

Subject Fwd: Postdoc Application

From Gustavo Castelo-Branco <gbranco@ist.utl.pt>

To Maria Margarida Nesbitt Rebelo da Silva <rebelo@ist.utl.pt>

Date 2013-02-22 09:36



-
- CV-AvihayKadosh(Jan2013).pdf (223 KB)
-

----- Original Message -----

Subject: Postdoc Application

Date: 2013-02-15 11:56

From: "A.Kadosh" <a.kadosh@rug.nl>

To: gbranco@ist.utl.pt

Dear Prof. Branco

Please consider my application for a postdoctoral position in theoretical particle physics at your group, starting in Fall 2013.

I was a PhD student at the University of Groningen under the supervision of Prof. Elisabetta Pallante. I have successfully defended my thesis and obtained my PhD on April 2012.

In my research I have been exploring ideas in several areas of particle physics and cosmology, such as flavor physics and in warped extra dimensions, discrete flavor symmetries, neutrino physics, supersymmetric quark-squark alignment models and domain wall brane cosmology. Enclosed are my curriculum vitae, a list of publications and my research plan.

In particular, I have thoroughly investigated flavor models for quarks and leptons based on an A_4 flavor symmetry in the Randall-Sundrum setup (warped extra dimensions). In addition to the results published in 2 papers and 4 conference proceedings, an extensive analysis of the model predictions for the neutrino mixing angles and constraints coming from future experiments aimed at measuring cLFV is due to be published within a few days by myself.

The results show that a non observation of $\mu \rightarrow 3e$ and $\mu \rightarrow e$ conversion in the MuSIC, Mu3e, Dee Mee, Mu2e, COMET, PRIME and Project-X experiments to be held at J-PARC and Fermilab within the next decade, will introduce constraints that can practically rule out the two most common versions of RS- A_4 models -- namely, with or without cross brane interactions which break A_4 completely. ($A_4 \rightarrow Z_2 \rightarrow$ nothing for the neutrino sector and $A_4 \rightarrow Z_3 \rightarrow$ nothing for the quarks and charged leptons)

I am planning to further extend my research towards model building, collider phenomenology and the establishment of extra dimensional setups, which are simultaneously relevant for both particle phenomenology and cosmology and can be confronted with data coming from the LHC, PLANCK and various precision experiments in neutrino and flavor physics. In addition, I am planning to pursue related questions in cosmology and astro-particle physics. The most concrete examples are models for Dark Matter in light of the various experiments currently taking place and field theoretic approaches for explaining Inflation and Dark Energy.

I think the position at CFTP Lisbon can be a great experience for me, which will allow me to further establish myself as an independent researcher. I strongly believe I can make a unique and significant contribution to the group's research record.

I have asked for reference letters from Professors Elisabetta Pallante, Yuval Grossman and Aharon Davidson. Please let me know if you need any further information.

Thank you for your consideration.

Sincerely,
Avihay Kadosh

P.S.- I still remember your excellent talk at FLASY 2012 about going beyond "flavor dogmas", which seems more relevant than ever, given the non-surprising findings at the LHC so far. I still hope that at least the excess in the $H \rightarrow \gamma\gamma$ channel survives, but surely every particle physicist should ask himself what happens if it is only the SM Higgs found at the LHC.