IN MEMORIAM: WILLEM JOHANNES BLOK
1947–2003

Willem Blok died on November 30, 2003 from injuries sustained in an automobile accident earlier that day. Blok made deep and significant contributions to algebraic logic and universal algebra. He is especially known for his many innovative applications of universal algebra to the study of deductive systems. His groundbreaking work has shaped the development of several areas of mathematics.

He was born and educated in Holland. In 1973 he began his doctoral work with Ph. Dwinger as supervisor. In his thesis, on varieties (equational classes) of closure algebras, Blok put to use the then recent results of B. Jónsson on congruence distributive varieties, and of R. McKenzie on varieties of lattices and splittings in the lattice of all such varieties. With these tools he developed powerful methods for analyzing the subvariety lattices of many congruence distributive varieties. Thus the thesis, published in 1976, contains a wealth of new results on varieties of closure algebras and related algebraic systems.

In the mid 1970's he began exploring varieties of Heyting algebras and closure algebras and their connections to intermediate and modal logics. The techniques he had developed in his thesis could be used to settle various questions concerning, for example, the number of extensions (i.e., axiomatic strengthenings) of these logics. He also studied the degree of incompleteness of a normal modal logic, that is, the number of normal modal logics sharing the same class of validating Kripke frames. He proved the surprising and beautiful theorem that the degree of incompleteness of a normal modal logic is either 1 or $2^{\aleph_0}$. This dichotomy is sometimes called the Blok Alternative. This early work on modal logic shows his fascination with the exact connection between algebra and logic, a fascination that he maintained throughout his career.

In 1978 Blok spent a pivotal year as a postdoctoral fellow at the University of Manitoba. Here he met D. Pigozzi and P. Köhler, who were also visiting there, and they began joint work on algebraizable logics and on varieties with equationally definable principal congruence relations.

These investigations led to the well-known Blok and Pigozzi monograph *Algebraizable Logics*, which appeared as an AMS Memoir in 1989. This work