

Program of the conference
“Mathematical Hydrodynamics”

Moscow, Russia, June 12–17, 2006

**MH
2006**

Program of the conference “Mathematical Hydrodynamics”

Moscow, Russia, June 12–17, 2006

This program can be updated in the case of necessity.
The final version of the program one can see
on the web-site of the conference: <http://mh2006.mi.ras.ru>

Monday, June 12

9h–10h	Welcoming and registration
10h–10h10	Opening Session
10h10–11h10	R. Danchin “Axisymmetric incompressible flows with bounded vorticity”
11h10–12h10	A. Agrachev “Low-Dimensional Control of the 2D Navier–Stokes and Euler Equations”
12h10–14h30	Lunch
14h30–15h30	E. Feireisl “On variational solutions to the complete Navier–Stokes–Fourier system”
15h30–16h30	A. Kupiainen “On the derivation of Fourier's law for coupled anharmonic oscillators”
16h30–17h	Coffee Break
17h–18h	G. Falkovich “Conformal invariance in two-dimensional turbulence”
19h	Reception

Tuesday, June 13
Session dedicated to the memory of V. I. Yudovich

- 9h–10h **A. Shnirelman** “The motion of an inextensible thread and incompressible fluid and foundations of mechanics”
- 10h–11h **G. Seregin** “Regularity for Suitable Weak Solutions to the Navier–Stokes Equations in Critical Morrey Spaces”
- 11h–11h30 Coffee Break
- 11h30–12h30 **A. Afendikov** “Fluid flows in unbounded strip: patterns, stability, evolution”
- 12h30–13h **R. Shvydkoy** “Geometric optics for the incompressible Euler equations”
- 13h–15h Lunch

Section 1

- 15h–15h30 **M. I. Vishik** “Non-autonomous 2D Navier–Stokes system with singularly oscillating external force and its global attractor”
- 15h30–16h **V. Chepyzhov** “On the relation between the trajectory attractors of the Camassa–Holm system and the 3D Navier–Stokes system”
- 16h–16h30 **S. Zelik** “Spatially non-decaying solutions of Navier–Stokes equations in cylindrical domains”
- 16h30–17h Coffee Break
- 17h–17h30 **A. Ilyin** “The damped and driven Navier–Stokes system on large domains”
- 17h30–18h **V. Zvyagin** “Approximation-topological methods of the study in problems of hydrodynamics of non-Newtonian media”
- 18h–18h30 **D. Vorotnikov** “Attractors for motion equations of viscoelastic media”

Section 2

- 15h–15h30 **D. Henderson** “Stability, instability, and stability in deep-water surface waves”
- 15h30–16h **J. Wright** “Existence and linear stability of solitary waves in coupled KdV equations”
- 16h–16h30 **G. van Baalen** “Asymptotic properties of solutions of the Navier–Stokes equations in 2D exterior domains”
- 16h30–17h Coffee Break
- 17h–17h30 **A. Shkalikov** “Spectral portraits of the Orr–Sommerfeld operator with large Reynolds numbers”
- 17h30–18h **R. Saks** “The eigen functions of the curl and Stokes operators and some classes of explicit solutions of the Navier–Stokes equations”
- 18h–18h20 **M. Pribyl** “Spectral properties of the linear steady-state equations for viscous compressible fluid”

Section 3

- 15h–15h30 **B. Pal'tsev, A. Stavtsev, I. Chechel'** “New, 2-nd-Accuracy-Order Methods of Solving the Stationary Axisymmetrical Navier–Stokes Problem in Spherical Layers; Investigations of the Basic Spherical Couette Flows”
- 15h30–16h **K. Karelsky, A. Petrosyan** “Problem of steady-state flow over a step in the shallow-water approximation”
- 16h–16h30 **A. Setuha** “Численные методы решения некоторых краевых задач аэродинамики с обобщенными граничными условиями”
- 16h30–17h Coffee Break
- 17h–17h30 **U. Skobtsov, Yu. V. Rodin, V. S. Overko** “Моделирование поведения потоков крови в сосудах с патологиями”
- 17h30–18h **A. Lukyanov** “Curtain coating in microfluidics and the phenomenon of nonlocality in dynamic wetting”
- 18h–18h30 **V. Tiutiuma** “О механизме потери устойчивости вязкого течения в прямолинейной трубе”

Wednesday, June 14

- 9h–10h **A. Babin** “Linear superposition of nonlinear waves”
- 10h–11h **I. Gallagher** “Mathematical study of equatorial waves”
- 11h–11h30 Coffee Break
- 11h30–12h30 **V. Solonnikov** “Weighted schauder estimates for evolution Stokes problem”
- 12h30–14h30 Lunch
Bus excursion in Moscow

Thursday, June 15

- 9h–10h **C. Bardos** “Boundary layer problems in 2d and 3d”
10h–11h **A. Shirikyan** “Qualitative properties of the 3D Navier–Stokes dynamics”
11h–11h30 Coffee Break
11h30–12h30 **C. Cheverry** “Counter-Examples to the Concentration-Cancellation Property”
12h30–13h30 **J. Gibbon** “Quaternions particle dynamics in the Euler fluid equations”
13h30–15h Lunch

Section 1

- 15h–15h30 **A. Mikhailov** “Регулярность $L_{3,\infty}$ -решений трехмерных уравнений Навье–Стокса вблизи криволинейного участка границы”
15h30–16h **D. Ambrose** “Free-Surface Problems in 3D Fluids”
16h–16h30 **E. Varvaruca** “Singularities of Bernoulli free boundaries”
16h30–17h Coffee Break
17h–17h30 **D. Georgievskiy** “Диффузия вихревого слоя: автомодельность, задача с неизвестной границей, устойчивость”
17h30–18h **R. Shamin** “About solvability and simulation equations describing motion of ideal liquid with free boundary”
18h–18h30 **I. Mogilevski** “Finite element approach to the plane stationary flow with free boundary”
18h30–19h **S. Ibrahim** “Leray–Hopf approximations to Navier–Stokes, and suitability”

Section 2

- 15h–15h30 **A. Bruno** “The Boundary Layer on a Needle”
15h30–16h **O. Bogoyavlenskij** “Invariants of Hamiltonian and bi-Hamiltonian systems of hydrodynamic type”
16h–16h30 **A. Biryuk** “Singular sets. Decay of Fourier coefficients”

- 16h30–17h Coffee Break
- 17h–17h30 **A. Kirillov** “Existence of solutions to stochastic Navier–Stokes equation”
- 17h30–18h **S. Dostoglou** “Homogeneous and Isotropic Statistical Solutions of the Navier–Stokes equations”
- 18h–18h30 **Yi Li** “Existence of Global Solutions to a System of Nonlinear Dispersive Equations”
- 18h30–18h50 **K. Doherty**
“Shock wave structures in thin film flows”

Section 3

- 15h–15h30 **A. Gritsun** “Approximation of an atmospheric system attractor with the help of unstable periodic orbits”
- 15h30–16h **M. Shermeneva, I. Shugan** “Нестационарная нелинейная модель взаимодействия гравитационных поверхностных волн с внутренней волной”
- 16h–16h30 **A. Demidov, A. Kochurov, V. Protasov** “On the boundary control in a flat non-stationary flow with vortex singularities”
- 16h30–17h Coffee Break
- 17h–17h30 **I. B. Bakholdin** “Разрывы со стационарной, периодической и стохастической структурой в нелинейной среде с дисперсией”
- 17h30–17h50 **A. Kornev, A. Ozeritsky** “On the problem of approximate projection onto the invariant manifolds of the Navier–Stokes equations”
- 17h50–18h10 **A. Ivanchikov** “О численной стабилизации неустойчивого течения Куэтта по граничным условиям”
- 18h10–18h30 **A. Kalinina** “Numerical realization of the method of functional-analytic series for projecting on a stable manifold”

Friday, June 16

9h–10h	F. Otto “Rigorous bounds on the Nusselt number”
10h–11h	D. Lannes “Large time existence results for the water-waves equations and asymptotics”
11h–11h30	Coffee Break
11h30–12h30	V. Zakharov “Free-surface hydrodynamics in conformal variables”
12h30–14h30	Lunch

Section 1

14h30–15h00	M. Otelbaev, E. N. Seitkulov “Условия существования сильного решения нелинейных эволюционных уравнений типа уравнений Навье–Стокса”
15h–15h30	J. Dubinskii “Some decompositions of Sobolev spaces and complex boundary value problems”
15h30–16h	V. Vlasov “Relativistic generalization of quasi-Chaplygin equations”
16h–16h30	Coffee Break
16h30–18h30	Round table

Section 2

14h30–15h00	P. Akhmetiev “On a higher analog of hydrodynamic current helicity integral”
15h–15h30	A. Biryuk, W. Craig, V. Panferov “On the solutions of the Boltzmann equation with one-dimensional symmetry”
16h00–16h30	Coffee Break
16h30–18h30	Round table (9 th floor)

Section 3

- 14h30–15h00 **M. Schonbek** “Questions regarding the 2D Quasi-Geostrophic equations”
- 15h–15h30 **G. Kobelkov** “Existence of a solution ‘In the large’ for the 3D large-scale ocean dynamics equations”
- 15h30–16h **I. Semenova, L. Slezkin** “Dynamically Equilibrium Shapes of the Mesoscale Vortexes in the Ocean”
- 16h00–16h30 Coffee Break
- 16h30–18h30 Round table (9th floor)

Saturday, June 17

- 9h–10h **N. Masmoudi** “Hydrodynamic limit of the Boltzmann equation”
- 10h–11h **A. Zlotnik** “The global in time behavior of the symmetric compressible Navier–Stokes–Poisson flows with a free boundary”
- 11h–11h30 Coffee Break

Section 1

- 11h30–12h **G. Alekseev, R. Brizitskii, D. Tereshko** “Theoretical Analysis of Control Problems for Stationary Magnetohydrodynamic Models of a Viscous Heat-Conducting Fluid”
- 12h–12h30 **A. Chebotarev** “Variational inequalities for evolution MHD systems”
- 12h30–13h **U. Yalamov, A. Hasanov** “Влияние структурных особенностей на движение двух гидродинамически взаимодействующих частиц в поле градиента температуры”

Section 2

- 11h30–12h **E. Radkevich** “Проекция Чепмена–Энскога и проблемы Навье–Стокса приближения кинетических уравнений”
- 12h–12h20 **A. Krasnogorsky** “Decomposition of the harmonic subspace in $L_p(G)$ in the sum of analytic and antianalytic subspaces”
- 12h20–12h40 **N. A. Yakushkin** “Schwartz derivative and it's applications”
- 12h40–13h **A. Afanasyev, V. Afanasyeva** “Numerical simulation of convection around circular cylinder interacting with fluid jet”

M7
2006

M7
2006
