UNIVERSITÀ DEGLI STUDI DI PAVIA
DIPARTIMENTO DI SCIENZE DELLA TERRA E DELL'AMBIENTE

FORM PER PROGETTI BANDO DOTTORATO XXXIII CICLO

1. Project title

Igneous processes governing Lower Oceanic crust accretion in the Oman ophiolite (IgLOO)

2. Proposer

Surname	Sanfilippo
Name	Alessio

3. Research Unit

Surname	**Name**	**Institution**
France	Lyderic (cosupervisor)	Université de Lorraine, Nancy (FR) Centre de Recherches Pétrographiques et Géochimiques (CRPG-CNRS)

4. Key words
(Max. 5 – at least 2)

Lower oceanic crust, accretion, igneous processes, melt-rock reactions, trace element

5. Abstract
(Max. 1.500 characters with spaces)

The IgLOO project consists in an "International Cotutelle PhD" with the Université de Lorraine (France). The student will obtain the doctorate degree both in Italy and France. IgLOO has the specific aim to bring new constraints on accretion of the oceanic crust. In the framework of the International Continental Drilling Program (ICDP) "Oman Drilling Project" (OmanDP), IgLOO will focus on a unique sample suite recently collected at ICDP Holes GT1-GT2. Working periods in Pavia, Nancy and in Oman will allow integrating field-based observation with a throughout petrological characterization of the gabbros collected in the drill-hole. IgLOO will take advantage of two research teams integrating *in-situ* geochemical analyses (EMPA, LA-ICP-MS and SIMS), quantitative microstructural characterizations (EBSD) and bulk-rock geochemistry. The petrological data will be used to quantify the main magmatic and deformation processes responsible for the accretion of the lower crustal section of the Semail ophiolites (Oman). These results will be discussed in the framework of competing models of accretion of the lower oceanic crust at fast spreading ridges. The easy access to different analytical techniques and the unique sample suite available to the IgLOO project guarantee high scientific impact of the results.