

## Olexiy (Alexey) ANDRIANOV

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### Objective:

Research scientist position in an area involving hydrodynamics, applied mechanics and/or applied mathematics

### Summary:

Postdoctoral scholar of hydrodynamics or mechanics with emphasis on fluid-structure interaction and fracture mechanics. Good analytical skills, high performance computing, 20 published contributions, and 4 working languages

### Education:

Postdoctoral research fellow, Department of Applied Mathematics, Delft Univ. of Technology, The Netherlands	2005-2006
Ph. D. study, Department of Applied Mathematics, Delft Univ. of Technology, The Netherlands	2001-2005
Postgraduate study, Department of Theoretical and Applied Mechanics, Dnipropetrovsk State Univ., Ukraine	1999-2001
M. Sc., Mechanics and Applied Mathematics, Dnipropetrovsk State Univ., Ukraine	1994-1999

### Relevant skills and experience:

#### LEADERSHIP

- ✓ Manage group in the absence of supervising professor
- ✓ Co-organise scientific seminars at Delft University of Technology
- ✓ Wide contacts and collaboration with researchers and engineers internationally

#### MECHANICS

- ✓ Develop a new hydroelastic analysis approach to plate-water interaction
- ✓ Investigate interaction of floating elastic plates and water waves
- ✓ Solve the problem of water wave diffraction on a floating plate for a variety of plate shapes and physical parameters
- ✓ Determine stress-strain state under bending loads for a plate interfacially cracked along fixed edge

#### ENGINEERING AND TECHNICAL

- ✓ Design an appliance for measuring floating plate motion and water wave diffraction on a plate
- ✓ Experiments: fracture mechanics, testing new polymeric materials

#### COMPUTER

- ✓ Operational systems: Linux, MS Windows
- ✓ Languages: Fortran, C/C++, Java, MPI, html
- ✓ Special software: Maple, Matlab, various mathematics and graphics software
- ✓ General use software: LaTeX, MS Office, OpenOffice
- ✓ Development of computer packages for various problems of hydrodynamics and mechanics
- ✓ Creation and support of web sites

#### EDUCATIONAL

- ✓ Lectures and practical exercises at University: applied mechanics
- ✓ Help undergraduates
- ✓ Organise short courses and seminars for students
- ✓ Teaching at high school: algebra, geometry, geography

- ✓ Private lessons in mathematics and computing

#### OTHER EXPERIENCE

- ✓ Reviewing for Journal of Fluids and Structures
- ✓ Captain of the Delft University football team 'Op het Randje'
- ✓ Organizer and coordinator of musical, sport and tourist events on the university scale
- ✓ Commercial manager at trade companies (Dnipropetrovsk)
- ✓ Photographer
- ✓ Popular science and travel writer
- ✓ Internet sports commentator

#### Work history:

Researcher	Delft Univ. of Technology	2005-2006
PhD-researcher	Delft Univ. of Technology	2001-2005
Visiting research scientist	Institute of Problems of Chemical Physics, Chernogolovka, Russia	2002, 2003
Research engineer	Dnipropetrovsk State Univ.	1998-2001
Web and advertisement designer	McCall Information and Advertisement Agency, Dnipropetrovsk, Ukraine	1997-2001

#### Languages:

English: fluent, Dutch: fluent, Russian: native, Ukrainian: fluent, German, French, Romanian: basic

#### Publications and conference presentations:

##### REFEREED JOURNALS

1. A.I. Andrianov, A.J. Hermans. The Influence of Water Depth on the Hydroelastic Response of a Very Large Floating Platform. *Marine Structures*, 2003, vol. 16, iss. 5, pp.355-371.
2. A.I. Andrianov, A.J. Hermans. Hydroelasticity of a Circular Plate on Water of Finite or Infinite Depth. *Journal of Fluids and Structures*, 2005, vol.20, iss.5, pp.719-733.
3. A.I. Andrianov, A.J. Hermans. Hydroelastic Behavior of a Floating Ring-Shaped Plate. *Journal of Engineering Mathematics*, 2005, *accepted*.
4. A.I. Andrianov A.I., A.J. Hermans. Hydroelastic Analysis of a Floating Plate of Finite Draft. 2006, *Applied Ocean Research*, *submitted*.

##### CONFERENCE PAPERS AND ABSTRACTS

1. A.I. Andrianov, V.V. Loboda. An Interface Crack along the Fixed Edge of a Plate under Bending Load. *Book of Abstracts II, 4th EuroMECH (Euromech Solids Mechanics Conference)*, Metz, France, 2000, p.412.
2. A.I. Andrianov, A.J. Hermans. A VLFP on Infinite, Finite and Shallow Water. *Proc. 17th IWWWFB, Cambridge, UK, 2002*, pp.1-4.
3. A.I. Andrianov, A.J. Hermans. Diffraction of Surface Waves by VLFP on Infinite, Finite and Shallow Water. *Abstracts of Day on Diffraction' 2002, St. Petersburg*, pp.12-13.
4. A.I. Andrianov, A.J. Hermans. Diffraction of Surface Waves by VLFP on Infinite, Finite and Shallow Water. *Proc. Day on Diffraction' 2002, St. Petersburg, Russia*, pp.13-23.
5. A.I. Andrianov, A.J. Hermans. Hydroelasticity of Quarter-Infinite Plate on Water of Finite Depth. *Proc. 18th IWWWFB, Le Croisic, France, 2003*, pp.1-4.
6. A.I. Andrianov, A.J. Hermans. Hydroelasticity of a Circular Plate in Deep Water. *Abstracts of Day on Diffraction' 2003, St. Petersburg*, p.14.
7. A.I. Andrianov, A.J. Hermans. Hydroelasticity of a Circular Plate on Water of Finite or Infinite Depth. *Proc. 19th IWWWFB, Cortona, Italy, 2004*, pp.7-10.
8. I.V. Andrianov, A.I. Andrianov. Continualization and Discretization: Numerical Aspects. *International Conference on Mathematics and Its Applications, Kuwait, 2004*.

9. A.I. Andrianov, A.J. Hermans. Hydroelastic Behaviour of a Ring-Shaped Plate. *Advanced Problems in Mechanics*, Repino, Russia, 2004, p.21.
10. A.I. Andrianov, A.J. Hermans. Interaction of Free Surface Waves and Floating Elastic Plates. *Day on Diffraction' 2004*, St. Petersburg, p.12.
11. A.I. Andrianov, A.J. Hermans. Hydroelastic Analysis of Floating Plate of Finite Draft. *Proc. 20th IWWWFB*, Longyearbyen, Spitsbergen, Norway, 2005, pp.13-16.
12. Gres L.P., Karakash E.A., Fleyshman Yu.M., Volkova M.M., Oryel G.I., Listopadov V.S., Andrianov A.I. (2005). On increase of efficiency of the draught unit in modern blast furnaces. *Proceedings of the 14th int. conf. "Power and heat engineering in metallurgy"*, Dnipropetrovsk, Ukraine (in Russian).

*IWWWFB -- International Workshop on Water Waves and Floating Bodies.*

#### OTHER PUBLICATIONS

1. A.I. Andrianov, V.V. Loboda. An Investigation of a Strip with Interface Cracks along the Fixed Edges under Bending Load. *Collection of Works on Mechanics*. DSU Publisher, Ukraine, 1999, vol. 5, pp.9-18 (*in Russian*).
2. A.I. Andrianov, V.V. Loboda. An Investigation of a Strip with Interface Cracks along the Fixed Edges under Bending Load (Timoshenko-Reissner method). *DSU Bulletin on Mechanics*. DSU Publisher, Ukraine, 2000, vol. 3, no. 1, pp.170-179 (*in Russian*).
3. Gres L.P., Karakash E.A., Fleyshman Yu.M., Volkova M.M., Oryel G.I., Listopadov V.S., Andrianov A.I. (2005). On increase of efficiency of the draught unit in modern blast furnaces. *Collection Metallurgical Heat Engineering*, National Metallurgical Academy of Ukraine, Dnipropetrovsk, pp.123-130 (in Russian).

*DSU -- Dnipropetrovsk State (National) University.*

#### DOCTORAL DISSERTATION

Alexey I. Andrianov. *Hydroelastic Analysis of Very Large Floating Structures*. Delft University of Technology, Optima Grafische Communicatie, 2005, ISBN 90-8559-081-7, 188p., also at <http://www.andrianov.org>. Supervisor: Prof. A.J. Hermans.

#### MASTER THESIS

A.I. Andrianov. *An Investigation of a Strip with Interface Cracks along the Fixed Edges under Bending Load*. Dnipropetrovsk State University, 51p. (*in Russian*). Scientific supervisor: Prof. V.V. Loboda.