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HAROLD ALDEN WHEELER DIES AT AGE 93

Harold Alden Wheeler, an engineer, scientist, and inventor whose seven-decade career of engineering genius left the industry with more than 180 patents and 100 scientific papers, died in Ventura, Calif., on April 25. He was 93 years old.



Harold A. Wheeler

Professor Alan Hazeltine hired Wheeler as the first employee of Hazeltine Corp. in 1928, an association that would last nearly 60 years. Wheeler had already invented both the neutrodyne radio receiver and his most famous invention, a circuit that achieved automatic volume control, which remains a standard feature of all AM radios. In 1939 he became vice president and chief engineer of Hazeltine.

Wheeler left Hazeltine in 1946 to found Wheeler Laboratories, where he served as president. In 1959 Wheeler Laboratories was acquired by Hazeltine, and Wheeler was elected a director of the corporation. He served Hazeltine in a variety of executive positions, including chief scientist and consultant, chief executive officer, and chairman of the board during the next 28 years.

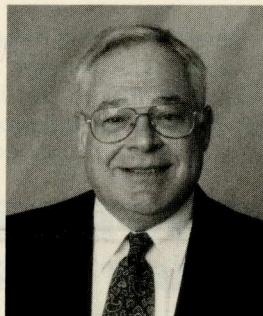
During World War II Wheeler directed the development of the SCR-625 mine detector, used during the war and later in Korea. He also directed the design of an extensive series of antennas for electronic identification (IFF), which were placed on all allied ships by the end of the war. Other notable contributions include seminal theoretical work on microwave transmission lines and antennas that were applied to radar guidance and defense systems. His labs developed technologies that became the basis of products ranging from defense electronics to color television and movie production.

Among the many honors bestowed on Wheeler over the years are the highest awards of IEEE and Radio Club of America — The Medal of Honor and Armstrong Medal, respectively. He was also elected to the national Academy of Engineering. Wheeler received his B.S. degree and D.Sc. (Hon.) from George Washington University in 1925 and 1972, respectively. He also received honorary degrees from Stevens Institute of Technology (D. Eng., 1978), and Polytechnic University (Dr. Eng., 1992).

Wheeler is survived by two daughters, Dorothy Tylinski and Caroline Sawyer; two sisters, Catherine Lines and Margaret Nontzka; nine grandchildren and 10 great grandchildren.

LI SECTION & AIL HOST 3RD DISTINGUISHED LECTURE

AIL and the LI Section host its third Distinguished Lecture "The Future of Electronic Warfare and Modern Radar Signals" to be presented by Dr. Richard G. Wiley, Vice President-Chief Scientist of Research Associates of Syracuse Inc.



Richard G. Wiley

at 4:45 PM on July 9th in AIL's main auditorium, Commack Road, Deer Park. It will be presented in conjunction with the LI Aerospace and Electronic Systems (AES) Chapter. Much of Electronic Warfare activity today is based on intercepting the high peak power pulses transmitted by most radar systems and makes use of threat recognition techniques, which depend on processing individual radar pulses. This has worked well, partly because radar

designs have not been based on reducing the interceptability of their transmitted signals. With the advent of Anti-Radiation Missiles (ARMs) and other means of threat suppression, real benefits to the radar can be obtained by reducing the possibility of signal interception. Several existing "LPI" radar signals are described and then some methods for improving performance of intercept receivers are considered. The implications for the future of Electronic Intelligence (ELINT) are also considered.

Mr. Wiley received his BSEE and MSEE degrees from Carnegie-Mellon University in 1959 and 1960, respectively, and his Ph.D. from Syracuse University in 1975. He was with Syracuse Research Corp. from 1960-1967 and 1975-1986. From 1967-1974 he was with Microwave Systems Inc. In 1986 he became a founder of Research Associates of Syracuse Inc. (RAS), where he presently remains. He oversees the RAS program of internationally presented continuing engineering education seminars. He was elected a Fellow of the IEEE in 1987 "for contributions to radar signal interception and analysis." He has authored two books and published a number of papers related to ELINT.

The meeting is open and free of charge to the public. However, since it will be at AIL, please let us know if you will attend so we can properly notify AIL security. To obtain further information or to join the speaker for a post-talk dinner, call Tom Campbell at (516) 757-3008 or Ed Palacio at (516) 595-3807.

CHAIRMAN'S MESSAGE

by Tom Campbell

This is my last article for *The Pulse* and I thank all members of the Long Island Section for this opportunity to have an exciting, if not always fun-filled year. There are several major issues that face Nader Bolourchi as the incoming Chair.

A new *Pulse* editor is the most urgent business before the Section, followed by replacing the loss of ELECTRO funds with some fund-generating activity; continuing the educational program on a sound business footing; continuing to expand the economic development relationship with other technical, business, financing and government organizations; continuing the Distinguished Lecture series with AIL; expanding the number of award designees and expanding the awards base; replacing several EXCOM board members (standing committees or Chapter Chairmen) who have moved or retired; and many more.

Nader, you are in for a great and challenging year!

Pax post chairmanship.

Thomas A. Campbell, Chairman

EDITOR'S NOTE

by Kenneth Mas

Greetings all!

This will be my last issue of *The Pulse*. As Tom Campbell mentioned in the previous issue of *The Pulse*, I will no longer be able to continue as Editor of *The Pulse* due to "family expansion". Actually, my wife and I are expecting our first child in August. Between my daily work schedule and child care responsibilities, I believe I will have little time for much else.

It has been an interesting and challenging three years, especially coordinating with advertising firms, printers, and all of the authors of articles. All-in-all, it has been a rewarding experience and I encourage budding editors to give it a try. Not only will you be able to improve your editing and writing abilities, but will recognize the added benefit of volunteering your skills for the betterment of your engineering community, also a notable entry for your résumé.

LI SECTION TO HOST INTERNET HOME PAGE WORKSHOP

A *Home, Home on the Web* workshop presented by Dr. Charles Rubenstein will be held on two successive days, June 26-27, 1996 from 6:00 PM to 9:00 PM at AIL Commack Road, Deer Park, NY. The registration fee includes all course materials. Registration must be done in advance by mail for timely notification of AIL security.

Abstract: This workshop is designed to introduce participants to the Internet and the basics of HTML as applied to creating simple World Wide Web home pages. No prior Internet experience is required, however, it is expected that participants will have a working knowledge of DOS and Windows 3.1. To be able to access the Internet, participants need to have access to a 386 IBM PC-compatible computer operating with MS-DOS 5.0 and Microsoft Windows 3.1, with 4 megabytes of RAM and 4 megabytes of free hard disk space, and a 9600 baud modem.

Outline: The workshop will include a brief history of the World Wide Web, basic online setup, use of Internet provider services, basic NETCOM browser, e-mail capabilities, basic Netscape Navigator® download and setup techniques. Basic HTML language and web page examples with live web site visits and evaluation to illustrate home/web page construction techniques, and the use of an HTML editor will be discussed.

Home Page Wrangler: Dr. Charles Rubenstein has a Ph.D. from Polytechnic University and is currently an Associate Professor of Engineering and Information Science at Pratt Institute's School of Information and Library Science. As part of his Networks graduate course at Pratt Institute, he provides seminars and workshops on e-mail for a variety of organizations. He has presented Internet seminars in New York City, Long Island, Rhode Island, and as far away as Morocco, Africa (part of a USIA Grant). Since 1994, he has been active as the IEEE Region 1's (Northeastern United States) e-mail coordinator.

Information: For information, call Tom Campbell at (516) 757-3008.

Registration and Fee Schedule
Circle or check fee, complete form, make check or money order payable to IEEE Long Island Section and mail to:

IEEE Long Island Section
Home on the Web
PO Box 36,
Greenlawn, New York 11740-0036

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PULSE Deadline for September is July 31

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LONG ISLAND IEEE CALENDAR

(No membership requirements, no registration, no fees at meeting unless otherwise noted. IEEE Office is in the AIL Main Building on Commack Road, Deer Park, LI exit 52.)

JUNE 5 — *Networking - LI Consultants Network - 7:00 PM - LILCO Training Center, 131 Hoffman Lane, Hauppauge - For info, call Peter Buitenkant at (516) 491-3414.*

JUNE 6 — *An Advanced High Power Pulse Transmitter, by Mr. Louis DiCalsi - Microwave Theory and Techniques Chapter - 6:30 PM - Polytechnic University at Rte 110, Farmingdale - For further info, see Page 4.*

JUNE 12 — *Methodologies For Evaluating the Performance of RISC Single and Multiple-Processor Computer Systems, by Dr. Mohammad S. Obaidat - AIL and LI Section - 4:45 PM - AIL main auditorium, Commack Road, Deer Park - For further info, see Page 5.*

JUNE 26-27 — *Home, Home on the Web, by Dr. Charles Rubenstein - LI Section- 6:00 to 9:00 PM, at AIL, Deer Park - For further info, see Page 2.*

JULY 3 — *Consultants Network - 7:00 PM - For further onfo, call Peter Buitenkant at (516) 491-3414.*

JULY 9 — *The Future of Electronic Warfare and Modern Radar Signals, by Dr. Richard G. Wiley - AIL, Long Island Section, and Aerospace and Electronic Systems Chapter - 4:45 PM, in AIL's main auditorium, Deer Park, - For further info, read page 1.*

JULY 16 - August 1 — *C, C++, GUI Seminar, by Chris Early, James LaTourette, and Walt Whipple - Tuesday and Thursdays, 6:00 PM to 9:00 PM, at SUNY Farmingdale - See rate information on Page 6. - For further info, call Walt Whipple at (516) 563-2400 x3114.*

AUGUST 7 - Consultants Network - 7:00 PM - For further info, call Peter Buitenkant at (516) 491-3414.

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MTT CHAPTER HOSTS TALK ON ADVANCED HIGH POWER PULSE TRANSMITTER

The Long Island Microwave Theory and Techniques Chapter will sponsor a talk entitled "An Advanced High Power Pulse Transmitter" given by Mr. Louis LiCalsi. The talk will be held at Polytechnic University, Route 110, Farmingdale Campus on Thursday, June 6 at 6:30 PM in the auditorium.

High Power pulse transmitters comprise a major subsystem for medium- and long-distance tracking or surveillance radars. Lockheed Martin Tactical Defense Systems has developed a high-power, high-duty cycle transmitter to operate in the S-band frequency. Identified as the U150KS transmitter, its high average power and low peak power capability provide low susceptibility to anti-radiation missiles (ARMs) while providing for enhanced target visibility. High RF stability is achieved by using pulse-to-pulse programmable, highly regulated, high-voltage power supplies. The programming allows the transmitter to service interleaved long-range and short-range moving target indicator (MTI) requirements without any degradation of target visibility in heavy clutter environments. The U150KS transmitter combines built-in fault isolation and modular design to provide overall ease of

maintenance. Additionally, the transmitter is capable of providing, on request, system status, including over a hundred internal analog metered test points to a remote station via RS422 serial interface. The U150KS transmitter is easily adaptable for use at other frequency bands because of its modular design.

The talk will highlight the transmitter design with emphasis on the TWT development, microwave component and RF design, and pulse-to-pulse stability measurement techniques. Applications of this transmitter design will also be discussed.

Mr. Louis LiCalsi has 28 years experience at Lockheed Martin Tactical Defense Systems in the design, development and test of high-power transmitters. Mr. LiCalsi has been involved in all aspects of transmitters for the Mk76 Terrier, Mk92, Artillery Locating Radar AN/TPQ-37, NEXRAD, MATCALS AN/TPS-73, Wind Profiler and FAAR programs. He has recently acted as engineering group leader for the U150KS transmitter development program used in the RAT-31SL radar system. Mr. LiCalsi received his BSEE from City College of New York and his MSEE from New York University. His is a licensed Professional Engineer.

For further information and directions, call Michael Hanczor at (516) 574-2607 or Michael Knox at (718) 423-8963.

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30 YEARS AGO

by Rod Lowman, Historian

As I related last month, the 1966 issue of *The Pulse* printed the history of the first decade. The next issue carried the history of the second decade in preparation for the 20th anniversary celebration, with a dinner meeting in November of 1966. 1966? The Section had its first meeting on October 29, 1947. Oh-well, nobody's perfect—not even engineers. We did better with the 25th in 1972, and the 40th with a separate dinner dance and initiation of the Wheeler Award on almost the exact date of the anniversary on October 30, in 1987.

Although we celebrated a year early, being 30 years later, it reminds us that in a few months the Section will be starting the 50th year of service to the engineers, the Long Island technical community and all those consumers who benefit from the ingenious designs developed by our members. It is none too early to give thought to what major undertaking we would like to plan to make this 50th year special and what fitting celebration we should consider on our completion of a half century of service to the technical community of Long Island in October 1997.

So give us your suggestions. Should we make our member services available to everyone via the World Wide Web? Should we strive to get every member on E-mail? Should we nominate one of our members as a candidate for IEEE President Elect? Should we try to have one of our members selected as Congressional Fellow to help straighten things out in Washington? Should we modify our *Pulse* masthead to include 50th Year? Should we celebrate our half century of service with a dinner dance on a cruise to nowhere on the Queen Mary? Should we combine the celebration with the awards presentation or should it stand alone?

Turn your minds loose, discuss it with your friends, go ahead and brainstorm. The more ideas the better. Then send your suggestions to me at 20 Arosa Court, Greenlawn, 11740, or give me a call at (516) 261-1911. I'll make sure your suggestions get to the planning committee for the 50th year.

LIFTnet

Long Island Forum for Technology (LIFT) has announced a demonstration bulletin board called LIFTnet. This electronic sales tool will match Long Island's manufacturers' products with government bid lists. This user-friendly computer system will make thousands of new sales in subcontract jobs easily accessible to companies and organizations of all sizes in all industries. The *Commerce Business Daily* publication is the best source for information on valuable bid opportunities for upcoming jobs of more than \$25,000, and all awarded contracts of more than \$25,000 likely to require subcontract work. LIFTnet will make this information available on the Thursday preceding their Monday publication date. It will then search the listing of the manufacturers' capabilities with the government's requirements. If a match exists, notification will be placed in the user's mail box. The bulletin board also includes a number of procurement opportunities from other sources.

If you are interested, mail your business card to LIFT (P.O. Box 170, Farmingdale, NY 11735), and you'll be supplied with the free software to communicate with their electronic bulletin board.

DISTINGUISHED LECTURE RESCHEDULED TO JUNE 12

AIL and the LI Section have rescheduled the Distinguished Lecture by Dr. Mohammad S. Obaidat of the Department of Electrical Engineering, City University of New York, due to a last minute schedule conflict. Originally scheduled for May 14, 1996, this interesting presentation on "*Methodologies For Evaluating the Performance of RISC Single and Multiple-Processor Computer Systems*" will be held at 4:45 PM on June 12th, 1996 in AIL's main auditorium, Commack Road, Deer Park. Please refer to the May issue of *The Pulse* for details. This talk presents methodologies for evaluating the performance of single and multiprocessor Reduced Instruction Set Computer (RISC) systems under uniform and non-uniform traffic conditions. Dr. Obaidat is an Associate Professor in the Department of Electrical Engineering at the City College of the City University of New York. The meeting is open and free of charge to the public, however, we need to notify AIL security to expedite admittance. To obtain further information on this distinguished lecture or to join the speaker for a post-talk dinner, call Tom Campbell at (516) 757-3008 or Ed Palacio at (516) 595-3807.

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IEEE Long Island Section C/C++/VC++ Seminar

July 16-August 1, 1996

Overview

In this seminar, you will gain a familiarity with the leading programming methodology in commercial (and many military) applications. The seminar progresses from description of syntax and semantics to demonstrations of the use of three interrelated topics: the C programming language, the C++ programming language, and Microsoft's Visual C++ environment for graphical user interfaces (GUIs). The intent is to provide enough background to enable attendees to conceive applications and make use of development tool documentation to develop those applications. Attendees will need to learn and practice the required skills on an actual project that is beyond the scope of this seminar.

Who Should Attend

The seminar benefits engineers and programmers who have some programming background, perhaps with Basic or Fortran, who need to use C/C++/GUI technology. Those with little exposure to C, C++, or GUIs should attend. Managers who must make decisions about software development should attend. Computer Scientists and working programmers with GUI experience should probably not attend.

Key Benefits

- Learn the vocabulary and elementary techniques of C, C++, and a GUI generator
- Sample some advanced techniques needed for actual programming
- Understand enough of the technology to learn the rest on a subsequent project or detailed programming course
- Understand what the tool will do for you and what you will have to do for yourself
- Learn about programming for a modern windowing environment

Content

C Language: Data and Control; Preprocessor Commands; Programs

C++ Language: Encapsulation and Classes; Inheritance and Polymorphism; Overloading and Templates.

VC++ Environment: Application Program Interfaces; Program Generators; Designing Dialogs; Adding Class References; Fleshing out the Skeleton.

Seminar Coordinator

Walter L. Whipple, Ph.D., P.E., EQA Engineer, Symbol Technologies.

Dr. Whipple plans to teach the VC++ portion of the seminar and coordinates the program.

Location and Times

The seminar will be given at SUNY, Farmingdale, on Tuesday and Thursday evenings, 6-9 p.m. Light refreshment will be provided immediately prior to each session. IEEE rents space from SUNY; SUNY does not otherwise participate in or sponsor this seminar. The seminar is wholly the responsibility of IEEE LIS and the instructors.

Registration Fees

Payment Date	Public ¹	IEEE members ²	
		member	student/life ³
June 8	\$350	\$250	\$200
June 21	\$400	\$300	\$250
July 16	\$500	\$400	\$325

Notes:

¹ Includes IEEE Associate New Member dues for those who submit an application at the seminar.

² 1996 membership card required at first session. Not applicable to Affiliate members.

³ Includes undergraduate students of SUNY with current ID.

Further Information

Contact Walt Whipple via E-Mail at w.whipple@ieee.org or (516) 738-3114 (voice mail activates a pager). An acknowledgement containing travel directions will be sent to all registrants. Fees will be refunded in full if the seminar is canceled or the registrant cannot be accommodated due to capacity limitations. Other refunds will be considered.

Registration Form

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