

# KNOWLEDGE DISSEMINATION PLAN

PROJECT:

## “STUDY OF THE DECENTRALIZED CONTROL TECHNIQUE APPLIED TO DISTRIBUTED SPACE SYSTEMS”

### CANDIDATE

*Prof. Dr. Willer Gomes dos Santos*

### GRADUATE PROGRAM

EAM-1 (Mechanics and Aeronautics Engineering)

### MAJOR PROGRAM

Autonomy and Embedded Systems

### PERIOD

From January 20<sup>th</sup> to February 19<sup>th</sup>, 2020 (30 days).

### PLACE

*Università Degli Studi Di Modena e Reggio Emilia (UNIMORE), Modena MO, Italy.*

### INTRODUCTION

This document aims to describe a brief summary of the motivation of the request, focusing on how the candidate's area of expertise adheres to the major project, and a description of the activities that will undertake during the capacitation period. It worth mentioning that such capacitation will also be useful to include the candidate into a context of collaborative research already existing between ITA and UNIMORE, whose focal points are the professors Carlos Henrique Costa Ribeiro and professor Lorenzo Sabattini, respectively.

### DESCRIPTION

The candidate, in addition to serving as a professor of the ITA's Aerospace System Department, he also collaborates at the ITA Space Center (CEI) with the CubeSat projects carrying out research and development in the fields of space systems engineering, orbital mechanics and GNC (Guidance, Navigation and Control) satellite systems. The candidate currently participates in the following space missions: ITASAT-1, SPORT, ITASAT-2, and ASTER. Recently, the candidate presented, in the tenth edition of the International Workshop on Satellites Constellations and Formation Flying that took place in Glasgow (United Kingdom), a paper about the ITASAT-2 mission's formation flying operation. In addition, the candidate coordinates a research and development group on space systems engineering, orbital mechanics and control areas, called E2MoC (already certified by the CNPq and ITA), which is made up of undergraduate and graduate students.

For 2020, the candidate has proposed a new course (in process review) in the EAM-1 (Mechanics and Aeronautics Engineering) Graduate Program about Distributed Space Systems which is highly related to the requested capacitation program. So, the expertise acquired during the staying abroad would be very important to increment and improve this new graduate course.

The candidate aims to disseminate the knowledge through of:

- short lectures for graduate and undergraduate students;
- a topic in the EAM-1's new proposed course;
- seminar presentation of the E2MoC research group;
- complete articles in international-renowned journals;
- presentation of works in national and international scientific events; and
- students orientations (undergraduate and graduate works).