Immersions of graphs and digraphs

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A graph G contains another graph H as an *immersion* if there is an injective mapping $\iota : V(H) \to V(G)$ and for each edge $uv \in E(H)$ there is a path P_{uv} in G joining vertices $\iota(u)$ and $\iota(v)$ such that the paths P_{uv} ($uv \in E(H)$) are pairwise edge-disjoint. If the paths are internally disjoint from $\iota(V(H))$, then we speak of a *strong immersion*. One can define (strong) immersions of digraphs in the same way.

Nash-Williams conjectured that graphs are well-quasi ordered for the relation of immersion containment. The conjecture was proved by Robertson and Seymour [1] for weak immersions.

Recent interest in graph and digraph immersions resulted in a variety of new discoveries. The speaker will enlighten some of these achievements.

References

[1] N. Robertson, P. Seymour, Graph minors XXIII. Nash-Williams' immersion conjecture, J. Combin. Theory, Ser. B 100 (2010), 181–205.