



Project Partner 11



Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences

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main focus of institution and department

The Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences (IMI-BAS) is a leading Bulgarian centre for scientific research and applications. Since its establishment in 1947 it is conducting an efficient, long-range, consistent policy related to the fundamental trends in the development of mathematics, informatics and information technologies. IMI has a total staff of 222 (165 researchers, incl. 107 full and associate professors) in 21 departments.

IMI-BAS has close connections with other research, education and decision making centers from Bulgaria and abroad. Each year the Institute welcomes over 200 renowned foreign scholars, organises more than 10 scientific conferences, seminars and schools. The IMI researchers have a large number of original publications (about 250 scientific papers annually, some 160 of them in high profile journals and in proceedings of prestigious international conferences). Seven scientific and methodological journals are published by the IMI-BAS or with its cooperation.

IMI-BAS has been actively participating in the European Framework Programs:

EU FP7 INF 211983 **MONDILEX** – Conceptual Modelling of Networking of Centres for High-Quality Research in Slavic Lexicography and Their Digital Resources. (2008–2010) – as a project coordinator; I3 FP7-INF 246686 **OpenAIRE** – Open Access Infrastructure for Research in Europe (2009–2012); FP7-SCIENCE-IN-SOCIETY **FIBONACCI** “Large scale dissemination of inquiry based science and mathematics education” (2009–2012); FP7-CIP-ICT PSP 250503 **EuDML** “The European Digital Mathematics Library” (2010–2013); FP6-IST-22004-027451 **LOGOS** “Knowledge-on-Demand for Ubiquitous Learning”(2006–2009) FP6 INCO-CT-20030003401 **HUBUSKA** “Networking Centres of High Quality Research on Knowledge Technologies and applications” (2004–2007), IST FP6-027287 **ELOST** “e-Government for low socio-economic status groups” 2006–2007; FP6 Marie Curie contract MTKD-CT-2004-509754, **KT-DigiCult-BG** “Knowledge Transfer for Digitization of Cultural and Scientific Heritage in Bulgaria” (2004–2008) – as a project coordinator;

short description of PP activities

WP 1: Transnational Project Management and Coordination

- ongoing communication with the project manager, project financial
- reporting, submitting reports for 1st level control, supporting the LP in his
- administrative and reporting tasks
- project financial reporting, submitting reports for 1st level control,
- supporting the LP in financial reporting



WP 2: Communication and dissemination

- preparation of national material and LP support
- WP 3: State-of-the-art analysis and methodology
- usability classification of contingency plans
- national contributions to the analysis and evaluation of best practices
- organisation of national stakeholder meetings, development of group specific requirements, definition of stakeholder conditions and constraints
- recommendation of measures and elaboration of adaptation strategies

WP 4: Development of SEES-CSA

- development of decision support for situation assessment integrating
- development of common basic module

WP 5: Practical implementation

evaluation and recommendations for improvements

- Definition and evaluation of communication and contingency plan requirements for hazard maps
- Online provision of hazard maps
- Coordination, organization, hosting and data provision for transnational field test

WP 6: Evaluation and recommendation

- evaluation of usability, communicability and effectiveness
- organization and hosting of conclusions, recommendations & field test workshop (09)
- national stakeholder meetings

WP 7: Finalisation

- documentation of deliverables at partner level, provision to LP
- 1st level control on partner level, submitting all documents relevant for last reporting period (financial report, certifications, progress report contribution) to LP; contributions for project final report.

short description of test area

Test-bed “Mesta”

situated in the valley between three Bulgarian mountains Rila, Pirin and Rodopi. The river is 273 km long, 125 km are in Bulgaria, 25 km in Gotze Delchev. Mesta springs from 2620 m and runs through the Gotze Delchevska valley which is around 545 m above the sea level. The average above sea level height is 1318 m, which makes Mesta the highest river in Bulgaria.

The watershed of Mesta river is influenced by the Continental and Trans-Mediterranean. Its watershed characterizes with heavy precipitations in the spring and autumn and during the snow melt, water flow and density of the river system gives 164 km² of the watershed with average above sea level height 1595 m.

The main factors that increase the risk of hazard events are the relief and soil structure; intensity of the precipitations and water flow; abrupt snow melt; anthropogenic destruction of the vegetation. Most of the watershed of Mesta river is located between 550 and 2200 m altitude, which is the vegetative belt with highest anthropogenic pressure. The disturbed vegetation cover creates prerequisites for strong surface flow and increased danger of floods.

Test-bed “Marevo and Tufcha” – Bulgaria, Eastern Pirin

Marevo(Marevska) river is a tributary of Tufcha river and Tufcha river itself is a tributary of Mesta river.



The watershed of Tufcha and Marevo rivers are influenced by the Trans-Mediterranean climate and the average annual temperatures in this region are from 8° to 11°C. It is part of the watershed of Mesta river, which characterizes with precipitations up to 1200mm, water flow module from 15 up to 35 l/s.km². Tufcha and Marevo rivers are with highest level of their water in spring during the snow melting and in the autumn seasons during the heavy rainfall.

Tufcha river springs from Breznishko lake except Marevo river Tufcha river has tributaries: Jakolnica, Mishovo, Glovitca, Rechishko, Globushtica and Svarinsko rivers. Tufcha is the longest and high-water river in this part of Pirin mountain.

The relief is dominated by steep slopes with average inclination of about 29–37% but reaching up to 78% which determines the high speed of surface water flow and the formation of high waves.

The main factors that increase the risk of hazard events are the relief the intensity of the precipitations and water flow; abrupt snow melt; anthropogenic destruction of the vegetation. Most of the watershed of Tufcha and Marevo rivers are located between 550 and 2300 m altitude, which is the vegetative belt with highest anthropogenic pressure. The disturbed vegetation cover creates prerequisites for strong surface flow and increased danger of floods.

what does the partner bring into the project?

IMI-BAS together with its test bed area – Gotze Delchev Municipality, will gather information about Bulgaria as a new member state in the European Union in the fields of hazard mapping and contingency planning, monitoring systems, Bulgarian common practices, Bulgarian legislation.

benefits for the partner by participation in the project

We expect that IMI-BAS would gain know-how in the fields of hazard mapping and contingency planning according to the European legislation and the final distribution of the CSA system.

We hope that this project will contribute to the improvement of the disaster management capacity in Bulgaria.

main contact



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