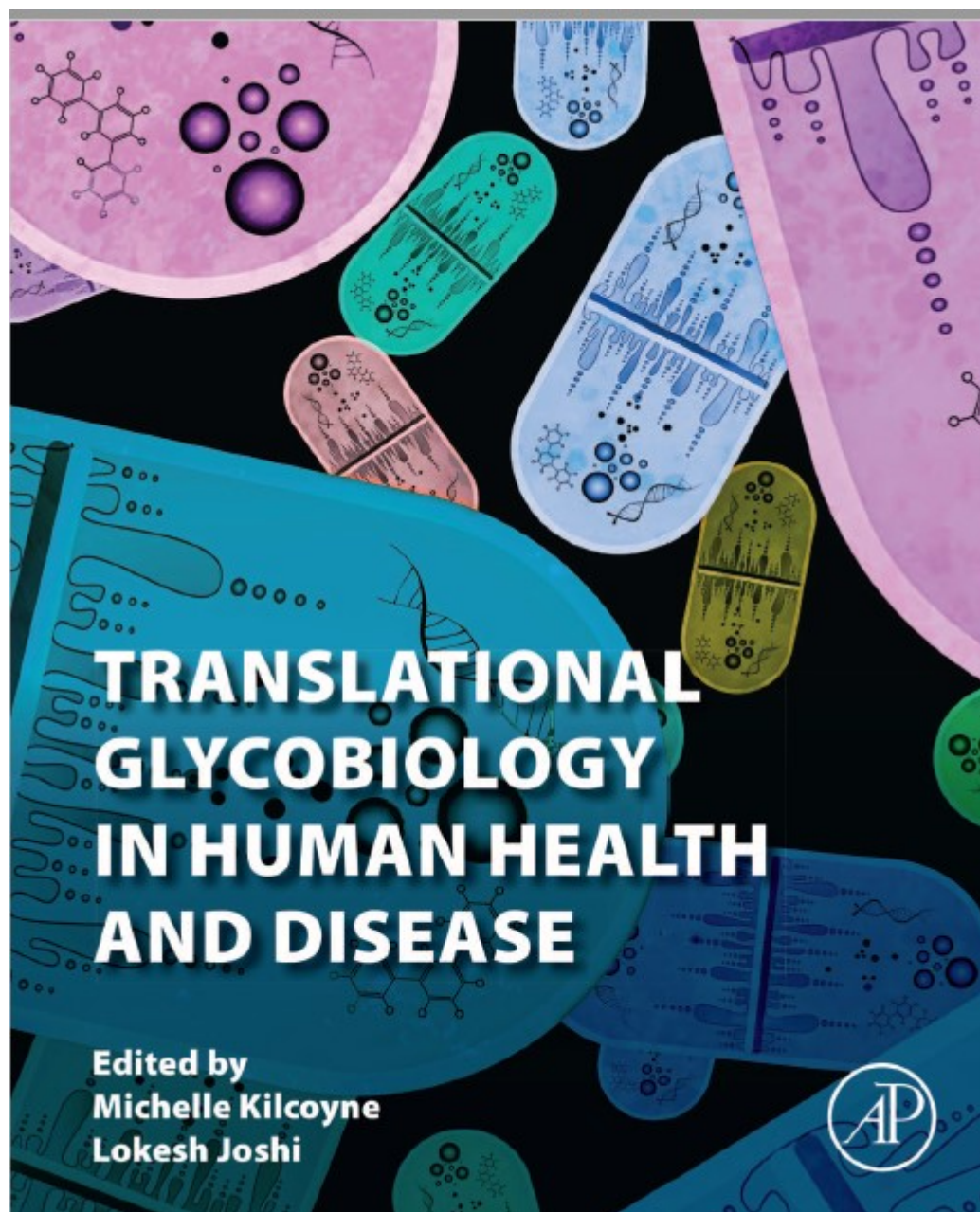


## Translational Glycobiology in Human Health and Disease

### Description

Translational Glycobiology in Human Health and Disease offers a deep examination of glycobiology for experts and non-experts alike in areas ranging from the role of glycobiology in chronic and infectious diseases to advances in technologies for higher throughput analysis and diagnosis. While keeping human health at the forefront, this book integrates a thorough discussion of glycobiology fundamentals with its growing areas of application and societal impact. With emphasis throughout on the interdisciplinary nature of glycosciences, this book also features perspectives from the health, computational (glyco-analytics), materials, biopharmaceutical, and diagnostic sciences. Disease and speciality areas addressed include glyco-immunology, neuro-glycobiology, commensal glycobiology, gut health, regenerative medicine and glycobiology, glycobiology and cancer, congenital disorders of glycosylation, infectious disease glycobiology and parasite glycobiology. Computational approaches discussed, supporting the advance of new research, including advanced glyco-analytics, glycomics microarrays, glycoengineering, and glycol systems biology. Additionally, the authors consider impact areas for society and public health, such as glycobiology and entrepreneurship, policy and regulatory requirements for glycosylation, future research, and translation to new diagnostics and drug discovery.



## Content

- Carbohydrates and human glycosylation
- Lectins and their applications in biomedical research
- Carbohydrate-active enzymes
- Carbohydrate sulfotransferases in glycosaminoglycan biosynthesis
- The immune system from a glycobiological point of view
- Host mucin glycosylation and gut symbiosis
- Bifidobacteria-accessible carbohydrates in milk
- Extracellular vesicle glycosylation in transport, signaling, and function
- Protein glycosylation in cancer
- Metabolic diseases: disorders of carbohydrate metabolism and lysosomal storage

- Elucidation of the structure of carbohydrates and their interactions by nuclear magnetic resonance spectroscopy
- Development of glycosensors and their applications
- Systems glycoengineering of therapeutic proteins
- Understanding glycobiology through multiscale molecular dynamics simulations: From basic principles to case studies
- Improving impact: Public involvement in glycobiology research
- Public health and translational glycobiology

## **Category**

1. News