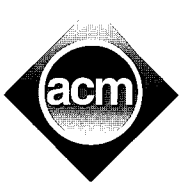
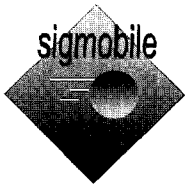
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MOBILE COMPUTING AND COMMUNICATIONS REVIEW

A PUBLICATION OF ACM SIGMOBILE
January 2001 Volume 5 Number 1

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The purpose of ACM SIGMOBILE is to promote research and development by bringing together researchers and practitioners and fostering interest in the mobility of systems, users, data, and computing. SIGMOBILE will address the above spectrum of topics, sharing one common theme - mobility. The group's technical scope reflects the emerging symbiosis of portable computers and wireless networks, addressing the convergence of mobility, computing, and information organization, its access, services, management and applications.

With emphasis on the various areas of nomadic computing, data management, related technologies, and mobile user services, alongside more "classical" topics in wireless and mobile networking, the list of following areas can be considered to be representative of SIGMOBILE's activity:

- Nomadic computing, applications and services supporting the mobile user
- Design and analysis of algorithms for online and mobile environments
- Protocols to cope with mobility, limited bandwidth, and intermittent connectivity
- Data management issues in mobile environments
- Mobile and wireless networks and their architectures
- Mobility management, mobile agents and proxy architectures
- Mobile, location-dependent and sensitive applications
- Wearable computers and body area networks
- Systems and technologies for wireless and mobile environments
- Performance characterization of mobile/wireless and nomadic systems
- Design, management and operation of emerging wireless environments
- Mobile network planning and standardization
- Integration of wireline and wireless systems
- Security, scalability and reliability in wireless communication environments
- Service algorithms, emerging topics, multimedia, ATM, etc.

SUBMISSION

ACM MC²R welcomes tutorial, survey, and research articles on topics outlined above. Submissions will normally be 4000 words, accompanied by several figures and/or tables, with a limited number of carefully selected references. Submission format and guidelines can be obtained from MC²R's web site (*http://www.acm.org/sigmobile/MC2R*)

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Eulogy for Claude Elwood Shannon

Gerhard Kramer **James E. Mazo** **Serap A. Savari**

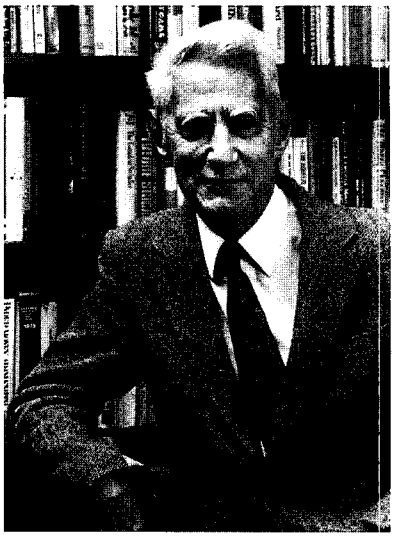
Bell Laboratories, Lucent Technologies, Murray Hill, NJ, USA

Claude Shannon died on February 24, 2001, at age 84. He was a brilliant mathematician whose outstanding contributions were to establish theoretical limits for problems of great engineering relevance. Information Theory was born in his 1948 paper, "A Mathematical Theory of Communication". Shannon here teaches us the importance of understanding the probabilistic behavior of long sequences of symbols. It is in the asymptotic realm of sequences where the interesting mathematics is to be found. Shannon showed that it suffices to consider sequences of binary digits, or bits, and he proceeded to develop his notion of entropy that gives the fundamental limits of efficient communication. A particularly striking concept was his channel capacity. All communication engineers at that time knew that arbitrarily reliable transmission could be achieved simply by repeating symbols many times, although, of course, the transmission rate would drop to zero. It was a complete shock when Shannon found that such reliability could be achieved at a positive rate - channel capacity. Nothing like this had been dreamed of before. Moreover, the goal of approaching the theoretical limits of efficient and reliable communication turned out to be so rich that it has supported an entire field of investigation since that time. New communication applications are best understood via their fundamental achievable limits, and we use Shannon's ideas to tackle such problems. Current research in fiber-optic and wireless transmission uses Information Theory on a daily basis. Quantum Information Theory is one of the hottest areas on the border of engineering, physics and computation. "Information is physical" is a quote we recall. Perhaps "physics is information" lies in our future understanding of the world. As his work becomes more and more prevalent in today's Information Age, it is becoming increasingly clear that Claude Shannon was one of the greatest minds of the twentieth century.

Claude Shannon, Father of Information Theory, Dies at 84*

Murray Hill, N.J. (Feb. 26, 2001) – Claude Elwood Shannon, the mathematician who laid the foundation of modern information theory while working at Bell Labs in the 1940s, died on Saturday. He was 84.

Shannon's theories are as relevant today as they were when he first formulated them. "It was truly visionary thinking," said Arun Netravali, president of Lucent Technologies' Bell Labs. "As if assuming that inexpensive, high-speed processing would come to pass, Shannon figured out the upper limits on communication rates. First in telephone channels, then in optical communications, and now in wireless, Shannon has had the utmost value in defining the engineering limits we face."

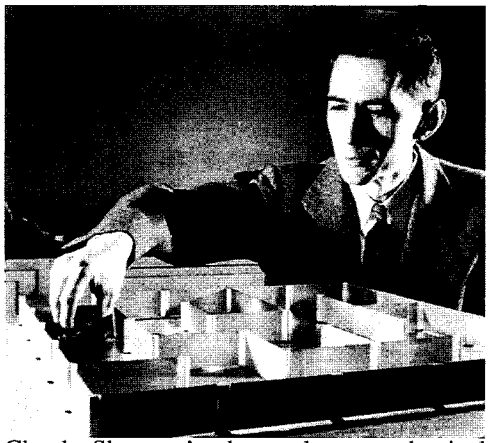


Claude Shannon

In 1948 Shannon published his landmark *A Mathematical Theory of Communication.* He begins this pioneering paper on information theory by observing that "the fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point." He then proceeds to so thoroughly establish the foundations of information theory that his framework and terminology remain standard.

Shannon's theory was an immediate success with communications engineers and stimulated the technology which led to today's Information Age.

Shannon published many more provocative and influential articles in a variety of disciplines. His master's thesis, *A Symbolic Analysis of Relay and Switching Circuits*, used Boolean algebra to establish the theoretical underpinnings of digital circuits. This work has broad significance because digital circuits are fundamental to the operation of modern computers and telecommunications systems.



Claude Shannon's clever electromechanical mouse, which he called Theseus, was one of the earliest attempts to "teach" a machine to "learn" and one of the first experiments in artificial intelligence.

Another example is Shannon's 1949 paper entitled *Communication Theory of Secrecy Systems.* This work is now generally credited with transforming cryptography from an art to a science.

Shannon was born in Petoskey, Michigan, on April 30, 1916. He graduated from the University of Michigan in 1936 with bachelor's degrees in mathematics and electrical engineering. In 1940 he earned both a master's degree in electrical engineering and a Ph.D. in mathematics from the Massachusetts Institute of Technology (MIT).

Shannon joined the mathematics department at Bell Labs in 1941 and remained affiliated with the Labs until 1972. He became a visiting professor at MIT in 1956, a permanent member of the faculty in 1958, and a professor emeritus in 1978.

Shannon was renowned for his eclectic interests and capabilities. A favorite story describes him juggling while riding a unicycle down the halls of Bell Labs.

He designed and built chess-playing, maze-solving, juggling and mind-reading machines. These activities bear out Shannon's claim that he was more motivated by curiosity than usefulness.

In his words "I just wondered how things were put together."

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