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Scott O Wilson* (scottw@math.umn.edu), 507 Vincent Hall, 206 Church St. SE, Minneapolis, MN 55408. *Conformal Structures and Metric Triangulations*.

I'll describe how to assign a 'discrete period matrix' to any cell decomposition of topological surface endowed with an inner product on its cellular 1-cochains.

This is closely related the Riemann period matrix of a Riemann surface. In fact, a Riemann period matrix can be closely approximated by a discrete period matrix, with error depending on the 'mesh' of a triangulation of the Riemann surface. Thus, one can recover a conformal structure in the limit of a fine triangulation.

I'll also describe holomorphic mappings in this discrete setting, and some connections with sigma models. (Received February 12, 2006)