

This English translation of “2017 Annual Report” of the Institute of Actuaries of Japan is an unofficial translation. Only its original Japanese texts have effect, and the translation is to be used solely as reference material to aid in the understanding of the original one.

この「2017年度事業報告」の翻訳は公定訳ではありません。効力を有するのは日本語の資料であり、翻訳はあくまでその理解を助けるための参考資料です。

2017 Annual Report
From April 1, 2017 to March 31, 2018

1. Matters concerning Annual General Meeting of Members

The General Meeting of Members was held on June 20, 2017 at the main conference room of the Institute of Actuaries of Japan, and

“Report on a summary of business activities in 2016”

was presented, and the following two proposals were put before the meeting and approved as proposed:

- Item 1: 2016 Approval of a Balance Sheet and Net Assets Variation Statement as well as Inventory of Properties
- Item 2: Election of the Directors and Auditors

2. Movement of members

Movements of members during the current year were as follows: for corporate members, 2 member withdrew from the IAJ; for individual members, 322 members were newly admitted and 214 members withdrew from the IAJ. The number of members as of the end of March 2018 is as shown in the table below.

Fellows	1,697 persons
Associates	1,295 persons
Students	2,125 persons
Semi-total	5,117 persons
Corporate members	107 corporations
Total	5,224 persons/corporations

3. Business report

[A. Related to examination]

(A1) Implementation of qualification examination

A 3-day qualification examination was held from December 11 to 13, 2017 in Tokyo (at TOC Gotanda) and Osaka (at Temma Training Center) and the successful examinees were announced on February 14, 2018.

The total number of examination subjects for the primary examination was 3,859 subjects and the total number of subjects passed was 649 subjects. There were 88 examinees who passed all basic subjects.

Primary examination (Basic subjects)	Mathematics	Life Insurance Mathematics	Non-life Insurance Mathematics	Pension Mathematics	Accounting , Economics and Investment Theory
Number of examinees	1,069	827	688	542	733

Number of successful examinees	110	217	94	89	139
Passing Rates	10.3%	26.2%	13.7%	16.4%	19.0%

The total number of examination subjects for the secondary examination was 1,259 subjects and the total number of subjects passed was 149 subjects. There were 67 examinees who passed all the subjects.

Secondary examination (Advanced subject)	Life Insurance 1	Life Insurance 2	Non-life Insurance 1	Non-life Insurance 2	Pension 1	Pension 2
Number of examinees	367	355	160	128	106	143
Number of successful examinees	41	44	17	16	12	19
Passing Rates	11.2%	12.4%	10.6%	12.5%	11.3%	13.3%

(A2) Implementation of CERA examination

The CERA examination was held on October 3, 2017 in Tokyo (at TKP Otemachi Conference Center) and the successful examinees were announced on January 15, 2018. There were 41 examinees and 4 examinees passed the examination (Passing Rates 9.8%).

(A3) Revision of textbooks

In February 2018, “New Products”, Chapter 4 of “Life Insurance 1”, was discontinued and “Product Development of Life Insurance” was newly published. At the same time, “Risk Management”, Chapter 10 of “Non-life Insurance” and the Appendix were revised and updated on the fields on risk management such as ERM and solvency regulations.

[B. Related to education, training and research presentation]

(B1) Implementation of actuary courses

The actuary courses were offered for a period from May 9, 2017 to October 3, 2017. Details are as follows.

	Subject	Number of students
Basic courses (12 Subjects)	<ul style="list-style-type: none"> ▪ Probability ▪ Probability Exercise ▪ Life Insurance Mathematics ▪ Non-life Insurance Mathematics ▪ Pension Mathematics ▪ Accounting ▪ Life table ▪ Statistics ▪ Statistics Exercise ▪ Economics ▪ Investment Theory ▪ Modeling 	148 people
Intermediate courses (7 Subjects)	<ul style="list-style-type: none"> ▪ Risk Selection Theory ▪ Population Theory ▪ Insurance Supervision Law ▪ Pension Practice Regulations ▪ Finance Mathematics ▪ Social Insurance Theory ▪ Risk Management Theory 	34 people

The additional actuary exercise courses were offered for a period from September 27, 2017 to November 30, 2017. Details are as follows.

	Subject (Number of students)
Additional actuary exercise courses	<ul style="list-style-type: none"> ▪ Life Insurance Mathematics Exercise (34 people) ▪ Non-life Insurance Mathematics Exercise (41 people)

	<ul style="list-style-type: none"> ▪ Pension Mathematics Exercise (25 people) ▪ Modeling Exercise (23 people)
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Kansai Committee actuary courses were offered for a period from August to October 2017.
1 person took the life insurance mathematics course and 2 people took the pension mathematics course.

(B2) Holding of Annual Meeting

A 2-day Annual Meeting was held on November 9 and 10, 2017 at Keidanren Kaikan and Station Conference Tokyo. The following special lectures were held in this meeting.

- ”The fourth Science: Data Science and Data Scientists” By Mr. Genshiro Kitagawa
(Appointed Professor, Mathematics and Informatics Center, Tokyo University
Past-President (2011-2016), Research Organization of Information and systems (ROIS)
Past-Director General (2002-2011), The Institute of Statistical Mathematics)
- “What makes the Actuarial Profession a Profession? A Global Perspective”
By Mr. Thomas S. Terry (President, International Actuarial Association)
- “Turbulent global economy – Challenges and countermeasures of Japanese companies”
By Mr. Yuji Shindo (Representative, Shindo Industrial Research Institute)

Also, 17 papers were presented, 15 presentations and 1 panel discussion were held.

(B3) Holding of IT Annual Meeting

A 2-day IT Annual Meeting was held on January 25 and 26, 2018 at Mitsui Life Insurance Co., Ltd. (Otemachi Nomura Building). The following special lecture was held in this meeting.

- ”Digital transformation leading the IOT/AI era
~ Structural Reform of the values by real time process “
By Mr. Yosuke Miyahara (Operating Officer, Future Architect)

And IT Study Groups (1st to 6th) conducted activity reports.

(B4) Holding of regular meetings

We held a total of 10 regular meetings in FY2017. Details are as follows.

1 st Jun. 21, 2017 [Accounting Standard]	IFRS 17 – Introduction & Challenges	Mr. Henny Verheugen (Milliman) Mr. William Hines (Milliman)
2 nd Jul. 5, 2017 [Medical Insurance]	A trend of specific disease incidence rate in global and Japan ~What can we learn from the past trend and foreign markets in formulating an assumption of the Japanese market?	Mr. Andrew Gaskell (RGA International Corporation)
3 rd Jul. 26, 2017 [Members’ Report]	A picture of actuarial education with a view to the future ~Discussion on revision of IAA syllabus~	Mr. Tomio Murata (IAA Executive Committee)
	Practical Standards model at IAA Update of the discussion on ISAPs	Mr. Toshihiro Kawano (IAA Actuarial Standards Committee)
4 th Sep. 11, 2017 [Asia]	The Malaysian Insurance Industry	Mr. Zainal Abidin Mohd.Kassim (Actuarial Partners Consulting / Past-President of Malaysian Actuarial Association)
5 th	Longevity and attached risks	Mr. Cord-Roland Rinke

Sep. 26, 2017 [Risk Management]		(Hannover Re)
6 th Oct. 23, 2017 [Professionalism]	※Joint seminar with Professionalism Training (Continuing Professional Development) (Reference to (B10) ①)	
7 th Dec. 6, 2017 [Social Security]	Future population estimation and its application	Mr. Futoshi Ishii (Manager, Population Dynamics Research, National Institute of Population and Social Security Research)
8 th Feb. 9, 2018 [Data Science]	Overview of Predictive Modeling and the latest trend	Mr. Hirokazu Iwasawa
	On the difference between “Statistical Science” and “Machine Learning”	Hironori Fujisawa, Ph.D. (Professor, The Institute of Statistical Mathematics)
9 th Feb. 27, 2018 [Risk Management]	Insurance Regulation in the UK and EU	Mr. Andrew Bulley (Deloitte UK)
10 th Mar. 5, 2018 [Accounting Standard]	Commentary on IFRS 17 - Focusing on the transition of discussion of major concepts -	Mr. Tatsumi Yamada (KPMG AZSA)

(B5) Holding of Kansai Committee regular meetings

We held a total of 4 Kansai Committee regular meetings in FY2017. Details are as follows.

1 st Oct. 5, 2017 [Economics]	Stagnant monetary policy - Negative interest, FTPL, Helicopter money and Exit Strategy	Mr. Mitsuru Iwamura (Professor, Waseda Business School (Graduate School of Business and Finance))
2 nd Jan. 12, 2018 [Risk Management]	Financial Risk Management - review from the 10 biggest cases	Mr. Kenji Fujii (Mizuho Securities)
3 rd Mar. 15, 2018 [Others]	Psychology of Risk Behavior - Is automatic driving the trump card for traffic safety?	Mr. Shigeru Haga (Professor, Rikkyo University)
4 th Mar. 22, 2018 [Insurance Management, Pension, Risk Management]	2017 Report on Activities of Kansai Committee's Sub-committees	each sub-committee

(B6) Holding of moonlight seminars

Moon light seminars under the following 5 themes were held from December 2017 to February 2018.

Introduction to biostatistics for actuaries	Mr. Kousuke Iwasaki (Milliman)
Practice of state space models	Mr. Shunichi Nomura (Research Organization of Information and Systems, The Institute of Statistical Mathematics/Data Science Shared Utilization Infrastructure Data Integration Calculation Support Project)

Utilization and practice of AI in the insurance industry	Mr. Norio Fujii (Soft Bank) Mr. Shunsuke Takahashi (Soft Bank) Mr. Junki Matsuo (Soft Bank)
Outline of IFRS 17(Insurance Contract) and its application to business	Mr. Kazuyuki Doi (Towers Watson) Mr. Tomonori Asada (Towers Watson)
Think again about the significance of economic value-based ERM	Mr. Yuji Morimoto (Capitas Consulting) Mr. Naoyuki Matsudaira (Capitas Consulting)

(B7) Holding of Kansai Committee seminars

We held Kansai Committee regular meetings on February 15, 2018 with following themes.

<ul style="list-style-type: none"> • Pricing of Credit Default Swap using Gerber-Shiu function • A study on corporate value disclosure in European life Insurance company • Method comparison and study of machine learning – stock price data prediction by R 	Graduate School of Science, Kyoto University, Insurance Mathematics Seminar students
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(B8) Enhancement of e-learning

E-learning contents under the following were released.

- Standard of Actuarial Practice Concerning Retirement Benefits Accounting
- IAA Risk book Chapter 1 (Introduction to IAA Risk Book)
- IAA Risk book Chapter 2 (Actuarial Function)
- IAA Risk book Chapter 3 (Professional Standards)
- IAA Risk book Chapter 4 (Operational Risk)
- IAA Risk book Chapter 5 (Catastrophe Risk)
- IAA Risk book Chapter 6 (Non-proportional Reinsurance)
- Communication training
- Logical communication training
- Assertive communication training
- Negotiation training
- Facilitation training
- 「Can you utilize Regression Analysis?」 ～Report of 2016 Annual Meeting
- Mathematical practice standard related to IAS 19
- Practice standard of general insurance
- 2015 Open Discussion Forum
- Retirement income and private pension～Report of 2016 Annual Meeting
- Revision of the Insurance Business Act in 1995 and the remaining issues —Focusing on regulations related to actuarial matters of life insurance companies ～Report of 2016 Annual Meeting
- Latest ways to deal with reinsurance, and its perspective for effective strategic decision-making
- Volatility estimate model
- Overview of the Interest rate model (short rate model)
- Monte Carlo Method
- Theory of the optional price
- The Yield Curve formulation method
- The mathematical aspects of enterprise risk management in insurance companies
- The practice of enterprise risk management in insurance companies
- The calculation method of catastrophic risks' risk amount in EU solvency II
- Professionalism training (Continuing Professional Development) 2017

- Economic value-based solvency regime starting from today 2017 ~ Mainly the situation of foreign countries ~
- IFRS 17 (Insurance Contract)

(B9) Implementation of actuary overseas training

The 7th Actuary Overseas Training was implemented in 3 groups, life insurance, pension and non-life insurance. The life insurance and pension groups conducted training during the period of Oct.14-26, including presentations at the annual meeting of Society of Actuary (SOA) in USA. The non-life insurance group conducted training during the period of Nov.4-18, including presentations at the annual meeting of Casualty Actuarial Society (CAS) in USA. There were 25 participants in life insurance group, 6 participants in non-life insurance group and 5 participants in pension group.

(B10) Implementation of professionalism training

- ① On October 23, 2017, professionalism training (Continuing Professional Development) covering the following training was offered.

Actuaries and their Professionalism	Mr. Ikuo Katayose (Resona Bank)
Independence and autonomy of professionals	Mr. Shunsuke Sugimoto (Osaka University of Economics)
Case Study on Conflict with organization	Mr. Yosuke Fujisawa (RGA)
- ② On February 26, 2018, professionalism training covering the following training was offered. The completion of this training is required to be approved as a Fellow.

About Professionalism	Mr. Ikuo Katayose (Resona Bank)
IAA Syllabus and Professionalism	Mr. Tomio Murata (Mitsui Life Insurance)
Actuaries and Code of Conduct	Mr. Shinichi Nara (Meiji Yasuda Life Insurance)
Professionalism in Life Insurance	Mr. Hitoshi Watanabe (Nippon Life Insurance)
Professionalism in Non-life Insurance	Mr. Hiromi Kaneko (Sompo Japan Nipponkoa Insurance)
Professionalism in Pension	Mr. Ikuo Katayose (Resona Bank)
- ③ On January 24, 2018, training for actuaries of small amount & short term insurance was offered by FSA and IAJ at the Small Amount & Short Term Insurance Association of Japan (SSI). IAJ dispatched Mr. Ikuo Katayose, Chair Person of Professionalism Education Committee in IAJ, as a lecturer of the training as a part of professionalism education.

(B11) Implementation of CERA training

- ① On November 17 and 18, 2017, a 2-day group workshop was held for examinees for CERA examination. The workshop contained lectures on ERM, such as the specific situation in Japan and the case studies. The completion of this training is required to be approved as CERA qualification and 23 participants completed the training.
- ② On February 16, 2018, a workshop titled “Discussion about ERM” was held to discuss papers related to ERM and CERA as the subjects.

(B12) Implementation of Research meeting

On January 13, 2018, in order to foster the academic aspect of young members, a research meeting was held in cooperation with the JARIP Forum as a place to learn about discussions with university researchers, etc. and how to approach academic papers. The papers written by IAJ members were used as the subject materials.

[C. Related to investigation and research activities]

(C1) Revision of Life Insurance Standard Life Table

In May 2017, after widely collected the public comments, the revision drafts for “Life Insurance Standard Life Table 2018 (for death)” and “Third Sector Standard Life Table 2018”, which will be planned to apply in 2018 fiscal year, were submitted to the Financial Services Agency (FSA). On August 17, 2018, FSA announced the result of the public comments about the notification reform bill of the standard life table revision, and the standard life table will be revised from April 2018.

(C2) Review of practice standards

The necessity for revision of practice standards were reviewed, and decided not to be changed this fiscal year.

(C3) Review of actuarial science for Life Insurance Product

In February and March 2018, Life Insurance Product Special Review WG members cooperated with the Financial Services Agency to hold an exchange of opinions about actuarial science for life insurance products.

(C4) Response to international accounting standards and international insurance regulation

The International Accounting Standards Board (IASB) and the International Association of Insurance Supervisors (IAIS) have been energetically reviewing international accounting standards and international insurance regulation. The International Actuarial Association (IAA) is carrying out contracted research and other activities as an actuarial professional group. The IAJ is actively participating in the activities of IAA committees.

Insurance Regulation Division of International Standards Committee translated IAA Risk Book up to Chapter 11 (excluding 7) in addition to Chapter 1-6 into Japanese and posted it on IAJ HP.

(C5) Work for the revision of IAA educational syllabus

Corresponding to the amendment of IAA educational Syllabus and its application in 2021, IAJ have decided to consider the future qualification examination and education systems in Japan by Planning Committee, Examination and Education Planning Committee and the relative committees respectively. Specifically, after comparing the revised syllabus with the existing system, policy and practical aspects will be discussed.

(C6) Implementation of Data Science Intensive Seminar

In September 2017, we held 4 times of Data Science Intensive Seminar in total, and the details are as follows:

1 st Sep. 14, 2017	Current circumstances of Data Science	Mr. Ikuo Kudoh (General Secretary of IAJ) Mr. Ryutaro Yamada (IAA Big Data WG / Mitsui Sumitomo Insurance)
2 nd Sep. 19, 2017	The history of the Institute of Statistical Mathematics (ISM) and the future	Mr. Shunichi Nomura (ASTIN-related study group / assistant professor at ISM, Data Science Shared Utilization Infrastructure Data Integration Calculation Support Project)
3 rd Sep. 21, 2017	What is Predictive Modeling?	Mr. Hirokazu Iwasawa (ASTIN-related study group)
4 th Sep. 28, 2017	Actuaries of the 5th kind	Mr. Tsuneto Yamauchi (Joint Industry-academic Committee / appointed professor at Keio Univ.) Mr. Yousuke Fujisawa (Joint Industry-academic Committee •

		ASTIN-related study group / RGA)
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In addition, from October to November 2017, we conducted questionnaires for members concerning data science, and provided the feedback at the 8th general meeting (B4).

(C7) In September 2017, ASTIN-related study group published the translation of the text 「Predictive Modeling Applications in Actuarial Science Vol. I」 by Casualty Actuarial Society (CAS) and provide them to members for free of charge.

(C8) In November 8, 2017, ASTIN-related study group held a seminar on integration of insurance and data science with cooperation of Data Robot.

Intelligible & Accurate Models: Application of Machine Learning to Insurance

Mr. Xavier Conort (Data Robot)

Machine Learning, Statistics and actuaries

Mr. Hirokazu Iwasawa (ASTIN-related study group)

(C9) Activities of Committees

Each committee, division, study group, working group and project team carried out investigations, research and other activities based on the purpose and mission set at the beginning of the fiscal year. The status of their activities was posted on IAJ web sites. The activities that were put together into investigation and research results were published on the IAJ's member-only web page and/or in supplementary volumes of bulletins, etc.

[D. Expression of Opinions]

(D1) Voting at IAA Council (including electronic voting)

- ① In April 2017, voted for the approval of correction etc. of the consistency of ISAPs 1, 2 and 3 at the IAA council meeting in Budapest.
- ② In August 2017, voted for the approval of IAA memberships.
- ③ In October 2017, voted for the approval of the revision of IAA educational Syllabus and guidelines at the IAA council meeting in Chicago.

(D2) In October 2017, the IAJ submitted its opinions to IAA on the exposure draft of revision of consistency of ISAP1 and ISAP1A after studies by the relative committees.

(D3) In February 2018, the IAJ submitted its opinions to IAA on the exposure draft of ISAP6 after studies by ERM committee and the relative committees.

(D4) In February 2018, the IAJ, jointly with the Japanese Society of Certified Pension Actuaries, submitted opinions on the Exposure Draft of PITF No. 54 entitled “The Exposure Draft on the Tentative Practical Solution Regarding the Effective Periods of PITF No.34” to the Accounting Standards Board of Japan (ASBJ).

[E. Related to International Activities]

(E1) IAA activities

The IAJ actively participated in the activities of IAA committees as well as in transmitting opinions from IAA to IASB, IAIS, etc. And the topics are as follows:

Analytics) by CAS with the related members in the IAJ.

[F. Advisory Committee]

2017 Advisory Committee meeting was held on February 27, 2018, where summary of business activities in 2017, 2018 business plan (draft) were discussed and also about the “actuaries’ model”.

[G. Joint Industry-Academic Project]

- (G1) Upon request of Kyoto University to send lecturers for insurance mathematics and pension mathematics lectures, Mr. Jun Asano (Sumitomo Life Insurance), Mr. Hisashi Uehara (Sumitomo Life Insurance), Mr. Kozo Oshima (Sumitomo Life Insurance), Mr. Ikuo Katayose (Resona Bank), Mr. Toshinori Sanai (Daido Life Insurance), Mr. Takeshi Toyodome (Nippon Life Insurance), Mr. Motoo Nakayama (Nippon Life Insurance) and Mr. Yoshihiro Minami (Nippon Life Insurance) were sent to the University.
- (G2) Upon request of Osaka University to send lecturers for insurance mathematics lectures, Mr. Akihiko Sasada (Sumitomo Life Insurance), Mr. Masaki Takemura (Daido Life Insurance) and Mr. Hiroyuki Tsunekawa (Nippon Life Insurance) were sent to the University.
- (G3) Upon request of Kobe University to send lecturers for insurance mathematics lectures, Mr. Koji Matsumoto (Sumitomo Life Insurance) was sent to the University.
- (G4) Upon request of Tokyo University to send lecturers for social mathematics special lectures, Mr. Ryoichi Nakamura (NLI Research Institute) was sent to the University.
- (G5) Upon request of Japanese Inter-organizational Network for Statistics Education (JINSE), the IAJ decided to participate in the “Extended Version” JINSE as a collaboration organization.
- (G6) In April 2017, the 3 members of ASTIN-related study group and Joint Industry Academic Project gave lectures at “Waseda Statistics Seminar” of Faculty of Science and Engineering, Waseda University.
- (G7) In May 2017, as one of the activities of Joint Industry-Academic Project, the IAJ encouraged members to participate in a special lecture, “Frontier of Statistical Science” which was co-hosted by School of Interdisciplinary Mathematical Sciences, Meiji University and Meiji Advanced Study of Mathematical Sciences for the invitation. (Lecturers: Mr. Genshiro Kitagawa, Past-President of Research Organization of Information and systems / Mr. Dan Nicolae, the dean of department of statistics, Chicago University.)
- (G8) In June 2017, as one of the activities of ERM Committee and ALM Study Group, the IAJ invited members to participate in a special lecture, “Quantification of Financial Risk” hosted by School of Interdisciplinary Mathematical Sciences, Meiji University.
- (G9) In September 2017, at the department of mathematics of Kyoto University, consecutive lectures were held and the IAJ held them in common by dispatching lecturers.

(G10) In September and November 2017, as one of the activities of Joint Industry-Academic Project, a career support seminar for undergraduate and graduate students who have interest in actuaries was held by Waseda Graduate School of Accountancy, and the IAJ dispatched Mr. Ikuo Kudoh (General secretary at the IAJ) and Mr. Yousuke Fujisawa (ERM committee chairman) to the seminar as the lecturers.

(G11) Upon request of Waseda University to send lecturers for life insurance mathematics and pension mathematics, the IAJ newly decided to dispatch the lecturers starting from fiscal year 2018.

[H. Related to Presentation of Awards]

(H1) Awards presented to a person with outstanding results in the 2017 qualification examination

① Presentation of President Award

The IAJ presented the President Award to Mr. Yuki Teramoto (Nippon Life Insurance) and Mr. Yumi Hamaya (Mitsui Life Insurance).

② Presentation of award for outstanding results for each subject

The IAJ presented an award to 1 person for Mathematics, 1 person for Life insurance mathematics, 1 person for Non- life insurance mathematics, 2 people for Pension mathematics, 1 person for Accounting, economics and investment theory, 1 person for Life insurance1, 1 person for Pension 1.

(H2) Presentation of awards for outstanding research paper

① On November 9, 2017, an award was presented for the following paper at the Annual Meeting:

“Application of State Space Models to General Insurance : Examples of Analysis Using R package “KFAS” “

Mr. Shunichi Nomura (The Institute of Statistical Mathematics)

② On January 25, 2018, awards were presented for the following outstanding IT-related papers at the IT Annual Meeting:

“Creation of a new business by the latest IT and different industries’ collaboration”

(IT Study Group IV)

“Utilization of AI in insurance industry – the future of insurance created by AI ”

(IT Study Group VI)

[I. PR and Publication Activities]

(I1) PR activities

The 26th Actuary Seminar primarily for students was held on January 20, 2018 in Tokyo and in Osaka. There were 43 participated in Tokyo and 30 participated in Osaka.

(I2) Enhancement of information provision function

① One of the contents in our HP, “Voices of successful applicants”, was renewed. (The members were replaced.)

② The IAJ reviewed the top and CERA related information pages in our HP to improve and enhance the value.

- ③ Upon the revision of Standard Life Table, the IAJ published its creation process, numeric data and the English Version in our HP in addition to Standard Life Table and the creation summary.

(13) Cooperative activities of related associations / institutes

The IAJ sponsored the public interest purpose project, “Suugaku Koshien 2017 (The 10th National Math Championship)” organized by the mathematics Certification Institute of Japan (SUKEN).

(14) Publication of bulletins, etc.

The following bulletins and other publications were published.

① Bulletin

No.70	<ul style="list-style-type: none"> • Capital Allocation of ERM Process in Life Insurance Companies • A study of investment income of Embedded Value when policyholder dividends are based on statutory accounting profits. • A study on calculation of insurance cash flows by stochastic approach • A study of pricing method consistent to the economic value-based approach of insurance liability • A study on the estimation of the profit of life insurance companies based on the population projection • Prediction of mortality rate using multi-cohort model • A study of shared risk pension plans - based on examples of foreign countries - • Application of State Space Models to General Insurance : Examples of Analysis Using R package “KFAS” • On the smoothing methodologies and matrices with k-th degree & n-terms on the discrete 1-dimensional space
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② Supplementary volumes of bulletin

No.281	<p><The 7th Actuary Overseas Training></p> <ul style="list-style-type: none"> • Life insurance & pension groups report • General insurance group report • SOA presentation documents (Life insurance group) • SOA presentation documents (Pension group) • CAS presentation documents (General insurance group) • Questionnaire after training
No.282	<p><The 57th IT Annual Meeting Report> (IT Committee)</p> <ul style="list-style-type: none"> • Special lecture” Digital transformation leading the IOT/AI era ~ Structural Reform of the values by real time process “ By Mr. Yosuke Miyahara (Operating Officer, Future Architect) • Utilization of Fintech in insurance industries • To realize “hyper shortening” of service-release cycle by making a new relationships and reviewing roles between Develop Dept. & Operation Dept. • Correspondence of the insurance companies to the revolutionized world by VR (virtual reality) • The usefulness of Open API and the innovation caused by insurance industry • Prevention of system failure by focusing on the human errors • On the role and training of data scientists for the purpose of utilizing big data in insurance industry
No.283	<p><CRO FORUM : Leading practices in model management / North American CRO Council: Model Risk Management – Practice and Principles > (International Relations Committee)</p>

	<ul style="list-style-type: none"> • CRO Forum: Leading practices in model management • North American CRO Council: Model Risk Management – Practice and Principles
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③ Actuary Journal

No.99	<ul style="list-style-type: none"> • The 7th regular meeting report in 2016 • ASTIN Bulletin Abstracts (Translated by AFIR related Study Group) • Report of AFIR/ERM Colloquia in 2015 Sydney (AFIR related study group) • 2016 Report on Activities of Kansai Committee’s Sub-committees • 2016 Report on Moonlight Seminar • Report on Waseda Statistics Science seminar • 2016 CERA qualified person(s) • 2016 applicants who passed the qualified examination • 2016 accomplished members for CPD objectives • Book introduction (from books read by members in 2016)
No.100 <The 100 th Special Issue>	<ul style="list-style-type: none"> • For the 100th Actuary Journal – The President’s message • Special story : <ul style="list-style-type: none"> ① Special talks by former president and president-elect of IAA ② Messages from past chairpersons of Actuary Journal Committees ③ History to the 100th issue of Actuary Journal (chronological tables) ④ Looking back on No.1 to 99 Actuary Journals • The 8th regular meeting report in 2016 • The 9th regular meeting report in 2016 • 2016 Continuing Professional Development / CPD units achievement report • Actuaries’ relay talks (Series Part.1) • 2017 Name lists of committees, study groups, working groups, project teams
No.101 <Special Issue of Data Science >	<p>Data Science Intensive Seminars</p> <p>1st : Current circumstances of Data Science</p> <p>2nd : The history of the Institute of Statistical Mathematics (ISM) and the future view</p> <p>3rd : What is Predictive Modeling?</p> <p>4th : Actuaries of the 5th kind</p> <ul style="list-style-type: none"> • Seminar on integration of insurance and data science(ASTIN-related study group) • The 3rd regular meeting report in 2017 • The 45th ASEA Seminar report (ASEA Committee, IAJ Secretariat) • Report of “Suugaku Koshien (The National Math Championship)” (PR Committee) • Invitation letter to the 31st ICA2018 Berlin (Annual Meeting Committee, IAJ Secretariat) • Actuaries’ relay talks (Series Part.2)
No.102	<ul style="list-style-type: none"> • The 2nd regular meeting report in 2017 • The 4th regular meeting report in 2017 • The 5th regular meeting report in 2017 • Think of the significance of risk management &ERM from the origin of the words - What I learned from CRO job experience in USA (ERM Committee) • Translation of “2015 Emerging Risks Survey” (ERM Committee) • 2017 Actuary Seminar report (Actuary Seminar Division/PR Committee, Kansai Committee) • Actuaries’ relay talks (Series Part.3)
Special Edition <Risks and	<p><Lectures from CERA training ></p> <ul style="list-style-type: none"> • Movement to review financial regulatory reform in the world

Insurance No.14>	<p style="text-align: center;">— Based on measures against Procyclicality —</p> <ul style="list-style-type: none"> • Financial risk management, now and the future direction • Expansion of Modern Risk Theory – focusing on Bankruptcy Theory <p><Contribution></p> <ul style="list-style-type: none"> • Overview and issues of ISAP6 exposure draft <p><Paper></p> <ul style="list-style-type: none"> • A Sustainable Capital Allocation Framework under Economic Valuation
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④ 2017 Qualification Examination Question Collection