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To whom it may concern:

Re: Mr Christopher Heard

Chris Heard is nearing the end of his first year of a PhD in my research group. His research project involves the application of search methods such as Basin Hopping Monte Carlo and Genetic Algorithms for global optimisation of binary metal clusters (Nanoalloys). He also maps the energy landscapes of these clusters, e.g. evaluating energy barriers for cluster rearrangement and displaying the landscapes as disconnectivity graphs. He can thereby explore reaction and rearrangement pathways and investigate kinetic and thermodynamic properties of these technologically important particles. As this work involves investigating the clusters at both the empirical atomistic level and using Density Functional Theory, these calculations are computationally intensive and benefit from the use of HPC facilities and he has been involved in some parallel programming in collaboration with colleagues at the MPI, Stuttgart (funded through HPC-Europa2).

I believe that Chris will benefit greatly from attending the HPC Autumn Academy, as this will be very useful for many aspects of his research. I am therefore very pleased to support his application.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Roy L. Johnston'.

Professor Roy L. Johnston