UNIVERSITÀ DEGLI STUDI DI PALERMO

Postdoc position (position DR479) within the EU H2020 Project ADAPT
(Advanced Prediction Models for flexible trajectory based operations)

https://titulus-new.unipa.it/albo/viewer?view=files%2F003448129-UNPACLE-a0f49dcc-8866-4262-ab9e-a89a1e51343f-002.pdf

Title:

Development of metrics for the characterization of traffic flux on networks

Abstract:

The aim of the research is to select, adapt and/or develop network metrics and methodologies for a statistically validated assessment of the bottlenecks/congestion phenomena present in the airspace. The research deals with an investigation of the micro-impact generated by aircraft trajectories that are planned in the strategic phase of the flight planning in a certain aerospace. The main aim is that of characterizing statistical regularities in the considered trajectories.

In particular, we will perform an empirical detection of the statistical regularities in the navigation points network constructed from the trajectory files obtained as an output of the strategic phase. These statistical regularities will be initially identified by detecting deviations from carefully selected null hypothesis. These results will be complemented by a 3-motifs search within the same networks.

*These analyses will also be used to create new network based **metrics** that can measure, in a quantitative way, aspects of the traffic congestion.*

Deadline: 15 Marzo 2019

Supervisor and Contact: Rosario N. Mantegna (rosario.mantegna@unipa.it)

Research group: Osservatorio dei Sistemi Complessi, Dipartimento di Fisica e Chimica, Università degli Studi di Palermo

Research units of the EU project: Università degli Studi di Trieste, Italy; Technische Universiteit Delft, Netherlands; The University of Westminster, United Kingdom; Deep Blue Srl, Roma, Italy.

Starting date: 1 April 2018

Gross salary: 37.500 euro – 18 months.

Degree: Master degree or PhD in Physics, Mathematics, Computer science, Statistics.