

**Dr. Robert Kutschke**

*Fermilab MS 116*

*P.O. Box 500*

*Batavia, IL 60510*

November 05, 2017

Dear Dr. Robert Kutschke,

I recently received word of an opening at the Scientific Computing Division (SCD) of Fermi National Accelerator Laboratory from one of my colleagues, and I would like to apply for the Postdoctoral Research Associate position in the Fermilab Neutrino program.

I received my Ph.D. from the University of Hawaii in 2016 working on track reconstruction and particle ID algorithms in liquid scintillator at KamLAND (Kamioka Liquid Scintillator Antineutrino Detector) in Kamioka, Japan. My dissertation was on indirect dark matter search by looking for a directional excess of neutrino fluxes from the core of the Sun and Earth. According to my understanding, my work is the first ever physics application of neutrino directionality in scintillator. A paper of my work is currently under preparation.

I have also worked at the University of California, Los Angeles as a postdoctoral researcher from April, 2016, with CUORE (Cryogenic Underground Observatory for Rare Events) at LNGS (Laboratori Nazionali del Gran Sasso), Italy working on Monte Carlo studies of backgrounds coming from radioactive contamination of the detector and modeling thermal pulse signals of bolometers in a cryogenic environment, as well as various signal processing algorithms.

My interest and experience in event signal reconstruction and neutrinos places me in a unique position to apply for your position, and I believe that I can make a significant contribution to your group. Please feel free to contact me if you have any questions or need further information.

Thank you for your consideration.

Best wishes,

**Michinari Sakai**

*Attached: curriculum vitae, research statement, publication list, list of referees*

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