

The Global COE Program

“The Next Generation of Physics, Spun from Universality and Emergence”

Bilateral International Exchange Program (BIEP, invite) report

Send report to: Your responsible Professor in Kyoto University

gcoe-biep@scphys.kyoto-u.ac.jp , gcoe-office@scphys.kyoto-u.ac.jp

(Year/Month/Day)_____2012/12/09_____

Invited Student

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Responsible Researcher in Kyoto University

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Research Project

Title	Integrable structures in supersymmetric gauge theories
Duration	September 17 – November 10, 2012

**Please summarize your activities and results during your stay in Kyoto University.
Also please describe how your stay has been beneficial to the graduate students in the host inst
You can add a sheet, if you need more space.**

You can also write any comments and requests to the GCOE program.

I am very grateful to the Bilateral International Exchange Program for allowing me to make research visit to the Yukawa Institute for Theoretical Physics (YITP) between September 17 and November 10, 2012.

My research has focused on integrable structures in supersymmetric gauge theories, which provide important insights into understanding the non-perturbative dynamics of strongly-coupled quantum field theories. My motivation in coming to Kyoto is to discuss with the many local experts here. Interactions with Profs. Hosomichi, Sasaki, Terashima, and Drs. Iizuka, Irie, Sakai have been particularly helpful.

My visit also coincided with the long-term workshop on “Gauge/Gravity Duality”, held between September 24 and October 26. Through extended discussions, I developed new directions with my collaborators Drs. Chen and Yamazaki. As a participant, I gave seminar talks on my recent and ongoing work. I was able to have discussions with Profs. Gromov, Janik and Vieira on aspects of integrability. The workshop culminated in the international conference “From Gravity to Strong Coupling Physics”. It was exciting to hear recent progress in my field.

Because of the inspiring discussions and the ideal working atmosphere at YITP, I have made significant progress on understanding the relation between quiver gauge theories and quantum integrable systems. I am currently writing up two papers on this topic.

The graduate students at YITP have been particularly welcoming in every way. We went to dinner together almost every day and discussed physics and life in general. I also encouraged local graduate students to take advantage of the BIEP program to experience the research atmosphere outside of Japan. I am very grateful for the welcome and farewell party they organized.

I would like to express gratitude again for the BIEP program and my host Prof. Hosomichi for a stimulating visit. I hope future generations of graduate students will be able to benefit from such wonderful program.