

TFK programme, funded projects 2024

Project title: Finnish-Brazilian Multidisciplinary Training Programme towards Advances in Solid Mechanics	
Coordinator Lappeenrantaan-Lahden teknillinen yliopisto (LUT) Humberto Almeida Jr, humberto.almeida@lut.fi	The project aims to: - develop a set of teaching practices mainly based on a Learning-by-doing methodology to form the next generation of engineers with strong theoretical and practical knowledge in solid mechanics; - expand and strengthen a fruitful strategic educational cooperation between LUT and USP to promote the development of innovative teaching practices across engineering disciplines; - bridge key engineering fields towards a multidisciplinary programme encompassing: solid mechanics, computational mechanics, multibody dynamics, biomechanics, aerodynamics, continuum mechanics, fracture mechanics; - create effective and collaborative digital and virtual learning platforms towards integrating Finnish and Brazilian members and establishing novel operational models in LUT and USP; - establish a cooperative curriculum and a LUT/USP joint-degree agreement; and - conduct didactic activities and cutting-edge research with a focus on advances in solid mechanics to feed both Finnish and Brazilian markets with students trained in FiBraS.
Partners University of São Paulo (USP)	The core activities of this action are mobility, interaction, and networking. The related activities are: - long-term student exchange between LUT and USP, as well as USP and LUT. We believe that short-term student exchange is not as effective from a learning perspective; - short-term staff mobility between LUT and USP, as well as USP and LUT, for teaching, supervision, and networking purposes; - development of a double-degree agreement to benefit students from both HEIs involved; - creation of digital hybrid learning platforms to facilitate continuous networking and interaction among the team members, as well as enhance the uniformity and accessibility of teaching materials; - organisation of four online short, intensive courses to disseminate the project progress and results, while further promoting digital learning and networking; and - organise a workshop in Lappeenranta (see Summer Workshop in the Gantt chart) to foster a sense of community and working life cooperation via face-to-face social interactions.

	The main expected outcomes of FiBraS are listed below. 1. A strengthened cooperation between Finland and Brazil through LUT and USP HEIs, given that we are long-term and trustworthy partners, focussing on improving teaching and learning practices in engineering in Finland and Brazil; 2. a set of teaching practices based on Learning-by-doing methodology to bridge the gap between theory and practice by utilising experimental and teaching facilities from both HEIs; 3. create interdisciplinary digital and virtual learning platforms that are openly accessible to the broader community, as our contribution to society; 4. six students with LUT/USP double-degree, which will open doors in both Finnish and Brazilian markets; and 5. a ground for future collaborations between Finland and Brazil on a broader scale, inspired by the above project outcomes shared through online and in-person events.
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OPETUSHALLITUS
UTBILDNINGSTYRELSEN

Finnish National Agency for Education EDUFI
Hakaniemenranta 6, P.B. 380, FI-00531 Helsinki
Puh. /Tel. +358 (0) 29 533 1000, Faksi /Fax +358 (0) 29 533 1035
www.oph.fi