

they really wrote a very early market design paper and I've been a big follower of theirs in the sense that I wrote a book with Oliveira Sotomayor in 1990 that was called *Two Sided Matching* it sort of followed up the developments in the intervening 30 years in the theory of those kinds of markets. So I'm a, so I'm a, you know, I'm a big follower of Lloyd's and it's going to be a great honour to get the Prize together with him.'

Roth has made influential contributions to experimental economics which are well explained in the scientific background document compiled by the Nobel Prize Committee¹⁰. Roth's work essentially shows that the explanatory and predictive power of game theory can be enhanced with carefully and skilfully designed economic and laboratory experiments.

Double delight

Many research problems attempted by students and researchers at the Department of Computer Science and Automation (CSA), Indian Institute of Science, Bangalore have been inspired by the contributions of Shapley. Several papers have been recently written by IISc researchers applying the notion of Shapley value to a wide variety of problems. The Gale–Shapley algorithm and the match-

ing problem form the basis for two Ph D theses in the department in recent times. One of the hot debates in the Game Theory Lab in CSA every year, during the first two weeks of October, has been on who will win the Sveriges Riksbank Prize in Economic Sciences. For the past several years, one name that has consistently come up as a favourite is that of Lloyd Shapley. So when Shapley finally got the prize this year, it was celebration time in the Game Theory Lab. Further, members of the Game Theory Lab have been avid followers of Roth's influential blog on market design¹¹ and his highly popular survey articles. So, when Roth was named as the other recipient of the award, it was a double delight for everyone in the Lab.

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2. Roth, A. E. (ed.), *The Shapley Value: Essays in Honor of Lloyd S. Shapley*, Cambridge University Press, 1988.
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4. Shapley, L. S., In *Contributions to the Theory of Games* (eds Kuhn, H. W. and

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10. Economic Sciences Prize Committee of the Royal Swedish Academy of Sciences. Stable allocations and the practice of market design. Scientific Background on The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 2012, October 2012; http://www.nobelprize.org/nobel_prizes/economics/laureates/2012/advanced.html
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Credits: The Nobel Prize website, <http://www.nobelprize.org> for the photographs of Lloyd Shapley and Alvin Roth.

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Eric Maskin



Eric Maskin
Photo courtesy: Cliff Moore

Eric Maskin, currently at the Harvard University, is an economic theorist best known for his path-breaking work on the theory of mechanism design. For laying the foundations of this field, he shared the 2007 Nobel Prize in Economics with Leonid Hurwicz and Roger B. Myerson. He has also made stellar contributions to game theory, social choice theory, voting theory, monetary theory, contract theory, and the economics of intellectual property protection, among other areas. In an interview (e-mail) to *Current Science*, Maskin says 'having fun is the best reason of all to do science'.

What did you feel when you learnt about your winning the Nobel Prize?

I was delighted but very surprised by the news.

When did you get interested in economic theory and game theory?

I was a math major in college but, almost by accident, took a course on information economics with Kenneth Arrow. It was that course that really got me interested in economics.

Did you get to interact with earlier Nobel laureates in Economics like John Nash and others early in your career?

I didn't meet John Nash until much later. But I had the privilege of studying under Nobel laureate Kenneth Arrow as a stu-

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dent. Other early influences included laureates Paul Samuelson, Bob Solow, Amartya Sen, Peter Diamond and Leo Hurwicz.

How was it interacting with them?

All these people were very kind to me and interacting with them was most stimulating. It was especially exciting having the chance to collaborate on research with Leo Hurwicz and Peter Diamond early in my career.

Applications of mechanism design theory have led to major breakthroughs in many areas of social sciences and recently computer science. Could you summarize the research that led you to the Nobel Prize?

I was interested in the question of when it is possible to design a game whose equilibrium outcomes coincide with a given economic or social goal. I discovered that a property called monotonicity is a necessary and almost sufficient condition that the goal must satisfy for such a game to exist.

Which of your key contributions do you like the most? Which gave the most joy?

I suppose that the discovery about monotonicity was probably the most exciting of my professional career.

You refer to the theory of mechanism design as the 'engineering side' of economic theory (from your Prize lecture, 8 December 2007). Would you like to elaborate?

In mechanism design, we start with a goal and then ask how to construct a suitable mechanism or game that will achieve that goal. Similarly, an engineer may begin with the goal of spanning a river. He then asks how he might achieve it by designing a suitable bridge.

In your autobiographical sketch (Nobel) you mention the role of your calculus teacher in kindling your interest in mathematics. Do we have good teachers now?

I think there are plenty of good teachers now.

What courses do you teach?

This term I'm teaching a social choice course with Amartya Sen and a segment of the theory sequence for first-year Ph D students.

How does Harvard compare with MIT and Institute for Advanced Study at Princeton?

All three institutions are terrific. Harvard and MIT are quite similar. The Institute is different in that it places almost all emphasis on research – there are no students there.

You are an economist and your wife a historian. Have you had interest in history?

Yes, I've read quite a bit of history, but I'm far from an expert in it.

You have said that the 'Nobel Prize is very important for the public at large and the real value of the Prize socially is not for the winner'? Could you please elaborate?

The Nobel Prize is a great way of attracting the public's attention, for at least one week a year, to science (including economics). That effect is much more valuable than any other Prize has on the winner.

How has life changed after the Nobel?

My research and teaching life hasn't really changed at all. But I have more

outside opportunities now to speak to a broad audience.

What other than economics interests you? I learnt reading about you that you like cooking.

I do like cooking, but my most important outside interest is music.

What have you been working on recently? Your current research interest?

I like to work on several things simultaneously. At the moment I am working on comparing different electoral methods, the causes of income inequality and repeated games.

Mechanism design is now used in computer science, networks and communications. What is your opinion about this recent trend?

I think these developments are very exciting indeed.

You visited the Indian Institute of Science (IISc) in December 2008 and delivered a wonderful plenary lecture at the Centenary Conference. Your views on this conference and on game theory research in India?

I was pleased to participate in the conference because IISc has been such an important institution for science internationally. India, in fact, has a strong and thriving game theory community.

Any message for budding economists, budding game theorists or early birds in science.

Make sure you have fun doing research – having fun is the best reason of all to do science.

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