

## REPORT ON THE JSA/HUGS INTERNATIONAL FELLOWSHIP FOR GRADUATE STUDENTS IN DEVELOPING COUNTRIES 2015

To the attention of the Initiatives Fund Evaluation Committee.

The JSA/HUGS International Fellowship was awarded to Cintia Willemyns from Universidad de Buenos Aires (Argentina) who was awarded the fellowship. She is a third year PhD student working on baryon spectroscopy employing large  $N_c$  limit and chiral perturbation theory under the supervision of Dr. Carlos Schat.

### **Selection process**

The fellowship was thoroughly advertised and as a consequence we received nine applications from many countries: three from Mexico, two from Argentina, one from India, one from China, one from Uzbekistan, and one from Ukraine.

The selection committee was composed of Alberto Accardi (HU & JLab), César Fernández-Ramírez (JLab), José Goity (HU & JLab), Cynthia Keppel (JLab), Michael Kohl (HU & JLab), and Simona Malace (JLab).

After thorough consideration of the candidate applications, recommendation letters, financial need, and research interests we believed the best candidate was indeed Cintia Willemyns.

### **Budget, leveraged support and matching resources**

The awarded \$2,200 have been allocated as follows:

- \$1704.33 for the Buenos Aires-Newport News return plane ticket (this money was advanced by the Theory Division and will be refunded by JSA Initiatives Fund to them)
- \$430.36 for 1 week lodging at the Residence Facility
- \$65.31 for meal expenses

Hampton University contributed a total of \$1,891.10:

- \$1,291.10 for 3 weeks lodging at the Residence facility
- \$600.00 for meal expenses

### **Fellow's activities**

During the first three week of her stay at JLab, Ms. Willemyns attended the HUGS lectures and participated in all activities within the school, including scheduled social meetings with the lecturers and delivering a short presentation in front of her fellow attendees to HUGS.

After HUGS, Cintia stayed an additional week at JLab fully funded by the fellowship to interact with researchers. Ms. Willemyns provided with office space in the Theory Center where most of her activities took place:

- She gave a seminar at the Theory Center on Monday June 22, 2015, entitled "New mass relations for L=1 excited baryons". Her seminar was scheduled at the beginning of the week to facilitate interactions with researchers at JLab in the forthcoming days.
- She had meetings with the following researchers:
  - José Goity (HU & JLab, theory) discussing QCD, chiral perturbation theory, large  $N_c$  limit in several occasions during the week. Further research collaboration between Jose and her is envisioned;
  - César Fernández-Ramírez (JLab, theory) discussing amplitude analysis and scattering matrix theory as well as the connection of experimental information with QCD and the interpretation of the results, specially in what regards to baryon spectroscopy;
  - Raúl Briceño (JLab, theory) discussing on general aspects of lattice QCD and the connection of lattice results with experimental information;
  - Emilie Passemar (IU & JLab, theory) discussing dispersion theory and beyond standard model physics as well as career opportunities in physics;
  - Viktor Mokeev (JLab, Hall B experiment) discussing the experimental status of the baryon spectroscopy program at JLab.

As supplemental material, we enclose a report by Cintia on her stay.

### **Final considerations**

The quality of the candidates was outstanding and selecting only one proved to be a difficult task. Nevertheless we believe we selected the best candidate and that we gave Ms, Willemyns an opportunity for learning and career enhancement that otherwise would have not been available to her. We are very pleased that she really took advantage of the possibility to present a seminar at the theory center, intensely discuss with JLab researchers, and lay the groundwork for future collaborations. In our estimation this initiative has been very successful and has met all the objectives of the proposal.

Sincerely,



Alberto Accardi, PI, and César Fernández Ramírez, co-PI,

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July 2, 2015

To whom it may concern,

I am a PhD student at the University of Buenos Aires, Argentina. My work consists mainly on the study of hadronic resonances from the overall perspective of the expansion of quantum chromodynamics (QCD) in the inverse number of colors.

This year I was granted the JSA/HUGS International Fellowship for Graduate Students in Developing Countries, which fully covered my expenses to attend the 30th Annual Hampton University Graduate Studies Program (HUGS), and to stay an additional week at the Thomas Jefferson National Accelerator Facility (Jefferson Lab).

The lectures in HUGS have been an extraordinary experience to get in contact with topics closely related to my line of work. On one hand, theoretical lectures were very thorough, so I could acquire concrete knowledge on other techniques used in Nonperturbative QCD. On the other hand, being a theoretical physicist, experimental lectures were enlightening, specially as they gave information on how some experimental results are obtained, thus providing an outline on how to appropriately make use of them. Contact with other students was also greatly appreciated and very beneficial as some interesting discussions arose during the three weeks of the School.

At my institution, I have very little opportunity to discuss my work since most research in my university includes topics that are only slightly related to my line of work. For this reason, the additional week after the HUGS program was very advantageous. It was a unique opportunity to discuss different aspects concerning my area of interest. At the beginning of that week, I was given the chance to present my work in the Theory Center Seminar which served as a starting point to get in contact with several researchers. I was introduced to both theorists and experimentalists that, not only gave an overview of their work, but also provided very helpful input for my work. I fully profited from the additional week at Jefferson Lab and I already started working on a new collaboration. Nonetheless, I have to admit that the schedule was very tight and more time would have been very useful to meet with more researchers, and specially to complete some very promising discussions initiated with some Jefferson Lab researchers and users. I look forward to strengthen research collaborations and hope to get other chances to visit the Jefferson Lab in the future.

Because of the lectures at HUGS and the discussions this visit enabled me to hold, both with students and specially with researchers working at the Jefferson Lab, I strongly believe this experience will have a deep impact on my professional future. And due to the fact that I have no funding to cover any travel or lodging expenses this experience would not have been possible without the full financial support from the JSA/HUGS Fellowship. Therefore, I am very grateful to have been given this very enriching opportunity.

Best regards,

Cintia T. WILLEMYNS