

# Zeitschrift für Naturforschung C

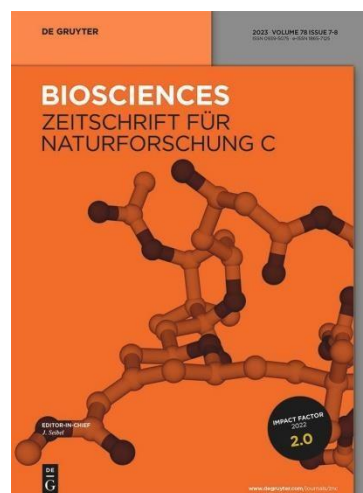
## A Journal of Biosciences

Call for Special Issue Papers

### **Special Issue on CAZymes Structural and functional aspects of Glycoside Hydrolases and Glycosyl Transferases**

Editors: Maria-Ortiz Soto, Jürgen Seibel

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Carbohydrates and glycoconjugates serve a range of functions in living organisms. These structurally diverse and complex carbohydrates are integral components of glycoconjugates, such as proteins, lipids, nucleic acids, and secondary metabolites, which include antibiotics, hormones, and antioxidants. The enzymes responsible for synthesizing, processing, and modifying carbohydrate-based polymers (glycans) and glycoconjugates are classified into sequence-based families and, in some cases, functionally-specific subfamilies as documented in the Carbohydrate Active Enzymes database ([www.cazy.org](http://www.cazy.org)).

CAZymes involved in disease and infection are important targets for individualized medicine, drug design and replacement therapy. Additionally, the broad range of functions catalyzed by these enzymes has been harnessed in numerous biotechnological developments. CAZymes enable the formation, hydrolysis, or rearrangement of glycosidic bonds across various types of molecules, making glycosylation of biologically active compounds highly appealing for diverse applications.

Investigation on the structural and mechanistic aspects underlying the catalysis of carbohydrate active enzymes has led to successful metabolic and protein engineering strategies, facilitating the improvement and/or evolution of naturally occurring enzymes and expanding the scope of glycosylation to rare and unnatural carbohydrates.

This Special Issue aims to provide an up-to-date overview of the field of CAZymes. It will cover the latest contributions in fundamental research and the application of novel strategies for bioprocess development over the past 5 years. Authors are encouraged to submit original research and review articles. Additionally, personal views on the aforementioned fields are welcomed in the form of perspective articles.

The Special Issue focuses on, but is not limited to:

- *Glycoside Hydrolases and Glycosyl Transferases of biotechnological interest*
- *Protein engineering of CAZymes (and directed evolution)*
- *The Impact of Glycoside Hydrolases and Glycosyl Transferases in human health*
- *Mechanisms of enzyme-substrate interactions*
- *Polysaccharides and polysaccharide derivatives as biomaterials*
- *(Chemo)-enzymatic strategies for the synthesis of glycoconjugates*

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