

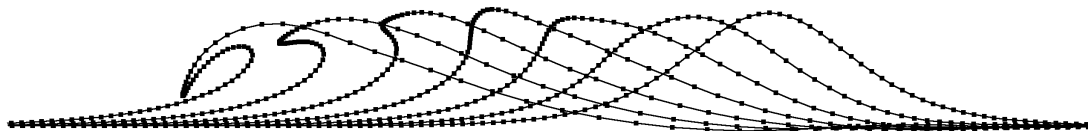
ALTAI STATE UNIVERSITY
LAVRENTYEV INSTITUTE OF HYDRODYNAMICS
KUTATELADZE INSTITUTE OF THERMOPHYSICS
NOVOSIBIRSK STATE UNIVERSITY

VI ALL–RUSSIAN CONFERENCE
with Foreign Participants

**FREE BOUNDARY PROBLEMS:
THEORY, EXPERIMENT AND APPLICATIONS**

Barnaul, August 7-11, 2017

PROGRAM



BARNAUL
2017

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The conference is supported by

- Russian Foundation for Basic Research (Grant No. 17-01-20354);
- Grant of the Ministry of Education and Science of the Russian Federation No. 14.W03.31.0002;
- Grant of the Russian Federation President "Leading Scientific Schools of the Russian Federation" No. NSh-8146.2016.1.

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Tokoreva M.A.
Shishmarev K.A.
Virz R.A.

Date: 06.08.2017 (Sunday)			
from 18-00 till 20-00 Registration at Central Hotel			
Date: 07.08.2017 (Monday)			
8-30	Registration (Altai State University, Lenin Prospect, 61, 4 floor, 416 lecture room)		
9-00	Conference opening (Altai State University, Lenin Prospect, 61, 4 floor, 416 lecture room): chairman of Organizing committee Pukhnachev V.V., rector of Altai State University Zemlukov S.V.		
9-30	Plenary talk	<u>Alekseenko S.V., Aktershev S.P.</u>	<i>Stability of rivulets and thin liquid film flow</i>
10-00		<u>Ermanyuk E.V., Brouzet C., Sibgatullin I.N., Joubaud S., Dauxois T.</u>	<i>Scale effect in internal wave attractors</i>
10-30		<u>Krechetnikov R.</u>	<i>Advances in the water impact problem</i>
11-00-11-20 Coffee break (401 room)			
11-20	Oral talk (20 min)	<u>Shmakova N. D., Flór J.-B., Ermanyuk E.V.</u>	<i>Generation of nonlinear internal waves by an oscillating spheroid in a uniformly stratified fluid</i>
11-40		<u>Burmistrova O.A.</u>	<i>Equilibrium forms of a liquid on interior surface of a rotating cylinder and their stability</i>
12-00		<u>Papin A.A., Tokareva M.A.</u>	<i>Solvability of a problem of the sublimation of ice</i>
12-20		<u>Kupershtokh A.L.</u>	<i>The appearance of free boundaries due to a heterogeneous nucleation in an electric field</i>
12-40		<u>Liapidevskii V.Yu., Khe A.K., Chesnokov A.A.</u>	<i>Self-oscillatory flow regimes in a channel with elastic walls</i>
13-00 – 14-30 Lunch			
14-30	Oral talk (20 min)	<u>Sturova I.V., Tkacheva L.A.</u>	<i>Oscillations of semi-infinite ice cover and fluid caused by a moving load</i>
14-50		<u>Voevodin A.F., Rezanova E.V.</u>	<i>Construction of the numerical algorithms of investigation of the heat transfer process in the plane liquid layer with free boundaries</i>
15-10	Brief oral presentations of poster reports (3 min)		
16-40 - 17-00 Coffee break (401 room)			
17-00	Poster session (401 room)		
19-00 Welcome party			
Date: 08.08.2017 (Tuesday)			
9-00	Plenary talk	<u>Hopfinger E.J.</u>	<i>Bubble Collapse and Jetting Phenomena at Liquid- Gas Interfaces</i>
9-30		<u>Kuznetsov E.A.</u>	<i>Mixed Lagrangian-Eulerian description for two- dimensional Boussinesq and Prandtl equations for ideal fluids</i>
10-00		<u>Gavrilyuk S.</u>	<i>A new approach for solving Serre-Green-Naghdi equations describing long free surface gravity waves</i>
10-30		<u>Isaenkov S.V., Cherdantsev A.V., Cherdantsev M.V., Markovich D.M.</u>	<i>Experimental study of the characteristics of initial waves in annular-dispersed flow</i>
11-00-11-20 Coffee break			
11-20	Oral talk (20 min)	<u>Karabut E.A., Zhuravleva E.N.</u>	<i>Dynamic of singularities arranged outside fluid in the plane free boundary problems</i>
11-40		<u>Andreev V.K.</u>	<i>Two dimensional thermocapillary slowly motions with interface</i>
12-00		<u>Bekezhanova V.B., Goncharova O.N.</u>	<i>Characteristic perturbations of the flows of an evaporative liquid</i>
12-20		<u>Bekezhanova V.B., Goncharova O.N.</u>	<i>Critical characteristics of stability of two-layer flows with evaporation</i>
12-40		<u>Bratsun D.A., Kostarev K.G., Mizev A.I., Mosheva E.A.</u>	<i>On shock-wave-like structures induced by an exothermic neutralization reaction and convection in miscible fluids: theory and experiments</i>

13-00 – 14-30 Lunch			
14-30	Oral talk (20 min)	<u>Bartashevich M.V., Chernov A.A., Vlasenko M.G., Pil'nik A.A.</u>	<i>Modeling of non-isothermal film absorption with consideration of tangential stress on the interface</i>
14-50		<u>Batiaev E.A., Khabakhpasheva T.I., Korobkin A.A.</u>	<i>Deflections and stresses in the ice plate near the point of its separation from the wall</i>
15-10		<u>Cherepanov I.N., Smorodin B.L.</u>	<i>The convective flow of a colloidal suspension in a vertical slot</i>
15-30		<u>Yavorsky N.I.</u>	<i>Spontaneous arising of rotation in exact solution of MHD equations for flow between two fixed impenetrable disks</i>
15-50		<u>Shmarev S.</u>	<i>On a class of the evolution p-Laplace equations with memory: existence, uniqueness and localization of solutions</i>
16-10 - 16-30 Coffee break			
16-30	Oral talk (20 min)	<u>Lyushnin A.V., Gordeeva V.Y.</u>	<i>The stability of an ultra thin layer of evaporating liquid in the presence of surfactant</i>
16-50		<u>Beloglazkin A.N., Shkadov V.Ya.</u>	<i>Model systems with one basis function for wave flow of films: deriving and comparison</i>
17-10		<u>Konon P.N., Shkadov V.Y., Zhuk A.V.</u>	<i>The nonisothermal flow of a viscous liquid layer on a cylindrical surface in the fields of centrifugal forces</i>
17-30		<u>Borzenko E.I., Shrager G.R.</u>	<i>Forming the advancing contact angle with using Hoffman law for dynamics of the three-phase line contact when a capillary is filling</i>
17-50		<u>Pukhnachev V.V., Frolovskaya O.A.</u>	<i>Structures of film flows at the presence of phase transitions</i>
Date: 09.08.2017 (Wednesday)			
9-00	Plenary talk	<u>Emelyanenko A.M., Boinovich L.B., Emelyanenko K.A.</u>	<i>Anisotropic spreading along the textured surfaces with isotropic wetting</i>
9-30		<u>Boinovich L.B., Emelyanenko A.M.</u>	<i>Surface forces, associated with the collective vibrational excitations in liquid films</i>
10-00		<u>Bondarev E.A., Rozhin I.I., Argunova K.K.</u>	<i>Hydrate formation during gas production and transport: free boundary problems</i>
10-30		<u>Ajaev V. S., Jutley M.</u>	<i>Stability of electrolyte films on substrates with spatially periodic charge density</i>
11-00-11-20 Coffee break			
11-20	Oral talk (20 min)	<u>Shelukhin. V.V.</u>	<i>Two-phase granular fluid</i>
11-40		<u>Mogilevskiy E.I., Shkadov V.Ya.</u>	<i>Axisymmetric flow of a conducting liquid capillary jet</i>
12-00		<u>Knyazeva A.G., Kryukova O.N.</u>	<i>Evolution of surface form of build-up layer under moving energy source treatment</i>
12-20		<u>Knyazeva A.G., Pribytkov G.A.</u>	<i>Regularities of influence of mechanoactivation of powder mixture on phase formation during composite synthesis in the systems Ti-C, Ti-B, Ti-Si in the combustion regime</i>
12-40		<u>Zyuzina N.A., Ostapenko V.V.</u>	<i>Exact solutions with centered waves in the film flow model</i>
13-00 – 14-30 Lunch			
15-00 Excursion			
19-00 Banquet			
Date: 10.08.2017 (Thursday)			
9-00	Plenary talk	<u>Zubarev N.M.</u>	<i>Exact solutions in electrohydrodynamics and electrostatics of liquids with free surface</i>
9-30		<u>Todorov M.</u>	<i>Localized solutions of generalized wave equations. Boussinesq Paradigm</i>

10-00		<u>Antontsev S.N.</u>	<i>Kelvin-Voigt equations with p-Laplacian: asymptotic behavior and blow-up of solution</i>
10-30		<u>Gubaidullin A.A., Gubkin A.S., Igoshin D.E.</u>	<i>Permeability estimation of a two-dimensional porous medium with random microinhomogeneities</i>
11-00-11-20 Coffee break			
11-20	Oral talk (20 min)	<u>Zubarev N.M., Zubareva O.V.</u>	<i>Exact solutions of the problem of potential flow past a two-dimensional bubble in a flat channel</i>
11-40		<u>Chugainova A.P., Kulikovskii A.G.</u>	<i>Long nonlinear waves in anisotropic cylinders</i>
12-00		<u>Alabuzhev A.A., Kashina M.A.</u>	<i>Influence of substrate heterogeneity on drop's dynamics in an electric field</i>
12-20		<u>Cheremnykh E.N.</u>	<i>Laminated thermocapillary motion occurring under the action of a nonstationary temperature gradient on the wall</i>
12-40		<u>Ageev A.I., Golubkina I.V., Osiptsov A.N.</u>	<i>A slow viscous flow in a thin channel with a superhydrophobic wall</i>
13-00 – 14-30 Lunch			
14-30	Oral talk (20 min)	<u>Chebotnikov A.V.</u>	<i>Dynamic impact of gravitational waves on a vertical wall</i>
14-50		<u>Sibin A.N.</u>	<i>The problem of piston-like displacement for one model of filtration in elastic porous medium</i>
15-10		<u>Kozlov N.V., Kozlova A.N.</u>	<i>Average dynamics of a rotating annulus with a movable inner boundary</i>
15-30		<u>Vjatkin A.A., Kozlov V.G.</u>	<i>The inertial waves in a heat-generating fluid in a rotating cylinder</i>
15-50		<u>Subbotin S.V., Kozlov V.G., Sabirov R.R.</u>	<i>Steady flows in a spheroidal cavity under elastic oscillations of the boundaries</i>
16-10 - 16-30 Coffee break			
16-30	Oral talk (20 min)	<u>Shishmarev K.A., Khabakhpasheva T.I., Korobkin A.A.</u>	<i>Unsteady problem of moving load along an ice sheet in a frozen channel</i>
16-50		<u>Aitova E.V., Bratsun D.A., Demin V.A., Petukhov M.I.</u>	<i>On the extent of surface stagnation at the interface produced jointly by insoluble surfactant and thermocapillary flow: exact solutions and numerical simulations</i>
17-10		<u>Mizev A.I., Shmyrov A.V. (lecturer Bratsun D.A.)</u>	<i>Interaction of the thermocapillary flow with the surface phase in the Hele-Shaw cell</i>
17-30		<u>Vlasova O.A., Kozlov N.V.</u>	<i>Behavior of the heavy body in a cavity with liquid at modulate rotation</i>
17-50		<u>Koshelev K.B., Filimonov V.Yu.</u>	<i>Influence of the boundary kinetics on the processes of phase formation in heterogeneous condensed mixtures</i>
Date: 11.08.2017 (Friday)			
9-00	Plenary talk	<u>Marchuk I.V.</u>	<i>Film-wise condensation in channels and on curved surfaces</i>
9-30		<u>Prokert G., Lippoth F.</u>	<i>Well-posedness of a moving boundary model for an evaporation front in a porous medium</i>
10-00		<u>Santucci S.</u>	<i>Critical depinning of interfaces: case study of interfacial cracks and imbibition fronts</i>
10-30		<u>Makarenko N.I., Morozov E.G., Tarakanov R.Yu.</u>	<i>Stratified flows in abyssal fracture zones</i>
11-00		<u>Plumacher D., Oberlack M., Wang Y., Smuda M.</u>	<i>A new approach to non-linear droplet oscillations via the unified method for boundary value problems</i>
11-30 Closing the conference			
14-00 Departure of bus to resort city Belokurikha			

List of poster reports

<u>Alabuzhev A.A., Kashina M.A.</u>	<i>Oscillations of the fluid thick-walled ring taking into account the contact lines dynamics</i>
<u>Andreev V.K., Efimova M.V., Darabi N.</u>	<i>2D motion of system of a binary mixture and a liquid with the parabolic profile of temperature on solid walls</i>
<u>Belmetcev N.F., Chirkunov Yu.A.</u>	<i>Dynamic asymmetric model of pseudoelasticity</i>
<u>Borzenko E.I., Shrager G.R.</u>	<i>Filling a planar channel by Herschel–Bulkley fluid</i>
<u>Vlasenko M.G., Chernov A.A., Bartashevich M.V., Pil'nik A.A.</u>	<i>Simulation of combined heat and mass transfer at absorption from bubbles</i>
<u>Gubaydullin A.A., Igoshin D.E., Khromova N.A.</u>	<i>Rhombohedral porous structure permeability of spherical segments according to Kozeny</i>
<u>Denisova M.O., Kostarev K.G., Oshmarina M.V., Torokhova S.V.</u>	<i>Convective phenomena caused by contraction effect</i>
<u>Zhuravleva E.N., Pukhnachev V.V.</u>	<i>A problem of viscous strip deformation with a free boundary</i>
<u>Knyazeva A.G., Kryukova O.N.</u>	<i>Model of the electron-beam surfacing of composite powder on a metal substrate</i>
<u>Kovyrkina O. A., Ostapenko V.V.</u>	<i>Calculation of hydrodynamic flows based on the CABARET scheme</i>
<u>Kozlov V.G., Ivanova A.A., Rysin K.Yu., Vjatkin A.A.</u>	<i>Thermal vibrational convection in a rotating plane layer</i>
<u>Konon P.N., Ermolenko A.I.</u>	<i>On a two-layer flow of viscous fluids on a surface of a horizontal rotating cylinder</i>
<u>Kuzikov S.S.</u>	<i>Numerical analysis of stratified flows in curvilinear channels</i>
<u>Kuznetsov A.E.</u>	<i>Зависимость гидродинамических характеристик течения полимерного расплава в сходящемся канале от температуры</i>
<u>Kupershtokh A.L.</u>	<i>Dynamics of rivulet flow along a wall of the rectangular channel</i>
<u>Kurkina O.E., Rouvinskaya E.A., Kurkin A.A., Rybin A.V.</u>	<i>Internal solibore generation in the Sea of Okhotsk</i>
<u>Magdenko E.P.</u>	<i>The occurrence of convection in a two-layer system of liquids with a common interface in a cylindrical container</i>
<u>Merzlikina D.A.</u>	<i>Нелинейная теория вязкоупругости расплавов разветвленных полимеров как следствие мезоскопического подхода к описанию их динамики</i>
<u>Mizev A.I., Shmyrov A.V.</u>	<i>Measurement of the coefficient of surface diffusion in gaseous layers of surfactants</i>
<u>Mizev A.I., Shmyrov A.V., Shmyrova A.I.</u>	<i>On the causes of the vortex flow appearance at the interphase with an adsorbed layer of surfactants</i>
<u>Mosheva E.A., Denisova M.O., Shmyrova A.I., Shmyrov A.V., Lysenko S.N.</u>	<i>Convective processes arising in two-layer systems of immiscible liquids from a frontal neutralization reaction</i>
<u>Petrova A.G., Aleinikov A.S.</u>	<i>Numerical analysis of frozen soil thawing under the influence of rainwater infiltration</i>
<u>Pivovarov Yu.V.</u>	<i>Calculation of motion of two solid spheres in a Bingham fluid under the action of gravitational force</i>
<u>Prosviryakov E.Yu.</u>	<i>New mathematical models describing the equatorial countercurrents in the world ocean</i>
<u>Proskurin A.V., Sagalakov A.M.</u>	<i>Stability of channel flows at low magnetic Reynolds numbers</i>
<u>Rodin A.A., Zemlyanikin A.Yu., Likhodeev N.M., Kurkin A.A., Rodina N.A.</u>	<i>Experimental study of the transformation of surface waves over the uneven bottom</i>
<u>Subbotin S.V., Dyakova V.V.</u>	<i>Experimental study of inertial waves in nonuniformly rotating cylinder with liquid</i>
<u>Talyshev A.A.</u>	<i>On differential-invariant solutions of the cubic Schrodinger equation</i>

<i><u>Chirkunov Yu.A.</u></i>	<i>Nonscattering acoustic objects in an anisotropic medium</i>
<i><u>Chirkunov Yu.A.</u>, <u>Pikmullina E.O.</u></i>	<i>Reduction of differential equations of thermal motion of a gas in a rarefied space</i>