Ex. 1 — Delaunay triangulations and Voronoi diagrams

- Read the CGAL manual [Chapter 37.1–37.5] on 2D triangulations. See [1] Chapters 7, 9 for more background.
- Compute the Delaunay triangulation $T$ and its dual Voronoi diagram $V$ of your favorite 2-dimensional $n$ point set $P$. Draw both using Qt.
- Given a point $p$ (not necessarily in $P$), find the triangle of $T$ and the cell of $V$ that $p$ lies in.
- Given two points $s$ and $t$ (not necessarily in $P$), find a shortest path (measured in number of triangles) from $s$ to $t$ in $T$.
- Given two points $s$ and $t$ compute the set of triangles of $T$ intersected by the straight-line segment $st$.

References