



---

**SPLIT SUMMER SCHOOL STSS2020**

**COURSE: AN GENTLE INTRODUCTION TO THE NUMERICAL METHODS IN ENGINEERING**

Contact person: **Boris Ljubenkov**

[boris.ljubenkov@fesb.hr](mailto:boris.ljubenkov@fesb.hr)

**Main topics:**

- Formulation of field problems: differential and integral approach, variational formulation
- Common approach: 1D domain discretisation: FEM, BEM, meshless methods, isogeometry...
- Extension to plane and space problems
- Implementations in octave/matlab

**Programme structure:**

- 5-day course
- Supported assignment solution
- Lecture notes available as well as octave/matlab code of solved examples

**Important dates:**

Course dates: 31/08/2020 – 04/09/2020

Deadline for application: 01/08/2020

Payment due by: 15/08/2020

Confirmation of the course: 24/08/2020

Price of the course: 300 € (tax included)

**Programme plan:**

**Day 1**

- Conservation of momentum and formulations(3h)
- Individual work/exercise (1h)

**Day 2**

- Approximations of functions and solutions, FEM (3h)
- Individual work/exercise (1h)

**Day 3**

- Integral formulation and BEM (3h)
- Individual work/exercise (1h)

**Day 4**

- Isogeometry and meshless method (3h)
- Individual work/exercise (1h)

**Day 5**

- Students' final projects (3h)
- Final presentations (1h)

**Programme lecturers:**

Prof. Ph. D. Željko Lozina, Mech. Eng,  
Professor at the University of Split, Faculty of Electrical and  
Mechanical Engineering and Nav. Arch., Department of ME,  
Split, Croatia.

Anđela Bartulović, M.Mech:Eng.

Research assistant at the University of Split, Faculty of  
Electrical Engineering, Mechanical Engineering and Naval  
Architecture, Chair of Dynamic and Vibrations, Split,  
Croatia.