



QUEST: QUAntitative estimation of Earth's seismic sources and STructure: a European Initial Training Network

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The Marie-Curie Initial Training Network QUEST joins scientists from 15 European partner institutions in the fields of exploration seismics, seismology, applied mathematics, high-performance computing, earthquake physics, physical inverse problems, geodynamics, from Departments of Mathematics, Physics, Earth and Computational Sciences, Oceanography and Exploration Geophysics. The main goal of QUEST is research and training in the development of strategies for seismic imaging using the increasing power of 3-D simulation technology. Existing methodologies are currently subject to a revolutionary change: While so far the observed information was severely reduced and approximate methods (e.g., ray theory) were used to determine Earth's structure, the massive increase in available computational resources allows us now to make use of the complete information contained in the observations. The QUEST objective is to integrate the various elements (wave propagation, high-performance computing, inverse problems) exploiting the synergies of the network expertise and develop the next generation of imaging tools for use on all spatial scales. The consortium is complemented by the formal partnership of one of the leading suppliers of geophysical technology to the oil and gas industry (Schlumberger Research) and Spectraseis AG (Zurich) exploiting passive imaging for industrial problems. The project offers funding for a substantial number of PhD and postdoc positions. More info at www.quest-itn.org.