar *	Characterizing Tapovan Hot Spring from a Martian Analogue Perspective.	K.S.K.V. Kachchh University, Bhuj, India
S6-02	15:46-15:51	Anindita Das	Application of a Modified Drake-Seagre Equation to Microbes in Astrobiological Systems – Some Contributions to Impact Process Analogues.	1Blue Marble Space Institute of Science Seattle, Washington
Questions/ comments/ future				

----- **Break: 16:00-16:15 hrs** -----

16:15- 16:25 MetMess_2021 Young Researcher Award.

16:25-16:50 Panel discussion

16:50-17:00 Vote of Thanks
