Wai-Yeung Lam (Wayne)

1. **Postdoc** in the Math department at **Brown** (2016-2019)
2. **Phd** at **Technische Universitaet Berlin** (2016) Advisor: Ulrich Pinkall
3. Grew up in **Hong Kong**
4. Research: **Discretization in differential geometry**.

Definition (L-Pinkall 2016)

Given a graph $G = (V, E)$ and an immersion $z : V \to \mathbb{C}$.
A function $q : E_{int} \to \mathbb{R}$ is called a **holomorphic quadratic differential** if for every interior vertex i

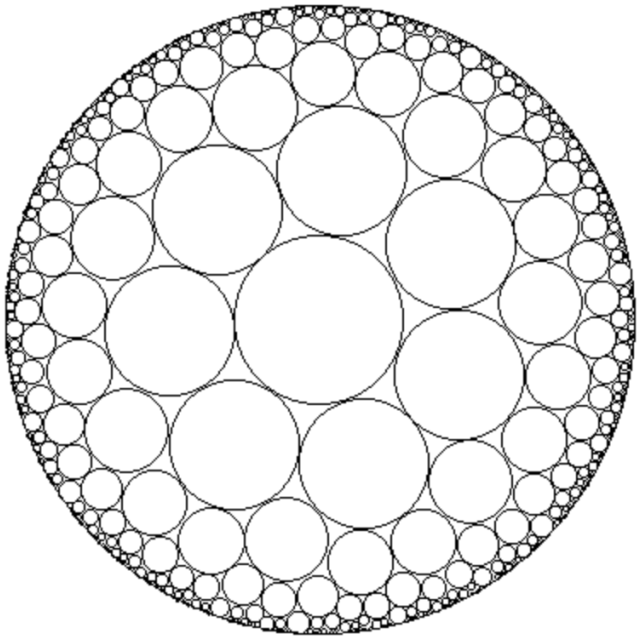
$$\sum_j q_{ij} = 0$$

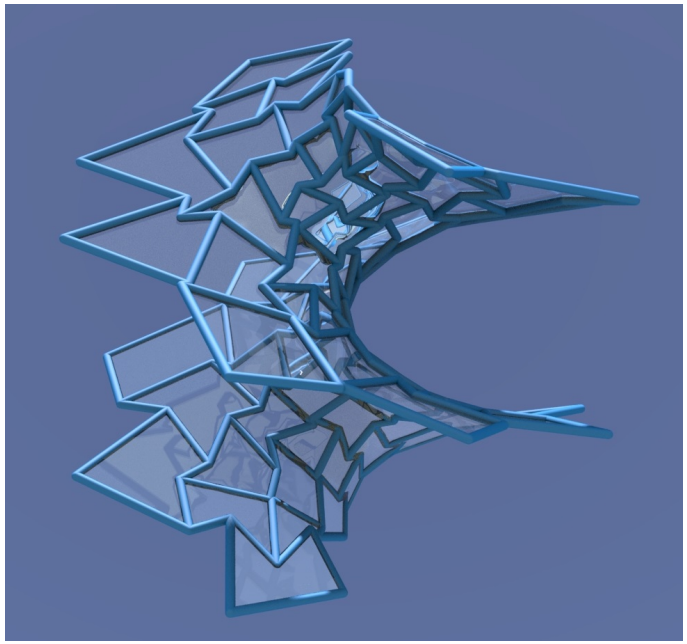
$$\sum_j q_{ij}/(z_j - z_i) = 0$$

where the sum is over the neighboring edges and $q_{ij} = q_{ji}$.

Why holomorphic quadratic differentials?

1. Circle packings, circle patterns, ...
2. Discrete minimal surfaces (mean curvature $= 0$)
3. Graph Laplacian (with cotangent weights)
4. Integrable systems, Dynamical systems
5. Teichmuller theory (In progress)
6. Dimer models (In progress. Joint work with R. Kenyon)





$$\sum_{i \neq j} \log \frac{1}{|x_j - x_i|}$$