

A map $f: K \rightarrow \mathbb{R}^d$ of a simplicial complex is an *almost embedding* if $f(\sigma) \cap f(\tau) = \emptyset$ whenever σ, τ are disjoint simplices of K .

Theorem. *For each integers $d, k \geq 2$ such that $d = \frac{3k}{2} + 1$ the algorithmic problem of recognition embeddability (almost embeddability) of finite k -dimensional complexes in \mathbb{R}^d is NP hard.*

This talk will be accessible to non-specialists. I will describe motivations and ideas of proof of this result, including singular versions of Higher-dimensional Borromean Rings Lemma and Generalized Van Kampen-Flores Theorem.

(On joint work with Martin Tancer and on Matoušek-Tancer-Wagner work)