

1. Record Nr.	UNINA9910298585703321
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Titolo	Carbohydrate-Based Interactions at the Molecular and the Cellular Level // by Kieran L. Hudson
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-77706-8
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XXIX, 198 p. 98 illus., 49 illus. in color.)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190- 5053
Disciplina	547.78
Soggetti	Carbohydrates Proteins Chemistry, Physical and theoretical Regenerative medicine Tissue engineering Physical chemistry Analytical chemistry Carbohydrate Chemistry Protein-Ligand Interactions Theoretical and Computational Chemistry Regenerative Medicine/Tissue Engineering Physical Chemistry Analytical Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Protein-Carbohydrate Interactions in Protein X-ray Crystal Structures -- The Nature of Protein-Carbohydrate Interactions -- The Modifiable Scaffold for Tissue Engineering -- Carbohydrate Modifiers for Tissue Engineering Scaffolds -- Conclusions and Future Directions -- Experimental Details and Supplementary Data.
Sommario/riassunto	This book offers a clearly written and highly accessible account of two different aspects of carbohydrate chemistry. Carbohydrates are an essential component of life and have many important biological

functions, but the details of how carbohydrates interact with other biomolecules to mediate biological signalling remain unclear. Firstly, this thesis details innovative methods to mine protein structural data to uncover new features of carbohydrate-based interactions. It also explains these findings using physical chemistry, specifically CH– π interactions associated with the properties of the interacting partners. Carbohydrates are also critical for tissue growth and development, yet are underexploited in the materials science that underpins much of regenerative medicine. As such, the second part of this thesis describes a diverse array of techniques ranging from synthetic chemistry and enzymatic synthesis to prepare a wide variety of carbohydrates, and materials chemistry to prepare glycosylated hydrogels, to cell biology to determine the effects on cellular development for tissue engineering applications.
