

**Mr. YURI FELDMAN****CURRICULUM VITAE**

Date and place of birth: August 5, 1977, Izmail, USSR.  
 Date of immigration to Israel: October 19, 1993.  
 Family status: Married +2.  
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**Academic degrees:**

2006 – to date PhD student ,Faculty of Mechanical Engineering, Department of Fluid Mechanics and Heat Transfer, Tel Aviv University  
 2002 - 2006 M.Sc., Faculty of Mechanical Engineering, Technion, Haifa  
 1997 - 2001 B.Sc. in Mechanical Engineering, Technion, Haifa.  
 Technion - Israel Institute of Technology, Haifa

**Academic appointments:**

2010- to date Lecturer, Faculty of Engineering,  
 Department of Fluid Mechanics and Heat Transfer, Tel Aviv University.  
 2006- 2009 Teaching Assistant, Faculty of Engineering,  
 Department of Fluid Mechanics and Heat Transfer, Tel Aviv University.  
 2004 - 2006 Teaching Assistant, Faculty of Mechanical Engineering,  
 Technion - Israel Institute of Technology, Haifa.

**Teaching experience:**

2006 – to date Courses Taught at the Faculty of Mechanical Engineering, Tel Aviv University  
 Fluid and Heat Transfer Lab. 05423515 (2006- 2008)  
 Experimental & Numerical Lab. in Thermal Design. 05423658 (2007- to date)  
 Thermodynamics 1 05422600 (2008- 2009)  
 2004 - 2006 Courses Taught at the Faculty of Mechanical Engineering, Technion.  
 Applied Tribology 035024 (2004 - 2006)  
 Fluid Dynamics 2 035035 (2005- 2006)

**Professional experience:**

2006 Research Engineer of CFD Group, Israel Electric Company.  
 • Finite volume analysis of the flow characteristics in the wake of a wind turbine.  
 2001-2004 Mechanical Design Engineer, Israeli Navy  
 • Characterization and design of the automatic fire distinguishing systems for the navy ships.  
 • Characterization and design of environment friendly recycling equipment for the navy bases.  
 1999 - 2001 Research Engineer.  
 Surface Technologies Company, Haifa, Neshet.  
 • Finite element analysis of a laser surface texturing applied in the hydrodynamic and hydrostatic mechanical seals and bearings.

**Computing Skills**

- Parallel computing with MPI
- Languages: Fortran, C++, Matlab, MPI
- Platforms: [HLRN-II](#), Linux Cluster

**Scientific visits:**

1. Prof. Laurette Tuckerman, Paris, France, Physique and Mechanique des Milieux Heterogenes, ESPCI & CNRS (supported by Ministry of Science, Israel)
2. Dr. Hermann Wilke, Berlin, Germany, Leibniz Institute of Crystal Growth (supported by German-Israel Foundation)
3. Dr. Alfredo Buttari, IRIT (Institut de Recherche en Informatique de Toulouse) , Toulouse, France (supported by Ministry of Science, Israel)

**Research interests:**

Parallel Computing, Direct Numerical Simulations, Multigrid Methods, Computer Fluid Dynamics, Finite Volumes and Finite Elements Methods in Fluid Dynamics, Analytical and Numerical Methods in Mechanics, Micro-Hydrodynamics.

**Presentations at conferences:**

Feldman Yu. and Gelfgat A.Yu. "A novel multigrid approach for solving incompressible Navier-Stokes equations on massively parallel computers", 29<sup>th</sup> Israel Symposium on Computational Mechanics, Haifa, Technion, October 14, 2010 (keynote lecture).

Feldman Yu., and Gelfgat A., " Linear Stability Analysis of Lid Driven Flows Accelerated by an Efficient Fully Coupled Time-Marching Algorithm" , MUMPS User Group Meeting, Toulouse , France, April 2010.

Feldman Yu., and Gelfgat A., " Single and Multi-Grid Solution of Incompressible Navier- Stokes Equations on Massively Parallel Supercomputers", 10th ICFD Conference on Numerical Methods for Fluid Dynamics, Reading, Great Britain, April 2010.

Feldman Yu., and Gelfgat A., " Pressure-Velocity Coupled Three-Dimensional CFD on a Massively Parallel Computer " , LinkSCEEM: Linking Scientific Computing in Europe and the Eastern Mediterranean, Haifa Israel, December 2009.

Feldman Yu.,Tuckerman L., and Gelfgat A., " Linear Stability Analysis of Lid Driven and Convection Flows Accelerated by an Efficient Fully Coupled Time-Marching Algorithm", 3rd International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Nottingham, UK, August 2009.

Feldman Yu., and Gelfgat A., " Direct solution of linear equations as a possible acceleration tool for incompressible time-stepping numerical solutions " , 5th M.I.T. Conference on Computational Fluid Mechanics, Boston, USA, June 2009.

Feldman Yu., and Gelfgat A., " An Accelerated Semi-Analytical Coupled Line Gauss-Seidel Smoother (ASA-CLGS) for multigrid solution of incompressible Navier-Stokes equations", 9th European Multigrid Conference , Bad Herrenalb, Germany, October 2008.

Feldman Yu., and Gelfgat A., " An Accelerated Multigrid Approach for Time-Integration of Incompressible Navier Stokes Equations", 7th EUROMECH Fluid Mechanics Conference, Manchester, Great Britain, September 2008.

Feldman Yu., and Herszage A., " CFD elliptic analysis of anisotropic flow in the wake of a wind turbine", 21<sup>th</sup> Israel Symposium on Computational Mechanics, Ber Sheva, Ben Gurion University, October 19, 2006 .

**Awards:**

2010: Miriam & Aaron Gutwirth excellence award, Tel Aviv University.

2005 : Miriam & Aaron Gutwirth excellence award, Technion.

**Professional service:**

Reviewer of Journal of Tribology  
Reviewer of Computers and Structures

**List of publications:**

**A. Theses**

2005: Analysis of Gas Lubrication with Textured Surfaces – M.Sc. Thesis.  
Faculty of Mechanical Engineering, Technion - IIT, Haifa.

**B. Original papers in professional journals**

7. Liberzon A., Feldman Yu., Gelfgat A., Yu., "Experimental observation of the steady-oscillatory transition in a cubic lid-driven cavity," submitted for publication in Physics of Fluids (under review).
6. Feldman Yu., Gelfgat A., Yu., "From multi- to single-grid CFD on massively parallel computers: numerical experiments on lid-driven flow in a cube using pressure-velocity coupled formulation," Computers and Fluids, DOI: 10.1016/j.compfluid.2010.08.009.
5. Feldman Yu., Gelfgat A., Yu., "Oscillatory instability of a three-dimensional lid-driven flow in a cube," Physics of Fluids, DOI: 10.1063/1.3487476.
4. Feldman Yu., Gelfgat A., Yu., 2009, "On pressure-velocity coupled time-integration of incompressible Navier-Stokes equations using direct inversion of Stokes operator or accelerated multigrid technique," Elsevier, Computers and Structures, **87**, pp. 710-720.
3. Feldman, Y., Kligerman, Y., Etsion, I., 2007, "Stiffness and efficiency optimization of a hydrostatic laser surface textured gas seal," ASME, J. Tribol., **129**(2), pp. 407-410.
2. Feldman, Y., Kligerman, Y., Etsion, I., 2006, "A Hydrostatic Laser Surface Textured Gas Seal," Tribol. Lett., **22**(1), pp. 21-28.
1. Feldman, Y., Kligerman, Y., Etsion, I., and Haber, S., 2005, "The Validity of the Reynolds Equation in Modeling Hydrostatic Effects in Gas Lubricated Textured Parallel Surfaces," ASME, J. Tribol., **128**(2), pp. 345-350.