Interactive Introduction to the Geophysics Master's Program

Baden-Württemberg Ministry of Science, Research, and the Arts Subsidizes Bridging Course from "Little Subjects" Structural Fund

Geophysics is among the "little subjects". The aim of the "iBridge" project is to increase the subject's visibility and to make the course more attractive. (Photo: Markus Breig, KIT)

From pre-prospecting surveys for building projects such as tunnels and skyscrapers to research of natural hazards as a result of earthquakes and volcanic eruptions – the range of geophysical fields is broad. The aim of the "iBridge" project at the Karlsruhe Institute of Technology (KIT) is to make it easier for future geophysicists to access a Master's course. The online-based bridging course gives students the option of putting together their own modules, which include videos and online exercises. The Baden-Württemberg Ministry of Science, Research, and the Arts is supporting the implementation of this course with around EUR 247,000 from the "Little Subjects" structural fund by the end of 2018.

Apart from setting up the course, iBridge is also about creating a digital pool for teaching and learning media for geophysics courses in Germany. "The interactive digital formats can be combined depending on knowledge and interests, making the Geophysics Master's course equally attractive for Bachelor graduates of related subjects.

KIT Climate and Environment Center: For an environment worth living in

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Moreover, iBridge will be supporting the the cross-linking of geophysics programs in Germany, turning it into a model for other little subjects," says Professor Alexander Wanner, Vice President for Higher Education and Academic Affairs at KIT.

iBridge is particularly aimed at students who come to KIT with a Bachelor's degree in Physics, Mathematics or a subject in the field of geosciences. Students will take the course prior to their Master's course lectures. It comprises five digital modules which consist of tutorials, specialist texts, and online tests and exercises. Students can select the modules depending on their prior knowledge. A moderated forum provides help for choosing content and offers ample opportunity for asking questions.

"Apart from the search for natural resources in the subsurface and making preventions for natural disasters, areas of application in geophysics also include material research and testing, as well as ground surveys. These are hot topics for which we need young talents," says Dr. Andreas Barth, iBridge Project Manager at KIT's Geophysical Institute. "Additionally, advantages of the 'little subjects' apply: Groups are small, and we can achieve learning objectives during lectures through the students' active participation." This also makes geophysics attractive for students of related subjects when it comes to enhancing their own profile. iBridge helps them to close content-related gaps and to learn about geophysical basics which are important for the Master's course. "This preparation allows students right from the beginning to understand the content of the lectures, to actively participate in discussions, and to correctly put the things they learned into context," Barth explains. The Geophysical Institute is designing and setting up the bridging course in close collaboration with the Center for Technology-Enhanced Learning (ZML). ZML is the central competence for the design, development, implementation, and evaluation of online and blended learning courses at KIT.

Nationwide Geophysics Teaching and Learning Pool

In collaboration with tutors of geophysical institutes from other German universities, a collection of digital teaching and learning material will be built up, which comprises lecture notes, figures, interactive exercises as well as online courses, which can be used for online modules and other classes. This collection is also designed to interconnect geophysical study programs in Germany in the long term. The tutorials will also be made available through public channels such as iTunes U and YouTube, with the aim of increasing the visibility of this little subject among the general public.

Guaranteeing the performance of little subjects at universities is the aim of the Baden-Württemberg “Little Subjects” initiative. This particularly includes steps to safeguard and strengthen the scientific qualities of these subjects in the long term, says Theresia Bauer, Minister of Science.

Press release of the Baden-Württemberg Ministry of Science, Research, and the Arts (only available in German): http://mwk.baden-wuerttemberg.de/de/service/presse/pressemitteilung/pid/neuer-fonds-sichert-zukunft-der-kleinen-faecher-an-den-hochschulen-in-baden-wuerttemberg/

More information on the Geophysical Institute:
http://www.gpi.kit.edu

More information on the KIT Climate and Environment Center:
http://www.klima-umwelt.kit.edu

Karlsruhe Institute of Technology (KIT) pools its three core tasks of research, higher education, and innovation in a mission. With about 9,300 employees and 25,000 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

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