

# **Ludmila Zabarinskaya**

## **Education:**

Geological Faculty of M. V. Lomonosov Moscow State University (MSU), Department of Geophysics, 1972.

## **Foreign Languages:**

English, French, German.

## **Research:**

- Senior researcher of the World Data Center for Solid Earth Physics;
- Scientific management, collection and storage of data for the following subjects: gravimetry, magnetic measurements, marine geology and geophysics.

## **Main Research Directions:**

- Formation of data archives and databases of machine-readable data on the abovementioned subjects;
- Information support of archives, data analysis and creation of databases with metadata, updating data availability catalogs for all SEP disciplines;
- Development of new software products and technologies to work with data, creating databases for the Internet;
- Dissemination of data, querying users requests.

## **Scientific Programs of RAS:**

The project “International Polar Year”, 2007–2009.

## **Initiative projects of RFBR:**

- Project № 98-07-90201-v “Developing a Database of Digital Models of the Lithosphere of the Pacific Ocean on the Basis of Geotraverses”, 1998–1999;
- Project № 01-05-64400-a “Constructing Models of Deep Structure of Sedimentary Basins of Marginal Seas”, 2001–2003;
- Project № 01-07-90233-v “Database to Develop Digital Models of the Lithosphere of Marginal Seas”, 2001–2003;
- Project № 03-05-99407-s “Sedimentary Basins: Deep Reasons for Formation”, 2003;
- Project № 04-07-90194-v “Geological and Geophysical Database to Develop Digital Models of Deep Structure of Sedimentary Basins of the Earth”, 2004–2006;
- Project № 06-05-99004-s “Geological and Geophysical Database to Develop Models of Deep Structure of Sedimentary Basins of the Earth”, 2006;
- Project № 09-01-90435-Ukr\_f\_a “Development of WDC Network to Study Global Complex Natural and Anthropogenic Systems”, 2009–2010;

- Project № 09-05-00406-a “Geodynamic Models of Deep Structure of Active Continental Margins”, 2009–2011;
- Project № 10-07-90401-Ukr\_a (WDC, Obninsk) “Development of Fundamental Principles and Methods of Analysis of Multidisciplinary Data to Create System for Integrated Access to Information Resources of the World Data Centers in Russia and Ukraine”, 2010–2011;
- Project № 12-01-90418-Ukr\_a “Development of Common Approach and Methods of System Data Harmonization in the Infrastructure of Distributed Multidisciplinary Databases of the Russian-Ukrainian Segment of World Data System to Address Fundamental Problems of Interdisciplinary Interaction of Processes in Geospheres’ System”, 2012–2013;
- Project № 12-05-00029-a “Geodynamic Simulation of Deep Structure of Regions of Natural Disasters”, 2012–2014;
- Project № 14-05-01018D, publishing the monograph “Geodynamic Models of Deep Structure of Regions of Natural Disasters of Active Continental Margins”, 2014;
- Related to the projects, articles in prestigious Russian and foreign magazines and a monograph were published.

#### **Main Scientific Results:**

- Investigated the underlying causes of the formation of sedimentary basins of Marginal Seas of the Earth;
- Developed a new direction in the study of modern geological processes of the Earth – the construction of geodynamic models of the deep structure of the regions of natural disasters based on integrated interpretation of geological and geophysical data in order to forecast, assess and reduce the risk of natural disasters, particularly earthquakes and volcanic eruptions;
- For the first time constructed geodynamic models of regional natural disasters of the continental margins of the transition zone of the Eurasian continent to the Pacific Ocean. Construction of geodynamic models allows the deep structure of the Earth's interior underlying earthquake-prone areas, volcanic areas, regions of mineralogy and sedimentary basins to be studied; the role of the underlying processes that occur in the mantle, in the formation of crustal structures, to be investigated; the geological structures, tectonic and magmatic activity, hydrothermal vents and the structure of the upper mantle to be correlated; the high-risk areas, preventing inefficient economic activity in these regions, to be identified and the damage from possible accidents to be minimized. Construction of geodynamic models of the deep structure of regions of natural disasters is

a significant contribution to the overall study of the deep structure and geodynamic research areas needed for further risk assessment in a particular area of training and action of the population in the event of a natural disaster;

- Established the relation in the deep geodynamic processes: upwelling of the asthenosphere to the bottom of the crust; split of the lithosphere with the formation of interarc troughs; the formation of magma chambers in the crust and mantle; rifting on the surface, accompanied by tholeiitic magmatism and manifestations of hydrothermal sulfides.

#### **Participation in international and Russian conferences:**

Each year, the results of studies were reported and discussed at the national and international conferences and symposiums:

- Annual Tectonic Conference (Moscow, MSU);
- Annual General Assembly of the European Geosciences Union (Vienna, Austria), Geological Congress (Oslo, 2008);
- International Conference “Results of the Electronic Geophysical Year” (Pereslavl-Zalessky, 2009);
- International Conference “Geological Events, Geological History and the Role of the International Programme for Earth Sciences in the Study of the Earth” (Caravaca de la Cruz, Spain, 2010);
- XIX International scientific conference (School) on marine geology “Geology of the Oceans and Seas” (Moscow, 2011);
- International Scientific and Practical Conference (Voronezh, 2012).

#### **International activity:**

- Member of international projects “InterMARGINS” and “Geodynamic Processes at Rifting and Subducting Margins”;
- Convenor of the Symposiums of the International Congress of the European Geosciences Union (2007–2008).

#### **Publications:**

**Co-author of 142 papers** published in international and Russian scientific journals. Co-author of **the monograph** “Geodynamic Models of Deep Structure of Regions of Natural Disasters of Active Continental Margins”.