

Glenn Horton-Smith

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Professional Preparation:

Undergraduate:	California Institute of Technology	B.S., physics, 1989
Graduate:	Stanford University	Ph.D., physics, 1998
Postdoctoral:	Tohoku University	1998-2000
	California Institute of Technology	2000-2004

Appointments:

Assistant Professor	Kansas State University	2004-
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Five publications relevant to current research:

1. S. Abe, *et al.* [KamLAND collaboration], "Study of the Production of Radioactive Isotopes through Cosmic Muon Spallation in KamLAND", arXiv:0907.0066v1 [hep-ex], submitted to Phys. Rev. C (2009).
2. S. Abe, *et al.* [KamLAND collaboration], "Precision Measurement of Neutrino Oscillation Parameters with KamLAND", Phys. Rev. Lett. **100**, 221803, (2008).
3. A. Tang, G. Horton-Smith, V. A. Kudryavtsev, A. Tonazzo. "Muon simulations for Super-Kamiokande, KamLAND and CHOOZ", Phys. Rev. D **74**, 053007 (2006).
4. H. Sugiyama, O. Yasuda, F. Suekane and G.A. Horton-Smith, "Systematic limits on $\sin^2(2\theta(13))$ in neutrino oscillation experiments with multi-reactors," Phys. Rev. D **73**, 053008 (2006).
5. T. Araki, *et al.* [KamLAND collaboration], "Experimental investigation of geologically produced antineutrinos with KamLAND", Nature **436**, 499-503 (2005).

Five other significant publications:

6. T. Araki, *et al.* [KamLAND collaboration], "Search for the invisible decay of neutrons with KamLAND", Phys.Rev.Lett. **96**, 101802 (2006).
7. T. Araki *et al.* [KamLAND Collaboration], "Measurement of neutrino oscillation with KamLAND: Evidence of spectral distortion," Phys. Rev. Lett. **94**, 081801 (2005).
8. K. Eguchi, *et al.* [KamLAND collaboration], "First Results from KamLAND: Evidence for Reactor Anti-Neutrino Disappearance", Phys. Rev. Lett. **90**, 021802 (2003).
9. C. Bamber, *et al.* [SLAC-E-144 collaboration], "Studies of nonlinear QED in collisions of 46.6-GeV electrons with intense laser pulses," Phys. Rev. D **60**, 092004 (1999). Also available as SLAC-PUB-8063.
10. T. Kotseroglou, *et al.* [E144 Collaboration], "Picosecond timing of terawatt laser pulses with the SLAC 46-GeV electron beam," Nucl. Instrum. Meth. A**383**, 309-317 (1996). Also available as SLAC-PUB-7130.

Synergistic Activities:

- Courses taught in the last 4 years:
 - Descriptive Astronomy (phys 191): Fall 2005, 2006, 2007, and Spring 2009. Intended for undergraduates in any major; satisfies university general education requirement. Introduced “just in time” web-based polling technique for guided reading and pre-lecture feedback.
 - Contemporary Physics (phys 451): Spring 2007. Intended for junior and senior undergraduate non-physics majors; satisfies university general education requirement. Introduced new material covering particle physics, fundamental interactions, and relativity.
 - Particle Physics (phys 694): Spring 2006 and 2008. Intended for junior and senior undergraduates and graduate students. Introduced class projects involving study of a current experiment's original proposal.
 - Mathematical Methods of Physics (phys 801): Fall 2008 and 2009. Intended for graduate students.
- Women in Engineering and Science Program (WESP) “learning community” discussion group co-leader, Fall 2007.
- Physics demonstrations and talks for local gifted program 5th and 6th grade student campus visits, 2007 and 2008.
- Girls Researching Our World (GROW) program participant, summer 2007: designed and lead “cloud chamber activity” for two groups of 6th and 7th grade girls.
- NSF Research Experience for Undergraduates (REU) program mentor, 2006-present.
- Faculty co-advisor for KSU Student Astronomy Club, since 2005.
- Presentation to 9th grade class at Junction City High School, in support of a former astronomy student and KSU Student Astronomy Club member and current student teacher, 2008.

Collaborations and Other Affiliations

Collaborations: KamLAND (<http://kamland.lbl.gov>), Double Chooz (<http://doublechooz.in2p3.fr/>), AGE proposal (http://capp.iit.edu/hep/pbar/AGE_FNAL08_LoI_v1_4.pdf), and MicroBooNE (<http://www-microboone.fnal.gov/>).

Advisors: **Post-doctoral:** Professor R.D. McKeown, California Institute of Technology, Pasadena, CA; Professor A. Suzuki, Tohoku University, Sendai, Japan.

Ph.D.: Professor D. Burke, Stanford Linear Accelerator Center, Menlo Park, CA.
Advisees: **Thesis advisor for 4 graduate students at Kansas State:** Jasmine Foster (2005-), Mark Smith (2005-2009), Deepak Shrestha (2007-), Pi-Jung Chang (2008-).

Sponsor for 2 postdoctoral researchers: Alfred Tang (2005-2007) and David McKee (2008-).

Mentor for 15 undergraduate researchers: Jamal Rorie (2001), Matthew Norman (2002), Andrei Faraon (2002), Eric Cady (2003), Kwun Hung Cheung (2004), Yun-Chieh Peng (2004), at California Institute of Technology; and James Black III (2006), Richard Chevious (2007), James Hazelton (2007), Jeremy Lund (2008), Jon Graves (2008), C. Alex George (2008), Rachel Houtz (2008), Valery Gray (2009), Ryan Schooley (2009) at Kansas State University.