

# SpeechPizza

Friday, 24 January 2025

12:00 - 13:00, D011

[lcis.grenoble-inp.fr](http://lcis.grenoble-inp.fr)

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(PhD candidate within the CO4SYS team working with Simon and Ionela Prodan)

**Title: Simultaneous Localization and Mapping: A B-spline framework**

**Abstract:** Simultaneous Localization and Mapping (SLAM) involves building a map of the environment while estimating the robot's position within it. Traditional online SLAM uses a discrete occupancy-grid map, which is effective indoors but less suitable for long-term outdoor operations due to its lack of compactness and potential accuracy loss from cell misalignment. This project aims to improve online SLAM by using B-splines for a continuous representation of the environment, offering a more compact map suited for long-term operations. A specialized SLAM algorithm for B-spline maps is proposed, leveraging their properties for navigation.

**Laure Gonnord** [laure.gonnord@esisar.grenoble-inp.fr](mailto:laure.gonnord@esisar.grenoble-inp.fr)

(Prof. working within the CTSYS team)

**Title: Synchronous languages 101** **Abstract:** Synchronous languages are one way among others to program reactive embedded systems. In this talk I will present the main concepts of this family of "domain specific languages" whose main success story was the design of the Airbus A380 command controller. I will show some examples of synchronous programs for various domains such that signal processing, control, and more.

## The science behind pizza!

