

Skoltech

Skolkovo Institute of Science and Technology



FONDAZIONE
BRUNO KESSLER

The [Skolkovo Institute of Science and Technology - Skoltech](#) (Moscow, Russia) and the [Bruno Kessler Foundation - FBK](#) (Trento, Italy) have undersigned a collaboration to jointly finance a PhD position in the Geospatial and Geoinformatics fields. They are currently looking for a motivated

PhD candidate in 3D city modeling and 3D cadastre

In the past decade various activities have been conducted related to 3D city modeling and 3D cadastre. The international awareness of this topic is large but reliable and successful solutions deployable at daily level are still missing. Public administrations, urban offices and cadastral organizations would need a better 3D support but lack of technical knowledge, adequate software and powerful solutions are still a limit. The increasing complexity of infrastructures and densely built-up areas requires proper surveying, modeling and registration procedures, which only can be provided to a limited extent by the existing 3D modeling solutions and 2D cadastral registrations as functionalities are always limited in some manner.

Starting from these considerations, the research should focus on innovative 3D building modeling solutions based on photogrammetric or LiDAR data (or integration thereof) for successive inclusion and utilization in 3D cadastral operations. Polygonal model generation, primitive fitting, procedural modeling and other approaches should be investigated in order to produce LOD-based 3D city models. Such geometries will be merged with cartographic and cadastre data in order to provide new dimensions to traditional geographic and administrative data.

Skills and requirements

- Master degree in geoinformation, computer or information sciences
- Knowledge of photogrammetry and laser scanning techniques
- Experience and understanding of imaging systems and image processing
- Experience and understanding of machine learning
- Knowledge of computational geometry
- Knowledge of programming languages
- Willingness to scientific research
- Good written and spoken communication skills in English

The offer

- Opportunity to work in FBK within innovative, international, motivated and successful teams

- Possibility to spend a research period in Skoltech
- Possibility to enroll in a PhD program
- Flexible working hours
- Workplace with various facilities, including cafeteria, mensa, car parking, welcome office support, etc.
- A stimulating and friendly working environment
- A position for 3 years
- A salary based on the Italian regulations for PhD candidate.

Application

Candidates are required to submit their application to Fabio Remondino - remondino@fbk.eu - including the following (.pdf format):

- detailed CV
- letter of motivation

Application deadline: September 15th, 2017

Start date: November, 2017

Do you enjoy working in a scientific environment at the leading edge of research in photogrammetry, 3D imaging and geodata processing? Are you looking forward to collaborate with colleagues across wide national and international networks? Do you want to work with international researchers towards excellent solutions applied to real life problems? Do you want to investigate innovative solutions to extract 3D geometries from geospatial data?

If the answers to these questions is yes, then this job is for you!

The PhD will be **jointly** supervised by Skoltech and FBK senior researchers. The student will have the possibility to spend part of her/his research activities in Moscow and in Trento.

The **Skoltech Space Centre** (<http://crei.skoltech.ru/space>) conducts research in advanced space technologies and remote sensing. The remote sensing direction is focusing on utilization of the latest machine learning technologies in conjunction with large amount of data gathering from Russian, European and American remote sensing satellites. Students are encouraged to apply their skills and knowledge either in state enterprises or create innovative start-ups.

The **FBK-3DOM research unit** (<http://3dom.fbk.eu>) comprise staff members working at international level on R&D projects supported by European and international programmes, grants and funding sources, in collaboration with other research parties, companies or public administrations.

For further information you can contact:

- Anton Ivanov, Skoltech-Space: A.Ivanov2@skoltech.ru
- Fabio Remondino, FBK-3DOM: remondino@fbk.eu