

IEEE Sendai Section Annual Report 2022

PART A - SECTION SUMMARY

A.1 Executive Summary

- Section Executive Committee Member List
 - Section Officers [2022-2023]
 - Chair: Hirohito Yamada (Tohoku University)
 - Past Chair: Motoyuki Sato (Tohoku University)
 - Vice Chair: Taiichi Otsuji (Tohoku University)
 - Secretary: Toshihiko Hirooka (Tohoku University)
 - Treasurer: Hitoshi Kikuchi (NTTEAST-TOHOKU)
 - Section Executive Committee Members [2022-2023]
 - Naoki Honma (Iwate University)
 - Toshiki Kanamoto (Hirosaki University)
 - Jinichi Kobayashi (NTTEAST-TOHOKU)
 - Koji Kotani (Akita Prefectural University)
 - Hiroyuki Masayanagi (NEC Platforms, Ltd)
 - Shin Masuda (Advantest Laboratories Co.)
 - Yoshinobu Murayama (Nihon University)
 - Keisuke Nakano (Tohoku University)
 - Incheon Paik (The University of Aizu)
 - Fumihito Sato (Tohoku Gakuin University)
 - Motoshi Tanaka (Akita University)
 - Takashi Uchino (Tohoku Institute of Technology)
 - Tetsuya Yuasa (Yamagata University)
 - Section Standing Committee Chair [2022-2023]
 - Membership Development: Toshihiko Hirooka (Tohoku University)
 - Technical Program: Taiichi Otsuji (Tohoku University)
 - Chapter Promotion: Taiichi Otsuji (Tohoku University)
 - Student Activities: Keisuke Nakano (Tohoku University)
- Section Highlights
 - 2 members were newly elevated to 2023 Fellow Grade in Sendai Section.
 - Takashi Matsuoka (Tohoku University)
for contributions to laser diodes for optical communications and nitride semiconductors for light emitting devices
 - Tetsuo Endoh (Tohoku University)
for contributions to nonvolatile memory and spintronic logic
 - Received “R10 Best Membership Retention Medium Section Award”
 - On the 2022 IEEE Annual Elections, the 1st highest voting percentage in Region10.
 - The following 2 special technical events were held.
 - 1st Special Lecture Meeting (Online)
“Outline of Intermag 2023 in Sendai and activities of the IEEE Magnetics Society”
by Dr. Masahiro Yamaguchi (President of IEEE Magnetics Society / Tohoku University) [18th April 2022]
 - 2nd Special Lecture Meeting (Online)
“R&D and Prospects for Next Generation Mobile Communication Systems (Beyond 5G/6G)”
by Dr. Iwao Hosako [12th December 2022]
 - Held Annual General Meeting [18th April 2022]
 - Presentation about Sendai Section activities by Chair
 - Introduction of newly elevated Senior Members

- Held administrative meetings of Sendai Section were as follows;
 - Annual General Meeting
 - 2 Section Board Meetings
 - 5 Administrative Officers Meetings
- Co-sponsored “2022 Tohoku-Section Joint Convention of Institute of Electrical and Engineers, Japan (TSJC)” [23rd - 24th August 2022]
- Activities for students
 - Student Session on TSJC [23rd - 24th August 2022]
 - Seminar for improving presentation skills on English on TSJC [24th August 2022]
 - Sendai Section Student Awards 2022 ceremony [12th December 2022]
- Energetic activities of Affinity Groups in Sendai Section
 - Lecture Meeting co-organized by 3 Affinity Groups (LMAG, WIE, YP) in Sendai Section was held. [19th November 2022]
 - Women in Engineering Affinity Group organized 2 major events by online as follows.
 - Sendai WIE 5th Anniversary Event “TOMONI TSUKURU TSUNAGU MIRAI” [23rd April 2022]
 - Sendai WIE Special Session “The charm of research that female researchers can convey” [24th August 2022]
 - Life Members Affinity Group organized 3 special lecture meetings and 1 professional event by online.
 - Special Lecture meeting (2022-1st) [30th March 2022]
 - Special Lecture meeting (2022-2nd) [21st May 2022]
 - Special Lecture meeting (2022-3rd) [30th July 2022]
 - Evening Salon [23rd December 2022]
 - Young Professionals Affinity Group organized 3rd Anniversary Event. [11th September 2022]
- Awards
 - Sendai Section Student Awards 2022
 - Sendai WIE Awards 2022

A.2 Financial Report

The Sendai Section’s finances are in good condition. However, the surplus carried forward was considerably higher than we had expected due to COVID-19 spread in 2021-22.

- Financial summary of 2022 FY is as follows (not incl. CB)

(All in JPY)

Income/Expense	Item	Budget	Actual
Income	3.10 Rebate from IEEE HQ	-	-
	3.30 Section or Council Receipts	50,000	192,119
	3.34 IEEE HQ & Societies	-	-
	3.45 Interest	50	16
	3.95 Bank Account Transfers (incoming)	1,725,000	2,127,600
	Total of Income	1,775,050	2,319,735
Expense0	4.10 Meeting & Social Evens	840,000	485,490
	4.80 Student Activities	150,000	14,800
	4.85 Grants & Awards	120,000	68,690
	5.20 Travel	50,000	325,175
	5.50 Support Section & Chapter	118,800	107,084
	5.54 Member & Geographic Activities	25,000	12,500
	5.60 Management & General Expense	790,000	98,320
	6.31 Student Branch Rebate Disbursement	25,000	35,563
	Total of Expense	2,118,800	1,147,622
Balance of year end of 2021		1,849,124	1,849,124
Balance of year end of 2022		1,505,374	3,021,237

- In addition, Sendai Section have the balance on Concentration Banking account.

(All in USD)

Income/Expense	Item	Budget	Actual
Income	3.10 Rebate from IEEE HQ	6,400.00	5,860.15
	3.20 Region Receipts	-	1,000.00
	3.31 Student Branch Rebate Receipts	-	282.00
	3.34 IEEE HQ & Societies	11,000.00	11,118.61
	3.45 Interest	30.00	56.47
	Total of Income	17,430.00	18,317.23
Expense	5.50 Support Section & Chapter (incl. JC)	9,350.00	9,450.82
	6.95 Bank Account Transfers (outgoing)	15,000.00	15,000.00
	Total of Expense	24,350.00	24,450.82
Balance of year end of 2021		9,857.23	9,857.23
Balance of year end of 2022		2,937.23	3,723.64

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

Membership Development Committee nominated and supported to upgrade to Senior Member. The number of Senior Members in Sendai Section steadily increasing year by year.

- Total number of active members in the past 3 each year is 669 (2020), 646(2021), 704(2022).
- 1 member was newly elevated to Senior Member in Sendai Section.
- The number of memberships by grade in the past 3 each year are as follows;

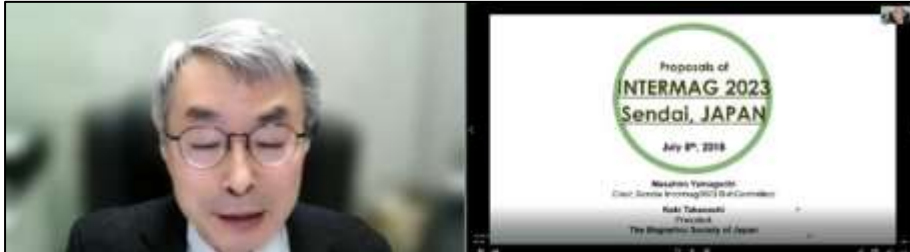
Grade	Members		
	2020FY	2021FY	2022FY
Fellow	27	26	24
Senior Member	77	78	79
Member	439	440	457
Associate Member	18	11	7
Graduate School Member	102	83	121
Student Member	6	8	15
Total	669	646	704

B.2 Chapter Activities

- Total number of Chapters in the Section: 4 Chapters
- Number of Chapters formed in the current year: None
- Number of active Chapters(Chapters who have reported required number of meetings during the year): 3 Chapters
- Summary of Chapter activities
Chapter Promotion Committee supported Chapters activities in Sendai Section.
 - SP01 Sendai Chapter
Chair: Yukio Iwaya (Tohoku Gakuin University)
 - COM19 Sendai Chapter held 2 technical meetings.
Chair: Nei Kato (Tohoku University)
 - EMC27 Sendai Chapter held 12 technical meetings.
Chair: Teruo Tobana (Akita Prefectural University)
 - MAG33 Sendai/Sapporo Joint Sections Chapter held 6 technical meetings.
Chair: Shin Yabukami (Tohoku University)

B.3 Professional and Continuing Education Activities

- Technical Program Committee organized following 2 special lecture meetings on section level.
 - **Special Lecture Meeting (2022-1st)**
“Outline of InterMag 2023 in Sendai and activities of the IEEE Magnetics Society” by Dr. Masahiro Yamaguchi (President of IEEE Magnetics Society / Tohoku University) [18th April 2022]
 - Online Meeting (Zoom)
 - Attendance: 32



- **Special Lecture Meeting (2022-2nd)**
Motivated by the experience of The East Japan Great Earthquake Disaster, we have been organizing a series of the lecture meetings on “technologies covered by IEEE that can contribute to disaster recovery, prevention, safety measures and regional industrial development” since 2011. At this lecture meeting, an interesting special talk entitled “R&D and Prospects for Next Generation Mobile Communication Systems (Beyond 5G/6G)” “by Dr. Iwao Hosako [12th December 2022]
 - Online Meeting (Zoom)
 - Attendance: 91
- 2 technical meetings were cooperated.
- **Educational Activities**
Student Activities Committee arranged a seminar for students on TSJC.
 - Seminar for improving presentation on English [24th August 2022]
 - Online Meeting (Zoom)
 - Attendance: 28

B.4 Students Activities

- Total number of Student Branches in the Section: 2 Students Branches
- Number of Student Branches formed in the current year: None
- Section level student activities (student congress, paper and other contests, awards etc)
- Number of active Student Branches: two students Branches
- Summary of Student Branch activities
 - **Tohoku University Student Branch**
Chair: Tatsuya Nakazato
 - Organized IEEE Tohoku University Student Branch and IEICE Tohoku University Student Branch Joint Experiment Experience [3rd June 2022]
 - Join the Student Branches leadership Training workshop [10th June 2022]
 - Join IEEE R10 SYWL Congress 2022 at Jeju Island, Korea [11th -14th August 2022]
 - Join the Student Branches leadership Training workshop [18th -19th November 2022]
 - Cooperated as a judge on Sendai Section Student Session [23-24th August 2022]
 - **The University of Aizu Student Branch**
Chair: Cherubin Mugisha
 - Join the Student Branches leadership Training workshop [10th June 2022]
 - Organized Graduate School information fair: Poster session 2022 [22nd August 2022]
This Annual event is held by the UoA SB in collaboration with the graduate school recruitment section. This year, we observed a massive participation where 33 posters were presented in the session.
 - Join UoA Joint Research Forum 2022 [23-24th August 2022]
This joint research forum was held by the UoA, where several topics and studies were discussed including the role of the IEEE SB.

- Join the Student Branches leadership Training workshop 2022 [18th -19th November 2022]
- **Student Session [23rd 24th August 2022]**
 Student Sessions consisting of scientific presentation/discussion and technical writing all in English have been held in annual academic meetings since 2002. This year, 17 papers were presented in this session by students. In addition, Chair of Tohoku University Student Branch joined as a judge.
 - Online Meeting (Zoom)
 - Attendance: 58

B.5 Affinity Group Activities

- **Lecture Meeting co-organized by 3 Affinity Groups (LMAG, WIE, YP) in Sendai Section was held. [19th November 2022]**
 Lecturer (1): “How to face Innovation”
 Mr. Masatoshi Matsuda (Transformation Consulting)
 Lecturer (2): “Contribution of Information Technology for Future Lunar Exploration”
 Prof. Makiko Otake (The University of Aizu)
 Lecturer (3): “Quantum light sources for quantum information and communication technology”
 Prof. Keiichi Edamatsu (RIEC, Tohoku University)
 - Online Meeting (Zoom)
 - Attendance: 42



- **Women In Engineering (WIE)**
 - **Sendai WIE 5th Anniversary Event “TOMONI TSUKURU TSUNAGU MIRAI” [23rd April 2022]**
 The ceremony consisted of three parts. In the first part, Mrs. Mio Hamanaka from National Institute of Technology Sendai College gave a mental health seminar titled “Crying, laughing, and living with anger.” In the second part, Dr. Basabi Chakraborty of Iwate Prefectural Univ., the first Sendai WIE Chair, gave us a message titled “My Journey as a Researcher from Eastern India to Northern Japan.” In the third part, three special talks were provided, “Unexpected events expand your boundaries” by Dr. Chikako Ishizawa, Akita University, “Interaction with Virtual Agents and Persuasion Techniques -From a Gender Perspective-” by Prof. Kaoru Sumi, Future University Hakodate and “My Career and IEEE Tokyo Shinetsu WIE” by Dr. Mamiko Inamori, Tokai University.
 - Online Meeting (Zoom)
 - Attendance: 49



▪ **Sendai WIE Special Session “The charm of research that female researchers can convey” [24th August 2022]**

In this session, one invited talk, 9 presentations from Japanese universities were all narrated attractively by female researchers, encouraging all participants to explore science and technology with passion and efforts. At the end of the session, an interesting special talk entitled “Development of Electrically Power Assisted Quadricycles to Adjust Regional Characteristics” was presented by Prof. Takako Nonaka (Shonan Institute of Technology), which shared her precious research process and results with the audiences.

- Online Meeting (Zoom)
- Attendance: 41

• **Life Member (LM)**

▪ **Annual General Meeting [30th March 2022]**

- Online Meeting (Zoom)
- Attendance: 30

One of the most important roles in the Sendai LMAG is to encourage young people through lectures on big movement of information communication technology. From such a point of view, Sendai Section Life Members Affinity Group held the following 3 Lecture Meetings.

▪ **Special Lecture Meeting (2022-1st) [30th March 2022]**

Lecture (1) : “A short review of this half-century history of the THz technology-development to consider the future of THz engineering. - On the occasion of the reception of the EuMA Pioneer Award in THz research –“

Dr. Koji Mizuno (Emeritus Professor, Tohoku University)

Lecture (2): “Game Changer in Semiconductor Technology: 3D System Integration”

Dr. Mitsumasa Koyanagi (NICHe, Tohoku University)

- Online Meeting (Zoom)
- Attendance: 62

▪ **Special Lecture Meeting (2022-2nd) [21st May 2022]**

Lecture (1): “Space-time mapping of hotspots of risk events: from visual understanding of crime and infectious disease outbreaks to their prospective mapping”

Prof. Tomoki Nakaya (Graduate School of Environmental Studies, Tohoku University)

Lecture (2): “Predicting the spread of infectious diseases by means of monitoring viruses in the sewage, and its practical use for prevention measures”

Dr. Tatsuo Omura (New Industry Creation Hatchery Center, Tohoku University)

- Online Meeting (Zoom)
- Attendance: 44

▪ **Special Lecture Meeting (2022-3rd) [30th July 2022]**

Lecture (1): “Current Status and Prospects of Thermonuclear Fusion Research”

Dr. Akio Komori (Center for Low-temperature Plasma Science, Nagoya University)

Lecture (2): “Prospects of Fusion in Space – Issues on Energy and Environment”

Dr. Masaaki Inutake (Professor Emeritus of Tohoku University)

- Online Meeting (Zoom)
- Attendance: 59

▪ **Evening Salon [23rd December 2022]**

Lecture (1): “What is the role of university education in contributing to future industrial development of Japan?”

Prof. Hirohito Yamada (Tohoku University)

Lecture (2): “Development and Practical Use in Industry - Example of Practical Use of Surface Acoustic Wave Devices-”

Dr. Michio Kadota (Tohoku University)

- Online Meeting (Zoom)
- Attendance: 40

• **Young Professionals (YP)**

▪ **Sendai YP 3rd Anniversary Event [11th September 2022]**

There were about 12 participants from Sendai, Yamagata, Tokyo, and Osaka on this event. The event was the first face-to-face event organized by the Sendai YP. The event included a poster session under

the philosophy of IEEE Transdisciplinary-Oriented Workshop for Emerging Researchers, which was held in Sendai in cooperation with the IEEE TOWERS. This session was the first poster session for some young participants because of the COVID-19 pandemic. They introduced themselves with their research poster and exchanged their opinions.

- Venue: Sendai International Center (Sendai, Miyagi)
- Attendance: 12

▪ **Annual General Meeting [11th September 2022]**

- Venue: Sendai International Center
- Attendance: 10

▪ **IEEE TOWERS in Sendai [11th September 2022]**

The event was held with the IEEE Sendai 3rd Anniversary Event as a face-to-face event. Participants discussed their study with their own poster interactively.

- Venue: Sendai International Center
- Attendance: 12

B.6 Awards & Recognition Activities

• **Sendai Section Student Awards 2022**

Sendai Section awarded “IEEE Sendai Section Student Awards” to the excellent papers in Student Session on Tohoku-Section Joint Convention of Institutes of Electrical and Information Engineers. These awards will contribute to foster and encourage students.

- Recipients of The Best Paper Prize
 - MUTAI KEVIN KIPRUTO (Tohoku University)
 - Daichi Matsuo (Akita University)
- Recipients of The Encouragement Prize
 - Kazuki Oikawa (The University of Aizu)
 - Qiongyan Tang (Tohoku University)
 - Yuki Morimoto (Tohoku University)

• **Sendai WIE Awards 2022**

Sendai WIE awarded “IEEE Sendai WIE Awards” to the excellent papers in the WIE Special Session on Tohoku-Section Joint Convention of Institutes of Electrical and Information Engineers. These awards will contribute to foster and encourage female engineers and researchers.

- Recipient of The Best Paper Prize
 - Ayaka Suzuki (Tohoku Institute of Technology)
- Recipient of The Encouragement Prize
 - Mika Takamatsu (Akita University)

• **Awards and Recognitions received from R10 and IEEE HQ**

- Received R10 Best Membership Retention Medium Section Award

B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)

- Newsletter (name and number of issues in the year)
 - Contributed to the Region10 Newsletter “Region 10 Connect”
 - Sendai WIE: contributed 1 article (2022- 4th Edition)
 - Sendai LMAG: contributed 1 article (2022- 4th Edition)
 - Sendai YP: contributed 1 article (2022- 4th Edition)
- Home Page of the Section (give the URL and how often it is updated)
 - Sendai Section
 - <http://www.ecei.tohoku.ac.jp/ieee-sendai/>
 - Chapters

- SP01
<http://www.sps-sendai.org/>
- EMC27
<http://www.topic.ad.jp/emc-sendai/>
- COM19
https://webinabox.vtools.ieee.org/wibp_home/index/CH10605
- MAG33
<http://www.topic.ad.jp/mag-sendai/>
- Affinity Groups
 - Sendai WIE
<https://www.ieee-jp.org/section/sendai/AG/wie/>
 - Sendai LMAG
<https://www.ieee-jp.org/section/sendai/AG/lmag/>
 - Sendai YP
<https://www.ieee-jp.org/section/sendai/AG/yp/>
- Other means of contacts with Section members including social media
 - Provided 20 times of information of meetings, seminar, and other events for section members via mailing list.

B.8 Industry Relations

Sendai Section is striving for membership growth through technical meetings, workshops, and various activities.

B.9 Humanitarian Technology Activities

There is nothing worthy of special mention in 2022.

B.10 Community Activities

There is nothing worthy of special mention in 2022.

PART C - OTHERS

C.1 Special Events

There is nothing worthy of special mention in 2022.

C.2 Relationship with National and International Societies and Non-Government Organizations (NGO)

Sendai Section is maintaining a good relationship with Tohoku Section of the following 7 National Societies.

- The Acoustical Society of Japan (ASJ)
- The Institute of Electrical Engineers of Japan (IEEJ)
- The Illuminating Engineering Institute of Japan (IEIJ)
- The Institute of Electronics, Information and Communication Engineers (IEICE)
- The Institute of Electrical Installation Engineers of Japan (IEIEJ)
- Information Processing Society of Japan (IPSJ)
- The Institute of Image Information and Television Engineers of Japan (ITE)

C3. Collaboration with other IEEE Sections

Sendai Section has been continuing to cooperate with other Sections by attending Japan Council ExCom Meeting, R10 Meeting and other opportunities.

C.4 Support extended to Sub-sections & Society Chapters within the Section

Chapter Promotion Committee supported Chapter activities through the year.

C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)

Motivated by the experience of The East Japan Great Earthquake Disaster, we have been organizing a series of the lecture meetings on “technologies covered by IEEE can contribute to disaster recovery, prevention, safety measures and regional industrial development” since 2011.

C.6 Problems anticipated and suggestions for solutions, if any

There is nothing worthy of special mention in 2022.

PART D - GOALS AND PLANS

D.1 Continuation of project/activity in progress and their implementation plans

- 25th anniversary events of the establishment of Sendai Section
- Technical Lecture Meetings
- Planning Educational Activities
- Activities for students
 - Student Session on TSJC
 - Seminar for effective English writing skills.
 - Student Awards 2023
- Assistance for elevation to Senior Member, Fellow
- Growth of the number of Section members
- Co-sponsored 2023 Tohoku-Section Joint Convention of Institute of Electrical and Engineers, Japan (TSJC)
- Support for Chapters activities
- Support for Affinity Groups activities
- Support for Student Branches activities
- Annual General Meeting
- Administrative meetings
 - Section Board Meetings
 - Administrative Officers Meetings

D.2 Goals and Future Plans

- Planning for section unique activities by standing committees
- Organizing events for improving skill of members
- Encouragement for students
- Promotion to develop Senior Member and Fellow

- Continuously support to Chapters / Affinity Groups
- Educational Activities for Section Members
- Be more useful for section members

D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.

- We will organize activities to contribute for regional industrial development in Tohoku in the future.
- We will renovate contents of section website, provide more opportunity for everyone to get to know activities of Sendai Section.

D.4 Business Plan for Sustainable Growth and Financial Stability.

We will continue to provide more beneficial activities for section members with keeping good financial condition.

Sendai Section will continue to enhance our activities in the future!