Bibliography of Robert John (Yisrael) Aumann Scientific Papers

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The bibliography is published in connection with the ninetieth anniversary of the professor Robert John (Yisrael) Aumann.

On the eighth of June the outstanding Israeli American game theorist Robert John (Yisrael) Aumann celebrates his 90-anniversary. A professor at the Center for the Study of Rationality in the Hebrew University of Jerusalem in Israel, he received in 2005 the Nobel Memorial Prize in Economic Sciences for his work on conflict and cooperation through game-theory analysis. He shared the prize with Thomas Schelling. At the Hebrew University of Jerusalem Prof. Aumann created a flourishing game theory school which is one of the best in the world.

Prof. Aumann was the first plenary speaker at the First conference Game Theory and Management (GTM2007) held in June, 2007, in St.Petersbug and his lecture was followed by a lecture of his brilliant student, Sergiu Hart: the game-theory genealogy graph of Professor Aumann is immense and contains 172 descendants. The famous direct descendants (Doctoral students of Robert J. Aumann), listed in the chronological order, are

1. Bezalel Peleg, 1964
2. David Schmeidler, 1969
3. Shmuel Zamir, 1971
4. Elon Kohlberg 1973
5. Benyamin Shitovitz, 1974
6. Zvi Artstein, 1974
7. Sergiu Hart, 1976
8. Abraham Neyman, 1977
9. Yair Tauman, 1979
10. Dov Samet, 1981
11. Ehud Lehrer, 1987
12. Yossi Feinberg, 1997
13. Yosef Zohar, 2017

In addition to Sergiu Hart, four of them also were plenary speakers at GTM conferences: Shmuel Zamir (2011), Abraham Neyman (2014), David Schmeidler (2015), Dov Samet (2018). The list of pleanary speakers of GTM conferences also includes Eilon Solan (2016), a talented descendant of the second generation who was a student of Abraham Neyman.

Aumann's contributions to the field of game theory could not be overemphasized. His greatest contribution is in the realm of repeated games. In the period of 1966-68 he, together with Michael Maschler, as members of a group at the United States Arms Control and Disarmament Agency (ACDA) developed the theory of repeated games with incomplete information. The mission of this group was to study the decision theoretic aspects of the arms control and disarmament.

Aumann was the first to define the concept of correlated equilibrium in game theory, a type of equilibrium in non-cooperative games.

Furthermore, Aumann has introduced the first purely formal account of the notion of common knowledge in game theory. He collaborated with Lloyd Shapley on the Aumann-Shapley value.

He is also known for his agreement theorem, in which he argues that under certain assumptions, two Bayesian rational agents with common prior beliefs cannot agree to disagree.

Aumann used and continues to use game theory to analyze Talmudic dilemmas.

List of publications of R.J. Aumann

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