

The Conference Proceedings are available online at the web address: <http://mme2012/proceedings/index.php>. They are divided into two parts and include 179 papers selected from more than 250 papers submitted to the conference programme committee. All published papers have been subjected to a strict reviewing procedure of two independent referees. A positive feature is that the Proceedings include 33 papers published exclusively by young researchers—mostly doctoral students—and more than 30 papers with young scientists as co-authors. In former years, the Conference Proceed-

ings have been indexed by Web of Science (Thomson Reuters). This year, the Conference Proceedings were submitted to the Web of Science (Thomson Reuters) evaluation process, too.

We hope that all participants found the 30th MME 2012 Conference stimulating, rewarding and pleasant and that they enjoyed the time spent in Karviná. The ensuing 31st international conference on Mathematical Methods in Economics will be organized by the Polytechnic University in Jihlava (Vysoká škola polytechnická Jihlava) in September 2013.

---

## The Nobel Prize for Economics to Alvin E. Roth and Lloyd S. Shapley

Vito Fragnelli\*

---

The announcement arrived to me on 15 October 2012 and sounded as:

The Royal Swedish Academy of Sciences has decided to award The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 2012 to **Alvin E. Roth** (Harvard University, Cambridge, MA, USA, and Harvard Business School, Boston, MA, USA) and **Lloyd S. Shapley** (University of California, Los Angeles, CA, USA) “for the theory of stable allocations and the practice of market design”.

Then I looked at the official website of the Nobel Prize (<http://www.nobelprize.org>) where further information is available, in particular a more detailed motivation:

**Stable allocations – from theory to practice.** *This year’s Prize concerns a central economic problem: how to match*

*different agents as well as possible. For example, students have to be matched with schools, and donors of human organs with patients in need of a transplant. How can such matching be accomplished as efficiently as possible? What methods are beneficial to what groups? The prize rewards two scholars who have answered these questions on a journey from abstract theory on stable allocations to practical design of market institutions.*

I want just to mention some of the contributions of these Nobel laureates, being conscious that it is not possible to restrict hundreds of papers in few lines. For Lloyd Shapley, I recall the Shapley value and the Shapley-Shubik index, the stochastic games, the market games, the assignment games, the convex games and the potential games. For Alvin Roth, I remember the market games, the results on fixed

---

<sup>1</sup> University of Eastern Piedmont, Department of Sciences Innovation and Technologies, Alessandria, Italy.

point theory, the analysis of the bargaining problem, the games on graphs, the studies on matching and on kidney exchange.

You may find other notes at the following addresses:

[http://www.nobelprize.org/nobel\\_prizes/economics/laureates/2012/advanced-economicsciences2012.pdf](http://www.nobelprize.org/nobel_prizes/economics/laureates/2012/advanced-economicsciences2012.pdf)  
[http://www.nobelprize.org/nobel\\_prizes/economics/laureates/2012/popular-economicsciences2012.pdf](http://www.nobelprize.org/nobel_prizes/economics/laureates/2012/popular-economicsciences2012.pdf)

The first document is more academic oriented, while the second one resumes in few pages the common aspects of the research of the two authors.

At this point it seems very difficult to add something more, so I just want to tell you two personal experiences with the works these two great researchers.

Very often I was looking for a fair allocation of the worth of a cooperative game and even starting from completely different hypotheses, I ended with the Shapley value, witnessing once more the relevant properties of fairness of this solution.

The work of Alvin Roth was very useful in my studies on two-sided markets and on models for providing incentives to research on rare diseases.

---

## Theses of Campione d'Italia

---

In 2005 the participants of the International Workshop on Mathematics and Democracy held in Erice agreed on a common set of principles that a fair electoral system should satisfy, known by the scholars as Erice Decalogue (available at <http://www.math.uni-augsburg.de/stochastik/bazi/EriceDecalogue-en.pdf>).

*The School in Campione.* From 9 to 15 September 2012, the Summer School on Game Theory and Models of Voting took place in Campione d'Italia (CO). The speakers, experts from Mathematics, Economics, Political Sciences and Laws, want to confirm and integrate the Erice Decalogue with the following:

### Theses of Campione

- (i) The results from Theory of Complex Systems, Game Theory and Political Sciences show that no electoral system satisfies all reasonable criteria of performance.

- (ii) The system should encourage parties to present programs or electoral manifestos that are distinguishable for the voters.
- (iii) The influence of the parties over legislation ought to reflect their electoral support.
- (iv) The voting system should be transparent and understandable to the voters.
- (v) The system should encourage the voters to vote.
- (vi) The system should be difficult to manipulate.

The meaning of (i) is that the choice has to be made among imperfect systems, emphasizing the features that in a particular situation are more relevant, e.g. representativeness, non-exclusion of minority groups, or others. (ii) already appears in the Italian rules. According to (iii) the Parliament and the electoral body should