

Prof. Gustavo C. Branco,

I wish to apply for your opening of a position for a postdoctoral fellow, I am currently a PhD student at the Physics department of the University of California, Riverside. I have worked for the last 4 years under the advice of professor Ernest Ma, the estimated time for the end of my program is July 2013.

During my PhD I have worked with different extensions of the Standard Model, specifically I learned how to do Model Building by adding particle content, discrete and/or Gauge symmetries to the neutrino and Higgs sectors. For the neutrino sector I also learned how to incorporate CP violation phases that can be used to understand matter antimatter asymmetry. I have gained experience working with computer simulations to check for potential discovery of these models at LHC. For my dissertation I am working with Supersymmetry, one loop neutrino masses and gauge constants unification at a high scale.

My current goals are to understand the deficiencies of the Standard Model, in particular the lack of explanation for the neutrino masses and the existence of Dark Matter, also the matter-antimatter asymmetry of the universe. As a future goal I would like to work on the incorporation of gravity to the Standard Model.

Working with professor Ma has been a valuable experience, he has been preparing me to be a good postdoctoral fellow by showing me the importance of self learning. During my research, he has been great at leading me in the right direction and expecting me to achieve results on my own. I am comfortable approaching new subjects for potential research.

Other than my research, in the past 4 years I continuously been a Teaching Assistant (winning an outstanding TA award), and during the summer of 2011 I was the lecturer of a general physics class with over 180 students. Because of this I am very comfortable with public speaking, which has been helpful when giving talks about my research.

As a child of a professor I grew up knowing the hard work required to be a researcher, and is the work I found myself wanting to do. In conclusion, I have the necessary tools and motivation to work postdoctoral position with your research group.

Thank you for your time and consideration. Daniel Wegman.