# Article information:

Integrated sulfur- and iron-based autotrophic denitrification process and microbial profiling in an anoxic fluidized-bed membrane bioreactor - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0045653518325098?via%3Dihub=>

# Article summary:

1. Nitrate pollution is a global concern and autotrophic denitrification is a promising alternative to heterotrophic denitrification for organic-deficient wastewaters.

2. Sulfur-based autotrophic denitrification is efficient but produces large quantities of sulfate and requires external alkalinity supplementation.

3. The integration of sulfur- and iron-based autotrophic denitrification in an anoxic fluidized-bed membrane bioreactor can reduce sulfate production, eliminate the need for alkalinity supplementation, and be dominated by Thiobacillus, Sulfurimonas, and Geothrix genera in the microbial community.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

作为一篇科学论文，该文章提供了有关硫和铁基自养反硝化过程及微生物群落的详细信息。然而，该文章存在一些潜在的偏见和局限性。

首先，该文章没有探讨可能的风险或负面影响。例如，硫和铁基反硝化过程可能会产生大量的硫酸盐和酸性废水，这可能对环境造成负面影响。此外，该文章没有考虑到可能存在的微生物污染或其他问题。

其次，该文章可能存在片面报道。尽管作者提到了混合自养和异养反硝化过程的优点，但他们并没有探讨这种方法是否适用于所有情况或是否具有普遍适用性。

此外，该文章中提出的一些主张似乎缺乏证据支持。例如，在介绍自养反硝化过程时，作者声称它比异养反硝化更有效和可靠。然而，并没有提供足够的数据来支持这个主张。

最后，该文章似乎缺少平等地呈现双方的观点。作者只介绍了自养反硝化过程及其优点，并未探讨异养反硝化过程或其他方法的优点和缺点。

综上所述，虽然该文章提供了有关硫和铁基自养反硝化过程及微生物群落的详细信息，但它可能存在一些潜在的偏见和局限性。为了更全面地评估这种方法的可行性和效果，需要进一步研究和探讨。

# Topics for further research:

* Environmental risks and negative impacts of sulfur and iron-based autotrophic denitrification processes
* Potential microbial contamination or other issues
* Limitations and applicability of mixed autotrophic and heterotrophic denitrification processes
* Lack of evidence supporting claims about the superiority of autotrophic denitrification over heterotrophic denitrification
* Failure to present both sides of the argument equally
* Need for further research and exploration to fully evaluate the feasibility and effectiveness of autotrophic denitrification methods.

# Report location:

<https://www.fullpicture.app/item/a63fd525154fd2439b12a13a272aadd8>