

Three Historic Events of the 75th Anniversary Celebration of the IEEE AP Society

SEVENTY-FIVE YEARS AP-S PLENARY SESSION: A TECHNICAL AND PROFESSIONAL RETROSPECT OF THE SOCIETY

Report by: Branislav M. Notaroš 

This is a report on the 75 Years AP-S Plenary Session, the main celebratory technical and

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professional event of the 75th Anniversary Celebration of the IEEE Antennas and Propagation Society (AP-S), as IEEE's third society (AP-03). The celebration took place in Florence, Italy, on 18 July 2024 and was conducted in conjunction with the IEEE APS/URSI 2024 Conference [1]. The report is a part of the magazine's Special Series devoted to the AP-S jubilee.

The session was themed “Celebrating 75 Years of the IEEE Antennas and Propagation Society, Looking Forward to the Next 75 Years” (Figure 1). It was initiated, organized, and chaired by Branislav Notaroš and it featured a set of very relevant plenary talks by technical and professional leaders.

This was a truly unique opportunity for AP-S volunteers, members, and conference attendees, as well as our



FIGURE 1. 75 Years AP-S Plenary Session on 18 July 2024 in Florence, Italy, as part of the 75th Anniversary Celebration of the IEEE Antennas and Propagation Society.

external guests, IEEE President and Vice Presidents and Presidents of sister IEEE societies and international organizations, to learn about technical and professional accomplishments and impacts of the AP-S throughout its history. They also heard about our current activities, initiatives, and opportunities and future plans. This was the first such session in the Society's history.

Branislav Notaroš, AP-S President, gave an introduction to the event and an overview of the 75th AP-S Anniversary and the state of the Society, with a retrospect of its operation and governance, technical activities and directions, membership and geographic activities, education and training, publications, and conferences, focusing on stellar accomplishments of the Society: that is, of its volunteers and members.

This was followed by technical talks on the “75 Years of IEEE AP-S Research and Applications,” given by AP-S technical leaders in the respective areas.

Thomas Coughlin, IEEE President and CEO, presented the IEEE: Driving Innovation for 140 years, giving an account of the achievements of the IEEE and all of its constituents as we celebrate 140 years of advancing technology for humanity, as well as what 140 years of innovation looks like today, showing some seminal discoveries made or influenced by IEEE members.

Then the AP-S President introduced Presidents and Chairs of sister IEEE societies and international organizations as our guests for the celebration.

Trevor Bird, AP-S History Committee Chair, talked about 75 Years of AP-S, from its founding in 1949 as the IRE Professional Group on Antennas and Propagation, with Lester Van Atta as the first President, until today, providing a comprehensive overview of developments in our journals, with the start of the *AP Transactions* in July 1953, conferences, with the first AP Symposium held in Boulder, CO, in July 1963, membership, finances, diversity, and impacts.



FIGURE 2. Celebratory Special Issue of the *IEEE Antennas and Propagation Magazine* on the occasion of the 75th AP-S Anniversary Celebration and some other anniversary publications.

This was followed by technical talks on the “75 Years of IEEE AP-S Research and Applications,” given by AP-S technical leaders in the respective areas.

Constantine Balanis presented highlights of 75 years of Antenna research, development, and applications, including the Yagi-Uda antenna, helical antenna, frequency independent antennas, reflectors, pyramidal horn, microstrip patch antenna, evolution of cell phone technology, and current and future topics.

Raj Mittra provided an overview of evolution of Computational Electromagnetics over 75 years, and in particular of the finite element method, domain decomposition method, method of moments, high-frequency asymptotic techniques, finite-difference time-domain method, and commercial codes.

Yahya Rahmat-Samii talked about the Electromagnetics Design, showing how the advent of powerful computers revolutionized the applications of numerical and optimization techniques in electromagnetics designs and demonstrating that modern electromagnetics designs employ an integrated approach that incorporates theoretical, numerical, optimization, simulation, and measurement techniques.

Stefano Maci presented the history and current trends of Materials and Devices, and in particular of metamaterials and metasurfaces, categorizing the developments into origins and early explorations, milestones in 1990s, breakthroughs of the new millennium, and the most recent seminal contributions of today.

The presentation by Mahta Moghaddam dealt with Propagation and Scattering, where she split the topic into two broad categories—namely, proximal interactions and long-range interactions—and focused on propagation and scattering for medical imaging and for remote sensing in the first and second category, respectively.

Christophe Fumeaux provided an overview of AP applications in Communications, Defense, and Medicine, showing how some seminal articles in *AP Transactions* contributed to the

development of wireless communications, ultrawideband arrays for radar and defense, and biomedical imaging and wearables.

As always, the most important part was discussion at the end of the session, with a lot of interesting questions and comments (Figure 1). See the supplementary material online for the recorded videos of the session (<https://doi.org/10.1109/MAP.2024.3511213>).

The 75 Years AP-S Plenary Session is complementary to the celebratory Special Issue of the magazine, organized and edited by Francesco Andriulli and published in June 2024. This Special Issue featured articles describing cornerstone technical and professional accomplishments and activities of the Society over 75 years, in a celebratory spirit but also in an archival fashion (Figure 2).

Another essential publication was the IEEE Technical Activities (TA) *Spotlight* article [1] on “Celebration of the 75th Anniversary of the IEEE Antennas and Propagation Society and Its Accomplishments,” written by the AP-S President, which was distributed, on 16 April 2024, to all IEEE members (Figure 2).

On 13 September 2024, the *AP Transactions* released two Special Article Collections on the occasion of the 75th AP-S Anniversary focusing on antennas and propagation for Emerging 5G/6G Communications and Climate Change, respectively (Figure 2). These collections were promoted through our sister IEEE societies as well.

Finally, the IEEE eNotice on 30 October 2024 communicated the IEEE AP-S “Membership Growth and Retention Milestone Announcement” about topping, on 17 October 2024, the 12,000 active members mark and a projection of reaching the 12,500 members milestone by 31 December 2024, which would constitute an unprecedented 20% increase for just this year (Figure 2). Actually, we reached that 20% projection as early as on 5 December 2024, much ahead of the target date. It is believed that this phenomenal membership growth can in part be attributed to the 75th AP-S Anniversary Celebration in 2024.

REFERENCE

- [1] B. M. Notaroš, “APS/URSI 2024 conference and 75th AP-S anniversary celebration in Florence [President’s Message],” *IEEE Antennas Propag. Mag.*, vol. 66, no. 5, pp. 6–14, Oct. 2024, doi: [10.1109/MAP.2024.3456608](https://doi.org/10.1109/MAP.2024.3456608).

SUPPLEMENTARY MATERIAL



AP-S PAST PRESIDENTS PANEL: A HISTORIC EVENT WITH 23 SOCIETY PRESIDENTS

Report by: Branislav M. Notaroš 

This is a report on the IEEE AP-S Past Presidents Panel held on 18 July 2024, in Florence, Italy, as part of the 75th AP-S Anniversary Celebration. The report, a contribution to the magazine Special Series devoted to the AP-S anniversary, also describes other major activities of Past Presidents during the IEEE APS/URSI 2024 Conference week in Florence [1].

The theme of the panel was “IEEE Antennas & Propagation Society Past, Present, and Future: Technical and Professional Activities.” It was initiated, organized, and chaired by Branislav Notaroš and it involved as many as 23 Past Presidents as panelists (Figure 3). This was a very unusual and extraordinary event, with an unprecedented number of 23 presentations—perhaps the largest number of presentations in a conference session for any conference—and it was actually done in a half-session time. Even more special was that all speakers were Presidents of an IEEE society.

Presidents talked about highlights of their term/year, for both the AP-S professionally and antennas and propagation technically. They shared words of wisdom based on their experiences and vision and guidance for the future

of the Society and the profession. They included some personal memories, pictures, and happenings. See the supplementary material online for full presentations of the panel (<https://doi.org/10.1109/MAP.2024.3511213>).

The following Presidents provided overviews of their terms in the chronological order (Figure 3): Raj Mittra, 1976 AP-S President; Yahya Rahmat-Samii, 1995 AP-S President; Stuart Long, 1996 AP-S President; Piergiorgio Uslenghi, 2001 AP-S President; Magdy Iskander, 2002 AP-S President; John Volakis, 2003 AP-S President; Richard Ziolkowski, 2005 AP-S President; Andrew Peterson, 2006 AP-S President; Jennifer Bernhard, 2008 AP-S President; Makoto Ando, 2009 AP-S President; Magdalena Salazar Palma, 2011 AP-S President; Trevor Bird, 2013 AP-S President; Roberto Graglia, 2015 AP-S President; Michael Jensen, 2016 AP-S President; Ahmed Kishk, 2017 AP-S President; Weng Chew, 2018

AP-S President; Koichi Ito, 2019 AP-S President; Mahta Moghaddam, 2020 AP-S President; Yahia Antar, 2021 AP-S President; Gianluca Lazzi, 2022 AP-S President; Stefano Maci, 2023 AP-S President; Branislav Notaroš, 2024 AP-S President; and Christophe Fumeaux, 2024 AP-S President-Elect.

This panel and presentations provided a comprehensive overview of the operation, activities, goals, and accomplishments of the Society: that is, of its leadership, volunteers, and members, throughout half of a century. It was interesting to learn how the governance of the Society evolved over the years, with big changes in the number of members of the Administrative Committee (AdCom), their terms of service, rules, and ways how the President and AdCom were nominated and elected, enhancement of AdCom's geographic diversity, as well as gender diversity and regional representation of Presidents, and modalities and innovations in

conducting the Society business and operation by AP-S Standing Committees, whose number, scopes, and compositions underwent great variations.

For each President, the most important event of the year was the flagship conference, our APS/URSI Symposium, and many Presidents talked about it in Florence, featuring a useful and entertaining retrospect of venues, developments, and events. The respective Presidents offered their experiences with virtual and hybrid conferences, meetings, and events of all sorts during the pandemic years.

We heard about some landmark discussions and decisions leading to establishment of new journals and conferences, new intersociety collaborations, and new educational and outreach initiatives. Presidents outlined milestones in digitalization of our operation, communications, and publishing.

Some Presidents presented a great deal of information on the technical



FIGURE 3. IEEE AP-S Past Presidents Panel on 18 July 2024 in Florence, Italy, on the occasion of the 75th AP-S Anniversary Celebration.



FIGURE 4. Other major activities of Past Presidents during the APS/URSI 2024 Conference and 75th AP-S Anniversary Celebration in Florence, 13–19 July 2024.

trends and developments of their terms, during which some technical areas and topics were first introduced to the AP community, were questioned and doubted, were pursued massively, gained unstoppable momentum, or reached full maturity. We saw nice overviews of theoretical and technological breakthroughs and seminal articles in AP-S publications.

All Presidents talked about ideas and messages of their terms and ideas and suggestions for future Presidents and AP-S leaderships and volunteers. This comprised AP-S operation and governance, membership, diversity, journals, conferences, workshops, education, training, inter-society collaborations, etc. They also provided some wisdom based on all of their experiences about what they believed were best and most important things that the AP-S did over the past 75 years and mentioned some major challenges and dilemmas we went through and lessons learned, irrespective of their particular presidential terms.

Many talks included invaluable personal memories, anecdotes, stories, pictures, and moments. These

were the most entertaining parts of the presentations. As the strongest message, Presidents emphasized the need and impacts of professionally organizing and encouraged volunteering for the IEEE and AP-S. The panel was well attended (by nonpresidents) and the feedback from attendees was very positive.

All Past Presidents were very active during the entire conference week in Florence. They conducted their Past Presidents Council meeting on 13 July and actively participated in the mid-year meeting of the AP-S AdCom on 13–14 July. They presented research papers, gave plenary and invited talks, were presented top AP-S Field awards, and attended technical sessions, professional and business meetings, and social and networking events throughout the week (Figure 4). Past Presidents were the principal guests of honor at all of the 75th Anniversary events in Florence, and most notably the Celebratory Gala Dinner at Palazzo Vecchio on 18 July [1].

An important activity of the Past Presidents in Florence was the Special Memorial Session: Advancements in Antennas, Propagation, and Radio

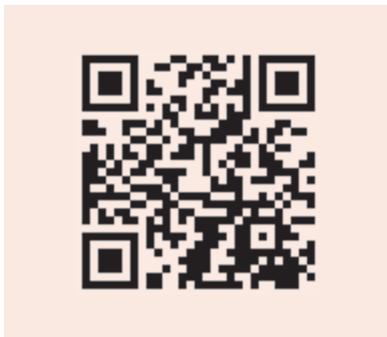
Science: In Memory of W. Ross Stone, on 17 July. This session was initiated and organized by Branislav Notaroš and it featured 10 distinguished speakers, all IEEE AP-S Presidents, namely, Stefano Maci, Raj Mittra, Yahya Rahmat-Samii, John Volakis, Trevor Bird, Mahta Moghaddam, Branislav Notaroš, Gianluca Lazzi, Koichi Ito, and Stuart Long. See the supplementary material online for videos of presentations of the special session (<https://doi.org/10.1109/MAP.2024.3511213>).

The 18 July 2024 AP-S Past Presidents Panel was a historic event, gathering a record number of Society leaders who provided unique perspectives on the AP-S and AP. Their interactions with AP-S volunteers, members, and conference attendees, as well as our external guests, during the 75 Years Celebration in Florence and throughout the conference week were fantastic and a truly unique opportunity. Indeed, it is hard to imagine a similar situation with active participation of as many as 23 past and current leaders of any organization or institution at a given place and time.

REFERENCE

[1] B. M. Notaroš, "APS/URSI 2024 conference and 75th AP-S anniversary celebration in Florence [President's Message]," *IEEE Antennas Propag. Mag.*, vol. 66, no. 5, pp. 6–14, Oct. 2024, doi: 10.1109/MAP.2024.3456608.

SUPPLEMENTARY MATERIAL



INTERSOCIETY COLLABORATION PANEL: A HISTORIC EVENT WITH 17 TECHNICAL SOCIETIES AND ORGANIZATIONS

Report by: Branislav M. Notaroš

This is a report on the Intersociety Collaboration Panel on 18 July 2024 conducted during the 75 Years of AP-S Celebration in Florence, Italy [1], with as many as 17 leaders of the IEEE and IEEE and non-IEEE technical professional international societies and organizations as panelists and presenters, and many other leaders participating in the panel and discussion. The event was initiated, organized, and chaired by Branislav Notaroš, IEEE AP-S President, and it brought together the IEEE President and Vice Presidents, Presidents of sister IEEE societies and councils, and Presidents and Chairs of non-IEEE sister international organizations, with a theme of intersocietal collaborations. The report is submitted for the magazine Special Series devoted to the AP-S anniversary.

This was a very unusual panel and conference session, with an

unprecedented number of 17 presentations in a half-session time, and a long discussion. The talks were relevant and enlightening, and the discussion was engaging and productive. This indeed was a truly unique event, bringing together, for the first time, such a large number of IEEE and non-IEEE international societies and organizations working on advancing the theory and practice of electromagnetics technologies (Figure 5).

We had presentations by the following colleagues: Thomas Coughlin, IEEE President and CEO; Dalma Novak, IEEE Vice President-Elect of Technical Activities (TA) and IEEE Technical Activities Board (TAB) vice Chair; Alaa Abunjaileh, IEEE TAB treasurer and TA Finance Committee Chair; Branislav Notaroš, IEEE AP-S President; Maurizio Bozzi, IEEE Microwave Theory and Technology Society (MTT-S) President; John La Salle, IEEE Electromagnetic Compatibility Society (EMC-S) President; Saibun Tjuatja, IEEE Geoscience and Remote Sensing Society (GRS-S) President-Elect; Marta Fernández, IEEE Broadcast



FIGURE 5. Logos of IEEE and non-IEEE technical professional international societies and organizations participating in the Intersociety Collaboration Panel on 18 July 2024 in Florence, Italy.

Technology Society (BT-S) AdCom member; Vesna Sossi, IEEE Nuclear and Plasma Sciences Society (NPS-S) President; Anna Grazia Mignani, IEEE Sensors Council representative; Luca Catarinucci, IEEE RFID Council President-Elect; Ari Sihvola, International Union of Radio Science (URSI) President; Michael Newkirk, URSI U.S. National Committee (USNC) Immediate Past Chair; Carlo Carobbi, URSI Italian National Committee (ITNC) President; Stefania Monni, European Association on Antennas and Propagation (EurAPP) Chair; Jeffrey Fordham, Antenna Measurement Techniques Association (AMTA) President; and Andrew Peterson, Applied Computational Electromagnetics Society (ACES) President (Figure 6).

Other leaders in attendance included Goutam Chattopadhyay, MTT-S President Elect; Nuno Borges Carvalho, MTT-S Immediate Past President; Ke Wu, MTT-S Intersociety Committee Chair; David Kunkee, GRS-S Immediate Past President; Vignesh Rajamani, EMC-S Immediate Past President; Piergiorgio

Both commonalities and differences may provide opportunities for collaboration, interaction, communication, and leveraging, and our common goal is to identify and pursue such opportunities.

Uslenghi, URSI Immediate Past President; Giuliano Manara, URSI Vice President; Kazuya Kobayashi, URSI Vice President; Juan Mosig, EurAPP Founding Chair; Lars Foged, AMTA Immediate Past President; C.J. Reddy, ACES Vice President; Michael Deering, Senior Development Officer of the IEEE Foundation; and many AP-S leaders.

The IEEE President outlined his priorities for 2024 and talked about increasing IEEE's retention of younger members, engagement with industry, and outreach to the broader public and public visibility, as well as

making investments in new products and services, such as membership engagement through video outreach. The IEEE Vice President-Elect TA explained the IEEE and TA organizational structure, IEEE TA vision and mission, operation and activities of IEEE societies and councils, IEEE Technical Communities, IEEE Future Directions Committee, and TAB's support of other programs, such as Diversity, Equity, and Inclusion, Standards, and Young Professionals, among others. The IEEE TA Finance Committee Chair spoke about the goals of his committee and the TAB treasury, as well as the various components of its mission and activities, such as training, managing, budgeting, risk management, reporting, and forecasting.

Each of the Presidents and Chairs of sister IEEE societies (councils) and international organizations presented their society/organization and provided a high-level comprehensive outline of its field of interest and scope,

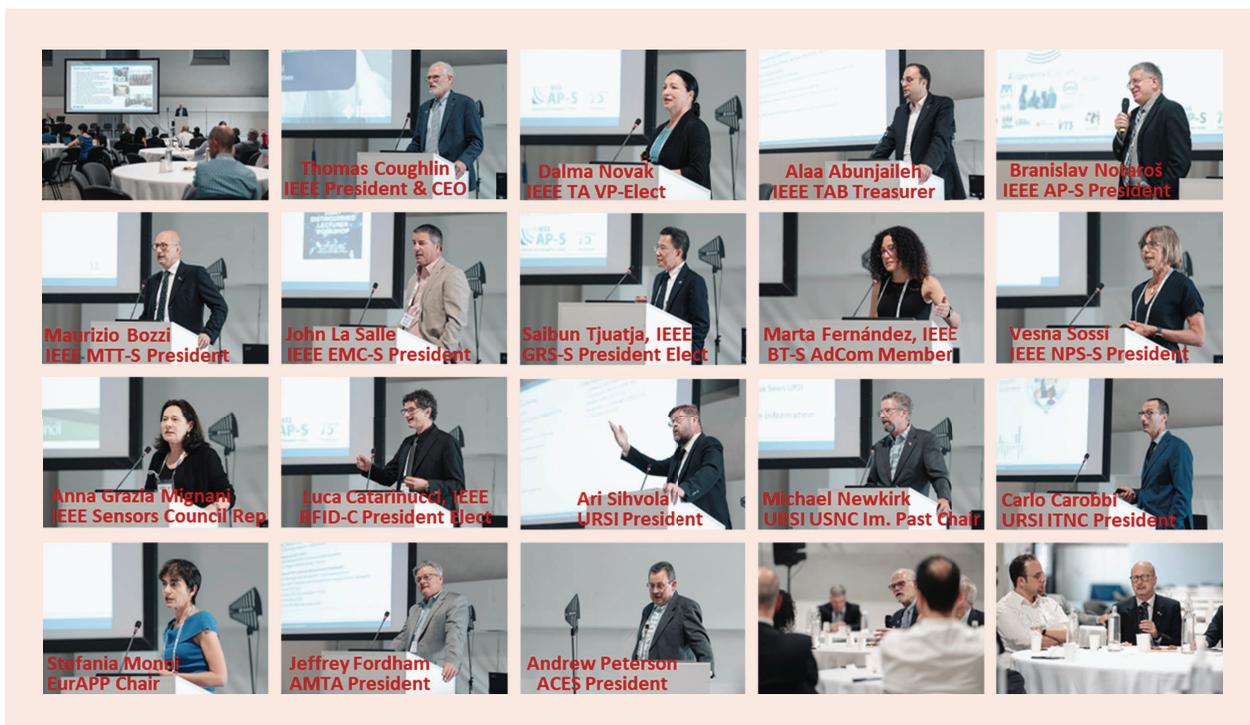


FIGURE 6. An unprecedented number of 17 Presidents and Chairs of sister IEEE societies and councils and international organizations presenting during the 18 July 2024 Intersociety Collaboration Panel organized by the AP-S.

operation and governance, technical and professional activities, goals, and accomplishments. They also put their society/organization in the context of all others invited, to enhance our panel discussion of commonalities and unifying threads as well as differences and unique features. Both commonalities and differences may provide opportunities for collaboration, interaction, communication, and leveraging, and our common goal is to identify and pursue such opportunities. The Presidents and Chairs described existing intersociety collaborations and suggested new avenues and opportunities for joint work and cooperation. See the supplementary material online for full presentations of the panel (<https://doi.org/10.1109/MAP.2024.3511213>).

Discussion and Q&As are incredibly important for any conference session and for this one in particular, as it was a collaboration panel. We had a very large Q&A and discussion session at the end of the panel. Indeed, the panelists and other attendees of the panel conducted extremely interesting and fruitful discussions and interactions.

Some existing and very successful examples of intersociety collaborations that were presented and discussed were joint conferences, with joint financial and/or technical sponsorships, some among IEEE societies and some involving both IEEE and non-IEEE organizations, jointly led intersociety journals, some of them being established just this year, the novel Intersociety Joint Distinguished Lecturer Program of AP-S, MTT-S, and GRS-S, intersociety membership drives, and joint sponsorship of events aimed at engaging students and Young Professionals.

A strong overall conclusion was that, as our scientific and technological world is becoming increasingly interdisciplinary and multifaceted, our technical activities and directions among our professional societies, councils, and organizations are becoming ever more interrelated and

interdependent, which opens novel exciting avenues for intersocietal collaborations and for joint technical and professional actions, pursuits, and impacts.

The first action item coming from our intersociety collaboration discussions is to get to know each other better. Most importantly, it is not that Presidents or Chairs know each of the societies/councils and organizations better, but that our volunteers and members and friends know all of us better. Additionally, we would like to promote each other within our individual constituents and membership bases, to the benefit of all.

There were suggestions, and many in the panel agreed that it was a great idea, to include information about others in our regular newsletters. However, given that there were so many societies/councils and organizations involved, this idea might prove very difficult to impossible to be implemented, from the practical point of view, other than some very selective sampling of who goes into whose newsletter this time and then who next time, and so on. Hence, the AP-S President suggested, in a subsequent e-mail, a related but different approach: that we create a group newsletter, a Newsletter of this group of societies/councils and organizations.

Each issue would be edited by someone else, as a Guest Editor, potentially around some topic or cluster of topics, or around an event. In addition, there will be corners for everybody to talk about activities and initiatives of interest to others, as well as to promote their conferences, journals, digital communications, distinguished lectures, etc. Once the Newsletter is ready, all societies/councils and organizations in the group will send it to their members and/or their usual e-mail bases.

The inaugural issue of the Newsletter will be created by the AP-S President with a theme of the Intersociety Collaboration Panel and the associated discussions and interactions at the 75th AP-S Anniversary Celebration in

Florence. The launch is expected in February 2025.

All leaders of the IEEE, IEEE societies and councils, and international organizations were a key part of all other anniversary events on 17–18 July 2024 in Florence, the 75 Years Plenary Session, AP-S Past Presidents Panel, 75 Years Celebratory Lunch, IEEE AP-S Awards Ceremony, Conference Banquet–Social Dinner, and 75 Years Celebratory Gala Dinner [1]. Many of them were very active during the entire conference week in Florence, attending the AP-S AdCom meeting and other AP-S professional and business meetings, special sessions, technical sessions, APS/URSI 2024 Plenary Session, industry exhibits and demonstrations, Welcome Reception, and social and networking events throughout the week [1].

The 18 July 2024 Intersociety Collaboration Panel in Florence was a historic event, the first of its kind, bringing together an unprecedented number of leaders of IEEE and non-IEEE technical professional international societies and organizations working on diverse technical and scientific areas and topics with a strong interweaving common thread among all of them: electromagnetics.

REFERENCE

- [1] B. M. Notaroš, "APS/URSI 2024 conference and 75th AP-S anniversary celebration in Florence [President's Message]," *IEEE Antennas Propag. Mag.*, vol. 66, no. 5, pp. 6–14, Oct. 2024, doi: [10.1109/MAP.2024.3456608](https://doi.org/10.1109/MAP.2024.3456608).

SUPPLEMENTARY MATERIAL

