

# Temporal Logics: Satisfiability Checking, Model Checking, and Synthesis

## Outline of the Course

**Angelo Montanari**

Dept. of Mathematics, Computer Science, and Physics

University of Udine, Italy

University of Udine, Udine (Italy)

January 13, 2017

# Day 1: Friday, 13, 2017

- ▶ Introduction to Model Checking (Alberto Molinari)
- ▶ Introduction to Temporal Logic (Mark Reynolds)
- ▶ Linear Temporal Logic (LTL) Satisfiability Checking (Angelo Montanari)
- ▶ A New One-pass and Tree-shaped Tableau for LTL (Nicola Gigante)
- ▶ LTL Model Checking (Angelo Montanari)

## Day 2: Friday, 20, 2017

- ▶ Interval Temporal Logic Model Checking (Angelo Montanari)
- ▶ Interval vs. Point Temporal Logic Model Checking: an Expressiveness Comparison (Alberto Molinari)
- ▶ Model Checking Complex Systems against ITL Specifications with Regular Expressions (Alberto Molinari)
- ▶ Synthesis for Specifications over Continuous Time (Mark Reynolds)
- ▶ Modelling Systems over General Linear Time (Mark Reynolds)