

## Curriculum Vitae

**Name**            **Shunzo Kumano**  
Position        Specially Appointed Professor  
Address        Department of Mathematics, Physics and Computer Science  
                  Faculty of Science, Japan Women's University  
                  2-8-1 Mejirodai, Bunkyo-ku, Tokyo 112-8681, Japan  
Telephone      +81-3-5981-3620  
Email          kumanos@fc.jwu.ac.jp

Title            Professor Emeritus  
Address        Institute of Particle and Nuclear Studies  
                  High Energy Accelerator Research Organization (KEK)  
                  Oho 1-1, Tsukuba, Ibaraki, 305-0801, Japan  
Email          shunzo.kumano@kek.jp  
URL            <http://research.kek.jp/people/kumanos/>  
Title            Professor Emeritus, Graduate University for Advanced Studies

Date of Birth    ■■ ■■, 1956  
Citizenship    Japan  
Research Field Theoretical Physics, Hadron Physics

### Education

Bachelor of Science (Physics), March 27, 1979, Saga University, Japan  
Master of Engineering (Information Processing), March 28, 1981,  
Tokyo Institute of Technology, Japan  
Doctor of Philosophy (Physics), September 18, 1985,  
Massachusetts Institute of Technology, USA

### Professional Experience

Research Associate (8/1985–12/1987)  
Department of Physics, University of Illinois at Urbana-Champaign, USA  
Research Associate (1/1988–8/1989)  
Department of Physics and Astronomy, University of Tennessee, USA  
and Physics Division, Oak Ridge National Laboratory, USA  
Research Associate (9/1989–7/1992)  
Nuclear Theory Center, Indiana University, USA  
[ Visitor (8/1992), Institute for Nuclear Study, University of Tokyo, Japan ]  
Research Associate (9/1992–3/1993)  
Institute for Nuclear Physics, University of Mainz, Germany  
Associate Professor (4/1993–7/2000)  
Department of Physics, School of Science and Technology, Saga University, Japan  
Professor (8/2000–12/2004)  
Department of Physics, School of Science and Technology, Saga University, Japan

Professor (1/2005–3/2020)

Institute of Particle and Nuclear Studies,

High Energy Accelerator Research Organization (KEK), Japan

(joint) Professor, Department of Particle and Nuclear Physics,

Graduate University for Advanced Studies, Japan

(joint) Scientist, Particle and Nuclear Physics Division, J-PARC Center, Japan

Professor Emeritus (4/2020–present)

High Energy Accelerator Research Organization (KEK), Japan

Graduate University for Advanced Studies, Japan

Senior Fellow (4/2020–3/2022)

Support Center for Accelerator Science and Technology

and Institute of Particle and Nuclear Studies,

High Energy Accelerator Research Organization (KEK), Japan

(joint) Scientist, Particle and Nuclear Physics Division, J-PARC Center, Japan

Specially Appointed Professor (4/2022–present)

Department of Mathematics, Physics and Computer Science,

Faculty of Science, Japan Women's University, Japan

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## Teaching (2022)

- (2022) Lectures on Introduction to Physics I,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Exercises in Physics I, II,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Fundamental physics experiments I,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Comprehensive natural science,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Special research on physics I, II,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Physics seminars II,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Basic information processing,  
Department of Mathematics, Physics and Computer Science, Faculty of Science,  
Japan Women's University
- (2022) Lectures on Applied physics I,  
Division of Mathematical and Physical Sciences, Graduate School of Science,  
Japan Women's University

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## Teaching (2005-2021)

- (2007-2019) Lectures on Introduction to Hadron and Nuclear Physics Theory I (in English),  
School of High Energy Accelerator Science, Graduate University for Advanced Studies
  - (2006) Lectures on Hadron Theory,  
School of High Energy Accelerator Science, Graduate University for Advanced Studies
  - (2006-2019) Exercise on Particle and Nuclear Physics,  
School of High Energy Accelerator Science, Graduate University for Advanced Studies
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- (2019) Lectures on Nuclear Physics,  
College of Physics, School of Science and Engineering, Tsukuba University,  
Tsukuba, Japan, December 6, 13, 20, 2019.
  - (2018) Lecture on Clarification of internal structure of hadrons and their gravitational form factors by tomography, School of High Energy Accelerator Science, Graduate University for Advanced Studies, April 25, 2018.
  - (2017) Lectures on Structure functions of nucleons and nuclei,  
Yukawa Institute, Kyoto University, Kyoto, Japan, February 23-24, 2017.

- (2014) Lectures on Parton distribution and fragmentation functions, 17th Taiwan Nuclear Physics Summer School, Academia Sinica, Taipei, Taiwan, August 25-28, 2014.
- (2014) Lecture on Hadron physics and J-PARC, School of High Energy Accelerator Science, Graduate University for Advanced Studies, June 25, 2014.
- (2011) Lectures on Brief overview on hadron physics at J-PAPC, First Internship Program under CKorJ-PARC/J-PARC Center Collaboration, Tokai, Japan, February 9-17, 2011.
- (2007) Lectures and Tutorials on Deep inelastic scattering with neutrino beam, 6th International School on Neutrino Factories, Superbeams and Betabeams, KEK, Tsukuba, Japan, July 27 - August 4, 2007.
- (2007) Lectures on Spin structure of nucleons and J-PARC hadron physics, Hokkaido Nuclear Physics Summer School, Sapporo Gakuin University, Ebetsu, Japan, July 14-16, 2007.
- (2007) Lectures on Global QCD analysis, Spin Fest at Riken 2007, Riken, Wako, Japan, June 25-28, 2007.
- (2007) Lectures on Structure functions of nucleons and nuclei, Department of Physics, School of Science, Niigata University, Niigata, Japan, January 23-25, 2007.
- (2005) Lectures on Determination of polarized distribution functions, PHENIX Spin Fest, Riken, Wako, Japan, July 25-29, 2005.
- (2005) Lectures on Structure functions of nucleons and nuclei, Department of Physics, School of Science and Engineering, Graduate School, Tokyo Institute of Technology, Tokyo, Japan, July 13-15, 2005.
- (2005) Lectures on Structure of nucleons and nuclei: parton distribution functions, KEK Summer School, KEK, Tsukuba, Japan, June 14-16, 2005.

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### Teaching (1993-2004)

- (1993-2004) Lectures on Classical Mechanics A, B  
Department of Physics, School of Science and Technology, Saga University
- (1993-1999) Lectures on Classical Mechanics C, D  
Department of Physics, School of Science and Technology, Saga University
- (2001-2004) Lectures on Physical Mathematics D,  
Department of Physics, School of Science and Technology, Saga University
- (2000-2004) Lectures on Introduction to Physics A,  
Department of Physics, School of Science and Technology, Saga University
- (2000-2004) Lectures on Microscopic World,  
Department of Physics, School of Science and Technology, Saga University
- (1993-2004) Lectures on Advanced Quantum Mechanics,  
Department of Physics, Graduate School of Science and Technology, Saga University

- (1993-1999) Lectures on Nuclear and Particle Physics,  
Department of Physics, School of Science and Technology, Saga University
  - (1993-2004) Graduation Research,  
Department of Physics, School of Science and Technology, Saga University
  - (1993-2004) Special Research,  
Department of Physics, Graduate School of Science and Technology, Saga University
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- (2004) Lectures on Introduction to internal structure of proton,  
Ohmura High School,  
Ohmura, Nagasaki, Japan, August 26, 2004.
- (1997) Lectures on Structure functions in nucleons and nuclei,  
Hokkaido Nuclear Physics Summer School in 1997,  
Yubari, Hokkaido, Japan, August 18-21, 1997.
- (1996) Lectures on Structure functions in nucleons and nuclei,  
Department of Physics, Graduate School, Tokyo Metropolitan University,  
Tokyo, Japan, November 25-27, 1996.
- (1994) Lectures on Structure functions of nucleons and nuclei,  
Department of Physics, Graduate School, Kyoto University,  
Kyoto, Japan, June 21, 1994.

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## Thesis supervisor at graduate schools

- Graduate University for Advanced Studies, School of High Energy Accelerator Science,  
Department of Particle and Nuclear Physics, Doctor of Science / Doctor of Philosophy  
2019, September Qin-Tao Song Structure Functions of Pion and Deuteron  
Recipient, Scholarship for International Student by Japanese Ministry  
of Education, Culture, Sports, Science and Technology (MEXT)  
3rd SOKENDAI (Graduate University for Advanced Studies) Award  
for his Ph.D. thesis  
2007, March Takahiro Nagai Determinations of Fragmentation Functions  
and Nuclear Parton Distribution Functions  
Japan Society for the Promotion of Science (JSPS) Research Fellow
- Saga University, Graduate School of Science and Engineering,  
Department of Energy and Materials Science, Doctor of Science  
2001, March Masanori Hirai Optimization of Polarized Parton Distributions  
Japan Society for the Promotion of Science (JSPS) Research Fellow  
1999, March Masanori Miyama  $Q^2$  Evolution of Transversity Distributions  
and Flavor Asymmetries of Sea Quarks  
Japan Society for the Promotion of Science (JSPS) Research Fellow
- Saga University, Graduate School of Science and Engineering,  
Department of Physics, Master of Science  
2006, March Yusuke Shibata  $Q^2$  Evolution of Quark Distributions  
and Its Numerical Solution  
(Official supervisor: Hiroaki Kouno)  
2005, March Takahiro Nagai Optimization of Polarized Nuclear Parton  
Distribution Functions  
2004, March Hidefumi Iwakiri Effects of Vector Mesons on Deuteron  $b_1$   
2004, March Mitsuaki Nakamura Determination of Nuclear Parton Distributions  
by Data Analysis of Structure Function  $F_2$   
and Drell-Yan Cross Sections  
2004, March Kosuke Nozoe Numerical Analysis of  $Q^2$  Evolution Equations  
and Charm Threshold  
1999, March Satoko Hino Structure Functions of Polarized Proton-Deuteron  
Drell-Yan Processes  
1998, March Masanori Hirai  $Q^2$  Dependence of Polarized Parton Distributions  
1998, March Kazuaki Umekawa Nuclear Structure Function  $F_2$   
and Sea-Quark and Gluon Distributions  
1996, March Masanori Miyama  $Q^2$  Dependence of Nucleonic and Nuclear  
Structure Functions  
1995, March Ryoko Kobayashi Structure Functions  $F_3$  of Nucleons and Nuclei  
1995, March Masataka Konuma  $Q^2$  Evolution of Quark-Gluon Distributions

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## Committee Members of International Conferences (2005-2021)

- International Advisory Committee (IAC),  
16th International Conference on Meson-Nucleon Physics  
and the Structure of the Nucleon,  
Mainz, Germany, 2023.06 or 09.
- IAC, 9th International Conference on Quarks and Nuclear Physics,  
Bonn, Germany, 2022.09.
- IAC, 14th European Research Conference on Electromagnetic Interactions with Nucleons  
and Nuclei,  
(Online) Paphos, Cyprus, 2021.10.31-11.06.
- Scientific Program Committee,  
24th International Spin Symposium,  
(Online/In-person) Matsue, Japan, 2021.10.18-22.
- IAC, Workshop “Gluon content of proton and deuteron with the Spin Physics Detector at  
the NICA collider”,  
(Online) Dubna, Russia, 2020.9.30-10.1.
- IAC, International Workshop on Electromagnetic Interactions with Nucleons and Nuclei,  
Paphos, Cyprus, 2019.10.27-11.02.
- Local Organizing Committee, 11th Circum-Pan-Pacic Symposium on  
High Energy Spin Physics,  
Miyazaki, Japan, 2019.8.27-30.
- IAC, 15th International Conference on Meson-Nucleon Physics  
and the Structure of the Nucleon,  
Carnegie Mellon University, Pittsburgh, Pennsylvania, USA, 2019.6.2-7.
- Scientific Program Committee, International Workshop on  
Neutrino-Nucleus Interactions in the Few-GeV Region,  
L’Aquila, Italy, 2018.10.15-19.
- IAC, 23rd International Symposium on Spin Physics and Related Phenomena,  
Ferrara, Italy, 2018.9.10-14.
- IAC, International Workshop on New Frontiers in QCD 2018  
– Confinement, Phase Transition, Hadrons, and Hadron Interactions –,  
Kyoto University, Kyoto, Japan, 2018.5.28-6.29.
- IAC, International Workshop on Electromagnetic Interactions with Nucleons and Nuclei,  
Paphos, Cyprus, 2017.10.29-11.4.
- Session Convener, 11th International Workshop on  
Neutrino-Nucleus Scattering in the Few-GeV Region,  
Toronto, Canada, 2017.6.25-30.
- IAC, 14th International Conference on Meson-Nucleon Physics  
and the Structure of the Nucleon,  
Kyoto University, Kyoto, Japan, 2016.7.25-30.
- IAC, 10th Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics,  
Taipei, Taiwan, 2015.10.5-8.

- IAC, 7th International Conference on Quarks and Nuclear Physics, Valparaiso, Chile, 2015.3.2-6.
- IAC, 4th International workshop on Nucleon Structure at Large Bjorken  $x$ , Laboratori Nazionali di Frascati, Italy, 2014.11.17-24.
- Scientific Program Committee, 9th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Selsdon Park Hotel, Surrey, UK, 2014.5.19-24.
- IAC, 9th Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics, Shandong University, Jinan, China, 2013.10.28-31.
- IAC, 8th Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics, Cairns, Australia, 2011.6.20-24.
- Scientific Program Committee, 7th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Dehradun, Uttarakhand, India, 2011.3.7-11.
- Organizing Committee, 12th International Conference on the Structure of Baryons, Osaka, Japan, 2010.12.7-11.
- IAC, 3rd International Workshop on Nucleon Structure at Large Bjorken  $x$ , Jefferson Lab, Newport News, Virginia, USA, 2010.10.13-15.
- IAC, International Workshop on High Energy Strong Interactions 2010: Parton Distributions and Dense QCD Matter, Kyoto, Japan, 2010.7.26-8.27.
- IAC, 7th Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics, Yamagata, Japan, 2009.9.15-18.
- Scientific Program Committee, 6th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Sitges (Barcelona), Spain, 2009.5.18-22.
- IAC, 6th International Conference on Perspectives in Hadronic Physics, International Centre for Theoretical Physics (ICTP), Trieste, Italy, 2008.5.12-16.
- Program Committee, International Nuclear Physics Conference, Tokyo, Japan, 2007.6.3-8.
- Program and Organizing Committee, 4th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Okayama, Japan, 2005.9.26-29.



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## External Committee Members and Affiliations (2005-2021)

- Coordinating Committee (2020-2021), U.S.-Japan Hadronic Physics Exchange Program for Studies of Hadron Structure and QCD
- Representative (2016-2021), Physical Society of Japan
- Nuclear Theory Executive Committee in Japan (2005-2009, 2013-2018)
- Chairperson (2014.4-2015.3), Nuclear Theory Executive Committee in Japan
- Executive Secretary (2013.4-2014.3), Nuclear Theory Executive Committee in Japan
- Field Representative (2008), Nuclear Theory Field, Physical Society of Japan
- Vice Field Representative (2007), Nuclear Theory Field, Physical Society of Japan
- Program Committee (2006), Nuclear Theory Field, Physical Society of Japan
- Secretariat (2010-2011), Nuclear Theory Community in Japan
- Visiting Scientist (2005-2021), RIKEN
- Lecturer (2019), College of Physics, Tsukuba University
- Lecturer (2017), Yukawa Institute, Kyoto University
- Visiting Scholar (2009, 2010), Institute for Nuclear Theory, University of Washington
- Lecturer (2007), Department of Physics, Niigata University
- Lecturer (2005), Department of Physics, Tokyo Institute of Technology
- Author (2011-2013), Summary Article on Physics of the B-factories
- Author (2010-2012), Future Planning of Nuclear Physics in Japan

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**Committee Members at KEK and Graduate University for Advanced Studies  
(2005-2021)**

- Managing Committee (2015-2019), Institute of Particle and Nuclear Studies, KEK
  - Self-Evaluation Committee (2006-2009,2016-2018), KEK
  - Leader (2011-2019), J-PARC Theory Branch, KEK Theory Center, Institute of Particle and Nuclear Studies, KEK
  - Leader (2011-2019), Theory Group, Particle and Nuclear Physics Division, J-PARC Center
  - Leader (2005-2015), Hadron-Nuclear-Field Theory Group, Theory Center, Institute of Particle and Nuclear Studies, KEK
  - Author on Nuclear Physics (2008-2015), KEK Physics Book Series, KEK
  - Promotion Committee (2005-2018), Large-Scale Simulation Projects, KEK
  - Evaluation Committee (2005-2013), Large-Scale Simulation Proposals, KEK
  - Program Advisory Committee (2008-2013), Japan Proton Accelerator Research Complex (J-PARC), Institute of Particle and Nuclear Studies, KEK
  - Future Planning Committee (2005-2006), Institute of Particle and Nuclear Studies, KEK
  - Steering Committee (2005-2006), Institute of Particle and Nuclear Studies, KEK
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- Promotion Committee for Education (2013-2016), School of High Energy Accelerator Science, Graduate University for Advanced Studies
  - Self-Evaluation Committee (2013-2016), School of High Energy Accelerator Science, Graduate University for Advanced Studies

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## Conference Organizations (2005-2021)

- Workshop on GPDs and related topics at J-PARC, Online (KEK, Tsukuba, Japan), 2021.12.22, S. Kumano.
- Symposium on Electron-Ion Collider (EIC) Project - Nuclei and nucleons explored by electrons -, Online, Japan Physical Society, 2021.9.17, S. Kumano, T.-A. Shibata, T. Ueda, Y. Yamazaki.
- Workshop on Femtotechnologies by Quantum Computers in 2021, Online (KEK, Tsukuba, Japan), 2021.3.22-23, S. Kumano, I. Tsutsui.
- Workshop on Beta decay, r process, and related weak-interaction processes, Online (KEK, Tokai, Japan), 2021.2.19, S. Kumano, T. Sato, K. Yoshida.
- Workshop on Nuclear and hadron physics in 2020, Online (KEK, Tsukuba, Japan), 2020.9.29,10.2,10.6,10.9, A. Dote, K. Fukushima, K. Hagino, M. Harada, Y. Hidaka, T. Hyodo, K. Itakura, D. Jido, M. Kimura, M. Kitazawa, S. Kumano, M. Maruyama, A. Monnai, O. Morimatsu\*, H. Nagahiro, T. Nakatsukasa, K. Ogata, S. Sasaki, K. Tanaka (\*chair).
- Workshop on Intersections of Particle and Nuclear Collider Physics, Online (KEK, Tsukuba, Japan), 2020.8.31-9.1, Y. Goto\*, S. Hashimoto, K. Kawade, S. Kumano\*, Y. Miyachi, I. Nakagawa, R. Seidl, Y. Yamazaki (\*co-chair).
- Workshop on Physics of Heavy-Quark and Exotic Hadrons, KEK, Tokai, Japan, 2020.1.27-29, S. Kumano, O. Morimatsu, M. Takizawa, P. Gubler, K. Tanida, A. Hosaka.
- Workshop on Nucleon Electric Dipole Moments and Spin Structure in 2020, KEK, Tokai, Japan, 2020.1.11, S. Kumano, T. Mibe, T. Sato, K. Tanaka.
- 11th Circum-Pan-Pacific Symposium on High Energy Spin Physics, Miyazaki, Japan, 2019.8.27-30, T. Iwata, T. Matsuda, T.-A. Shibata; N. Doshita, Y. Goto, Y. Hatta, Y. Koike, S. Kumano, Y. Maeda, Y. Miyachi, K. Nagai, I. Nakagawa, K. Nakano, G. Nukazuka, S. Sasaki, S. Sawada, R. Seidl, K. Tanaka.
- Workshop on Progress of QCD and Nucleon Structure in 2019, KEK, Tsukuba, Japan, 2019.2.28-3.1, S. Kumano, K. Tanaka.
- Workshop on Neutrino-Nucleus Reactions and Neutrino Interactions, KEK, Tokai, Japan, 2019.2.22-23, S. Kumano, T. Sato.
- Workshop on Progress on Hadron Structure Functions, KEK, Tsukuba, Japan, 2018.11.18-19, Y. Goto, S. Kumano, K. Tanaka.

- 8th International Conference on Quarks and Nuclear Physics,  
Tsukuba International Conference Hall, Tsukuba, Japan, 2018.11.13-17,  
A. Dote, Y. Goto, M. Harada, A. Hosaka, K. Itakura, H. Kamano, S. Kumano\*, A. Monnai,  
O. Morimatsu, S. N. Nakamura, M. Naruki, H. Noumi, H. Ohnishi, K. Ozawa, H. Sako,  
F. Sakuma, S. Sawada\*, H. Takahashi, T. Takahashi, K. Tanaka, K. Tanida (\* Co-chair).
- Workshop on Shallow- and Deep-Inelastic Scattering,  
L'Aquila, Italy, 2018.10.11-13,  
L. Alvarez-Ruso, C. Bronner, H. Gallagher, Y. Hayato, T. Katori\*, S. Kumano,  
J. G. Morfin\*, U. Mosel, J. Owens, J. Paley, R. Petti, J. Sobczyk.
- Workshop on GPD Studies at JLab, J-PARC, and Future EIC,  
KEK, Tokai, Japan, 2018.5.8,  
S. Kumano, K. Tanaka.
- Pre-workshop for the Conference on Deep Inelastic Scattering: EIC Project,  
Kobe, Japan, 2018.4.15,  
Y. Akiba, A. Deshpande, Y. Goto, Y. Hatta, Y. Itow, S. Kumano, Y. Miyachi, I. Nakagawa,  
R. Seidl, B. Surrow, K. Tanaka, Y. Yamazaki.
- Workshop on New Horizons of Weak Value, Weak Measurements, Entanglement,  
and Quantum Coherence,  
KEK, Tsukuba, Japan, 2018.2.21-22,  
S. Iso, K. Iwano, S. Kumano, Y. Kuramoto, I. Tsusui.
- Workshop on Summary of KEK-Theory-Center J-PARC Branch Activities,  
KEK, Tokai, Japan, 2018.2.1-2,  
A. Dote, T. Harada, K. Itakura, M. Kitazawa, S. Kumano, O. Morimatsu, T. Sato,  
M. Takizawa, K. Tanaka.
- Workshop on Gravitational Physics with Particle Accelerators 2017,  
KEK, Tokai, Japan, 2017.11.30,  
S. Kumano, T. Mibe, S. Mizoguchi, J. Murata.
- Workshop on Research Forefront of Theoretical Nuclear Physics in 2017,  
KEK, Tsukuba, Japan, 2017.11.20-22,  
M. Asakawa, A. Dote, K. Fukushima, K. Hagino, M. Harada, S. Hirezaki,  
A. Hosaka, K. Itakura, H. Kamano, M. Kimura, S. Kumano, O. Morimatsu,  
T. Nakatsukasa, A. Ohnishi.
- Workshop on Neutrino-Nucleus Interaction in a Few GeV Region,  
KEK, Tokai, Japan, 2017.11.18-19,  
Y. Hayato, S. Kumano, T. Sato.
- Workshop on Origin and Composition of Nucleon Mass,  
KEK, Tsukuba, Japan, 2017.9.1,  
S. Kumano, K. Tanaka.
- Workshop on Hadron and Nuclear Physics in 2017,  
KEK, Tsukuba, Japan, 2017.1.7-10,  
A. Dote, K. Itakura, H. Kamano, S. Kumano, O. Morimatsu.
- Workshop on Hadron Tomography at J-PARC and KEKB,  
KEK, Tsukuba, Japan, 2017.1.6,  
S. Kumano, M. Takizawa, K. Tanaka.

- Workshop on Prospects of Electron-Ion-Collider Project,  
KEK, Tokai, Japan, 2016.8.3,  
Y. Goto, S. Kumano, I. Nakagawa, K. Tanaka, K. Tanida.
- Workshop on Hadron Tomography,  
YITP, Kyoto, Japan, 2016.7.31,  
Y. Hatta, S. Kumano, K. Tanaka.
- International Workshop on J-PARC Hadron Physics in 2016,  
Ibaraki Quantum Beam Research Center (IQBRC), Tokai, Japan, 2016.3.2-4,  
A. Dote, S. Kumano, T. Maruyama, K. Ozawa, S. Sawada, T. Takahashi, K. Tanida.
- Spinfest 2015 Workshop,  
KEK, Tokai, Japan, 2015.7.22-24,  
K. Tanida, S. Kumano, R. Seidl, K. Tanaka.
- Summer School on Spinfest 2015,  
KEK, Tokai, Japan, 2015.7.6-21,25-31,  
K. Tanida, S. Kumano, R. Seidl, K. Tanaka.
- J-PARC Hadron Salon on  $\Xi$  Hypernuclei,  
KEK, Tokai, Japan, 2015.8.4,  
A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- J-PARC Hadron Salon on Kaonic Nuclei,  
KEK, Tokai, Japan, 2015.5.18,  
A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- Workshop on Hadron Physics with High-Momentum Hadron Beams  
at J-PARC in 2015,  
KEK, Tsukuba, Japan, 2015.3.13-16,  
S. Kumano, O. Morimatsu, K. Ozawa, S. Sawada.
- Workshop on J-PARC Proposal on High-Energy Hadron Physics,  
KEK, Tsukuba, Japan, 2015.3.12,  
S. Kumano, K. Tanaka.
- Workshop on Progress on J-PARC Hadron Physics in 2014,  
KEK, Tokai, Japan, 2014.11.30-12.2,  
A. Dote, K. Imai, S. Kumano, T. Maruyama, T. Takahashi, K. Tanida.
- Workshop on Hadron Structure and Spectroscopy,  
Workshop before the APS-JPS meeting,  
Waikoloa, Hawaii, USA, 2014.10.7,  
B. Briscoe, V. Burkert, K. Imai, H. Kamano, S. Kumano, W. Melnitchouk.
- Workshop toward LoI for J-PARC on High-Energy Hadron Physics,  
KEK, Tokai, Japan, 2014.8.10,  
S. Kumano, K. Tanaka.
- Workshop on High-Energy QCD and Nucleon Structure,  
KEK, Tsukuba, Japan, 2014.3.7-8,  
Y. Goto, Y. Hatta, T. Iwata, Y. Koike, S. Kumano, S. Sawada, T. Shibata, K. Tanaka
- Workshop on High-Energy Hadron Physics at J-PARC,  
KEK, Tokai, Japan, 2014.2.13,  
S. Kumano, K. Tanaka.

- Workshop on J-PARC Hadron Physics in 2014,  
KEK, Tokai, Japan, 2014.2.10-12,  
A. Dote, T. Harada, S. Hirenzaki, S. Kumano, T. Maruyama, T. Takahashi, K. Tanaka.
- Workshop on J-PARC Theory Activities,  
KEK, Tokai, Japan, 2013.5.11,  
S. Kumano.
- Workshop on Hadron-Structure Physics at J-PARC and Related Topics,  
KEK, Tokai, Japan, 2013.3.18,  
S. Kumano.
- Workshop on Neutrino-Nucleus Reaction from MeV to GeV,  
KEK, Tokai, Japan, 2013.3.8-9,  
S. Kumano, T. Sato.
- J-PARC Hadron Salon on Neutron-Rich Nuclei,  
KEK, Tsukuba, Japan, 2013.3.1,  
A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- Workshop on Future Prospects of Hadron Physics at J-PARC  
and Large Scale Computational Physics,  
IQBRC, Tokai, Japan, 2013.2.11-13,  
A. Dote, S. Hashimoto, T. Hatsuda, E. Hiyama, K. Imai, S. Kumano, T. Maruyama,  
M. Oka, T. Takahashi, H. Tamura.
- Workshop on Hadron Physics with High-Momentum Hadron Beams  
at J-PARC in 2013,  
KEK, Tsukuba, Japan, 2013.1.15-18,  
S. Kumano, O. Morimatsu, S. Sawada.
- Workshop on Neutrino-Nucleus Reaction from MeV to GeV,  
KEK, Tokai, Japan, 2012.12.2-4,  
S. Kumano, T. Sato.
- International Workshop on Fragmentation Functions and QCD 2012,  
Riken, Wako, Japan, 2012.11.9-11,  
R. Seidl, S. Kumano, T. Shibata.
- J-PARC Hadron Salon on Hypernuclear Physics and Neutron Stars,  
KEK, Tsukuba, Japan, 2012.7.4,  
A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- Workshop on Neutrino-Nucleus Reaction from MeV to GeV,  
KEK, Tokai, Japan, 2012.3.19-21,  
S. Kumano, T. Sato.
- Workshop on Future Prospects of Hadron Physics at J-PARC  
and Large Scale Computational Physics,  
IQBRC, Tokai, Japan, 2012.2.9-11,  
A. Dote, O. Hashimoto, S. Hashimoto, T. Hatsuda, E. Hiyama, K. Imai, S. Kumano,  
T. Maruyama, M. Oka, T. Takahashi.
- Workshop on Neutrino-Nucleus Reaction from MeV to GeV,  
KEK, Tokai, Japan, 2011.12.17-18,  
S. Kumano, T. Sato.

- Workshop on Hadron-Nuclear Theory at J-PARC, KEK, Tokai, Japan, 2011.12.16-17, A. Dote, S. Kumano.
- 150th Friendship Anniversary Workshop Between Germany and Japan on Modern Trends in Quantum Chromodynamics, DESY, Zeuthen, Germany, 2011.10.3-5, J. Blümlein, S. Kumano, T. Riemann, T. Uematsu, W. Vogelsang.
- Workshop on J-PARC Hadron Salon on Pentaquark Physics, KEK, Tsukuba, Japan, 2011.9.29, A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- Workshop on Hadron-Nuclear Physics at J-PARC, KEK, Tsukuba, Japan, 2011.6.10-11, A. Dote, T. Hatsuda, M. Hiyama, S. Kumano, M. Oka, S. Hashimoto.
- Workshop on Progress of Nucleon Structure Studies, KEK, Tsukuba, Japan, 2011.1.7-8, Y. Goto, H. Kawamura, S. Kumano, S. Sawada.
- J-PARC Hadron Salon on Hypernuclei and  $\gamma$ -Ray Spectroscopy, KEK, Tsukuba, Japan, 2010.11.18, A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- J-PARC Hadron Salon on J-PARC Hadron Experiments and Neutron-Rich Nuclei, KEK, Tsukuba, Japan, 2010.8.11, A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- J-PARC Hadron Salon on J-PARC Hadron Physics and Strangeness Nuclear Physics, KEK, Tsukuba, Japan, 2010.6.17, A. Dote, S. Kumano, S. Sawada, T. Takahashi.
- Workshop on High-Energy Hadron Physics with Hadron Beams, KEK, Tsukuba, Japan, 2010.1.6-8, K. Itakura, S. Kumano, Jen-Chieh Peng, S. Sawada.
- Workshop on Short-Range Correlations and Tensor Structure at J-PARC, KEK, Tsukuba, Japan, 2009.9.25, S. Kumano, H. Morita, S. Sawada
- Workshop on Nuclear and Hadron Physics, KEK, Tsukuba, Japan, 2009.8.11-13, H. Abuki, A. Dote, Y. Ikeda, K. Itakura, S. Kumano, O. Morimatsu, T. Myo, T. Takahashi, J. Utsuno, S. Yasui.
- Workshop on New Developments of Nucleon Structure Studies in 2009, KEK, Tsukuba, Japan, 2009.1.10, T. Kimura, S. Kumano.
- Workshop on High-Energy Hadron Physics at J-PARC: Hadrons in Nuclear Medium, KEK, Tsukuba, Japan, 2009.1.8, K. Itakura, S. Kumano, S. Sawada, S. Yasui.
- Workshop on J-PARC Physics: New Aspects of Hadron and Nuclear Physics, KEK, Tsukuba, Japan, 2008.8.7-9, A. Dote, S. Hirenzaki, A. Hosaka, K. Itakura, Y. Koike, S. Kumano, O. Morimatsu, A. Ohnishi.

- Workshop on High-Energy Hadron Physics at J-PARC:  
QCD Hard Scattering and Charm,  
KEK, Tsukuba, Japan, 2008.7.8,  
K. Itakura, S. Kumano, S. Sawada, S. Yasui.
- Workshop on Ultra-High Energy Cosmic Rays and Hadron Structure 2008,  
KEK, Tsukuba, Japan, 2008.4.25-26,  
M. Fukushima, Y. Ito, S. Kumano.
- 4th International Workshop on Nuclear and Particle Physics at J-PARC,  
Mito Plaza Hotel, Mito, Ibaraki, Japan, 2008.3.5-7,  
T. Hasegawa, J. Imazato, S. Komamiya, T. Komatsubara, T. Koseki, S. Kumano,  
Y. Kuno, S. Mihara, T. Nagae, S. Nagamiya, T. Nakano, T. Nakaya, K. Nishikawa,  
H. Noumi, Y. Okada, N. Saito, S. Sawada, H. Tamura, K. H. Tanaka, K. Tokushuku,  
T. Yamanaka.
- Workshop on Hadron Physics at Belle,  
KEK, Tsukuba, Japan, 2008.1.21,  
A. Dote, S. Kumano, Y. Sakai, K. Sudoh, S. Uehara.
- Workshop on Structure Functions of the Nucleon in 2008,  
KEK, Tsukuba, Japan, 2008.1.12,  
S. Kumano, K. Sudoh.
- Workshop on High-Energy Hadron Physics at J-PARC: Dimuon Production,  
KEK, Tsukuba, Japan, 2008.1.11,  
K. Itakura, S. Kumano, S. Sawada, K. Sudoh.
- Workshop on Description of Lepton-Nucleus Reactions,  
KEK, Tsukuba, Japan, 2007.12.22,  
S. Kumano.
- Workshop on Crossing of Nuclear and Hadron Physics,  
KEK, Tsukuba, Japan, 2007.11.19-21,  
A. Dote, K. Hagino, K. Iida, K. Itakura, D. Jido, H. Kamata, M. Kimura, S. Kumano,  
K. Sudoh, O. Morimatsu.
- Workshop on High-Energy Hadron Physics at J-PARC: Nucleon Spin Structure,  
KEK, Tsukuba, Japan, 2007.10.19,  
K. Itakura, S. Kumano, S. Sawada, K. Sudoh.
- Workshop on Nuclear Physics at J-PARC,  
Tokai, Japan, 2007.6.1-2,  
A. Dote, S. Hirenzaki, K. Itakura, S. Kumano, O. Morimatsu, T. Nagae, A. Ohnishi, H.  
Ohnishi, K. Ozawa, N. Saito, A. Sakaguchi, S. Sawada, T. Takahashi, H. Tamura.
- Workshop on High-Energy Hadron Physics at J-PARC:  
QCD corrections in Drell-Yan,  
KEK, Tsukuba, Japan, 2007.4.29,  
K. Itakura, S. Kumano, S. Sawada, K. Sudoh.
- Workshop on Toward Precision QCD Physics,  
KEK, Tsukuba, Japan, 2007.3.10,  
S. Hashimoto, Y. Kitazawa, S. Kumano, Y. Kurihara, N. Saito, F. Takasaki.



- Workshop on Reunion of Hadron Physics and Superstring Theory: Hadrons, Strongly Coupled Plasmas, and Black Holes, KEK, Tsukuba, Japan, 2007.3.5-7, T. Hatsuda, K. Itakura, S. Kumano, O. Morimatsu, M. Natsuume, T. Sakai, M. Tachibana.
- Workshop on Structure Functions of the Nucleon 2007, KEK, Tsukuba, Japan, 2007.1.12-13, S. Kumano, K. Sudoh.
- 17th International Spin Physics Symposium, Kyoto, Japan, 2006.10.2-7, K. Imai, A. J. Keun, K. Asahi, C. H. Yang, H. Enyo, K. Hagiwara, T. Hasegawa, K. Hatanaka, T. Hatsuda, N. Horikawa, T. Iwata, T. Kishimoto, J. Kodaira, Y. Koike, T. Kugo, S. Kumano, T. Kunihiro, Y. Kuno, Y. Mori, T. Nakanishi, T. Nakano, M. Nojiri, T. Noro, M. Oka, N. Saito, H. Sakaguchi, H. Sakai, H. Sato, T.-A. Shibata, H. Shimizu, Y. Takahashi, H. Toki, K. Tokushuku, T. Uematsu, K. Yazaki, Y. Yanlin.
- Workshop on Modern Nuclear Physics: Diversification and Evolving View of Nuclear Picture, KEK, Tsukuba, Japan, 2006.8.1-3, A. Dote, Y. Enyo, S. Fujii, T. Harada, S. Hirenzaki, E. Hiyama, K. Itakura, M. Kimura, S. Kumano, O. Morimatsu, T. Nakatsukasa, H. Nemura.
- Summer School on Hypernuclear Physics, KEK, Tsukuba, Japan, 2006.7.24-27, A. Dote, E. Hiyama, S. Kumano, M. Oka.
- RIKEN Workshop on Frontiers in the Physics of Quark-Gluon Plasma, Riken, Wako, Japan, 2006.7.8-9, H. Enyo, T. Hatsuda, S. Kumano, T. Matsui, O. Morimatsu, M. Oka, Y. Watanabe, K. Yazaki.
- XIV International Workshop on Deep Inelastic Scattering, Tsukuba, Japan, 2006.4.20-24, R. Hamatsu, K. Hagiwara, J. Kodaira, S. Kumano, M. Kuze, K. Nagano, N. Saito, T. Shibata, K. Tokushuku, S. Yamada, Y. Yamazaki.
- Workshop on New Developments on QCD and Hadron Physics, KEK, Tsukuba, Japan, 2006.2.27-3.1, A. Dote, H. Fujii, K. Itakura, D. Jido, S. Kumano, O. Morimatsu, M. Ohtani, K. Sudoh.
- Workshop on Hadron Structure at J-PARC, KEK, Tsukuba, Japan, 2005.11.30-12.2, Y. Goto, S. Kumano, N. Saito, S. Sawada.
- 5th Circum-Pan-Pacific Symposium on High Energy Spin Physics, KEK, Tsukuba, Japan, 2005.7.5-8, K. Asahi, H. Enyo, S. Kumano, M. Kuze, Y. Miyachi, M. Oka, N. Saito, T.-A. Shibata.