

Great Adventures and Experiences

The IEEE Antennas and Propagation Society Young Professional Ambassador Program.

Zhijiao Chen 

The IEEE Antennas and Propagation Society (AP-S) Young Professional (YP) Ambassador Program started in the year 2022 to deliver technical or nontechnical talks at various chapters/sections. Its original intent was to inspire and inform AP-S YPs to enhance their interest and engagement in the field of antennas and propagation. For the author, this program also helped develop the ability to be an ambassador from all aspects. This article shows the great adventures and experiences of the ambassador from the author's perspective. The challenges and opportunities are discussed, along with the potential benefits for the ambassador. This article is useful for AP-S YPs who need professional guidance to boost their research careers, as well as for aspiring future ambassadors.

CHALLENGES AND OPPORTUNITIES

The AP-S YP Ambassador Program, which won the IEEE YPs Hall of Fame Honorable Mention Award [1], has been proven a great success. It inspires and informs AP-S YPs in the field of antennas and propagation by delivering both technical and nontechnical talks at various chapters/sections “on demand” virtually. The AP-S chapters reach out to the ambassadors to schedule these talks [2].

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EDITOR'S NOTE

In this issue of *IEEE Antennas and Propagation Magazine*, Dr. Zhijiao Chen of Beijing University of Posts and Telecommunications, China, contributed an interesting article on her experience as the IEEE Antennas and Propagation Society (AP-S) Young Professional (YP) Ambassador during her term in 2022. Dr. Chen is also the winner of the 2022 IEEE AP-S YP of the Year Award! In this article, Dr. Chen discusses the benefits of being an AP-S YP Ambassador and provides guidance to all young professionals, as well as to aspiring future ambassadors.



CJ Reddy

We have many more exciting articles planned for this column in future magazine issues. Anyone who would like to contribute to the “Young Professionals” column or has any suggestions on the topics of interest, please contact me at cjreddy@ieee.org. Follow us on LinkedIn at <https://www.linkedin.com/company/ieee-aps-yp> for the latest updates and events that are of interest to AP-S YPs.

It is definitely a great opportunity to be one of the AP-S YP Ambassadors and to give talks on behalf of the AP-S YP program. At the same time, challenges and opportunities are faced throughout the ambassador's term: from the ambassador application to figuring out the titles of the talks, to the opportunity to win the YP of the Year Award. Key challenges and opportunities are discussed in this article.

CREATE RESEARCH TOPICS

For the ambassador application, the title(s) of a maximum of two talks are to be provided, along with a brief write-up on the benefits of the talk as proposed to the AP-S YP community [2]. However, it

is not easy to come up with a good title at the beginning. In fact, creating inspiring research topics is important for ambassador talks. It is noted that distinguished professors are good at creating research topics to attract the audience, students, and funding. At the beginning of a research career, good research topics can help you find your passions and evolve into career-long interests. The titles of the author's ambassador talks are “Low-Cost Millimeter-Wave Antenna Array for Wireless Future” and “Dielectric Resonator Antenna: Challenges, Designs, and Opportunities,” which might be interesting to one working on base station antennas or dielectric resonator antennas.

Nevertheless, better titles are prompted by creating inspiring research topics, for example, “Why Do We Still Need to Talk About Radio Frequency Identification (RFID) and RFID Antennas?” by Prof. Daniele Insera [2] and “How to Address the Net Zero Target via Rectifying Antennas?” by Dr. Chaoyun Song [3].

The author was inspired by these titles and improved the ambassador talks by creating new research topics. For students who are not clear about the motivations for antenna research, the history of computer development was demonstrated to show that the fast development of computing leads to the demands of high-performance antennas. For young researchers confused about future directions, experiences of funding applications with absurd ideas were shared. These research questions are also helpful for undergraduate/postgraduate education, such as raising questions in class for literature research, reports, and discussions.

NONTECHNICAL CONTENTS

The ambassador talks can be made inspiring by adding nontechnical content. For example, talks are improved from the conventional technical talks by introducing the benefits of the AP-S and YP programs. Many antenna researchers have attended conferences and published papers supported by AP-S, but they have limited information about AP-S, especially in Region 10. With this perspective, a few slides are included

to introduce AP-S and its resources. As a connection platform for the young researchers, AP-S YP links are provided in the slides. In addition, the IEEE YP Ambassador Program is introduced with the motivation, committee, and ambassadors to show the intentions of the ambassador talks.

This nontechnical content can be highlighted with real-life experience. For example, the author shows the experiences of attending two student competitions at AP-S conferences and winning awards. These memories are visualized as photos, shown in Figure 1, where certificates are awarded by IEEE Life Fellows along with well wishes. At the 2013 IEEE International Workshop on Antenna Technology (iWAT 2013), it was great fun to dress like a king and knights. The experiences of supervising undergraduate students to start their antenna research and winning student awards at their postgraduate stages are also shared in the author’s talk. In addition, technical works [4], [5] have been highlighted as the top accessed documents of *IEEE Transactions on Antennas and Propagation*, which are selected by AP-S and show the high-quality work in demanding directions.

AP-S YP OF THE YEAR

The AP-S YP of the Year awardee is selected from the YP Ambassadors every year to serve a one-year term [6]. This award is to recognize one YP member of

AP-S for significant service to the Society during their one-year term as an AP-S YP Ambassador. The basis for judging includes 1) the number of technical and nontechnical talks at IEEE sections and AP-S chapters, as well as the quality of the talks, visibility, and attendance at the talks, and 2) participation in YP activities, including organization of YP events.

The competition for this award was stiff for the ambassadors in the year 2022 since most of the ambassadors were active throughout the year [7]. In 2022, the restrictions of the COVID-19 pandemic in China enabled the author to spend time and effort to prepare well and give talks from home. These talks also attracted online audiences restricted to their homes in China. As a result, 12 ambassador talks have been given to four countries distributed in Region 10, with the number of attendees exceeding 2,000. The advertisements of the Chapter/Section organizer are very helpful to attract attendees. For example, the chapter chair of Nanjing Section Chapter, AP03–Zhejiang, Prof. Wei. E. I. Sha, made a very wide announcement across China, which attracted over 1,500 attendees. The IEEE AP-Microwave Theory and Technology Society (MTT-S) Joint Student Branch Chapter (SBC) of IIT Kharagpur, India, made an attractive flyer, as shown in Figure 2. The IEEE AP-S/MTT-S SBC of NIT Warangal, India, provided



FIGURE 1. Slides for sharing experiences at AP-S conference banquets: (a) The 2013 IEEE International Workshop on Antenna Technology. (b) The 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting (AP-S/URSI 2013).

a nice electronic certificate, as shown in Figure 3(a). It is worth mentioning that the AP-S YP Committee also sent electronic and printed certificates to each ambassador, as shown in Figure 3(b). After each talk, constructive

comments were given by the organizers and audiences, which further improved the slides and quality of the talks. All of this hard work supported the author to win the 2022 IEEE AP-S YP of the Year Award (Figure 4).

BENEFITS OF THE AMBASSADOR

BUILD UP REPUTATIONS

Good research work is highlighted by publishing papers and giving talks, which are important for YPs to build up their reputations. The AP-S YP Ambassador Program is a good opportunity to build up one's reputation by delivering talks that are not limited to AP-S chapters/sections. Apart from 12 talks given for AP-S chapters, the author was also invited by universities and industry to deliver additional three talks during the ambassador term. This certainly elevated the author's research reputation and led to research funding. For example, the author received funding from the National Natural Science Foundation of China in 2022, which was a by-product of the talks delivered as an AP-S YP Ambassador.

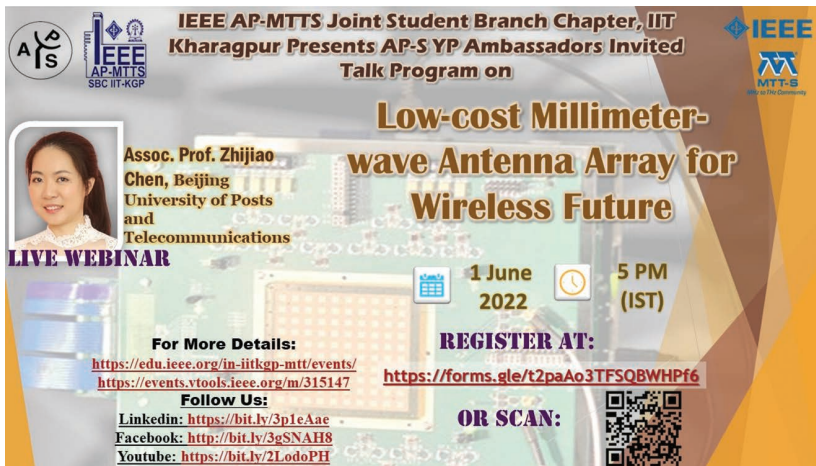


FIGURE 2. A flyer for the ambassador talk scheduled by the IEEE AP-MTT-S Joint SBC, IIT Kharagpur, India.



FIGURE 3. (a) A certificate for the ambassador talk given by the IEEE AP-S/MTT-S SBC NIT Warangal. (b) A certificate for the 2022 AP-S YP Ambassador.

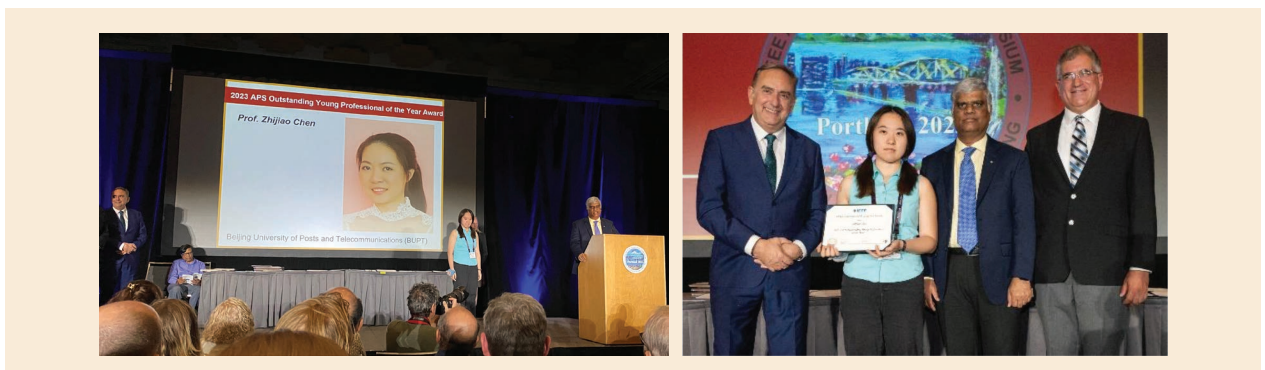


FIGURE 4. The author's graduate student, Xuewen Jiang, received the award certificate on her behalf from Prof. Stefano Maci, president, AP-S; Prof. Branislav Notaros, president elect, AP-S; and Dr. C.J. Reddy, chair, AP-S YPs Committee, at the awards ceremony during AP-S/URSI 2023 in Portland, OR, USA, in July 2023.

IMPROVE PRESENTATION SKILLS

The ambassador usually practices several times before the formal talk, which definitely improves the English and presentation skills. The most difficult part of the talk could be the Q&A, especially for an online talk given in different countries due to various accents. The difficulty of following the questions can be overcome after several talks not only because the confidence has been built up but also because the ambassador becomes more familiar with the audiences' interests and confusions. The organizers provide encouraging feedback, such as the audiences being inspired and encouraged by the talk.

FOSTERING COLLABORATIONS

The ambassador program provides a platform to share your research direction, which attracts people with similar research directions and fosters collaborations. Collaboration is essential for research, but it is not easy to achieve. This is because people do not know the research interests of each other. From the author's experience, collaboration has been developed with 1) chapter chairs who are interested in the research topics, 2) audiences who need the related technical assistance,

and 3) audiences who work in the same research topics.

CONCLUSIONS

This article demonstrates the challenges, opportunities, and benefits of the AP-S YP Ambassador. For the author, it is such a fortunate opportunity to work with the ambassador team and contribute to the AP-S Ambassador Program. This great adventure not only lasts for the one-year term but remains very helpful for the rest of one's research career.

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PROFESSOR HISAMATSU NAKANO RECEIVES "THE ORDER OF THE SACRED TREASURE, GOLD RAYS WITH NECK RIBBON," FROM THE GOVERNMENT OF JAPAN.



Professor Hisamatsu Nakano of Hosei University was selected by the Japanese government as a recipient of The Order of the Sacred Treasure, Gold Rays with Neck Ribbon on November 3 (Japan Culture Day), 2023. The order, conferred upon recipients by the emperor of Japan, honors persons who have made a significant contribution to society, particularly in education and in various fields of science and technology.

Prof. Nakano has been with Hosei University since 1973, where he is currently an Honorary Professor and a Special-appointment Researcher with the Electromagnetic Wave Engineering Research Institute attached to the graduate school. He has published over 370 articles in peer-reviewed journals and 11 books/book chapters, including *Low-profile Natural and Metamaterial Antennas* (IEEE Press, Wiley, 2016). His significant contributions are the development of five integral equations for line antennas in free space and printed on a dielectric substrate, the invention of an L-shaped wire/strip antenna feeding method, and the real-

ization of numerous wideband antennas, including curl, metaspiral, metahelical, and body-of-revolution antennas. His other accomplishments include design of antennas for GPS, personal handy phones, space radio, electronic toll collection, RFID, UWB, and radar. He has been awarded 79 patents, including A Curl Antenna Element and Its Array (Japan). He served as a member of the IEEE APS Administrative Committee from 2000 to 2002 and a Region 10 Representative from 2001 to 2010. He received the H. A. Wheeler Award in 1994, the Chen-To Tai Distinguished Educator Award in 2006, and the Distinguished Achievement Award in 2016, all from the IEEE Antennas and Propagation Society. He was also a recipient of The Prize for Science and Technology from Japan's Minister of Education, Culture, Sports, Science and Technology in 2010. Most recently, he was selected as a recipient of the Antenna Award of the European Association on Antennas and Propagation (EurAAP) in 2020. He is an Associate Editor of several scientific journals and magazines, including *Electromagnetics*.