

# CURRICULUM VITAE

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## Yuriy V. Lyulin

**Research Scientist, PhD**

**Center for Energy Science and Technology (CEST)  
Skolkovo Institute of Science and Technology**  
Nobel str., 3, Moscow, Russia

Phone: +7 913 382 20 93

E-mail: [yuriylyulin@gmail.com](mailto:yuriylyulin@gmail.com); [Y.Lyulin@skoltech.ru](mailto:Y.Lyulin@skoltech.ru)

Website: <http://www.lyulin.ru>; <https://faculty.skoltech.ru/people/yuriylyulin>

Date and place of birth: November 1, 1980. Almaty region, Kazakhstan

Languages: Russian (native), English (fluent)

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## Education

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| 2016 | <b>Ph.D. (Degree of Candidate of Sciences in fluid mechanics)</b> , November 30, 2016, Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia.<br>Thesis “Convective condensation of vapor and evaporation of a liquid layer under gas flow in confined conditions” Supervisor (prof. Kabov O. A.). |
| 2003 | <b>Masters of Science in Mathematics majoring in “Applied mathematics and informatics”</b> , June 28, 2003, Novosibirsk State University, Russia.<br>Thesis: “Mathematical model of stationary vapor condensation on curvilinear surface taking into account heat conductivity in the condenser wall”.          |
| 2001 | <b>Bachelor of Science in Mathematics majoring in “Theoretical and Applied Mechanics”</b> , June 28, 2001, Al-Farabi Kazah National University, Almaty, Kazakhstan.<br>Thesis: “Investigation of mathematical pendulum with variable mass”.   |

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## Work Experience

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| 2018- present time  | <b>Research Scientist</b><br>Center for Energy Science and Technology (CEST)<br>Skolkovo Institute of Science and Technology, Moscow, Russia.              |
| 2012 - present time | <b>Research Scientist (part-time)</b><br>Laboratory of Enhancement of Heat Transfer<br>Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia. |
| 2016 - 2018         | <b>Research Scientist</b><br>Laboratory of energy-intensive thermal processes<br>Novosibirsk State University, Novosibirsk, Russia                         |
| 2015 - 2016         | <b>Engineer</b><br>Power Engineering Institute<br>Tomsk Polytechnic University, Tomsk, Russia  |
| 2008 - 2012         | <b>Researcher</b><br>Microgravity Research Center<br>Universite Libre de Bruxelles, Brussels, Belgium  |

2007 - 2008	<b>Junior Research Scientist</b> Laboratory of Enhancement of Heat Transfer Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia
2003 - 2006	<b>Engineer</b> Laboratory of Enhancement of Heat Transfer Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia

## Research Interests

Keywords:	Heat transfer enhancement, phase change, two-phase flow, filmwise and dropwise condensation, finned surface, hydrophobic surface, surface tension, capillary pressure, local heating, thin liquid films, evaporation, convection, thermocapillary effect, cooling of micro-electronics, high heat flux, wettability, nano-structured surfaces, experimental works in ground and microgravity conditions, droplets.
Experiments:	Droplet evaporation under gas flow Heat transfer, dynamics and crisis phenomena in evaporating liquid films. Thermocapillary convection in liquid films. Filmwise and dropwise vapour condensation in tubes and on finned surfaces. Hydrodynamics and heat and mass transfer in two-phase flows. Liquid and gas hydrodynamics under microgravity conditions. Thermocapillary deformation and rupture in locally heated horizontal fluid layer.

## Awards

2017	Diploma for scientific achievements and conscientious work, Kutateladze Institute of Thermophysics, Novosibirsk, 2017, Russia.
2012	Award for Best Poster presentation on Seventh International Symposium on TWO-PHASE SYSTEMS FOR GROUND AND SPACE APPLICATIONS, September 17-21, 2012, Beijing, China.
2006	Diploma of charitable foundation for the promotion of national science “Best PhD student of RAS”, 2006, Moscow.
2003	First Degree Award on the competition of Young Scientists, Institute of Thermophysics, Novosibirsk, Russia, April 2003.
2002	Second Degree Award on the VII All-Russian Young Scientists Conference “Actual Problems of Thermophysics and hydraulic gas dynamics”, Novosibirsk, Russia, April 2002.

## Activity

Scientific Secretary	<a href="#">2nd International School of Young Scientists «Interfacial Phenomena and Heat Transfer»</a> , September 11-16, 2017, Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia.
Editor	<a href="#">Book of abstract</a> of 12-th International Conference «Two-Phase Systems for Space and Ground Applications» and 2nd International School of Young Scientists«Interfacial Phenomena and Heat Transfer», September 11-16, 2017, Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia.  Special issue of the open access <a href="#">Journal of Physics: Conference Series</a> . Joint 12-th International Conference «Two-Phase Systems for Space and Ground Applications» and 2nd International School of Young Scientists«Interfacial Phenomena and Heat Transfer», September 11-16, 2017, Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia.
Member of organizing	<a href="#">International Symposium and School of Young Scientists «Interfacial Phenomena and Heat Transfer»</a> , March 2-4, 2016, Kutateladze Institute of Thermophysics, SB RAS,

committee	Novosibirsk, Russia  IV International Topical Team Workshop on Two-Phase Systems For Ground And Space Applications, September 6-8, 2009, Kutateladze Institute of Thermophysics, SB RAS, Novosibirsk, Russia.  International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, September 19-21, 2006, Universite Libre de Bruxelles, Brussels, Belgium.
Reviewer	Journal: Interfacial Phenomena and Heat Transfer, Begell House Journal: Thermophysics and Aeromechanics, Novosibirsk, Russia  EPJ Web of Conferences (XIV All-Russian school-conference of young scientists with international participation 2016)

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## Project, Grants, Fellowships

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### *Fellowship*

2005-2007 INTAS Young Scientist Fellowship Ref. Nr. 04-83-2952 «Thermocapillary convection in a locally heated shear-driven liquid film», (IT SB RAS Russia; ULB-MRC, Belgium); **Project leader**

### *Russian Science Foundation:*

2015-2018 № 15-19-20049 «Transport processes in multiphase systems with phase transitions», (Prof. Goncharova, IT SB RAS, Novosibirsk); **Principal investigator**

2015- 2018 № 15-19-30038, «Surface phenomena in complex micro-dimensional two-phase flows» (Prof. Chinnov, IT SB RAS, Novosibirsk); **Investigator**

2014-2016 № 14-19-01755, «Transport processes in two-phase flows with contact lines in microchannels with respect to high-intensity cooling systems» (Prof. Kabov, IT SB RAS, Novosibirsk); **Investigator**

### *Ministry of Education and Science RF:*

2014-2016 № 14.616.21.0016 Development of scientific and technological potential and experimental samples for high-performance two-phase cooling systems with natural circulation for space and transportation applications” (Prof. Kabov, IT SB RAS, Novosibirsk); **Investigator**

2014-2016 № 14.604.21.0053 «Evaporative cooling system for high-performance new generation processors with forced coolant circulation» (Prof. Kabov, IT SB RAS, Novosibirsk); **Investigator**

2014-2016 № 14.613.21.0011 «Creation of cooling technology for heat-stressed elements using single-component two-phase flows» (Prof. Kabov, IT SB RAS, Novosibirsk); **Investigator**

### *Russian Foundation for Basic Research:*

2014-2015 RFBR 14-08-00163-a, «Theoretical and experimental study of the processes of heat and mass transfer in two-layer convection flows with evaporation» (Prof. Goncharova, AGU, Barnaul); **Principal investigator**

2014 RFBR 14-38-50008-mol\_nr, «Experimental study of evaporation processes in a horizontal moving fluid layer partially open to a gas flow» (Prof. Kuznetsov, TPU, Tomsk); **Principal investigator**

### *International projects:*

2009 – present Research project of the European Space Agency (MAP): project AO-2004-096 “Enhanced Condensers for Microgravity (ENCOM-3)”, (Scientific coordinator: Prof. Davide Del Col, UNIPD); representative of IT SB RAS in the MAP project. **Investigator**

2008 – present Research project of the European Space Agency (MAP): project MAP Project

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AO-99-110 "Evaporation Patterns (previously named CIMEX)", (Scientific coordinator: Prof. Pierre Colinet, ULB-TIPs); representative of IT SB RAS in the MAP project.

**Investigator**

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**Patents and Applications for Patents**

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2018	Kabov O.A., Zaitsev D.V., Lyulin Yu. V., Bykovskaya E.F., «Liquid evaporation device», Patent of the Russian Federation for invention № 2649164. (in Russian)
2018	Kabov O.A., Marchuk I. V., Lyulin Yu. V., «Intensive vapor condenser with contrast and gradient wetting», Patent of the Russian Federation for invention № 2640888. (in Russian)
2018	Kabov O.A., Marchuk I. V., Lyulin Yu. V., Bykovskaya E.F., «Flat efficient condenser-separator for microgravity and transport applications», Patent of the Russian Federation for invention № 2640887. (in Russian)
2017	Kabov O.A., Lyulin Yu. V., Marchuk I. V., «Condenser-separator for two-component two-phase system», Patent of the Russian Federation for invention № 2614897. (in Russian)
2017	Kabov O.A., Lyulin Yu. V., Marchuk I. V., Bykovskaya E.F., «Effective vapor condenser for microgravity conditions», Patent of the Russian Federation for invention № 2635720. (in Russian)
2016	Kabov O.A., Marchuk I. V., Cheverda V.V., Lyulin Yu. V., «Device for the formation of a liquid rivulet flow in micro- and mini-channel», Patent of the Russian Federation for invention № 2588917. (in Russian)

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**Student's Supervisor**

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2016-2017	Aleksey S. Kreta, Novosibirsk State University, Faculty of Physics, Master degree, thesis «Convective flows in a evaporating liquid layer of limited size» (experiment). (Co-supervisor with prof. Kabov)
2016-2017	Serafim E. Spesivtsev, Novosibirsk State University, Faculty of Physics, Master degree, thesis «Dynamics of rupture of a horizontal spot-heated liquid layer» (experiment).

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**Skills and Qualifications:**

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Software	SolidWorks, SolidWorks Simulation, SolidWorks Flow Simulation, LabView(basic), NI Signal Express, , Adobe Photoshop, CorelDraw, HTML, CSS
Measuring techniques and equipment	<ol style="list-style-type: none"><li>1. Infrared Camera «Titanium HD 570M». Measurement of the temperature field on liquid surface.</li><li>2. Schlieren technique with reflection. Development for visualisation of gas-liquid interface.</li><li>3. Shadowgraph technique. Development for visualization of two-phase flows.</li><li>4. Confocal technique, Micro-epsilon IFC2451. Measurement of liquid layer thickness.</li><li>5. High-speed camera FASTCAM SA1.1 with frame rate of up to 650000</li><li>6. Drop Shape Analyzer - DSA100. Measurement of the contact angle and analysing wetting processes.</li><li>7. Force Tensiometer – K100, KRUSS. Measurement of surface tension, density of various liquids.</li><li>8. PIV technique, Polis. Adaptation of the method for measurements of 2-D velocity field in liquid layer.</li></ol>

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	9. Laboratory equipment: liquid (syringe, gear, peristaltic) pumps; air compressors and gas pumps; thermostatic bath; flow meters and controllers for liquid and gas; measuring instruments ...
Developed experimental rigs	<ol style="list-style-type: none"> <li>1. Vapor condensation on longitudinal curvilinear fins with condensate suction from interfin space. Institute of Thermophysics SB RAS. 2014-present.</li> <li>2. Evaporative convection in a horizontal liquid layer under shear–stress gas flow. Institute of Thermophysics SB RAS. 2012-present.</li> <li>3. Thermocapillary breakdown of a horizontal spot-heated liquid layer. Institute of Thermophysics SB RAS. 2012-present.</li> <li>4. In-tube condensation of pure vapor. Microgravity Research Centre, Universite Libre de Bruxelles, Brussels, Belgium. 2008-2012.</li> <li>5. Breadboard of the experimental closed loop for ESA space experiment "Evaporation Patterns (previously named CIMEX)". ASTRIUM (member of the EADS concern), Friedrichshafen, Germany. 2011.</li> <li>6. Examination of the micro-groove anti-wetting barrier for liquid with extremely low surface tension. Microgravity Research Centre, Universite Libre de Bruxelles, Brussels, Belgium. 2010-2012.</li> <li>7. Breadboard of the Condensing/Separating System (CSS) for ESA space experiment "Evaporation Patterns (previously named CIMEX)". Microgravity Research Centre, Universite Libre de Bruxelles, Brussels, Belgium. 2005- 2010.</li> <li>8. Movement of a non-isothermal shear-driven liquid film under microgravity conditions. Microgravity Research Center, Universite Libre de Bruxelles, Brussels, Belgium. 2005-2006.</li> </ol>
Other	<ol style="list-style-type: none"> <li>1. Development of high-precision data acquisition systems. Measurement and control of temperature pressure and flow rates of gas, vapor and liquid.</li> <li>2. Development, starting-up and adjustment of the experimental rigs in experiments with evaporation, condensation, heat transfer and fluid dynamics for on-ground and microgravity conditions.</li> <li>3. Design and creation of test cell for experimental rigs. Preparation of requirements specifications, cooperation with manufacturing company.</li> <li>4. Development of the laboratory. Selection of the equipment for experiments. Preparation of documents, contracts for the purchase of equipment. Interaction with suppliers of the equipment.</li> <li>5. Tuning and adjustment of the equipment, supervising students and research staffs during experimental investigations. Creation of user manuals for experimental rig and facility.</li> <li>6. Creation of websites for conferences, symposiums and workshops. Websites administration.</li> </ol>

## Research visits

2008-2012	Project work in frame of preparation of space experiment "Evaporation Patterns (previously named CIMEX)" supported by ESA. Microgravity Research Centre. Universite Libre de Bruxelles, Brussels, Belgium
June, 2011	On-ground test campaign of the experimental loop breadboard for ESA space experiment "Evaporation Patterns (previously named CIMEX)". ASTRIUM (member of the EADS concern), Friedrichshafen, Germany.
August –December, 2005	Development of the experimental facility for experiment "Movement of a non-isothermal shear-driven liquid film under microgravity conditions" in frame of preparation of 41st ESA Parabolic Flight Campaign. Data analysis of the experiment. Microgravity Research Centre, Universite Libre de Bruxelles, Brussels, Belgium.
October, 2005	Participation in 41st ESA Parabolic Flight Campaign. Bordeaux, France
August – October, 2004	Development of the experimental facility for experiment "Highly Efficient Finned Surfaces and Separator for Advanced Capacitor in Microgravity Conditions" in frame of preparation of 38th ESA Parabolic Flight Campaign, Microgravity Research

## Collaboration

Novosibirsk State University, Novosibirsk, Russia- Prof. Igor Marchuk  
Altay State University, Barnaul, Russia - Prof. Olga Goncharova  
Institute of Computational Modeling (ICM SB RAS), Krasnoyarsk, Russia - Dr. Victoriya Bekeszhanova  
Microgravity Research Centre, Universite Libre de Bruxelles, Brussels, Belgium- Dr. Carlo Iorio  
TIPs Laboratory, Université Libre de Bruxelles, Brussels, Belgium- Prof. Pierre Colinet  
European Space Agency (ESA), Noordwijk, The Netherlands- Dr. Balazs Toth  
Université de Liège, Institute de Physique, Liège, Belgium - Dr. Hatim Machrafi

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## Publications

h-index (Scopus, Dec 2018):	<b>8</b>
Total:	<b>68</b>
Peer-Reviewed (indexed in Scopus/WoS):	13
Peer-Reviewed (non-indexed in Scopus/WoS):	2
Conference Series (indexed in Scopus/WoS):	13
Conference proceedings:	4
Abstracts:	36

### *Peer-Reviewed (indexed in Scopus/WoS) (13)*

1. Lyulin Y., Kreta A., Kabov O., Influence of the gas flow velocity on convection in a horizontal evaporating liquid layer". Journal Thermophysics and Aeromechanics, 2019, Vol. 26, No. 1, pp. 141-146. (in Russian)
2. H. Machrafi, Y. Lyulin, C.S. Iorio, O. A. Kabov, P.C. Dauby, Numerical parametric study of the evaporation rate of a liquid under a shear gas flow: experimental validation and the importance of confinement on the convection cells and the evaporation rate, International Journal of Heat and Fluid Flow, 72, 8–19, 2018. DOI: 10.1016/j.ijheatfluidflow.2018.05.003
3. Goncharova O. N., Rezanova E. V., Lyulin Yu. V. and Kabov O. A., Analysis of a Convective Fluid Flow with a Concurrent Gas Flow with Allowance for Evaporation// High Temperature, 2017, Vol. 55, No. 6, pp. 871–88. 10.1134/S0018151X17060074
4. Lyulin Yu., Spesivtsev S., Marchuk I., Kabov O., Study of the dynamics of the rupture of thin spot-heated liquid layer and the formation of a droplets cluster, Thermophysics and Aeromechanics, 2017, No. 6, Vol. 27 DOI: <https://doi.org/10.1134/S0869864317060154>
5. Lyulin, Y.V., Spesivtsev, S.E., Marchuk, I.V., Kabov, O.A., Investigation of disruption dynamics of the horizontal liquid layer with spot heating from the substrate side // Technical Physics Letters. -2015. – V. 41(11). –P. 1034 – 1037. DOI: 10.1134/S106378501511005X
6. Gatapova, E.Y., Filipenko, R.A., Lyulin, Y.V., Graur, I.A., Marchuk, I.V., Kabov, O.A., Experimental investigation of the temperature field in the gas-liquid two-layer system // Thermophysics and Aeromechanics. -2015. – V. 22(6). –P. 701 – 706. DOI: 10.1134/S0869864315060050
7. Goncharova, O.N., Rezanova, E.V., Lyulin, Y.V., Kabov, O.A., "Modeling of two-layer liquid-gas flow with account for evaporation// Thermophysics and Aeromechanics. -2015. – V. 22(5). –P. 631 – 637. DOI: 10.1134/S086986431505011X
8. Lyulin, Y.V., Feoktistov, D.V., Afanas'ev, I.A., Chachilo, E.S., Kabov, O.A., Kuznetsov, G.V., Measuring the rate of local evaporation from the liquid surface under the action of gas flow // Technical Physics Letters. -2015. – V. 41(7). –P. 665 – 667. DOI: 10.1134/S1063785015070251
9. Lyulin Y., Kabov O., Evaporative convection in a horizontal liquid layer under shear–stress gas flow, Int. J. Heat Mass Transfer, Vol. 70, pp. 599-609, 2014. DOI: 10.1016/j.ijheatmasstransfer.2013.11.039
10. Lyulin Y., Kabov O., Measurement of the evaporation mass flow rate in a horizontal liquid layer partly opened into flowing gas // Technical Physics Letters. -2013. –V.39(13). –P.795–797. DOI: 10.1134/S1063785013090095
11. Grishaev V., Amirfazli A., Chikov S., Lyulin Y., Kabov O., Study of edge effect to stop liquid spillage for microgravity application // Microgravity sci. technol. – 2013. – Vol. 25. – P. 27-33. DOI: 10.1007/s12217-012-9325-6
12. Lyulin Yu.V., Marchuk I.V., Chikov S.B., and Kabov O.A., Experimental study of laminar convective

condensation of pure vapor inside an inclined circular tube, *Microgravity sci. technol.*, 23, Suppl. 1, S65- S74, 2011  
<http://link.springer.com/article/10.1007%2Fs12217-011-9283-4>

13. Kabov O.A., Lyulin Yu.V., Marchuk I.V. and Zaitsev D.V., Locally heated shear-driven liquid films in microchannels and minichannels. *Int. Journal of Heat and Fluid Flow*, 28, 103-112, 2007.

#### ***Peer-Reviewed (non-indexed in Scopus/WoS) (2)***

1. Marchuk I.V., Lyulin Yu.V., Kabov O.A., and Legros J-C., Steam condensation on a non-isothermal extended Gregorig-Ademek surface. *Journal of Engineering Thermophysics*, 12, No 4, 383-397, 2003.
2. Marchuk I. V., Lyulin Yu. V, Kabov, O. A., Theoretical and Experimental Study of Convective Condensation inside Circular Tube // *Interfacial Phenomena and Heat Transfer*. –2013.–Vol.1(2).– P. 153-171. DOI: 10.1615/InterfacPhenomHeatTransfer.2013008042

#### ***Conference Series (indexed in Scopus/WoS) (13)***

1. Yu V Lyulin, S E Spesivtsev, I V Marchuk and O A Kabov, Thermocapillary deformations of a spot-heated self-wetting liquid layer, *IOP Conf. Series: Journal of Physics: Conf. Series* 1105 (2018) 012066 doi :10.1088/1742-6596/1105/1/012066
2. Y V Lyulin and E V Rezanova, Convective fluid flows in a horizontal channel with evaporation: analytical and experimental investigations, *Journal of Physics: Conference Series* 925 (2017) 012001 DOI:10.1088/1742-6596/925/1/012001
3. Yuriy Lyulin, Munko Gonchikzhapov, Irina Tueva and Igor Marchuk, Condensation of HFE-7100 vapor in a loop heat pipe having a curvilinear fin, *EPJ Web of Conferences* 159, 00031 (2017) DOI: <https://doi.org/10.1051/epjconf/201715900031>
4. Yuri Lyulin and Ekaterina Rezanova, Modeling of liquid and gas flows in the horizontal layer with evaporation *EPJ Web of Conferences* 159, 00039 (2017) <https://doi.org/10.1051/epjconf/201715900039>
5. Igor Marchuk and Yuriy Lyulin, Mathematical modelling of liquid meniscus shape in cylindrical micro-channel for normal and micro gravity conditions, *EPJ Web of Conferences* 159, 00056 (2017) DOI: <https://doi.org/10.1051/epjconf/201715900056>
6. Spesivtsev, S., Lyulin, Y. Evolution of the deformation profile of a horizontal thin ethanol layer when heated locally (2016) *MATEC Web of Conferences*, 92, art. no. 01024, . DOI: 10.1051/mateconf/20179201024
7. Kreta, A., Lyulin, Y. Thermographic investigation of surface temperature of the evaporating liquid layer under the action of gas flow (2016) *MATEC Web of Conferences*, 92, art. no. 01048. DOI: 10.1051/mateconf/20179201048
8. Spesivtsev, S., Lyulin, Y. Thermocapillary breakdown of a horizontal spot-heated liquid layer (2016) *MATEC Web of Conferences*, 84, art. no. 00038. DOI: 10.1051/mateconf/20168400038
9. Lyulin Y., Tueva, I., Marchuk, I. Vapor condensation on curvilinear fins with condensate suction from the interfin space (2016) *MATEC Web of Conferences*, 84, art. no. 00023. DOI: 10.1051/mateconf/20168400023
10. Kreta A., Lyulin Y., Kabov, O. Effect of temperature on the convection flow within the liquid evaporation into the gas flow (2016) *Journal of Physics: Conference Series*, 754 (3), art. no. 032011. DOI: 10.1088/1742-6596/754/3/032011
11. Spesivtsev, S.E., Lyulin, Y.V., Marchuk, I.V., Kabov, O.A. Thickness measurement in a horizontal liquid layer when heated from a localized hot-spot (2016) *Journal of Physics: Conference Series*, 754 (3), art. no. 032017. DOI: 10.1088/1742-6596/754/3/032017
12. Kreta, A., Lyulin, Y., "Convection Study by PIV Method Within Horizontal Liquid Layer Evaporating into Inert Gas Flow// *MATEC Web of Conferences*. – 2016. Vol. 72. - P. 01053. DOI: 10.1051/mateconf/20167201053
13. Spesivtsev, S., Lyulin, Y., Studying the Dynamics of Breakdown of Thin Horizontal Liquid Layers with Local Heating // *MATEC Web of Conferences*. – 2016. Vol. 72. - P. 01107. DOI: 10.1051/mateconf/20167201107

#### ***Conference proceedings (4)***

1. Kabov O.A., Marchuk I.V., Glushchuk A., Lyulin Yu., Enhancement of vapor condensation in heat pipes, *Proceedings of the 16th Int. Heat Pipe Conference*, Lyon, France, May 20-24, pp. 1-14, 2012.
2. Kabov O.A., Lyulin Yu.V., Marchuk I.V. and Zaitsev D.V. Locally heated annular liquid films in microchannels and minichannels. *Proc. of ECI International Conference on Heat Transfer and Fluid Flow in Microscale*, Keynote lecture KL6, publication on CD-ROM by ECI, Castelvechio Pascoli, Italy, September 25–30, pp. 1-8, 2005.
3. Zaitsev D.V., Lyulin Yu.V., Cheverda V.V., Marchuk I.V., Kabov O.A., Experimental investigation of the flow of a locally heated liquid film moved under the action of gas flow in a minichannel. *Proc. of XV International School-Seminar of Young Scientists and Specialists under the Direction of Academician A.I. Leontiev "Problems of the gas dynamics and heat- mass-transfer in energetic equipment"*, May 23–27, 2005, Kaluga, Russia, vol. 1, p. 336-339, 2005
4. Gatapova E.Y., Lyulin Y.V., Marchuk I.V., Kabov O.A. and Legros J-C., The thermocapillary convection in locally heated laminar liquid film flow caused by a co-current gas flow in narrow channel, *Proc. First International Conference on Microchannels and Minichannels*, Ed. S.G. Kandlikar, April 24-25, 2003, Rochester, NY, USA, pp.

**Abstracts (36)*****International conference, symposiums and workshops (20)***

1. Lyulin Y., Kreta A., Kabov O., «Study of vortex flows induced by evaporative convection within liquid layer» 4th International Retreat on Vortical Flow and Aerodynamics (IRVA4), Novosibirsk, Russia, October 01-13, 2018.
2. Marchuk I., Lyulin Y. and Barskii A., «Film Wise Vapor Condensation in Channels and on Curved Surfaces», 12-th International conference "Two-Phase Systems for Space and Ground Applications", Novosibirsk, Russia, September 11-15, 2017.
3. Spesivtsev S., Lyulin Y., Marchuk I. and Kabov O., «Evolution of the deformation profile of a thin liquid layer when heated from a localized hot spot», 12-th International conference "Two-Phase Systems for Space and Ground Applications", Novosibirsk, Russia, September 11-15, 2017.
4. Rezanova E. and Lyulin Y., «Modeling of the liquid and gas flows with evaporation at interface based on exact solutions», 12-th International conference "Two-Phase Systems for Space and Ground Applications", Novosibirsk, Russia, September 11-15, 2017.
5. Lyulin Y., Kreta A. and Kabov O., «Experimental study of interfacial motion of a horizontal liquid layer evaporating into gas flow», 12-th International conference "Two-Phase Systems for Space and Ground Applications", Novosibirsk, Russia, September 11-15, 2017.
6. Lyulin Yuriy, Kreta Aleksei, Bilsky Artur, Markovich Dmitriy, Kabov Oleg and Legros Jean-Claude. Convective flows study by PIV method within a horizontal fluid layer under the action of gas flow // International Symposium and School for Young Scientists INTERFACIAL PHENOMEN AND HEAT TRANSFER, Novosibirsk, Russia, 2-4 of March 2016.
7. Marchuk Igor, Barakhovskaya Ella, Lyulin Yuriy and Kabov Oleg. Vapor condensation on curvilinear fins with condensate suction from the interfin space // International Symposium and School for Young Scientists INTERFACIAL PHENOMENA AND HEAT TRANSFER, Novosibirsk, Russia, March 2-4, 2016.
8. Marchuk Igor, Barakhovskaya Ella, Lyulin Yuriy, Kabov Oleg, Legros Jean Claude. Numerical Modelling of Thermocapillary deformation and dry spot formation in a locally heated thin horizontal volatile liquid layer // International Symposium and School for Young Scientists INTERFACIAL PHENOMENA AND HEAT TRANSFER, Novosibirsk, Russia, March 2-4, 2016.
9. Spesivtsev S.E., Lyulin Yu.V., Marchuk I.V., Kabov O.A. Thickness measurement in a horizontal spot-heated liquid layer // 11th International Conference on Two-Phase Systems for Space and Ground Applications, September 26-29, Marseilles, France.
10. Spesivtsev Serafim, Lyulin Yuriy, Marchuk Igor, Kabov Oleg, Legros Jean Claude. Thermocapillary breakdown of a horizontal spot-heated liquid layer // International symposium and school of young scientists Interfacial Phenomena and Heat Transfer IPHT-2016, March 2-4, 2016, Novosibirsk, Russia.
11. Yu.V. Lyulin, S.E. Spesivtsev, I.V. Marchuk, O.A. Kabov, J.C. Legros, Breakdown dynamics of a horizontal evaporating liquid layer when heated locally // ISHM-III, 08-09 October 2015, Novosibirsk, Russia, 1p.
12. Goncharova O., Lyulin Yu., Rezanova E., Kabov O. Convective fluid flows with evaporation: analytical, numerical and experimental investigations. Ninth International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, Baltimore, Maryland, USA, September 22-26, 2014. Book of Abstracts. P. 79.
13. Lyulin Yu., Goncharova O., Feoktistov D., Kuznetsov G., Kabov O. Experimental rig for investigation of evaporation process in a horizontal liquid layer under shear-stress gas flow// Eighth International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, Bremen, Germany, September 17-19, 2013. Book of Abstracts.
14. Rodrigo Carpy, Gerold Pickeru, Vincenzo Messina, Stefano Carliuo, Hans Ranebo, Balazs Toth, Olivier Minster, Jan Dettmann, Josef Winterb, Frank Dubois, Carlo S.Iorio, Pierre Colinet, Sam Dehaeck, Oleg Kabov, Yuriy Lyulin, Closed Loop Evaporating Tests With HFE 7100 for the Evaporation Patterns (CIMEx) Experiment of the ISS // Eighth International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, Bremen, Germany, September 17-19, 2013. Book of Abstracts.
15. Lyulin Yu., Kabov O., Measurement of the evaporation flow rate of HFE-7100 liquid layer under shear-stress gas flow, Seventh International Symposium on TWO-PHASE SYSTEMS FOR GROUND AND SPACE APPLICATIONS, Beijing, China, September 17-21, 2012
16. Kabov O., Marchuk I., Glushchuk A., Lyulin Yu., Enhancement of vapor condensation in heat pipe, Keynote lecture, Proc. of 16th International Heat Pipe Conference (16th IHPC), Lyon, France, May 20-24, 2012.
17. Grishaev V., Lyulin Yu., Chikov S., Kabov O. Anti-wetting barrier for the CIMEX-1 experiment measurements of the evaporation flow rate of HFE-7100, ELGRA Symposium, 5 - 9 September 2011, Antwerp, Belgium.
18. Lyulin Yu., Iorio Carlo S. and Kabov O. Liquid in an open cavity under shear stress gas flow, ELGRA Symposium, 5 - 9 September 2011, Antwerp, Belgium.
19. Lyulin Yu., Marchuk I., Kabov O., Theoretical and experimental study of gravity variation effect on pure vapor



in-tube condensation, 92th Eurotherm Seminar on Gravitational Effects on Liquid-Vapor Phase Change, Presqu'île de Giens, France, April 17-21, 2011.

20. Gatapova E.Y., Lyulin Y.V., Marchuk I.V., Kabov O.A. and Legros J-C., The thermocapillary convection in locally heated laminar liquid film flow caused by a co-current gas flow in narrow channel, Proc. First International Conference on Microchannels and Minichannels, Ed. S.G. Kandlikar, April 24-25, 2003, Rochester, NY, USA, pp. 457-464, 2003.

### ***Russian conference (16)***

1. Lyulin Y., Kreta A., Kabov O., «Study of convection in an high-evaporating liquid layer by the PIV technique», IV All-Russian workshop panoramic methods for flow diagnostics, Novosibirsk, Russia, 19-22 June, 2017. Invited. (in Russian).
2. Kabov O., Kreta A., Lyulin Y., “The vortex structure in evaporating liquid layer blown by a gas flow”, Heat and Mass Transfer and Hydrodynamics in Swirling Flows", Novosibirsk, November 21-23, 2017 (in Russian)
3. O. N. Goncharova, Yu. V. Lyulin and O. A. Kabov, “Investigation of two-layer flows of liquid and gas with evaporation at the interface on the basis of exact solutions of three-dimensional convection problems”, All-Russian conference with the school for young scientists “Thermophysics and physical hydrodynamics – 2016”, Yalta, Republic of Crimea, 19-25 September 2016. (in Russian)
4. Kreta A., Lyulin Y., Kabov, O., “Convective flows in a liquid layer under the influence of a gas flow”, All-Russian conference with the school for young scientists “Thermophysics and physical hydrodynamics – 2016”, Yalta, Republic of Crimea, 19-25 September 2016. (in Russian)
5. Spesivtsev, S.E., Lyulin, Y.V., Marchuk, I.V., Kabov, O.A. Study the dynamics of breakdown of liquid layers when heated from a localized hot-spot”, All-Russian conference with the school for young scientists “Thermophysics and physical hydrodynamics – 2016”, Yalta, Republic of Crimea, 19-25 September 2016. (in Russian)
6. E. V. Rezanova, Yu. V. Lyulin , “Modeling of convective flows of liquid and gas in a horizontal layer with evaporation”, XIV All-Russian school-conference of young scientists with international participation «Actual problems of thermal physics and physical hydrodynamics», Novosibirsk, November 22-25, 2016. (in Russian)
7. Kreta A., Lyulin Y., Kabov, O., “Study of the convective flows in a liquid layer under the influence of a gas flow”, XIV All-Russian school-conference of young scientists with international participation «Actual problems of thermal physics and physical hydrodynamics», Novosibirsk, November 22-25, 2016. (in Russian)
8. Tueva I., Lyulin Y., “Experimental study of vapor condensation on curvilinear fins with condensate suction from the interfin space”, XIV All-Russian school-conference of young scientists with international participation «Actual problems of thermal physics and physical hydrodynamics», Novosibirsk, November 22-25, 2016. (in Russian)
9. Spesivtsev, S.E., Lyulin, Y.V., Marchuk, I.V., Kabov, O.A. Study the dynamics of rupture of liquid layers with localized hot-spot heating from substrate side”, XIV All-Russian school-conference of young scientists with international participation «Actual problems of thermal physics and physical hydrodynamics», Novosibirsk, November 22-25, 2016. (in Russian)
10. Yu.V. Lyulin, S.E. Spesivtsev, I.V. Marchuk, O.A. Kabov, Breakdown dynamics of a horizontal evaporating locally heated liquid layer”, Siberian Thermophysical Seminar, 19-20 November 2015, Novosibirsk, Russia. (in Russian)
11. Kabov O.A., Goncharova O.N., Iorio C.S., Lyulin Yu.V.. Fluid and gas vortex flows near an interface region with intensive evaporation, 4th Int. Conf. Heat Transfer and Hydrodynamics in swirl flows, 18-20 October 2011, Moscow, Russia.
12. Kabov O.A., Fluid and gas vortex flows near an interface region with intensive evaporation, keynote lecture, 4th Intern. Confer. “Heat- and Mass- Transfer and Hydrodynamics in the swirled flows”, 18-20 October, 2011, Moscow, Russia, Coauthored by Goncharova O.N., Iorio C.S., Lyulin Yu.V.
13. Lyulin Y., Marchuk I.V., Chikov S., Dubois F. and Kabov O.A., The Effect of Gravity on Vapor Condensation in a Smooth Circular Tube, Fifth International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, Kyoto, Japan, September 26-29, Book of Abstracts, pp 39, 2010.
14. Yuriy Lyulin, Igor Marchuk, Sergey Chikov, Frank Dubois and Oleg Kabov Vapor Condensation in Smooth Tube. Fourth International Topical Team Workshop, Novosibirsk, Russia, September 6-9, 2009.
15. Kabov O.A., Lyulin Yu.V., Marchuk I.V. and Zaitsev D.V. Locally heated annular liquid films in microchannels and minichannels. Proc. of ECI International Conference on Heat Transfer and Fluid Flow in Microscale, Keynote lecture KL6, publication on CD-ROM by ECI, Castelvecchio Pascoli, Italy, September 25–30, pp. 1-8, 2005.
16. Lyulin Yu.V., Zaitsev D.V., Fedyashin P.V., Marchuk I.V., Kabov O.A., Shear-driven liquid film under local heating, Proc. of All-Russian Conference with Foreign Participants “Free Boundary Problems: Theory, Experiment and Applications”, July 4–8, 2005, Biisk, Russia.