

## RATIONAL EXPECTATIONS IN GAMES

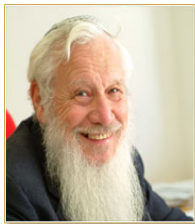
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**Abstract :** A player  $i$ 's actions in a game are determined by her beliefs about other players; these depend on the game's real-life context, not only its formal description. Define a *game situation* as a game together with such beliefs; call the beliefs—and  $i$ 's resulting expectation—*rational* if there is common knowledge of rationality and a common prior. In two-person zero-sum games,  $i$ 's only rational expectation is the game's *value*. In an arbitrary game  $G$ , we characterize  $i$ 's rational expectations in terms of the correlated equilibria of the doubled game  $2G$  in which each of  $i$ 's strategies in  $G$  appears twice.

(This keynote address is based on a paper with the same title, and co-authored with Jacques H. Dreze (Center for Operations Research and Econometrics, Université Catholique de Louvain, 34 Voie du Roman Pays, 1348 Louvain-la-Neuve, Belgium), which appeared in *American Economic Review*, 98:1, 72-86, 2008.)



### **Biographical Sketch:**

Robert Aumann was born in 1930, in Frankfurt am Main, Germany, to a well-to-do orthodox Jewish family. Fleeing Nazi persecution, he emigrated to the United States with his family in 1938, settling in New York. In the process, his parents lost everything, but nevertheless gave their two children an excellent Jewish and general education. Aumann attended Yeshiva elementary and high schools, got a bachelor's degree from the City College of New York in 1950, and a Ph.D. in mathematics from MIT in 1955. He joined the mathematics department at the Hebrew University of Jerusalem in 1956, and has been there ever since. In 1990, he was among the founders of the Center for Rationality at the Hebrew University, an interdisciplinary research center centered on Game Theory, with members from over a dozen different departments, including Business, Economics, Psychology, Computer Science, Law, Mathematics, Ecology, Philosophy, and others. Aumann is the author of ninety research papers and six books, and has held visiting positions at Princeton, Yale, Berkeley, Louvain, Stanford, Stony Brook, and NYU. He is a member of the American Academy of Arts and Sciences, the National Academy of Sciences (USA), the British Academy, and the Israel Academy of Sciences; holds honorary doctorates from the Universities of Chicago, Bonn, Louvain, City University of New York, and Bar Ilan University; and has received numerous prizes, including the Nobel Memorial Prize in Economic Sciences for 2005. Aumann is married and has five children (the oldest was killed in Lebanon in 1982), twenty-one grandchildren, and five great-grandchildren. When not working, he likes to hike, ski, cook, and study the Talmud.