

## Professor Yulii D Shikhmurzaev

Professor of Applied Mathematics

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### About

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### Qualifications

- MSc (Applied Mathematics & Mechanics, Moscow State University 1980)
- PhD (Physics & Mathematics, Moscow State University 1985)

### Research

#### RESEARCH INTERESTS

- Fluid mechanics
- Free-boundary problems
- Dynamic wetting
- Fluid motion with transitions in the topology of the flow domain
- Singularities arising in the modelling of natural phenomena
- Flows in porous media

### Publications

#### SELECTED:

Sprittles, J. E. & Shikhmurzaev, Y. D. 2011. Viscous flows in domains with corners: Numerical artifacts, their origin and removal. *Comp. Meth. Appl. Mech. & Engrng* 200, 1087-1099.

Lukyanov, A. V., Shikhmurzaev, Y. D. & King, A. C. 2008. A combined BIE-FE method for Stokes equations. *IMA J. Appl. Maths* 73, 199-224.

Shikhmurzaev, Y.D. *Capillary Flows with Forming Interfaces*, Chapman & Hall/CRC, 2007.

Wilson, M.C.T., Summers, J.L., Shikhmurzaev, Y.D., Clarke A. & Blake T.D. Nonlocal hydrodynamic influence on the dynamic contact angle: slip models vs experiment. *Phys. Rev. E* 73 (2006) 041606.

Shikhmurzaev, Y.D. Singularities at the moving contact line: Mathematical, physical and computational aspects. *Physica D* 217 (2006) 121-133.

Shikhmurzaev, Y.D. Capillary breakup of liquid threads: A singularity-free solution. *IMA J. Appl. Maths* 70 (2005) 880-907.

Shikhmurzaev, Y.D. Singularity of free-surface curvature in convergent flow: Cusp or corner? *Phys. Lett. A* 245 (2005) 378-385.

Shikhmurzaev, Y.D. Macroscopic mechanism of rupture of free liquid films. *C.R. Mecanique* 333 (2005) 205-210.