

Direzione Innovazione e Internazionalizzazione

> ID VP080\_MAT

## Visiting Professor Program Academic Year 2023/2024

**TEACHING COMMITMENT: 24 hours** 

**COURSE TITLE** Topics in Mathematical Logic: topological dynamics

TEACHING PERIOD 2nd term

SCIENTIFIC AREA Mathematical Logic

LANGUAGE USED TO TEACH English

## **COURSE SUMMARY**

This course is about the topological dynamics of Polish groups and will include—first, Polish groups: examples, general theory, and dividing lines. Second, interplay with logic: automorphism groups and continuous logic. Then some descriptive set theory, in the context of Polish groups. Finally some aspects of Polish group actions on compact spaces: e.g. Samuel compactification, and universal minimal flow.

## **LEARNING OBJECTIVES**

Here are the learning objectives, following closely the course summary. Acquiring knowledge on (sub)classes of Polish groups formed by automorphism groups of countable first-order structures and separable metric structures. Developing basic tools of descriptive set theory in the context of Polish groups to contrast the locally compact and non-locally compact cases. Discussing some

aspects of the theory of Polish group actions on compact spaces, for instance, computation of the universal minimal flow in some cases and interaction with Ramsey theory.

**TUTORSHIP ACTIVITIES** 

N/A

LAB ACTIVITIES N/A

**OTHER ACTIVITIES BESIDES THE COURSE** N/A

## VISITING PROFESSOR PROFILE

Professor in Mathematical Logic with a specialization in Topological Dynamics and the theory of Polish groups established through research publications, teaching, and student supervision.

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