

## Prof. Lokesh Joshi

### **Carbohydrates: Simple food constituent or a complex driver of health?**

Carbohydrates comprise the largest portion of biomass on this planet and are sources of materials, energy, food and nutrition. With the realization that human beings are 'meta-organisms' and as our understanding of human glycome and its interaction with microbiome and the diet is increasing, glycoscience is likely to make key contributions in personalised medicine and will provide functional foods supporting pre- and probiotic activities and as other health benefits.

Carbohydrates play critical roles as food components and act to modulate health. Positive effects of dietary carbohydrates include the bioactivity of milk oligosaccharides in infant development and resistance to infection, the role of dietary soluble and insoluble polysaccharides and the endogenous glycans which maintain gastrointestinal homeostasis and immune regulation. However, negative impacts are also known such as allergens attributed to non-human carbohydrate epitopes presented within a 'normal diet'.

Education and collaboration across policymakers, stakeholders and industry will be key to translate advances in glycoscience to societal impact.

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