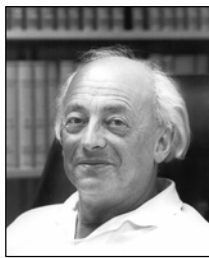
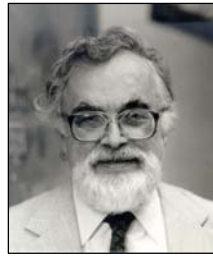


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*This calendar was designed by Tori Corkery for the Department of Mathematics at the University of Illinois at Urbana-Champaign. A special thanks goes to staff members Sara Nelson, Margaret Lewis, and Sandee Moore for their help in researching this project. I would also like to thank the following professors for their help in making this calendar possible: Professors Robert M. Fossum, Derek Robinson, and Paul Schupp; and Professors Emeriti Paul T. Bateman, Donald Burkholder, Everett C. Dade, Phillip Griffith, Donald Sherbert, and Philippe Tondeur.*



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# GEORGE A. MILLER

BORN: JULY 31, 1863; DIED: FEBRUARY 10, 1951

G.A. Miller was a prominent figure on the North American mathematical scene during the early 20<sup>th</sup> Century. He was born on a farm near Lynnville, Pennsylvania to a poor family of Swiss-German origin. Remarkably he was able to attend college, obtaining his B.S. and M.A. degrees from Muhlenberg College in Allentown, Pennsylvania in 1887 and 1890. He received a doctoral degree from Cumberland University in Lebanon, Tennessee in 1892.

Miller's first university position was at the University of Michigan, where he fell under the influence of the prominent algebraist Frank Nelson Cole; indeed it was Cole who first directed Miller's attention to group theory. Subsequently Miller held positions at Cornell and Stanford, before coming to the University of Illinois in 1906, where he remained until his retirement in 1932. He spent the years 1895–1897 in Europe, where he attended lectures by two of the greatest figures of 19<sup>th</sup> Century mathematics, Sophus Lie in Leipzig and Camille Jordan in Paris.

Over a period of 40 years Miller published more than 800 articles, although many were not at the research level. Apart from group theory Miller was interested in the history of mathematics, a topic on which he was considered an authority. His collected works were published in 5 volumes by the University of Illinois Press. He also wrote a number of books, the best known being an introduction to finite group theory co-authored with H.F. Blichfeldt and L.E. Dickson (1916).

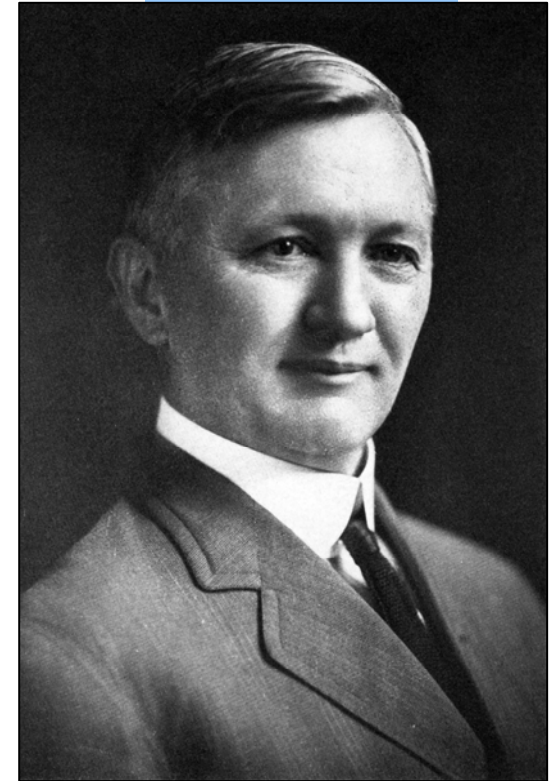
After his death there was general surprise when it emerged that Miller had left an estate of over one million dollars. Most of this came to the University of Illinois and was used to support the *Illinois Journal of Mathematics* among other causes.

In his heyday Miller was regarded as one of the leading U.S. mathematicians of the age. He was elected to the National Academy of Sciences in 1921. He was also an early member of the New York Mathematical Society, which later became the American Mathematical Society.

Today Miller's work is largely forgotten, although occasionally one sees references to his classification (with H.C. Moreno) of the finite minimal non-abelian groups: in the early 1900's this was no small accomplishment. In 1909 he married Casandra Boggs of Urbana, but they had no children.

On the Illinois campus Miller's name lives on, being associated with the well-known series of Millercom lectures.

—written by Professor Derek Robinson



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# JOSEPH LEO DOOB

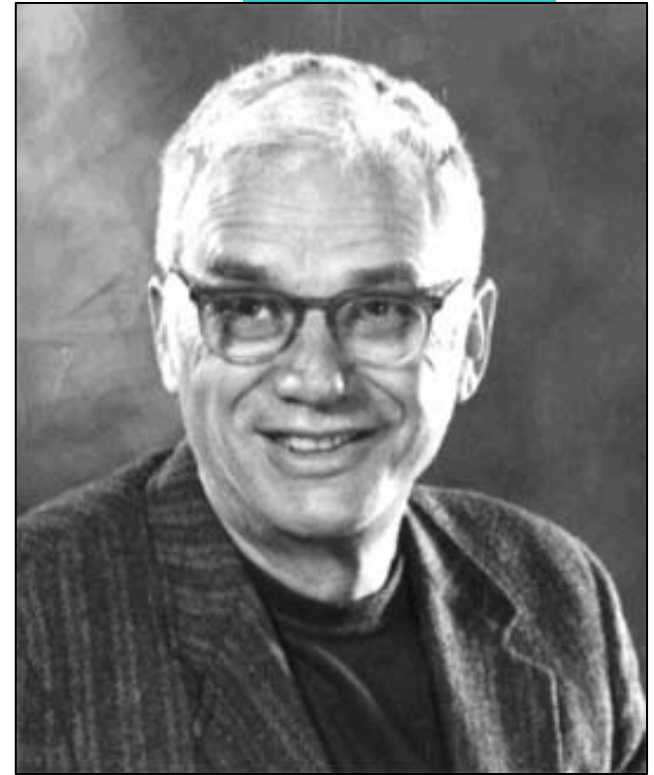
BORN: FEBRUARY 27, 1910; DIED: JUNE 7, 2004

Joseph L. Doob was born February 27, 1910, in Cincinnati. The family moved to New York City less than three years later. According to Doob, when he was in grade school, his parents decided he was “under-achieving” and placed him in the Ethical Cultural School from which he graduated in 1926. He then went on to Harvard where he received, in rapid succession, a BA in 1930, an MA in 1931, and a Ph.D. in 1932. He joined the UI Department of Mathematics in 1935 and served until his retirement in 1978. Doob made important contributions to complex function theory, ergodic theory, the theory of Markov processes, martingale theory, probabilistic potential theory, and much else. He had many excellent graduate students including David Blackwell who was elected to the National Academy of Sciences in 1965, the first African-American mathematician to receive that honor.

Doob served the mathematical profession as President of the Institute of Mathematical Statistics in 1950, as President of the American Mathematical Society during 1963–1964, and in many other capacities. He was elected a member of the National Academy of Sciences in 1957, a member of the American Academy of the Arts and Sciences in 1965, and a foreign associate of the French Academy of Sciences in 1975. He was awarded the National Medal of Science in 1979. In 1984 he was given the Steele Prize for his outstanding career and “continuing profound influence” by the American Mathematical Society. He received many other honors including an honorary doctorate from the University of Illinois.

He died June 7, 2004, in Urbana, where he had lived most of his life.

—written by Professor Emeritus Donald Burkholder



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# ARTHUR BYRON COBLE

BORN: NOVEMBER 3, 1878; DIED DECEMBER 8, 1966

Arthur B. Coble was born in Williamstown, Pennsylvania, on November 3, 1878. (Williamstown is a small town several miles from Lykens, PA, where the Coble family had financial interests, and Professor Coble spent most of his retirement years.) Coble got his mathematics Ph.D. from Johns Hopkins University in 1902. After some years on the staff of Johns Hopkins, he joined the mathematics department at Illinois in 1918; he remained at Illinois until his retirement in 1947, except that he spent the academic year 1927–1928 back at Johns Hopkins.

Coble's mathematical interests included algebra, projective and algebraic geometry, and elliptic, theta, and abelian functions. In 1928 he gave the Colloquium Lectures at the summer meeting of the American Mathematical Society, resulting in his authorship of Volume 10 of the AMS Colloquium Series, entitled *Algebraic Geometry and Theta Functions*. Coble was elected to the National Academy of Sciences in 1924 and served as president of the American Mathematical Society in 1933 and 1934. As department head, Coble made two outstanding appointments, namely Joseph L. Doob in 1935 at the entry level and Oscar Zariski in 1946 at the top level (research professor). Unfortunately Zariski left for Harvard after one year. In due course both Doob and Zariski followed Coble into both the National Academy of Sciences and the presidency of the American Mathematical Society. Coble supervised 24 doctoral dissertations. An obituary of Coble by Arthur Mattuck appeared in *Bull. Amer. Math. Soc.* 76 (1970) 693–699.

—written by Professor Emeritus Paul T. Bateman



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# MAHLON MARSH DAY

BORN: NOVEMBER 24, 1913; DIED: MARCH 18, 1992

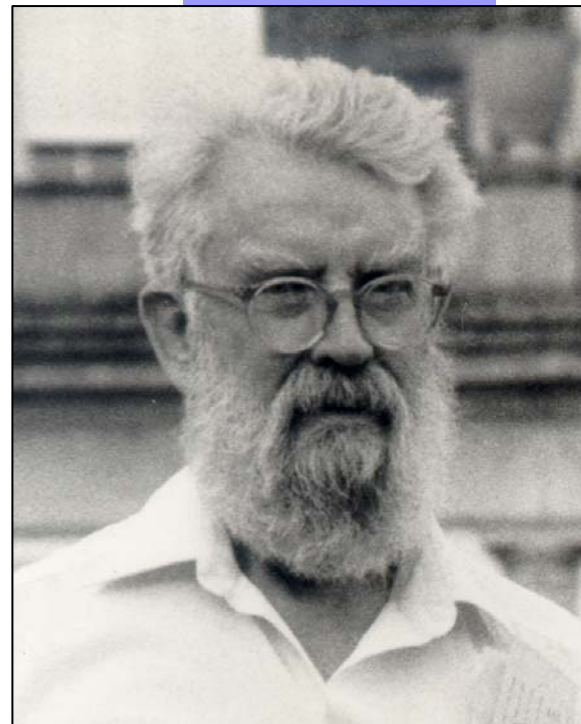
Mahlon M. Day was born in Rockford, Illinois, but spent his youth in Oregon, and received his bachelor's degree from Oregon State College. He then moved to the east coast to attend graduate school at Brown University, receiving his Ph.D. in 1939. His dissertation on weak and strong regularity conditions in Banach spaces was written under Clarence Adams, who was a student of George Birkhoff. After a year at the Institute for Advanced Study in Princeton, he joined the faculty in Urbana in 1940 and remained a faculty member until his retirement in 1983.

He wrote foundational papers on the geometry of Banach spaces and amenable semigroups. His classic monograph, *Normed Linear Spaces*, was published in 1958 in the Springer Ergebnisse series, with an expanded edition appearing in 1972. Twenty students earned their Ph.D.'s under his direction, the first Dwight Goodman, 1949, and the last Robert Megginson, 1984. He served as editor of the *Illinois Journal of Mathematics* during the years 1968–73 and 1981–85.

In 1958, the year after Sputnik orbited the earth, Mahlon Day become department head and took full advantage of the country's new interest in science and mathematics. He served as head from 1958 to 1965 and under his leadership the department more than doubled in size. The number of faculty members increased from 49 to 110, including visitors, with corresponding increase in teaching assistants and support staff. Course offerings also increased and in the fall semester of 1965 there were 10,066 student enrollments in mathematics courses.

His retirement in 1983 was marked by a national conference in Urbana on the geometry of normed linear spaces. He made significant contributions to research and expository mathematics and also contributed his energy to the growth and the people of the department.

—written by Professor Emeritus Donald Sherbert



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# ROBERT DANIEL CARMICHAEL

BORN: MARCH 1, 1879; DIED MAY 2, 1967

Robert D. Carmichael was born in Goodwater, Alabama, on March 1, 1879. He got his mathematics Ph.D. at Princeton University in 1911. He was on the mathematics faculty of the University of Illinois from 1915 until his retirement in 1947. He served as department head from 1929 to 1933 and as dean of the Graduate College from 1933 to 1947.

His mathematical interests were broad and included difference and differential equations, function theory, number theory, relativity theory, the theory of finite groups, and the philosophy of mathematics. Number theorists will be aware of the unsolved Carmichael conjecture concerning the Euler phi function, and also of the recently established infinitude of Carmichael numbers (composite numbers  $n$  such that  $a^{n-1} \equiv 1 \pmod{n}$  for every integer  $a$  relatively prime to  $n$ ).

Carmichael supervised 32 doctoral dissertations. In fact, he was very accessible to students even while he was dean of the Graduate College. Paul Bateman remembers writing to him while he was a graduate student at Penn in 1939 asking about a difficult point in his book on finite groups; Carmichael responded in great detail in a handwritten letter.

—written by Professor Emeritus Paul T. Bateman



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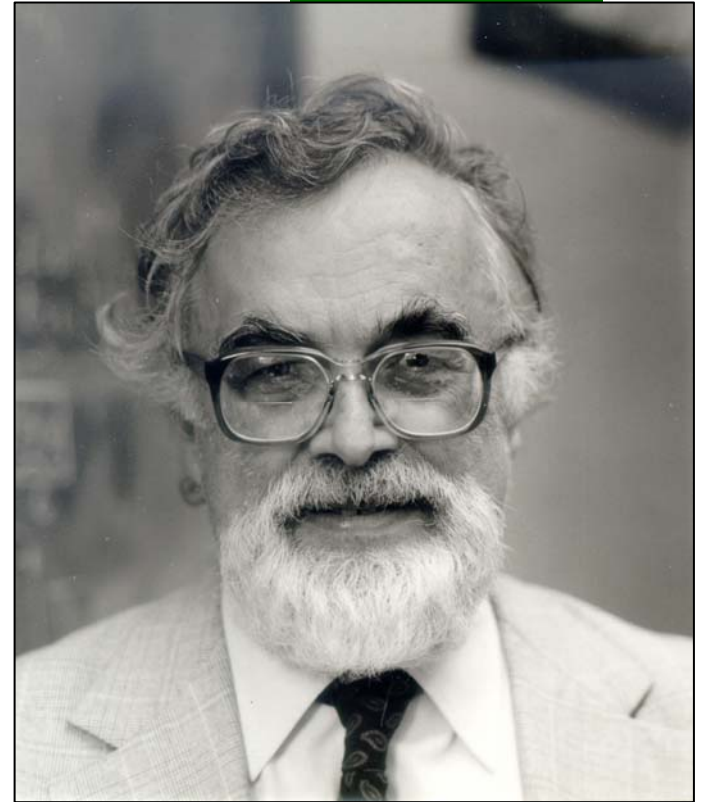
# WILLIAM WERNER BOONE

BORN: JANUARY 16, 1920; DIED: SEPTEMBER 14, 1983

William W. Boone, a direct descendent of the legendary Daniel Boone, was born on January 16, 1920 in Cincinnati, Ohio and died on September 14, 1983 in Urbana. Called "Bill" by everyone who knew him, he was a fascinating character. Since he was not able to go directly to college after high school, he supported himself as a bartender, seriously thought of becoming a writer and maintained a lifelong interest in literature and history. After finishing studies at the University of Cincinnati, he did his Ph.D. under Alonzo Church at Princeton. He taught at Princeton, Rutgers and the Catholic University of America before joining the U of I faculty in 1958. He was a member of the Institute for Advanced Study in 1954–1956 and 1964–1965, a Guggenheim Fellow in 1957 and 1977, a von Humboldt Fellow in Bonn in 1978 and a visiting professor at Oxford in 1972–1973 and 1978–1979.

In the mid 1950s, Novikov and Boone independently constructed finitely presented groups with unsolvable word problem. This fundamental result about decision problems is the basis of all further undecidability results in group theory and topology, showing the intrinsic importance of computability to both fields. Another well-known result is the Boone-Higman theorem characterizing finitely generated groups with solvable word problem: A finitely generated group has solvable word problem if and only if it is embeddable in a simple subgroup of a finitely presented group. Bill's total devotion to intellectual clarity greatly influenced those who knew him and the department in general. He was personally responsible for bringing Appel, Haken, Jockusch, Schupp and Takeuti to Illinois.

—written by Professor Paul Schupp



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# HENRY ROY BRAHANA

BORN: AUGUST 16, 1895; DIED: OCTOBER 9, 1972

H. Roy Brahana was born in Lowell, Vermont, on August 16, 1895. He got his mathematics Ph.D. from Princeton University in 1920, writing a thesis in the fairly new field of topology, then referred to as analysis situs. He served on the Illinois mathematics faculty from 1920 until his retirement in 1963. After coming to Urbana he switched his field from topology to finite groups, possibly influenced by the presence of G. A. Miller. He supervised 27 doctoral dissertations, including, for example, that of Robert M. Thrall in 1937.

In addition Brahana served two one-year terms as acting head of the Illinois mathematics department during the academic years 1947–1948 and 1954–1955. In each of those years he appointed an assistant professor who in the course of time was elected to the National Academy of Sciences, namely Gerhard P. Hochschild during his first stint as department head and Donald L. Burkholder during his second. (Hochschild departed for Berkeley after a decade at Illinois.) Needless to say, very few department heads can claim to have appointed a future member of the National Academy during each of his years as department head. Other appointments made by Brahana include Irving Reiner in 1948 and Robert G. Bartle in 1955.

*—written by Professor Emeritus Paul T. Bateman*



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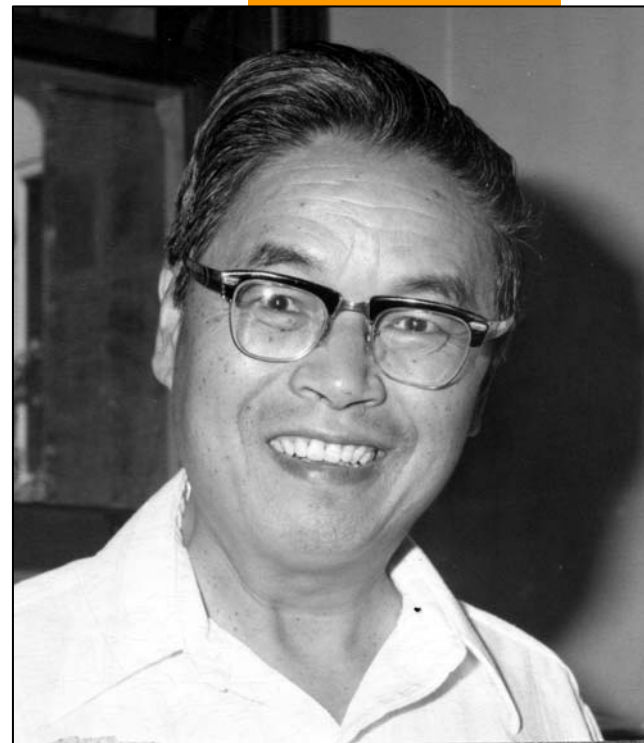
# KUO-TSAI CHEN

BORN: JULY 15, 1923; DIED: AUGUST 23, 1987

Kuo-Tsai Chen was born on July 15, 1923 in Chekiang, China and died in August, 1987. He received his Ph.D. at Columbia in 1950, working under Samuel Eilenberg. He was an instructor at Princeton (1950–1951), a Research Associate at Illinois (1950–1951), a lecturer at the University of Hong Kong (where he met his wife Julia) (1952–58), and an associate and then full professor at the Instituto Tecnológico de Aeronautica in Sao Jose dos Campos, Brazil (1958–1960), Rutgers (1962–1965), and SUNY Buffalo (1965–1967) before returning as full professor to Illinois in 1967.

The most well-known aspect of Chen's work is his program on iterated integrals and homotopy theory. This is a de Rham theory for path spaces which studies the interaction of topology and analysis by using path integration. As Dennis Sullivan has observed, this theory of Chen is equivalent to Sullivan's later theory of minimal models. These theories have found widespread use in the rational homotopy theory of manifolds, and now form part of the foundation of the algebraic topology of manifolds.

*—written by Professor Emeritus Philippe Tondeur*



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# WALDEMAR J. TRJITZINSKY

BORN: MARCH 9, 1901; DIED: DECEMBER 8, 1973

Waldemar J. Trjitzinsky was born in Rostoff-on-Don, Russia, on March 9, 1901. He came to the west coast of the U.S.A. around the end of World War I. (He was naturalized in 1930.) He obtained three degrees from the University of California, Berkeley, getting a mathematics Ph.D. in 1926. After several different teaching positions and a two-year postdoctoral fellowship at Harvard, he joined the mathematics department at Illinois in 1934. He remained at Illinois until his retirement in 1969, aside from sabbaticals in Princeton and in Paris.

In the 1949 edition of *American Men of Science* he listed his mathematical interests as follows: “Indefinitely differentiable functions; quasi-analytic functions; composition of singularities; linear and non-linear differential and difference problems; partial differential equations; general monogenic functions; quantum mechanics; integral equations; and potential theory.”

Tridgie, as he was known, is the all-time leader of the Illinois mathematics department in number of doctoral dissertations supervised, with a count of 52. Among his Ph.D. students were Frank J. Hahn, who obtained a tenure position at Yale before dying young; Richard W. Hamming, who was a well-known expert on error-correcting codes; and Richard A. Leibler, who for many years directed the Princeton center of the Institute for Defense Analysis.

—written by Professor Emeritus Paul T. Bateman



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# IRVING REINER

BORN: FEBRUARY 8, 1924; DIED OCTOBER 28, 1986

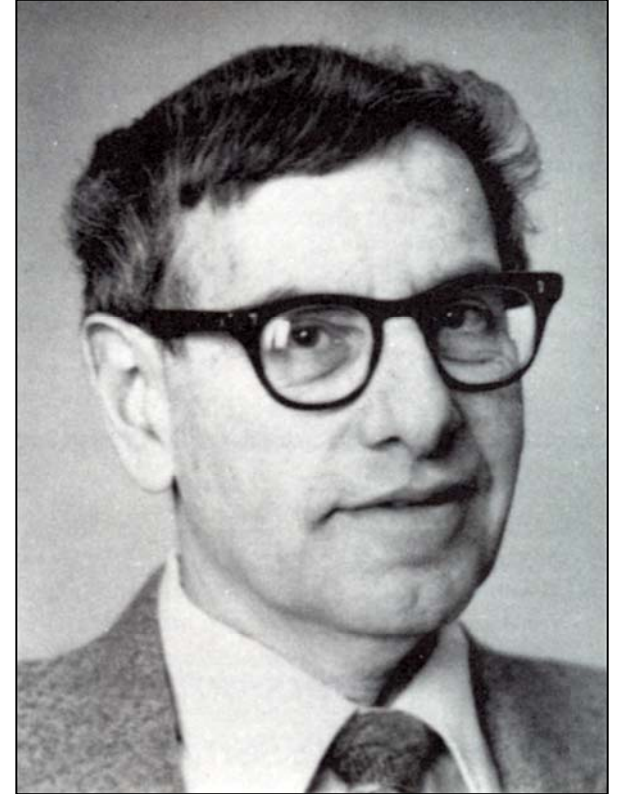
Irving Reiner was born in 1924, and joined the Department of Mathematics in 1948. He remained a member of the department until his untimely death in 1986. During that period at least 16 students received their doctorates under his supervision.

From about 1955 on Reiner's main interest was the study of orders in semi-simple algebras, especially the integral group rings of finite groups. Of his 80 research papers, at least 59 concern properties of such orders, their ideals, their representations, and their associated L-series. He was a leading figure in this area for more than thirty years.

In 1962 Charles Curtis and Reiner published a book *Representation Theory of Finite Groups and Associative Algebras*, which became an instant classic in its field. It gave a careful and clear exposition of the theory as it had developed up to that time, including an introduction to integral representations. This book formed a whole generation of researchers, whose work over the next two decades produced so many new results that a later version had to be completely rewritten in two long volumes, appearing under the title *Methods of Representation Theory* in 1981 and 1987. These volumes remain a standard reference to this day.

Over the years Reiner and his wife Irma were gracious hosts to hundreds of visiting mathematicians, who remember fondly their warm hospitality, and perhaps less fondly his ability to beat them almost effortlessly at ping-pong.

—written by Professor Emeritus Everett C. Dade



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# REINHOLD BAER

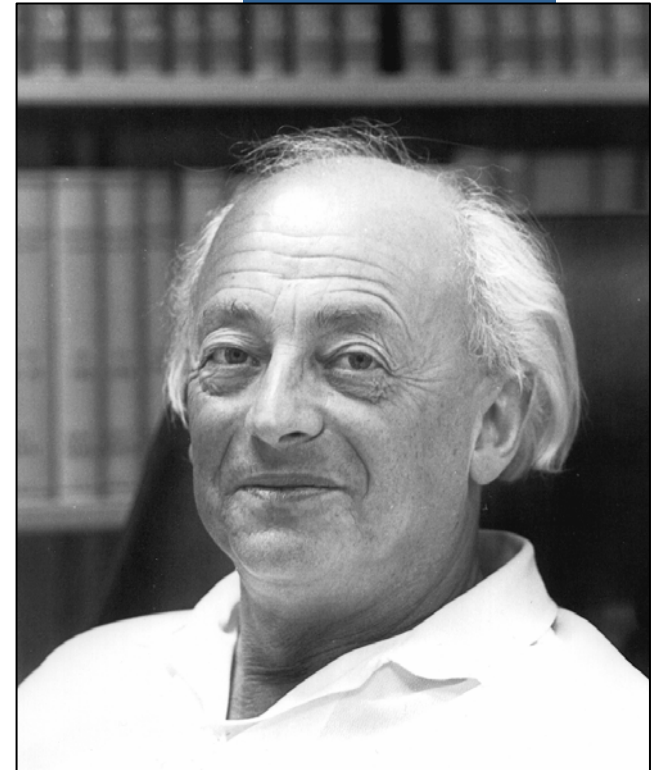
BORN: JULY 22, 1902; DIED: OCTOBER 22, 1979

Reinhold Baer was born in Berlin on 22 July 1902, a son of a prosperous clothing manufacturer. In 1908 he entered the Kaiser Friedrich Schule in Charlottenburg, a Humanistisches Gymnasium, graduating in 1920. Although Baer had dreamed of becoming an engineer, after a short stay at Technische Hochschule at Hannover he found that his love was mathematics. He developed his real passion for mathematics while a student at Goettingen under the guidance of Emmy Noether and Hellmuth Kneser (research advisor), earning his Ph.D. degree in 1925. After graduation, Baer was offered a post at the University of Halle by Helmut Hasse and stayed there until 1934. When Hitler came to power, Baer and his wife Marianne were compelled to leave Germany. After short stays at Manchester, Princeton and North Carolina, Baer was persuaded to come to Illinois by Arthur Coble. Baer remained in Urbana until 1956 and much of his most important work was done during this period. In 1956 Baer accepted a chair at the University of Frankfurt remaining there until his retirement in 1968. He continued to be active in research, spending his last years at the ETH in Zurich. Baer had 58 Ph.D. students.

Baer's main mathematical research concerned the areas of topology, the theory of Abelian groups and its generalization to modules, group extensions and geometry. Baer invented the notions of “divisible subgroup” and “injective module”. Baer's work in theory of group extensions is still considered ground-breaking and the notion of adding  $n$ -fold extensions together in the cohomology group “Ext” is called the “Baer sum”. He also worked on infinite groups satisfying finiteness conditions. Baer demonstrated how group theory can be used to study projective planes and how the internal structure of an abstract group can be used to create a geometrical configuration on which the group acts as a recognizable group of motions.

Baer was a founding editor of *Illinois Journal of Mathematics* in 1957. The volume of essays commemorating the centenary of his birth, published jointly in 2003 by the *Illinois Journal* and the Department of Mathematics is a testimony of the lasting influence of his work.

—written by Professor Emeritus Phillip Griffith and Professor Derek Robinson



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# MICHIO SUZUKI

BORN: OCTOBER 2, 1926; DIED: JUNE 1, 1998

Michio Suzuki first visited the Mathematics Department in Spring 1952, during his final semester as a graduate student at the University of Tokyo. He remained attached to the department for the rest of his life, as a full professor from 1959 on.

Suzuki was a pioneer in the classification of finite simple groups, one of the most important achievements of twentieth century mathematics. This classification started in the 1950's with very special cases: the CA-groups, where the centralizers of non-trivial elements were all abelian, and the CN-groups, where those centralizers were all nilpotent. By the end of the decade, Suzuki and others were able to classify all simple CA-groups, and had started work on the simple CN-groups. In 1960 Suzuki startled the mathematical world by finding an unexpected new infinite class of simple CN-groups, now called the Suzuki groups. This enabled him to complete the classification of all simple CN-groups.

By this time the success of these early classifiers had attracted many other mathematicians, whose work soon extended the early results in far reaching ways, leading to the discovery of a number of new “sporadic” simple groups. Suzuki himself discovered one of these sporadic groups in 1969. He also added several other classification theorems to the growing list. Eventually the classification of all finite simple groups was carried out by more than 100 mathematicians, writing more than 500 papers totaling more than 10,000 pages. And it all grew out of the pioneering work of Suzuki and a few others.

—written by Professor Emeritus Everett C. Dade



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