

Emma Lehmer

1906–2007

John Brillhart



Emma Lehmer

Emma Lehmer, née Trotskaya, was born on November 6, 1906, in Samara, a city on the Volga River in Russia. When she was four years old, her family moved to Harbin in Manchuria, where she was tutored at home in basic subjects, music, and languages. When she was fourteen, she finally went to the new public high school in Harbin. During the

next four years, she saved enough money to allow her to travel across the Pacific and enroll at the University of California in Berkeley.

Many years later she described her earlier feelings when she was at home as follows: “I expect I was rather insufferable in my intense desire to fly from home into the great unknown.”

At Berkeley she had the extraordinary good fortune of being hired as a student assistant to mathematics professor D. N. Lehmer and his son Dick, to help them with some work in number theory. She soon found herself a part of the Lehmer family itself, many of whose members were independent, creative, artistic, and enterprising like herself.

In 1928, when she graduated from UC Berkeley in mathematics, she and Dick were married, thus beginning sixty-three years of devoted marriage that lasted until his death in 1991. She was his helpmate, mother of their two children Laura and Donald, mathematical collaborator in their research, and hostess to the vast number of visitors who came to Berkeley and stayed at the Lehmers’ home as guests.

Emma was very informal, cordial, and charming. She especially made a point of greeting Russian visitors in Russian to make them feel at home

and inviting them to her house for dinner. She was always modest and self-effacing and seemed completely satisfied in her role of providing a genial social setting on a variety of mathematical occasions. She and her husband had marvelous senses of humor.

In 1969 she and her husband founded the West Coast Number Theory meeting, which has met every year since at locations around the West. It has been of tremendous value as a meeting where young people in particular can come and enjoy a comfortable, friendly, and informal environment where they can find their way into the real world of mathematics. It remains a real tribute to the Lehmers.

From the beginning, Emma was a mathematical researcher and scholar along with her husband. She wrote 56 papers, 17 jointly with her husband, 5 three-way papers with him and a second person, and one jointly with H. S. Vandiver. She was as knowledgeable about computing in number theory as her husband, always being there while projects were being discussed and contributing at all levels to their development. Her publications appeared in the primary mathematical journals.

She was also a Russian translator for the AMS for whom she translated Pontryagin’s *Topological Groups* and Delone and Faddeev’s work on *Irrationalities of the Third Degree* along with Sue Ann Walker.

Her papers deal with cyclotomy, character theory, difference sets, residuacity, and algebraic units. When she was eighty, she discovered that certain units can be gotten from Gaussian periods by translation, a good example of the kind of basic number theory she and her husband had done all their lives.

When she became one hundred, the AMS announced this fact in the December 2006 *Notices*. Part of the announcement said that if people would like to celebrate her birthday with her, they might send her a card, perhaps with flowers on it or a natural scene. Her daughter later said that cards came pouring in from all over the world for the next two months. In all, the number of signatures on the cards was 275. How many of us would draw that kind of response when we reach the age of

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one hundred? It was most gratifying to her and to everyone else.

Emma passed away quietly in her sleep at her home in Berkeley on the morning of May 7, 2007.

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