

IEEE Sendai Section Annual Report 2021

PART A - SECTION SUMMARY

A.1 Executive Summary

- **Section Executive Committee Member List**

- **Section Officers [2020-2021]**

Chair: Motoyuki Sato (Tohoku University)
Past Chair: Michitaka Kameyama (Professor Emeritus, Tohoku University)
Vice Chair: Shinichiro Omachi (Tohoku University)
Secretary: Naofumi Homma (Tohoku University)
Treasurer: Hitoshi Kikuchi (NTTEAST-TOHOKU)

- **Section Executive Committee Members [2020-2021]**

Naoki Honma (Iwate University)
Koji Kotani (Akita Prefectural University)
Hiroyuki Masayanagi (NEC Platforms, Ltd)
Shin Masuda (Advantest Laboratories Co.)
Takashi Misono (NTTEAST-TOHOKU)
Hiroki Nishiyama (Tohoku University)
Incheon Paik (The University of Aizu)
Toshinori Suzuki (Tohoku Gakuin University)
Motoshi Tanaka (Akita University)
Takashi Uchino (Tohoku Institute of Technology)
Kiyoshi Ueda (Nihon University)
Qiaowei Yuan (Tohoku Institute of Technology)
Tetsuya Yuasa (Yamagata University)
Tsutomu Zeniya (Hirosaki University)

- **Section Standing Committee Chair [2020-2021]**

Membership Development: Naofumi Homma (Tohoku University)
Technical Program: Shinichiro Omachi (Tohoku University)
Chapter Promotion: Shinichiro Omachi (Tohoku University)
Student Activities: Hiroki Nishiyama (Tohoku University)

- **Section Highlights**

- Sendai Section Women in Engineering Affinity Group awarded “R10 Women in Engineering Outstanding Section Affinity Group Award”



- Prof. Tetsuya Suemitsu (Tohoku University) was newly elevated to 2021 Fellow grade.
- The following technical event were held.
 - 2 special lecture meetings
 - New Fellow Lecture Meeting [22nd April, 2021]
 - Lecture Meeting “Prediction technology and application concerning for heatstroke and COVID-19” [15th December, 2021]
- Held Annual General Meeting
 - Presentation about Sendai Section activities by Chair
 - Introduction of newly elevated Senior Members
 - Presented the plaque of “The 2020 Organizational Supporting Friend of IEEE Member and Geographic Activities Award” to Nippon Telegraph and Telephone East Corporation



- Held administrative meetings of Sendai Section were as follows;
 - 2 Section Board Meetings
 - 4 Administrative Officers Meetings
- Co-sponsored “2021 Tohoku-Section Joint Convention of Institute of Electrical and Engineers, Japan (TSJC)” [26th - 27th August, 2021]
- Energetic activities of Affinity Groups in Sendai Section.
- Activities for students
 - Student Session on TSJC [26th - 27th August, 2021]
 - Seminar for improving writing skills on English on TSJC [27th August, 2021]
 - Sendai Section Student Awards 2021 ceremony [15th December, 2021]
- **Major Student and Affinity Group Activities**
 - **Lecture Meeting co-organized by 3 Affinity Groups (LMAG, WIE, YP) in Sendai Section was held.** [27th November, 2021]
 - Women in Engineering Affinity Group organized 2 major events by online as follows;
 - Sendai WIE Special Session “The charm of research that female researchers can convey” [26th - 27th August, 2021]
 - Sendai WIE 4th Anniversary Event “Polish your own color rough! Shining my career” [29th May, 2021]
 - Life Members Affinity Group organized 3 Special Lecture meetings by online as follows;
 - 2021-1st Special Theme: Quantum Computing [15th May, 2021]
 - 2021-2nd Special Theme: Electric Power and Environmental Problem [10th July, 2021]
 - 2021-3rd Special Theme: Artificial Intelligence, Big-Data Processing and their applications [25th September, 2021]
 - Young Professionals Affinity Group organized 2nd Anniversary Event “Sendai YP in TOHOKU” by online. [23rd October, 2021]
- **Awards**
 - Sendai Section Student Awards 2021
 - Sendai WIE Awards 2021

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.

- Financial summary of 2021 FY is as follows (not incl. CB);

(All in JPY)

Income/Expense	Item	Budget	Actual
Income	3.10 Rebate from IEEE HQ	714,000	0
	3.30 Section or Council Receipts	230,000	17,100
	3.34 IEEE HQ & Societies	1,470,000	1,140,313
	3.45 Interest	100	22
	Total of Income	2,414,100	1,157,435
Expense	4.10 Meeting & Social Evens	690,000	265,862
	4.80 Student Activities	250,000	43,088
	4.85 Grants & Awards	390,000	83,320
	5.20 Travel	70,000	55,890
	5.54 Member & Geographic Activities	0	50,000
	5.50 Support Section & Chapter (incl. JC)	1,128,750	1,047,176
	5.60 Management & General Expense	810,000	81,670
	Other	159,000	0
	Total of Expense	3,497,750	1,627,006
Balance of year end of 2020		2,318,695	2,318,695
Balance of year end of 2021		1,235,045	1,849,124

- 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	-	6,324.93
	3.34 IEEE HQ & Societies	-	604.56
	3.45 Interest	-	16.62
	Total of Income	-	6,946.11
Expense	5.50 Support Section & Chapter (incl. JC)	-	88.88
	Total of Expense	-	88.88
Balance of year end of 2020		-	3,000.00
Balance of year end of 2021		-	9,857.23

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 646(2021), 669 (2020), 711 (2019).
- 4 members were newly elevated to Senior Member in Sendai Section.
- The number of memberships by grade in the past 3 each year is as follows;

Grade	Members		
	2021FY	2020FY	2019FY
Fellow	26	27	30
Senior Member	78	77	71
Member	440	439	464
Associate Member	11	18	17
Graduate School Member	83	102	116
Student Member	8	6	13
Total	646	669	711

B.2 Chapter Activities

Chapter Promotion Committee supported Chapters activities in Sendai Section.

- The following 4 Chapters are active.
 - 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 11 technical meetings.
Chair: Shinobu Ishigami (Tohoku Gakuin University)
 - MAG33 Sendai/Sapporo Joint Sections Chapter held 4 technical meetings.
Chair: Kazushi Ishiyama (Tohoku University)

B.3 Professional and Continuing Education Activities

Technical Program Committee organized following 2 technical meetings on section level.

- New Fellow Lecture Meeting [22nd April, 2021]
“High Electron Mobility Transistors for Ultimate High-Frequency Electron Devices”
Lecturer: Prof. Tetsuya Suemitsu (Tohoku University)
 - Online Meeting (Zoom)
 - Attendance: 32
- Special Lecture Meeting [15th December, 2021]
“Prediction technology and application concerning for heatstroke and COVID-19”
Lecturer: Prof. Akimasa Hirata (Nagoya Institute of Technology)
 - Online Meeting (Zoom)
 - Attendance: 43
- 4 technical meetings were cooperated.

• Educational Activities

Student Activities Committee arranged a seminar for students on TSJC.

- Seminar for improving writing skills on English [27th August, 2021]
 - Online Meeting (Zoom)
 - Attendance: 50

B.4 Students Activities

- Student Session on 2021 Tohoku-Section Joint Convention of Institute of Electrical and Engineers, Japan (TSJC) [26th - 27th August, 2021]

Student Sessions organized making for scientific presentation/discussion and technical writing all in English have been held in annual academic meetings since 2002. In this session, 22 presentations were made by students.

- Online Meeting (Zoom)
- Attendance: 65
- Two Student Branches are active in Sendai Section. Student Activities Committee supported Student Branches activities.
 - Tohoku University Student Branch
Chair: Tatsuya Nakazato
 - Join the Student Branched leadership Training workshop [4th June, 2021]

- Co-Sponsored IEEE JAPAN SYWL WORKSHOP IN SAPPORO (AND ONLINE) 2021 “ENGINEERS, BE AMBITIOUS!” [31st October, 2021]
- Cooperated as a marker on Sendai Section Student Session [26th August, 2021]
- Cooperated following events
 - Sendai YP Affinity Group 2nd Anniversary Event [23rd October, 2021]
 - Sendai LMAG/WIE/YP Special Lecture Meeting [27th November, 2021]
- The University of Aizu Student Branch
 - Chair: Cherubin Mugisha
 - Join the Student Branched leadership Training workshop [4th June, 2021]
 - Cooperated as a marker on Sendai Section Student Session [27th August, 2021]
 - Join Sendai WIE 4th Anniversary Event [29th May, 2021]

B.5 Affinity Group Activities

- **Lecture Meeting co-organized by 3 Affinity Groups (LMAG, WIE, YP) in Sendai Section was held.** [27th November, 2021]

Lecturer (1): Mr. Mitsushi Tsuchiya (University of Tsukuba)

Lecturer (2): Prof. Yoko Maruo (Tohoku Institute of Technology)

Lecturer (3): Prof. Tetsuo Endo (Tokoku University)

- Online Meeting (Zoom)
- Attendance: 41



- **Women in Engineering Affinity Group (WIE)**

Chair: Hitoshi Kikuchi (NTTEAST-TOHOKU)

- Sendai WIE 4th Anniversary Event “Polish your own color rough! Shining my career” [29th May, 2021]

In the first part, the following two special lectures were provided. We received valuable lectures such as introduction of the work done and a message to us.

- Lecture (1): "My Engineer Career" by Prof. Qiaowei Yuan (Tohoku Institute of Technology)
- Lecture (2): "My Career of Accelerator Engineer" by Mrs. Miwa (Tohoku University)

In the second part, the beauty seminar was held by Japanese cosmetic company, Kao Corporation, taught us not only skin care and makeup tips, but also points that meet current needs such as online meetings and when wearing masks.

- Online Meeting (Zoom)
- Attendance: 30

- Sendai WIE Special Session “The charm of research that female researchers can convey” [27th August, 2021]

In this session consisted of two parts. In the first part, 5 presentations covering computer, applications, sensors, health related issues and so on. The presenters tried to give easy-to-understand presentations and explanations to participants with different specialties, and it was a fruitful session for everyone. In the second part, the following special talk was presented.

- Lecture “Responding to the needs of society with original research! Sometimes it's the very people who no one imagines anything of who do the things no one can imagine” by Dr. Emi Yuda (Tohoku University)
- Online Meeting (Zoom)
- Attendance: 19

- Sendai WIE Awards 2021
- 10 administrative meetings were held in 2021.

- **Life Members Affinity Group (LMAG)**

Chair: Koji Mizuno (Professor Emeritus, Tohoku University)

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.

- Sendai LMAG Special Lecture Meeting (2021-1st) [15th May, 2021]

Special Theme: Quantum Computing

Lecture (1): “Optical Integrated Circuit Devices for Quantum Computing

Dr. Nobuyuki Matsuda (School of Engineering, Tohoku University)”

Lecture (2): “Future of Information Science Changed by Quantum Annealing”

Dr. Masayuki Ohzeki (Graduate School of Information Sciences, Tohoku University)

- Online Meeting (Zoom)

- Attendance: 89

- Sendai LMAG Special Lecture Meeting (2021-2nd) [10th July, 2021]

Special Theme: Electric Power and Environmental Problem

Lecture (1): “World Pioneered by Wireless Power Transfer”

Prof. Hidetoshi Matsuki (Tohoku University)

Lecture (2): "Initiatives of Smart Power Systems in Tohoku Electric Power Company Group

Mr. Toshiyuki Yamada (Tohoku Electric Power Network Co., Inc)

- Online Meeting (Zoom)

- Attendance: 66

- Sendai LMAG Special Lecture Meeting (2021-3rd) [25th September, 2021]

*Co-Sponsored by Tokyo Section LAMG

Special Theme: Artificial Intelligence, Big-Data Processing and their applications

Lecture (1): “Neocognitron: Origin of Deep Convolutional Neural Network”

Dr. Kunihiko Fukushima (Fuzzy System Laboratory)

Lecture (2): " Fujitsu’s Artificial Intelligence Research for Bringing Credibility to Society”

Dr. Akira Nakagawa (Artificial Intelligence Laboratory, Fujitsu)

Lecture (3): "Possibilities and Challenges of Medical Big Data for Artificial Intelligence Applications”

Prof. Kengo Kinoshita (Graduate School of Information Sciences, Tohoku University)

- Online Meeting (Zoom)

- Attendance: 219

○ 2 General Assembly was held in 2021.

- **Young Professionals Affinity Group (YP)**

Chair: Toya Kitagawa (Panasonic Corporation / Yamagata University)

Sendai Young Professionals Affinity Group was established on 21st June, 2019.

- Sendai YP Affinity Group 2nd Anniversary Event “Sendai YP (Young Professionals) in TOHOKU” [23rd October, 2021]

In this event, after general meeting, the special lecture was held by Mrs. Marin Abiko (Yamagata University / incubation Port Yamagata Inc.).

- Online Meeting (Zoom)

- Attendance: 22

- The following workshops were organized.
 - Android Studio Workshop [22nd May, 2021]
 - Overleaf (LaTeX) Workshop [25th September, 2021]
- Co-Sponsored IEEE JAPAN SYWL WORKSHOP IN SAPPORO (AND ONLINE) 2021 “ENGINEERS, BE AMBITIOUS!” [31st October, 2021]
- 10 administrative meetings were held in 2021.

B.6 Awards & Recognition Activities

- **Sendai Section Student Awards 2021**

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.

- Recipient of The Best Paper Prize
 - Zeng Yuwen (Tohoku University)
 - Hidefumi Kamoawasa (Akita University)
- Recipient of The Encouragement Prize
 - Xiangling Peng (Akita University)
 - Niko Kanno (Akita University)
 - Hiroto Iwamoto (Tohoku University)

- **Sendai WIE Awards 2021**

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
 - Wu Sirao (Tohoku University)
- Recipient of The Encouragement Prize
 - Mana Yamada (Akita University)

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

- 2021 R10 Women in Engineering Outstanding Section Affinity Group Award - Sendai WIE

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

- Home Page of the Section and Chapters, Affinity Groups
 - Sendai Section
 - <http://www.eeci.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/>
- Contributed to the Region10 Newsletter
 - Sendai Section: contributed 1 article (2021-October)
 - Sendai WIE: contributed 3 articles (2021-January, July, October)
 - Sendai LMAG: contributed 2 articles (2021-July, October)
 - Sendai YP: contributed 1 article (2021-January)
- Provided 28 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 2021.

B.10 Community Activities

There is nothing worthy of special mention in 2021.

PART C - OTHERS

C.1 Special Events

There is nothing worthy of special mention in 2021.

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 a 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 2021.

PART D - GOALS AND PLANS

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

- Technical Lecture Meetings
- Planning Educational Activities
- Activities for students
 - Student Session on TSJC
 - Seminar for effective English presentation skills.
 - Student Awards 2022
- Forming new Student Branch
- Assistance for elevation to Senior Member, Fellow
- Growth of the number of Section members
- Co-sponsored 2022 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!