Record Nr. UNINA9910483667003321 **Titolo** Material balance: a design equation / / Ingrid Paoletti, Massimiliano Nastri, editors Pubbl/distr/stampa Cham, Switzerland:,: Springer,, [2021] ©2021 **ISBN** 3-030-54081-2 Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (VII, 127 p. 38 illus.) Collana SpringerBriefs in applied sciences and technology Disciplina 721.04 Building materials - Technological innovations Soggetti Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia The Material Balance Manifesto. Scientific approach and methodologies Nota di contenuto -- Designing Responsible Material Cultures -- Digital culture and nondesigning approach -- Simulation driven design -- Material Agency and 4D Printing -- Auxetic Materials -- Bespoke knitted textiles for large-scale architectural projects -- Future façade systems. Technological culture and experimental perspectives -- Nature reloaded. Microalgae as future landscape ecology -- Towards an advanced Acoustic Ecology. Sommario/riassunto This book argues that we are living in an era of deep mutation, and the anthropocentric model no longer fits our way of living and behaving on Earth. Climate change is upsetting our relationship with nature and the environment, while artificial intelligence scenarios undermine the foundations of human life. As the pressure to re-align based on new modes of living and consuming increases, the first priority should be to address the way we imagine, design, produce and construct our built environment. The highly original book explores how the relation between design technology and material cultures can underpin and drive this change. It discusses the need for a new "material balance" to develop our design practice, not only from an energy and environmental perspective, but also from a physiological, cultural and semantic one, in order to re-balance the impact of material design on society. This publication is an excellent guide to understanding in

detail the theoretical framing of several crucial topics in material

balance design, from computational knitting to material agency, and from new acoustic ecology to future façade technologies, bio-based design and ultimately non-anthropocentric habitats, offering insights into preferable future scenarios.