



University of Camerino  
**School of Science and Technology**  
Scientific events 2019

## **Promoting collaboration between UniCam and UTRC**

### **Data-driven methods for modeling critically-ill patients affected by atrial fibrillation**

**Matteo Rucco, PhD**

United Technologies Research Center (UTRC), Trento

The aim of this talk is to foster research collaborations between University of Camerino (proposal for EU project, internship, co-supervising) and United Technology Research Center. To this extent, I will provide an overview of United Technology Research Center (<http://www.utrc.utc.com/>) that is the industrial multi-disciplines research center of United Technologies. After an overview of the Company, I will focus on the capabilities characterizing the Italian groups (formal methods, software technologies and embedded technologies).

In the second part of the talk, new research results obtained under the collaboration with MD. PhD. Lorenzo Falsetti, Ospedali Riuniti di Ancona will be presented. The research aims to define new data-driven clinical scores for unveiling and distinguishing critically-ill patients who are experiencing hemorrhages w.r.t. who is experiencing thrombosis events. Unfortunately, in some specific clinical settings these two pathological and sometimes mortal conditions could be mixed and confused by current clinical practice. We have defined the new clinical prediction rules (CPRs) by combining t-SNE, Topological Data Analysis, Statistical Features' Selection and Automatic Machine learning (TPOT)

Dr. Rucco Matteo is a Staff Research Scientist ad United Technologies Research Centre in Italy. His main research focuses on the definition of new methodology on the edge between data science and formal methods for improving complex systems verification and validation (V&V).

**16.05.2019 at 16:30**

Aula **AB1** – Polo “Carla Lodovici” - Coordinator: dr. Luca Tesei