Course offered for the PhD program
in Civil, Chemical and Environmental Engineering
Curriculum in Chemical, Material and Process Engineering –
a.a. 2023/2024

(Possibility of participation for students in other PhD cycles or other PhD courses)

1. Title
Surface treatments for anti-corrosion anti-drug performances

2. Course Description
The course aims to provide to future PhDs notions and fundamentals on surface treatments for anti-corrosion and anti-drug performances and methods for their characterization.
The course will include the following topics:

1. **Surface treatments**: organic coatings, superhydrophobic surfaces, liquid infused surfaces
2. **Electrochemical methods for the characterization of surface treatments**: Electrochemical Impedance Spectroscopy (EIS)
3. **Physical methods for the characterization of surface treatments:** optical microscopy, pull off test, dry film thickness measurements
4. **Laboratory tests on organic coatings**: optical stereomicroscope, EIS, pull off test, dry film thickness measurements.

3. Course Organization
The course, organized into a single module, will consist of classroom lessons and practical laboratory training. The course will be held in English.

4. Teacher
The course teacher will be Dr. Marina Delucchi.

5. Duration and credits
The course (7 hours) will consist of 2 theoretical lessons, 2 hours each, and 3 hours tutorial in the laboratory.

6. Activation mode and teaching period
The course will be held during the period January-February 2024 and a detailed calendar for lessons will be given to registered students.

7. Deadline for registration
Registration to the course must be made before December 15th. Students are requested to inform teacher by e-mail (marina.delucchi@unige.it) about their registration.

8. Final exam
The final exam will consist in a brief written test on the topics covered by the course. The students are requested to contact teacher by email to establish the date of the exam.