



# Sapienza PhD in ICT

Doctoral program in Information and Communications Technologies at Sapienza Università di Roma, Rome, Italy

## First Year Doctoral Program Form

LAST NAME	Civita
NAME	Luca
CURRICULUM	Electronic Engineering
DOCTORAL CYCLE	XXXI

The Doctoral Program Form contains, year by year, the description of the PhD program of each Doctoral student. This form must be submitted to the PhD coordinator with roughly the following timing:

- by the end of February of the first year for first year students
- before the admission to the second year by perspective second year students
- before the admission to the third year by perspective third year students

The Doctoral Program Proposal is approved by the PhD board shortly after submission. The Doctoral Program requirements place formalized emphasis on methodology and mastery of fundamental and applied engineering systems concepts. A Doctoral Program Proposal should be constructed in agreement with the Faculty mentor, that is the supervisor or tutor, by complying to the requirements, described in the Tables below.

ADVANCED COURSES: 12 CREDIT FORMATION UNITS (CFU) <sup>1</sup>				
Only courses/schools providing a final verification test with pass/fail outcome certified by instructor can be included here.				
Title	Type	Duration / period	CFU <sup>2</sup>	Motivation for selection
MEMS	Master degree course	01/10/2016-19/12/2016	6	This course is connected to my doctoral program, since my project includes parts to allow coupling between optical fibers and PDMS channels potentially based on MEMS devices.
Matematica Discreta	Master degree course	01/10/2016-19/12/2016	6	This course is connected to my doctoral program, because my project includes computer simulations and with this course I could improve my mathematical skills to solve design and theoretical problems.
<b>Total CFU</b>			12	

SEMINARS AND LABORATORY ACTIVITIES: 6 CFU <sup>3</sup>				
Activity	Type	Duration / period	CFU <sup>4</sup>	Motivation for selection
Scrittura tecnico scientifica	Seminar	24	4	Useful to improve the quality of scientific writing and presentation
Fondamenti del sapere scientifico e tecnologico	Seminar	18	3	Scientific culture and methods in research
<b>Total CFU</b>			7	

<sup>1</sup> Please insert lines as required/appropriate, and for each line complete each column of the Table.

<sup>2</sup> Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; for Master Degree courses, assume 1 CFU = 8 teaching hours + 12 homework/study hours, for a total of 20 hours. This rule can be slightly adjusted for other types of courses/activities (e.g., PhD courses may require slightly less hours per CFU)

<sup>3</sup> Please insert lines as required/appropriate, and for each line complete each column of the Table.

<sup>4</sup> Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.

**ADDITIONAL INDEPENDENT FORMATION AND RESEARCH ACTIVITIES: 6 CFU<sup>5</sup>**

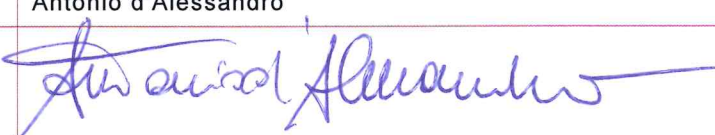
Indicate activities that extend and complement the mandatory activities listed above

Activity	Type	Duration / period	CFU <sup>6</sup>	Motivation for selection
Photonic integration: advanced materials, new technologies and applications	Summer school	25/09/2016-1/10/2016	4	This summer school is focused on advanced material properties, device design, technologies and applications of Photonics in different fields such as telecom, sensing, interconnections, quantum information.
Optical wireless communications for outdoor, indoor and underwater applications	Seminar	9	3	Optical wireless communications on terrestrial FSO system, MIMO FSO, and other applications for data transmission using optical systems
<b>Total CFU</b>			<b>7</b>	

**RESEARCH ACTIVITY: 36 CFU**

<b>Research area</b>	Optoelectronics and photonics
<b>Research topic</b>	Design, characterization, fabrication of optofluidic devices based on electro-optic and nonlinear effects in liquid crystals and other organic composite nanomaterials.
<b>Framework of the proposed research topic</b>	University projects on design, fabrication, and simulation of switchable and reconfigurable devices on PDMS flexible substrates.
<b>Research environment</b>	Optoelectronic laboratory of DIET, Microelectronics Technology lab of DIET, cleanroom facilities at CNR-IMM and characterization lab at Nanotechnology Lab of Sapienza.

**FACULTY MENTOR (TUTOR OR SUPERVISOR)**

<b>Prof. Dr.</b>	Antonio d'Alessandro
Supervisor signature for approval	

Signature of Doctoral student



Date

21/03/2016.

<sup>5</sup> Please insert lines as required/appropriate, and for each line complete each column of the Table.<sup>6</sup> Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.