Peter Lax

Like everyone else, I first heard Gelfand’s name as the author of the famous theorem on maximal ideals in commutative Banach algebras, and its application to prove Wiener’s theorem about functions with absolutely convergent Fourier series. The following story describes the reception of this result in the US:

Shortly after its publication Ralph Phillips presented this result at Harvard. It created such a stir that he was asked to repeat the lecture, this time to the whole faculty. And then he was asked to present it a third time to G D Birkhoff alone.

Other early basic results were the Gelfand formula for the spectral radius, and the Gelfand-Levitan inverse spectral theory for ordinary differential operators. It is measure of Gelfand’s lifetime achievements that these spectacular early results are viewed today as merely a small part of his total work.

Here is a story that sheds light on Gelfand’s modesty: I was one of three members of a committee to award the first Wolf Prize. We all agreed that the prize should be given to the greatest living mathematician. That person, in my opinion, was Carl Ludwig Siegel; but another member of the committee insisted that it was Izrail Moiseevich Gelfand. So we argued back and forth fruitlessly until we decided to divide the Prize. Some time later Gelfand remarked in a chance conversation: “It was a great honor for me to share a prize with Siegel.”

The world shall not see the like of Izrail M Gelfand for a long, long time.