

CURRICULUM VITAE

Professor, Dr. Oleg A. Kabov

- **Head of Two-Phase System Group of Microgravity Research Center, Brussels**
- **Head of Laboratory of Enhancement of Heat Transfer, Institute of Thermophysics Siberian Branch of Russian Academy of Sciences, Novosibirsk**
- **Co-director of the Heat Transfer International Research Institute of Universite Libre de Bruxelles and Institute of Thermophysics of Russian Academy of Sciences, Brussels**
- **Fellow, Center of Smart Interfaces (CSI) of Technische Universität Darmstadt**

Birth date: January 10, 1956
Birthplace: Kemerovo region, Russia
Marital Status: Married, two daughters
 born in 1980 and in 1986
Citizenship: Russia



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Institute of Thermophysics address (Russia):
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 1, prosp. Lavrentyev, Novosibirsk
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http://www.itp.nsc.ru/Laboratory/LAB_6_6/Lab_6_6.htm

Private address in Belgium: Chaussée de Drogenbos, 112
 1180, Uccle, Bruxelles, Belgique
 GSM : +32-(0)476-217462

Private address in Russia: 9, prosp. Stroiteley, apartment 11
 630055, Novosibirsk, Russia
 Ph.+7-(383) 332-69-38
 Mobile: 8-913-751-7316

EDUCATION

- 2007 **Diploma of Professor on thermal physics and thermal fluids science**, APC No. 000382, Higher Qualification Commission of the Ministry of Education and Science of the Russian Federation, November 9, 2007.
- 1999 **Degree (habilitation) of Doctor of Sciences in Physics and Mathematics**, 23 June 1999, Higher Qualification Commission of the Council of Ministers of the Russian Federation, thesis: "Capillary Effects Influence on Vapor Liquid Film Condensation and Heat Transfer in Falling Liquid Film".
- 1996 **Degree of Senior Scientist in Thermal Physics and Molecular Physics**, 13 September 1996, Sciences Council of Institute of Thermophysics of Siberian Branch of Russian Academy of Sciences, Novosibirsk.
- 1987 **Degree of Candidate of Technical Sciences (Ph.D. equivalent)**, 9 December 1987, Higher Qualification Commission of the Council of Ministers of the USSR, thesis: "Heat Transfer at Film Vapor Condensation on Horizontal Integral-Finn Tube Banks".
- 1973-1978 **Diploma in Thermal Physics (equivalent of Ms. Degree)**, 16 June 1978, Tomsk Polytechnic State Institute, Chair of thermal physics and nuclear power stations.

EXPERIENCE

- 2009-present **Fellow**, Center of Smart Interfaces (CSI) of Technische Universität Darmstadt
<http://www.csi.tu-darmstadt.de/>
- 2005-present **Co-director**, Heat Transfer International Research Institute of Universite Libre de Bruxelles and Institute of Thermophysics of Russian Academy of Sciences
<http://hti.ulb.ac.be/>.
- 2000-present **Head of Two-Phase System Group**, Universite Libre de Bruxelles, Microgravity Research Center, Brussels, Belgium.
- 2000-2001 **Professor**, Novosibirsk State Polytechnic University, Department of Power Engineering, Chair of Electric Power Stations, lecturing, "Vapor generators".
- 1987-present **Head of Laboratory** of Enhancement of Heat Transfer, Physical Hydrodynamics Division, Institute of Thermophysics Siberian Branch of Russian Academy of Sciences, Novosibirsk.
- 1980-1987 **Junior Scientist**, Laboratory of Heat Transfer at Phase Transitions, Institute of Thermophysics.
- 1978-1980 **Research Study**, Laboratory of Heat Transfer at Phase Transitions, Institute of Thermophysics, Russian Academy of Sciences, Directed by Academician S.S. Kutateladze and Prof. I.I. Gogonin.

RESEARCH VISITS (duration 1-3 months)

- December 2004 **Visiting Professor**, Ecole Polytechnique Universitaire de Marseille, Laboratoire I.U.S.T.I.U.M.R., Marseille, France.
- February/March 2004 **Visiting Professor**, Ecole Polytechnique Universitaire de Marseille, Laboratoire I.U.S.T.I.U.M.R., Marseille, France.
- March/April 1999 **Researcher**, Microgravity Research Center, Universite Libre de Bruxelles, Brussels, Belgium, Topic: "Measurement of Free Surface Deformation by 2D Reflectance-Schlieren Technique"
- September/December 1997 **Researcher**, Microgravity Research Center, Universite Libre de Bruxelles, Brussels, Belgium, Topic: "Thermal Imaging Study of the Liquid Film Flowing on Vertical Surface with Local Heat Source by AGEMA 900 infrared scanner".
- April/May 1997 **Researcher**, Microgravity Research Center, Universite Libre de Bruxelles, Brussels, Belgium, Topic: "Regular Structures in Falling Liquid Film under Local Heating".

April/May 1993

Researcher, Thermodynamics and Heat Transfer Division, Department of Mechanical Engineering, University of Minnesota, Minneapolis, USA, Topic: “Heat Transfer in Evaporative Cooling System of High Performance Computers”.

PROFESSIONAL INTERESTS

- Hydrodynamics, Heat Transfer and Crisis Phenomenon in Vapor/Gas Shear-Driven Liquid Film flows.
- Convective Condensation. Enhancement of Heat Transfer at Vapor Condensation by Finning.
- Hydrodynamics, Heat Transfer and Crisis Phenomenon in Thin Falling Liquid Films.
- Two-Phase Flows in Microchannels and Minichannels.
- Heat Transfer in Evaporative Cooling Systems of Electronic and Microelectronic Equipment.
- Physics of Two-Phase Flows in Microgravity.
- Evaporative and Thermocapillary Convection in Thin Liquid Layers.
- Rivulet dynamics with co - current gas flow in Microchannels and Minichannels.
- Drop spreading and drop evaporation.

PROFESSIONAL SERVICE

- **2009-present** – Member of Editorial Board, *Journal of Microgravity Science and Technology*
- **1994-present** - Regional Editor for Russia and Eastern Europe, *Journal of Enhanced Heat Transfer*.
- **2007-present** – Member of National Committee on Heat and Mass Transfer of Russian Academy of Sciences. <http://www.nchmt.ru>
- **2006–present** - Co-Chairman, Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”: Brussels, September, 2006; Kyoto, October, 2007; Brussels, September, 2008; Novosibirsk, September, 2008.
- **2004–present** - Scientific Committee Member, Int. Conf. on Nanochannels, Microchannels and Minichannels: June 09, Pohang, Korea, June 08, Darmstadt, Germany; June 07, Puebla, Mexico; June 06, Limerick, Ireland; June 05, Toronto, Canada; June 04, Rochester, USA.
- **1988-present** - Member, Scientific Council of Physical Hydrodynamics Division of the Institute of Thermophysics, Russian Academy of Sciences.
- **1995- 2000** - Managing Editor, *Russian Journal of Engineering Thermophysics*.
- Session Chairman and Invited lecturer, “NATO Advanced Study Institute on Energy Conservation Through Heat Transfer Enhancement of Heat Exchangers, May 25–June 5, **1998**, Golden Dolphin, Turkey.
- Chairman of Local Organizing Committee, “Electronics Cooling. High Intensive Technologies”, Second International Seminar, Novosibirsk, Russian, July 15-22, **1993**.
- Chairman of Local Organizing Committee and Session Chairman, “Evaporative Cooling Systems of Electronic Equipment”, International Seminar, Novosibirsk, USSR, August 19-22, **1991**.
- **1990-2000** - Bureau Member, Division of Heat and Mass Transfer in Electronic Equipment of Scientific Council on Thermophysics and Power Engineering of Russian Academy of Sciences.
- **1985-1989** - Member, Young Scientists Council of the Siberian Branch of Russian Academy of Sciences, Novosibirsk.

REVIEWER

- The European Science Foundation peer reviewer

REVIEWER FOR THE JOURNALS

- Microgravity Science and Technology (*published by Springer*).

- Experiments in Fluids (*published by Springer*).
- Journal of Enhanced Heat Transfer (*published by Begell House*).
- Int. J. of Thermal Sciences (*published by Elsevier Science Ltd.*).
- IEEE Transactions on Components, Packaging, and Manufacturing Technology, Part A.
- Journal of Applied Mechanics and Technical Physics (*translated to English and published by Plenum Pub. Corp.*).
- Journal of Engineering Thermophysics (*published by Elsevier Science Ltd.*).
- Thermophysics and Aeromechanics (*published by MAIK Nauka/Interperiodica, distributed by Springer*).

EDITED VOLUMES

1. Kabov O.A., (Guest Editor), *Microgravity sci. technol.*, 2009, Proceedings of Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”.
2. Alekseenko S.V., Kabov O.A., Kabova Yu.O., and Legros J.C. (Eds.), Book of Abstracts, Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, 6-8 September, Novosibirsk, Russia, 2009.
3. Kabov O.A., Kabova Yu.O., and Legros J.C. (Eds.), Book of Abstracts, Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, 10-12 September, Brussels, Belgium, 2008.
4. Kabov O.A., (Guest Editor), *Microgravity sci. technol.*, 2008, Proceedings of Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”.
5. Kabov O.A., (Guest Editor), *Microgravity sci. technol.*, XIX-3/4, 2007, Proceedings of Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”.
6. Kabov O.A., Gatapova E.Ya. and Legros J.C. (Eds.), Book of Abstracts, Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, 19-21 September, Brussels, Belgium, 2006.
7. Kabov O.A., (Guest Editor), *IEEE Transactions on Components, Packaging, and Manufacturing Technology, Part A*, 1996.
8. Nakoryakov V.E. and Kabov O.A. (Eds.), *Proceedings of the International Seminar “Evaporative Cooling Systems of Electronic Equipment”*, Novosibirsk, Russia, August 19-22, 1991.

INVITED AND KEYNOTE LECTURES (51)

1. *Planned activity, keynote lecture*, Fifth Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, Kyoto, September 26-29, 2010.
2. *Planned activity, keynote lecture*, Interfacial Thermal Fluid Phenomena in Thin Liquid Films, International Heat Transfer Conference, Washington D.C., August 8-13, 2010.
3. *Planned activity, keynote lecture*, Two-phase flow regimes and interface instability in short rectangular mini and micro-channels, ICNMM10, Montreal, August 2-4, 2010. Coauthored by E.A. Chinnov.
4. *Planned activity, keynote lecture*, Rivulet flows in microchannels and minichannels, 7th Int. Conf. on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT2010), 19 - 21 July 2010, Antalya, Turkey. Coauthored by Bartashevich M.V. and Cheverda V.
5. Intensive Local Heating of Stratified and Annular Flows in a Flat Rectangular Micro and Minichannels: Review of Recent Experimental and Theoretical Results, 5th European-Japanese Two-Phase Flow Group Meeting, 20-25 September 2009, Spoleto, ITALY
6. Fourth Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, Novosibirsk, 6-8 September, 2009.

7. Cooling Technique Based on Evaporation of Thin Liquid Films in Microgap Channels, *keynote lecture*, coauthored by Avi Bar-Cohen, The 7th ECI Int. Conf. on Boiling Heat Transfer, May 3-9, 2009, Florianopolis, Brazil, www.boiling2009.com.br .
8. Liquid films with evaporation and condensation: Preparation of experiments on ISS, *keynote lecture*, Third Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, Brussels, 10-12 September, 2008.
9. Longitudinal Waves in Non-Uniformly Heated Liquid Films, *invited lecture*, Southern Methodist University, Dallas, USA, May 23, 2008.
10. Experiments on phase change phenomena in microgravity conditions, *invited lecture*, Lavrentyev Institute of Hydrodynamics, Russian Academy of Sciences, Novosibirsk, Russia, April 9, 2008.
11. Marangoni Effect on Wave Structure in Liquid Films, *keynote lecture*, Second Int. Topical Team Workshop on Two-Phase Systems for Ground and Space Applications, October 26-28, 2007, Kyoto, Japan.
12. New Cooling Technique Based on Evaporation of Thin and Ultra Thin Liquid Films, *keynote lecture*, EUROMECH 490 Workshop, "Dynamics and Stability of Thin Liquid Films and Slender Jets", 19-21 Sep. 2007, Imperial College London.
13. Experiments on heat transfer at phase change in microgravity conditions, *keynote lecture*, 16 school of young scientists “Problems of gas dynamics and heat transfer”, 21-25 May, 2007, Sankt Petersburg, Russia.
14. “Longitudinal waves in evaporating non-uniformly heated falling liquid films”, *invited lecture*, University of Cranfield, UK, February 14th 2007
15. “Longitudinal waves in evaporating non-uniformly heated falling liquid films”, *invited lecture*, the Applied Mathematics seminar, School of Mathematics, University of Birmingham, UK, February 15th 2007.
16. “Locally heated two-phase flows”, *Plenary lecture*, The Fours Russian National Conference on Heat Transfer, Moscow, October 2006.
17. “Films with Evaporation and Condensation in Microgravity: Preparation of Experiment SAFIR”, *keynote lecture*, Int. Topical Team Workshop “Two-Phase Systems for Ground and Space Applications”, Brussels, 19-21 September, 2006.
18. “Cooling of Microelectronics by Thin Liquid Films”, Int. Workshop on “Wave Dynamics and Stability of Thin Film Flow Systems”, September 1-4, Chennai, India, 2006.
19. “Rivulet-like structure formation in non-uniformly heated falling liquid films”, Int. Workshop on “Wave Dynamics and Stability of Thin Film Flow Systems”, September 1-4, Chennai, India, 2006.
20. “Cooling of microelectronics by thin liquid films”, Università Degli Studi di Padova, Dipartimento di Fisica Tecnica, Padova, Italy, July 10, 2006.
21. “Cooling of microelectronics by shear-driven liquid films”, **keynote lecture** at Fourth Int. Conf. on Nanochannels, Microchannels and Minichannels, Limerick, Ireland June 19-21, 2006.
22. “Locally Heated Annular Liquid Films in Microchannels and Minichannels”, **keynote lecture** at the Conference on Heat Transfer and Fluid Flow in Microscale, Castelvechchio Pascoli (Lucca), Italy, September 25-30, 2005.
23. “Pattern formation in non-uniformly heated falling liquid film. Review of recent experimental results”, Workshop "Pattern Formation Through Instabilities in Thin Liquid Films: From Fundamental Aspects to Applications" to be held at the Max-Planck Institute for the Physics of Complex Systems in Dresden (Germany) from September 21 to September 28, 2004.

24. Rivulet-like structure formation in a nonuniformly heated falling liquid film, Imperial College London, UK, December 12, 2003.
25. Rivulet structures in non-uniformly heated thin liquid films, Universita di Napoli, Dipartimento di Scienza e Ingegneria, Napoli, Italy (Prof. Rodolfo Monti), July 22, 2003.
26. Thermal Phenomena in Thin Liquid Films, Universita di Napoli, Dipartimento di Scienza e Ingegneria, Napoli, Italy (Prof. Rodolfo Monti), July 23, 2003.
27. Thermal Phenomena in Thin Liquid Films, ASHRAE Distinguished lecture series, Mechanical Engineering Department, University of Maryland, USA, May 2nd 2003.
28. Rivulet Structures in Non-uniformly Heated Thin Liquid Films. Review of New Experimental Results, Winter school on: Multi-disciplinary fluid physics of systems with interfaces, organized in the framework of the Research Training Network ICOPAC of the European Union, and of the Research Program CIMEX of the European Space Agency (Organizers : P. Colinet and J.C. Legros), Université Libre de Bruxelles, Belgium, February 26 – March 1, 2003.
29. Rivulet Structures in Falling Liquid Film, The Third Russian National Conference on Heat Transfer, Moscow, October 25, 2002.
30. Regular Structures in Falling Liquid Film under Local Heating, Institute of Mechanics Bulgarian Academy of Sciences, Sofia, Bulgaria, September 22, 1999.
31. Cooling of Local Heat Source by Subcooled Liquid Film, “NATO Advanced Study Institute on Energy Conservation Through Heat Transfer Enhancement of Heat Exchangers, May 25–June 5, Golden Dolphin, Turkey, 1998.
32. Enhancement of Vapor Condensation on Horizontal Tube Banks With Fins and Spine-Fins, “NATO Advanced Study Institute on Energy Conservation Through Heat Transfer Enhancement of Heat Exchangers, May 25–June 5, Golden Dolphin, Turkey, 1998.
33. Heat Transfer and Flow Pattern in Falling Liquid Film on Surface with Nonuniform Heat Flux Distribution, Institute of Thermal Sciences and Energy Conservation, Beijing Polytechnic University, Beijing, China, October 29, 1996.
34. Marangoni Convection in Thin Liquid Layer on the Vertical and Weak Inclined Plate with the Local Heat Source, Workshop Nesebar’ 96 “Transport Phenomena in Two-Phase Flow”, Nesebar, Bulgaria, September 5, 1996.
35. Heat Transfer from a Vertical Heat Source to Falling Liquid Film, Department of Energetic, University of Pisa, Pisa, Italy, October 13, 1995.
36. “Cooling of Microelectronic Equipment by Liquid Film ”, Institute of Chemical Engineering Polish Academy of Sciences, Gliwice, Poland, November 9, 1994.
37. Heat Transfer at Boiling and Condensation in Cooling System of Microelectronic Equipment, Fluids Laboratory, Industrial Chemical Products Division, 3M Company, St. Paul, USA, May 13, 1993.
38. Heat Transfer in Evaporative Cooling Systems of Microelectronics Equipment, Department of Mechanical Engineering, Naval Postgraduate School, Monterey, California, USA, May 11, 1993.
39. Heat Transfer at Boiling and Condensation in Cooling Systems of High Performance Computers, Thermodynamics and Heat Transfer Division, Department of Mechanical Engineering, University of Minnesota, Minneapolis, USA, April 19, 1993.
40. Vapor Condensation in Evaporative Cooling Systems of Microelectronic Equipment, Department of Mechanical Engineering, Aeronautical Engineering and Mechanics, Rensselaer Polytechnic Institute, Troy, New York. USA, April 15, 1993.

41. Heat Transfer in Evaporative Cooling Systems of Microelectronic Equipment, Department of Energetic, University of Pisa, Pisa, Italy, November 16, 1992.
42. Heat Transfer in Electronic Evaporative Cooling Systems with Natural Circulation, Meeting of Division of Scientific Council of the USSR Academy of Sciences “Heat Transfer in Electronic, Optoelectronic and Radioelectronic Equipment”, Odessa, April 24, 1991.
43. “Heat Transfer in Liquid Cooling System of High Performance Computers”, Institute of Electronic Systems, Moscow, USSR, November 23, 1990
44. “Enhancement of Heat Transfer Processes at Vapor Condensation by Means of Various Finned Surfaces”, Institute of Chemical Engineering Polish Academy of Sciences, Gliwice, Poland, October 12, 1990.
45. “Experimental Investigations of Hydrodynamics and Heat Transfer in Immersion Evaporating Cooling Systems of High Performance Computers”, Institute of Thermal Sciences and Energy Conservation, Beijing Polytechnic University, Beijing, China, September 24, 1990.
46. “Heat transfer in Evaporation Cooling Systems of Microelectronic Equipment”, Institute of Engineering Thermophysics Chinese Academy of Sciences, Beijing, China, September 20, 1990.
47. “Enhancement of Heat Transfer at Vapor Condensation in Evaporating Systems of Cooling”, Institute of Thermal Sciences and Energy Conservation, Beijing Polytechnic University, Beijing, China, September 13, 1989.
48. “Effect of Capillary Liquid Retention on Heat Transfer at Condensation on Finned Tubes”, Department of Engineering Thermophysics, Tbilisi Polytechnic University, Tbilisi, USSR, March 16, 1988.
49. “Condensate Flow Rate Effect on Heat Transfer at Condensation on Banks of Finned Tubes”, Advanced Thermal Laboratory, Turbine Works, Kaluga, December 8, 1987.
50. “Heat Transfer at Film Condensation of Vapor on the Banks of Finned Tubes”, Institute of Refrigerator Design, Moscow, Russia, November 30, 1987.
51. “Heat Transfer at Film Condensation on Horizontal Finned Tube”, Department of Engineering Thermophysics, Special Design Bureau “TEXENERGOHIMPROM”, Berdsk, Russia, November 24, 1986.

PROJECTS, CONTRACTS AND GRANTS EXPERIENCE (38)

1. Condenser/separator for CIMEX-1 EC in FSL ISS: design, development and test aspects, 2008-2010, VERHAERT SPACE, Kruibeke, Belgium, contract, *Principal investigator*.
2. Advanced evaporative cooling technique with shear-driven liquid films, U.S. CIVILIAN RESEARCH & DEVELOPMENT FOUNDATION Cooperative Grants Program, Joint project with Department of Mechanical Engineering, University of Maryland, RUE1-2846-NO-07, 2007 – 2009, *Principal investigator*.
3. Single fin condensation: Film local measurements/**SAFIR**, Preparation of the experiment of the European Space Agency to be conducted on the International Space Station, 2008-2012, *Coordinator*.
4. Single fin condensation: Film local measurements/ **SAFIR PRODEX** project, BELGIAN SCIENCE POLICY, 2007-2010, *Principal investigator*.
5. Enhanced Condensers for Microgravity/**ENCOM**, Life and Physical Sciences and Applied Research Project of ESA (MAP project), 2006-2009, *Coordinator*.

6. Convective Boiling and Condensation: local analysis and modelling of dynamics and transfers/**CBC**, MAP project of European Space Agency (AO-2004-111), 2006-2008, *Principal investigator for part of ULB*.
7. Heat Transfer and Fluids Management. Gravity and Electrostatic Fields Influence/**BOILING**, Continuation of the MAP project AO-99-045, second phase. Supported by ESA, 2004-2008, *Principal investigator for experimental part of ULB*.
8. Convection and Interfacial Mass Exchange/**CIMEX-1**, Preparation of the experiment of the European Space Agency to be conducted on the International Space Station, 2004-2010, *Coordinator beginning from 2007*.
9. Spatial regimes of flows in non-isothermal and reacting liquid films, Integration project of SB RAS #111, 2006-2008, *Principal investigator for Laboratory of Enhancement of Heat Transfer in the Institute of Thermophysics* (Project coordinator: Prof. S.V. Alekseenko).
10. Macro-, micro- and nano-deformations in non-isothermal liquid films, Grant of Russian Foundation for Basic Research, # 05-08-65426, 2005-2008, *Principal investigator*.
11. INTAS YSF research project “Flow of an evaporating shear-driven liquid film in a microchannel under local heating”, 2006-2008, (Fellowship for young scientist Dr. Elizaveta Gatapova), *Project supervisor*.
12. INTAS YSF 04-83-2952 research project “Thermocapillary convection in a locally heated shear-driven liquid film”, 2006-2008, (Fellowship for PhD student Yuri V. Lyulin), *Project supervisor*.
13. 3-D nonlinear deformations in thin liquid films, induced by substrate non-uniform heating and topography, Research Fellowship for Dr. Yulia Kabova, 2006-2007, Belgian Science Policy Office, *Project supervisor*.
14. Breakdown of a locally heated evaporating liquid film shear-driven in a microchannel, Research Fellowship for Dr. Dmitry Zaitsev, 2006-2007, Belgian Science Policy Office, *Project supervisor*.
15. Films with evaporation and condensation in microgravity/**FEVCOM**, ESA Parabolic Flight Campaign of October 2006, Fonds National de la Recherche Scientifique (Belgium), 01/01/06 – 30/12/06, *Principal investigator*.
16. Shear-driven liquid film evaporator for Microgravity (ESA Parabolic Flight Campaign of October 2005), Fonds National de la Recherche Scientifique (Belgium), 01/11/04 – 30/12/05, *Principal investigator*.
17. High Performance Grooved Surfaces and Separators for Enhanced Condensers in Microgravity (ESA Parabolic Flight Campaign), supported by Fonds National de la Recherche Scientifique (Belgium), October 2004, *Principal investigator*.
18. INTAS YSF 03-55-1791 research project “Experimental investigation of thermocapillary breakdown of liquid films moving under action of gravity and gas flow”, 2004-2006, (Fellowship for young scientist Dr. D. Zaitsev), *Project supervisor*.
19. Numerical study of evaporating 3D thin liquid film falling down a horizontal tube (heat exchanger), 2004-2005, Fellowship for Prof. A. Frank, Belgian Office for Scientific, Technical and Cultural Affairs, *Project supervisor*.
20. Enhanced Condensers for Microgravity, 2003-2004, Fellowship for Dr. I. Marchuk, Belgian Office for Scientific, Technical and Cultural Affairs, *Project supervisor*.
21. Mathematical model of vapor condensation in tubes with longitudinal fins, supported by Euro Heat Pipes S.A. (Belgium), from 15.06.2002 till 15.06.2003, *Project coordinator*.

22. Two-phase loop with condensing-separating system for the evaporative convection and turbulence in pure fluids experiment (in the framework of 33rd ESA Parabolic Flight Campaign), supported by Fonds National de la Recherche Scientifique (Belgium), April 2002-March 2003, *Principal investigator*.
23. 3D-deformations on the interface of locally heated liquid films, supported by Russian Foundation of Basic Research, grant № 02-02-16478, from 01.2002 till 12.2004, *Project supervisor*.
24. Convection and Interfacial Mass Exchange (CIMEX), ground preparation of the experiment of the European Space Agency to be conducted on the International Space Station, supported by ESA, November 2000-April 2002, *Investigator*.
25. Interfacial Turbulence in Evaporating Liquids (ITEL), sounding rocket experiment of the European Space Agency, supported by ESA, November 2000-April 2002, *Investigator*.
26. Mathematical model of vapor condensation on curvilinear surface under microgravity condition taking into account heat conductivity in the condenser wall, supported by Euro Heat Pipes S.A. (Belgium), from 11.2001 till 05.2002, *Project coordinator*.
27. Regular structures in gravitationally moving thin liquid layer, supported by Belgian Office for Scientific, Technical and Cultural Affairs, November 2000-October 2001, *Principal investigator* (Project coordinator: Prof. Jean -Claude Legros).
28. Fundamental problems of hydrodynamics and heat-mass transfer in microgravity conditions, supported by the Siberian Branch of Russian Academy of Sciences on integrated project # 5, from 01.2000 till 12.2002, *Project supervisor in the Institute of Thermophysics* (Project coordinator: Prof. V.V. Pukhnachev).
29. Regular structures and crisis phenomena in falling liquid films flowing over the plate with non-uniform heat source, supported by Russian Foundation of Basic Research, grant 99-02-17021, from 01.1999 till 12.1999, *Principal investigator and project supervisor*.
30. Improvement of evaporators for nutritional liquids by enhanced surfaces, supported by the Commission of the European Communities under grant ERB IC15-CT98-0908, 1999-2002, *Scientific Co-ordinator*.
31. Nonlinear thermocapillary effects in falling liquid film under local heating, supported by Russian Foundation of Basic Research, grant 98-02-17862, from 01.1998 till 12.1998, *Principal investigator and project supervisor*.
32. Hydrodynamics and Heat Transfer in Two Phases Capillary Pump Loop Grooved Condenser (Physical and mathematical model), under contract with S.A.B.C.A. Company, from 04.1997 till 06.1998, *Principal investigator and project supervisor*.
33. Two phase flow and phase transitions in microgravity conditions, supported by NASA with assistance of Russian Space Agency on contract NAS 15-10110, from 04.1995 till 04.1998, *Principal investigator in the Institute of Thermophysics* (Project coordinator: Prof. V.V. Pukhnachev).
34. Calculating of hydrodynamics and heat transfer characteristics of compact spiral heat exchanger and experimental testing of the sample, Contract No. 252-1992 Institute of Thermophysics with NPO Applied Mechanics, Krasnoyarsk, from 08.1992 till 11.1994, *Principal investigator and project supervisor*.
35. Development of calculating methods of hydrodynamics and heat transfer in heat exchanger with corrugation inserts, Novosibirsk, Contract No. 240-1992 Institute of Thermophysics with Central Special Design Bureau, Samara, from 03.1992 till 11.1992, *Project manager*.

36. Hydrodynamics and heat transfer at vapor condensation in narrow flat channel of high-intensive heat exchanger for temperature control system, Contract No. 159-1991, Institute of Thermophysics with NPO Applied Mechanics, Krasnoyarsk, from 01.1991 till 11.1993, *Principal investigator and project supervisor*.
37. Design, creation and experimental study a liquid evaporative cooling system of microelectronic equipment, Contract No. 102-1990 Institute of Thermophysics with Institute problems of Cybernetics, Moscow, from 02.1991 till 12.1991, *Project supervisor*.
38. Development of enhancement methods, experimental researches and creation of calculating techniques of heat transfer processes in evaporative cooling systems of high-performance computers, Contract No. 252-1988 Institute of Thermophysics with NPO Delton, Moscow, from 10.1988 till 11.1990, *Project supervisor*.

PUBLICATIONS

Total number of publications: 206

Number of papers in refereed journals: 77 - published, 4 - submitted, 5 - in preparation.

Number of patents - 6

Number of publications in conference proceedings - 59.

Number of other selected publications -9.

Number of selected abstracts - 52.

PARTICIPATION IN THE GRADUATE PROGRAM (Doctoral students)

1. Marchuk I.V., thesis: Thermal Imaging Study of the Liquid Film Flowing on Surfaces with Local Heating, PhD degree was granted by Qualification Commission of the Council of Ministers of the Russian Federation in 2000.
2. Zaitsev D.V., thesis: Thermocapillary Breakdown of Falling Liquid Film, PhD degree was granted by Qualification Commission of the Council of Ministers of the Russian Federation in 2003.
3. Scheid B., thesis: Instability of a Falling Film due to Localized Heating, PhD degree was granted by Universite Libre de Bruxelles, Bruxelles, Belgique in March 2004.
4. Gatapova E.Y., thesis: The Thermocapillary Convection in Locally Heated Liquid Film Flow Caused by a Co-current Gas Flow, PhD degree was granted by Qualification Commission of the Council of Ministers of the Russian Federation in 2006.
5. Iorio Carlo Saverio, thesis: Interfacial Turbulence in Evaporating Liquids, PhD degree was granted by Universite Libre de Bruxelles, Bruxelles, Belgique, in September 2006.

PRESENT DOCTORAL STUDENTS

1. Gluschuk A.V., thesis: Vapor condensation on nonisothermal curvilinear fins. Doctoral student of third year. Universite Libre de Bruxelles, Microgravity Research Center, Brussels, Belgium.
2. Bartashevich M.V., thesis: Mathematical modeling of rivulet flow driven by variable gravity and gas flow. Doctoral student of third year. Institute of Thermophysics Siberian Branch of Russian Academy of Sciences, Novosibirsk.
3. Cheverda V., thesis: Nonlinear deformations and heat transfer in non-isothermal liquid film. Doctoral student of third year. Universite Libre de Bruxelles, Microgravity Research Center, Brussels, Belgium.
4. Lyulin Y.V., thesis: In tube vapor condensation and liquid-gas separation. Doctoral student of second year. Universite Libre de Bruxelles, Microgravity Research Center, Brussels, Belgium.

HONORS AND AWARDS

- The phenomenon of "regular horseshoe-like structures formation" that was identified by Dr. Kabov is included in the **list of the best results of the Russian Academy of Sciences** in the period 1997-2001, (published in the bulletin of RAS, p. 16).
- Award from **President of Russian Academy of Sciences**, Academician Yu.S. Osipov for Outstanding Contribution to the Sciences, May 18, 1999, Russian Academy of Sciences 275 Anniversary.

SCIENCE CITATION INDEX (Based on American Institute of Information)

2002 - 17

2003 - 24

2004 - 5

2005 - 19

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