# Article information:

Integration of multi-scale porosimetry and multi-modal imaging in the study of structure-transport relationships in porous catalyst pellets - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S1385894722046010?via%3Dihub>

# Article summary:

1. The effectiveness factor of many industrial catalysts can be improved by understanding the pore structure-transport relationship within the catalyst pellets.

2. Various imaging modalities have been used to study porous materials, but none can visualize pores across all size scales from nanopores to micron-sized macropores.

3. Indirect characterisation methods such as gas overcondensation and mercury porosimetry can link together data acquired at different length-scales.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, providing a comprehensive overview of the integration of multi-scale porosimetry and multi-modal imaging in the study of structure-transport relationships in porous catalyst pellets. The article is well written and provides a clear explanation of the research topic, with relevant examples and diagrams to illustrate key points. The authors provide an extensive review of existing literature on the topic, which helps to support their claims and arguments.

The article does not appear to contain any promotional content or partiality towards any particular method or approach, instead presenting a balanced view of the various techniques available for studying porous materials. Furthermore, potential risks associated with certain approaches are noted throughout the article, such as limitations on field-of-view when using certain imaging modalities.

The only potential issue with this article is that it does not present both sides equally; while there is an extensive review of existing literature on multi-scale porosimetry and multi-modal imaging techniques, there is no discussion of alternative approaches or counterarguments that could be made against these methods. This could be addressed by including a section discussing possible alternatives or counterarguments to these methods in order to provide a more balanced view of the research topic.

# Topics for further research:

* Alternative approaches to studying porous materials
* Counterarguments to multi-scale porosimetry
* Limitations of multi-modal imaging
* Structure-transport relationships in porous catalyst pellets
* Advantages of multi-scale porosimetry
* Benefits of multi-modal imaging

# Report location:

<https://www.fullpicture.app/item/d1ab2c6c4f3d065bf30bcbf8adabc60a>