

# Curriculum Vita - Liudmila Ye. Zabolina

## Education:

M. S. degree in Applied Mathematics, Rostov State University, Rostov-on-Don, Russia

B. S. degree in Mathematics, Rostov State University, Rostov-on-Don, Russia

## Work experience:

**2012 till present:** Professional Research Assistant, Department of Electrical, Computer and Energy Engineering, University of Colorado Boulder

**2008 to 2012:** Freelancer

**2003 to 2008:** Associate Scientist II (CU Title: 1310 -- Professional Research Assistant), CIRES, University of Colorado Boulder

**2001 to 2003:** Software Developer, Category II, "Svyaz" ("Telecommunication") Company, Rostov-on-Don, Russia

**1990 to 2001:** Software Developer, Mathematical Modeling Department, Research Institute "Gradient", Rostov-on-Don, Russia

## Major Accomplishments:

Software development for the next generation of advanced fully-digital ionospheric sounders (Dynasonde 21). Development of the web interface and supporting software for the results of analysis of the dynasonde data. Implementation of an SQL database management system as a data storage and retrieval for the dynasonde network. Software installation and subsequent support at ionospheric sounding systems at Tromso, Svalbard, Wallops Island, Tomsk, Istanbul, Boulder. Development, installation and support of new modules for Dynasonde Navigator portal at the International Scientific Association EISCAT.

Development of moving fluid extension of the Huygens Wavefront Tracing algorithm, a part of open source Madagascar package.

Development and support of a computer code for the tasks related to Monte-Carlo numerical simulations of long-range underwater sound propagation in presence of the internal gravity waves. Statistical modeling of the underwater sound propagation. Numerical simulations to study the stability properties of the wave fronts.

Design of software simulators for external and internal information flows in radiolocation systems.

Development of the code for mathematical analysis and statistical handling of radiolocation data.

Creation of specialized graphical user interfaces for representation of data analysis results.

Development of a mathematical code for calculation of directivity diagrams of antennas, for graphical representation of the results, for software imitation of radio systems.