

TherMoPS IV Program

DAY 1 - TUESDAY APRIL 18				
Time CET	Session	Chair	Topic	Speaker
09:30	Welcome session			Elliot Sefton-Nash
09:40*	Advances in thermal modelling: theory and computational approaches	Jens Biele Elliot Sefton-Nash (hybrid meeting)	Radically new model for heat transfer in granular media with weakly interacting particles	Jens Biele
10:00			An Implicit Thermal Model for 1D Multi-layered Planetary Surfaces	Cyril Mergny
10:15			Fast Thermal Models for Planetary Surfaces	Norbert Schorghofer
10:30			Fast Radiosity For Thermal Modelling On Planetary Surfaces	Stefano Bertone
10:45			Fast near-Earth asteroid surface temperature evaluation from disk-resolved NIR measurements using a neural network	Levi Lind
11:00			Moon Rover Thermal and Power Analysis for Night and PSR Survival	Ron Creel
11:15	BREAK			
11:30	Discussion on Advances in Thermal Modelling			
12:00	Discussion on Advances in Thermal Modelling			
12:10*	Thermal modelling of asteroids and small bodies	Jens Biele	Evolution of airless planetary surfaces by thermal cracking: a review	Marco Delbo
12:30		Elliot Sefton-Nash (hybrid meeting)	Production of fine regolith on asteroids controlled by rock porosity	Saverio Cambiari
12:45			The crater-induced YORP effect	Weihan Zhou
13:00	LUNCH			
13:15	LUNCH			
13:30	LUNCH			
13:45	LUNCH			
14:00	Thermal modelling of asteroids and small bodies	Marco Delbo Thomas Müller (hybrid meeting)	The effect of orbital rotation on the surface temperature distribution of an asteroid	Hiroki Senju
14:15			Inversion of thermal infrared data and optical light curves of asteroids - uncertainty of the derived thermophysical parameters	Josef Durech
14:30			Determining the physical parameters of asteroids with combined optical photometry and thermal infrared data	Hanyu Tan
14:45			One-dimensional thermal modelling of cometary surfaces - implications for a pressure-induced ejection mechanism	Christian Schuackert
15:00			How frequent are man-bait comets?	Yun Zhang
15:15			Thermal and Optical Observations of Near-Earth Objects with the NASA-BITF MRSI Camera	Andy López-Oquendo
15:30	Unwinding the trans-Neptunian belt with the Square Kilometer Array	Pablo Santos-Sanz		
15:45	BREAK			
16:00	Discussion on thermal modelling of asteroids and small bodies			
16:15	Thermal modelling of asteroids and small bodies	Marco Delbo Thomas Müller (hybrid meeting)	Applications of thermophysical models to the OSIRIS-REx sample return mission	Ben Rozitis
16:30			Thermal Modeling of Near-Earth Asteroid, 2100 Ra-Shalom	Kiana McFadden
16:45			Thermophysical modelling of 2200 Phaethon to constrain regolith properties	Ronald Vevacek
17:00			Boulders on Bennu: Using Thermal Modelling to Investigate the Structure of Low Thermal Inertia Rock	Catherine Elder
17:15	Modelling of Ryugu's remote and in-situ thermal measurements	Thomas Müller		
17:30	Discussion on thermal modelling of asteroids and small bodies			
17:45	Discussion on thermal modelling of asteroids and small bodies			
18:00	Poster Drinks Reception			
18:15	Poster Drinks Reception			
18:30	Poster Drinks Reception			
18:45	Poster Drinks Reception			

DAY 2 - WEDNESDAY APRIL 19				
Time CET	Session	Chair	Topic	Speaker
09:30*	Thermal modelling of asteroids and small bodies	Naoya Sakatani Hannah Goldberg (hybrid meeting)	Thermal Spectroscopy of the Didymos binary asteroid system after the DART impact	Ellen Howell
09:50			Thermophysical Modeling of Binary Asteroids Using a Sophisticated 3D Ray Tracing Approach	Kya C. Sori
10:05			Development of Thermophysical Model 'Astrosphere' to Simulate Non-Gravitational Acceleration on Binary Asteroid	Masanori Kananama
10:20			Thermophysical Modelling of Small Bodies: Application to Binary Asteroids	Gregoire Henry
10:35	Discussion on thermal modelling of asteroids and small bodies			
10:50	Discussion on thermal modelling of asteroids and small bodies			
11:00	BREAK			
11:15	BREAK			
11:40*	Thermal modelling of the Moon and moons of the Solar System	Paul Hayne Sarah Boazman (hybrid meeting)	Icy Satellite Thermal Models in Support of the Europa Clipper Thermal Emission Imaging System (E-THERM)	Paul Hayne
12:00			Modelling the Heat Flow from between Enceladus Tiger Stripes	Carly Howett
12:15			Thermophysical Models of Airless icy Surfaces and Space Weathering	Cécile Ferrari
12:30			A closed-form expression for the equilibrium temperatures and directional emissivity of sunlit airless planetary surfaces	Lior Rubanenko
12:45			A Microphysical Thermal Model for the Lunar Regolith	Johanna Birger
13:00	LUNCH			
13:15	LUNCH			
13:30	LUNCH			
13:45	LUNCH			
14:00	Thermal modelling of the Moon and moons of the Solar System	Paul Hayne David Heather (hybrid meeting)	A New Thermal Roughness Model for the Moon and Mercury: implications for the diurnal Lunar hydroxyl cycle and mineralogical mapping with MERTS onboard BepiColombo	Kay Wohlfarth
14:15			A Semi-Analytical Model for the Lunar Thermal Emission Phase Function	Elaha Jhoti
14:30			The Thermal Environment of Doubly Shadowed Micro Cold Traps on the Moon	Patrick O'Brien
14:45			3D Thermal and Volatile Transport Modeling of Lunar Pits and Caves	Andrew Wilcock
15:00			The Effects of Heat-Producing Element Abundance and Distribution on the Present Day Lunar Thermal Profile	Akdeep Roy
15:15			A Three Dimensional Finite Element approach for a realistic Thermophysical Behaviour of the Moon at local scales	Durga Prasad
15:30	BREAK			
15:45	Discussion on thermal modelling of the Moon and moons of the Solar System			
16:00	Discussion on thermal modelling of the Moon and moons of the Solar System			
16:15	Thermal modelling of rocky planets	Ozgur Karatekin Johannes Benkhoff (hybrid meeting)	Seventeen Years of Mars Surface Temperature Observations by the Mars Climate Sounder onboard the Mars Reconnaissance Orbiter	Sylvain Piqueux
16:30*			Mars' polar paleoclimate as revealed through thermophysical modeling of trough migration	Kris Lafreniere
17:05			How does small-scale roughness influence thermal infrared spectra around Mercury's north pole?	Kay Wohlfarth
17:20			A Novel Model for the Interrogation of Thermal Inertia on Earth	Ali Koepfel
17:35	Discussion on thermal modelling of rocky planets			
17:50	Discussion on thermal modelling of rocky planets			
18:15	Poster Session			
18:30	Travel to the workshop dinner			
18:45	Travel to the workshop dinner			
19:00	Evening meal in Noordwijk			

DAY 3 - THURSDAY APRIL 20				
Time CET	Session	Chair	Topic	Speaker
09:30*	New Observations or instruments	Tatsuaki Okada Hannah Goldberg (hybrid meeting)	Thermal Imaging of Asteroids in Hayabusa2, Hera, and Future Missions	Tatsuaki Okada
09:50			MIRMS - The Modular Infrared Molecules and Ions Sensor for ESA's Comet Interceptor	Neil Bowles
10:05			LRAD - The Radiometer for the Lunar South Pole Hopper JNOVA	Maximilian Hamm
10:20	Planetesimal thermal evolution	Hannah Goldberg (hybrid meeting)	Revealing Parent Body Accretion Time Scales from Model Fits to Meteorite Chronology: the cases of CR-Related Meteorites and NWA-8092	Wladimir Neumann
10:35			How Does Surface Roughness Affect the Phase Curve of Airless Explorers?	Maritz Tenhoff
10:50			Early thermal evolution of Earth's embryos due to 26Al and impact-generated steam atmosphere	Gurpreet Kaur
11:05	Discussion on New Observations or Instruments, and Planetesimals			
11:25	BREAK			
11:45*	Laboratory investigations and validation of thermal models	Ozgur Karatekin Elliot Sefton-Nash (hybrid meeting)	Fracturing but no Flaking on CM-like Asteroids due to Thermal Fatigue	Markus Patzek
12:05			Using observations to constrain models of asteroidic activity on Enceladus	Georgina Miles
12:20			Thermal Inertia of Ryugu Samples Affected by Cracks Inside Samples	Takuya Itohaki
12:35	Discussion on laboratory investigations and validation of thermal models			
12:50	Summary and End of TherMoPS IV			
13:00	LUNCH			

Posters		
Advances in Thermal Modelling: theory and computational approaches	Applying Bayesian Optimization to Thermophysical Modeling of Asteroids	Sean Marshall
	Computational Techniques for Fractal Rough Thermal Models	Kay Wohlfarth
Asteroids and Small Bodies	Unique Non-Convex Shape Modeling of Asteroids from Thermal Emission and Reflected Light Observations	Eric MacLennan
	Maps of thermal inertia and dielectric constant of asteroid (16) Psyche from spatially-resolved ALMA data	Saverio Cambiari
	Shapes and Sizes of Jupiter Trojans	Josef Harnau
	Multi-Wavelength Characterization and Thermal Modeling of Comet 2899P/1999 JF10 During the Historic Close Approach of its 2019-2020 Apparition	Charles Schambeau
The Moon and moons of the Solar System	Synthetic Infrared Lightcurve Generation for Binary Asteroids	Gregoire Henry
	Rough Surface Thermophysical Models and IR Imaging from the Lunar Surface	Paul Hayne
Rocky Planets	Thermal model of rocky planets: Estimation of magnetic diffusion time scales	K. M. Hiramatsu
	A Cold Object Radiometer (COBRA) to Explore the Uranian System in the Infrared	Catherine Elder
New Observations or Instruments	The Lunar Trailblazer mission: Understanding the Moon's water	Neil Bowles
	Small Scale Roughness of Meteoritic Samples and Implications for Thermal Response of Rock Rich Surfaces	Rachael Martina Marshall
	Ground-based calibration and performance test of thermal infrared multiband imager (TRI) onboard Hera mission	Naoya Sakatani
	Deciphering Comets: A Mission Concept for a Cometary Characterization and Observation Apparatus (COCOAC-Cube)	Gal Srid

*Extended talk (20min) for the beginning of a session