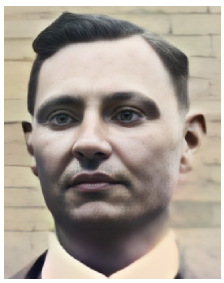
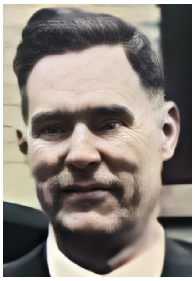
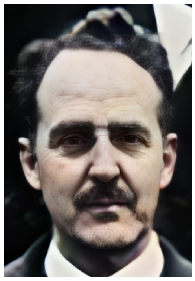
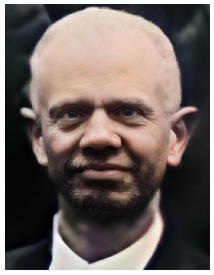
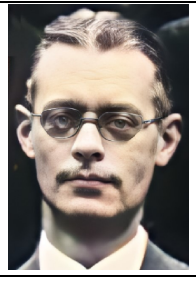
Road to the centennial. Brief bio data about the ASA founders

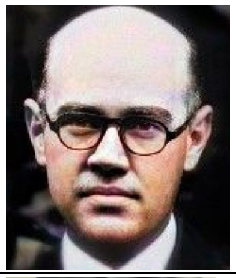
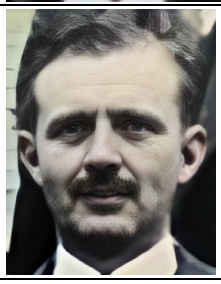
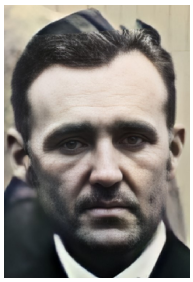
Summary. This document shares, in short sentences, a brief biographical data (the most relevant) about the ASA founders and around that, in a few lines: After several conversations (along 1928), Waterfall, Watson, and Knudsen, later with Fletcher and Miller, they agreed to invite several persons from different professional fields to form an acoustical society, which, perhaps because of an AAAS Congress on December 27, 1928, which was held in New York City. Forty people gathered at the Bell Labs headquarters to create the *Acoustical Society of America* during its first meeting. Subsequently, in May 1929 the first regular Meeting were held in New York City.

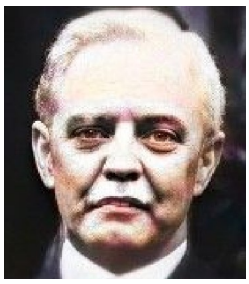
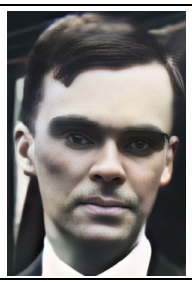
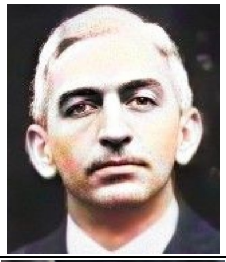
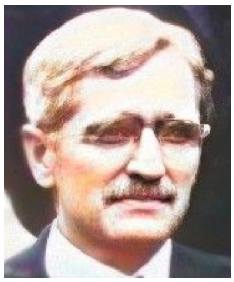
Notes: It is not possible to condense in short sentences the work done by Fletcher, Knudsen, Miller, Waterfall, Watson, or Wente. The data **in red** have to be check with right sources. Abbreviations: **(a) AAAS** American Association for the Advancement of Science; **(b) BTL** Bell Telephone Laboratories; **(c) WE** Western Electric Company. I want to acknowledge to Elaine Moran for providing early data from the Internet and the JASA.

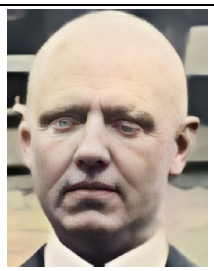
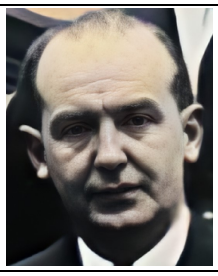
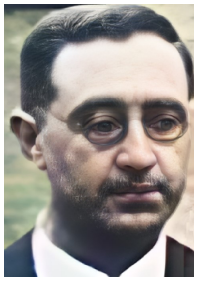
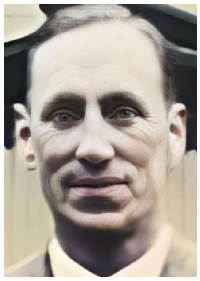
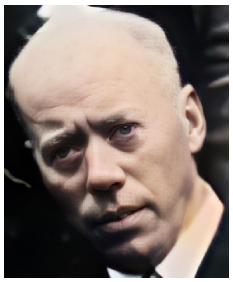
	George R. Anderson (Shetland Islands. 1873 – Toronto. October 2, 1952) A.B. in 1893, A.M. in 1899 Uni. of Toronto; M.A. of Harvard in 1905 As an undergraduate in 1892, he gave a lecture on *Interference of Sound*. At the University of Toronto, he was one of the pioneers in engineering physics, and for introduce in 1913 acoustics. He published many articles in Canada on architectural acoustics and noise. He was honored as Professor Emeritus in 1935, Uni. of Toronto. He is also known as the "Noise Professor."
	Harold DeForest Arnold (Woodstock, CT, September 3, 1883 – Summit, NJ, July 10, 1933) B.S. (1906), M.S. (1907), Honorary Doctor (1930) of Wesleyan. PhD of University of Chicago, 1911. He improved the vacuum tube at WE, that in 1914 enabled the amplification of wire telephones connecting San Francisco with New York. He designed part of electrical-physiology apparatus. In 1925 he assumed as the first BTL Director of research. Franklin Institute awarded him the *John Scott Medal* of the in 1928. AAAS, APS Fellow. AIEE Member.
	**David George Blattner** (Topeka, Kansas, 1893 – New Jersey 1976) B.S. E.E. of Kansas Agricultural College in 1911, later professor of Physics. At WE, and later at BTL, he concentrated on loudspeakers and public address systems. In 1925 he used an electrical stethoscope and a recording system to detect the Teredo (a maritime drilling worm) which attacked bridges and dock timbers. He developed acoustical technology for medical porpoises (tumor detection, heartbeat study, neural impulses, etc.). In 1930 he did an experiment with a two-way wire television. AIEE Assoc.
(Not picture found, yet)	**John H. Boland** (1879 – ?) [His family name is misspelled as 'Bolen' in 1928 picture] He worked for the U.S. Gypsum Co (New York). ***Note.*** It seems that he was an executive or representative employee of the National Gypsum Company, which bought in 1933 the Macoustic Co.
	**Vivian Leroy Chrisler** (Minden, Nebraska. February 12, 1885 – Vienna, VA, March 10, 1953) B.S. in 1908, PhD in Physics in 1909, University of Nebraska. He was a research scientist at the National Bureau of Standards, where he started in 1924 the study of the acoustical properties of structural materials. APS Fellow, 1931. He was Chief of the Acoustics Division of the David Taylor Model Basin in 1943, where he developed important countermeasures for submarine defense. The Navy awarded him the *Distinguished Civilian Service Award* in 1946. Sigma Xi Fraternal.

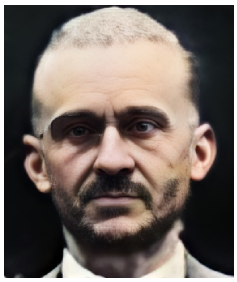
	Herbert Adolph Erf (Bellevue, Huron Co, OH, February 11, 1903 – Shaker Heights, Cuyahoga Co, OH, December 27, 1967) He started Physics at Wittenberg U., after he was transferred to Case School of Applied Science: BS in 1926 and MS in 1929. He worked at Celotex Co., and later he founded a company that was dedicated to acoustics which became to Northern Ohio Tel. Co. In 1950, he established the *Dayton Miller Prize* at the Case School. Phi Gamma Delta Fraternity (VP). IRE member, AAAS Fellow. He was a member of the Board of Directors of the APS.
	Harvey Fletcher (Provo, Utah, September 11, 1884 – Provo, Utah, July 23, 1981) B.S. in 1907, Brigham University; PhD in physics in 1911, University of Chicago. AAAS Fellow, 1921. Among dozens of recognitions, he obtained: In 1924 the *Louis E. Levy Medal* by the Franklin Institute; in 1948 the *Certificate of Merit Award* by the US government. At BTL in 1942, he was part of the *sonic deception research* to develop sound systems to reproduce recorded military artifacts sounds which were used for WWII in the 'Ghost Army.'
	**Halsey Augustus Frederick** (Essex, NY, October 27, 1887 – Mountain Lakes, NJ, November 25, 1961) B.S. 1910 and E.E. 1912 of Princeton. He worked at BTL focused on public address system and the high-quality disk recording. He patented: In 1923, one of the first cinema loudspeakers; in 1924, the first earmold used to help the deaf and the electrical stethoscope. He was the first chair of the Committee for the Standardization of Acoustics in 1930. IRE Fellow, 1928. APS Fellow, 1934. A choral singer. Major of Mountain Lakes, NJ.
	Norman Richard French (Fort Fairfield, Maine, 1893 – Pleasantville, NY. June 25, 1970) A.B. E.E. 1914, M.A. 1916, U. of Maine. As instructor of Physics in Princeton at the Palmer Physical Laboratory, together with the AT&T, he served as specialist on flash and sound ranging in WWI. At BTL, he invented several acoustical apparatuses to improve the quality of the voice and sound transmission. In 1932 he patented the optical telephone system: The foundation of the optic fiber. AAAS Fellow, 1936. Sigma Xi Fraternal.
(Not picture found, yet)	**Bert J. Graham** (Cleveland. 1884 – Long Beach, California. July 22, 1952) He was the Vice-president of Macoustic Engineering Company. His father (an engineer) was a well-known professional (stablished at Cleveland around 1922) in the clay working industry in the Central West.
	Lonsdale Green, Jr. (Anniston, AL, December 31, 1889 – Westfield, Union County, NJ, November 25, 1960) B.S. M.E. from University of Illinois in 1912 (he is one of its athletic legends). From 1914 to 1950, he worked in the Acoustical Department of Johns-Manville Co., where he was an advocate of noise-free workplaces and homes. He was one of the pioneers in the construction of the first radio studios and planetariums. He donated to the University of Texas Defense Research Laboratory his personal library of rare books on acoustics (and a complete JASA collection). Phi Delta Theta Fraternal.

	Henry Charles Harrison (Scribner, NE. October 31, 1887 – Weybridge, VT. November 25, 1971) A.B. of Colorado College, 1910; B.S. E.E. (honored) at MIT, 1913. He holds over 100 patents; at BTL, he developed (with Maxfield) a hi-fi phonograph system in 1922 and the first electric disk recording; in 1926: He designed the first network introducing pre-emphasis equalization, and also the Vitaphone system used for the first "talkie-movie." The AES awarded him in 1953 the first *Berlin Prize*. Franklin Institute in 1959 awarded him the *Cresson Medal*.
	Clarence Wilson Hewlett (Louisburg, Franklin County, NC. July 29, 1886 – Salem, Essex County, MA. February 25, 1976) B. E. at NC Agricultural and Mechanical College, 1906; MA,1911, PhD in 1912 of Johns Hopkins, for his thesis he developed an electromechanical device for analyzing complex sound waves. Prof. at U. of Iowa. At GE: In 1924 he patented one of the first hornless loudspeaker; in 1929, he patented one of the first systems for recording sound on film. APS Fellow. Sigma Xi.
	Clarence Nichols Hickman (Lizton, Hendricks County, IN. August 16, 1889 – Jackson Heights, New York, May 7, 1981) A.B. in physics of Winona College in 1914. M.A. in 1918, PhD in 1922, Honorary Degree in 1946, of Clark. He worked at Bureau of Standards and AMPICO. At BTL, in 1937 he developed a metal wire audio recorder. For his rocketry developments during WWII, he was awarded the *Medal of Merit* in 1948. Since 1917, he was involved in rocket research (military weapons, first bazooka, etc.). At Sandia, in 1950 he developed the guided missile system. Franklin Institute in 1954 awarded him *John Price Wetherill Medal*.
	**Arthur Taber Jones** (Vassalboro, Maine, September 6, 1876 – Northampton, Mass, February 8, 1951) B.S. at University of Chicago in 1899, PhD at Clark in 1913. AAAS Fellow in 1911. Professor of Physics at Smith College since 1914, he became Professor Emeritus in 1945; he wrote "Sound. A Textbook" in 1937. He was well-known for his research work in the field of acoustics, especially on the subject of bells. He was associate editor of the American Journal of Physics and the ASA Journal. APS Fellow. Phi Beta Kappa and Sigma Xi Fraternity.
	Warren Clark Jones (Colorado Springs, CO, 1892 – Red Bank, New Jersey. January 02, 1980) B.S. E.E. of Colorado College in 1913 (with *Cum Laude* honor). During WWI he was involved in submarine detection. Working at the BTL, he patented several acoustics devices: Recorders and loudspeakers; the improvement of telephone systems; instrumentation; HQ coil moving microphone; an intra-aural earpiece; an object for the interpretation of vibrations for a totally deaf person for sound interpretation. APS Member in 1938. AIEE Member
	**Joseph Bernard Kelly** (New York. November 28, 1894 – ? >1950) B.S. E.E. of Pennsylvania State College, 1917. Working for WE and BTL, his team tested hearing of over 4000 school children in 1923–1924. In 1935 he developed the 4-A audiometer, which consisted of a phonograph attached to a telephone apparatus for the transmission of sound signals to the ears of the test subjects. He was a member of a number of societies and associations concerned with deafness and hearing problems in children.

	**Vern Oliver Knudsen** (Provo, Utah, December 27, 1893 – Los Angeles, California, May 13, 1974) AAAS Fellow, 1925. A.B. in 1915 of Brigham University; Ph.D. in 1922, University of Chicago. He was involved in the first "Academy Sound School" for *Hollywood Academy* movie industry in 1929. During the WWII at BTL, in 1942 he was part of the *sonic deception research* to develop sound systems to reproduce recorded military artifacts sounds which were used for the "Ghost Army."
	**Horatio Wellington Lamson** (Somerville, MA, January 2, 1893 – Arlington, MA, September 28, 1980) B.S. in physics from MIT in 1915, M.S. from Harvard in 1917. He worked on radio equipment; during WWI, his focus was on underwater sound ranging, anti-submarine equipment, etc. During WWII he became a physicist in the US Navy Department. He worked for many years at the Eng. Department of the General Radio Co. IRE Fellowship in 1933. Member of AIEE.
	Donald MacKenzie (Weatherford, Texas. December 20, 1888 – Alburquerque, NM, August 21, 1957) A.B. in 1908, A.M. in 1911, PhD in 1914, at Johns Hopkins. After WWI, he joined the National Bureau of Standards. While at WE and BTL, he did some of the earliest studies of speech and hearing, which were the basis for his improvements in light valves for film recording. He was also an attorney at Sadia Corp. and BTL, devoted himself to the registration of patents as an advocate. Member of SMPE, AIP, SAE, and APS.
	Walter Archer MacNair (Houghton, MI, April 29, 1901 – La Vida Llena, Albuquerque, NM, October 17, 1995) B.S. Physics of Colgate University in 1920; MA in 1924, PhD in 1925 at Johns Hopkins. He specialized in several acoustics' issues, sound pictures engineering, and also radar. He is a pioneer of guided missiles and satellites in 1948. He was awarded the *President's Certificate of Merit* in 1948. He worked at Sandia in nuclear weapons and missiles. Vice President of BTL in 1955. APS Fellow, AAAS Fellow, SPME Member. Phi Beta Kappa Fraternity.
	**Rudolph Ferdinand Mallina** (Viena, Austria, 1892 – Tarrytown, NY, September 15, 1970) M.E. in 1912 of Viena Technical College. He worked as an acoustical engineer for the Wurlitzer Piano Co., and later for the Victor Co. At BTL, he developed several improvements: In sound recording and reproducing systems; the time announcing machine (1931) and the first magnetic telephone message recorder (1953). He patented an early "telephone touch pad" with keys in 1944.
	Warren Perry Mason (Colorado Springs, CO, September 28, 1900 – Gainesville, Alachua, FL, August 23, 1986) BS EE University of Kansas, 1921; MA in 1924 and Ph.D. in 1928 from Columbia. He was issued over two hundred patents, the more prolific inventor at the BTL, many of them on acoustics, ultrasonics, transducer for underwater acoustics. Along of his life he received many awards such as the *Zener Prize* for his outstanding contributions to the advancement of science. He is mentioned in the book of Notable Americans. IRE, APS, AES Fellow. Member of the American Mathematical Society.

	Joseph Pease Maxfield (San Francisco, CA, 28 December 1887 – San Diego, CA, March 24, 1977) B.S. E.E. of MIT in 1910. He applied his empirical knowledge to develop acoustical aid for deaf people, sound in cinemas, public address systems, recording sound movies, sonar, radar, missiles. He perfected the electric phonograph recording system and the first stereo recording. AIEE, APS Fellow. In 1942 he became director of the National Defense Research Committee (as a rocket specialist). He received the *Meritorious Service Medal* from the US Army in 1947 and from the US Navy in 1953. AES awarded him the *Potts Memorial Award* in 1954. He is listed as a notable scientist.
	**Dayton Clarence Miller** (Strongsville, Ohio, March 13, 1866 – Cleveland, Ohio, February 22, 1941) PhB in 1886, MA in 1889 of Baldwin U.; D.Sc. in 1890 of Princeton. He started in 1890 a long career at Case School. In 1908 he invented the *Phonodeik* which converts sound waves into visual images. He was very active in a large number of scientific societies and possessed several medals for distinction in his scientific work. The *Dayton C. Miller Honor Society* was founded at Baldwin in 1948. He is mentioned as one of Notable Americans.
	**Edward Lawry Norton** (Rockland, Maine, July 28, 1898 – Chatham, NJ, January 28, 1983) BS of University of Maine, 1920; EE at MIT, 1922; MA of Columbia, 1925. He worked at BTL as an accomplished scientist who preferred to work "*in the shadows*." He is known for Norton's Theorem (never published as a paper). After WWII he worked on "Nike missile guidance," the first operational anti-aircraft missile system. APS Member, 1925. IRE Fellow.
	**Raymond V. Parsons** (Michigan, 1884 – ? >1951) Mech. Eng. He is known as *acoustical engineer* (early in 1917) of Johns-Manville Co. He was close to Sabine. He was involved in the 1929 NYC Noise Survey, his article "Preventing Noise" is part of its final report. He was a member of the *Hollywood Academy* as a specialist in acoustics. He was one of the first advocates of the adoption of a standard method for the measurement of sound absorption, later he patented a sound absorption unit. APS member.
	Floyd Karker Richtmyer (Cobleskill, NY. October 12, 1881 – New York City. November 7, 1939) A.B. in 1904, PhD in 1910 at Cornell University. President of the APS. AIP Executive Committee. AAAS Fellow in 1917. He was focused on optics and X-rays. In 1929 he was awarded the *Louis E. Levy Medal* of the Franklin Institute. He helped to the creation of the American Association of Physics Teachers, which established the annually *Richtmyer Memorial Award*.
	**Frederick Albert Saunders** (London, Ontario, Canada. August 18, 1875 – South Hadley, MA. June 9, 1963) B.A. of U. of Toronto in 1895; PhD, 1899; fellow, 1900, of Johns Hopkins. At Harvard in 1919, he was given the responsibility of a large elementary course in Physics, after the death of the Wallace Sabine. He was awarded as *Emeritus Professor* of Harvard. He is also remembered for his work in architectural acoustics and the study of violins (but also violas and cellos). AAAS, APS Fellow. He was a Nobel Prize nominator in 1933 and 1939.

	**Edward Joseph Schroeter** (Marion, OH. August 8, 1891 – Marion, OH. January 1, 1943) M.E. of Cornell in 1914. Founder of Macoustic Eng. co. Delta Upsilon Fraternal. **Macoustic** was one of the first company which developed acoustics tiles in 1922, when the company patented a perforated tile to eliminate the interfering echoes in the broadcast booths.
	**Robert Huber Schroeter** (Marion, Marion County, OH. July 10, 1898 – Belleair Bluffs, Florida. June 8, 1978) M.E. in 1919, Civil Engineer in 1920 of Cornell. Co-founder of Macoustic Eng. co. In 1952–1953 he worked for the Atomic Energy Commission on construction of the hydrogen bomb plant. Delta Upsilon Fraternal.
	**Leon John Sivian** (Riga, Latvia. 1894 – Philadelphia. September 23, 1947) He received a B.A. E.E. of Cornell in 1916. At BTL, he patented (with Fletcher) the first dummy head microphone in 1925. He is the first to study the perceived loudness of the human ear's response in 1929. He developed one of the first electrostatic methods for obtaining pressure calibrations for microphones. IRE Member. During WWII at BTL, in 1942, he was part of the sonic deception research to develop sound systems to reproduce recorded sounds of military artifacts used for the 'Ghost Army.'
	**John Christian Steinberg** (Lakota, Iowa. June 21, 1895 – Florida. April 19, 1988) B.S., 1916; M.S. 1917 at Coe College (*Alumni Award of Merit*, 1956). Ph.D. Uni of Iowa in 1922. His early research at BTL, concerned the properties of speech using oscillators capable of producing vowel sounds. During WWII, he worked on projects for which he applied for numerous patents, focused on aerial and underwater sound ranging. He was involved in acoustical underwater and marine sciences (1963-1978). AAAS, APS Fellow. Fraternity Tau Kappa Epsilon and Gamma Alpha.
	**Charles Fuller Stoddard** (Chicago, IL. December 26, 1876 – New York City. April 29, 1958) He was a self-taught inventor throughout his life: "*A scientist without a college degree*" (NYT). He was a *Piano engineer* at AMPICO, in 1913 he presented a mechanism for synchronizing a self-playing piano with moving pictures; in the 1920s he created a built-in piano mechanical recording device. Together with Hickman, they worked to perfect the sounds of pianos.
	John Bellamy Taylor (Brookline, Norfolk, MA. August 1875 – Schenectady, NY. December 20, 1963) BS EE of MIT, 1897. He was one of the first to demonstrate the capabilities of the oscillograph for sound analysis. He advocated in 1919 for *acoustical engineering* as a branch. In 1927 he worked on "sound visible and light audible." In 1932, he transmitted music modulated by a light beam from a (balloon) airship. His collection of organs and rare instruments was donated to Williams College, MA. AAAS Member; AIEE and APS Fellow.

	Wallace Waterfall (Columbia City, IN. May 27, 1900 – Terrace, Bronxville, NY. August 21, 1974) B.S. in 1923, Engineering Physics in 1931, U. of Illinois; disciple of Watson. He is well-known as *Acoustical engineer* of the Celotex Co. During WWII he was member of the Division of War Research at Columbia. Secretary emeritus of the AIP. He was honored the *Certificate Awards* in 1948 by the US Army and the Navy. AAAS Fellow, 1932. APS Fellow.
	Floyd Rowe Watson (Lawrence, KS. April 23, 1872 – Pasadena, CA. January 18, 1974) B.S. in 1899 of Los Angeles Normal School; PhD physics in 1902 of Cornell. He began his long career in architectural acoustics at the University of Illinois. He was one of the first to study the acoustical response of 'dead rooms' in 1923, these were the earliest anechoic chambers. He did the acoustical design of the Pentagon building. AAAS Fellow in 1909. Sigma Xi and Kappa Delta Phi Fraternity.
	**Raymond Lester Wegel** (Fond du Lac, WI. July 13, 1888 – North Salem, Westchester, NY. March 1973) B.A. of Ripon College in 1910 (he was honored as *Distinguished Alumni*); PhD of University of Wisconsin in 1913. He pioneered the study of the masking of sounds at different frequencies. He developed all-electronic version of audiometer and the first pure-tone audiogram in 1921. At BTL in 1924 he developed one of the first sound analyzers. In 1925 he was elected as *Honorary member* of the American Otological Society in recognition of his contribution. APS Fellow in 1928. AAAS Fellow in 1931.
	Edward Christopher Wente (Denver, Iowa. January 2, 1889 – Summit, NJ. June 9, 1972) B.A. in 1911 of U. Michigan; M.A. in 1912 Lake Forest University. B.S. in 1914 of MIT; PhD in 1918 of Yale. His invention of the condenser microphone in 1917 revolutionized forever the way "to capture" the sound waves. AAAS Fellow in 1931. During the WWII at BTL, in 1942 he was part of the *sonic deception research* to develop sound systems to reproduce recorded military artifacts sounds which were used for the 'Ghost Army.' Among of many awards, he had obtained: The *John Price Wetherill* Medal in 1931 of The Franklin Institute; the *Progress Medal* of the SPME in 1935.
	Irving Wolff (New York City. July 6, 1894 – Princeton, NJ. December 5, 1982) B.S. of Dartmouth College in 1916; PhD in Physics of Cornell in 1923. In addition to being an expert in electro-acoustic engineering, while working for RCA, he was the initiator of the microwave program, which was the first to be applied in the U.S., and later designed the pulsed technology which became the first microwave radar. He received the IRE *Fellow Award* in 1942. The Navy gave him the *Distinguished Public Service Award* in 1949. The Franklin Institute awarded him the *Cresson Medal* in 1959. APS and AAAS Fellow.