



**Develop your expertise!
Use your knowledge!
Advance river science!**

The SMART Joint Doctorate, awarding the prestigious “Erasmus Mundus” label, focuses on the core areas of **natural and engineering sciences** relevant to the **sustainable management of river systems** from their headwaters to estuaries.

SMART aims to provide education and research at PhD level that trains the doctoral candidate to think globally and co-work in multidisciplinary research teams. This will make SMART alumni attractive scientists/engineers for employment in the EU and worldwide, in local and international institutions, universities, private companies, and research bodies.

Doctoral candidates are drawn from an international body of applicants and the best candidates will be assigned attractive **Erasmus Mundus fellowships**.

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www.riverscience.eu

A partnership among:



**Science for
MAnagement of
Rivers and their
Tidal systems**

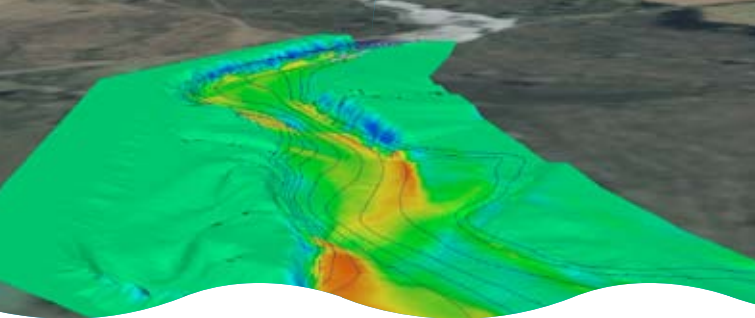
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With the support of:



European Commission
**ERASMUS
MUNDUS**





Partners

The SMART PhD programme is offered by a consortium of 3 universities with long and internationally recognized track records in research and higher education, with complementary areas of expertise:

- **University of Trento (Italy):** environmental engineering and hydro-morphodynamics;
- **Queen Mary University of London (UK):** biogeochemistry, fluvial geomorphology, hydrology;
- **Freie Universität Berlin (Germany):** freshwater ecology and biology.

SMART offers a unique set of instrumented field sites and experimental facilities for challenging research. 12 Associate partners, including private companies, management agencies and research centres, participate in the mobility pathways.

Why take this course?

The research programme adopts a unique **multidisciplinary, multi-scale approach** that **integrates** relevant aspects of the **hydro-morphodynamic, chemical and biological sciences**, including relevant theory, monitoring and modelling techniques that will provide Doctoral Candidates with a wide range of general competences as well as specialist expertise.

Doctoral candidates are integrated in highly recognized international research teams and the mobility among partners and associates will strengthen their theoretical and practical learning in river science.

Duration

3 years

Requirements

Master's degree in a field relevant to the SMART programme (Civil/Environmental Engineering or Natural/Earth/Environmental Sciences, or Ecology, Biology, Geography, Physics or Applied Mathematics)

When can you apply?

The annual call for positions is usually made in September. Applications are made online.

Research topics

The SMART EMJD is centred around three key components of river science: (a) ecosystem resilience to human and other stressors; (b) the natural functioning of river-floodplain systems and (c) the potential to rehabilitate compromised functions in impacted systems.

The research topics will be part of the following interdisciplinary areas:

- hydro-morphodynamics
- biogeomorphology
- environmental and eco-hydraulics
- biogeochemistry
- hydro-ecology

Programme structure

The **education and training** (40 ECTS) of SMART Doctoral candidates will be detailed in a personal Career Development Plan including a common induction course, an annual research workshop and elective training courses organized by the Consortium Partners and Associates on transferable, specific research and language skills.

The **research activities** (140 ECTS) will be multidisciplinary, based at a principal institution with mandatory mobility to a second Consortium partner and one Associate partner, thus providing each candidate with a supervisory team of 3 scientists at the visited institutions.

The Doctoral Candidates are required to present their research at international conferences and to publish in peer-reviewed journals. The PhD dissertation and defence will be in English.

Successful completion of the PhD programme will be awarded a **joint or double Doctoral Degree in River Science**.