

YURIY V. LYULIN

Education

Al-Farabi Kazah National University, Almaty, KZ	Mathematics	B.S.	2001
Novosibirsk State University, Novosibirsk, RU	Mathematics	M.S.	2003
Kutateladze Institute of Thermophysics, Novosibirsk, RU	Fluid mechanics	Ph.D.	2016

Employment (past 5 years)

9/18-present	Research Scientist, Center for Energy Science and Technology (CEST), Skolkovo Institute of Science and Technology, Moscow, RU
6/12-present	Research Scientist (part-time), Laboratory of Enhancement of Heat Transfer, Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, RU
1/16-12/18	Research Scientist (part-time), Laboratory of energy-intensive thermal processes, Novosibirsk State University, Novosibirsk, RU
6/15-12/16	Engineer (part-time), Power Engineering Institute, Tomsk Polytechnic University, Tomsk, RU
5/08-6/12	Researcher, Microgravity Research Center Universite Libre de Bruxelles, Brussels, BE

Ph.D. Advisor: Oleg A. Kabov, IT SB RAS, Novosibirsk, RU

Student Supervisions: M.S. degrees awarded: 2.

Honors and Awards: Diploma for scientific achievements and conscientious work, IT SB RAS, Novosibirsk, 2017, RU; Best Poster presentation on 7th Int. Symp. TPSGSA, 2012, Beijing, CN; Best PhD student of RAS, 2006, Moscow, RU; INTAS YSF Ref. Nr. 04-83-2952, IT SB RAS, RU & ULB-MRC, BE.

Research Interests/Expertise

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; Droplet evaporation under gas flow.

Synergistic Activities

Scientific Secretary: 2nd International School of Young Scientists «Interfacial Phenomena and Heat Transfer» September 2017, ITP SB RAS, Novosibirsk, RU.

Member of organizing committee: 2nd (September, 2006, ULB, Brussels, BE), 4th (ITP SB RAS, Novosibirsk, RU) and 12th (ITP SB RAS, Novosibirsk, RU) International Conference «Two-Phase Systems for Space and Ground Applications»; International Symposium and School of Young Scientists «Interfacial Phenomena and Heat Transfer», March, 2016, ITP SB RAS, Novosibirsk, RU.

Journal Reviewer: Interfacial Phenomena and Heat Transfer, Begell House; Thermophysics and Aeromechanics, Novosibirsk, RU; EPJ Web of Conferences.

Innovation: 6 patents of the Russian Federation for invention.

Projects: RSF 15-19-20049, 2014-2017, PI; RSF 18-79-10258, 2018- present, PI; RSF 14-19-01755, 2013-2016, I; RFBR 14-08-00163 A, 2014-2016, PI; RFBR 14-38-50008 mol_nr, 2014, PI; RFBR 14-08-31559 mol_a, 2014-2015, I; MES RF 14.616.21.0016, 2014-2016, I; MES RF 14.604.21.0053, 2014-2016, I; MES RF 14.613.21.0011, 2014-2016, I; MAP Project, AO-2004-096 (ENCOM-3), 2009- present, Int. project of ESA; MAP Project, AO-99-110 (Evaporation Patterns), 2009- present, Int. project of ESA;

Selected Publications (out of 64 total, h-index 7, 190 citations)

1. 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
2. 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.
3. 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., pp (in Russian)
4. 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
5. 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
6. 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
7. 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
8. 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
9. 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
10. 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
11. 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>

12. 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.