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Remembering the Founding Editor of *IEEE Antennas and Propagation Magazine*

The editors of *IEEE Antennas and Propagation Magazine* with the entire editorial board mourn the passing of Ross Stone, our journal's founding editor, who left us on 29 March 2023. Our thoughts and prayers are with him, and we extend our deepest condolences to his dear ones, especially to his wife Sue and his daughter Michele. An "In Memoriam" column to honor Ross can be found in this issue [A1]. The "In Memoriam" column also contains thoughts, memories, and farewell messages that the magazine and our Society's president have received in these past days. Further messages received after the closure of this issue for publication will be published in the future together with further initiatives to honor Ross Stone's memory and legacy.

This issue of the magazine, the journal Ross has served and loved for so many years, is dedicated to his memory.

IN THIS ISSUE

The first contribution of this issue is a review by Whittaker et al. [A2] dealing with materials for 3D printing for engineering antennas and metamaterials. The article starts with a comprehensive review of the different material properties where both characterization for permittivity and losses are reported.

Digital Object Identifier 10.1109/MAP.2023.3269204
Date of current version: 5 June 2023

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The work then moves to the treatment of the printing of metallic structures, again reviewing what can be done with the state of the art. Finally, different practical examples are reviewed, always with a rich bibliographic analysis that will prove quite useful for the reader. The article by Liu et al. [A3] is a tutorial on reflectarray and metasurface reflectors. The article opens with the treatment of active arrays discussing periodicity and current optimality, and then it moves to the treatment of reflectarrays and metamirrors, providing an in-depth bibliographic analysis on the topic. The article by Park et al. [A4] proposes a new class of antenna topology aiming at obtaining a near-spherical beam steering coverage for millimeter-wave frequencies. After a rich bibliographic analysis of the state of the art, the article presents the new design strategy focusing on specific scenarios and characterizing the outcomes numerically. The article closes by reporting a prototyping session complemented by a rich campaign of measurements. The article by Jakoby et al. [A5] deals with the efficiency of a grid Faraday cage. The authors use a Fourier approach analyzing a circular 2D model of a cage. After an introduction that reviews previous relevant works, the article dives into its main analysis obtaining, via Fourier techniques, the expression for the field in the presence of the cage as a function of all relevant electrical and structural parameters. The results are then discussed, and the limitations of the shielding are assessed in the different areas of interest. The article by Surender et al. [A6] reviews recent advances in rectenna technologies at 5G frequencies. After a general introduction, the article starts analyzing the main aspects of energy harvesting and wireless power transfer in 5G communications. Finally, the article by Nichols et al. [A7] deals with a new design concept combining antenna arrays with the possibility of physical reconfigurability to optimize occupation with controlled performance. The article starts with a general review of application scenarios. Then the main design idea is presented. The article then presents a campaign of both numerical and experimental tests

validating the approach and showing its performance and impact.

APPENDIX: RELATED ARTICLES

[A1] F. Andriulli and S. Maci, "Remembering Ross Stone," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 109–116, Jun. 2023, doi: 10.1109/MAP.2023.3269213.

[A2] T. Whittaker, S. Zhang, A. Powell, C. J. Stevens, J. C. Vardaxoglou, and W. Whittow, "3D printing materials and techniques for antennas and metamaterials: A survey of the latest advances," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 10–20, Jun. 2023, doi: 10.1109/MAP.2022.3229298.

[A3] F. Liu, D.-H. Kwon, and S. Tretyakov, "Reflectarrays and metasurface reflectors as diffraction gratings: A tutorial," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 21–32, Jun. 2023, doi: 10.1109/MAP.2023.3236278.

[A4] J. Park et al., "Enabling spherical beam coverage for millimeter-wave stationary and mobile applications: A stackable patch antenna," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 33–45, Jun. 2023, doi: 10.1109/MAP.2022.3208797.

[A5] B. Jakoby, R. Beigelbeck, and T. Voglhuber-Brunnmaier, "Understanding the shielding efficiency of a faraday grid cage: A spectral domain approach," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 46–56, Jun. 2023, doi: 10.1109/MAP.2022.3229287.

[A6] D. Surender, M. A. Halimi, T. Khan, F. A. Talukdar, Nasimuddin, and S. R. Rengarajan, "5G/millimeter-wave rectenna systems for radio-frequency energy harvesting/wireless power transmission applications: An overview," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 57–76, Jun. 2023, doi: 10.1109/MAP.2022.3208794.

[A7] M. W. Nichols, A. Gonzalez, E. A. Alwan, and J. L. Volakis, "An accordion-folding series-fed patch array with finite thickness: A folding technique for CubeSat arrays," *IEEE Antennas Propag. Mag.*, vol. 65, no. 3, pp. 77–82, Jun. 2023, doi: 10.1109/MAP.2022.3229295.

Join Us!

The University of Illinois Antenna and Electromagnetics Laboratory will be celebrating its 75th anniversary with a Reunion happening from Friday, September 8 to Sunday, September 10, 2023.

The EM Lab has a rich history of cutting edge, innovative, and revolutionary technological contributions that have helped shape the computer, communication, and electronic industries as well as academic research in many disciplines. Alumni and friends of the labs will meet throughout the three-day weekend to share a lifetime of memories, professional and personal experiences through seminars, meetings and social events. We hope that you will join us to remember and reflect on the many changes that have occurred, both personal and professional. Scheduled events include tours and visits, a symposium, a banquet, and entertainment.

For more information and updates, please visit the website at emlab.illinois.edu/reunion

Conveniently, the Reunion leads into the 48th Annual Antenna Applications Symposium (AAS), held at Allerton Park, Monticello, IL, from Monday, September 11-Wednesday, September 13, 2023. For more information on the AAS, including the program and keynote speakers, please visit the website at https://publish.illinois.edu/antenna-applications-symposium/