IEEE LIFE members newsletter

LIFEMEMBERS.IEEE.ORG
AUGUST 2022
IEEE

2022 LMC Chair's Remarks

Howard Wolfman, Chair, Life Members Committee

IEEE Life Members Committee Chair Howard Wolfman

Greetings all; I hope you are safe and healthy.

One of the ongoing concerns of the Life Members Committee (LMC) is the timeliness of information flow from the committee to/from our Members. Recently we have offered a newsletter that is published three times a year; April and August are published electronically and December is offered via hard copy mail. To address our concern about the effectiveness of our communications with Life Members, the LMC, working with IEEE staff and consultants, has created an up-to-date website to provide information to and from our Members.

Access the website and explore its many sections including news and activities, and awards. We welcome your feedback on the website; please send feedback to me at h.wolfman@ieee.org so that we can improve its usefulness to Life Members.

As I'm sure you realize, nothing comes without a cost. In the case of the website, the cost includes both the site creation and ongoing maintenance. In addition, the newsletter also has a cost associated with its publication. These communication channels are needed to keep you up to date on how the LMC is doing in achieving its goals that include "Mentoring the Next Generation of Innovators." We do this by supporting leadership development of students and young members of IEEE along with Young Professionals (YPs), Women in Engineering (WIE), and Eta Kappa Nu (HKN). The LMC is unique in the myriad of IEEE units in that the LMC does not receive any funding from IEEE but relies on donations to the Life Members Fund to provide the financial engine needed to drive our activities.

To achieve our goals, we need your support by donating to the Life Members Fund that is administered by the IEEE Foundation. You can do so by clicking on the following link:

DONATE TODAY!

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IEEE Life members

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IEEE Life Members Program Launches New Website

A team of IEEE Life Members Committee (LMC) volunteers has led a project to establish a new website dedicated to the interests of the nearly 40,000 IEEE Life Members. The website is being launched in tandem with the periodic *Life Members Newsletter*. It will provide Members and the general public information about:

- Life Members and their activities
- programs supported by the Life Members Fund (LMF)
- details of resources available to Life Member Affinity Groups (LMAGs)
- access to networks available for Life Members.

The website will serve as a technical resource for LMAG Chapter leaders, Life Members volunteers, and the LMC that enables our leaders to accomplish their goals and discharge their responsibilities.

Details of how to access the website, and how to submit material for posting on the website, can be found at: https:// ieeelifestg.wpengine.com.

IEEE's most experienced Members now have a one-stop resource to navigate the opportunities and impact of donor-funded activities and programs.

IEEE's LMC is thrilled to announce the launch of its new website. The new website showcases the impact donors make through programs, opportunities, and resources that keep Life Members connected, and shares recognition of their contributions. Features of the website include

- direction for how Members can get involved with the Life Members program.
- news and events to keep Members and visitors current on program activities, including an archival access to the *Life Member newsletters*.
- awards and recognition opportunities for Life Members and partnering organizations.
- volunteer resources in support of the program's expanding network globally.

Development of the website commenced in 2021 and was a collaborative effort. "For about a year, we conducted the painstaking process of reviewing all of our activities and reimagining a more intuitive and efficient way to connect our Members and the public to the million years of professional and life experiences that IEEE Life Members have to offer," said Howard Wolfman, chair of IEEE's LMC. Wolfman acknowledged the leadership of Life Senior Members Mike Andrews and David Bondurant, who have led the website effort in collaboration with IEEE staff and contractors, and the past chair of the LMC, Life Senior Member Scott Atkinson, for spearheading the website effort in 2021.

As part of the website launch, a new online community will officially debut on IEEE Collabratec, IEEE's professional networking and collaboration platform. The community, "IEEE Life Members and Friends," will offer Life Members the opportunity to connect with each other regardless of physical location and engage in conversations of mutual interest.

Launch of the new website marks the kick-off of a repositioned and rebranded Life Members program at IEEE. In 2021, rebranding delivered an upgraded logo for the program, a consistent color palette, and mission-driven messaging.

Life Member Fellow Ralph Wyndrum has led the program's repositioning and branding efforts. According to Wyndrum, IEEE's 35,000 Life Members offer professional and personal experiences that are an undertapped mine of wisdom for IEEE Members. "As Life Members, we are uniquely experienced and available to serve as volunteers to IEEE and to those in the profession who would like to fast-track their career knowledge and advancement through formal or informal opportunities sponsored by our Life Members program."

Wolfman is excited about the new horizon for IEEE's Life Members program. "In addition to improving connectivity and fellowship among our Life Members, we have begun taking bold new measures to support the next generation of innovators," says Wolfman. Throughout 2022 and 2023, IEEE's LMC will collaborate with the IEEE Foundation to raise funds to support leadership development events and opportunities for IEEE's Student Members.

About the IEEE Life Members Program

The IEEE's LMC is chartered by IEEE to oversee the program's strategic direction and budget management, for the betterment of the Life Members experience and their impact on local communities. IEEE Life Membership is automatically bestowed upon an active IEEE Member who has attained the age of 65 years and been a Member of IEEE for such a period that the sum of their age and their years of membership equals or exceeds 100 years.

For more information about IEEE's Life Members program, visit https://life.ieee.org.

Mike Andrews
and Ralph Wyndrum

LM

IEEE Life members

Search the IEEE Life Members Website

ABOUT | GET INVOLVED | NEWS & EVENTS | AWARDS & RECOGNITION | VOLUNTEERS | RESOURCES | CONTACT

IEEE Life Members are technology influencers, pioneers, and valuable partners – sharing over one million years of experience with the next generation of innovators.

Discover how to Get Involved in mentoring and volunteering programs around your area; the latest News & Events; the Awards that LM sponsors; information for Volunteers; and member Resources.

GET INVOLVED ›

VOLUNTEERS ›

RESOURCES ›

Featured Highlights from IEEE Life Members

2022 IEEE Honors Ceremony

IEEE's premier event showcases the innovation and creativity of IEEE members in engineering, science, and technology. The IEEE Honors ceremony recognizes icons whose work has served as a catalyst and propelled the major advances we have today.

VIEW VIDEOS

News from the IEEE Foundation: Q1 2022

As we close out the first quarter of 2022, I want to take a moment to reflect on your generosity in 2021. As a member of the 2021 IEEE Life Members Committee (LMC), I was able to see the impact of your support first hand...

READ MORE

A Look Back at John Bardeen

Physicist John Bardeen, 1971 IEEE Medal of Honor recipient and the winner of two Nobel Prizes, was born on May 23, 1908, in Madison, Wisconsin. Bardeen helped develop the transistor, which made possible the invention of almost every modern electronic device.

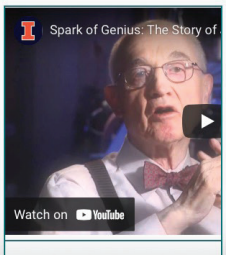
READ MORE

Get Involved with IEEE Life Members

Stronger together. The key to the IEEE Life Members community is our members. Dedicated to life-long learning and giving back to humanity, Life Members come together to learn new things, contribute ideas, mentor students, and participate in IEEE events.

- Overview
- Corporate Engagement
- Donate
- Life Members Groups
- Outreach
- Special Interest Groups
- Special Projects
- Strategic Activities
- Volunteer

Latest Life Members News



Life Members Committee Budget (May 2022)

5 May 2022 | Life Members Budget

2022 IEEE Honors Ceremony

5 May 2022 | Announcements, From Around the World

Introducing the New 2022 LMC Members

4 April 2022 | Announcements

Reports From Life Members Affinity Groups

There are now more than 120 IEEE Life Members Affinity Groups (LMAGs) because of the steady growth over the past two years. Establishing an Affinity Group is the most effective way for a Section to serve its Life Members, ensuring a flow of funding for meetings, events, and other LMAG activities.

If your Section doesn't have an LMAG yet, and has at least half a dozen Life Members, use the petition route available on the MGA website to apply for the creation of an Affinity Group.

The LMAG reports presented here are examples of Life Member activities supported by your donations.

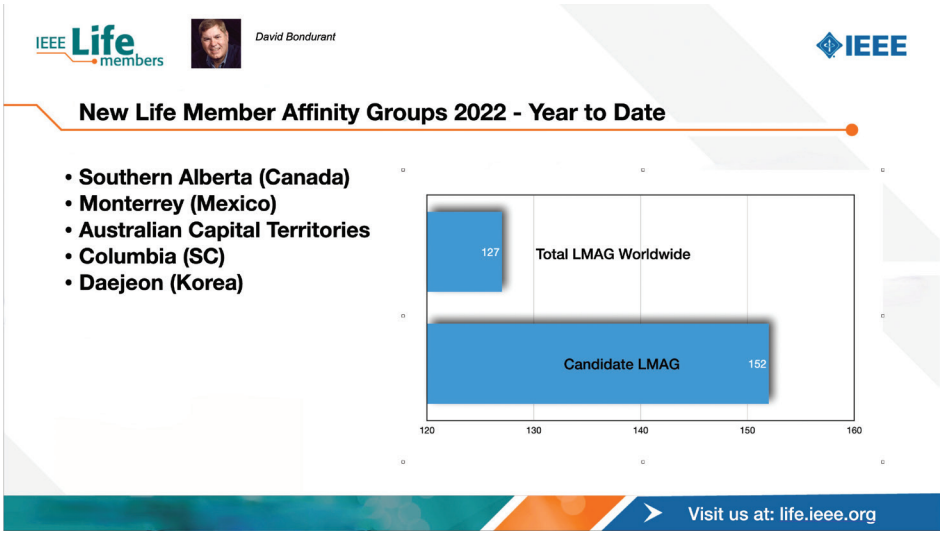
Growing Number of Life Member Affinity Groups Worldwide: Don't You Need an LMAG in Your Section?

The Life Members Committee has a goal to serve the Life Members of any Section worldwide where a minimum of six Life Members agree to form an affinity group and maintain a minimum of two meetings per year.

So far in 2022, new Life Member Affinity Groups (LMAGs) have formed in Columbia, South Carolina, USA, in Region 3; Southern Alberta, Canada, in Region 7; Monterrey, Mexico; in Region 9; and the Australian Capital Territories, Australia, and Daejeon, Korea, in Region 10.

If you are interested in forming an LMAG in your Section, please contact LMAG Activities Coordinator David Bondurant at dbondurant@mac.com, who will put you in touch with your local Region Life Member Coordinator who can help walk you through the petition process.

David Bondurant



Region 5

The Life Members Committee Selects Lone Star Section Life Member Affinity Group for 2022 Global Achievement Award

The IEEE Life Members Affinity Group Achievement Award is given annually to a Life Members Affinity Group (LMAG) to recognize those substantive initiatives, projects, or achievements.

In making our application, we first summarized our reasons for receiving the award. We then addressed each of the guidelines with detailed summaries relating to each expected accomplishment. We provided a summary of each technical meeting, along with a biography of the speaker. The application occupies eight pages, plus seven pages of photos illustrating Chapter activities.

We emphasized active involvement of our members in our community, to include continuing support of Student Chapters. We invited outstanding speakers from the community, as well as our own Members to share their engineering experiences at our monthly meetings. Not all meetings were technical. We heard from our IEEE client services manager and from our city councilwoman.

We provided in-person substantive support to SA BEST (a not-for-profit that sponsors annual robot competition). A Member taught 12 weeks of "Everyday Engineering" in the fall of 2021. Another received the IEEE Region 5 John Meredith Lifetime Achievement Award, while another worked with Cub Scouts at their summer camp.

Led by Dr. Ernest Franke, a sizable group of us assisted in the design and construction of a simulated cybersecurity operations center. We received a substantial grant from the Life Members Committee to fund this sophisticated audio–visual display. It is intended to be used by teenage citizens.

Most significantly, our Members prepared a successful application for the Region 5 Stepping Stone Award, to recognize the unique engineering achievements by employees of the now dissolved Datapoint Corporation. During the 1970s, these people designed and manufactured the first self-contained personal computer, located in San Antonio, Texas. The Stepping Stone plaque will reside at the newly commissioned San Antonio

Life Members at the Stepping Stone ceremony.

Garrett Polhamus 2021 LMAG chair and vice chair.

Museum of Science and Technology (SAMSAT), where one of the original Datapoint 2200 computers is on display.

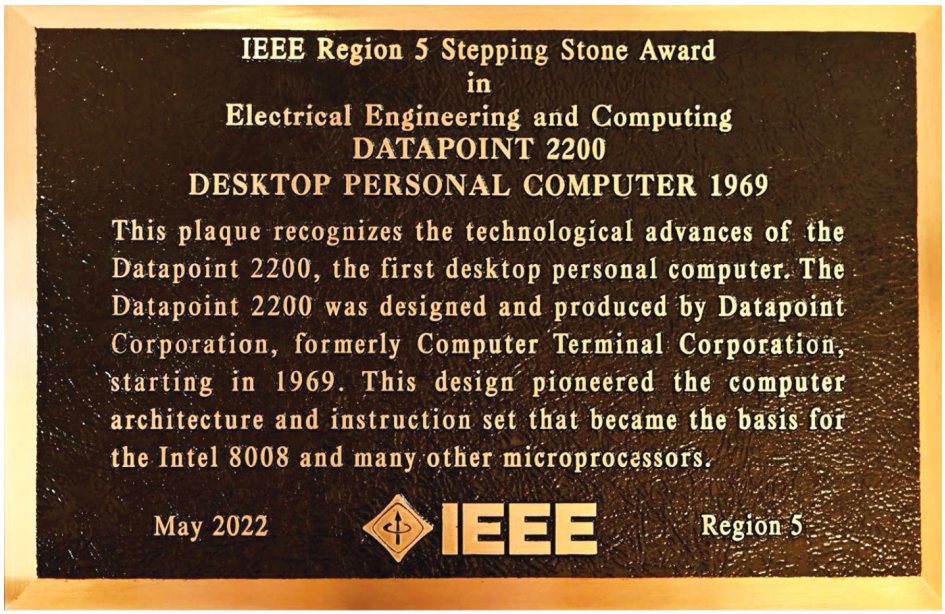
Several of our Life Members have served in significant leadership roles at IEEE and affiliated engineering societies, both local and national.

We sincerely thank Dr. Garrertt Polhamus, our chair in 2021 for his hands-on leadership of teams and individuals that year.

T. Scott Atkinson, Chair
Life Members Affinity Group
IEEE Lone Star Section

Datapoint 2200 Receives IEEE Region 5 Stepping Stone Award as the First Desktop Personal Computer

The award ceremony was held 28 May 2022 at the San Antonio Museum of Sciences and Technology. The Datapoint 2200 is recognized as the first desktop personal computer with its development starting in 1969. First deliveries started in 1970. The design pioneered the computer architecture and instruction set that became the Intel 8008, the first 8-bit microprocessor. This award was sponsored by IEEE Region 5, the Lone Star Section, the Lone Star Life Member Affinity Group, and the Young Professionals Affinity Group.



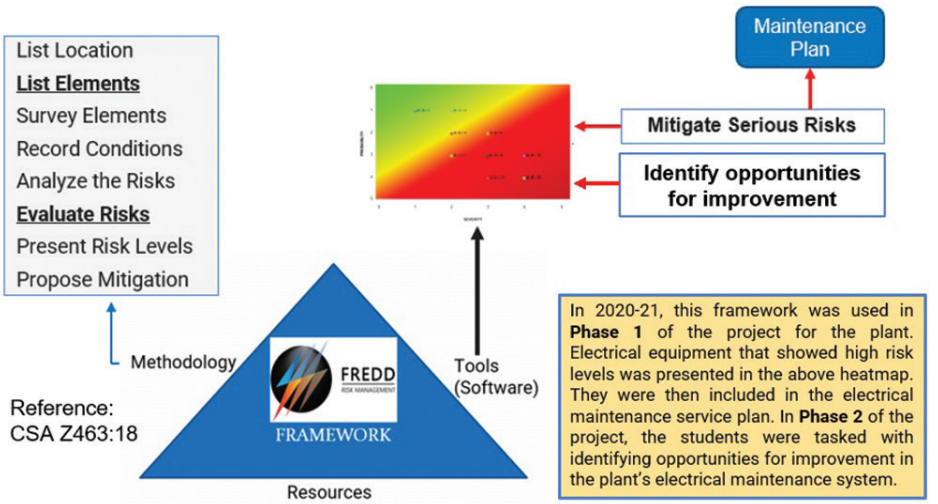
Region 7

Let's Talk About Risks

In this article, like in previous articles on "Let's Talk About Risks," I will briefly state some benefits of electrical risk management. In addition, I will share a risk assessment methodology that we used in Phase 1 of a project at an Eaton's manufacturing facility. In Phase 2 of the project, engineering students were introduced to electrical risk assessment. Plant management at Eaton engaged with the students in Phase 2 of the risk assessment project.

An effective methodology to perform risk assessment of electrical asset classes makes a workplace safer. It also saves time, money and enhances a company's due diligence. It helps companies to see opportunities for improvement in their manufacturing plants. It is important for engineering students and young professionals to understand the concepts of managing risks associated with tangible and intangible asset classes. They would be better equipped to mitigate risks in projects, designs, and installations.

The following is a basic example of an effective risk assessment methodology that we used in assessing risks associated with Eaton's manufacturing facility electrical assets and



identifying opportunities for improvement in Eaton's electrical maintenance system.

Many companies are reorganizing their mandates and procedures today, more than ever before to incorporate electrical risk assessment in their maintenance programs. In many electrical standards today, there is a requirement for risk assessment. CSA Z463, Maintenance of Electrical Systems standard, is one such standard.

I have been engaged with the University of Toronto first-year engineering students since 2015 in their Engineering Strategies and Practice (ESP) program. ESP is a foundational course, offered in first-year engineering at the University of Toronto that uses engineering design process as a context for developing skills in communication, problem solving, independent thinking, and team dynamics. The projects allow engineering students to have a valuable experience by engaging with professionals in industry on real-life engineering problems while still in the academic environment.

In 2022, my team of first-year engineering students was engaged with the management at the Eaton's manufacturing facility that PDR Technologies Inc. supported in a Phase 1 electrical risk assessment project in 2020 and 2021. The primary objective of the students' engagement was to assess risks and identify opportunities for improvement in Eaton's manufacturing plant electrical maintenance system in Phase 2 of the project.

The students were introduced to the CSA Z463 standard since the risk assessment methodology in the context of CSA Z463 was used in Eaton's Phase 1 project. The plant managers discussed their needs with the students and shared relevant information about their current electrical maintenance system and the students went to work. They used the PDR Technologies Inc. risk-management platform FREDD to prepare hazard scenarios and assess risks associated with elements in the plant's electrical maintenance system. Four critical elements in the electrical maintenance system were identified as opportunities for improvement, and the student team proposed a recommendation.

Terry Branch, P.Eng.
PDR Technologies, Inc.
terry.branch@pdrtech.ca

Region 8

Life Member Activities in Region 8: United Kingdom and Ireland Section LMAG

The United Kingdom and Ireland Section LMAG is actively pursuing IEEE Milestone Awards. Altogether, 18 Milestones have been awarded: this year three more were dedicated.

Active Shielding of Superconducting Magnets

On Friday, 17 June 2022, a plaque was unveiled by José Moura (2019 IEEE president) and Ralph Seidler (MD Siemens Magnet Technology) to commemorate the achievement in

Ralph Seidel, managing director at Siemens Magnet Technology, presents the history of active shielding at the Milestone Ceremony at Eynsham, Oxford.

1984–1989 of substantially reducing the stray magnetic fields of superconducting magnets to acceptable levels for clinical environments, such as in MRI investigations.

Pioneering Achievements in Computer Engineering

At Manchester University, two Milestones were unveiled on 21 June to commemorate the pioneering achievements in computer engineering of the university research team and the Ferranti Company over 60 years ago:

1) The Atlas Computer and the invention of Virtual Memory 1957–1962
2) The Manchester "Baby" Computer 1948–1951.

The IEEE History Committee has recently approved another Milestone, for the invention of the CT X-ray scanner, which will be dedicated in London later in 2022.

The U.K. and Ireland LMAG Committee meets regularly throughout the year and is currently working on proposals for a further three Milestone applications.

Region 10

Inaugural Meeting of the Australian Capital Territories LMAG Held at the National Arboretum

Three of the seven founding members of the Australian Capital Territories (ACT) IEEE Life Members Affinity Group (LMAG) met on 20 April 2022 at the cafe of the National Arboretum near Canberra, Australia. This was the first meeting of the newly formed LMAG. They discussed future events of interest to ACT Life Members including regular RENEW meetings being held at Australian National University in Canberra every week and an upcoming TENSYMP 2023 Conference.

The Manchester "Baby" Computer exhibit at the Museum of Science and Industry.

The view from the National Arboretum of Lake Burley Griffen and Parliamentary Triangle in Canberra.

Paul Smith, Terry Richards, and Dale Siver, founding members of the ACT LMAG.

Kolkata LMAG and IEEE IAS Sponsor Student Visit Neo Tele-Tronix in Kolkata, India

The Kolkata Life Members Affinity Group (LMAG) and IEEE Industrial Applications Society (IAS) sponsored a student visit to Neo Tele-Tronix, located in Rajpur, Kolkata, West Bengal, India. Twenty students from the Electrical Engineering Department of the Guru Nanak Institute of Technology (GNIT) and four graduate students from Jadaypur University attended along with members from LMAG, IAS, and Power Electronics Chapters of Kolkata.

Students gather at the meeting.

LMAG-Tokyo Activities 2022 (2Q)

LMAG-Tokyo Annual General Assembly

The 2022 LMAG-Tokyo General Assembly was held online via Zoom, from 2:10 to 2:40 p.m, on Thursday, 10 March 2022 with 26 participants. This year's officers introduced themselves, followed by Dr. Hajime Imai, who gave an address and proceeded with the meeting as chair. All the agenda items were discussed and approved.

A group photo of the demonstration of construction and operation of a medium-voltage circuit breaker.

LMAG-Tokyo Officer Meetings

We held two officer meetings for management from 3:00 to 4:00 p.m. on 10 March (face-to-face), and from 10:00 to 11:20 a.m. on 5 May via Zoom. All officers participated in the meetings and discussed details of our activity.

Lecture Meeting Cohosted by TPC and LMAG of the IEEE Tokyo Section

This lecture meeting was held on 10 March from 4:20 to 5:30 p.m. online. The talk was titled "Unpredictable Age: Big Data Reveals Way of Life, Company, and Happiness." The lecturer was Kazuo Yano, a recipient of the IEEE Frederik Philips Award in 2020. The number of participants was 46.

LMAG-Tokyo General Assembly From left: Dr. Imai, chair; Dr. Ohta, vice chair; and Dr. Hayashi, secretary.

Kazuo Yano delivers his remote talk.

Susan K. Land gives her lecture.

Cosponsored Lecture Meeting

LMAG-Tokyo cosponsored a lecture meeting (webinar) hosted by the IEEE Tokyo Section Educational Activities on 12 March from 10:00 to 11:30 a.m. with 35 participants. The talk was given by Susan K. (Kathy) Land, the president of IEEE in 2021.

Communication With Life Members and Activity Publication

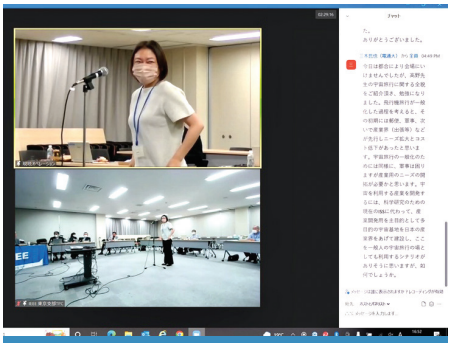
- Welcome messages to new Life Members in the Tokyo Section were sent by chairs of the Tokyo Section and LMAG-Tokyo on 17 January 2022.
- The *LMAG-Tokyo Newsletter* issue number 34 was published on 25 April.
- Messages to encourage applications for Senior Member (Life Senior) were sent out to Life Members of LMAG-Tokyo in January 2022, and one Member has been successfully elevated to Life Senior Member.
- LMAG-Tokyo submitted an article that was published in the April 2022 issue of the *IEEE Life Members Newsletter*.

R10 Activity

LMAG-Tokyo officers participated in an R10 LMAG meeting on 26 March 2022.

Tokyo Life Member Affinity Group Hosts Evening Salon Extended Meeting on Space Tourism

The Life Members Affinity Group of the IEEE Tokyo Section (LMAG-Tokyo) hosted an Evening Salon extended meeting (onsite and online event) titled "Space Tourism Is Now Going to Start: What Should We Do in Japan?" on 14 June. The event was also cohosted by the TPC of the IEEE Tokyo Section. The speaker was IEEE Life Fellow Tadashi Takano, the chair of the Board of the Society for the Space Travel of Japan. First, he introduced and shared the present status and issues of space tourism in the world. After a short break, participants enjoyed discussions on what to do in the future from a variety of viewpoints, such as reuse of manned spaceships, special clothes designed for passengers, communication systems required for space tourists, and so on. Altogether, 98 people (including 31 Life Members) participated in the event: 83 online and 15 on-site. LM



Online participants enjoying discussions with video and chat functions of the Zoom webinar.

Tadashi Takano giving the lecture.

IEEE Life Members Committee Awards

Regional and Global LMAG Achievement Awards

The IEEE Life Members Committee has announced their 2022 Global LMAG Achievement Award and the first-ever Regional LMAG Achievement Awards.

Global LMAG Achievement Award

The 2022 Global LMAG Achievement Award goes to the IEEE Lone Star LMAG. They were selected from six regional LMAG Achievement Award winners and are considered the best LMAG of the year. Their citation reads:

In recognition of outstanding service provided to its members and the local community in accordance with IEEE goals and objectives.

They win US$2,000 toward local activities plus a plaque and up to US$2,000 for travel to an event to receive the award.

Regional LMAG Achievement Awards

Candidates for regional LMAG Achievement Awards were submitted in six Regions in 2022. One award was given in each of the six Regions. These winners are considered the best LMAG in their Region this year. They win US$500 toward future activities and a plaque.

Region 1: North New Jersey LMAG, chair, Michael A. Miller

Region 3: Florida West Coast LMAG, chair, Richard E. Beatie

Region 5: Lone Star LMAG, chair, Scott Atkinson

Region 8: Germany LMAG, chair, Hagen Hultzsch

Region 9: Argentina LMAG, chair, Gustavo A. del Pino

Region 10: Delhi LMAG, chair, Dr. Harbans Lal Bajaj. LM

Meet Your 2022 Life Member Individual Service Award Winners

This is the first year that the Life Members Committee has awarded Regional Life Member Individual Service Awards and the Global Life Member Individual Service Award to those Life Members who have provided exceptional and valuable service to the Life Member organization.

Dr. G. Thomas Bellarmine, 2022 Global Life Member Individual Service Award Winner

Dr. Bellarmine is a IEEE Life Senior Member and Registered Professional Engineer. He holds B.S.E.E., M.S.E.E., and Ph.D. degrees in electrical engineering and an M.S. degree in computer science. He is Emeritus Professor of Electronic Engineering Technology at Florida A&M University. He is a past Region 3 Life Member Coordinator, past Tallahassee Section chair, and is currently Tallahassee LMAG Chair and Section Treasurer.

Lou Luceri, 2022 Regional Life Member Individual Service Award Winner for Region 1

Lou Luceri is a IEEE Life Senior Member. He had a 38-year career as a technical specialist in optical and electro-optical displays for aircraft and aerospace programs and worked as an Independent Consultant in display systems. Lou is the past director of Region 1, a Millennium Medalist, and a William W.

Middleton Award recipient. He is a past chair of the Life Members Committee and a past Life Member Region 1 coordinator.

Dr. John Harris, 2022 Regional Life Member Individual Service Award Winner for Region 7

Dr. Harris holds B.S., M.S., and Ph.D. degrees in electrical engineering. He was involved in development of landline telephone, telephone standards, and introducing credit cards to the payphone. He has been involved with London & Hamilton IEEE Sections of Canada in all officer positions and was the chair of the Canada Life Members Committee. He has been treasurer for several Canadian technical conferences.

Dr. Georgi Marko Dimirovski, 2022 Regional Life Member Individual Service Award Winner for Region 8

Dr. Dimirovski holds B.S., M.S., and Ph.D. degrees in electrical engineering. He is a retired research professor of automation and systems engineering at the Doctoral School FEIT, St. Cyril and St. Methodius University in Skopje, North Macedonia. During his career, he taught at universities in Turkey, Hungary, Austria, Belgium, and England. He has published numerous journal articles and conference papers. He served two terms on the executive council of the European Science Foundation. He is currently academician and vice-president of the International Academy for Systems and Cybernetic Science.

Gustavo Adrian del Pino, 2022 Regional Life Member Individual Service Award Winner for Region 9

Gustavo Adrian del Pino holds an M.S. degree in computer science, an M.B.A. degree, and postgraduate studies at Harvard Business School. He has been the national director of information technologies and national director of standardization and technical assistance of Argentina. He has over 20 years teaching experience at the School of Engineering of Universidad Austral and University of Buenos Aires along with other schools. He has represented Argentina at Regional IT meetings. He is currently the Argentina LMAG chair.

Dr. Harbans Lal Bajaj, 2022 Regional Life Member Individual Service Award Winner for Region 10

Dr. Bajaj holds B.S., M.S., and Ph.D. degrees in electrical engineering. He is a Life Fellow of the Institution of Engineers (IEI), IEEE (USA), IET (U.K.), All India Management Association, and fellow of the Indian National Academy of Engineering. He was chairperson of the Central Electricity Authority in India, where he was involved with developing hydro power and planning thermal, hydro, nuclear, and renewable power to make India self-sufficient in power. He has been very active in IEEE as chair of the Delhi Section, chair of the India Council, director of Region 10, and currently as chair of the Delhi LMAG. LM

News From the IEEE Foundation

Dr. David Dunning, of the Mathematical Institute, University of Oxford, has been awarded the 2022 Life Member History Fellowship.

The IEEE Life Member History Fellowship supports one year of full-time graduate work or one year of postdoctoral research for a scholar who has received his or her Ph.D. degree within the past four years in the history of IEEE's designated fields. These are defined per IEEE Bylaw I-104.11 as:

- Engineering, Computer Sciences and Information Technology, Physical Sciences, Biological and Medical Sciences, Mathematics, Technical Communications, Education, Management, and Law and Policy.

Dr. David Dunning, Mathematical Institute, Oxford University.

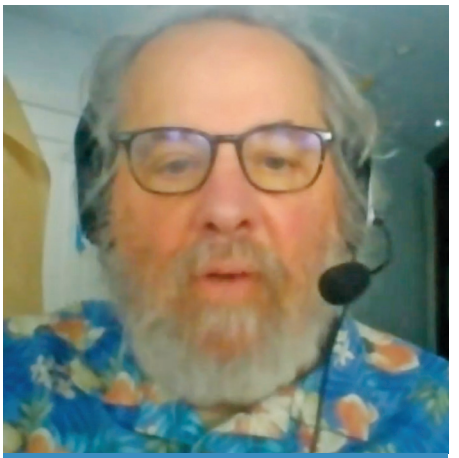
This work should be carried out at a college or university of recognized standing. The stipend is US$25,000, with a research budget of up to US$3,000. The IEEE Fellowship in the History of Electrical and Computing Technology is funded by the IEEE Life Members Committee and supports historical research in any area covered by an IEEE Society. IEEE has 39 separate Societies and seven technical Councils covering a broad range of electrical and computing engineering.

Please note that this Fellowship is intended for the history of technology; it is not intended for scholars studying current electrical engineering or computing. For those, there is an IEEE Life Members Graduate Study Fellowship in Electrical Engineering, which might be more appropriate. LM

Meet an IEEE Life Fellow and Help Collect IEEE Member History

The IEEE New Initiatives Committee (NIC) approved funding an effort for IEEE volunteers to interview IEEE Life Fellows to collect their histories for the IEEE History Committee. I was on the NIC when this was approved and signed up to be one of the interviewers for this effort. To date, I have conducted two of these interviews and found them to be very interesting. It also gave me a chance to find out more about the outstanding people I interviewed.

In late October 2021, I interviewed my long-time friend and colleague, Joseph Decuir. There were two interview sessions with Joe; you can see the entire first interview at https://ieeetv.ieee.org/speaker/joseph-decuir.



Joseph Decuir.

Joseph and I did a lot of work together in the IEEE Consumer Technology Society (CTSoc) over several years (including being on the Board of Governors together, and both of us have been distinguished lecturers for the CTSoc). I also knew Joe from various IEEE Region 6 activities and events.

Joe worked at Atari and helped develop some of the early commercial video game machines. While at Atari, Joe worked with Nolan Bushnell and met other active Silicon Valley engineers at the time, such as Steve Wozniak. He was nominated as an IEEE Fellow in 2015 for contributions to computer graphics and video games. Joe went on to make substantial technical and editorial contributions to wired and wireless communications engineering standards. You can find out more about Joe on his Wikipedia page: https://en.wikipedia.org/wiki/Joseph_C._Decuir.

The History Committee initiative wants to interview as many IEEE Life Fellows as possible, creating a record of their lives and accomplishments. If you want to participate, they can train you in how to conduct the interviews, provide a script to go through during the interview, and then review the results of the interview afterward. I highly recommend doing this—it is a great way to get to know someone who did some really interesting work and learn about how they got to where they are!

If you are interested in participating in these interviews, please contact Mary Ann Hellrigel at m.c.hellrigel@ieee.org to see how you can contribute to this worthy effort.

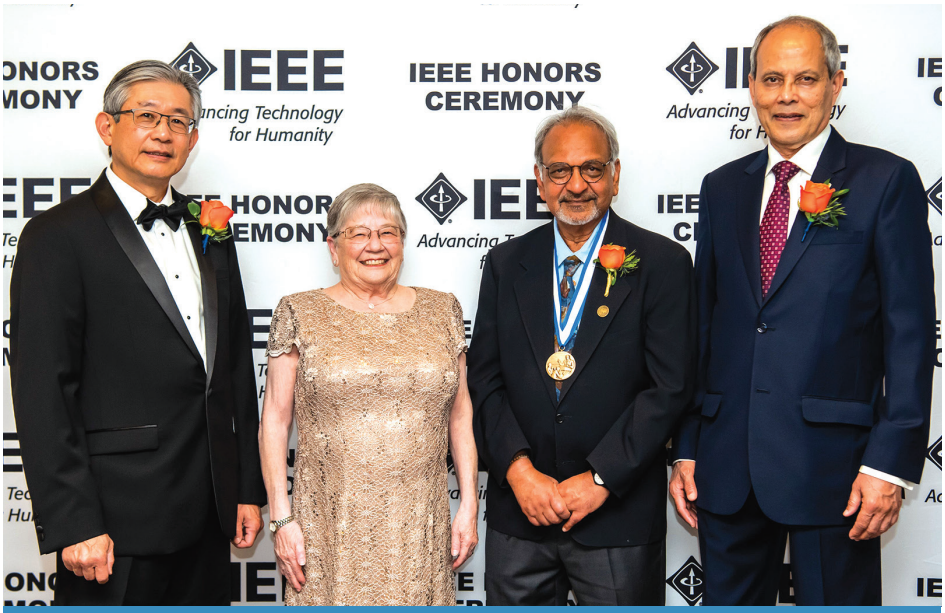
—Tom Coughlin, IEEE Life Fellow
https://tomcoughlin.com LM

IEEE James H. Mulligan Jr. Education Medal

The IEEE James H. Mulligan Jr. Education Medal (formerly the IEEE Education Medal) was established in 1956 by the American Institute of Electrical Engineers, and continued by the Board of Directors of IEEE. It is through this medal that IEEE recognizes the importance of the educator's contributions to the vitality, imagination, and leadership of the members of the engineering profession.

The IEEE James H. Mulligan Jr. Education Medal was for a career of outstanding contributions to education in the fields of interest of IEEE, sponsored by MathWorks, Pearson, Lockheed Martin, Corp., and the IEEE Life Members Fund, was given to Ned Mohan, Life Fellow of IEEE, Regents Professor and Oscar A. Schott Professor of Power Electronics and Systems, Department of Electrical and Computer Engineering, University of Minnesota, Saint Paul, Minnesota, USA, "for leadership in power engineering education by developing courses, textbooks, labs, and a faculty network." LM

Prof. Ned Mohan, 2022 IEEE Mulligan Education Medal winner.



From left: 2022 IEEE President Ray Liu, Maxine Cohen, Prof. Ned Mohan, and 2022 President-Elect Saifur Rahman.

The IEEE Life Members Graduate Study Fellowship in Electrical and Computer Engineering

The IEEE Life Members Graduate Study Fellowship in Electrical and Computer Engineering was established by the IEEE Board of Directors in February 2000. The fellowship is administered by the IEEE Educational Activities Board and is financed by the IEEE Life Members Fund of the IEEE Foundation.

Eligibility: The fellowship is awarded annually to a first year, full-time graduate student for work in the area of electrical and computer engineering at an engineering school/program of recognized standing worldwide. In the event the college is conducting a combined B.S. and M.S. degree program, the student in the penultimate year would be eligible for the award which would apply in the final year of the program.

Prize: The award carries a stipend of US$10,000 per year.

Details of the application procedures can be found on the Life Members website. Applications for the 2023-2024 Award must be submitted by 8 May 2023.

LM

Eighth Annual Rising Stars Conference: Creating a Critical Value Bridge

Do you remember when you graduated from college, started a new job, got your first promotion, or met your company's president? When did you attend your first IEEE conference or the IEEE president or Region director?

Now move forward in time. Life Members (LMs) can provide support to our young professionals and university students to accomplish what many of us never experience. In addition to sponsoring the poster competition, the support of LMs provides attendees the opportunity to meet corporate leaders and thought leaders, as well as the opportunity to exchange ideas with senior IEEE leaders and industry influencers. This is all under the guise of the IEEE Rising Stars Conference.

On 2–4 January 2022, in Las Vegas, Nevada, United States, and around the world, IEEE hosted the Eighth Annual Rising Stars Conference. There were almost 300 young professionals and student members who registered for the conference, either face-to-face in Las Vegas or through the virtual platform. For most attendees, Rising Stars is their first IEEE major event experience. The conference had over 50 industry leaders as featured speakers for the event.

Imagine…in addition to the sponsors and exhibitors, all attendees could share ideas, explore possibilities, and get a glimpse into the future of technologies with at least 11 presidents, CEOs, and COOs; two vice presidents; five corporate engineering directors; six corporate founders; 12 senior managers; an evangelist…and one chief penguin!

The conference organizers, sponsors, and supporters all believe that young professionals and students need to create opportunities to address their collective need to network with representatives of leading companies to gain direct access to professionals within their fields of interest. The Rising Stars Conference accomplished this through recruiting companies and key executives to present at a variety of workshops, sessions, panels, and corporate and professional mixers.

LMs provided four remarkable speakers to the conference program. Vint Cerf, John Treichler, John McDonald, and Michael Andrews all hosted sessions with topics that focused on linking emerging technology, personal networking, and professional growth, to a personal strategy for success.

In addition to the LMs, there were many IEEE Societies, and operating units. The corporations represented included such diverse companies as AWS, IBM, Qualcomm, Keysight Technologies, Analog Devices, Boeing, Google, Redwire Space, Raytheon, Los Alamos

Get involved with the Rising Stars Conference!

National Labs, Bentley Systems, John Deere, L3-Harris, Locomation, and many others.

At the conference, attendees participated in the selection of technical track sessions, which had industry experts representing emerging technologies, or the professional development track, where they learned vital skills for thriving in a corporate setting.

The conference closed with "The Next Big Thing" panel. Panel members were asked to gaze into their crystal balls and make predictions of what to expect, in their industry or market sector, in the next three to five years. Importantly, the skills that will be needed by young professionals to succeed in their chosen industry.

Our next Rising Stars Conference is 3–5 January 2023. What can you do to make an impact on its success? LM

IEEE Life Members Committee Regional Student Funding Supports Student Competitions at SoutheastCon 2022

SoutheastCon is the annual IEEE Region 3 technical, professional, and student conference. It was held this year from 31 March–3 April in Mobile, Alabama, United States, at the Arthur R. Outlaw Convention Center. SoutheastCon brings together computer scientists, electrical, and computer engineering professionals, faculty and students to share the latest information through technical sessions, tutorials, and exhibits. It is the most influential conference in Region 3 for promoting awareness of the technical contributions made by our profession to the advancement of engineering science and to the community.

The student program competitions included hardware, software, outreach, interview, resume, networking, ethics, and presentations. The hardware competition had 40 teams registered and the theme of the

Students preparing robots for competition.

The robotic hardware competition.

Student competition winners at SoutheastCon 2022.

competition was based on Mardi Gras. It required schools to build robots that navigated a track that had randomly placed obstacles and Mardi Gras beads which had to be retrieved at the start of the course. The track had fishnets into which the beads were thrown by the robot to score points. The robots also showed each team's school pride, playing a fight song or displaying their mascot.

The winners for this year's student hardware competition were:

- First place: UNC Charlotte
- Second place: UNC Asheville
- Third place: the University of Florida. LM

Meet Your Region 6 Coordinator, Mike Andrews

Mike Andrews is managing partner of Andrews & Associates (https://andrews-associates.com), a consulting firm specializing in new product creation, business leadership and management development, operations and logistics, and emergency planning for business, schools, and government entities.

Mike is also a founding partner of the Inception Advisory Group (https://inceptionadvisorygroup.com), a consulting firm that provides design, development, construction, operations, strategic planning, and financing solutions to entities in the cannabis industry.

He is a Senior Life Member of IEEE and is currently serving IEEE Members as the past director (director 2013–2014), AdCom member for the Technology and Engineering Management Society (TEMS) and past vice president of membership, marketing, and communications; IEEE Awards Board Presentation and Publicity Committee chair; IEEE Vision, Innovation and Challenges Summit

(VICS) chair; IEEE Life Members Committee and Region 6 Life Members Affinity Group Coordinator; EPICS Committee; Executive Producer and Champion of the IEEE Rising Stars Conference, and member of the Phoenix Section Executive Committee in multiple roles.

Mike's commitment to the community includes serving as president of the Smart Education Foundation, host to the SMART Competition; the Arizona Region Coordinator for the Future City Competition; the Salvation Army Advisory Board past chair and current member, commissioner on the city of Phoenix Youth and Education Commission; member of the Grand Canyon University Engineering Advisory Board; and member of the Williams Institute for Ethics and Management Board of Directors.

Mike was awarded the Salvation Army Sally Award for outstanding volunteerism, the Hon Kachina Award (Excellence in Volunteerism, State of Arizona), and the American Institute of Architects (AIA)–Arizona Award of Distinction. He has also received the IEEE Millennium Medal for outstanding achievements and contributions to IEEE, the IEEE-USA George F. McClure Citation of Honor Award, and the IEEE-USA Robert S. Walleigh Award for Distinguished Contributions to Engineering Professionalism. LM

Girls Make Tech With Heart

The clouds cleared right on time in Thousand Oaks, California on 9 October 2021, as 114 middle school-age girls and 50 parents arrived for the IEEE Buenaventura Girls Make Tech With Heart Workshops and parents conference, an initiative sponsored by the IEEE Foundation and taking place at the La Reina High School and Middle School. The planning had been done over several months through multiple virtual WebEx sessions. This was the first time in more than 18 months that the 35 volunteers, IEEE officers of the nine Buenaventura IEEE Chapters, and local educators reunited face-to-face to create for the girls and their parents an extraordinary experience.

"Our event attracted families from 29 different middle schools in Ventura County. All the girls were between the ages of 10 and 13," explains Deron Johnson, IEEE Senior Member and the project manager of the event. The theme of the event was "sustainability engineering," a topic echoing the IEEE Foundation focus of 2020. Gathered in the gym, the girls chose from a menu of exciting workshops: To name a few, Sun-Loving Robot, which uses recycled cans or bottles to create solar-powered vehicles; Smart House, an application of Snap Electronics to teach the concepts of sensors, illumination, and power usage; The Helping Hand, the build of a robotic arm and its control unit; Rainbow Chemistry, an introduction to chemical interactions, their side effects, and how to measure them; Much More Than Numbers, the discovery of the way numbers reveal themselves and the equilibrium of nature; and Talking to the World, a

The Sun-Loving Robot Workshop used recycled CDs, cans, or bottles to create solar-powered vehicles.

ham radio and radio wave introduction powered by solar energy. With no more than six students per mentor, each girl was able to get plenty of attention and guidance.

"I really enjoyed speaking to parents about the rich set of resources from IEEE's Try Engineering portal to engage and inspire their daughters to become the engineers of tomorrow," shares Dr. S.K. Ramesh, IEEE Fellow. The dual track offered by the event enabled promoting similar messages about the profession of engineering for women and to talk about sustainable engineering as a mission-driven application of the profession. Parents engaged in hands-on workshops and in conversations about knowledge acquisition: Doug Askegard, IEEE Senior Life Member reported "parents were intrigued learning how Executive Functions in the student brain aid in, or delay, the learning process," and Nathalie Gosset, IEEE Senior Member and organizer of the parents' program, shared some of the latest research information about brain development in young teens. IEEE's mission and the power of engineering to make a difference for humanity has never been more relevant. It was a day to fuel the mind with the belief that these 114 girls will "Engineer the Future" and lead the way to create a diverse, equitable, inclusive, and sustainable world for all.

For more information, see a recording of Dr. Ramesh's talk, and a video montage of photos of the event.

LM

Remembering David Ellis Hepburn and Don Drumtra

With great sadness, we remember two outstanding volunteers for their work of behalf of the global Life Members community.

David Ellis Hepburn

Senior Life Member IEEE, Fellow and Life Member IEE (U.K.) David Ellis Hepburn passed away 25 March 2022 from natural causes at his home in Niagara-on-the-Lake.

David was born 14 December 1930 in Cardiff, Wales, and spent his formative years at the side of his grandfather and pal, Arthur Ellis, learning what was to become his lifelong career—the field of electrical engineering. He graduated from the University of Stafford in 1952 and was completing an internship with English Electric in Stafford, England, when he met his partner in life, Diana Wendy MacKay. David and Diana were married in January 1957. They eventually settled in Montreal, where David worked for Hydro Quebec as a systems design engineer.

In 1965, David joined the H.G. Acres Consulting firm office in Montreal and was part of the design and construction team for the Churchill Falls Hydro Plant in Labrador. He spent his career developing electric power projects all over the world including Pakistan, Nepal, Sudan, Laos, Indonesia, and India. He was accompanied by his wife and two daughters during many of these projects.

David "retired" in 1994 but continued to consult with agencies such as the World Bank and Canadian International Development Agency. He worked on small hydro projects in Honduras and Guatemala.

David was an IEEE volunteer in retirement. He became an IEEE Life Member in 1995 and was a member of the Hamilton Section IEEE Life Members Affinity Group (LMAG). He was elevated to Life Senior Member in 2007.

He was on the Life Member team with Ron Potts that received an IEEE Milestone in 2004 for the "Decew Falls Generating Plant"; see https://ewh.ieee.org/reg/7/canrev/cr47/page13.pdf. He actively sought high school science teachers to promote STEM. He arranged for IEEE Central Canada to have a booth at the Science Teachers Association of Ontario convention and distributed lesson plans and promoted the Try-Engineering website. In 2017, he received the first IEEE Canada "Make A Difference" award with a citation that read, "For exceptional contributions to the IEEE Teacher In Service Program, TISP."

Dave Hepburn's full obituary can be read at https://www.morganfuneral.com/memorials/david-hepburn/4887814/index.php.

Don Drumtra

Don Drumtra was a past IEEE Region 5 Central Texas Section (CTS) treasurer (2012–2016), past CTS Power Engineering Joint Chapter chair, and held other leadership positions in the Section.

Don was born 1 June 1940 in Evanston, Illinois to Donald and Eve Drumtra. He was the oldest of three children. In 1958, he graduated from Arlington Heights High School, having made several friendships that lasted a lifetime, and was keenly interested in short-wave radio. After a five-year internship program with Bell Telephone Company, he graduated in 1963 from Northwestern University with a bachelor's degree in electrical engineering.

Soon after he graduated, Don enlisted in the United States Air Force in radio and communications. He was part of the Air Force Communications Command and honorably served our country both domestically and overseas. Through his service, he received numerous awards including the Air Force Commendation Medal and the Vietnam Gallantry Cross With Palm. He continued an active career in the civil service, retiring in 1999 as the director of the DISA Megacenter at Warner Robins Air Force Base, Georgia.

Don had a love for music and joined church choirs at every opportunity, and frequently attended opera and Masterworks Chorales. Later, he acquired a passion for classical organs, and oversaw the renovation of the pipe organ in the methodist church in Bonaire, Georgia. Upon retiring, Don and his wife Patty moved to Austin where he earned a third master's degree, an M.S. in information studies from the University of Texas (UT), in 2009. He and Patty attended numerous music concerts, enjoyed classical organ in the many fine churches of Austin, and especially enjoyed performances by the UT students. Don was an active member of IEEE, MENSA, the American Library Association, and many other organizations. He held leadership positions with several of them and committed his time and experience to advance their work.

Don had a zest for life, a curious mind, a sense of duty to our country, and a deep love for his family. He believed in the power of education and enjoyed learning throughout his life. He was a railroad enthusiast and made several trips throughout the world by train.

After a memorial service in Austin on 13 June 2022, his children took his ashes for the final train ride from Austin to Chicago so that he can rest in his birthplace. A few IEEE CTS friends waved him goodbye at the Austin Amtrak train station on 14 June 14 2022 in the late afternoon. LM

Working With the TRADEX Radar on Kwajalein Atoll in the Pacific Ocean

Editor's Note: The IEEE Life Members Committee welcomes contributions from Life Members (LMs) to the popular feature "Tales From the Vault" with hope that LMs across the globe will continue to send in stories of their career experiences. In the future, the new website will be used as the permanent repository for the articles submitted, from which a few will be selected for publication in the newsletter.

In the early 1960s, I spent two years on Kwajalein Atoll in the Pacific Ocean working with the TRADEX radar for the Massachusetts Institute of Technology's Lincoln Laboratory. Our task was to measure the observable characteristics of components of intercontinental ballistic missiles (ICBMs), that were launched from Vandenberg Air Force Base in California, as they reentered the atmosphere near Kwajalein.

Our objective was to develop techniques for differentiating between reentry vehicles (RVs) that could contain a warhead and other objects including decoys that were made to resemble warheads. This supported development of both missile defense systems and offensive missile payloads. This "discrimination" problem is one that plagues missile-defense systems to this day. We made substantial progress, and encountered many humorous problems along the way, some of which I will describe here.

An early problem was to calibrate the radar sensitivity so that we could accurately measure the radar cross section (RCS) of objects we observed. The plan was to measure the returned signal power and range of a 6-inch sphere, whose RCS is easily calculated and is independent of viewing angle. TRADEX is located on Roi-Namur Island at the North end of the atoll, and the sphere was lofted by a balloon, launched from Kwajalein Island at the Southern end, some 40 mi away.

The problem was that the received signal fluctuated periodically by several decibels (dB), too much to provide the calibration accuracy we wanted. What was wrong? The sphere had a small ridge where it was assembled, but that should have no effect at the radar frequency we were using. Nevertheless, we had a sphere carefully brazed and smoothed, and we ran the test again. We achieved the same result. Maybe the sphere swinging below the balloon was the cause. It was decided to put the sphere *inside* the balloon to eliminate the swinging. Getting the 6-in sphere through the 3-in mouth of the balloon wasn't easy. I recall watching a half dozen senior scientists trying to do this—they finally succeeded. But the test yielded the same fluctuating result.

It was finally realized that the antenna sidelobe signal was reflecting off the smooth lagoon, alternately adding to and subtracting from the direct radar signal at the sphere as its altitude changed; the well-known mulltipath effect. The solution: wait for the sphere to reach a higher altitude, so that the relevant sidelobes were further from the main beam, and therefore lower.

The TRADEX radar has a large (84-ft) dish antenna. It acquires targets by mechanically scanning a small region where the target is expected to be. In missile tests, this acquisition location was teletyped to us from Vandenberg after the missile launch. Usually this worked fine. The target was acquired prior to reentry and tracked to impact in the ocean 20 mi or so short of the radar.

On one test, however, the target under track suddenly disappeared from the displays. Simultaneously, the antenna elevation-drive motor shut down. What had happened? We analyzed the tracking data and found that, rather than impacting 20 mi short of the radar, the target had overflown the radar at an altitude of 10 mi or so and impacted well behind the radar. This resulted in very-high angle rates and the safety system shut down the antenna drive, and so the target immediately left the beam. It was only the next day that someone reviewing the acquisition message form Vandenberg saw the notation following the data: "HEADS UP!"

On another occasion, we were tasked with tracking a small sounding rocket launched from Roi-Namur, a few miles from the radar. The range was too close to track the missile from the launch pad, so an acquisition point was calculated along the missile trajectory. However, when we set the radar to scan around this acquisition point, the radar background noise level increased periodically by tens of dB, in synchronism with the scan. What was this? We thought it might be a problem with the radio-frequency

rotary joint, but when we looked at other angles, all was fine.

There was no time to calculate another acquisition point, so we decided to send an operator to a small telescope mount to which the radar pointing angles could be slaved. He could follow the target from the calculated acquisition point, and the radar could acquire the target later in its trajectory. But the operator immediately reported that this wouldn't work: the acquisition coordinates we gave him looked directly into the sun! So, it was the thermal noise from the sun that caused the radar noise fluctuations, a well-known phenomenon, but one rarely encountered or expected.

While on Kwajelien, I had the experience of observing the first-ever intercept of an ICBM. This was performed by the Nike Zeus system being developed by Bell Laboratories and located on Kwajalein Island. Since the island is only a couple miles long, we were directed to remain inside our quarters to avoid falling objects in case the interceptor had to be destroyed. But when the security people enforcing this order themselves took cover, we came out to watch the show.

The first thing we saw was the missile tank breaking up as it reentered the atmosphere with the burning pieces creating a firework-like display. (The tank is backed away from the RV and so flies a lower trajectory, arriving first.) Then we saw the RV, heated to a dull red as it reentered the atmosphere. Then the explosive sound of the interceptor launch. It staged and maneuvered toward the RV. As it passed the RV, a small explosive squib could be seen. This marked where the interceptor warhead, intended to be a nuclear weapon, would have been detonated. Quite a show! The intercept was declared a success, but the system was never deployed, presumably due to both technical and political issues.

I had an opportunity to visit Kwajalein in 2004. Much remained the same. In TRADEX, the antenna and transmitters were little changed. The displays were upgraded with flat screens. But the receiver and signal processing, which had occupied a basketball-court-sized room of racks with transistor circuit boards, was replaced by a single rack, about half full of digital processing equipment.

For me, the tour on Kwajalein was a career changer—from circuit design to radar systems and ballistic missile defense. Beyond that are the close friendships formed there, many of which remain to this day.

G. Richard (Dick) Curry, LSM
Santa Barbara, California

LM

2022 Region Coordinators and Useful LMC Contacts

The 2022 Region coordinators are as follows:

- R1—Daniel Sniezek
- R2—Marc Apter
- R3—Claude Pitts
- R4—Larry Kotewa
- R5—Kai Wong
- R6—Mike Andrews
- R7—Terry Branch
- R8—Peter Magyar
- R9—Gustavo N. Chavez
- R10—Rajendra Asthana

Life Members Committee Department Contacts

- IEEE Foundation—Howard Michel
- Finance—John Impagliazzo
- Branding and Communication—Ralph Wyndrum/John Day (staff)
- Ad Hoc Projects and WISE—Mike Andrews
- Recognition and Awards—Rajendra Asthana/Tariq Durrani
- Newsletter—Charles Turner
- LMAG Activities—David Bondurant
- Life Member Senior Upgrades—Marc Apter
- History Activities—Maxine Cohen

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Publication of *IEEE Life Members Newsletter*

IEEE Life Members Newsletter will be published electronically in April and August, and in a print version in December. Along with past issues the current issue will also be posted on the MGA website.

Our Mailing List

IEEE Life Members Newsletter is distributed to Life Members and those who are not Life Members but are 1) IEEE Members 65 years and older, 2) retired IEEE Members aged 62–64, 3) members of special boards and committees and 4) all IEEE Section Chairs.

Submitting Articles

We welcome articles for this newsletter. In particular, we seek articles about projects that are initi ated at the Section and Region level by Life Members as well as "Tales From the Vault," which should focus on novel or interesting technical issues. The suggested length for "Tales From the Vault" submissions is 500 words.

Acronyms should be completely identified once. Reference dates (years) also should be included. Any images that are submitted along with articles must include captions and be high resolution (at least 300 dpi) to be considered for publication. Editing, including for length, may occur. If you wish to discuss a story idea, please contact lm-newsletter@ieee.org. The deadline to submit an article for possible inclusion in the next issue is 1 October 2022. Please include your Life grade, city, state, country, phone number, Member number, and an email address with your article.

Stopping IEEE Services

Life Members who no longer wish to receive mailings or publications should contact the IEEE Contact Center. If you are doing so on behalf of another Life Member, please submit the Member's name, number, grade, address, change date, and your connection (e.g., Section chair) to the Contact Center.

Qualifying for Life Member Status

To qualify as a Life Member, an IEEE Member must be at least 65 years old, and the sum of the member's age and the number of years of paid membership effective the following January must equal or exceed 100 years.

Have Questions, Ideas, or Concerns?

Have questions regarding your Life Member status? Reach out to the IEEE Contact Center for assistance. Have something else you need to ask or discuss? Email the Life Members Committee or its staff at life-members@ieee.org.

IEEE Contact Center

IEEE Contact Center employees are ready to assist you 24/5, from Sunday 4:30 p.m. ET to Friday 4:30 p.m. ET

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