

CONFERENCE PROGRAM

<b><i>WELCOME DAY, Monday, September 6, 2021</i></b>		
15:00 - 17:00	<i>Registration Open - Foyer</i>	
17:00 - 21:00	<i>Welcome Reception – Restaurant Astoria</i>	
<b><i>DAY 1, Tuesday, September 7, 2021</i></b>		
7:30 - 8:40	<i>Registration - Foyer</i>	
8:40 - 9:40	<i>Opening Ceremony-Renaissance Hall</i>	
<b><i>DAY 1, Section 1</i></b>		
<b><i>Chair: Manfred Groll, Co-chair: Natalia Savchenkova</i></b>		
09:40 - 10:00	8 - Novel loop thermosyphon with porous coating on the cylindrical (flat) horizontal evaporator	Leonard L. Vasiliev, Zhuravlyov A. S., Kuzmich M. A., Kulikouski V. K., Khartunik A. A., Sadchenko D. I.
10:00 - 10:20	16 - Experimental study and analysis on thermosyphon of initial boiling and geysering by single working fluid and two-fluid mixture	Qu Wei, Zhihu Xue
10:20 - 10:40	222 - A model of stable functioning of the single branch pulsating heat pipe	Vadim S. Nikolayev and Fabrice N. Fourcade
10:40 - 11:00	<b><i>Coffee break</i></b>	
<b><i>DAY 1, Keynote Lecture 1</i></b>		
<b><i>Chair: Yury Maydanik, Co-chair: Vasily Buz</i></b>		
11:00 - 11:40	<b><i>Keynote Lecture 1</i></b> <i>Evaporation, boiling and dry spots dynamic in thin liquid films under intense heating</i>	<b><i>Dr. Kabov Oleg</i></b>
<b><i>DAY 1, Section 2</i></b>		
<b><i>Chair: Yury Maydanik, Co-chair: Vasily Buz</i></b>		
11:40 - 12:00	29 - Research on Ground and Space Flight Tests of a New Type of Ceramic Wick Flat Capillary Pump	Yang T., Gao T., Zhao S.L., Zhang M.J., Liu Z., Yan Y.X., Zhao Y.

12:20 - 12:40	104 - Performance enhancement of a loop-type thermosyphon for cooling of a high heat flux power transistor module	Boo Joon Hong, Bae, J. H. Cho, Y. T., Choi, Y. D., Han, C. W
12:40 - 13:00	106 - Effect of vapor escape passage shape on the thermal performance of a loop heat pipe having a flat evaporator	Boo Joon Hong, Im, K. T., Choi, Y. D., Cho, Y. T.
13:00 - 14:00	<b>Lunch</b>	
14:00 - 14:20	20 - Operating characteristics and analytical model of loop heat pipes with R245fa, R1234yf and R1234ze(E) as working fluid for electronics cooling	Suzheng Zheng, Nanxi Li, Chenyang Zhao, Bo Shao, Rongjian Xie
14:20 - 14:40	172 - Numerical investigation on a combined loop heat pipe and graphite sheets cooling system for automotive applications	Marco Marengo, Bernagozzi M., Georgoulas A., Miché N, Rouaud C.
14:40 - 15:00	120 - Study of a loop heat pipe operation using neutron radiography	Maydanik Yury, Pastukhov V.G, Kichanov S.E.
15:00 - 15:20	212 - Effect of different gravity inclination on operating characteristic of a stainless-stell-ammonia loop heat pipe with the long heat transport distance	Ma ZhengYuan, ZhiChun Liu, Lei Li, ZiKang Zhang, Wei Liu
15:20 - 15:40	119 - Loop heat pipes in electronics cooling systems	Maydanik Yury, Ivanov A.V.
15:40 - 16:00	211 - Experimental investigation of a loop heat pipe with long heat transfer distance at different charge ratios	Zhang Zikang, Wei Liu, ZhiChun Liu, RunZe Zhao
16:00 - 16:20	<b>Coffee break</b>	
<b>DAY 1, Section 5</b>		
<b>Chair: Konstantin Goncharov, Co-chair: Yury Panin</b>		
16:20 - 16:40	27 - Application of Truss Heat Pipe in GF-13 Satellite Camera and its on-Orbit Performance	SHEN Chunmei, LUO Shikui, CUI Jin, YANG Ming, YANG Tao

16:40 - 17:00	132 - Development of T-shaped flat heat pipes for cooling electronic equipment	Nesterov Denis, Derevyanko V. A., Suntsov S.B.
17:00 - 17:20	224 - Experimental study of NH <sub>3</sub> evaporator embedded into a structural panel made by additive manufacturing	Martin Raynaud, Montredon F., Chouteau E., Chayka D.,
17:20 - 17:40	236 - Theoretical and experimental studies of the dynamic parameters of variable conductance heat pipes intended for use in spacecraft thermal control systems	Panin Yuriy, Goncharov K., Kuznetsov I., Savchenkova N.
17:40 - 18:00	202 - Experience on CBERS 04A Satellite Thermal Control Heat Pipes	Valeri Vlassov, Henghui M., Costa R.L., Santos N., Bertoldo Junior J.
18:00 - 18:20	84 - Preliminary design of a self-deployable Pulsating Heat Pipe by means of a Shape Memory Alloy actuator	Perna R., Mameli M., Bucchi F., Frenzo F., Filippeschi S.
<b><i>DAY 1, Posters, Ballroom B</i></b>		
18:20 - 19:40	<i>Posters</i>	
<b><i>DAY 2, Wednesday, September 8, 2021</i></b>		
<b><i>DAY 2, Section 2</i></b>		
<b><i>Chair: Yury Maydanik, Co-chair: Vasily Buz</i></b>		
08:40 - 09:00	200 - A simple vapour chamber model based on spreading relations	Velardo J., Koirala R., Akbarzadeh A., Singh R., Date A.
09:00 - 09:20	234 - Operating characteristics of a water-pressure controlled loop heat pipe	Joung Wukchul, Park C.
09:20 - 09:40	121 - Investigation of a loop heat pipe at a high heat load concentration	Chernysheva Maria, Vershinin S. V., Maydanik Y.F.
09:40 - 10:00	137 - Features of the Loop heat pipes start up at various gravity positions and heat input	Panin Yuriy, Korzhov K. N., Balyukin M.A., Holyakov

		A.E., Bondarenko V. A., Kupershtein V.
10:00 - 10:20	28 - Experimental study of a loop heat pipe with vapor-driven jet injector	Liu Lei, Xiaoping Yang, Bo Yuan, Jie Liu, Jinjia Wei
10:20 - 10:40	80 - Effect of Wick Oxidation on the Thermal Performance of a Copper-Acetone Loop Heat Pipe	Khandekar Sameer, Prem Kumar, Mayur Gachake
10:40 - 11:00	<b>Coffee break</b>	
<b>DAY 2, Keynote Lecture 2</b>		
<b>Chair: Oleg Kabov, Co-chair: Valery Kiseev</b>		
11:00 - 11:40	<b>Keynote Lecture 2</b> <i>Electric Vehicle Cooling with Heat Pipes: Challenges and Scope</i> Dr. Singh Randeep	Randeep SINGH
<b>DAY 2, Section 3</b>		
<b>Chair: Oleg Kabov, Co-chair: Valery Kiseev</b>		
11:40 - 12:00	51 - Experimental study on heat transfer performance of potassium heat pipe	Zhixing Tian, Chenglong Wang, Wenxi Tian, Suizheng Qiu and G H Su
12:00 - 12:20	23 - Effects of operating temperature on the heat transfer performance of a liquid metal high- temperature oscillating heat pipe	Mengke Wu, Yanmin Feng, Xin Yang, Qinan Liu, Yadong Li, Zhe Wang, Yantao Li, Daan Cui, Hongbin Ma, Yulong Ji
12:20 - 12:40	65 - Effect of non-condensable gas on the flat plate pulsating heat pipe under various gravity conditions	Slobodeniuk Maksym, Bertossi R., Ayel V., Romestant C., Bertin Y
12:40 - 13:00	82 - Effect of magnetic manipulation of Taylor flow of ferrofluids on two-phase heat transfer	Khandekar Sameer, Ram Krishna Shah
13:00 - 14.00	<b>Lunch</b>	
14:00 - 19:00	<b>Conference tour</b>	

**DAY 3, Thursday, September 9, 2021**

**DAY 3, Section 1**

**Chair: Manfred Groll, Co-chair: Natalia Savchenkova**

08:40 - 09:00	96 - Visualization of fluid flow in a heat pipe with a centered wick structure	Koito Y., Yamamoto K., Chen C., Kakizoe R.
09:00 - 09:20	127 - Investigation of nanofluid boiling in thermosyphons	Kiseev V.M., Sazhin O.V.
09:20 - 09:40	186 - Thermosyphon-heat exchanger for cooling high-power electronic elements	Rabetsky M.I., Grakovich L.P., Vasiliev L.L.

**DAY 3, Section 2**

**Chair: Yury Maydanik, Co-chair: Vasily Buz**

09:40 - 10:00	227 - Local heat transfer in a micro heat pipe	Iwata N., Bozzoli F., Pagliarini L., Cattani L., Vocale P., Malavasi M., Ranieri S.
10:00 - 10:20	176 - Modeling of vapor generation in a loop heat pipe evaporator	Buz Vasily, Goncharov Konstantin
10:20 - 10:40	153 - Analysis of Loop Heat Pipes control methods	Goncharov K.A.
10:40 - 11:00	<b>Coffee break</b>	

**DAY 3, Keynote Lecture 3**

**Chair: Yury Maydanik, Co-chair: Vasily Buz**

11:00 - 11:40	<b>Keynote Lecture 3</b> <i>Development and Space Application of Loop Heat Pipes in China</i>	Jianyin Miao
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**DAY 3, Section 2**

**Chair: Yury Maydanik, Co-chair: Vasily Buz**

11:40 - 12:00	152 - Investigation of the impact of mechanical loads on LHP	Savrushkin V.A., Goncharov K. A., Antonov V.A.
12:00 - 12:20	204 - Experimental study of a miniature loop heat pipe for electronics application	Domiciano Kelvin Guessi, Krambeck L., Mera J. P. F., Mantelli M. B. H.

**DAY 3, Section 6-7**

**Chair: Vyacheslav Cheverda, Co-chair: Alexandr Zhuravlev**

12:20 - 12:40	63 - Experimental investigation of the performance of an adsorption based anti-freeze system for loop heat pipes	Vyas SRINIVASAN, Frédéric LEFÈVRE, Sameer KHANDEKAR and Jocelyn BONJOUR
12:40 - 13:00	165 - Thermal performance of a flexible polypropylene pulsating heat pipe at different bending angles	Bertola Volfango, Alqahtani, A. A., Edwardson, S., Marengo, M.
13:00 - 14:00	<b>Lunch</b>	

**DAY 3, Section 4**

**Chair: Vyacheslav Cheverda Co-chair: Alexandr Zhuravlev**

14:20 - 14:40	225 - Thermal Management of High-power LED using a Copper Wick Loop Heat Pipe	Sahu Gopinath, Prem Kumar, Mayur Gachake, Sameer Khandekar
14:40 - 15:00	244 - The Specifics of Design and Prediction of Thermohydraulic Characteristics of Thermosiphons for Energy	Egorov Mikhail, Balunov B. F., Lychakov V. D., Shcheglov A. A., Matyash A. S., Borisov A. O., Il'in V. A.
15:00 - 15:20	4 - Packaging and testing of a multi – Loop Heat Pipes solution, working with a non-flammable and dielectric fluid, to cool double sided SiC MOSFET power modules for aircraft systems	Dupont Vincent, Nicolle T., Kapaun F., Lasserre P., Piaud B., Ludovic Y.
15:20 - 15:40	13 - Experimental analysis of 3D hybrid heat pipes for electronics cooling	J V C Batista, J C P Almeida, J P F Mera and M B H Mantelli

15:40 - 16:00	162 - Study of Gas to Liquid Heat Pipe Heat Exchanger	Pratik Prakash Gupta and Shung-Wen Kang
16:00 - 16:20	<b>Coffee break</b>	
16:20 - 16:40	57 - Experiment study on cooling performance of heat pipe cold plate and heat pipe module for electronic equipment	Jinwang Li, Bowen Xu, Changji Wang
<b>DAY 3, Section 3</b>		
<b>Chair: Oleg Kabov, Co-chair: Valery Kiseev</b>		
16:40 - 17:00	7 - Development of flexible flat heat pipe	Delendik Kirill, Kim J., Kim J. W., Voitik O. L., Kolyago N. V., Penyazkov O. G.
17:00 - 17:20	87 - Heat Transfer Delay Method for the average fluid velocity evaluation in a multi-turn pulsating heat pipe	Bozzoli Fabio, Pagliarini L., Cattani L., Mameli M., Filippeschi S
17:20 - 17:40	151 - Heat pipes with axial grooves at high heat flux density in the evaporator. Modeling and analysis	Savchenkova Natalia, Buz V.N., Kuznetsov I.O., Goncharov K.A.
17:40 - 18:00	169 - Sodium heat pipes for a novel high-temperature thermal energy storage system	Pawel Nycz, Claudio G, Eames P. R.
18:00 - 18:20	158 - Heat transfer in shear driven locally heated liquid film with microstructures	Cheverda V V, Kabov O.A.
18:20 - 18:40	246 - Bulging of cylindrical heat pipes, caused by water freezing	D Torresin, O Sologubenko, A Petrov and B Agostini
18:40 - 19:00	85 - Experimental validation of a Pulsating Heat Pipe transient model during the start-up in microgravity environment	Mauro Abela, Mauro Mameli, Vadim Nikolayev, Sauro Filippeschi
18:40 - 19:00	<b>Free time</b>	
19:20 - 21:00	<b>Conference Banquet</b>	

**DAY 4, Friday, September 10, 2021**

**DAY 4, Section 3**

**Chair: Oleg Kabov, Co-chair: Valery Kiseev**

08:40 - 09:00	94 - Measurement of two-dimensional Temperature Distribution and point Pressure inside Pulsating Heat Pipe Using Temperature-sensitive Paint	Ishii Keiko, Omata R., Otaka Y., Fumoto K.
09:00 - 09:20	223 - Temperature homogenization of a 3D metallic structure with a printed integrated PHP	Levêque Marie, Lips S., Agazzi A., Sartre V., Lefèvre F.
09:20 - 09:40	69 - Flat-plate Pulsating Heat Pipe tested with surfactant: experimental investigation and use of transient reactivation phases for the fluid-wall heat transfers analysis	Ayel V., Slobodeniuk M., Sabathé M., Graziani C., Bertossi R., Romestant C., Bertin Y.
09:40 - 10:00	70 - Liquid film dynamics during meniscus oscillation	Zhang Xiaolong, Vadim S. Nikolayev
10:00 - 10:20	5 - Development of ultra-thin vapor chamber	Kolyago Natalia Vladimirovna, Delendik K. I., Voitik O. L., Penyazkov O. G.
10:20 - 10:40	177 - Cryogenic Flat Plate Oscillating Heat Pipe	Wilson Corey, Boswell, J.
10:40 - 11:00	<b>Coffee break</b>	
11:00 - 11:20	231 - Field and numerical study of groundwater flow effect for enhancement of heat transfer in ground source heat pipes	Chishimba Johnson, , Nagano K., Sakata Y., Mochizuki M.
<b>Ballroom B, Posters</b>		
11:20 - 12:00	<i>Posters</i>	
<b>Closing ceremony</b>		
12:00 - 13:00	<i>Closing ceremony</i>	
13:00 - 14.00	<i>Lunch</i>	