

# İSTANBUL ANALYSIS SEMINARS

## UNIVALENT HARMONIC MAPPINGS IN THE PLANE: RECENT PROGRESS

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**Abstract:** Harmonic mappings defined on planar domains are the sum of  $U(x, y) + iV(x, y)$  where  $U$  and  $V$  are harmonic functions. We study problems related to sense-preserving univalent harmonic mappings. Such mappings are locally quasiconformal and their second dilatation is an analytic function bounded by one. If the dilatation of such a function is a square of an analytic function, then they naturally produce a nonparametric minimal surface. We shall discuss two lately solved open problems, one on simply connected domain and the other in doubly connected domain. The problems were posed by Sheil-Small and Ivaniec, Kovalev, and Onninen.

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**Time:** 17:00

**Place:** Sabancı University, Karaköy Communication Center  
Bankalar Caddesi 2, Karaköy 34420, İstanbul

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