

Call for Papers: JDR Special Issue on Advanced Imaging in DOC Research

The *Journal of Dental Research* is excited to announce the publication of a special issue in 2024 highlighting innovations and applications of advanced imaging techniques for the benefit of dental, oral, and craniofacial (DOC) health. The guest editors are Dana Graves, Professor of Periodontics and Vice Dean, University of Pennsylvania School of Dental Medicine, and Sergio Uribe, Associate Professor and Lead Researcher, Department of Conservative Dentistry and Oral Health, Rīga Stradiņš University, Latvia.

The deadline to submit an article is February 28, 2024.

Recent years have seen tremendous progress in the development of advanced imaging technologies that are benefitting basic science research and enhancing clinical diagnostics. For example, in the basic science domain, techniques such as spatial imaging by mass spectrometry, PhenoCycler (formerly Codex), MERFISH and multiplex immunofluorescence are revolutionizing our understanding of cell and tissue biology by providing detailed insights into the expression of RNA and proteins throughout tissues. These methods are complemented by tools for spatial transcriptomics such as iterative RNAScope, Nanostring/GeoMX and 10X Genomics; Visium and Xenium platforms. In clinical imaging, new approaches and adaptations of technologies such as diffusion tensor MRI and tomosynthetic panoramic radiographs provide novel visualization of oral health and disease.

Artificial intelligence promises to transform bioinformatic data analysis and the interpretation of microscopic and clinical images by linking images and omic data with complex datasets. It is also leading to breakthroughs in clinical decision-making by improving the speed and accuracy of diagnoses and by cross annotating images with clinical or genomics data. Research is starting to reveal how these methods can be implemented cost-effectively in the clinical treatment pathway. This special issue will bring together scientific studies that develop and/or apply cutting-edge imaging tools and technologies to advance our understanding of dental, oral, and craniofacial health and to enhance clinical decision-making and care pathways.

We particularly encourage studies with open-source code and open data to promote accessibility of information and reproducibility/validation of results. Authors should follow relevant best-practice reporting guidelines as relevant, for example STARD, STARD-AI, GRRAS, DENTAL-AI or others (see <https://www.equator-network.org/>).

All manuscripts submitted for consideration will be subject to the peer-review process in a manner identical to the manuscripts submitted to the *Journal of Dental Research*. Research manuscripts should adhere to the following guidelines:

- A limit of 3,200 words (including introduction, methods, results, and discussion; excluding abstract, acknowledgments, figure legends, and references)
- Five total figures or tables
- Forty references
- Must contain a 300-word abstract

The special issue will also accept selected reviews according to the instructions to authors for manuscripts, with the following guidelines: 4,000 words, six total figures or tables, 60 references, and a 300-word abstract. Additional information regarding requirements and formatting of manuscripts can be found by reading the *JDR* [instructions to authors](#).

Papers should be submitted to <http://mc.manuscriptcentral.com/jdr> no later than **February 28, 2024** to be given full consideration. **Authors are required to include in their cover letter that their paper is being submitted for consideration for inclusion in the special issue on Advanced Imaging.** Papers after this date will be considered for publication in the regular issue of the *JDR*.