



IEEE

The Life Member Fund Newsletter

Spring/Summer 1988

A Note from the Chairman

Many thanks for your contributions last year. You made 1987 the best year yet. Also, we can tell from your letters that many of you are actively contributing to IEEE and to society as a whole through your community work.

The Life members attending the Electro/88 in Boston (Mass.) this year will hear from Professor Michael Tinkham on May 11. His topic will be, "Superconductivity: past, present and future." Professor Tinkham is the author of three books on superconductivity and quantum mechanics and is also the author of over 200 journal articles.

And we are a growing force to be reckoned with. We (the 65 plus group) will soon be 20 percent of the population in the United States. As a result, reports *Business Week*, product designs that address our needs are increasingly being considered. Perhaps we, as engineers, should be helping in the electronic field of design. Offering suggestions based on our personal observations and technical expertise to create useful products beneficial to our generation.

I continue to work actively for your interests. On behalf of the entire Life Member Fund Committee, best wishes for continued good health and spirits.

William W. Terry, Chairman
1988 Life Member Fund Committee

Life Member Fund Stats

Contributions were up \$7,850.15 in 1987 from 1986 for a grand total of \$84,849.86. Twenty-three percent or 3,480 Life members of a possible 15,065 (your numbers jumped by over a thousand in 1987) donated an average of \$24.38. This represents 544 more contributors giving \$1.02 more as an average compared to the 1986 figure. Our thanks to everyone who gave.

You and Your Life Member Record Information Form

Life members! Keeping your IEEE record current is important. So please complete and return the Life Member Record Information form, whether or not changes are required, enclosed with this newsletter. (Note: If you only received the newsletter, you are not required to complete the form.) A postage-paid envelope was also enclosed for your convenience. An early response is appreciated. Some areas to review on the form are:

1. **Technical Profile.** Please review the categories you have already marked and review the enclosed list of technical interests for any changes or additions you might have.
2. If you wish to have your name omitted from outside mailing lists, please check the box just below the Technical Profile section. It must be checked off on a yearly basis.
3. If you are now actively involved in business, please complete the back side of the form. It is essential for the Business Publications Audit (BPA) of SPECTRUM magazine.
4. **Contributions to the Life Member Fund.** If you wish to contribute to the Life Member Fund, please indicate this decision on the front of the form. Make your check payable to *IEEE FOUNDATIONS, Inc. (LMF)*. Remember, your donation is tax deductible and appreciated!

Where it goes...

What does your dollar buy through the Life Member Fund? For starters, this money supports: The Student Prize Paper Contest, the Education Medal, the Donald G. Fink Prize Paper Award, Graduate Fellowships, the Life Member Directory (published every other year), the Summer Graduate internship, Life Member Conference activities and the Life Member Fund Newsletter.

In 1987, other projects the Life Member Fund Committee agreed to support were the IEEE Medal for Engineering Excellence for 1990 and 1991 and the Microwave Theory and Technique Society's Hertz Centennial Exhibits Catalog.

If you are interested in making a donation to the Life Member Fund, the check should be made out to: IEEE Foundation, Inc. (LMF). Any contribution is greatly appreciated.

Reaching for the STARs

I was certainly delighted with the results of the Life Member Survey with its emphasis for promoting technology to our youth. For considering programs to follow through with this interest, I submit the Science and Technologies Activities Room (STAR) for Elementary Schools. Our local section is in the process of planning its promotion of this program in the Boise (Idaho) area.

I sincerely believe that hands-on experience in the fundamentals of science at an early age (elementary grades K through 6) is the best means and time to interest young people in pursuing engineering as a career.

Science and technology are loosing the competition for the best and brightest students. There are many reasons, but a consensus has emerged that the lack of adequate science instruction in the elementary schools is a major factor. The inadequacy leads to an active dislike and disdain for anything scientific. As a result, by the time these students enter junior high school they are not only turned off but ill prepared to participate and/or enjoy technical interests. Potentially good science students are lost and the average student is not provided with the fundamentals needed for everyday life as a citizen and member of an increasingly technical society.

Several years ago, I participated in an evaluation of the science curricula of Hailey Elementary School (grades 4 thru 6) in Hailey, Idaho. I found the instruction marginal, the textbooks poor and the time allotted to the teaching inadequate.

As an accredited school in Idaho, it needed only to devote 40 minutes a week to science instruction—not per day, but per week. (Unbelievable? Yes, but true. What message does this send to the students? How much could they learn of the magic of science?

Added to this I found the teachers were actually afraid of this weekly 40 minute requirement to teach science. They knew of their own inadequacies and dreaded having to face the class. Again—what does this say to the students?

Finally, the textbooks dwelled on the results without ever giving the students any fundamentals. For example, there were many chapters on energy in its various forms but never a discussion or definition of energy. I looked carefully for a definition, but never found it. WOW!

What to do?

We propose that the steps needed to overcome these deficiencies are:

- new curricula with parent participation;
- new textbooks;
- science instruction by a specialist not a homeroom teacher;
- and** the formation of a Science and Technology Activities Room (STAR).

We would like to take the first steps to scientific “wellness” by initiating STAR. STAR is designed to provide hands-on experience in the fundamentals of science to students K-6 by participating in experiments designed to complement their classroom learning.

STAR’s objectives include:

- 1) to provide better facilities for teaching and give students more opportunities to learn science;
- 2) to enhance the regular classroom science curriculum;
- 3) to provide a resource of activities for the homeroom teacher which will expand the classroom discussion;
- 4) to stimulate interest in science in the formative years;
- 5) to provide a better foundation in science on which future appreciation and understanding of its role in society can be based;
- 6) to help our future non-scientific and ordinary citizens cope with our technological society.

How does it work?

STAR is a cooperative program between the School District and the parents. The School District provides the room and the teacher; the parents through their PTO provide the facilities and equipment. The initial cost of the facilities is estimated at \$12,000 to \$15,000 for grades 4-6. Depending on the makeup of the school, the operation can be expanded to include grades K-3 or separate facilities can be provided.

The role of the IEEE I feel should be as follows:

- 1) Contact other engineering societies and see if they are interested in a joint program.
- 2) With or without this support, contact the School Districts in the area and present the proposal.
- 3) Through the individual members contact the individual PTO’s and solicit their support. Obviously, the parental support is vital to the program.
- 4) Cooperate with both entities to raise money and obtain the facilities and equipment for the program.

Life members can help get the ball rolling and keep it rolling among these various groups. If you are interested in more details, feel free to call or write me at:

11350 Bridgetower Drive
Boise, Idaho 83709
(208) 376-2962

John Coolidge
Life Member
IEEE Boise Section

Autobiographical experiment

We are proposing an experiment. And we would like your participation. All it takes is a little writing about a subject of great interest—yourself—an informal biography or memoirs, if you prefer.

We think (actually we know) there are a lot of untold stories about the lives and careers of engineers. Stories that would make interesting reading to other engineers, potential engineers as well as historians. A few stories, scenarios, gut reactions to events, a little humor, and some personal career history has the potential, we feel, for good reading. Also, it will provide something of a historical record about the unsung engineers of old.

If the quality as well as quantity is good, we will strive to publish this collection (condensed and edited, of course) under one cover. We are looking for up to ten pages of material from each person. Remember, we are not looking for resumes. You can sign your name or remain anonymous. You can fictionalize people’s names (not the events, please) but let us know if this is the case.

Here are a few questions your response could cover. What prompted you to become an engineer? How did you get started? Who were some of your helpers and hindrances (you can disguise them with fictional names to protect the innocent as well as

the guilty). Was there a mentor(s) in your career? What about your high school and college training and the role of teachers and professors in your career? What are some interesting anecdotes about the way things were when you started, how did they change along the way, and how are they now? What were the analytical “tools” of the trade then and now? What were some of your interesting and unglamorous assignments? Who were your bosses; were you a boss? What were they (and you) like? Don’t forget to say something about pay scales, and the economic situation (a lot of us experienced a depression mentality). And how about a few anecdotes on your successes and failures; I remember designing a motor generator system in which I made a mistake, but it turned out so well that the customer wanted another one just like it!

This is an experiment, however. There are no guarantees. If the material turns out to be ultra dull reading, the project will be dropped. But if you give us your best effort and it shows in the material, the Life Member Fund Committee will keep on this project until completion. Mail your “memoirs” to me care of IEEE Field Services, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331.

Robert F. Lawrence, Member
Life Member Fund Committee

Possible Changes in LM Benefits

The IEEE Board of Directors is considering this May a clarification of the rules governing Life Membership in an IEEE Society. The clarification may change the benefits that have been received by some Life Members in the past.

For a number of years, a person who has had five or more years of membership in a Society immediately prior to attaining Life Member status in the IEEE, could continue a Life Membership in the Society without paying the Society fee.

Originally, each Society published one Transactions, which was included in the fee. Society Life Members therefore received that Transactions free, provided they confirmed they wanted it each year. When some Societies began publishing additional periodicals, the practice was to offer all of them free to Society Life Members whether or not the publications were included in the fee.

The clarification being considered in May is the following: “Life Membership in a Society entitles the member to receive, free of charge, the services and publication(s) provided for in the basic Society fee,

on the condition that the Life Member confirms each year that such services/publication(s) are still desired.”

Thus, the Life Member would have to pay for any additional publications that the Society offers and the member wants.

As always, to qualify as an IEEE Life Member (LM), you must be 65 or older; and your current age and your number of years of IEEE, or its parent Societies (IRE or AIEE) membership, must total at least 100 years. You are notified automatically during the summer of the year you qualify as an LM. The free IEEE membership is in effect as of January 1st of the following year.

As a Life Member, you automatically receive SPECTRUM (unless you indicate in writing, otherwise). All other publications—Conference Records, Proceedings of the IEEE, IEEE Press Books, IEEE Membership Directory, IEEE Standards Dictionary of Electrical and Electronics Terms, and so forth—are available at regular member rates.

And Now Some Words from Our Life Members

This letter was inspired by the article entitled "Computer bulletin boards" in the Fall/Winter issue of the Life Member Fund Newsletter.

I cannot believe the author is currently using bulletin boards. Few, if any, personal computers use a "terminal" separate from itself as shown in the illustration. Also, floppy disks are not used for storage on any bulletin board serving IBM PC or compatibles, or the more professional Apples. Floppies just don't store enough information. And the most popular terminal program for PC compatibles is "Procomm"; shareware version 2.42 is now current.

Perhaps the most obsolete information is the quoted cost of modems. The low speed 300 bps modem can often be had from others moving to higher speeds for little or nothing, by visiting computer user meetings or getting someone to put a query on a bulletin board. The new cost is from \$20 to \$50.

The 1200 bps modems, now fast becoming obsolete, are available new for less than \$100, used for \$75 or so. The current standard is 2400 bps. These can be had for less than \$200, and once tried can't be relinquished for a slower one.

The old saw about not being able to type that fast, or read that fast, is meaningless. Most bulletin board interaction is reading, searching, or downloading information. All boards I've accessed present information one screen at a time, so speed reading isn't necessary. Many boards now will not accept access at 300 bps, as it cuts down the number of accesses that can be made.

It's a fascinating world out there, for any age or preference, and I have yet to come across any illegal activity. Get a 2400 bps modem and enjoy.

Warren A. Kernaghan

I wish to report that I and my assistant have put on two amateur radio presentations at Hoover Middle School as well as two at West Middle School. Both schools are in Sioux City, Iowa. We have plans to do more presentations at other schools.

Basically we used the new ARRL Video tape produced by Roy Neal and the "Tune in the World" code tape followed by some hand sending to get the students involved in copying code. We left copies of Archie's Ham Radio Adventures comic books with the teachers. The principals and teachers involved were pleased.

I also tell the students that amateur radio is a good way to learn about electricity and electronics. It is how I became involved in my life's work—broadcast engineering.

Alvin H. Smith, W0PEX

Halfway through my seventy-ninth year, I am very active in the amateur radio field. Too busy to ever get on the air these days.

I have been a member of the ARRL for over sixty years, and I am an Assistant Director for the Central Division of that organization.

Among other things I expect this fall to start my fourteenth year as manager for our MRAC amateur radio school where in a regular classroom, in the evenings, we run a five room school teaching all five grades of amateur radio license. I also head the MRAC Volunteer Examiners group that is the only group in Wisconsin that has a contract with the FCC to test persons for amateur radio licenses. In my spare time I write, edit, publish and mail the monthly club newsletter *HAMMATEUR CHATTER*.

When the Challenger Space Ship carried amateur radio equipment into space in 1985 they promised a verification card to anyone who sent in a report. And the ARRL and the Houston Space Center NASA were swamped with mail from all over the world. MRAC was asked to take on the immense job of handling this mail, and I and my wife Louise, ended up doing the work.

Astronaut Tony England, W0ORE, was a school teacher before he got into the space program and did not forget the school kids while aloft. Over two thousand units of the Young Astronauts exist. They have an office and director based in Washington, D.C. A contest to pick the best entry in a contest on how to design a space learning center was run in early 1987 and the group in the Shady Lane Elementary School here in Menomonee Falls won First Place! The prize included a visit by a real live astronaut!

H. Charles Kaetel

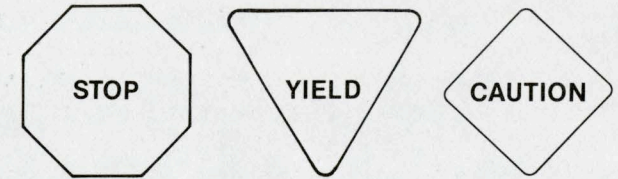
I am 65½ years old and am still working. My company recently changed its Major Medical Insurance plan so when I retire I will be phased out.

A suggestion: Now that many engineers are working past 65, the IEEE disaster insurance should be changed to offer it, with commensurate premiums, to members over 65. With medical insurance rates increasing, many companies are reducing costs by increasing deductibles and not allowing retirees to participate.

Otis Freeman

*Stay IEEE
Involved*

Yielding to the Signs of the Times



"Failure to yield, failure to observe signs and signals, careless crossing of intersections, changing lanes without due regard for others, improper backing and driving too slowly." These were the most cited problems by Dr. James L. Malfetti and Dr. Darlene J. Winter, authors of a self-rating form for older drivers. Both members of the over 55 set, they have focused on the needs and problems of older drivers since 1976.

Dr. Malfetti is Professor of Education and Director of the Safety Research and Education Project at Teachers College, Columbia University. Dr. Winter is a gerontologist and a Senior Research Associate for the Project.

According to them, evidence shows that skills required for safe driving start to decline around age 55 and drop dramatically around age 75. Toward that end, it is important that older drivers recognize their limitations and unsafe practices so they can take remedial actions as required. Below is a sampling of the information provided in these doctors' "driving test."

FACT: Eighty-five to ninety-five percent of all sensing clues in driving come through the eyes. Poor visual capacity is directly related to poor driving. Reduced performance from faulty vision shows up in slowed response to signals, signs and traffic events, which can cause an accident. Decline of visual acuity—the ability to see detail—comes naturally with aging. It becomes more difficult to change focus from distant to near objects and vice versa. The pupils become smaller, the muscles less elastic and lenses become thicker and less clear. Thus the need for more light. (The amount of light required to detect a given object doubles every thirteen years.)

Peripheral vision, the ability to see to the side while looking straight ahead, also diminishes with age. But ninety-eight percent of the visual communication that a driver receives comes through peripheral vision. Not surprisingly, those with poor peripheral vision in both eyes have accident rates twice as high as those with normal peripheral vision.

Several ways to solve this problem are 1) regular examinations with your eye doctor. Make sure the doctor knows you want an examination that will make you a safe driver. Then be sure to take the steps recommended. 2) Accept the limits of "aging eyes" and reduce the amount of driving you do after dark and at twilight (one of the most dangerous times). 3) Avoid tinted windshields, and always keep your windshield and headlights clean.

One specific unsafe driving habit of older drivers is failing to look to the rear. In observational studies, older drivers report being unaware of having failed to look out to the rear before changing lanes or backing up. Some may have picked up this bad habit to compensate for chronic stiffness and/or pain in the neck and upper body due to arthritis or joint stiffness. Failing to check the rear can cause a serious accident. So if you have arthritis or joint stiffness, inquire about medications and exercises that might improve flexibility. Or, install a large, wide-angle rear-view mirror inside your car and a right-side mirror outside to aid in seeing the rear. Make sure you learn to use the mirrors correctly because those of convex design can make objects appear much smaller and farther away than they actually are.

Most importantly, take a refresher course which highlights the problems of older drivers and suggests what can be done to reduce them. Check with the motor vehicle department to learn where such courses are given. The American Association of Retired Persons (AARP) and the American Automobile Association (AAA) have been active in this regard, also.

Denial of reduced driving abilities is often reinforced because giving up a license is an extremely traumatic event: It not only affects one's life style, but for many survival, for only 15% of the American population has access to mass transportation.

To test your current skills, and refresh yourself with good driving practices and the facts of aging that affect driving ability, you can request a copy of "Drivers 55 Plus: Test Your Own Performance." Sponsored by the AAA Foundation for Traffic Safety and the Safety Research and Education Project (Teachers College, Columbia University), it is "A Self-Rating Form of Questions, Facts and Suggestions for Safe Driving." Just send a check for \$2.00 made out to: AAA Foundation for Traffic Safety. When you request the 16 page booklet, be sure your name and address are clearly printed in the note. Mail the letter and check to: AAA Foundation for Traffic Safety, Suite 100, Falls Church, VA 22042.

Material adapted and excerpted from "Drivers 55 Plus: Test Your Own Performance" with permission by the AAA Foundation for Traffic Safety.



Wescon/87. Seated: Ken Moore, Harold Wollenberg, James Middleton, R.J. Horta, Gerald Panec, Ed Matthews, Joe Winston, Alfred Spadoni, Michael Pollack, John Gehman, T.L. Wolft, Charles Kemp, Vernon Waight. **Floor:** R.W. Cornes, G.G. Wedekind, R.D. Miller, John Parry, Edward Lacy, Sterling Beckwith, N.W. Rehbein, C.T. Everson, R.C. Maninger, B. Maximoff, Allen Olinger. **Standing:** L.O. Nelson, Thomas Stand, Art Fong, Bruce Watkins, Fred Morrison, Charles Edwards, Frank Inami, Bruce Kunde, Don Johnson, Edward Schwenzfeger, Victor Corey. **Top:** E. Mack Friedl, Ross Patterson, Setsuo Dairiki, D.E. Bone, Gustave Jamart, Edward Edison, Robert Ehret, Philip Kearney, Robert Heller, Theodore Veltfort, Ted Hollinger.



Wescon/87. Floor: Robert Sackman, Philip Eckstran, Abe Okun, Don Coughlin, Bruce Angwin, R.J. Shamis, Walter Czeropski, E.H. Stewart, M.A.K. Lommen. **Seated:** William Snyder, Harold Sarkissian, Phillip Painchaud, E.E. Carlton, Heyward French, Norman Ream, James McWilliams, Robert Collins, Arthur Forster, Philip Gannon, S. Buzolin, Werner Stirnus, James Brother. **Standing:** Don MacQuivey, Otto Smith, Richard King, Donald Reynolds, Rudolf Chope, John Gehman, Alexander Avis, John Doran, Robert Hollis, John Carter, H.C. Mingst, Jack McCullough, Don Preist. **Top:** Julian Clark, W.S. Earl, Derrill Angst, Harry Fuge, Paul Robbiano, Everet Penn, Norm Egli, Ralph Bennett, Kenneth Larkin, Frank Bower, Arthur Vane, Robert Buss.



Wescon/87 . . . A record breaking third picture was required. **Seated:** Charles Olsefsky, Lester Libby, Gilbert Brittain, Meyer Leifer, Carlton Thoms, Louis Lipkin, Walter Serniuk, Fred Wood, Harry Jacobs. **Standing:** Abe Tilles, Roy Lienau, C.B. Clark, Eric Neuron, Albert Craig, William Evans, Wayne Abraham, O.E.E. Anderson, C.W. Whitson, R.A. Isberg. **Top:** John Guarrera, John Corl, Ray Dawley, Raymond Taylor, Stephen Lindheim, Ed Salmi, Joseph Mori, Larry Fitzsimmons, Moses Long.

LMF Sponsored Winners

The 1988 recipient of the **Education Medal** is Dr. Alan V. Oppenheim, a professor of electrical engineering at the Massachusetts Institute of Technology. His citation reads, "For leadership in engineering through teaching, textbooks and video tape series in digital signal processing." Oppenheim will receive a gold medal, a bronze replica, a certificate and ten thousand dollars.

Dr. Oppenheim's interest in signal processing leans toward its application to speech, image and seismic data processing. A current area of emphasis is knowledge-based signal processing. He has been Editor of the Prentice-Hall, Inc., "Series on Signal Processing," since 1975.

Through the Education Medal, the Institute recognizes the importance of the educator's contribution. His contribution to the vitality, the imagination and the leadership provided by the members of our profession.



The 1988 recipient of the **Donald G. Fink Prize Paper Award** is Dr. Raymond L. Murray for his paper, "Radioactive Waste Storage and Disposal." Murray is a Professor Emeritus in the Nuclear Engineering Department at North Carolina State University. He will receive a certificate and one thousand dollars. This award is given for the most outstanding survey, review or tutorial paper in the Transactions, Journals and Magazines of the IEEE Societies or in the Proceedings of the IEEE published in the preceding year.

"Older" member. Older than what?

A regular topic of conversation at the Life Member Fund Committee meetings is—what can we do for older members. To begin with, I think we should change the name, "older member." Because it is ambiguous as to what "older" means—older than what?

Actually it's IEEE's way of saying "non Life

Members 65 years and older." Sometimes however, depending on the conversation, Life members are also clumped into this term. Informally, other names have been given. One that might strike your fancy is "Gold Member" for the non Life member who is 65 plus. It's not a big issue, but if you have some suggestions we would like to hear from you.

The problem may not be old age

Forgetfulness, confused conversation, unsteadiness on one's feet—all considered signs of advanced age—may actually be signs of drug overdose. For contrary to popular belief, drugs are not like "magic bullets" that affect only the desired target in the body and nothing else.

Propranolol hydrochloride, an antihypertensive drug, can cause disorientation, short-term memory loss, fatigue, weakness and hallucinations among other side effects. Over the counter antihistamines can induce a tendency to fall that persists long after the recommended dosage has supposedly worn off. Digitalis strengthens the heart and protects it from some electrical instabilities. But the difference between an adequate dose and an overdose is usually very slim. Therein lies the problem. For often, what started out as a helpful drug becomes a menace as we get older since our body's reaction to a drug changes even though the prescribed dosage may not have.

For instance, body water, the main part of lean tissue, decreases. Thus, a once standard dose now diluted in a smaller volume of water turns into an overdose. Other "advancing" bodily changes that affect our reaction to drugs include: the kidneys lose their reserve capacity to remove wastes and toxins; brain neurons increase in sensitivity making psychoactive drugs too powerful. Also, gradual additions of other drugs can create harmful interactions that aggravate the problem.

Dr. William I. Bennett, editor of The Harvard Medical School Health Letter, recommends that "part of every checkup should be a routine review of all medications and, when symptoms develop, the review should take high priority" (this includes aspirin). DO NOT make medication adjustments on your own. Going cold turkey on some antihypertensive drugs can cause a heart attack or sudden death. Drug deprivation can be just as harmful as a drug overdose. The key is working as a team with your doctor. Better living through chemistry takes effort on your part.

1987-1988 Life Member Directories Available

If you are interested in obtaining the new '87-'88 Life Member Directory to have and to hold, good news! While quantities last, the free directories are available on a first come, first served basis. Simply send a note requesting a directory with your name, IEEE member number and your mailing address printed clearly to:

IEEE Life Member Directory
Membership Services
445 Hoes Lane
P.O. Box 1331
Piscataway, N.J. 08855-1331

Where to write

Any ideas you would like to share? Questions or problems that require assistance? Simply contact the Life Member Fund Committee or its Staff by writing to: IEEE Field Services, 445 Hoes Lane, P.O. Box 1331, Piscataway, N.J. 08855-1331.

Who gets this newsletter?

Surprisingly enough, Life members are not the only ones who receive this publication. The Life Member Fund Newsletter is also distributed to IEEE members 65 years and older, retired IEEE members 62 thru 64, and special boards and committees.

1988 LIFE MEMBER FUND COMMITTEE

William W. Terry, Chairman

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