Course offered for the PhD program
in Civil, Chemical and Environmental Engineering
Curriculum in Structural and Geotechnical Engineering, Mechanics and Materials
a.a. 2019/2020 (XXXIII ciclo)

(course is open for participation of students from other PhD cycles or programs)

1. Title
Fatigue of steel structures

2. Course Description

Introduction to fatigue phenomenon; behavior of welded structures; behavior of bolted structures. Definition of fatigue resistance by the nominal stress approach, the hot-spot stress approach; the notch stress approach, the notch strain approach and the fracture mechanics. Definition of fatigue actions and fatigue damage accumulation law for deterministic and random actions. Updating of condition assessment by inspections. Time-dependent decay behavior and interaction with other damage phenomena. International standards and codes related to fatigue

3. Course Organization
The course is provided via theoretical lectures and some with numerical examples.

4. Teacher
Maria Pia Repetto (DICCA) and Cesare Rizzo (DITEN)

5. Duration and credits
30 hours, 6 credits

6. Activation mode and teaching period
The Course is jointly offered for the PhD program in “Civil, Chemical and Environmental Engineering” and "Science and Technology for Electrical Engineering, Naval Engineering and Complex Systems for mobility", every two years.
The lessons will be offered in June-July 2020.
Application: email message to the teachers (repetto@dicca.unige.it Cesare.rizzo@unige,it)

7. Deadline for registration
May 2020

8. Final exam
The final exam is a colloquium with the presentation of an in-depth analysis about an issue of candidate’s interest.