

# CURRICULUM VITÆ

## Kay Kinoshita

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BIRTH DATE: July 17, 1954

EDUCATION: University of California, Berkeley, California

Ph.D. Physics 1981

Harvard University, Cambridge, Massachusetts

A.M. Physics 1976

A.B. Physics 1976

Ph.D. THESIS: Search for Highly Ionizing Particles in  $e^+e^-$  Collisions at PEP

CITIZENSHIP: U.S.A.

SOCIETIES: American Physical Society, AWIS, AAUW

## HONORS:

9/05-11/05 Visiting Foreign Scientist, Institute for Nuclear and Particle Physics, KEK, Tsukuba, Japan

2003 Fellow of the Graduate School, University of Cincinnati

2002 McMicken Deans Award for Distinguished Scholarship,

McMicken College of Arts and Sciences, University of Cincinnati

2001 Fellow, American Physical Society

4/00-9/00 Visiting Foreign Scientist, Institute for Nuclear and Particle Physics, KEK, Tsukuba, Japan

7/85-12/86 Science Scholar, Mary Ingraham Bunting Institute, Cambridge, Massachusetts

## PROFESSIONAL EXPERIENCE:

9/09-8/16 Head, Department of Physics, University of Cincinnati, Cincinnati, Ohio

- Diversity – established a departmental Diversity Committee, initiated engagement with the Bridge Program of the American Physical Society, Bridge track in the department’s PhD program, professional development for faculty in diversity and mentoring.

3/16–3/19 Member, High Energy Physics Advisory Panel (HEPAP),

U.S. Department of Energy, Office of Science

- Advise the U.S. Government on the national program in experimental and theoretical high energy physics (HEP) research; chartered by the Department of Energy (DOE) and reports directly to the Associate Director, Office of High Energy Physics, Office of Science (DOE), and the Assistant Director, Mathematical & Physical Sciences Directorate (NSF).

9/98- Professor, University of Cincinnati, Cincinnati, Ohio

- Belle II experiment – Design studies for iTOP particle ID device; Belle II data monitoring; Belle experiment – Convener, analysis of  $\Upsilon(5S)$  data; tag using  $\bar{B}_s \rightarrow D_s^+ X \ell^- \bar{\nu}$ ;  $\Upsilon(5S) \rightarrow \Upsilon(nS) \pi^+ \pi^-$ ; Observation of  $Z_b(10610)$ ,  $Z_b(10650)$ ;  $\bar{B}^0 \rightarrow D^+ \rho^0$ ;  $\bar{B}^0 \rightarrow D_s^* \pi^- / \pi^0 / K^-$ ; CP asymmetry in  $\bar{B}^0 \rightarrow D^{*+} \pi^-$ ,  $\bar{B}^0 \rightarrow D^{*+} \pi^0$ ; Paper supervision: dilepton measurement of  $B^0$  mixing, measurement of  $\sin 2\phi_1$ , measurement of polarization in  $\bar{B} \rightarrow \psi K^*$ , observation of  $\bar{B}^0 \rightarrow D_s \pi^- / K^-$ ; software development, data quality monitoring, vertex detector “SVD1.4” construction; statistics: unbinned goodness-of-fit test with compound hypothesis, studies of likelihood function; MOEDAL search for highly ionizing particles at LHC; CLEO II experiment -1999.
- Principal Investigator, University of Cincinnati experimental high energy physics, supported by DoE.
- Diversity – inaugural chair of Belle II Diversity Committee. Appointed committee, conducted survey, sessions at collaboration-wide meetings (> 700 member collaboration).
- Track-based statistical model of radiation effects in biological materials: multidisciplinary collaboration with Depts. of Chemistry and Radiation Oncology (University of Cincinnati), and Proton Therapy Center, Cincinnati Children’s Hospital.
- Mentoring: R. Kulasiri (PhD 2005), S. Bahinipati (PhD 2008), D. Santel (PhD 2013), Y. Zabarmawi (PhD 2019), D. Mahee (MS 2018), K. Vargas (MS 2019).
- University: A&S Dean search committee (2011, 2013); WISE mentor (2009), Faculty mentor (2002-3), University Research Council (2004-5), Director of Undergraduate Programs (1999-2003, 2004-5, 2006-9)

- Executive Committee, Division of Particles & Fields, APS (1997-9).

7/93-8/98 **Professor**, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

- CLEO II experiment – partial reconstruction technique:  $B_d$  mixing via tag-enriched inclusive lepton sample; measurement of  $B_d \rightarrow D^{*0}l^+\nu$ ; measurement of  $B_u/B_d$  lifetime ratio,  $B_d$  inclusive lepton decay spectrum with tag-enriched inclusive lepton sample; measurement of  $B_d \rightarrow D^{*-}l^+\nu$  form factors and  $|V_{cb}|$ ;  $B(B_d \rightarrow D^{*-}l^+\nu)$ ;  $B_u/B_d$  production ratio; soft- and hardware triggers, fast online tracking, TOF detectors.
- Principal Investigator of Virginia Tech group on CLEO II experiment, supported by DoE.
- E926 at Brookhaven National Lab: proposal to measure  $\mathcal{B}(K_L^0 \rightarrow \pi^0\nu\bar{\nu})$ ; design of photon catcher, construction and testing of prototype.
- Detector development for a  $B$  factory; innovative design of pressurized gas threshold Čerenkov counters for hadron identification.
- Proposed searches for highly ionizing particles at LEP, LHC. Detector development.
- PhD supervision: I.C. Lai (1999), R. Godang (2000)
- URA Visiting Committee, Fermilab (1996-8); Executive Committee, Division of Particles & Fields, APS (1997-9).

7/88-6/93 **Associate Professor**, Harvard University, Cambridge, Massachusetts

7/84-6/88 **Assistant Professor**, Harvard University, Cambridge, Massachusetts

- Organized and led an international collaboration to search for highly ionizing particles at TRISTAN, Funding from NSF and Research Corporation.
- CLEO I; search for charmless exclusive semileptonic decays of B mesons at the  $\Upsilon(4S)$  using new variation of “partial reconstruction” method (graduate student thesis); organized study of nonresonant production of charmed particles; new method for measuring total nonresonant charm cross section independently of decay branching fractions; a novel approach to separating properties of neutral and charged B mesons using  $\Upsilon(4S)$  data; new method to search for magnetically charged particles; new application of “partial reconstruction” method to semileptonic decays, yielding efficient tag of neutral B mesons; supervision of graduate student thesis on  $\Lambda$  production.
- CLEO II experiment; new algorithm for triggering on charged tracks in drift chambers, prototype for the CLEO vertex detector, working trigger for the CLEO II drift chamber; specialized measurement of neutron radiation near beam line, for evaluation of effects on solid state components; initiated and led design study for a new high level software trigger, developed innovative fast tracking/vertex finding software; continued work on tracking trigger, installed in CLEO II, greatly increasing acceptance at low momenta and angles; led study of triggering issues for microvertex detector; development of online triggers for hadronic, tau and two-photon physics.
- CLEO II physics; application of partial reconstruction technique for measurement of  $B_d$  mixing with tag-enriched sample, measurement of  $B_u/B_d$  lifetime ratio,
- Searches for highly ionizing particles at TRISTAN, LEP (OPAL and I5:MODAL), Fermilab Tevatron (E713), LHC.
- Rapid scanning technique for CR-39 track detectors in radon and neutron dosimetry.
- PhD supervision: M. Saulnier (1995)
- Undergraduate research projects at CLEO, KEK, CERN: P. Mauskopf, R. Du, L. Miller

7/82-6/84 **Research Associate**, Harvard University, Cambridge, Massachusetts

- The CLEO experiment:  $e^+e^-$  annihilations in the  $\Upsilon$
- Initiated proposal for a search for highly ionizing particles to be conducted at the TRISTAN  $e^+e^-$  storage ring (KEK, Japan), similar proposal at the Stanford Linear Collider.
- measurement of the mass of the  $\Upsilon(1S)$  resonance.
- Search for highly ionizing particles in electron-positron collisions at PEP (Stanford, California); Studies of highly ionizing particles in cosmic rays at mountain and air plane altitudes.

1/82-6/82 **Postgraduate Research Physicist I**, University of California, Berkeley, California

9/78-12/81 **Research Assistant**, University of California, Berkeley, California