

İTÜ



MATEMATİK BÖLÜMÜ

“Sharp” Local Well-Posedness of the 1D Green-Naghdi Equations

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We consider the 1D Green-Naghdi equations, a model for water waves in the shallow water regime. We will formulate the equations as an ODE on an infinite dimensional Hilbert manifold consisting of Sobolev type diffeomorphisms of the real line. As an application of this geometric approach we will get a "sharp" local well-posedness result for the equations in Sobolev spaces.

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Saat: 14:30-15:30

Yer: Fen-Edebiyat Fakültesi B1-326

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About the speaker:

Hasan İnci is an Associate Professor of Mathematics at Koç University. He received his undergraduate education at ETH Zurich and completed his Ph.D. at the University of Zurich. Following his doctoral studies, he held a postdoctoral position at EPFL (École Polytechnique Fédérale de Lausanne).

His research focuses on partial differential equations, with particular emphasis on fluid dynamics, including the Euler equations and water wave models such as the Green–Naghdi system. His work explores fundamental questions related to well-posedness, regularity, and the geometric structure of nonlinear evolution equations.

Dr. İnci has contributed to the analysis of solution maps and the mathematical understanding of nonlinear PDEs, and his research lies at the intersection of analysis and geometric methods in mathematical physics.