

Mehmet Ilıcak

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Qualifications Summary

Doctorate level education in diverse engineering applications (flow turbulence, ocean modeling, numerics and CFD)

Proficiency in scientific code development, numerical methods, CFD and GFD (geophysical fluid dynamics)

Experience in open source software, version control systems

Experience in lecturing graduate level students on GFD and undergraduate level students on numerical methods

Education

PhD.D. Physical Oceanography, University of Miami, Miami, FL (expected May 2009)
Dissertation: Performance of Second Order Turbulence Closures in Gravity Currents

M.S., Mechanical Engineering, Bogazici University, Istanbul, Turkey (Jun. 2003)
Thesis: Operator Decomposition Techniques for the 3-D Numerical Analysis of Electronic Equipment Cooling

B.S. Mechanical Engineering, Bogazici University, Istanbul, Turkey (Jun. 2001)

Employment

Research Assistant, Meteorology and Physical Oceanography, RSMAS, University of Miami, Miami, FL, Jan. 2005 – present

Research Engineer, FORD Motor Company, Kocaeli, Turkey, July 2003 – Jan. 2005

Research and Teaching Assistant, Bogazici University, Istanbul, Turkey, Sep. 2001 – Jun. 2003

Product Development Intern, FORD Motor Company, Kocaeli, Turkey, Jun. 2000 – July. 2000

Expertise and Interests

Physics and Engineering

Physical oceanography, Regional and Large Scale Ocean and Environmental Modeling, Turbulence (LES/RANS), Numerical Methods/Algorithms, Scientific Computing, CFD, GFD, Multi-physics numerical PDE solution and analysis, Heat transfer

Computer Languages and Software Development

FORTRAN, Emacs, Subversion, Make, Bash, HTML, OpenMP

Engineering Software

Ocean Circulation Models; Advanced in Regional Ocean Modeling Systems (ROMS), Beginner in MIT General Circulation Model (MITGCM) and Hybrid Coordinate Ocean Model (HYCOM), MATLAB, Ocean Data View, Mathematica, Octave, Ferret, Latex, Various flavors of UNIX, MS Windows

Professional Activities

Teaching

Lecturer, Large Scale Ocean Circulation: Models and Observations, MPO612. Portions only, University of Miami, Spring 2007

Lecturer, Scientific Programming in Atmospheric Science, MSC321. Lab and problem sessions, University of Miami, Fall 2007

Lecturer, Numerical Methods in Fluid Dynamics, MPO662. Lab and problem sessions, University of Miami, Fall 2007

Lecturer, Geophysical Fluid Dynamics I, MPO511. Portions only, University of Miami, Fall 2006

Memberships

Member, American Geophysical Union, 2005–present

Personal Achievements

2008 Meteorology and Physical Oceanography (MPO) Best Student Paper Award (Published in Ocean Modelling Volume 20)

2008 Marine Science Graduate Student Organization (MSGSO) Vice President

2000 Bogazici University Sailing Team Captain

Publications and Reports

Ilıcak, M., Özgökmen, T. M., Peters, H., Baumert, Z. H., Iskandarani, M., “Performance of Two-Equation Turbulence Closures in Three-Dimensional Simulations of the Red Sea Overflow”, *Ocean Modelling*, 24, 122-139, 2008.

Ilıcak, M., Özgökmen, T. M., Peters, H., Baumert, Z. H., Iskandarani, M., “Very Large Eddy Simulation of the Red Sea overflow”, *Ocean Modelling*, 20, 183-206, 2008.

Ilıcak, M., Ecder, A., and Turan, E., “Operator Splitting Techniques for the Numerical Analysis of Natural Convection Heat Transfer”, *International Journal of Computer Mechanics*, 84:6, 783-793, 2007.

Oral and Poster Presentations

Performance of the 2nd Order Turbulence Closures in the Red Sea Overflow, 2008 Ocean Sciences Meeting, Orlando, FL, USA.

Performance of the 2nd Order Turbulence Closures in the Red Sea Overflow simulations, 2008 MPO Seminar Series, Miami, FL, USA.

Performance of the two-equation turbulence models in the Red Sea, 2007 ROMS/TOMS User Workshop, Los Angeles, CA, USA.

Performance of the 2nd Order Turbulence Closures in the Red Sea Overflow using Nonhydrostatic and Hydrostatic Models, Nov. 13-14, 2007 Climate Process Team Workshop, Miami, FL, USA.

Very Large Eddy Simulation of the Red Sea overflow, 2007 MPO Seminar Series, Miami, FL, USA.

Operator Decomposition Techniques for the 3-D Numerical Analysis of Electronic Equipment Cooling, 2003, Bogazici University, Istanbul, Turkey.

Workshops and Courses

Mar. 2-7, 2008 Ocean Sciences Meeting, Orlando, FL, USA.

Nov. 13-14, 2007 Climate Process Team Workshop, Miami, FL, USA.

Oct. 1-5, 2007 ROMS/TOMS User Workshop, Los Angeles, CA, USA.

Apr. 9-13, 2007 38th CIESM Congress, Istanbul, Turkey.

Nov. 13-15, 2006 Fifth International Workshop Unstructured Grid Numerical Modelling of Coastal, Shelf and Ocean Flows, Miami, FL, USA.

Aug. 13-22, 2006 Modern Mathematical Methods in Physical Oceanography Summer School, Breckenridge, CO, USA.

Oct. 24-26, 2005 ROMS/TOMS User Workshop, La Jolla, CA, USA.

Jan. 26-28, 2005 Layered Ocean Model Users Workshop, Miami, FL, USA.

References

Dr. Tamay M. Ozgokmen (PhD Advisor)
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