

# **Delaunay Triangulation**

**Euclidean Traveling Salesman Problem**

**- NP-Hardness**

**Junhui DENG**

**deng@tsinghua.edu.cn**

❖ [Garey-Graham-Johnson, 1976] ETSP is NP-hard

❖ That's why we turn to  
heuristic or approximate strategies

❖ [Christofides, 1976]

An approximate TSP tour

whose length is within  $\boxed{3/2}$  of optimal

can be obtained in  $\boxed{O(n^3)}$  time

if

the inter-point distances

obey the  $\boxed{\text{triangle inequality}}$

❖ Next, Let's explain an earlier and simpler result ...

