Michinari Sakai

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Summary

- Proficient in large-scale data analysis and algorithm software development with 8 years of experience.
- Extensive experience in particle physics simulation code and handling/processing large amounts of simulated data.
- Innovative problem solving skills with the ability to interface original work with larger collaboration.

Experience

UC Berkeley — Post-doctoral Scholar June 2018 — *Current*

- Data analysis lead for energy spectrum of radioactive isotope α decays.
- Supervisor for simulation/modeling of photon interactions with optical wavelength shifters.

UCLA — Post-doctoral Scholar 2016 — 2018

- Lead developer of precision α decay spectrum model to improve characterization of backgrounds in $0\nu\beta\beta$ decay searches.
- Mentor for 2 PhD students to simulate radiation shielding structures to mitigate γ/β backgrounds for next generation $0\nu\beta\beta$ searches requiring ultra-low radiation environments.

University of Hawaii at Manoa — Research Assistant 2009 — 2016

- Spearheaded development of a novel directional neutrino detection technology in scintillator and demonstrated with data for the first time that this can be applied to conduct indirect dark matter searches in scintillator. First ever physics application of neutrino directionaly in scintillator.
- Lead developer of detector simulation code to conducted case studies of neutron capture doping agents in solid scintillator. Simulation results were later used to oversee detector design and construction.

Skills

Software/Tools:	ROOT, SolidWorks, AutoCAD, ComSol, Pads, Git, Geant4
Programming Languages:	Proficient in Python, BASH, C, C++, Mathematica, Matlab; Some experience with R
Human Languages:	English (native), Japanese/Korean (trilingual proficiency)

Leadership

Mentor — *UC Berkeley, UCLA* March 2016 — *Current*

- Advised 2 students with optical simulation code for current hardware project. Students are now undertaking independent research tasks and contributing original work.
- Taught weekly Geant4 physics simulation tutorials to 3 PhD-level students for a semester. Students successfully learned to take on independent projects.

Teaching Assistant — *University of Hawaii at Manoa* 2007 — 2009

- Planned coursework and taught 2 weekly physics laboratory curriculum for classes of over 20 students each for 3 semesters. Received especially positive reviews for clarity of explanation of material, and teaching style.

Education

PhD, Experimental Particle Physics 2016

GPA: 3.97/4.00, University of Hawaii at Manoa

Dissertation: High Energy Neutrino Analysis at KamLAND and Application to Dark Matter Search

Double BS, Physics and Mathematics 2005

GPA: 4.33/4.50, Sun Moon University, S. Korea

President's Award 2005, Award for Outstanding Academic Achievement – Samsung Corp.