

# In Memoriam

## Prof. Ģirts Vulfs and His Contribution to Information Technology as an Academic and Scientific Field in Latvia



Ģirts Vulfs, Professor in Operations Research and long-time Dean of the Faculty of Computer Science and Information Technology, Riga Technical University, passed away on 31 August 2016. Throughout this career at the Faculty of Computer Science and Information Technology, prof. Vulfs recognised the importance of making ever more complex computing technologies attainable by their users and using information technology to solve real-life problems in the business and societal context. This dedication reviews his life-story through the prism of his contribution to establishing Information Technology (IT) as an academic field in Latvia.

### EARLY YEARS

Prof. Ģirts Vulfs was born on 10 August 1943 in Riga. His first job was a radio technician at a large radio manufacturing enterprise of that time. He started his studies at the Faculty of Automation and Computer Engineering, Riga Technical University in 1961. The Faculty of Automation of Computer Engineering was a predecessor of the current Faculty of Computer Science and Information Technology and at that

time it focused on building of large-scale automation and control systems. During his studies he was involved in teaching and scientific activities and became a research assistant in 1966. He obtained his Doctoral degree in 1972. The topic of his dissertation was “On Prediction of State of Complex Technical Systems”. The main attention was devoted to systems with uncertain statistical characteristics.

Prof. Vulfs’s further career is associated with management duties. He became the Dean of the Faculty of Automation and Computer Engineering in 1976 and served in this position for nineteen years.

### 1990S AND LATVIA’S INDEPENDENCE

During this period Prof. Vulfs oversaw massive changes in the educational system that took place after Latvia had regained independence in 1990. This was particularly challenging in our field because at the same time Latvia was undergoing rapid transition from the old Soviet style computing that was largely based on mainframe computers used for running large automation and control systems to personal computers and their use for business applications. Prof. Vulfs was one of the early advocates of a rapid transition to IT based on personal computers that took about a decade in the West. To address these challenges, he established the Institute of Information Technology (ITI) in 1991. It had two aims: (1) to pioneer changes in the educational systems caused by the collapse of the Soviet Union by bringing together a group of like-minded faculty members and establishing a new type of study programmes in Computer Science and Information Technology; and (2) to support the Latvian enterprises and public organisations with know-how in applications of personal computers as well as development of IT solutions for them. Throughout the decade, the ITI collaborated with a number of public and private organisations such as Ako Bank, Lattelecom, Latvian National Opera, Ministry of Agriculture, Riga City, Skonto Ltd., Spriditis Publishers, Ventspils municipality, Riga Stock Exchange. In the early 1990s, a notable collaboration with Auseklītis, a well-known company at that time, took place in order to implement the first office assistant training programme in Riga. More than 100 office assistants were trained to use office applications.

Prof. Vulfs was always convinced that IT education, development, and research cannot be successful in isolation

and hence he facilitated early cooperation between ITI and, for example, the University of Gent (Belgium), Royal Institute of Technology (Sweden), Linköping University (Sweden), University of Pittsburg (USA), New Mexico State University (USA), and Pacific Lutheran University (USA). Several ITI researchers visited these universities as guest researchers.

Ģirts Vulfs became a Full Professor and Head of the Department of Computing Hardware in 1991. He also immediately recognised a need to provide a platform for publishing work by young researchers in new research areas. Therefore, in 1997, he established and was a member of the Board of Editors of scientific journal *Modern Aspects of Management Science*, which was the predecessor of this journal. In his research, he focused on associative methods for control and management of complex systems. The main paradigm of the associative methods was management by associating new challenges with previously experienced situations and making decisions on the basis of similarity. These results were published in his joint papers with Leonids Rastrigins “Associative Control Using Precedents”, *Automatic Control and Computer Sciences* 5, pp. 19–27 and “Associate Modeling and Control of Complex Dynamic Objects”, *Modern Aspects of Management Science* 1, pp. 1–30. This research strongly relates to currently topical issues of machine learning and context-aware systems.

#### ESTABLISHING STUDY PROGRAMMES IN INFORMATION TECHNOLOGY

The ITI established undergraduate, graduate, and postgraduate study programmes in Information Technology. The three-year undergraduate study programme was designed following guidelines provided by the ACM. The two-year graduate study programme was designed by combining study courses in Information Technology, Information Systems, and Management Science and it was inspired by early collaboration with universities in Sweden and the United States of America. The main objective of the study programmes is to train and educate professionals in Information Technology who are able to apply and optimise advanced IT solutions to meet the needs of users within a societal and organizational context as well as perform scientific research in IT. He strongly believed that a successful IT specialist should have a sound understanding of business and operations of his/her clients. The study programme contained many courses on analytical methods for operations management, simulation modelling, data analysis, and decision-support systems. Prof. Vulfs himself thought advanced courses in operations research and management.

#### 2000s, EVOLUTION AND FOCUS ON EDUCATION

Around 120 students were admitted annually to the undergraduate study programme, and around 60 students were admitted annually to the graduate study programme. Both study programmes were among the largest computing study programmes in Latvia. At the same time, information technologies became ever more widely adopted in Latvia and the IT sector underwent rapid expansion. Therefore, there was

a growing demand for specialists capable of managing implementation and operation of complex IT solutions. To accommodate this change, Prof. Vulfs led an effort to establish a new professionally oriented study programme in Information Technology Project Management. The study programme was established in 2005 and soon ascertained itself as a well-recognised study programme with 35–40 students admitted annually. Additionally, a branch of IT Management was introduced as part of the graduate study programme “Information Technology” in 2009.

During this period, Prof. Vulfs’ teaching and research activities mainly focused on areas such as change management and restructuring. His long career and experience in the field allowed him to strongly argue for the importance of human and organisational factors in implementing successful information technologies as they often come in place of entrenched working practices. To reflect the current challenges and trends in the field, the Department of Operations Management was renamed the Department of Management Information Technology in 2007 with a new emphasis on planning, execution, and control of IT processes in enterprises.

#### 2016, LEGACY AND OUTLOOK

The Institute of Information Technology currently is one of the four institutes of the Faculty of Computer Science and Information Technology. With around 350 undergraduate students, around 140 graduate students and 13 postgraduate students, it has the largest number of students at its study programmes. The institute currently pursues two directions of development envisioned by Prof. Vulfs, namely, introduction of project-oriented learning, especially, object-oriented projects; and focusing on computer security in the study programmes.

Another long-lasting legacy of Prof. Vulfs is the people of the ITI. Since 1990 he employed many young and ambitious specialists, some during their final year of study. Prof. Vulfs emphasised and cultivated curiosity, courage, and professionalism in them, which helped many of them to become established business leaders, information system developers, and researchers in Latvia and abroad. They carry on the principles and pride that Ģirts Vulfs established in 1990.

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