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	Nota di contenuto	Discrete conformal maps: Boundary value problems, circle domains, Fuchsian and Schottky uniformization: Alexander I. Bobenko, Stefan Sechelmann, Boris Springborn -- Discrete complex analysis on planar quad-graphs: Alexander I. Bobenko and Felix Günther -- Approximation of conformal mappings using conformally equivalent triangular lattices: Ulrike Bücking -- Numerical Methods for the Discrete Map Za: Folkmar Bornemann, Alexander Its, Sheehan Olver, and Georg Wechslberger -- A variational principle for cyclic polygons with prescribed edge lengths: Hana Kourimská, Lara Skuppin, Boris Springborn -- Complex Line Bundles over Simplicial Complexes and

their Applications: Felix Knöppel and Ulrich Pinkall -- Holomorphic vector fields and quadratic differentials on planar triangular meshes: Wai Yeung Lam, Ulrich Pinkall -- Vertex normals and face curvatures of triangle meshes: Xiang Sun, Caigui Jiang, Johannes Wallner, and Helmut Pottmann -- S-conical cmc surfaces. Towards a unified theory of discrete surfaces with constant mean curvature: Alexander I. Bobenko and Tim Hoffmann -- Constructing solutions to the Björling problem for isothermic surfaces by structure preserving discretization: Ulrike Bücking and Daniel Matthes -- On the Lagrangian Structure of Integrable Hierarchies: Yuri B. Suris, Mats Vermeeren -- On the variational interpretation of the discrete KP equation: Raphael Boll, Matteo Petrera, and Yuri B. Suris -- Six topics on inscribable polytopes: Arnau Padrol and Günter M. Ziegler -- DGD Gallery: Storage, sharing, and publication of digital research data: Michael Joswig, Milan Mehner, Stefan Sechelmann, Jan Techter, and Alexander I. Bobenko.

Sommario/riassunto	This is one of the first books on a newly emerging field of discrete differential geometry and an excellent way to access this exciting area. It surveys the fascinating connections between discrete models in differential geometry and complex analysis, integrable systems and applications in computer graphics. The authors take a closer look at discrete models in differential geometry and dynamical systems. Their curves are polygonal, surfaces are made from triangles and quadrilaterals, and time is discrete. Nevertheless, the difference between the corresponding smooth curves, surfaces and classical dynamical systems with continuous time can hardly be seen. This is the paradigm of structure-preserving discretizations. Current advances in this field are stimulated to a large extent by its relevance for computer graphics and mathematical physics. This book is written by specialists working together on a common research project. It is about differential geometry and dynamical systems, smooth and discrete theories, and on pure mathematics and its practical applications. The interaction of these facets is demonstrated by concrete examples, including discrete conformal mappings, discrete complex analysis, discrete curvatures and special surfaces, discrete integrable systems, conformal texture mappings in computer graphics, and free-form architecture. This richly illustrated book will convince readers that this new branch of mathematics is both beautiful and useful. It will appeal to graduate students and researchers in differential geometry, complex analysis, mathematical physics, numerical methods, discrete geometry, as well as computer graphics and geometry processing.