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Daniel Simson Obituary

Stanisław Kasjan, Damian Niwiński

Daniel Simson

Photograph courtesy Wojciech Sąsiada.

Daniel Simson left us unexpectedly on the 16th of April 2022. He served as editor of Fundamenta Informaticae since 2011. An eminent mathematician, he made a lasting contribution to modern algebra, in particular by his work on Grothendieck categories. Since the last two decades, Simson showed a vivid interest in mathematical challenges of computer science. His own work concentrated on symbolic algorithms issuing from algebra and spectral analysis of graphs, but he also animated a group of young mathematicians working in the area. His role in *Fundamenta Informaticae* was invaluable for his unlimited competence in mathematics, continuous readiness to help, and perfect manners. For several generations of Polish mathematicians, Professor Daniel Simson embodied the highest values of academic work.

Below please find a short recollection written by Stanisław Kasjan from the Faculty of Mathematics and Computer Science of the Nicolaus Copernicus University in Toruń, a former student and a long-term collaborator of Professor Simson whom I sincerely thank for this article.

Damian Niwiński
editor of *Fundamenta Informaticae*

Daniel Simson (1942 – 2022)

Daniel Simson was born on January 18th 1942 in Małe Zajączkowo near Grudziądz and died in Toruń on April 16th 2022. He was a professor of mathematical sciences, since 1966 employed at Nicolaus Copernicus University (NCU) in Toruń - as an assistant, adjunct, docent, associate professor and, since 1991, as a full professor. In 1961 he completed 5 years at Pedagogical Secondary School in Kwidzyń. During the period 1961-1966 he studied mathematics at the NCU in Toruń. Having completed his PhD thesis entitled *Stable derived functors with coefficients in the spectrum of complexes*, under the supervision of prof. Stanisław Balcerzyk, Daniel Simson received his PhD degree in 1970. It was followed by the habilitation in 1974 which was based on the thesis *Pure-injectivity and homological dimensions in locally finitely presented Grothendieck categories*. He received the academic title of professor in 1987.

He is the author of many important scientific publications and monographs, which have made a significant impact on contemporary algebra. His research concerned widely understood algebra. The early research was inspired by the advances in homological algebra, involving derived functors and ideas from homotopy theory. Later his interests evolved towards representation theory of finite dimensional algebras and matrix problems. This research culminated in 1992 with the publication of the book *Linear representations of partially ordered sets and vector space categories*. Another milestone was the three volume text book *Elements of the representation theory of associative algebras* which he wrote together with Ibrahim Assem and Andrzej Skowroński; it became quickly one of the most popular references in the field. At a later stage in his work he initiated innovative threads concerning discrete mathematics, the theory of quadratic forms and spectral graph theory and informatics. Only a few days after his death his last paper was published on the classification of connected signed graphs of Dynkin type A, dedicated to „...Andrzej Skowroński (1950-2020) my friend and my former PhD student".

He was involved in the creation and support of research groups developing new directions of mathematical research. As a young mathematician, together with a group of friends, he played a crucial role in the creation of the Toruń school of algebra, gathered initially around Stanisław Balcerzyk and Edward Sąsiada in the context of the Algebraic Seminar. Later, at the turn of the 1970's and 80's he set up a research group with main focus on the representation theory and categorical algebra. This group has successfully conducted high level research and continues until today.

He was a preceptor for many generations of mathematicians. He supervised and promoted 13 PhD students. Four of his students received the academic title of professor in mathematics, several received habilitations and work as professors.

Through various administrative positions Daniel Simson had a tremendous impact on science and higher education in Poland. In the years 1975-1987 he was the director of the Institute of Mathematics

at the NCU in Toruń, and in the years 1993-1999 he was the first dean of the Faculty of Mathematics and Computer Sciences. He had a decisive influence on the development of Toruń mathematics, in particular, on the development of the scientific profile of the Institute of Mathematics. He also actively supported the development of informatics in Toruń, being the main initiator of a series of IT oriented Tempus Projects which were implemented in the faculty in 1990's and initially were focused on computer algebra aspects.

His interest in informatics, beside purely scientific motivations, was closely related with his vision of creation of the modern faculty – Faculty of Mathematics and Computer Sciences at the NCU. He stimulated and supported research having informatical aspect. Daniel Simson was the supervisor of several PhD's in informatics.

He received prestigious awards for his scientific achievements, in particular awards of the Ministry of Science and Higher Education for his habilitation thesis and for monograph, the Stanisław Zaremba Award granted by the Polish Mathematical Society, and the Władysław Orlicz Medal awarded by Poznań mathematicians. In 1991 the Senat of the NCU awarded him with a medal for the services for the development of the university. In 2018 he was awarded the Convallaria Copernicana which is a special distinction of the NCU.

Stanisław Kasjan
Nicolaus Copernicus University in Toruń