The many faces of the Fisher-KPP equation

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The Fisher KPP equation introduced in 1937 by the biologist Fisher and the mathematicians Kolmogrov, Petrovski, Piscounov describes the growth of a stable region into an unstable medium. It is one of the classical examples of a traveling equation which exhibits the phenomenon of velocity selection. For physicists or biologists it appears in many other contexts, ranging from the theory of disordered systems to reaction diffusion problems, branching Brownian motion and models of evolution with selection. It is also related to a number of mathematical questions in probability, PDE's, stochastic PDE's and complex analysis. This talk will try to review some classical results as well as several recent progress.