

Markus Hudert, Sven Pfeiffer (Eds.)

Rethinking

Future Dimensions of Timber Assembly

Birkhauser
Basel

Table of Contents

Foreword | Klaus Zwerger p. 6

Preface | Markus Hudert and Sven Pfeiffer p. 12

Concepts and Perspectives p. 16

Think Like the Forest: Maximizing the Environmental Impact and Energetics of Building Timber | Kiel Moe p. 20

Cascading Wood, Material Cycles, and Sustainability | Mark Hughes p. 30

Wood on the Rise: A Speculative Approach to Timber Construction and Joinery in Southeast Asia | Michael Budig p. 46

Joinery Culture p. 56

Designing Through Experimentation: Timber Joints at the Aalto University Wood Program | Pekka Heikkinen and Philip Tidwell p. 60

Reciprocal Timber Structures and Joints | Olga Popovic Larsen p. 88

Press-Fit Timber Building Systems: Developing a Construction System for Flexible Housing Solutions | Hans Drexler p. 100

Glued Connections in Timber Structures | Gerhard Fink and Robert Jockwer p. 116

Digital Processes p. 128

Freeform Timber Structures: Digital Design and Fabrication | Toni Osterlund and Markus Wikar p. 132

Bringing Robotic Fabrication into Practice | Leon Spikker p. 150

Concepts for Timber Joints in Robotic Building Processes | Philipp Eversmann p. 164

Joyn Machine: Towards On-Site Digital Fabrication in Bespoke Woodwork | Simon Deeg and Andreas Picker p. 178

New Materials and Applications p. 190

From Pulp to Form: Future Applications of Cellulose | Heidi Turunen and Hannes Orelma p. 196

Wood Foam: A New Wood-Based Material | Frauke Bunzel p. 206

TETHOK: Textile Tectonics for Wood Construction | Steffi Silbermann, Stefan Bohm, Philipp Eversmann, and Heike Klussmann p. 216

Reapproaching Nature p. 232

Designing with Tree Form | Martin Self p. 236

The (D)Efficiencies of Wood | Marcin Wojcik p. 250

Baubotanik: Living Wood and Organic Joints | Ferdinand Ludwig, Wilf Middleton, and Ute Veas p. 262

References p. 276

Biographies p. 286