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Editorial

This Section of the IEEE JOURNAL OF THE ELECTRON DEVICES SOCIETY includes two invited papers for the Special Issue on "Materials, processing and integration for neuromorphic devices and in-memory computing". These works describe the most recent developments and the state of the art in materials and devices for neuromorphic computing, including both experimental results and theoretical developments.

The paper [A1] reviews devices and architectures for in-memory computing based accelerators for machine learning and deep learning, highlighting the importance of co-design in the technology-device-architecture-application pipeline.

The paper [A2] introduces new materials into a silicon based platform technology to achieve multi-level resistance change.

We would like to thank all the authors who have contributed their valuable research to this special section. Their submissions have shown how wide is the field of research in these topics. We would also like to express our deep appreciation to the dedicated reviewers: their insightful comments and suggestions to the authors have greatly enhanced the overall quality of this issue. We would like to acknowledge the support and encouragement from Prof. Enrico Sangiorgi, the Editor-in-Chief, as well as Steven Perez, Publication Officer.

APPENDIX: RELATED ARTICLES

[A1] N. Lepri, A. Glukhov, L. Cattaneo, M. Farronato, P. Mannocci, and D. Ielmini, "In-memory computing for machine learning and deep learning," *IEEE J. Electron Devices Soc.*, early access, Apr. 17, 2023, doi: 10.1109/JEDS.2023.3265875.

[A2] T. Marukame, K. Mizushima, K. Nomura, and Y. Nishi, "Lithium-ion-based resistive devices of LiCoO2/LiPON/Cu with ultrathin interlayers of titanium oxide for neuromorphic computing," *IEEE J. Electron Devices Soc.*, early access, Apr. 7, 2023, doi: 10.1109/JEDS.2023.3265392.