



## SEMINARI CHIMICI

Data **5 Giugno 2023, ore 14:30**  
**Aula G22, Settore Didattico di via Golgi 19**

Oratore **Dr. Mario Pagliaro**  
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Titolo **Natural product extraction via hydrodynamic cavitation**

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Hydrodynamic cavitation (HC) applied to natural product extraction from biological resources is the enabling technology of the bioeconomy.<sup>[1]</sup> What are the main technical and economic advantages of this natural product extraction route? Is it true that a bioeconomy company using HC would only need water as biomass dispersing medium and electricity to power the hydrocavitation reactor? Is it realistic to assume that incumbent companies of the huge natural product market will shortly adopt cavitation technology? Or will it be used solely by new entrants in the natural product market? In this lecture, I will answer these and closely related questions. In addition, I will show how in the last five years (2017-22) HC applied to extract bioproducts from biological resources has actually opened the route to unforeseen, and most promising, developments that concern also today's materials science and technology.<sup>[2]</sup>



**Figure 1.** Hydrodynamic cavitation applied to natural product extraction from biological resources is the enabling technology of the bioeconomy.

### References

1. M. Pagliaro "Hydrodynamic cavitation: The enabling technology of the bioeconomy" *Chim. Oggi* **2020**, 38 (2), 63 [www.teknoscienze.com/wp-content/uploads/2020/04/PAGLIARO\\_CO2\\_2020.pdf](http://www.teknoscienze.com/wp-content/uploads/2020/04/PAGLIARO_CO2_2020.pdf)
2. R. Ciriminna, A. Scurria, M. Pagliaro "Natural product extraction via hydrodynamic cavitation" *Sustain. Chem. Pharm.* **2023**, 33, 101083 <https://doi.org/10.1016/j.scp.2023.101083>