

CERTIFICATE

We hereby certify that the work entitled **Optimizations in multiple sequence alignment algorithm using parallel score estimating and ant colony** authored by *Geraldo Francisco Donega Zafalon, Evandro Augusto Marucci, Leandro Alves Neves, Carlos Roberto Valencio, Anderson Rici Amorim, Adriano Mauro Cansian, Jose Roberto Almeida Amazonas, Liria Matsumoto Sato, Jose Marcio Machado,* was presented during the poster session of the "X-Meeting 2015 - 11th International Conference of th AB3C + Brazilian Symposium of Bioinformatics" held in Sao Paulo - Brazil from November 3 to 6 2015.

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