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Three Labs Scientists Win Top Honors

Triple honors were recently bestowed on three scientists at COMSAT Labs by the Institute of Electrical and Electronics Engineers (IEEE). Dr. S.J. Campanella, Dr. C.E. Mahle and Dr. H.C. Huang were all recognized for their work by the international professional association. The organization annually recognizes advances and groundbreaking work by its members.

"It is a profound distinction to have three of our technical experts recognized in a single year by a professional organization such as IEEE," said Labs Director Dr. John Evans. "All of us at COMSAT can be proud to have these individuals with us."

Dr. Campanella was named recipient of the 1990 IEEE Award for International Communication "for the enhancement of international satellite communications through his contributions to signal processing, echo control and multiple access systems." He will receive a plaque and a certificate, along with a prize of \$2000.

Since joining the Labs in 1967, Dr. Campanella has been actively involved in many aspects of communications technology at COMSAT, both as an engineer and as a manager. He is currently the Labs' Chief Scientist.

Dr. Christopher E. Mahle was elevated to the rank of Fellow in IEEE. The promotion was made based on his significant contributions to satellite communications, including improved traveling wave tube technology and inorbit testing of spacecraft payloads. Dr. Mahle joined the Labs in 1968 and held several positions before becoming Ex-



Dr. S.J. CampanellaCade



Dr. C. E. Mahle



Dr. H.C. Huang

ecutive Director of the Labs' Satellite Technologies Division.

Dr. Mahle's work led to the development of a new, significantly more accurate way of modeling distortion from traveling wave tubes, which have been used as transmitters in every satellite since Early Bird. First used to optimize the performance of Intelsat IV, the technology has allowed engineers to squeeze additional phone channels out of satellites.

Dr. H.C. Huang was also raised to the level of Fellow in IEEE. His innovative work in space qualified semiconductor applications to power amplifiers for satellites was cited as the basis for his nomination. His work led directly to the first solid state power amplifier flown on board an orbiting satellite, a significant breakthrough for the industry.

Dr. Huang came to the Labs from RCA in 1983, and has been the Executive Director of the Microelectronics Division since 1984.

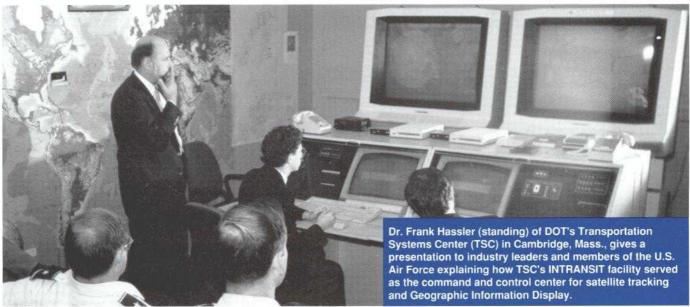
'Quite A Distinction'

"This type of recognition enhances the image of the Labs," said Dr. Evans. "To get three awards is quite a distinction, particularly when you consider that we only have about 200 professional staff."

"Having two people elevated to fellow, and then to have Dr. Campanella recognized is quite a feather in our cap," he adds.

Evans said that the Labs has recently gone through a tough period.

"We had downsized a bit. But the remarkable thing is that we got through the difficult times without losing people, and our scientists continue to excel."



Satellites Communicate With Plane in 'Round the World Flight

The first global two-way satellite communications test aboard an aircraft was successfully completed last month. Conducted by the U.S. Department of Transportation and the U.S. Air Force, the test demonstrated Inmarsat's capability to provide continuous, two-way digital communications to and from an aircraft. It also demonstrated aircraft interconnectivity with other satellite constellations that provides real-time, quantitative aircraft position reports for automatic dependent surveillance.

"The results of the test are encouraging," said Ron Mario, vice president and general manager of COMSAT Mobile Communications. "They exemplify the improvements in safety and operating efficiency that can be realized using satellite technology."

There is a demand for this technology in the marketplace today," Mario added. "This test proves how effective the air transportation system will be in the very near future as this equipment is installed on commercial aircraft."

First Test a Cooperative Effort

The test, which took place onboard a KC-135 aircraft flying around the world, was a cooperative effort of a number of equipment providers, government agencies and communications

firms. They provided for the forwarding of messages and real-time quantitative aircraft position data reports between the aircraft, DOT's Transportation Systems Center (TSC) in Cambridge, Mass., and two Air Force Research and Special Programs Administration bases.

For communications with the Inmarsat system, the plane was equipped with a low-gain antenna manufactured by Ball Aerospace with avionics from E-Systems. Also, the plane carried a Railstar satellite data transceiver to interface with the Geostar satellite system used when the plane was flying over the U.S. and adjacent areas. Position data was derived from the plane's inertial navigation system and LORAN. A lap-top computer was used aboard the plane to transmit messages.

This created a seamless link between satellite constellations.

Data Goes Through COMSAT Earth Stations

Data was transmitted to and from the aircraft through COMSAT's earth stations in Southbury, Conn. and Santa Paula, Calif. The data went over commercial land lines to and from the TSC through Aeronautical Radio, Inc's communications network.

Norway's Eik ground station received the data from the aircraft in the Indian Ocean region, transmitting it to the TSC directly through commercial land lines and low-data-rate telex interfaces.

The U.S. Air Force Alaskan Air Command and Control Tracking Center at Elmendorf AFB also made major contributions to this effort. Position data was forwarded to Elmendorf from the TSC over separate secure lines established between Digital Equipment Computers at both centers.

A Glimpse of the Future

"This test proved that communications and position information from an aircraft can be relayed from any point in flight to a single ground location," Mario said. "The equipment and ground station facilities used for this test are either commercially available today, or in their commercial development stages."

All the equipment used is expected to be available for use by commercial airlines and private aircraft by mid-1990. At that time, the COMSAT Inmarsat and other signatories will have begun data communications through the Inmarsat system. Voice services will follow in late 1990.

Second Front Page

1989 Chairman's Award "It Was All Bob Hunter's Idea"

"It was the most important non-business event affecting COMSAT's reputation in the community in the last five years. Maybe even in the history of the

company," says COMSAT's Vice President of Corporate Affairs Richard L. McGraw. "And it was all Bob Hunter's idea."

For his idea — to have COMSAT help neighboring Jefferson Junior High School become "A School of Distinction" — Corporate Communications Director Robert W. Hunter has been awarded the 1989 Chairman's Award.

Laying The Groundwork

The five-year, \$1.1 million alliance was announced in September, but Hunter had begun to lay the groundwork a year before.

"We wanted to concentrate our corporate philanthropy efforts where the community could benefit most," Hunter explains.

To determine how to do this, Hunter retained the Boston College Center for Corporate Community Relations to conduct a study for COMSAT. The group engaged in extensive interviews with leaders from the Washington business and professional sectors, government agencies, and the community at-large.

The overwhelming response: Lend a hand in education, particularly in math and science.

"This seemed like a ready-made opportunity for us, because who better than the people at COMSAT to teach kids about math and science?" Hunter says

Hunter then presented COMSAT's proposal to the D.C. School Department. The administration, led by Dr.



Robert W. Hunter

Andrew Jenkins, enthusiastically gave their approval, and the District's first "School of Distinction" was on the way to becoming a reality.

The Community Responds

"The responses I have received from the community about the Jefferson Alliance have been phenomenal," says COMSAT Chairman Irving Goldstein. "We had hoped to have some favorable news stories about the project so that other companies would follow our lead, but I never expected anything like this."

Not only were large stories written in both major Washington daily papers, but television and radio news reports described the project as well.

"There was even a complimentary editorial about the COMSAT-Jefferson Alliance in <u>The Washington Post</u>," says McGraw. "That's the first time I've ever seen that since I've been with the

company."

Maintaining the Momentum

Since the excitement of the an-

nouncement has died down, Hunter has begun to construct and fine tune the machinery of COMSAT's commitment to Jefferson. To give COMSAT employees an idea of what their peers are doing to lend a hand in their own neighborhoods, he started the publication Community.

"I want Community to show people what needs to be done at Jefferson—and in Washington— and to let them know that every single COMSAT employee can really contribute to making this work," Hunter says. "So far, the response has been great."

The day-to-day mangement of the project falls under Hunter's jursidiction as well. Along with consultant Dan Crampton, he keeps in constant touch with the school's dynamic principal, Vera White. Then, he tries to match the diverse talents and capabilities of COMSAT and its employees with the needs of the students.

"It's gratifying to be able to help these kids, many of whom come from families on public assistance," Hunter says. "What I'm really looking forward to though, is to see what this project will look like in two or three years."

By then, it will have really taken off. Other companies will have followed our example all over the city, and the kids will be getting the help, and education, they need," he adds. "That will be the real payoff."

CVE Broadcast of Leonard-Duran Fight Draws Big Crowds

COMSAT Video Enterprise's broadcast of the Leonard-Duran championship fight, its first closed-circuit special event, was a success, according to CVE's vice president of marketing and sales, Frank Famariss.

"We beamed the fight to several Holiday Inns, mostly out West," Famariss explained. "The hotels were filled to capacity by the opening bell, and most locations turned people away."

"More than 100 fight fans were turned away from one location," he added.

Shortly before the event, CVE was given the opportunity to carry the highly-promoted fight to seven hotels

in areas where pay-per-view or closed circuit viewing was not otherwise available. This was the first event to be distributed outside a hotel's guest rooms, and into a lounge, bar or meeting place.

Of the seven sites all but one exceeded capacity, and that was due to inclement weather. The hotels indicated that in remote areas some fans drove up to 100 miles to see the fight.

At the Holiday Inn in Douglas, Wyo., hotel general manager Sven George termed the evening a "great success."

"We charged \$7.50 at the door, but we could have charged twice that," said George. "We got full and had to turn people away, but still tripled our bar revenue for the night."

"We're eager to participate in the next event," he added.

Fight Seen on HDTV at the Plaza

More than 250 Washington, D.C. fight fans got to see the fight live on high-definition television in COMSAT's Early Bird Room. Those in the crowd included members of Congress, government officials, and people from the satellite and entertainment industry, along with the merely curious.

"I just wanted to see what HDTV looks like," said one guest. "It is pretty impressive."

It's "Put Up or Shut Up"

CVE Announces it Will Broadcast More Championship Boxing

COMSAT Video Enterprises will broadcast the long-awaited championship bout between Hector "Macho" Camacho and Vinny "The Pazmanian Devil" Pazienza on February 3, CVE President and CEO Bob Wussler has announced. The broadcast follows CVE's successful transmission of last month's Leonard-Duran championship showdown.

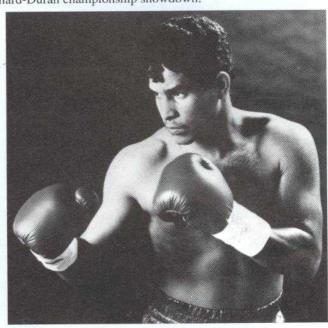
CVE will be the only company distributing the fight to hotel bars, lounges and meeting rooms on a closed circuit and pay-per-view basis. Negotiations for COMSAT's satellite delivery of the match began soon after the company's acquisition of a 62.5 percent share of the Denver Nuggets in October.

The Satellite Advantage

"By broadcasting this and other sports events, we're looking to expand our programming and use our satellite delivery—our strongest advantage over our competitors—to its fullest extent," said Wussler. "Adding sports events is another means of offering the traveling public and our affiliate base alternative programming."

Each COMSAT affiliate hotel will charge admission to the fight broadcast based on its location, according to Wussler. The Leonard-Duran fight was tested in selected Holiday Inns where cable television is not available, and each participating hotel reported full-capacity turnouts.

"We bought the Nuggets to make a statement about where we're headed in this industry," said Wussler. "You'll see a lot of activity at COMSAT in 1990."■



Hector "Macho" Camacho

Three New VP's For CVE

Three new vice presidents have joined COMSAT Video Enterprises, CVE President and CEO Robert J. Wussler has announced.

John Schmuhl is vice president and general manager in charge of CVE's current hotel business. An experienced broadcast and cable executive, he joined CSD in July. Previously, he was vice president and general manager of the Montgomery County, Maryland cable system during its construction. He was also president and general manager for Warner-Amex Cable Co. of Columbus, Ohio, where he operated the company's prototype interactive cable TV system.

CVE's new vice president of payper-view programming is Michael Klein. Klein held a similar position at CVE rival Spectradyne, and was previously vice president of film acquisitions for Showtime, where he handled all of CVE's programming. Klein will be based in Los Angeles.

The new vice president of program development is Char Beales. Beales comes to CVE from her position as vice president of programming and marketing and executive director of the National Academy of Cable Programming. In addition to playing a major role in creating the Cable Academy four years ago, Beales has been responsible for a number of other successful innovations in the cable industry.

"I am really looking forward to starting the new decade at CVE with Bob Wussler," said Beales. "His plans for satellite-delivered programming could become the next revolution in TV."

"It's going to be an exciting challenge to expand the television program options available to American viewers through CVE," she added.

Top to Bottom; John Schmuhl, Michael Klein, Char Beales



Wall Street Takes a Look at COMSAT in 1990's

Two Wall Street firms recently issued reports on their analysis of the future of COMSAT shares. The reports are used as the basis for advice given to clients making decisions about purchasing the stock.

The New York securities dealer/ research firm of Labe, Simpson & Company says that while COMSAT's third quarter 1989 was a "pleasant surprise... there is still a nagging question in the investment community."

Labe, Simpson says "Mobile services (maritime and aeronautical) should ... grow rapidly as there is no competitive technology in this application of satellites." The firm says it expects a 20-30% annual rate of growth in COMSAT's mobile communications business.

In the International segment, the re-

search favorably compares COMSAT's satellite services with fiber optics. "COMSAT has advantages," the report says "in multipoint distribution and geographical flexibility--ideal for Intelsat Business Services (IBS). Using its circuits for the transmission of data, fax, and video, IBS is expected to grow 20% annually."

The firm also sees a bright future for COMSAT Video Enterprises, expressing the belief that CVE will "grow rapidly and become profitable in 1990/1991."

Overall, the analysis considers COM-SAT stock a bargain.

"In summary," says the report, "we see COMSAT to have a bright future provided that the management (with many new additions) will grasp the many opportunities."

A new report by Gruntal & Co. places a "Buy" recommendation on COMSAT's stock. The company makes this recommendation based on the "promising growth opportunities in the age of global communication and our appraisal of a wide undervaluation of the stock."

Gruntal's report predicts an increase in earnings growth over the next few years. In 1990, the company projects growth of 10%, while the report foresees growth in the "15% range annually during the 1991-1993 period."

A projected increase in per share earnings also leads Gruntal to believe that the price of COMSAT stock will rise significantly, to "a target price of 45-48 for CQ over the next twelve months."

Fund Drive Collects 102% of Goal

1989 United Way Wrap Up

COMSAT's 1989 United Way/ United Black Fund Campaign set several records this year, exceeding its goals in a number of categories.

"Once again, through the generosity and caring of our people, COMSAT distinguished itself as an exemplary corporate citizen," said David Cade, the chairman of this year's effort.

Cade, vice president of marketing and business development for COM-SAT Systems Division, said teamwork was the secret behind this year's big numbers.

"Michelle Dupuis, who was our loaned executive from the United Way, kept telling us that she used COMSAT as an example of how to do things for her other corporate clients," Cade said.

And it really was an outstanding grass roots effort," he added. "We had 16 team captains and 53 Canvassers throughout the company, working together to make this year our best ever."

Others Singled Out

Cade had special praise for the two vice chairpersons of the effort, Margarita Dilley at the Plaza and Clarksburg's Ben Pontana. Dilley has been chosen as next year's campaign chairperson.

Other employees who received special thanks were Pat Delaney (employee data base), Mike Baris (financial and payroll), Carmeyia Gillis (trip/prize ar-

The Numbers

Donations

Total \$106,587.20

Goal \$105,000

Pct. 101.5%

The leading division for participation, company-wide, was CSD. The division had 191 out of 215 employees donating, a rate of 89%. Some other groups had impressive participation rates as well. The best are listed below.

Participation	Pledges	Total Employees	Pct.
PLAZA	\$11.0		
WSD—ISS	98	110	89%
Corporate Finance	48	57	84%
Corporate Human Resources	20	20	100%
Corporate Affairs &			
Corporate Secretary	16	16	100%
Corporate Developmen	t 5	5	100%
CLARKSBURG			
CSD	154	164	94%
Human Resources	8	8	100%

rangements) and David Preston (publicity).

"All these folks did a great job," Cade emphasized.

"Last, but certainly not least, I want to recognize the efforts of my secretary Donna Norman, as well as Margarita's secretary Phyllis Rhoe and Pat Murray, who is Ben Pontana's secretary," Cade said. "They all devoted many hours of their time to make sure that the process worked smoothly throughout the entire campaign."

COMSAT Chairman Irving Goldstein called this year's successful effort "extremely gratifying."

"Even though the campaign peaked during a period in which business activities were extraordinarily demanding, the team did a terrific job," he said.

Who Owns COMSAT?

The following list of the Top 15 COMSAT shareholders represents approximately 45% of the company's total outstanding shares. This list, the most up-to-date available, was compiled at the end of the third quarter of 1989.

Capital Supervisors, ranked second here, purchased all of their 953,100 shares in the last quarter. At market value, this transaction would be worth approximately \$33.4 million.

Rank Institution	Total Shares	% of COMSAT Stoc
1. Trinity Investment Mgt	1,143,000	7.6%
2. Capital Supervisors	377,125	2.0%
3. Prudential Insurance Co.	882,700	4.7%
4. Rosenberg Inst. Equities M	lgt. 750,300	4.0%
IDS Financial Corp.	700,000	3.8%
6. Geewax Terker & Co.	662,200	3.6%
7. Smith Barney (self & clien	its) 482,364	2.6%
8. Wells Fargo Bank	377,125	2.0%
9. Mellon Bank Corp.	377,121	2.0%
10. Merrill Lynch Asset Mgt.	371,630	2.0%
11. Glenmede Trust Co.	339,885	less than 2%
12. NCNB Corp.	306,860	**
13. TWA Retirement Fund	300,000	**
14. College Retirement Equition	es 258,700	96
15. Bancoklahoma Trust Co.	250,700	

What You Said in the COMSAT Readership Survey

A readership survey designed to gather your impressions of COMSAT's internal publications was recently completed by Fleishman-Hillard Research, a nationwide public relations and research firm.

An impressive 55% of COMSAT employees responded to the survey which they received in the mail. "This level of response indicates significant employee interest and concern regarding the subject of corporate communications," the report said.

The survey used 28 questions to gauge employee response to three of COMSAT's corporate publications; the monthly <u>COMSAT Today</u>, the weekly <u>News Update</u>, and the quarterly <u>Community</u>.

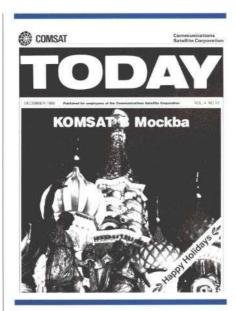
Findings

While over 80% of employees read Today and News Update, the survey found that employees rely on numerous sources for information about the company in general. The leading sources of information are fellow employees (46%), COMSAT Today (45%), News Update (44%), supervisors (40%), and "the grapevine" (39%).

Despite the large readership, less than one-third of employees take any of the publications home for family or friends to read.

Three out of five employees said they were better or as well informed compared with two years ago, while 26% said they have not been with COMSAT long enough to answer this question. The majority of employees added, however, that they still received "too little" information on a range of issues. These areas include industry trends, the company's top management, COMSAT's goals and success in meeting them, and the company's financial status.

When asked about the reporting and editing in the publications, the survey found that employees consider corporate publications to be concise and condensed (82%), believable (80%), accu-



Three out of five employees said they were better or as well informed compared with two years ago.



rate (72%), timely (67%), and informative on matters important to their jobs (61%).

The survey found that the five year mark is the median tenure for COM-SAT employees, with a slight majority (51%) having been here longer. Those with longer tenure tend to view the corporate publications more critically than their colleagues. In addition, Clarksburg employees tended to be more critical than those at L'Enfant Plaza.

COMSAT's newest publication, Community, made a strong showing, despite having been published only twice prior to the survey. Nearly 60% of employees said the publication helped them understand the company's role in community service, while 71% said it did a good job of recognizing employees who contribute their services to the community.

According to Fleishman-Hillard's analysis of these responses, "Community is well on its way to making employees feel positive about COMSAT."

Using the Results to Improve

Richard L. McGraw, COMSAT's vice president of Corporate Affairs, said the results of this survey will help improve corporate publications.

"The impressive response rate indicates that COMSAT employees really care about their publications," McGraw said. "We're going to study these findings and give our readers more of the information they need to help keep COMSAT competitive in the future."

McGraw added that the company is considering the possibility of mailing COMSAT Today to the homes of employees so that their families can have a better understanding of what COMSAT does.

"A good corporate communications strategy should keep employees' families informed, too," he said. ■

TODAY

Clarksburg CEA Children's Xmas Party Helps the Needy

Santa and Mrs. Claus were the guests of honor at the Clarksburg CEA's Children's Christmas Party last month. Over 250 children of COMSAT employees visited with the jolly pair and

enjoyed a variety of activities, including a puppet show, games, and crafts.

But the big winners again this year were the two local agencies devoted to caring for needy kids—The Stepping

COMSAT Systems Division, KDD Sign Contract in Japan





It's official! CSD President Joel Alper shakes hands with M. Masutani, Director General Manager, Electronics & Aerospace Division, to finalize a CSD contract with the Sumitomo Corporation (top). Alper and Dr. Eric Novotny, CSD's vice president, international marketing and business development, (left) signed the contract during a meeting in Japan late last year. CSD is providing a unique coastal earth station and two ocean region Network Control Processors to improve ship-to-shore communications for Japan. CSD was selected for the competitive award by KDD, Japan's leading international telecommunications carrier. Above, Sumitomo and COMSAT executives who took part in the signing ceremony, (clockwise, from bottom left): Masutani, Yutaka Arisawa, George Watanabe, Mike Suzuki and Eric Takaya. Alper and Novotny are seated in front at right.

Stone Shelter and St. Ann's Infant and Maternity House. Thanks to the generosity of the COMSAT kids, over 250 toys were donated to the at-risk children who benefit from the work done by these two community agencies.

Despite the snowstorm outside, this was one of the most successful parties ever, according to Clarksburg's Jim Helms. Special recognition for their role in planning and conducting the party should be extended to Michael and Renae Hebb, Jeff and Debbie Opiekun, Kevin Grantham, Debbie Mendez, Tim Salerno, Bernadette Crockett, Camilla Holaday, Rich Lessig, Pat Marsh, Margie Dopp, Nancy Maxey, Sabrina Kepple, Mike Hulley, Lou Holderman, Diane Peloso, and Carrol Haugh.

"The goodwill and joy generated by this core group of Clarksburg CEA representatives confirms that the holiday season can bring out the very finest within each of us," said Helms.

COMSAT Makes Donations to Alaska Charities

Two Alaska charities that provide food and shelter for the needy received a helping hand from COMSAT last month. The company donated \$10,000 each to the Food Bank of Alaska and the Brother Francis Shelter. The two agencies benefited from profits earned when COMSAT assisted with communications during the cleanup of last year's oil spill.

The food bank and shelter were recommended to COMSAT by U.S. Senator Ted Stevens (R-Alaska). Stevens flew to Alaska to present the checks in person.

Bob Eaton of the Brother Francis Shelter said the checks were arriving at a crucial time for the shelter, which has an operating budget of \$300,000.

"As winter arrives and the temperatures start to get below zero, help like this is sorely needed," he said. ■