California State University, Los Angeles January 20, 2018
College of Natural and Social Sciences
Department of Physics & Astronomy
5151 State University Drive
Los Angeles, CA 90032

Dear Prof. Konrad Aniol,

I recently received word from our department chair, Prof. Jean Turner, of a potential Assistant Professorship position at California State University, Los Angeles. I would like to apply for the position.

I received my Ph.D. in experimental particle physics from the University of Hawaii at Manoa in April, 2016. Throughout my academic career, I have been heavily involved in teaching and mentoring students from a wide range of backgrounds. This has included working as a teaching assistant during my graduate studies where I led 2 undergraduate Physics Laboratory classes of over 20 students each for a total of 3 semesters. The cultural and ethnic atmosphere in Hawaii is one of the most diverse on the planet. This requires instructors to effectively convey information in an inclusive and efficient way while understanding each of the students' cultures as best as possible. Student evaluations for the effectiveness of my teaching and ability to communicate were "excellent".

My current scholarly work as a post-doctoral researcher at the University of California, Los Angeles (UCLA) involves working with the CUORE (Cryogenic Underground Observatory for Rare Events) $0\nu\beta\beta$ experiment at LNGS (Laboratori Nazionali del Gran Sasso), Italy leading the effort on precision modeling of the alpha background contamination of the detector. A paper for our first $0\nu\beta\beta$ analysis using CUORE data was submitted for publication to PRL in late 2017, and is currently under review (https://arxiv.org/abs/1710.07988).

Previously, I have also worked on event track reconstruction and particle ID techniques in liquid scintillator at KamLAND (Kamioka Liquid Scintillator Antineutrino Detector) in Kamioka, Japan. My work single handedly opened the doors for the unprecedented ability for monolithic scintillator detectors to conduct dark matter searches by looking for a directional signal of neutrinos from the core of planetary bodies. According to my understanding, my work is the first ever physics application of directional neutrino reconstruction in scintillator. A paper for this is currently under preparation.

In conclusion, my experience mentoring undergraduate students from a wide range of cultural backgrounds, and innovative endeavor with projects in 2 foreign nations places me in a unique position to apply for your opening. I believe that I can make a significant impact to your team of academic and scientific prowess at California State University, Los Angeles.

Please feel free to contact me if you have any questions or need further information. Thank you for your consideration.

Best wishes,

Michinari Sakai

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