

21st IHPC and 15th IHPS Conference - Final Program 5th to 9th Feb 2023

Day 1 (5th Feb 2023)	From	To	Day 2 (Monday 6th Feb 2023)	From	To	Day 3 (Tuesday 7th Feb 2023)	From	To	Day 4 (Wednesday 8th Feb 2023)	Day 5 (Thursday 9th Feb 2023)					
Day 1 (Sunday 5th Feb 2023) 14:00 17:00 - Registration and Welcome reception	Melbourne time		Melbourne time		Melbourne time		Melbourne time		Melbourne time						
	8:30	8:50	Registration												
	8:55	9:25	Inaugural ceremony								From	To	Oral presentations		
	9:25	10:10	Keynote address 1 - Prof. Joon Hong Boo Heat pipes in solar thermal applications - A review Chair: Prof. Aliakbar Akbarzadeh Location: Auditorium, Level 5, Bld 16 - Storey Hall		9:15	10:00	Keynote address 2 - Dr Donatas Mishkinis Recent Trends on Capillary Driven Two-phase Heat Loops Developments and Application Chair: Prof. Sameer Khandekar Location: Auditorium, Level 5, Bld 16 - Storey Hall		9:15	10:00	Keynote address 3 - Dr Wessel Wits Advances in additive manufacturing for heat pipe applications Chair: Prof. Marcia Mantelli Location: Auditorium, Level 5, Bld 16 - Storey Hall		Melbourne time	Mixed Theme Chair: Prof. Aliakbar Akbarzadeh Location: Auditorium, Level 5, Bld 16 - Storey Hall	
	10:10	10:35	Morning tea		10:00	10:25	Morning tea		10:00	10:25	Morning tea		9:00	9:20	HPAUS - 05
													9:20	9:40	HPAUS - 84
	From	To	Oral presentations - Parallel sessions		From	To	Oral presentations - Parallel sessions		From	To	Poster Presentation		9:40	10:00	HPAUS - 108
	Melbourne time		BLUE Room (Room 0.16.07.01&2) Theme 1 Chair: Dr Randeep Singh	ORANGE Room (Room 0.16.07.03&4) Theme 3 Chair: Dr Jason Velardo	Melbourne time		BLUE Room (Room 0.16.07.01&2) Theme 4 Chair: Dr Wolfgang Supper	ORANGE Room (Room 0.16.07.03&4) Theme 7 & 2 Chair: Prof. Marcia Mantelli	Melbourne time		BLUE Room (Room 0.16.07.01&2) Chair: Prof. Marco Marengo	ORANGE Room (Room 0.16.07.03&4) Chair: Prof. Sameer Khandekar	10:00	10:20	HPAUS - 105
	10:40	11:00	HPAUS - 56	HPAUS - 14	10:30	10:50	HPAUS - 19	HPAUS - 54	10:35	10:45	HPAUS - 18	HPAUS - 26			
	11:00	11:20	HPAUS - 94	HPAUS - 57	10:50	11:10	HPAUS - 23	HPAUS - 09	10:45	10:55	HPAUS - 106	HPAUS - 50			
	11:20	11:40	HPAUS - 07	HPAUS - 39	11:10	11:30	HPAUS - 28	HPAUS - 10	10:55	11:05	HPAUS - 78	HPAUS - 113	10:20	10:40	HPAUS - 80
	11:40	12:00	HPAUS - 49	HPAUS - 97	11:30	11:50	HPAUS - 43	HPAUS - 11	11:05	11:15	HPAUS - 92	HPAUS - 114			
	12:00	12:20	HPAUS - 107	HPAUS - 88	11:50	12:10	HPAUS - 53	HPAUS - 20	11:15	11:25	HPAUS - 111	HPAUS - 115			
	12:20	12:40	HPAUS - 62	HPAUS - 65	12:10	12:30			11:25	11:35	HPAUS - 36	HPAUS - 48			
			12:40 to 13:25 Lunch				12:30 to 13:25 Lunch								10:40 to 11:05 - Morning tea
	From	To	Oral presentations - Parallel sessions		From	To	Oral presentations - Parallel sessions								11:10 to 12:10 - Panel Discussion
	Melbourne time		BLUE Room (Room 0.16.07.01&2) Theme 1 and 5 Chair: Dr. Masahito Nishikawara	ORANGE Room (Room 0.16.07.03&4) Theme 3 and 6 Chair: Prof. Marco Bernagozzi	Melbourne time		BLUE Room (Room 0.16.07.01&2) Theme 7 Chair: Prof. Sameer Khandekar	ORANGE Room (Room 0.16.07.03&4) Theme 2 and Theme 8 Chair: Prof. Wukchul Joung							12:10 to 12:30 - Closing ceremony
	13:30	13:50	HPAUS - 01	HPAUS - 82	13:30	13:50	HPAUS - 27	HPAUS - 110							
	13:50	14:10	HPAUS - 24	HPAUS - 100	13:50	14:10	HPAUS - 73	HPAUS - 34							
	14:10	14:30	HPAUS - 03	HPAUS - 52	14:10	14:30	HPAUS - 85	HPAUS - 38							
	14:30	14:50	HPAUS - 55	HPAUS - 96	14:30	14:50	HPAUS - 46	HPAUS - 70							
	14:50	15:10	HPAUS - 69	HPAUS - 12	14:50	15:10	HPAUS - 64	HPAUS - 66							
	15:10	15:30	HPAUS - 67	HPAUS - 59	15:10	15:30	HPAUS - 21	HPAUS - 68							
			15:30 to 15:55 Afternoon tea				15:30 to 15:55 Afternoon tea								
	From	To	Oral presentations - Parallel sessions		From	To	Oral presentations - Parallel sessions								
	Melbourne time		BLUE Room (Room 0.16.07.01&2) Mixed Theme Chair: Dr Randeep Singh		Melbourne time		BLUE Room (Room 0.16.07.01&2) Theme 7 and Theme 8 Chair: Dr Keiko Ishii	ORANGE Room (Room 0.16.07.03&4) Theme 2 Dr Sara Vahaji							
	16:00	16:20	HPAUS - 104		16:00	16:20	HPAUS - 76	HPAUS - 81							
	16:20	16:40	HPAUS - 61		16:20	16:40	HPAUS - 91	HPAUS - 83							
	16:40	17:00	HPAUS - 06		16:40	17:00	HPAUS - 102	HPAUS - 103							
	17:00	17:20	HPAUS - 16		17:00	17:20	HPAUS - 40	HPAUS - 02							
	17:20	17:40	HPAUS - 77		17:20	17:40	HPAUS - 93	HPAUS - 30							
	17:40	18:00			17:40	18:00			17:15	21:30	Conference dinner (Announcement of Don M. Ernst Award and George Grover Medal)				
					18:00	19:00	International Heat Pipe Committee Meeting (only for committee members)								

Paper ID	Title	Author(s)
HPAUS - 01	Advanced Hot reservoir variable conductance heat pipe for space applications	Kuan-Lin Lee, Calin Tarau, William G.Anderson, Cho-Ning Huang, Chirag Kharangate and Yasuhiro Kamotani
HPAUS - 02	Computational simulation of a vapor jet into a subcooled flow inside a capillary jet loop system operating in direct condensation mode	Camila Braga Vieira, Thomas Nicolle, Flavio Accorinti, Olivier de Ghelin, Cecile Goffaux and Vincent Dupont
HPAUS - 03	Advanced Structurally Embedded Thermal Spreader II (ASETS-II) Oscillating Heat Pipe Flight Experiment and Database	Corey A. Wilson, Bruce Drolen , Brent Taft Jon Allison
HPAUS - 04	Thermal performance evaluation of a novel vapor chamber with multi-artery vapor spreading channels	Guohui Zhou, Jingzhi Zhou, Xiulan Huai
HPAUS - 05	Traction System Cooling Options for Electric Vehicles	Randeep Singh, Tomoki Oridate , Harutoshi Hagino , Phan Thanh Long , Yoji Kawahara , Tsuyoshi Ogawa , Yuji Saito , Tien Nguyen , Thang Nguyen , Masataka Mochizuki , Thomas Van Raay
HPAUS - 06	Preliminary multi-variable experimental analysis to determine the startup criteria of Pulsating Heat Pipes	Mauro Abela * , Mauro Mameli , Sauro Filippeschi , Brent S. Taft
HPAUS - 07	Study of operating characteristics of a gravity-assisted cryogenic loop heat pipe with different charging pressures	Xinyu Chang * , Takeshi Yokouchi , Kimihide Odagiri , Hiroyuki Ogawa , Hosei Nagano and Hiroki Nagai
HPAUS - 08	Study of Nonlinear Effects in a Pulsating Heat Pipe	Alok Kumar*, Suneet Singh
HPAUS - 09	Simultaneous Measurement of Temperature Distribution and Flow Inside a Pulsating Heat Pipe Using Temperature Sensitive Paint with in-situ Calibration	Keiko Ishii * , Yuya Otaka , and Koji Fumoto
HPAUS - 10	Operating characteristics of a pressure-controlled loop heat pipe with a mechanically-driven gas pressure controller	Cheongyong Park , Wukchul Joung , *
HPAUS - 11	Thermographic investigation of heat spreading characteristics of a vapor chamber-type heat spreader	Jaehyuk Jeong , Wukchul Joung , *
HPAUS - 12	Experimental study on start-up performance of hightemperature liquid metal heat pipe	Zhi-hu Xue*, Rong-xu Nie, Wei Li, Chao Liu, Wei Qu
HPAUS - 14	Experimental Investigation on the influence of ambient temperature in a Loop Heat Pipe Battery Thermal Management System	Marco Bernagozzi * , Anastasios Georgoulas , Nicolas Miché , Marco Marengo
HPAUS - 16	Capillary Jet Loop in direct contact condensation mode used to perform ice protection function of a turboprop composite nacelle intake	Vincent Dupont * , Flavio Accorinti , Maxime Henno , Patricia Susana Serrano Perez , and Francisco Redondo Carracedo
HPAUS - 17	An ultra-thin stainless steel vapor chamber with biomimetic copper forest wick and ultra-high thermal conductivity	Jiali Luo , , Mou Xu , , Dongchuan Mo* , and Shushen Lyu* ,
HPAUS - 18	Heat transport characteristics of a 2 m long flat-evaporator flexible loop heat pipe for thermal control of power electronics of electric vehicles	Bomi Nam , Jaeyeon Kim , Manhee Park , Wukchul Joung , *
HPAUS - 19	Effect of fabric parameters on rate of evaporation and salt accumulation for interfacial solar vapor generation systems	Debartha Chatterjee, Sameer Khandekar
HPAUS - 20	Simultaneous measurement of two-dimensional temperature distribution and flow inside a single channel simulating pulsating heat pipe	Rikuto Shimoda, Keiko Ishii , and Koji Fumoto
HPAUS - 21	Experimental characterization of sintered bi-porous wicks for loop heat pipes	Chandan Nashine, Nadaf Arman Mohaddin, Sandip kumar Sarma and Manmohan Pandey
HPAUS - 22	Numerical investigation of heat transfer augmentation in miniature channels with microfins having axially varying fin pitch	Rohit Kumar, and Manmohan Pandey
HPAUS - 23	Effect of Far-field Ambient Conditions on Interfacial Solar Vapor Generation using a Two-Phased Closed Thermosyphon	Tarun Kulshrestha, Sameer Khandekar
HPAUS - 24	Multi-Condenser Variable Conductance Heat Pipes for Electric Aircraft	Jeff Diebold, Brett Leitherer, Calin Tarau and Kuan-Lin Lee
HPAUS - 26	A model of flat heat pipes leading to the classical fin equation for the pipe temperature	Salar Saadatian, Harris Wong
HPAUS - 27	Investigation of the Thermal Performance of a Rod-Plate Heat Pipe	Elvis Falcão de Araújo, Márcia Barbosa Henriques Mantelli, Juan Pablo Flórez Mera, and Luis Hernán Rodríguez Cisterna
HPAUS - 28	Design of a new flat plate pulsating heat pipe for battery cooling: Modeling approach and experimental tests	Thibault Van't Veer, Baptiste Lepinoy, Vincent Ayel, Mouad Diny, and Yves Bertin
HPAUS - 29	Development and performance evaluation of an ultra-thin vapor chamber with gradient capillary wick under natural convection cooling	Feng Zhou Jingzhi Zhou, Guohui Zhou, Xiulan Huai, Yawen Jiang, and Naijia Zhang
HPAUS - 30	Temperature and pressure frequency analyzes of a flat plate pulsating heat pipe: influence of the edge orientation angle	Vincent Ayel, Thibault Van't Veer, Maksym Slobodeniuk, Luca Pagliarini, Cyril Romestant, Yves Bertin
HPAUS - 34	Numerical investigation of the influence of size, condensation and evaporation coefficient on the power of the heat pipe	Richard Lenhard, Natália Holešová, and Katarína Kaduchová
HPAUS - 36	A novel heat pipe with a bypass line for accelerating a working fluid	Eui Guk Jung, Won Bok Chung, and Joon Hong Boo
HPAUS - 38	Vapor Chamber Heat Spreader for High Heat Flux Chip of 100W/cm2	Thanh-Long Phan, Yoji Kawahara, Harutoshi Hagino, Takeshi Koshio Yuji Saito, Tsuyoshi Ogawa, Vijit Wuttijumnong

HPAUS - 39	A Novel Pulsing Heat Pipe with a Long, Wickless Serpentine Tube for High-Flux Applications	Abdolmajid Zamanifard, M Muneeshwaran , Chi Chuan Wang
HPAUS - 40	Improved Modelling of a Heat Recovery System with TEGs and Heat Pipes	Bradley Orr
HPAUS - 41	Capillary suction model of different porous media and experimental verification	Le Liu, Bo Shao, Nanxi Li, Zhenhua Jiang, Deping Dong
HPAUS - 43	Local heat transfer study of a mini loop heat pipe	Luca Pagliarini, Kelvin G. Domiciano, Larissa Krambeck, Fabio Bozzoli, and Marcia B. H. Mantelli
HPAUS - 45	Research progress of inverse opal porous structures in the field of flow and heat transfer: A review	Qihan Chen, Jingzhi Zhou, Guohui Zhou, Feng Zhou, Xiulan Huai, Gaosheng Wei
HPAUS - 46	Experimental investigation of two-phase closed thermosyphons using laser-structured coating in the condenser section	Marc Kirsch, Sergio Cáceres, Rudi Kulenovic and Jörg Starflinger
HPAUS - 48	Numerical simulation of the phase distribution in a loop heat pipe	Nanxi Li*, Bo Shao, Le Liu, and Zhenhua Jiang
HPAUS - 49	Mathematical modeling and its verification on heat transfer characteristics of ultra-thin heat pipes	Yasushi Koito*, Ryosuke Kakizoe, and Akira Fukushima
HPAUS - 50	Basic Research on Self-regenerating Bridge Type Heat Pipe	Shunsuke Tsutsumiuchi, Keiko Ishii, and Koji Fumoto
HPAUS - 52	Heat transfer characteristics of a two-phase closed thermosyphon for passive spent fuel pool cooling	Sergio Iván Cáceres Castro, Marc Kirsch, Rudi Kulenovic, Jörg Starflinger
HPAUS - 53	Improvements of thermal performance by nanoparticle layer coating in heat pipes	Menglei Wang and Tomio Okawa
HPAUS - 54	Experimental Investigation of Long-Distance Cryogenic Helium Pulsating Heat Pipes with Varying Adiabatic Lengths up to 1.75 m	Logan Kossel, John Pfothenauer, and Franklin Miller
HPAUS - 55	Pore network simulation of loop heat pipe evaporator with different pore size distribution	Masahito Nishikawara
HPAUS - 56	Two-phase flat loop devices in parallel arrangement for electronics cooling	Larissa Krambeck *, Kelvin Guessi Domiciano, and Marcia B. H. Mantelli
HPAUS - 57	THIN LOOP HEAT PIPE WITH STRANDED WIRE AS POROUS MEDIA	Kelvin G. Domiciano*, Larissa Krambeck, and Marcia B. H. Mantelli
HPAUS - 59	Theoretical and experimental investigation of rotating heat pipes	Wessel W. Wits, Henk Rompelman, Yannick Jeggels, Davoud Jafari and Norbert Engelberts
HPAUS - 61	Developing of a gravity independent heat pipe with asymmetric compensating element	K. I. Delendik*, N. V. Kolyago, O. G. Penyazkov, O. L. Voitik
HPAUS - 62	Thermal performance of an ultra-thin flexible flat heat pipe with hydrophilic / hydrophobic coupling wick structure	Maofei Yang, Jinwang Li*, Jiyuan Li
HPAUS - 63	Experimental Investigations on Loop heat pipe in the context of BTMS	Milan Vachhani, Kalpak R Sagar, Durganand Jha, Vipul M Patel, Hemantkumar B Mehta*
HPAUS - 64	Thermal Performance of an Asymmetric Pulsating Heat Pipe with Aqueous Surfactant Solution	Est Dev Patel and Subrata Kumar
HPAUS - 65	Bionic Two-phase Loops Inspired by Water Transport System of Trees	Hongxing Zhang, Yuandong Guo, Boyang Sun, Guoguang Li, Jianyin Miao*, Guiping Lin, Dongsheng Wen
HPAUS - 66	Experimental Investigation of a Novel Flat-plate Loop Heat Pipe	Guoguang Li, Hongxing Zhang*, Jianyin Miao, Chang Liu, Sixue Liu, Zenong Fang
HPAUS - 67	The Application of Loop Heat Pipe in Chinese Survey Space Telescope	Zenong Fang, Qiang Zhou, Zhen Fang, Jinyin Huang, Lu Wang, Wei Lu, Hongxing Zhang, Jianyin Miao*, Yongqi Xie
HPAUS - 68	Theoretical and experimental research on the variable control heat pipe	Wang Huizhi, Liu Sixue, Fu Zhendong, Lv Wei, Chen Jianxin, Huang Jinyin, Miao Jianyin, Zhang Hongxing*
HPAUS - 69	Effect of binary mixtures on flat plate pulsating heat pipe operation in ground and reduced gravity environment	Maksym Slobodeniuk, Vincent Ayel, Remi Bertossi, Cyril Romestant and Yves Bertin
HPAUS - 70	Simplified theoretical thermal models for an inverted two-phase thermosyphon	Ricardo Schneider Calomeno*, Fernando Henrique Milanez, Marcia Barbosa Henriques Mantelli
HPAUS - 73	Modeling of nucleate boiling and two-phase behavior in the circumferential grooves of loop heat pipe	Xue Zhou, Shiyue Wang, Zhenhua Jiang, Nanxi Li, Yan Lu*
HPAUS - 76	Investigation on the thermal performances of novel loop thermosyphon using annular horizontal evaporator and condenser	Leonard L. Vasiliev*, Alexander S. Zhuravlyov, and Maxim A. Kuzmich
HPAUS - 77	Experimental investigation of a spring shaped deployable pulsating heat pipe	Roberta Perna*, Maksym Slobodeniuk, Luca Pagliarini, Mauro Mameli, Cyril Romestant, Luca Cattani, Vincent Ayel, Fabio Bozzoli, Sauro Filippeschi
HPAUS - 78	Heat-mass exchanger with equilibrium transfer of latent energy outside and inside the heat pipes	Helen Skop *, Darrell Klammer, Sergei Zvenigorodsky
HPAUS - 80	Heat Loop Pipe for Thermal Management of Powerful LED-based Applications	Donatas Mishkinis *, Igors Ušakovs, and Ilija Galkins
HPAUS - 81	Numerical simulation of closed-type pulsating heat pipes using Fluent	Hye-Seong Hwang, Duy-Tan Vo, Kwang-Hyun Bang*
HPAUS - 82	The additive microstructures for heat transfer enhancement inside pulsating heat pipe	Vyacheslav Cheverda*, Anastasia Litvinceva
HPAUS - 83	3D Printed Oscillating Heat Pipe	Kuan-Yu Luo, Kuan-Lin Chen, Pratik Prakash Gupta, Shung Wen Kang *

HPAUS - 84	Study of 3D printed capillary structure	Kuan-Lin Chen, Kuan-Yu Luo, Pratik Prakash Gupta, Shung Wen Kang*
HPAUS - 85	A review on the current role and standings of additive manufacturing for heat pipe production	Pratik Prakash Gupta, , Kuan-Lin Chen, Kuan-Yu Luo, Shung Wen Kang*
HPAUS - 88	Enhanced wicking effect on femtosecond laser treated porous microgroove structured surface	Seunghwan Lee, Jaeseon Lee
HPAUS - 91	Ceria-Based Robust Superhydrophobic Condensers	Jaehwan Shim, Jun Soo Kim, Bong Jae Lee, Jungchul Lee, and Youngsuk Nam*
HPAUS - 92	Numerical model of thermal performance and flow hydrodynamics in two-phase closed thermosyphon	Sehyeon Cho , Daeyoung Kong , Gyohoon Geum , Junsoo Kim , Jin Hyeuk Seo , Sukkyung Kang , SeongHyuk Lee , Jungho Lee , Hyoungsoon Lee , *
HPAUS - 93	High Performance Heat Pipe Development for Data Center Cooling	Mohammad Shahed Ahamed * , Yoji Kawahara , Harutoshi Hagino , Takeshi Koshio , Yuji Saito , Tsuyoshi Ogawa
HPAUS - 94	Thin and small evaporators of high performance for loop heat pipes	Wei Qu* , Zhihu Xue, and Jijun Yu
HPAUS - 96	Development of the flat plate two-phase heat spreader for high heat loads	Hyunmuk Lim , Seung M. You , and Jungho Lee *
HPAUS - 97	Investigation of operational limit of oscillating heat pipes by estimating local heat transfer	Naoko Iwata * and Fabio Bozzoli
HPAUS - 100	A preliminary investigation into additively manufactured vapour chambers	Jason Velardo*, Gabrian Balelang, Glenn Rees, Michael Fuller
HPAUS - 102	Geyser boiling phenomenon observation in an ethane axial grooved heat pipe working as a two-phase thermosyphon	Francisco Javier Martín-Portugués*, Yago Gómez-Ullate and Francisco Romera
HPAUS - 103	Development of a Matlab-based Automatic Lattice 2D Analysis Tool for Heat Pipe Wick Structures	Llywelyn Hughes*, Daniel Pugh, Philip Bowen, Richard Marsh, Andrew Jones, Tom Halhead
HPAUS - 104	All polymer thermal ground plane (TGP) with stable hydrophilized wick	Doriane Ibtissam Hassaine Daoudji*, Samaneh Karami, Étienne Léveillé, Mahmood Shirazy and Luc G. Fréchette
HPAUS - 105	Theoretical and Experimental Evaluation of Small Diameter Thermosyphons	Gabriel Serafin Couto Vieira*, Nelson Y. Londoño Pabón, and Marcia Barbosa Henriques Mantelli
HPAUS - 106	Visual Investigation of Surface Functionalization Effect in Two-Phase Closed Thermosyphons	Gabriel Serafin Couto Vieira, and Marcia Henriques Barbosa Mantelli
HPAUS - 107	A data assimilation model of oscillating heat pipe dynamics and performance	Yuxuan Li, Jeff D. Eldredge*, Adrienne S. Lavine, Timothy S. Fisher, and Bruce L. Drolen
HPAUS - 108	Development of IGBT immersion cooling system for in-wheel motor of electric vehicles	Masataka Mochizuki*, Hiroshi Shimizu, Yukiko Kato, Hiromichi Kawamura, Masaki Kawaguchi, Hideo Arai, Sadaharu Tamoto, Tooru Ishikawa, Naotake Kumagai, Yoshio Utaka, Zhihao Chen
HPAUS - 110	Thermal characteristics of a 2-m nitrogen cryogenic loop heat pipe with a capillary starter pump	Kimihide Odagiri*, Xinyu Chang, Hiroki Nagai, and Hiroyuki Ogawa
HPAUS - 111	The concept of a dual-evaporator Loop Heat Pipe for application in cooling electronics	Pawel Szymanski* and Dariusz Mikielawicz
HPAUS - 112	Two-phase wickless unidirectional flow heat transporting device	Vineed Narayanan
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HPAUS - 114	Experimental investigation on the thermal performance of a modified geometry thermosyphon heat pipe with surface modification	Sakthi Priya M, Sakthivadivel D*
HPAUS - 115	Ground Testable Spacecraft Heat Pipe (GTSHP)	Trevor Bird