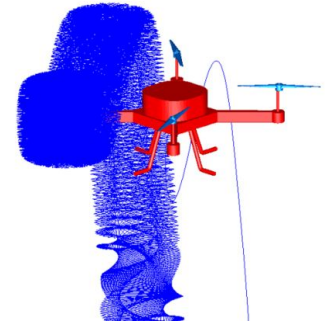


MODELING AND SIMULATION FOR CYBER-PHYSICAL SYSTEMS

SPRING 2021 - Prof. Luigi Vanfretti: <http://alsetlab.com/>

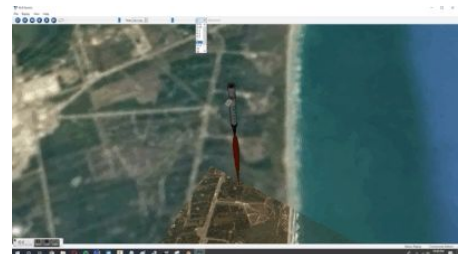


Model, Simulate, Build and Interact with CPS!

This course develops a solid basis for students to model and simulate cyber-physical systems!

In this course you will:

- **Become proficient** with the bleeding-edge computer-based object-oriented equation-based **modeling language, Modelica** (<http://modelica.org>), and learn about open access Functional Mock-up Interface (**FMI**) **standard** supported by more than +100 tools (<https://fmi-standard.org/>), and being used to develop products in multiple industries: aerospace, automotive, built environment, power and energy, etc.
- **Learn** to use the world-leading CPS simulation software tool **Dymola**: <http://dymola.com/>
- **Create models with high reusability, portability and interaction**, from a PC to VR!
- **Design CPSs** that include embedded controls systems, will be studied “virtually” (by simulation) and physically using low-cost hardware platforms for:
 - Real-time and hardware-in-the-loop simulation for control models.
 - Real-time controller-in-the-loop simulation for embedded systems.
- **Apply your knowledge**: Build a model for a system from scratch through the final project!



Do you want to find out more!

Watch this Youtube video: <https://youtu.be/zbHioj29xJE> and check the 2019 Syllabus: <https://bit.ly/2GdAfeT>