Hex and Mathematics

Ryan Hayward
University of Alberta

The game of Hex has been of particular interest to mathematicians since its invention by Piet Hein and John Nash in the 1940s. In this talk I will survey some results on Hex, ranging from a little-known combinatorial proof of the well-known property that the game cannot end in a draw to recent graph- and game-theoretic results (joint with Yngvi Bjornsson, Mike Johanson, Jack van Rijswijck, Morgan Kan, and Nathan Po) that introduce the notions of "capture" and "domination" in Hex and facilitate the computer solution of arbitrary Hex game-states on small boards.