

1. Record Nr.	UNINA9910337658103321
Autore	Peraza Hernandez Edwin A
Titolo	Active Origami : Modeling, Design, and Applications / / by Edwin A. Peraza Hernandez, Darren J. Hartl, Dimitris C. Lagoudas
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-319-91866-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XXI, 464 p. 263 illus., 38 illus. in color.)
Disciplina	620.0042
Soggetti	Engineering design Building materials Mechanics Mechanics, Applied Engineering Design Structural Materials Solid Mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction to Active Origami Structures -- Chapter 2. Kinematics of Origami Structures with Creased Folds -- Chapter 3. Unfolding Polyhedra Method for the Design of Origami Structures with Creased Folds -- Chapter 4. Tuck-Folding Method for the Design of Origami Structures with Creased Folds -- Chapter 5. Kinematics of Origami Structures with Smooth Folds -- Chapter 6. Unfolding Polyhedra Method for the Design of Origami Structures with Smooth Folds -- Chapter 7. Tuck-Folding Method for the Design of Origami Structures with Smooth Folds -- Chapter 8. Structural Mechanics and Design of Active Origami Structures.
Sommario/riassunto	Origami structures have the ability to be easily fabricated from planar forms, enable the deployment of large structures from small volumes, and are potentially reconfigurable. These characteristics have led to an increased interest in theoretical and computational origami among engineers from across the world. In this book, the principles of origami, active materials, and solid mechanics are combined to present a full

theory for origami structures. The focus is on origami structures morphed via active material actuation and formed from sheets of finite thickness. The detailed theoretical derivations and examples make this an ideal book for engineers and advanced students who aim to use origami principles to develop new applications in their field.
