



ABCDE



## Scientific Report

First name / Family name

Matteo Mio

Nationality

Italian

Name of the *Host Organisation*

INRIA-LIX, École Polytechnique

First Name / family name  
of the *Scientific Coordinator*

Catuscia Palamidessi

Period of the fellowship

01/03/2012 to 28/02/2013

## **I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP**

In the first months of my PostDoc, I wrote two journal papers (see below) about scientific results I obtained during my PhD.

I then focused on one of the central problems of my ERCIM-research project: develop formal techniques, applying ideas coming from the field of Proof Theory (sequent calculus, natural deductions, et cetera), for the verification of properties of probabilistic programs. The main outcome of this line of research is my FoSSaCS 2013 paper (see below) to be presented next month in Rome.

## **II – PUBLICATION(S) DURING YOUR FELLOWSHIP**

### **Journal papers:**

1) M. Mio, "On the Equivalence of Game and Denotational Semantics for the Probabilistic  $\mu$ -Calculus", in Logical Methods in Computer Science, Volume 8, Issue 2, 2012.

2) M. Mio, "Probabilistic Modal  $\mu$ -Calculus with Independent Product", in Logica Methods in Computer Science, Volume 8, Issue 4, 2012

### **Conference papers:**

3) M. Mio, A. Simpson, "A Proof System for Compositional Verification of Probabilistic Concurrent Processes", proceedings of FoSSaCS 2013.

## **III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES**

Attended seminars and workshops in: LIX- Ecole Polytechnique, LIP-ENS Lyon, LSV-ENS Cachan, LIF-Université de la Méditerranée et Université de Provence,

Contributed talks at Conferences and Workshops: GT Jeux 2012 (ENS Cachan), FoSSaCS 2013 (Rome),

I spent also two weeks (one in June 2012 and one in January 2013) at the University of Edinburgh (LFCS), to work with Prof. Alex Simpson.

## **IV – RESEARCH EXCHANGE PROGRAMME (REP)**

N/A