

Leo Sario, Professor of Mathematics, Emeritus
In memoriam
1916 – 2009

Professor Emeritus Leo Sario died of a heart attack at his Santa Monica home on August 15, 2009. He was 93. Leo was born in Vyborg, Finland (now Vyborg, Russia) in 1916. As a young man in Vyborg, he was an accomplished ski jumper. Serving as an artillery officer for Finland in World War II, Leo was active in the 1942 anti-aircraft defense of Helsinki and became widely recognized as an excellent teacher of young artillery soldiers. At the same time he made it his habit to diligently study mathematics every day before reveille. Near the end of the war, Leo stole key German radar secrets for the Finnish government. In 1948 Leo received his PhD under Rolf Nevanlinna. Not long thereafter he rallied the Finnish intellectual community (including Jean Sibelius) and lobbied the Finnish Parliament to establish the National Academy of Finland. For his efforts, the Finnish statute about the Academy is named after him. In the early 1950s, Leo moved to the U.S. to work at the Institute for Advanced Study at Princeton, MIT, Stanford and Harvard before settling at UCLA around 1955.

Leo's thesis gave a beautiful description of removable sets for Dirichlet finite analytic functions. He then created the theory of principal functions, which gave a general method of constructing harmonic functions on arbitrary Riemann surfaces, and used this theory to develop a classification theory of Riemann surfaces. Later he extended parts of the classification theory to Riemannian manifolds.

Between 1960 and 1970 Leo wrote five major books on complex analysis, including *Riemann Surfaces* with Lars Ahlfors and *Classification Theory of Riemann Surfaces* with M. Nakai, both of which are classics still being used today. He was a prolific publisher with over 130 research papers as well as a prolific mentor of 36 PhD students, all at UCLA. His early students included K. Oikawa, famous for his work on the "welding problem" for Riemann surfaces, and University of California, San Diego Professor Burton Rodin who co-authored the book *Principal Functions* with Leo. Later Rodin (with S. Warschawski) and Oikawa (with J. Jenkins) gave the complete solution of the classical angular derivative problem in conformal mapping theory.

Leo retired from UCLA and from mathematics in 1986. An enormously vigorous man, he spent his last years hiking, running, traveling and reading.

The following account by Burt Rodin of his student days with Leo gives a charming portrait of his mentor as a teacher and a person:

"It is the influence of his unique personality that is uppermost in my mind at this time. He was a superb mentor to graduate students. Among his other gifts was an ability to focus powerfully on a subject and let nothing distract him. He told me that trait enabled him to shepherd a law through the Finnish Congress enabling the support of science. It won him Finnish knighthood and the honor of having the legislation bear his name. He had me meet with him twice a week during those student days in order to discuss my

progress on the dissertation. Each week one of these meetings took place in the UCLA swimming pool. We swam in adjacent lanes, doing the breast stroke with our heads above water and talked about my research on Riemann surfaces. This was his lesson to me on focusing. Let me also mention the most difficult thing he ever asked of me, though it might be hard to appreciate in this age of informality. It took place the day I passed my final oral exam. He told me that according to academic tradition I could no longer address him as 'Professor Sario.' Henceforth I would have to address him as 'Leo.'"