Call for Papers (The Deadlines Extended by Two Weeks)
IEEE Transactions on Medical Imaging Second Special Issue On Machine Learning for Image Reconstruction

Since the first special issue on this theme was published in our journal two years ago, the field of data-driven or learning-based tomography has been rapidly developing, especially with the advent of various forms of deep neural networks. Based on existing results and methodology, important deep imaging developments in the near future may focus on big data with growing size, few-shot learning, improved image quality, supervised, weakly supervised or un-supervised learning paradigms, robustness for regulatory compliance, generalizability to multi-sites/systems/settings, as well as explainable and ethical AI for superior imaging results and their clinical acceptance. Toward these goals, coordinated efforts by academy, industry, hospitals, and regulatory agents remains instrumental, and papers from such collaboration are welcome.

Since this field is still at its infancy, we are open to innovative ideas and significant findings in the area of artificial intelligence as well as its applications to image reconstruction. The topics include but are not limited to:

- X-ray CT image reconstruction (such as for low-dose imaging)
- MRI image reconstruction (such as for fast imaging)
- SPECT and PET image reconstruction (such as for quantitative imaging)
- Ultrasound and optical imaging
- Point of care (POC) imaging
- Multimodality fusion or joint image reconstruction across two or more modalities
- Combination of image reconstruction, image analysis, and/or acquisition parameters/protocols

For scientific rigor and clinical translation, images reconstructed via deep learning must be compared with counterparts reconstructed using traditional methods in a reproducible and open fashion. Hence, authors are expected to make the datasets and codes used in this issue publicly available for at least two years after the formal publication; e.g., using https://codeocean.com/ieee/signup.

Authors must submit papers on https://mc.manuscriptcentral.com/tmi-ieee according to https://www.embs.org/tmi/authors-instructions/. Please choose "Second Special Issue on Machine Learning for Image Reconstruction" as the manuscript type in the submission process. Four reviewers will be typically recruited according to the standard TMI review protocol. Authors are encouraged to discuss with one of the guest editors to determine suitability for this special issue.

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Tentative Schedule:
Submission of manuscripts: Nov. 15, 2020; extend to Nov. 30, 2020
Acceptance/rejection notification: Jan. 15, 2021; extend to Jan. 30, 2021
Revised manuscripts due: March 15, 2021; extend to March 30, 2021
Final acceptance: April 1, 2021; extend to April 15, 2021
Publication: May 1, 2021; extend to May 15, 2021