



# SEMINARIO

## Departamento de Sistemas Informáticos y Computación

Facultad de Informática  
Universidad Complutense de Madrid

18-5-2011

Resource analysis using polynomial  
interpolation

15:00

Sala de Grados  
Facultad de  
Informática

Después de la presentación  
habrá un pequeño refrigerio  
en la Sala de reuniones.

**Marko van Eekelen**

Radboud University Nijmegen

In the Dutch national NWO project AHA and the European Artemis project CHARTER polynomial interpolation has been used to infer time / space resource bounds both for functional and for imperative programs.

With polynomial interpolation one can derive general multi-variable polynomial complexity functions, which can be of any degree and need not be monotonic. We will give an introduction to the method, an overview of the results that have been achieved and a small demonstration of the tools that have been developed. In particular, we will show the use of the ResAna tool with the KeY tool for inferring loop bound functions for Java programs. We will also explore differences and correspondences with respect to the Costa tool. Finally, possible opportunities for future collaboration will be indicated.

Marko van Eekelen is Software Engineering/GipHouse Supervisor at the Radboud University Nijmegen. Since 2009 he is also Professor of Sw. Technology at the Open Universiteit Nederland and Scientific Director at Laboratory for Quality Software (LaQuSo) Nijmegen. His recent research topics in Sw. Analysis are: Heap space consumption (AHA project), formal modelling of industrial applications, specification and compositional reasoning for functional graphical editor components, and proving properties of functional programs. He has been one of the developers of Sparkle, a theorem prover for Clean. Prof. van Eekelen's home page: <http://www.cs.ru.nl/~marko/>