January 14, 2007

Cristopher Moore, Department of Computer Science
and Department of Physics and Astronomy
External Professor, Santa Fe Institute

To whom it may concern,

This letter is to recommend Olivier Bournez for the position of Directeur de Recherche, 2ième Classe.

Olivier is one of the leaders in the field of analog computation. This area has enjoyed a resurgence of interest among computer scientists in the last decade, partly out of a desire to explore nontraditional models of computation (such as quantum and DNA computation) and partly because of some very nice new results. In particular, Olivier has studied the computational power of differential equations and hybrid systems (dynamical systems which combine continuous and discrete elements) as well as recursive schemes for defining analog functions.

Olivier’s results include some which are quite abstract, including the relationship between analog computation and the upper reaches of the arithmetic hierarchy; he has also worked on reachability in hybrid systems, which is an important problem in control systems.

He has multiple publications in ICALP and STACS, the top European conferences in theoretical computer science, as well as in specialized conferences like MCU (Machines, Computation and Universality). Indeed, he is an invited plenary speaker at MCU 2007, a significant honor for someone at this stage of his career. He has also been active in organizing, serving on program committees of the Workshop on Reachability Problems and Computability in Europe: New Computational Paradigms. Finally, I am happy that he is collaborating with other promising young European researchers in this area, such as Manuel Campagnolo, to build an international community around these problems.

In short, Olivier has made significant contributions to an interesting new area of computer science, and has achieved significant recognition for his work. I strongly urge you to approve him for this position.
If there is any other information I can provide, please do not hesitate to contact me at moore@cs.unm.edu.

Sincerely,

Cristopher Moore  
Associate Professor  
Computer Science Department  
Joint Appointment,  
Physics and Astronomy Department  
University of New Mexico  
External Professor, Santa Fe Institute