Editorial

This issue contains research and survey papers contributed by invited speakers at the GAGTA (Geometric and Asymptotic Group Theory with Applications) conference that was held in New York in May 2013.

GAGTA is a series of conferences organized annually, since 2005, by researchers in group theory all over the world. These conferences are devoted to the study of a variety of areas in geometric and combinatorial group theory, including asymptotic and probabilistic methods, as well as algorithmic and computational topics, with applications to information security.

One of the main themes of GAGTA-7 in New York was acknowledging outstanding contributions of Gilbert Baumslag to group theory and other areas, on the occasion of his 80th birthday. While this issue of the journal was already in print, a shocking news came: Gilbert has passed away on October 20, 2014. We have decided to dedicate this issue to Gilbert and pay tribute to his life and his fundamental contributions to mathematics and computer science.

Gilbert got his Ph.D. degree from the University of Manchester in 1958 under the supervision of Bernhard H. Neumann. In 1959, he came to the United States, first taking a job at Princeton University, then at Courant Institute (NYU), where he worked with Wilhelm Magnus, one of the most influential group theorists of the 20th century. It was then, in the early 1960s, that Gilbert started to participate in the New York group theory seminar founded by Magnus. Later he became the main organizer of the seminar, a position he held for many years.

After NYU, Gilbert held positions at the Graduate Center of the City University of New York, then at Rice University, and then he came back in 1973 to settle in New York as a Distinguished Professor of Mathematics at the City College, the oldest campus of the City University. Since then, for over 40 years, he has been the leader of the ever growing New York community of group theorists. Gilbert had over 30 doctoral students, many of whom continue to work in New York area. Also, his reputation, enthusiasm and charisma have attracted to New York several established group theorists from around the world, and the fact that New York now has the largest group theory community in the world should be almost entirely credited to Gilbert.

Gilbert's own research interests were quite diverse, but it is probably safe to say that algorithmic aspects of group theory were one of his favorite subjects. He was one of the first group theorists to recognize the importance of computational methods, and in 1991, generously supported by the National Science Foundation, he started a project, that he named Magnus, for developing a computational group theory software package to work with groups presented by generators and defining relators. Later on, as a spin-off of this project, Gilbert founded the Center for Algorithms and Interactive Scientific Software (CAISS) at the City College. The original scope of CAISS was research at the intersection of group theory and theoretical computer science. Following some exciting work applying group theory to secure encryption, the Center's focus later shifted to become a leading research institution in cryptography and network security.

As a tribute to Gilbert's many fundamental contributions and diverse research interests, we have included in this issue articles by Gilbert's colleagues representing various aspects of combinatorial and computational group theory, as well as applications to information security.

Vladimir Shpilrain
Managing Editor