

## **CHANG KEE JUNG, Ph. D.**

SUNY Distinguished Professor

<http://nngroup.physics.sunysb.edu/alpinist/>

### **Address:**

Department of Physics and Astronomy  
Stony Brook University, SUNY  
Stony Brook, NY 11794-3800  
631-632-8108, chang.jung@stonybrook.edu

### **Home Address:**

43 Erin Lane  
E. Setauket, NY 11733

### **Education: Graduate**

Ph.D. in Physics, specializing in Experimental High Energy Physics  
Indiana University, Bloomington, Indiana, May 1986  
Thesis Title: *Measurement of The  $F^+$  Meson Lifetime*  
Thesis Advisor: Prof. Harold O. Ogren

### **Undergraduate**

Bachelor of Science in Physics  
Seoul National University, Seoul, Korea, 1979

### **Employment History:**

2015-present *SUNY Distinguished Professor*, Dept. of Physics & Astronomy, Stony Brook U.  
2000-2015 *Professor*, Dept. of Physics & Astronomy, Stony Brook U.  
1996-2000 *Assoc. Professor*, Dept. of Physics & Astronomy, Stony Brook U.  
1990-1996 *Assis. Professor*, Dept. of Physics, Stony Brook U.  
1986-1990 *Postdoctoral Research Physicist*, SLAC, Stanford U.  
1982-1986 *Graduate Research Assistant*, Indiana U., Bloomington  
1980-1982 *Graduate Teaching Assistant*, Indiana University, Bloomington

### **Major Long-Standing Professional Positions in Research:**

2018-2019 *Elected Member*, Spokesperson Advisory Committee, DUNE Collaboration  
2017-2018 *Elected Member*, Executive Committee, DUNE Collaboration  
2015-2017 *Advisory Member*, Executive Committee, T2K Collaboration  
2015-2016 *Resource Coordinator*, DUNE Collaboration  
2015-2016 *ex officio Member*, Executive Committee, DUNE Collaboration  
2011-2015 *International Co-Spokesperson*, T2K Collaboration  
2014-2015 *Member*, Interim International Executive Board for U.S. Based Neutrino and Nucleon decay Experiment, "Experiment at Long Baseline Neutrino Facility (LBNF)"  
2004-present *Spokesperson*, T2K US Collaboration  
1999-present *Founder and Chair of the Steering Committee*, Next generation Nucleon decay and Neutrino detector (NNN) Workshop series  
2007-2011 *Elected Member*, Executive Committee, T2K Collaboration  
2000-2008 *Spokesperson*, Underground Nucleon decay and Neutrino Observatory (UNO) Collaboration  
2004-2007 *Spokesperson*, Henderson Underground Science and Engineering Project (HUSEP)  
2002-2007 *Chair*, Interim/International Board of Representatives, T2K Collaboration  
1996-2007 *Co-Spokesperson*, KEK to Kamioka (K2K) US Collaboration  
1996-2007 *Member*, Executive Committee, KEK to Kamioka (K2K) Collaboration

### **Honors: Awards and Prizes**

The 2019 High Energy and Particle Physics Prize, European Physical Society (EPS), (shared, D0 Collaboration), 2019

Dean's Award for Excellence in Graduate Mentoring by a faculty member, Stony Brook U., 2018

American Association for the Advancement of Science (AAAS) Fellow, 2017

State University of New York (SUNY) Distinguished Professorship, 2015

The Breakthrough Prize in Fundamental Physics 2016 (shared, Super-Kamiokande, K2K and T2K Collaborations), 2015

Chancellor's Award for Excellence in Scholarship and Creative Activity, SUNY, 2014

Suwa Prize (shared, J-PARC Neutrino Beam Group), 2013

Le Prix La Recherche (shared, T2K Collaboration), 2012

Outstanding Faculty (Teacher) Award, Dept. of Physics and Astronomy, Stony Brook U., 2010

Academy of Teacher-Scholar Award, Stony Brook U., 2003

American Physical Society (APS) Fellow, 2002

Asahi Prize (shared, Super-Kamiokande Collaboration), 1998

U.S. Dept. of Energy, Outstanding Junior Investigator Award, 1994

Outstanding Research Assistant Award, Indiana U., 1986

Outstanding Associate Instructor Award, Indiana U., 1983

### **Honors: Fellowships and Visiting Positions**

Scientific Associate, CERN (European Organization for Nuclear Research), 2019

Affiliated Member, Kavli IPMU, U. of Tokyo, 2013-2018

Project Professor, Kavli IPMU, U. of Tokyo, 2013

Scientific Associate, Kavli IPMU, U. of Tokyo, 2012

Spanish Ministry of Science and Education Visiting Professor Fellowship, Universitat Autònoma de Barcelona, Spain, 2005

Visiting Professor, KEK, Japan, 1998

Japan Society for Promotion of Science (JSPS) Fellow, 1998

Center of Excellence (COE) Fellow, U. of Tokyo, 1997

### **Professional Affiliations and Societies:**

Fellow, American Physical Society (APS)

Fellow, American Association for Advancement of Science (AAAS)

Member, Association of Korean Physicists in America (AKPA)

### **Professional Services: National and International Committee**

*(This list excludes internal collaboration positions or services, and services on reviews of various proposals submitted to funding agencies and papers submitted to professional journals.)*

Member (2018), Scientific Advisory Board of the US Neutrino Theory Network (NTN)

Member (2017, 2018), APS - Division of Particles and Fields (DPF) Nominating Committee

Chair (2017), Korean Institute for Basic Science (ibs) - Center for Underground Physics (CUP) Evaluation Panel

Member (2015-2019), Commission on Underground Research Laboratory (URL) Networking, International Society for Rock Mechanics

Member (2012), Large-Area Picosecond Photo-Detector (LAPPD) Program Review Panel

Member (2012), Korean Institute for Basic Science (ibs) Review Panel

Member (2009, 2010, 2012), Spanish Evaluation Panel for Particle Physics

Member (2011), DOE Institutional Review of Fermilab

Member (2007-2010), Science Committee, Canfranc Underground Laboratory, Spain

Member (2001, 2002), Committee for annual DOE program review of Fermilab  
Member (1998, 1999), DOE review pannel (Lehman) of the NuMI/MINOS project

### **Professional Services: Conference Organization and Participation in National/International Working Groups**

*(This list excludes memberships on international advisory committees of various conferences and workshops.)*

Chair, Steering Committee, *NNN18 Workshop, Vancouver, Canada; NNN17, Warwick, U.K.; NNN16, Beijing, China; NNN15, Stony Brook, New York, U.S.A.; NNN14, Paris, France; NNN13, Kashiwa, Japan; NNN12, Batavia, Illinois, U.S.A.; NNN11, Zurich, Switzerland; NNN10, Toyama, Japan; NNN09, Estes Park, Colorado, U.S.A.; NNN08, Paris, France; NNN07, Hamamatsu, Japan; NNN06, Seattle, Washington, U.S.A.; NNN05, Aussois, France*

Co-Chair (2015), NNN15/Unification Day 2 (UD2)-Stony Brook Workshop, Stony Brook, New York, U.S.A.

Co-Organizer (2002), NNN02-CERN Workshop, Geneva, Switzerland

Organizer (2000), NNN00-Fermilab Workshop, Batavia, Illinois, U.S.A.

Co-Organizer (2000), NNN00-UCI Workshop, Irvine, California, U.S.A.

Founder and Co-chair (1999), Organizing Committee, International Workshop on Next generation Nucleon decay and Neutrino detector (NNN99), Stony Brook, New York, U.S.A.

Co-convener (2011), Proton Decay Working Group, Fundamental Physics in Intensity Frontier, Rockville, Maryland, U.S.A.

Member (2006 - 2007), FNAL-BNL working group on very long baseline neutrino superbeam experiment

Organizer (2006), Science and Engineering at Henderson DUSEL Capstone Workshop, Stony Brook, New York

Member (2005 - 2006), European International Scoping Study (ISS) for future neutrino programs

Co-leader (2004 - 2006), Deep Underground Science and Engineering Lab (DUSEL) Proton decay working group

Organizer (2004), K2K Workshop, Stony Brook, New York, U.S.A.

Co-Organizer (2004), Unification Day Workshop, Keystone, Colorado, U.S.A.

Member (2003 - 2004), APS joint study on neutrino physics working groups

Member (1997), Local Organizing Committee, XIIth Hadrons in Collisions Symposium, Stony Brook, New York, U.S.A.

Member (1996), Parallel Session Organizing Committee, 1996 Annual American Physical Society Meeting, Indianapolis, Indiana, U.S.A.

Chair (1993), Local Organizing Committee, The DØ workshop, Stony Brook, New York, U.S.A.

### **The total number of postdoctoral researchers, graduate students and undergraduate students advised (past and current):**

Postdoctoral Researchers: 12

Graduate Students (Ph.D.): 21

Graduate Students (M.S.): 4

Undergraduate Students (B.S.): 18

Undergraduate Students (Short Term): 17

(These list does not include students that spent very short term, one semester/summer or less.)

## SELECTED PUBLICATIONS

(Full publication list is provided separately.)

- 1. Evidence for Oscillation of Atmospheric Neutrinos**  
Y. Fukuda *et al.*[Super-Kamiokande Collaboration] Phys. Rev. Lett. **81**, 1562 (1998)
- 2. Indication of Electron Neutrino Appearance from an Accelerator-produced Off-axis Muon Neutrino Beam**  
K. Abe *et al.* [T2K Collaboration] Phys. Rev. Lett. **107**, 041801 (2011)
- 3. Observation of Electron Neutrino Appearance from a Muon neutrino Beam**  
K. Abe *et al.* [T2K Collaboration] Phys. Rev. Lett. **112**, 061802 (2014)
- 4. Indications of Neutrino Oscillation in a 250 km Long Baseline Experiment**  
S.H. Ahn *et al.*[K2K Collaboration] Phys. Rev. Lett. **90**, 041801 (2003)
- 5. Measurement of Neutrino Oscillation by the K2K experiment**  
S.H. Ahn *et al.*[K2K Collaboration] Phys. Rev. **D74**, 072003 (2006)
- 6. Precise Measurement of the Neutrino Mixing Parameter  $\theta_{23}$  from Muon Neutrino Disappearance in an Off-axis Beam**  
K. Abe *et al.* [T2K Collaboration] Phys. Rev. Lett. **112**, 181801 (2014)
- 7. Measurement of Neutrino Oscillation Parameters from Muon Neutrino Disappearance with an Off-axis Beam**  
K. Abe *et al.* [T2K Collaboration] Phys. Rev. Lett. **111**, 211803 (2013)
- 8. First Muon-Neutrino Disappearance Study with an Off-Axis Beam**  
K. Abe *et al.* [T2K Collaboration] Phys. Rev. **D85**, 031103 (2012)
- 9. The T2K Experiment**  
K. Abe *et al.* [T2K Collaboration] Nucl. Instr. and Meth. **A 659**, 106 (2011)
- 10. Background Study on  $\nu_e$  Appearance from a  $\nu_\mu$  Beam Neutrino Oscillation Experiments with a Large Water Cherenkov Detector**  
C. Yanagisawa, C. K. Jung, P. T. Le, B. Viren, Phys. Rev. **D83**, 072002 (2011)
- 11. Measurement of Single Charged Pion Production in the Charged-current Interactions of Neutrinos in a 1.3 GeV Wide Band Beam**  
A. Rodriguez and L. Whitehead *et al.* [K2K Collaboration] Phys. Rev. **D78**, 032003 (2008)
- 12. A Measurement of Atmospheric Neutrino Flux Consistent with Tau Neutrino Appearance**  
K. Abe *et al.* [Super-Kamiokande Collaboration] Phys. Rev. Lett. **97** 171801 (2006)
- 13. Evidence for Muon Neutrino Oscillation in an Accelerator-based Experiment.**  
E. Aliu *et al.* [K2K Collaboration] Phys. Rev. Lett. **94**, 081802 (2005)
- 14. Measurement of Single  $\pi^0$  Production in Neutral Current Neutrino Interactions with Water by a 1.3-GeV Wide Band Muon Neutrino Beam**  
S. Nakayama *et al.*[K2K Collaboration] Phys. Lett. **B619**, 255 (2005)
- 15. The Super-Kamiokande Detector**  
Y. Fukuda *et al.*[Super-Kamiokande Collaboration] Nucl. Inst. Meth. **A501** 418 (2003)

- 16. Search for Supernova Relic Neutrinos at Super-Kamiokande**  
M. Malek *et al.*[Super-Kamiokande Collaboration] Phys. Rev. Lett. **90**, 061101 (2003)
- 17. Detection of Accelerator Produced Neutrinos at a Distance of 250-km**  
S.H. Ahn *et al.*[K2K Collaboration] Phys. Lett. **B511**, 178 (2001)
- 18. Oscillations of Atmospheric Neutrinos**  
**C.K. Jung**, C. McGrew, T. Kajita, T. Mann, Ann. Rev. Nucl. Part. Sci. **51** 451 (2001)
- 19. Feasibility of a Next Generation Underground Water Cherenkov Detector: UNO**  
**Chang Kee Jung**, In \*Stony Brook 1999, Next generation nucleon decay and neutrino detector\* workshop proceedings. 29-34. [HEP-EX 0005046]
- 20. Search for Proton Decay via  $p \rightarrow e^+ \pi^0$  in a Large Water Cherenkov Detector**  
M. Shiozawa, B. Viren *et al.*[Super-Kamiokande Collaboration] Phys. Rev. Lett. **81**, 3319-3323, (1998)
- 21. Search for light top squarks in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.8$  TeV**  
S. Abachi *et al.*[DØ Collaboration] Phys. Rev. Lett. **76**, 2222 (1996).
- 22. Observation of the top quark**  
S. Abachi *et al.*[DØ Collaboration] Phys. Rev. Lett. **74**, 2632 (1995)
- 23. Search for squarks and gluinos in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.8$  TeV**  
S. Abachi *et al.*[DØ Collaboration] Phys. Rev. Lett. **75**, 618 (1995).
- 24. Experimental explanation of Tau lepton decay puzzle: discrepancy between the measured and the theoretical Tau lifetimes**  
**Chang Kee Jung**, Phys. Rev. **D47**, 3994 (1993)
- 25. Search for long-lived massive neutrinos in  $Z$  decays**  
**C. K. Jung**, R. Van Kooten *et al.*[MarkII Collaboration] Phys. Rev. Lett. **64**, 1091 (1990)
- 26. Measurements of  $Z$  boson resonance parameters in  $e^+e^-$  annihilation**  
G. S. Abrams *et al.*[MarkII Collaboration] Phys. Rev. Lett. **63**, 2173 (1989)
- 27. A drift chamber constructed of aluminized mylar tubes**  
P.Baringer, **C. Jung**, H. O. Ogren and D. R. Rust, Nucl. Instr. Meth. **A254**, 542 (1987)
- 28. Measurement of the  $F^+$  meson lifetime**  
**C. Jung (C.K. Jung in spires)** *et al.*[HRS Collaboration] Phys. Rev. Lett. **56**, 1775 (1986)

## PUBLICATIONS: Refereed Journal Articles

(The names appear on the papers as: Chang Kee Jung, C.K. Jung and C. Jung.)

**280. Search for CP violation in Neutrino and Antineutrino Oscillations by the T2K experiment with  $2.2 \times 10^{21}$  protons on target**

K. Abe *et al.* [T2K Collaboration].  
arXiv:1807.07891 [hep-ex]

**279. Characterisation of nuclear effects in muon-neutrino scattering on hydrocarbon with a measurement of final-state kinematics and correlations in charged-current pionless interactions at T2K**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **98**, no. 3, 032003 (2018)

**278. Search for Neutrinos in Super-Kamiokande associated with the GW170817 neutron-star merger**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Astrophys. J. **857**, no. 1, L4 (2018)

**277. Measurement of inclusive double-differential  $\nu_\mu$  charged-current cross section with improved acceptance in the T2K off-axis near detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **98**, 012004 (2018)

**276. A Measurement of the Tau Neutrino Cross Section in Atmospheric Neutrino Oscillations with Super-Kamiokande**

Z. Li *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **98**, no. 5, 052006 (2018)

**275. Search for Boosted Dark Matter Interacting With Electrons in Super-Kamiokande**

C. Kachulis *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **120**, no. 22, 221301 (2018)

**274. Atmospheric neutrino oscillation analysis with external constraints in Super-Kamiokande I-IV**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **97**, no. 7, 072001 (2018)

**273. First measurement of the  $\nu_\mu$  charged-current cross section on a water target without pions in the final state**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **97**, no. 1, 012001 (2018)

**272. Search for an excess of events in the Super-Kamiokande detector in the directions of the astrophysical neutrinos reported by the IceCube Collaboration**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Astrophys. J. **850**, no. 2, 166 (2017)

**271. Measurement of neutrino and antineutrino oscillations by the T2K experiment**



including a new additional sample of  $\nu_e$  interactions at the far detector

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **96**, no. 9, 092006 (2017)

**270. Measurement of  $\bar{\nu}_\mu$  and  $\nu_\mu$  charged current inclusive cross sections and their ratio with the T2K off-axis near detector**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **96**, no. 5, 052001 (2017)

**269. Search for nucleon decay into charged antilepton plus meson in 0.316 megaton-years exposure of the Super-Kamiokande water Cherenkov detector**

K. Abe *et al.* [Super-Kamiokande Collaboration].

Phys. Rev. D **96**, no. 1, 012003 (2017)

**268. Measurement of the single  $\pi^0$  production rate in neutral current neutrino interactions on water**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **97**, no. 3, 032002 (2018)

**267. Updated T2K measurements of muon neutrino and antineutrino disappearance using  $1.5 \times 10^{21}$  protons on target**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **96**, no. 1, 011102 (2017)

**266. Search for Lorentz and CPT violation using sidereal time dependence of neutrino flavor transitions over a short baseline**

K. Abe *et al.*

Phys. Rev. D **95**, no. 11, 111101 (2017)

**265. Combined Analysis of Neutrino and Antineutrino Oscillations at T2K**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. Lett. **118**, no. 15, 151801 (2017)

**264. Search for proton decay via  $p \rightarrow e^+ \pi^0$  and  $p \rightarrow \mu^+ \pi^0$  in 0.31 megaton-years exposure of the Super-Kamiokande water Cherenkov detector**

K. Abe *et al.* [Super-Kamiokande Collaboration].

Phys. Rev. D **95**, no. 1, 012004 (2017)

**263. Search for Neutrinos in Super-Kamiokande associated with Gravitational Wave Events GW150914 and GW151226**

K. Abe *et al.* [Super-Kamiokande Collaboration].

Astrophys. J. **830**, no. 1, L11 (2016)

**262. Solar Neutrino Measurements in Super-Kamiokande-IV**

K. Abe *et al.* [Super-Kamiokande Collaboration].

Phys. Rev. D **94**, no. 5, 052010 (2016)

**261. First Measurement of the Muon Neutrino Charged Current Single Pion Production Cross Section on Water with the T2K Near Detector**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **95**, no. 1, 012010 (2017)

**260. Measurement of coherent  $\pi^+$  production in low energy neutrino-Carbon scatter-**

ing

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **117**, no. 19, 192501 (2016)

**259. Measurement of double-differential muon neutrino charged-current interactions on C<sub>8</sub>H<sub>8</sub> without pions in the final state using the T2K off-axis beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **93**, no. 11, 112012 (2016)

**258. Real-Time Supernova Neutrino Burst Monitor at Super-Kamiokande**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Astropart. Phys. **81**, 39 (2016)

**257. Measurement of Muon Antineutrino Oscillations with an Accelerator-Produced Off-Axis Beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **116**, no. 18, 181801 (2016)

**256. Measurements of the atmospheric neutrino flux by Super-Kamiokande: energy spectra, geomagnetic effects, and solar modulation**

E. Richard *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **94**, no. 5, 052001 (2016)

**255. First measurement of radioactive isotope production through cosmic-ray muon spallation in Super-Kamiokande IV**

Y. Zhang *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **93**, no. 1, 012004 (2016)

**254. Measurement of the muon neutrino inclusive charged-current cross section in the energy range of 1 - 3 GeV with the T2K INGRID detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **93**, no. 7, 072002 (2016)

**253. Search for Nucleon and Di-nucleon Decays with an Invisible Particle and a Charged Lepton in the Final State at the Super-Kamiokande Experiment**

V. Takhistov *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **115**, no. 12, 121803 (2015)

**252. Search for dinucleon decay into pions at Super-Kamiokande**

J. Gustafson *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **91**, 072009 (2015)

**251. Measurement of the electron neutrino charged-current interaction rate on water with the T2K ND280<sup>0</sup> detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **91**, 112010 (2015)

**250. Measurement of the  $\nu_\mu$  charged current quasielastic cross section on carbon with the T2K on-axis neutrino beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **91**, 112002 (2015)

**249. Search for neutrinos from annihilation of captured low-mass dark matter particles**



**in the Sun by Super-Kamiokande**

K. Choi *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **114**, 141301 (2015)

**248. Upper bound on neutrino mass based on T2K neutrino timing measurements**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **93**, no. 1, 012006 (2016)

**247. Physics potential of a long-baseline neutrino oscillation experiment using a J-PARC neutrino beam and Hyper-Kamiokande**

K. Abe *et al.* [Hyper-Kamiokande Proto- Collaboration].  
PTEP **2015**, no. 5, 053C02 (2015)

**246. Measurements of neutrino oscillation in appearance and disappearance channels by the T2K experiment with  $6.610^{20}$  protons on target**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **91**, no. 7, 072010 (2015)

**245. Measurement of the  $\nu_\mu$  charged-current quasielastic cross section on carbon with the ND280 detector at T2K**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **92**, no. 11, 112003 (2015)

**244. Search for Dinucleon Decay into Kaons in Super-Kamiokande**

M. Litos *et al.*.  
Phys. Rev. Lett. **112**, 131803 (2014).

**243. Search for short baseline  $\nu_e$  disappearance with the T2K near detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **91**, 051102 (2015)

**242. Test of Lorentz invariance with atmospheric neutrinos**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **91**, no. 5, 052003 (2015)

**241. Limits on Sterile Neutrino Mixing using Atmospheric Neutrinos in Super-Kamiokande**

K. Abe *et al.* [The Super-Kamiokande Collaboration].  
Phys. Rev. D **91**, 052019 (2015)

**240 Neutrino Oscillation Physics Potential of the T2K Experiment**

K. Abe *et al.* [T2K Collaboration].  
PTEP **2015**, no. 4, 043C01 (2015)

**239. Search for Trilepton Nucleon Decay via  $p \rightarrow e^+\nu\nu$  and  $p \rightarrow \mu^+\nu\nu$  in the Super-Kamiokande Experiment**

V. Takhistov *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **113**, 101801 (2014)

**238. Search for Proton Decay via  $p \rightarrow \nu K^+$  using 260 kiloton-year data of Super-Kamiokande**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. D **90**, 072005 (2014)

**237. Measurement of the Inclusive Electron Neutrino Charged Current Cross Section on Carbon with the T2K Near Detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **113**, 241803 (2014)

**236. Measurement of the inclusive  $\nu_\mu$  charged current cross section on iron and hydrocarbon in the T2K on-axis neutrino beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **90**, 052010 (2014)

**235. Measurement of the neutrino-oxygen neutral-current interaction cross section by observing nuclear de-excitation  $\gamma$ -rays**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **90**, 072012 (2014)

**234. Measurement of the intrinsic electron neutrino component in the T2K neutrino beam with the ND280 detector**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. D **89**, 092003 (2014)

**233. Precise Measurement of the Neutrino Mixing Parameter  $\theta_{23}$  from Muon Neutrino Disappearance in an Off-axis Beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **112**, 181801 (2014)

**232. First Indication of Terrestrial Matter Effects on Solar Neutrino Oscillation**

A. Renshaw *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **112**, no. 9, 091805 (2014)

**231. Observation of Electron Neutrino Appearance from a Muon neutrino Beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **112**, 061802 (2014)

**230. Supernova Relic Neutrino Search with Neutron Tagging at Super-Kamiokande-IV**

H. Zhang *et al.* [Super-Kamiokande Collaboration].  
Astropart. Phys. **60**, 41 (2015)

**229. Measurement of Neutrino Oscillation Parameters from Muon Neutrino Disappearance with an Off-axis Beam**

K. Abe *et al.* [T2K Collaboration].  
Phys. Rev. Lett. **111**, 211803 (2013)

**228. Calibration of the Super-Kamiokande Detector**

K. Abe, Y. Hayato, T. Iida, K. Iyogi, J. Kameda, Y. Kishimoto, Y. Koshio and L. Marti *et al.*.  
Nucl. Instrum. Meth. A **737**, 253 (2014)

**227. Search for Nucleon Decay via  $n \rightarrow \bar{\nu}\pi^0$  and  $p \rightarrow \bar{\nu}\pi^+$  in Super-Kamiokande**

K. Abe *et al.* [Super-Kamiokande Collaboration].  
Phys. Rev. Lett. **113**, 121802 (2014)

**226. Evidence of Electron Neutrino Appearance in a Muon Neutrino Beam**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **88**, 032002 (2013)

**225. Measurement of the Inclusive NuMu Charged Current Cross Section on Carbon in the Near Detector of the T2K Experiment**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **87**, 092003 (2013)

**224. The T2K Neutrino Flux Prediction**

K. Abe *et al.* [T2K Collaboration].

Phys. Rev. D **87**, 012001 (2013), [Phys. Rev. D **87**, 019902 (2013)]

**223. A Measurement of the Appearance of Atmospheric Tau Neutrinos by Super-Kamiokande**

K. Abe *et al.* [Super-Kamiokande Collaboration].

Phys. Rev. Lett. **110**, 181802 (2013)

**222. Search for Proton Decay via  $p \rightarrow \mu^+ K^0$  in Super-Kamiokande I, II, and III**

C. Regis *et al.* [Super-Kamiokande Collaboration].

arXiv:1205.6538 [hep-ex]

Phys. Rev. D **86**, 012006 (2012)

**221. Search for Nucleon Decay into Charged Anti-lepton plus Meson in Super-Kamiokande I and II**

H. Nishino *et al.* [Super-Kamiokande Collaboration].

Phys. Rev. D **85**, 112001 (2012)

**220. Search for GUT Monopoles at Super-Kamiokande**

K. Ueno *et al.* [Super-Kamiokande Collaboration].

Astropart. Phys. **36**, 131 (2012)

**219. First Muon-Neutrino Disappearance Study with an Off-Axis Beam.**

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Phys. Rev. D **85** 031103 (2012)

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**21. FEASIBILITY OF A NEXT GENERATION UNDERGROUND WATER CERENKOV DETECTOR: UNO.**

Chang Kee Jung

In \*Stony Brook 1999, Next generation nucleon decay and neutrino detector\* workshop proceedings. 29-34. [HEP-EX 0005046]  
AIP Conf. Proc. 533, 29 (2000)

**20. NEUTRINO MASSES AND OSCILLATIONS.**

C.K. Jung

In \*Tampere 1999, High energy physics\* EPS-HEP99 Conference proceedings. 161-180

**19. Breakthrough in Particle Physics: Evidence for Neutrino Oscillations.**

C.K. Jung

APCTP Bulletin No. 2, 5-13, Nov. 1998

**18. K2K: KEK to Kamioka Long-Baseline Neutrino Oscillation Experiment**

C.K. Jung

Nuclear Physics B66, 415-418, 1998

**17. Recent Results and The Status of the Super-Kamiokande Experiment**

C.K. Jung

Proceedings of the La Thuile '97 Conference: Results and Perspectives in Particle Physics, La Thuile, Italy, 2-8 Mar. 1997

**16. Proposal for participation in Long-baseline neutrino oscillation experiment E362 at KEK**

C.K. Jung, PI

(Dec 1996).

**15. W mass measurements from DØ and CDF experiments at TeVatron**

Chang Kee Jung

FERMILAB-conf-94/334-E, SBHEP-94-2 (Sep. 1994)

(Proc. of the XXVII International Conference on High Energy Physics, 20-27 July 1994, Glasgow, Scotland, UK).

**14. Proposal to participate in the Super-Kamiokande Experiment**

C. B. Bratton *et al.*

(Dec 1992).

**13. Letter of Intent to write a proposal for an experiment to be performed at the SSC by GEM**

B. Barish *et al.*

GEM-TN-91-35, (Dec 1991).

**12. Letter of Intent to write a proposal for an experiment to be performed at the SSC by EMPACT/TEXAS**

R. Steiner *et al.*

SSCL-SR-1155, (Nov 1990).

**11. Search for new particles produced in Z decays**

R. Van Kooten, C. K. Jung and S. Komamiya

SLAC-PUB-5246, (May 1990).

(Presented at 15th APS Division of Particle and Fields General Meeting, Houston, Texas, Jan 3-6, 1990).

10. A precision synchrotron radiation detector using phosphorescent screens

C. K. Jung *et al.*

SLAC-PUB-5135, LBL-27997, (Oct 1989).

(Presented at IEEE Nuclear Science Symposium, San Francisco, Ca., Jan 23-26, 1990.)

IEEE Nuclear Science, Vol. 37, No. 4, 1502 (Aug. 1990)

9. Measuring the mass and width of the  $Z^0$ : The status of the energy spectrometers

F. Rouse *et al.*

SLAC-PUB-4977, (May 1989).

(Contributed to Symp. on the 4th Family of Quarks and Leptons, Santa Monica, CA, Feb 23-25, 1989).

8. Recent commissioning experience on the SLC ARCS.

N. Toge *et al.*

SLAC-PUB-4926, (Apr 1989).

(Presented at IEEE Particle Accelerator Conf., Chicago, Ill., Mar 20-23, 1989.)

7. Precision measurements of the SLC beam energy.

J. Kent *et al.*

(Presented at IEEE Particle Accelerator Conf., Chicago, Ill., Mar 20-23, 1989.)

6. Precision synchrotron radiation detectors

M. Levi *et al.*

SLAC-PUB-4921 and LBL-26976.

(Presented at the IEEE Particle Accelerator Conference, Chicago, IL, March 20-23, 1989.)

5. Search strategies for minimal and nonminimal Higgs bosons at high energy  $e^+e^-$  colliders

J. Alexander, D. L. Burke, C. Jung, S. Komamiya and P. R. Burchat

SLAC-PUB-4775.

(Proc. of the 1988 Summer Study on High Energy Physics in the 1990's, Snowmass Colorado, 1988).

4. Beam position measurements at the SLC IP

G. Bowden, D. Burke and C. K. Jung

In 'Tahoe city 1986, proceedings, SLC physics', 420-431 (1986).

3. Tuning the ARCs of the SLAC Linear Collider

T. H. Fieguth *et al.*

SLAC-PUB-4628, (May 1988).

(Contributed to 1st European Particle Accelerator Conf., Rome, Italy, Jun 7-11, 1988.)

2. Measurement of the  $F^+$  meson lifetime

Chang Kee Jung

IUHEE-98, Ph.D. Thesis, (May 1986).

1. Measurement of the  $F^+$  meson lifetime

C. Jung

Moriond 1986: Leptonic V.1, 315.

**PUBLICATIONS: Books Authored or Edited**

1. M.V. Diwan, (ed.), C.K. Jung, (ed.), **NEXT GENERATION NUCLEON DECAY AND NEUTRINO DETECTOR. PROCEEDINGS, WORKSHOP, NNN99, STONY BROOK, USA, SEPTEMBER 23-25, 1999.**

Melville, USA: AIP (2000) 250 p., 1 CD (AIP conference proceedings. 533)

## INVITED CONFERENCE PRESENTATIONS, COLLOQUIA AND SEMINARS

*These lists do not contain various seminars and talks given at collaboration meetings.*

- **Conference Presentations**

**73. DCPIHEP Workshop, Comala, Colima, Mexico, January 2019**

Status Review of T2K, T2K-II, Hyper-Kamiokande and DUNE

**72. DUNE Korea Open Workshop, Chung-Ang University, Seoul, Korea, December 2018**

Overview of DUNE

**71. Division of Particles and Fields (DPF) Meeting, Fermilab, Batavia, Illinois, August 2017**

New T2K Neutrino Oscillations Results

**70. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN16-Beijing), Beijing, China, November 2016**

Closing Remarks

**69. Pioneer Session at Korean Physical Society (KPS) Meeting dedicated for DUNE experiment, Gwangju, Korea, October 2016**

Deep Underground Neutrino Experiment (DUNE) at Long Baseline Neutrino Facility (LBNF): An Ultimate Neutrino Oscillation Experiment

**68. Dark Matter Research Cluster Workshop, KISTI, Daejeon, Korea, April 2016**

Deep Underground Neutrino Experiment (DUNE) at Long Baseline Neutrino Facility (LBNF): An Ultimate Neutrino Oscillation Experiment

**67. Workshop on Next generation Nucleon decay and Neutrino detectors 2015 (NNN15) and Unification Day 2, Stony Brook, New York, October 2015**

Workshop Introduction

**66. The 4th International Workshop on Underground Research Laboratory, Montreal, Canada, May 2015**

Very Large Underground Detectors for Neutrino Physics and Nucleon Decay Searches: Recent Discovery of Electron Neutrino Appearance from a Muon Neutrino Beam in T2K and Future Outlook for Discovery of CP Violation in the Lepton Sector

**65. International Committee for Future Accelerators (ICFA) Seminar, Beijing, China, October 2014**

Accelerator Neutrinos

**64. Annual Phenomenology Symposium, “Pheno2014: Full Steam Ahead”, Pittsburgh, Pennsylvania, May 2014**

Neutrino Oscillations: Present and Future

**63. Prospects in Neutrino Physics (NuPhys2013) Conference, London, U.K., Decem-**

ber 2013

Summary and Prospects (Conference final summary)

62. 2013 American Association for the Advancement of Science (AAAS) Annual Meeting, Symposium, “Tiny But Mighty: Neutrinos and the New Frontiers of Science”, Boston, Massachusetts, February 2013

The Challenging Art of Creating and Catching Human-Made Neutrinos

61. The International Doctorate Network in Particle Physics, Astrophysics and Cosmology (IDPASC) Neutrino School, Granada, Spain, October 2012

Invited Lectures: Reactor and Accelerator Neutrino Experiments

60. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN11-Zurich), Zurich, Switzerland, November 2011

Maurice Goldhaber

59. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN10-Toyama), Toyama, Japan, December 2010

Closing Summary

58. SLAC Summer Institute, Menlo Park, California, August 2010

Proton Decay: A Portal to Grand Unification

57. 1st International Workshop towards the Giant Liquid Argon Charge Imaging Experiment (GLA2010), Tsukuba, Japan, March 2010

A Survey of Present Long Baseline Neutrino Experiments: OPERA, MINOS, T2K and NOvA (with a bias on the prospects of measuring  $\theta_{13}$ )

56. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN09-Estes Park), Estes Park, Colorado, October 2009

Ten Years of NNN

55. Perspectives in Particle Physics (A symposium for Paul Grannis' 70th Birthday), Stony Brook, New York, June 2008

The Neutrino Revolution and Beyond

54. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN07-Hamamatsu), Hamamatsu, Japan, October 2007

Brief Closing Remarks

53. 23rd International Symposium On Lepton-Photon Interactions At High Energy (LP07), Daegu, Korea, Aug 2007

Planning the Future Neutrino Projects in Global Context: Ideas, Challenges, and Limitations

52. Workshop On Grand Unification And Proton Decay (GUT 2007), Trieste, Italy, Jul 2007

Update on the Proton Decay Searches, UNO and U.S. Deep Underground Science and Engineering Lab

51. XXXV International Meeting on Fundamental Physics, Santiago de Compostela, Spain, May 2007

U.S. Deep Underground Science and Engineering Lab (DUSEL) Initiative, and Henderson DUSEL proposal

50. Workshop on Next generation Nucleon decay and Neutrino detectors (NNN06-UW), University of Washington, Seattle, Washington, September 2006

Closing remarks and panel discussion

49. PASCOS 2006 Symposium, Ohio State University, Columbus, Ohio, September 2006

Status of the Proton Decay Experiments and Deep Underground Science and Engineering Lab (DUSEL)

48. XXII International Conference on Neutrino Physics and Astrophysics (Neutrino 2006), Santa Fe, New Mexico, June 2006

Henderson DUSEL: Unearthing the Secrets of the Universe Underground

47. Science and Engineering at Henderson DUSEL Capstone Workshop, Stony Brook, New York, May 2006

Henderson DUSEL: Overview and Workshop Charge, and Closing Remarks

46. Workshop on Long Baseline Neutrino Oscillation Experiments, Fermilab, Batavia, Illinois, March 2006

Henderson DUSEL: Unearthing the Secrets of the Universe Underground

45. SLAC Summer Institute, Menlo Park, California, August 2005

Proton Decay: A Giant Orphan

44. Deep Underground Science and Engineering Laboratory (DUSEL) NSF Solicitation 1 Workshop, Minneapolis, Minnesota, July 2005

Henderson DUSEL: Unearthing the Secrets of the Universe, Underground, A Brief Look Ahead

43. Next generation Nucleon decay Neutrino detectors Workshop (NNN05-Aussois), Aussois, France, April 2005

UNO: Status and Future Outlook

42. Deep Underground Science and Engineering Laboratory (DUSEL) NSF Solicitation 1 Workshop, Boulder, Colorado, January 2005

Factual Information on The Henderson Mine as a DUSEL Candidate Site

41. Unification Day Workshop, Keystone, Colorado, October 2004

Experimental Status and Future Prospect of the Proton Decay Searches

40. Deep Underground Science and Engineering Laboratory (DUSEL) NSF Solicitation 1 Workshop, Berkeley, August 2004  
Large Underground Neutrino and Nucleon decay (NNN) Detectors at DUSEL; DUSEL Proton Decay/Atm nu Working Group Report
39. XXI International Conference on Neutrino Physics and Astrophysics (Neutrino 2004), College de France, Paris, France, June 2004  
Future Large Underground Neutrino and Nucleon decay (NNN) Detectors
38. Physics with a Multi-Megawatt Proton Source Workshop, CERN, Geneva, Switzerland, May 2004  
UNO (Physics Goals and Status in US)
37. ECFA/BENE Neutrino Study Group Meeting, CERN, Geneva, Switzerland, May 2004  
UNO (Physics, Status and R&D Plans)
36. APS Neutrino Study - Superbeam Working Group Meeting, BNL, Uptown, New York, March 2004  
UNO as a Neutrino Superbeam Far Detector
35. APS Neutrino Study - Solar and Atmospheric Neutrino Working Group Meeting, ANL, Argonne, Illinois, December 2003  
Atmospheric and Solar Neutrino Capabilities of UNO
34. NYS-APS2003, BNL, Uptown, New York, October 2003  
UNO (Underground Nucleon decay and Neutrino Detector)
33. C.N.Yang ITP Neutrino Conference, SUNY at Stony Brook, Stony Brook, New York, October 2002  
UNO
32. International Workshop on Nuclear and Particle Physics at JHF (NP02), Univ. of Kyoto, Kyoto, Japan, September, 2002  
Status in US
31. International Workshop on Nuclear and Particle Physics at JHF (NP02), Univ. of Kyoto, Kyoto, Japan, September, 2002  
BNL-Stony Brook Joint LOI for JHFnu Superconducting Magnets
30. International Workshop on Tau Lepton (TAU2002), Univ. of California, Santa Cruz, California, September, 2002  
Selected Results from Super-Kamiokande-I and Status of Super-Kamiokande
29. Linear Collider Workshop (LC2002), Jeju, Korea, August, 2002  
Review of Status of Neutrino Physics



28. Symposium in honor of Professor Jogesh Pati's 65th birthday (Patifest), Univ. of Maryland, College Park, Maryland, May 2002  
Quest for Grand Unification: Experimental View
27. International conference on Weak Interactions and Neutrinos (WIN02), Christchurch, New Zealand, January 2002  
Next Generation Underground Water Cherenkov Detectors
26. A Workshop on "Large Detectors for Proton decay, Supernovae and Atmospheric Neutrinos and Low Energy Neutrinos from High Intensity Beams" (NNN02-CERN), Geneva, Switzerland, January 2002  
Summary Talk: "Where do we go from here? US perspective"
25. A Workshop on "Future Opportunities for Neutrino Physics", Victoria, Canada, November 2001  
UNO
24. Conference on Underground Science, Lead, South Dakota, October 2001  
Atmospheric Neutrinos and Proton Decay Working Group Summary
23. Lepton-Photon International Conference (LP01), Rome, Italy, Jul. 2001  
Recent results from K2K experiment
22. Snowmass Workshop on future of the High Energy Physics, Snowmass, CO, Jul. 2001  
Physics potential and feasibility of UNO (Underground Nucleon decay and Neutrino Observatory); Staging neutrino program (Panel discussion); Proton decay and UNO
21. Neutrino factory Workshop (NuFact01), Tsukuba, Japan, May 2001  
UNO as a far detector for Neutrino Factories
20. BNL Snowmass day Workshop, BNL, Brookhaven, Upton, NY, Mar. 2001  
Neutrino Physics and Proton Decay
19. APS Division of Nuclear Physics annual meeting (DNP00), Williamsburg, VA, Oct. 2000  
Recent Results from Super-Kamiokande and K2K experiments
18. Neutrino Workshop, U. of Washington, Seattle, WA, Sep. 2000  
UNO
17. NNN00-Fermilab, Batavia, IL, Aug. 2000  
UNO Proposal Update and General Discussion
16. WIPP (Waste Isolation Pilot Plant) Underground Physics workshop, Carlsbad, NM, Jun. 2000  
Physics Potential and Feasibility of UNO

15. NNN00-UCI Nucleon decay working group Workshop, UCI, Irvine, CA, Feb. 2000  
Proposal for a Ultra Underground Nucleon decay and Neutrino Observatory (UNO) Detector
14. 2000 AAAS Annual Meeting - Symposium on Neutrinos, Washington D.C. February 2000  
Recent Results on Neutrino Oscillations and Solar Neutrinos from Super-Kamiokande
13. International Workshop on Next generation Nucleon decay and Neutrino detector (NNN99), Stony Brook, New York, September 1999  
Nucleon Working Group Synopsis  
Feasibility Study of the Next generation Underground Large Water Cherenkov Detector
12. International Europhysics Conference on High Energy Physics (EPS99), Tampere, Finland, July 1999  
Neutrino Masses and Oscillations
11. Ringberg Euroconference: New Trend in Neutrino Physics, Rottach-Egern, Germany, 24-29 May, 1998  
Status and Prospects of atmospheric neutrino experiments: (SuperK, Sudan II, K2K...)
10. International conference on Weak Interactions and Neutrinos (WIN97), Capri, Italy, June 1997  
Status of K2K (KEK E362) Long Baseline Neutrino Oscillation Experiment
9. Fermilab Fixed Target Workshop, Fermilab, Batavia, Illinois, May 1997  
Status of K2K (KEK E362) Long Baseline Neutrino Oscillation Experiment
8. La Thuile '97 Conference: Results and Perspectives in Particle Physics, La Thuile, Italy, 2-8 Mar. 1997  
New Results from Super-Kamiokande experiment
7. American Chemical Society (ACS) Meeting, Washington D.C., Aug. 1994  
Neutrino Physics with the Super-Kamiokande Detector
6. XXVII International Conference on High Energy Physics, Glasgow, Scotland, Jul. 1994  
W mass measurements from DØ and CDF experiments at TeVatron
5. XXVI International Conference on High Energy Physics, Southern Methodist University, Dallas, Texas, Aug. 1992  
An Experimental Explanation of Tau Lepton Decay Puzzle: Discrepancy between the Measured and the Theoretical Tau Lifetimes
4. Annual Meeting of the Division of Particles and Fields of the American Physical Society, Rice University, Houston, Texas, Jan. 1990

Search for Heavy Neutrinos Produced in  $Z$  decays

3. Snowmass Workshop 88, Snowmass, Colorado, Jul. 1988

Search for Non-Minimal Neutral Higgs Particle at 1TeV

2. Twenty first Rencontre de Moriond, Les Arcs, France, Mar. 1986

Measurement of the  $F^\pm$  Meson Lifetime

1. Annual Meeting of the Division of Particles and Fields of the American Physical Society, University of Oregon, Eugene, Oregon, Aug. 1985

Lifetime Measurement of the  $F^\pm$  Mesons

- Colloquia

51. Schroedinger Colloquium, Faculty of Science, University of Zurich, Zurich, Switzerland, April 2019

Neutrino Revolution and Quest for the origin of the Matter Dominated Universe

50. NCBJ (National Center for Nuclear Research), Warsaw, Poland, March 2019

Capturing Innovations and Underlying Physics in Sports (Selected Topics: Basketball, High Jump, Gymnastics, Baseball, Football and Volleyball)

49. Physics Department, Nazarbayev University, Astana, Kazakhstan, April 2018

Capturing Innovations and Underlying Physics in Sports (Selected Topics: Basketball, High Jump, Gymnastics and Swimming)

48. Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York, April 2017

Capturing Innovations and Underlying Physics in Sports (Collaborative presentation with Saget Bedel, New York Times, Multimedia Editor for Sports)

47. Department of Physics, University of Virginia, Charlottesville, Virginia, November 2015

Discovery of Electron Neutrino Appearance from a Muon Neutrino Beam in T2K and Future Outlook for Discovery of CP Violation in Lepton Sector in DUNE at LBNF

46. Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York, November 2015

Neutrinos, Nobel Prizes, Breakthroughs and Future

45. Center for Underground Physics (CUP), Institute for Basic Science (IBS), Daejeon, Korea, August 2015

Discovery of Electron Neutrino Appearance from a Muon Neutrino Beam in T2K and Future Outlook for Discovery of CP Violation in the Lepton Sector in DUNE at LBNF

44. Department of Physics, University of Washington, Seattle, Washington, May 2015

Discovery of Electron Neutrino Appearance from a Muon Neutrino Beam and Future Outlook for Discovery of CP Violation in Lepton Sector

43. Department of Physics, Columbia University, New York, New York, April 2015

Discovery of Electron Neutrino Appearance from a Muon Neutrino Beam and Future Outlook for Discovery of CP Violation in Lepton Sector

42. Department of Physics, University of Chicago, Chicago, Illinois, April 2014  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam

41. Department of Physics and Astronomy, University of California, Riverside, California, March 2014  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam

40. Department of Physics and Astronomy, Ohio University, Athens, Ohio, December 2013  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam

39. Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York, October 2013  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam

38. Dept. of Physics, Indiana University, Bloomington, Indiana, February 2012  
The T2K Experiment: Negotiating the Gatekeeper of the Matter-Antimatter Asymmetry Mystery

37. Physics Division, Los Alamos National Lab (LANL), Los Alamos, New Mexico, October 2011  
The T2K Experiment: Negotiating the Gatekeeper of the Matter-Antimatter Asymmetry Mystery

36. Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York, September 2011  
The T2K Experiment: Negotiating the Gatekeeper of the Matter-Antimatter Asymmetry Mystery

35. Dept. of Physics, Oklahoma State University, Stillwater, Oklahoma, Feb. 2007  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground

34. Dept. of Geology, The State University of New York at Stony Brook, Stony Brook, New York, February 2006  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground

33. Dept. of Physics and Astronomy, University of Denver, Denver, Colorado, January 2006  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground

32. Dept. of Physics and Astronomy, The State University of New York at Stony Brook, Stony Brook, New York, December 2005  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground

31. Dept. of Physics and Astronomy, University of Connecticut, Storrs, Connecticut, October 2004

Einstein's Dream, Neutrino Revolution and UNO

30. Dept. of Physics, University of Colorado, Boulder, Colorado, September 2004  
Einstein's Dream, Neutrino Revolution and UNO

29. Dept. of Physics and Astronomy, The State University of New York at Stony Brook, Stony Brook, New York, April 2004  
Einstein's Dream, Neutrino Revolution and UNO

28. Dept. of Physics and Astronomy, Rutgers University, New Brunswick, New Jersey, February 2004

Feasibility and Physics Potential of UNO (Underground Nucleon decay and Neutrino Observatory): Quest for Grand Unification and Neutrino Physics

27. Dept. of Physics, University of Utah, Salt Lake City, Utah, December 2003  
Feasibility and Physics Potential of UNO (Underground Nucleon decay and Neutrino Observatory): Quest for Grand Unification and Neutrino Physics

26. Dept. of Physics, Colorado School of Mines, Golden, Colorado, November 2003  
Feasibility and Physics Potential of UNO (Underground Nucleon decay and Neutrino Observatory): Quest for Grand Unification and Neutrino Physics

25. Dept. of Physics and Astronomy, Colorado State University, Fort Collins, Colorado, November 2003

Feasibility and Physics Potential of UNO (Underground Nucleon decay and Neutrino Observatory): Quest for Grand Unification and Neutrino Physics

24. Dept. of Physics and Astronomy, University of Nebraska, Lincoln, Nebraska, May 2003

Discovery of Neutrino Oscillations in Atmospheric Neutrinos and Its Implications

23. Dept. of Physics, Purdue University, West Lafayette, Indiana, Mar. 2003  
Discovery of Neutrino Oscillations in Atmospheric Neutrinos and Its Implications

22. Fermilab Colloquium, FNAL, Batavia, Illinois, June 2002  
Physics Potential and Feasibility of UNO: Quest for Grand Unification and Neutrino Physics

21. Dept. of Physics and Astronomy, U. of Minnesota, Minneapolis, Minnesota, March 2002

K2K Experiment

20. Joint Colloquium of Nuclear and Particle Physics Division, LBNL, Berkeley, CA, Apr. 2001

UNO

19. Dept. of Physics, Kyungbuk Univ., Daegu, Korea, Mar. 2000  
Evidence for non-zero neutrino mass: Recent results from the Super-Kamiokande experiment

18. Dept. of Physics, Chonnam Univ., Chonnam, Korea, Mar. 2000  
Evidence for non-zero neutrino mass: Recent results from the Super-Kamiokande experiment

17. KIAS (Korean Institute for Advanced Studies), Seoul, Korea Mar. 2000  
Evidence for non-zero neutrino mass: Recent results from the Super-Kamiokande experiment
16. Dept. of Physics, Indiana University, Bloomington, Indiana, Oct. 1999  
Evidence for non-zero neutrino mass
15. TRIUMF Canadian National lab, Vancouver, Canada, May. 1999  
Evidence for non-zero neutrino mass
14. Dept. of Physics, Michigan State University, East Lansing, Michigan Mar. 1999  
Evidence for non-zero neutrino mass
13. Dept. of Physics, Rutgers University, Camden, New Jersey, Mar. 1999  
Evidence for non-zero neutrino mass
12. Dept. of Physics, University of Oregon, Eugene, Oregon Feb. 1999  
Evidence for non-zero neutrino mass
11. Dept. of Physics, University of Michigan, Ann Arbor, Michigan Sep. 1998  
Evidence for non-zero neutrino mass
10. Dept. of Physics and Astronomy, University of Nebraska, Lincoln, Nebraska Apr. 1998  
Pursuit of Neutrino Oscillations: Where are we?
9. Dept. of Physics, Yale University, New Haven, Connecticut Feb. 1998  
Pursuit of Neutrino Oscillations: Where are we?
8. Dept. of Physics and Astronomy, SUNY at Stony Brook, Stony Brook, New York Feb. 1998  
Pursuit of Neutrino Oscillations: Where are we?
7. Dept. of Physics, Rutgers University, Camden, New Jersey, Mar. 1997  
We see stars underground.
6. Physics Division, Brookhaven National Laboratory, Upton, New York, Feb. 1997  
We see stars underground.
5. Dept. of Physics and Astronomy, The University of Kansas, Lawrence, Kansas, Sep. 1996  
We see stars underground.
4. Physics Dept., The State University of New York, Stony Brook, New York, Sep. 1996  
We see stars underground.

3. Physics Dept., Louisiana State University, Baton Rouge, Louisiana, May. 1996  
Recent Results from DØ Experiment

2. Physics Dept., University of California, Davis, California, Apr. 1990  
Search for New Neutrinos in  $Z$  Decays

1. Physics Dept., Vanderbilt University, Nashville, TN, Mar. 1990  
Search for New Neutrinos in  $Z$  Decays

• Seminars

51. (General Seminar) University of Napoli/INFN, Napoli, Italy, May 2018  
Neutrino Revolution and Quest for the Origin of the Matter Dominated Universe

50. Yale University, New Haven, Connecticut, December 2016  
Pursuit of CP Violation in the Lepton Sector: Recent T2K Results, Current Landscape and Future

49. Tsinghua University, Beijing, China, November 2016  
Deep Underground Neutrino Experiment (DUNE) at Long Baseline Neutrino Facility (LBNF): An Ultimate Neutrino Oscillation Experiment

48. Brookhaven National Laboratory, Upton, New York, November 2013  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam and more

47. Stanford Linear Accelerator Center, Menlo Park, California, July 2013  
Observation of Electron Neutrino Appearance from a Muon Neutrino Beam

46. Department of Physics, University of Zurich, Zurich, Switzerland, November 2011  
The T2K Experiment: Negotiating the Gatekeeper of the Matter-Antimatter Asymmetry Mystery

45. Department of Physics, Seoul National University, Seoul, S. Korea, July 2010  
Status of the T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

44. Department of Theoretical Physics, University Autonoma de Madrid, Madrid, Spain, October 2009  
Status of the T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

43. IFIC (Instituto de Física Corpuscular), University of Valencia, Valencia, Spain, October 2009  
Status of the T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

42. Subatomic Physics Group (P-25), Los Alamos National Lab (LANL), Los Alamos, New Mexico, July 2009  
Status of the T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

41. Dept. of Physics, Oklahoma State University, Stillwater, Oklahoma, Feb. 2007  
T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

40. Physics dept., Univ. of Chicago, Chicago, Illinois, Oct. 2006  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the



Secrets of the Universe, Underground

39. Physics Dept., University of Michigan, Ann Arbor, Michigan, Oct. 2006  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground
38. Stanford Linear Accelerator Center, Menlo Park, California, March 2006  
T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment
37. Stanford Linear Accelerator Center, Menlo Park, California, March 2006  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground
36. California Institute of Technology, Pasadena, California, October 2005  
UNO & Henderson Deep Underground Science and Engineering Laboratory
35. University of Valencia, Valencia, Spain, June 2005  
Einstein's Dream, Neutrino Revolution and UNO
34. Institute of High Energy Physics (IFAE), Universitat Autònoma de Barcelona, Bellaterra, Spain, April 2005  
Special Seminar 2: Survey of Next generation Nucleon decay Neutrino (NNN) Detectors and Proposed Sites (Including an Introduction to US DUSEL Initiative)
33. Institute of High Energy Physics (IFAE), Universitat Autònoma de Barcelona, Bellaterra, Spain, April 2005  
Special Seminar 1: Einstein's Dream, Neutrino Revolution and UNO
32. Dept. of Physics, Univ. of Washington, Seattle, Washington, March 2003  
Physics Potential and Feasibility of UNO: Quest for Grand Unification and Neutrino Physics
31. Dept. of Physics, Brookhaven National Laboratory, Upton, New York, Feb. 2003  
Recent Results, Current Status and Future Plans of The K2K Experiment
30. CESR lab, Cornell University, Ithaca, New York, Oct. 2002  
Recent Results, Current Status and Future Plans of The K2K Experiment
29. Dept. of Physics, California Inst. of Tech, Pasadena, CA, Jan. 2001  
UNO
28. Dept. of Physics, Brookhaven National Laboratory, Upton, New York, Mar. 2000  
Recent Results from K2K
27. Physics dept., Univ. of Chicago, Chicago, Illinois, Mar. 2000  
Recent Results from Super-Kamiokande
26. Physics dept., Univ. of Rochester, Rochester, New York, Feb. 2000  
Recent Results from K2K
25. CESR lab, Cornell University, Ithaca, New York, Jul. 1998  
Evidence for Non-zero Neutrino Mass
24. Dept. of Physics and Astronomy, SUNY at Stony Brook, Stony Brook, New York  
Jun. 1998  
Special HEP seminar: Evidence for Non-zero Neutrino Mass

23. Dept. of Physics, Brookhaven National Laboratory, Upton, New York, Feb. 1998  
Recent Results from Super-Kamiokande experiment: Neutrino Oscillations
22. Physics dept., Univ. of Rochester, Rochester, New York, Feb. 1997  
We see stars underground: Status of Super-Kamiokande experiment
21. Physics dept., Princeton University, Princeton, New Jersey, Dec. 1996  
We see stars underground: Status of Super-Kamiokande experiment
20. Physics Dept., Univ. of Pennsylvania, Philadelphia, Pennsylvania, Dec. 1996  
Status of the Super-Kamiokande: after half year of running
19. Research Progress Meeting, Physics Division, The Lawrence Berkeley National Laboratory, Berkeley, California, June 1996  
Super-kamiokande Project: Overview and Status
18. Chemistry Dept., The State University New York, Stony Brook, New York, Apr. 1995  
Physical Chemistry Seminar  
The Super-Kamiokande Experiment: Overview and Status
17. Physics Dept., University of Michigan, Ann Arbor, Michigan, Mar. 1995  
The Super-Kamiokande Experiment: Overview and Status
16. Physics Dept., Columbia University, New York, New York, Mar. 1995  
The Super-Kamiokande Experiment: Overview and Status
15. Physics Division, Brookhaven National Laboratory, Upton, New York, Mar. 1994  
The Super-Kamiokande Experiment
14. Physics Dept., Columbia University, New York, New York, Apr. 1992  
An Experimental Explanation of Tau Lepton Decay Puzzle: Discrepancy between the Measured and the Theoretical Tau Lifetimes
13. Physics Dept., Harvard University, Cambridge, MA, Apr. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays
12. Physics Dept., The State University New York, Stony Brook, New York, Apr. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays
11. Physics Dept., Ohio State University, Columbus, Ohio, Apr. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays
10. Physics Dept., University of Florida, Gainesville, Florida, Mar. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays
9. Physics Dept., Purdue University, West Lafayette, Indiana, Mar. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays

8. Physics Dept., Indiana University, Bloomington, Indiana, Mar. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays

7. Physics Division, LBL, Berkeley, California, Feb. 1990  
Search for long-lived Massive Neutrinos in  $Z$  Decays

6. SLAC, Stanford, California, Jan. 1989  
Group C/Group H Seminars  
Beam Position Monitor PARADOX

5. Physics Dept., Indiana University, Bloomington, Indiana, Mar. 1986  
Measurement of the  $F^\pm$  Meson Lifetime

4. Physics Division, ANL, Argonne, Mar. 1986  
Measurement of the  $F^\pm$  Meson Lifetime

3. SLAC, Stanford, Jan. 1986  
Measurement of the  $F^\pm$  Meson Lifetime

2. INFN, Pisa, Italy, Sep. 1985  
Measurements of Heavy Meson Lifetimes at HRS

1. LAPP, Annecy, France, Sep. 1985  
Measurements of Heavy Meson Lifetimes at HRS

• Invited Public Lectures/Speeches

34. City of Warsaw, zapytaj fizyka (ask physicist), Lecture Series, March 2019  
Universe According to Neutrinos, Nobel Prizes, Breakthroughs and Future

33. Global Summer Institute, Stony Brook University, Stony Brook, New York, July 2018  
Capturing Innovations and Underlying Physics in Sports

32. The Worlds of Physics Lecture Series, Dept. of Physics and Astronomy, Stony Brook U., SUNY, Stony Brook, New York, Apr. 2018  
Universe According to Neutrinos, Nobel Prizes, Breakthroughs and Future

31. Family Weekend, Stony Brook University, Stony Brook, New York, October 2017  
Capturing Innovations and Underlying Physics in Sports

30. University Libraries Presents: STEM Speakers Series, Stony Brook University, Stony Brook, New York, September 2017  
Capturing Innovations and Underlying Physics in Sports

29. Public Lecture on the Occasion of LBNF Groundbreaking Ceremony at Sanford Underground Research Facility (SURF), Lead, South Dakota, July 2017  
Brief Introduction to: Deep Underground Neutrino Experiment (DUNE) at Long

Baseline Neutrino Facility (LBNF)

28. Public Lecture organized by the Stony Brook Alumni Association, Stony Brook University, Stony Brook, New York, January 2017

Capturing Innovations and Underlying Physics in Sports (Collaborative presentation with Saget Bedel, New York Times, Multimedia Editor for Sports)

27. Public Lecture for the Emeritus Faculty Association, Stony Brook University, Stony Brook, New York, November 2016

Neutrinos, Nobel prizes, Breakthroughs and Future

26. The 5th Global Leader Invitation Talk, Chung-Ang University, Seoul, Korea, October 2016

Hidden relationships between Sports and Physics: What are the physical commonalities among baseball, soccer and volleyball?

25. "Fermilab Arts & Lecture Series Presents" Lecture, Fermi National Accelerator Laboratory, Batavia, Illinois, September 2016

Whats physics got to do with sports

24. T2K Press Conference at International Conference on High Energy Physics (ICHEP), Chicago, Illinois, August 2016

First T2K Result from a Search for Charge-Parity Violation in Neutrinos (First Significant Step toward Elucidating Matter Dominant Universe)

23. Special Public Lecture, Black Hills State University, Spearfish, South Dakota, September 2015

Whats physics got to do with sports? Selected topics including Deflategate

22. The Worlds of Physics Lecture Series, Dept. of Physics and Astronomy, SUNY Stony Brook, Stony Brook, New York, May 2015

Whats physics got to do with sports? Selected topics including Deflategate

21. The first "Science on Tap" show produced by Alan Alda Center for Communicat- ing Science, School of Journalism, Stony Brook University, Stony Brook, New York, February 2012

Physics of Sports

20. Special Public Lecture for Physics Club, Suffolk County Community College, Selden, New York, March 2011

Einsteins Dream, Neutrino Revolution and Beyond

19. The Worlds of Physics Lecture Series, Dept. of Physics and Astronomy, SUNY Stony Brook, Stony Brook, New York, February 2010

Angels and Demons

18. Invited Lecture, Cardozo College, SUNY at Stony Brook, Stony Brook, New York, November 21, 2008

Physics of Football

17. The Worlds of Physics Lecture Series, Dept. of Physics and Astronomy, SUNY Stony Brook, Stony Brook, New York, March 2008

Physics of Sports: Selected Topics

16. Community Leaders Meeting, Golden, Colorado, August 2005  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground
15. Phelps Dodge Corporation, Quarterly Meeting, Denver, Colorado, August 2005  
Henderson Deep Underground Science and Engineering Laboratory: Unearthing the Secrets of the Universe, Underground
14. Invited Lecture, Universitat Autònoma de Barcelona, Bellaterra, Spain, May 2005  
Introduction to the Oriental Languages
13. Invited Lecture, Internet Based DUSEL Lecture Series, Universitat Autònoma de Barcelona, Bellaterra, Spain, March 2005  
Henderson DUSEL: Unearthing the Secrets of the Universe Underground
12. Invited Presentation, Colorado State Lt. Governor's Office, Denver, Colorado, April 2004  
Neutrino Revolution, Einstein's Dream and the Henderson Mine
11. Invited Lecture, Kyungnam University, Masan, Korea, March 2003  
Uncovering the Mysterious World of Neutrinos: Recent Discoveries and Their Implications
10. Invited Lecture, Kyungsang National University, Jinju, Korea, March 2003  
Uncovering the Mysterious World of Neutrinos: Recent Discoveries and Their Implications
9. The Worlds of Physics Lecture Series, Dept. of Physics and Astronomy, SUNY Stony Brook, Stony Brook, New York, October, 2002  
Uncovering the Mysterious World of Neutrinos: Recent Discoveries and Their Implications
8. High School Students Visit, Dept. of Physics and Astronomy, SUNY Stony Brook, Stony Brook, New York, Sep. 2002  
Undergraduate Research Opportunities in the Stony Brook Nucleon Decay and Neutrino (NN) Group
7. Primetime, Dept. of Physics and Astronomy, SUNY at Stony Brook, Stony Brook, New York, April 2002  
Physics and Astronomy Majors: Who are they and where are they going?
6. LIPTA (Long Island Physics Teachers Association)/BNL/Quarknet Joint Conference, BNL, Upton, New York, October, 2001  
Mysterious World of Neutrinos and Quest for Grand Unification
5. Astronomy Open Night, May 5, 2000, SUNY at Stony Brook  
Nature's rare optical displays: Rainbows, Sundogs, Green Flashes, Mirages, Heiligenschein and more...
4. Special public lecture, June 16, 1998, SUNY at Stony Brook  
Breakthrough in Particle Physics: Neutrinos Weigh!
3. Sigma Pi Sigma, Physics Honorary Society Induction Ceremony Congratulatory Speech, April 20, 1998, SUNY at Stony Brook

**Finding the right career and the balance in life**

**2. Astronomy Open Night, March 6, 1998, SUNY at Stony Brook  
Underground Neutrino Telescopes: A new way of seeing stars.**

**1. LSE 310-H: Issues in Science and Engineering, Feb. 5, 1998, Keller Residence Hall  
Living Learning Center, SUNY at Stony Brook  
Physics and Society: Some Issues in High Energy Physics**