

Universitat de Lleida Departament de Ciències Mèdiques Bàsiques

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Lleida, 25/10/2005

I'm writing this letter as my personal opinion on Dr.Alves capabilities for superior intellectual attainment as a research scientist in the field of Systems Biology, including computational analysis of natural systems and quantitative studies of biological pathways and networks.

I first meet him as a Ph.D. student in 1996. As part of his Ph.D. program, he expend several months in my laboratory. Right from the beginning, it was clear that he had an excellent attitude and a sound background for working in complex problems related to cellular biology. Since then, I've been following his career and we have become good friends and scientific colleagues. In the last years, he has visited my laboratory in different periods of time, establishing a collaboration that has been centered in problems related to network identification.

Our recent work capitalizes in using structural methods for testing possible protein interactions that can provide clues on the network structure. We have combined these methods with mathematical models as a tool for checking the suggested networks against experimental results. From these results, it is clear that an integrative approach relating bioinformatics methods and systems biology approaches is badly needed for attaining appropriate understanding in complex systems. In that sense, the research planned by Dr.Alves aims to develop such an approach and to develop the appropriate computational tools. I'm convinced of his capacity for attaining such a goal and for making significant contributions to this field.

In my opinion, Dr.Alves has an outstanding capability for independent and creative work. He has a deep understanding of many problems in biology and a complete knowledge of techniques related to analyze complex systems through bioinformatics methods and mathematical biology approaches. Dr.Alves attitude towards merging structural methods and system biology approaches makes him an unpaired scientific that can approach a problem from different points of view. In that sense, his contribution to the field of systems biology has began to be both original and relevant. If he has the opportunity of joining a leading university, he will contribute with important advances in this field.



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Dr.Alves has also an unpaired working capacity which leads him to advance into the solution of complicated problems. In that sense, he would be a valuable member of any scientific group aiming to be on the front-end of research problems in complex systems. He has a superior capability of exploring intricate problems and asking sound questions. As I pointed out before, he has a broad experience, both in mathematical modeling, systems analysis and in using structural methods. Furthermore, he has mastered different bioinformatics tools and has a deep understanding of their technical foundations and limitations.

Through the supervision of applied problems he can enthusiastically motivate students to think by themselves and to learn what they need to solve a given problem. He is specially suited for this kind of teaching activity that can be very important for Ph.D. students he can supervise in the future.

As a conclusion, I'm convinced Dr.Alves deserve the opportunity to develop a fruitful scientific career that will benefit both the university and the scientific field in which he is interested.

Sincerely yours,

Professor Albert Sorribas

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