

## Remembering Gunnar Kulldorff (1927–2015)

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**Abstract.** A short message is dedicated to professor Gunnar Kulldorff who was the founder of the Baltic-Nordic-Ukrainian Network on Survey Statistics, and the President of the International Statistical Institute.

**Keywords:** Gunnar Kulldorff; Survey Statistics; Baltic-Nordic-Ukrainian Network on Survey Statistics



We dedicate this short message to the great man Gunnar Kulldorff. As representatives of the younger generation, we remember this prominent person, first, as a great organizer who influenced the professional lives of many survey statisticians in the Baltic countries, Ukraine, and Belarus. He was the founder and leader of the Baltic-Nordic-Ukrainian Network on Survey Statistics that has been successfully functioning since 1997, with its annual conferences, workshops, or summer schools (see BNU Network on Survey Statistics [1]). These events and related activities, catalyzed by Gunnar, ensured and still support the continuous development of sample surveys in institutions of official statistics in the newly independent countries, as well as in

statistical science in general. The consequence of this is that he received a honorary doctorate from Vilnius University in 2006.

Cooperation between the Baltic and Nordic countries in survey statistics started in 1991 with the first visits of the University teachers and researchers to the University of Umeå in Sweden, where Gunnar Kulldorff worked as Professor since 1965. Being the initiator of the scientific exchange program, he took warm personal and professional care for every one of 63 visitors till 2012, so that cooperation resulted soon in the first courses on survey sampling at the Baltic universities and the first textbook in Estonia [12], and later in Lithuania [3] and Ukraine [10, 13]. These achievements, and also visits of students from universities of the network countries, helped to prepare a new generation of survey statisticians, which has written more than 30 doctoral dissertations on survey statistics. Both authors of the present paper visited Umeå for the first time in 2006, as students, and, thanks to Gunnar, the experience gained had greatly affected their further professional paths. During our visits, Gunnar tried to show us not only scientific resources of the University of Umeå, but also places in Sweden where we could not go ourselves.

Gunnar Kulldorff did many more international statistical works before the creation of the network on survey statistics. Among his other activities, from 1968 he was an elected member of the International Statistical Institute, later served there as Vice President (1981–1985), President-Elect (1987–1989), and President (1989–1991). During these periods, he was the leader who promoted statistics and supported statistical science in Africa, Asia, and Latin America. Gunnar was also active at the national level as a leader or member of scientific and professional organizations. He served as the first Dean at the Faculty of Arts and Sciences in the University of Umeå. During the period of 1977–1993, he was the Head of the Department of Mathematical Statistics, and later – Professor Emeritus.

Gunnar Kulldorff was born in Malmö, Sweden. He studied at Lund University, where he defended the dissertation “Contributions to the Theory of Estimation from Grouped and Partially Grouped Samples” (1961), and held there the position of Docent until he moved to Umeå. Later his dissertation was published in Russian language as a separate book. During his life, the scientist wrote papers on survey sampling and also on estimation of parameters of probability distributions using order statistics. In 1963, Gunnar focused on sampling over two occasions from a finite population, under simple random sampling without replacement (see [6]), and developed estimator of the population total on the second occasion, which was shown to be have smaller large sample minimum variance than that of Pathak and Rao [11] for the same expected cost. Later, in the paper [4], some contributions to the study of grouped normally distributed observations using the information matrix of the grouped data were made. The other widely cited paper [5] is devoted to the estimation of one or two parameters of the exponential distribution on the basis of suitably chosen order statistics. In his later work [9], the estimation of the location and scale parameters of a Pareto distribution by linear functions of order statistics is considered. The paper [7] provides optimal spacing, which minimizes the generalized variance for complete and right censored samples, for Extreme Value and Logistic Distributions. Gunnar’s last article [8] presents a very interesting history of international cooperation in statistics, formation of statistical associations and their activities in the world and in the Nordic countries. As the teacher, supervisor, organizer, and visionary, Gunnar was a great personality who formed and inspired generations of statisticians. He has always fascinated the

international statistical community with his lectures, ambitions, and ideas, and we remember the friendly and wise picture of this smart person.

Gunnar also had a lot of human hobbies. First of all, he loved very much photography. A very small part of his photos can be found on the website of Baltic-Nordic-Ukrainian Summer School on Survey Statistics, 2009 [2]. Classical music, skiing, swimming and dancing were also his interests.

Unfortunately, Gunnar Kulldorff passed away seven years ago. Let the young generation continue the work he has begun, and supports and nurtures the activities of the Baltic-Nordic-Ukrainian Network.

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REZIUMĖ

### Prisimenant Gunnarą Kulldorffą (1927–2015)

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Straipsnis yra skiriamas profesoriui Gunnar Kulldorff, kuris buvo Baltijos, Šiaurės šalių ir Ukrainos tinklo tyrimų statistikos klausimais įkūrėjas ir Tarptautinio statistikos instituto prezidentas.

*Raktiniai žodžiai*: Gunnar Kulldorff, tyrimų statistika, Baltijos, Šiaurės šalių ir Ukrainos tinklas tyrimų statistikos klausimais