



## Editorial: The October 2023 cover paper

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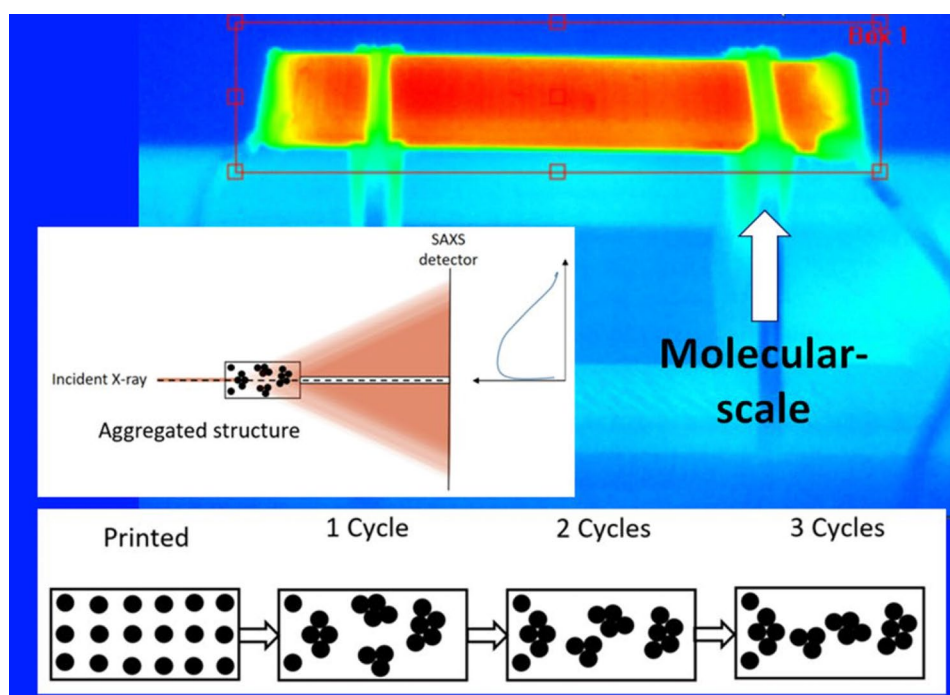
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### GRAPHICAL ABSTRACT



The cover for the October 2023 issues of the Journal of Materials Science comes from the paper by Delbart Robin and colleagues at different Universities in the Scotland, France and England (the latter being the Materials Innovation Factory at the University of Liverpool). Dr Francisca Martinez-Hergueta from the

University of Edinburgh is the corresponding author. The paper was handled by our Editor Maude Jimenez and describes the characterization of the electrical response of a carbon black polylactic acid 3D printed polymer using a combination of advanced experimental techniques at different scale lengths. The paper

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is included in our “Electronic materials” Topical Collection.

The authors show how the paper provides guidelines to produce 3D printed devices with a reliable electrical response and the governing equations to operate them with sufficient accuracy for engineering applications. The authors leave you to read the background literature on 4D printing but give a few references on where you might start! As you might guess, 4D printing has been defined as 3D printing plus time (see Ref. [1] in the paper). The authors show the importance of relating the mechanism of the printing process to the properties of the devices it produces.

As always, the pdfs and hard copies of J Mater Sci are all in full color. This paper is published OA but it does also have a SharedIt link like all articles in JMS (<https://rdcu.be/dlJWA>) so it can be widely and immediately shared with readers along with the extensive supplementary data; all papers published

in JMS are free-to-read in their published form using the SharedIt link from the moment they appear online with their permanent DOI. Supplementary data are also available from the publisher’s web site.

## Reference

- [1] Robin D, Thomas N, Laurane R et al (2023) Multiscale characterisation of the electrical response of 3D printed carbon black polylactic acid. *J Mater Sci* 58:13118–13135. <https://doi.org/10.1007/s10853-023-08840-6>

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