**RIGA TECHNICAL UNIVERSITY**
1862

**RTU VASSI**

## 11.04.2022
## 12.04.2022
### Castello del Valentino
Viale Pier Andrea Mattioli, 39 - 10125 Torino (TO)

Prof. **Francesco Romagnoli**
full professor at the Institute of Energy Systems and Environment of the Riga Technical University with a specialization in LCA and Eco-design

Prof. **Claudio Rochas**
full professor at the Riga Technical University, Chairman of the Board of Ekodoma Ltd. a Latvian consulting company for energy efficiency and renewable energy sources

### ADDITIONAL INFORMATION

• Bring a personal laptop Install the demo version of TRNSYS (http://www.trnsys.com/ )
• Install the demo version of SimaPro (https://simapro.com/ )

# BUILDING RENOVATION - A life cycle perspective

## Prof. Francesco Romagnoli and Prof. Claudio Rochas – Riga Technical University (Latvia)

Improving energy efficiency and energy savings within deep renovation in buildings is widely recognised as one of the best strategies for reducing energy demand meantime tackling climate change. However, progress has been slow to date due to several market barriers such as the gap between investment costs, energy costs savings, and financing terms/conditions.

The **Energy Performance of Buildings** Directive was amended in 2018 and is currently under review. It includes a number of measures that EU's Member States can use to improve the energy performance of their building stock. Against this background, the entire cycle analysis to sustainable building renovation is of paramount importance, strengthening the reuse-recycle-rethink approach with the potential implementation of a circular economy approach.

This two-day seminar looks into **energy efficiency in building**s **and building deep renovation**, analysing technical, economic and financial solutions. However, the seminar goes beyond the simple concept of project appraisal, introducing specific environmental approaches like **Life Cycle Assessment (LCA)**.

This seminar introduces the use of two **software packages: TRNSYS**, used to simulate the **behaviour of transient systems** and **SimaPro**, used to **collect, analyse and monitor the sustainability performance data of products and services**.

## 11/04/2022 – Theoretical lesson

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| BUILDING RENOVATION – PROBLEMS AND OPPORTUNITIES | Prof. C. Rochas | Room: 10V 14:00 – 16:00 |
| THEORETICAL BACKGROUND OF LCA: EMPHASIS ON THE BUILDING SECTOR | Prof. F. Romagnoli | Room: Aula Astengo 16:30 – 18:30 |

## 12/04/2022 – Application and practical lesson

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| DYNAMIC SIMULATION OF ENERGY SYSTEMS WITH TRNSYS SOFTWARE | Prof. C. Rochas | Room: Sala Vigliano 9:00 – 11:00 |
| LCA MODELLING WITH SimaPro SOFTWARE | Prof. F. Romagnoli | Room: Sala Vigliano 11:30 – 13:00 |

**Politecnico di Torino** 1859

**UNIVERSITÀ DEGLI STUDI DI TORINO**

**DIST**

Interuniversity Department of Regional and Urban Studies and Planning
Excellence MIUR 2018-2022

Info
marta.bottero@polito.it
giulia.datola@polito.it
francesco.romagnoli@rtu.lv
claudio.rochas@rtu.lv