$S_{AN}F_{ERNANDO}V_{ALLEY}E_{NGINEERS}C_{OUNCIL}$

San Fernando Valley, California

38th Anniversary 1993 HONOR A WARDS GALA BANQUET SOUVENIR PROGRAM

Daniel Goldin NASA Administrator NASA Headquarters Washington, D.C.

DISTINGUISHED KEYNOTE SPEAKER





In Celebration of National Engineers Week

Saturday, February 27, 1993

Engineers have always been major contributors to our nation's prosperity and quality of life. Now, as our country embarks in a new direction, engineers will be key players in finding solutions to many of our challenges ahead. From environmental cleanup to international competitiveness, from rebuilding our infrastructure to assuring a reliable energy supply, it is engineers who'll be called upon for the creativity to move our country ahead.

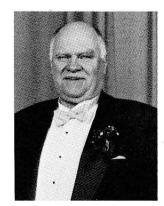
It is fitting that you mark your annual observance with visits to our nation's classrooms to inspire the leaders and workers of tomorrow with the wonders and opportunities of technology. A technically literate workforce is essential to our future success.

I am pleased to join all Americans in saluting our nation's engineers during National Engineers Week. look forward to the opportunity of working with you to ensure a bright future for our nation.

A message from the President of the United States

National Engineers Week February 14 – 20, 1993

Phin Clintan



San Fernando Valley Engineers' Council President's Message

Lloyd W. Higginbotham

Tonight, we honor the achievements of engineers who, despite many past cyclical and dire predictions, stand as beacons of encouragement for all wishing to pursue studies of the art and science of engineering.

It has often been said, "Choose another field of study; there is no future in engineering." In considering this prediction, I urge you to review a bit of the history of contradictory predictions regarding the future of science itself.

Many of the referenced dire predictions were made years ago by such renowned scientists as Francis Bacon (early 17th century); Harvard University physics department chair, Professor John Trowbridge (1843-1923); Nobel Prize winner Max Born (1928); University of California at Berkley Professor Gunther Stent, (1970); and Nicholas Rescher in his 1978 book *Scientific Progress*.

Professor Stent concluded in his 1978 book *Paradoxes of Progress*, "...that some scientific fields are bounded; that there is an ultimate limit to the principles and processes involved in each." Stent wrote, "Though progress has occurred in the past, its accelerating kinetics precludes it from being an everlasting feature of human history in the future."

Quoting University of Washington's Dael Wolfle, "If we are correct in believing that the physical world acts in accordance with a rather small number of fundamental principles, laws, or equations, and if we continue our diligent search, would it not be reasonable to expect that we will, perhaps in the lifetime of some of us in this room tonight, complete the search for new principles of all sciences?" I think not.

A favorite view is that continuing scientific progress lies behind the fairly frequent statement that the solution of one scientific problem usually raises two or three new questions to study. Shall we all rally behind this view?

Do we accept the theory that there is no future in engineering? Or do we encourage students to diligently pursue studies of the arts and sciences that will open exciting new vistas for the application of these learned skills, igniting sparks of engineering creativity to be fanned into flames of ingenuity?

In 1968, former President Carter's Assistant for National Security Affairs, Zbigniew Brzezinski, wrote of so much confidence in the future of science and technology that he expected our future needs and wishes would be fulfilled with very little human labor. He predicted that most people will be destined for lives of idleness, and only the most capable people will be permitted to work. Of course, that means that all of you here tonight can look forward to continued employment, but Brzezinski expects most of your neighbors to lead lives of leisure, perhaps kept amused by spectacles you will arrange.

Historical inaccuracies of respected prognosticators must be associated with today's specious forecasts for engineering careers. We must convince students, at a very early age, to vigorously pursue the study of the exciting art and science of engineering, become a member of the future privileged few, find their proper niche (academic, research, or practitioner), and amuse the idle majority with fantastic spectacles of their creation, as did Nikola Tesla, and avoid becoming a segment of the bored idle majority. But please caution the prospective engineer or scientist, "Do not repeat the errors of Tesla." Encourage them to keep copious notes of all successes and failures.

San Fernando Valley Engineers' Council

A Brief History

Founded in 1955 through the joint efforts of the California Society of Professional Engineers, the American Institute of Plant Engineers, the Society of Manufacturing Engineers and the Institute of Electrical and Electronic Engineers, the San Fernando Valley Engineers' Council has celebrated National Engineers Week, a national week of recognition since 1950.

Over the past several years, the Council's activities grew from a joint meeting of these societies to what has grown into today's annual awards banquet. These banquets honor deserving professionals whose accomplishments warrant recognition by their peers.

The 1959 banquet was special. The first Engineer of the Year Award was given to Roy E. Marquardt,one of the most respected engineers in the San Fernando Valley. His accomplishments and technical innovations became a benchmark to measure all future candidates for this most prestigious honor.

The next milestone for the Council was in 1970 when the first Honorary Engineer of the Year, William Lear, was selected. Over the past 20 years, a host of nationally known engineers has proudly received this award.

The Peter Recchia Omni Award was added to the list of major awards in 1973. This award is named for Mr. Peter Recchia, a great supporter of engineering in our community and designer of the first award. This trophy is given annually to the Engineer of the Year.

In 1987, General Charles E. (Chuck) Yeager was the first recipient of the "General Charles E. (Chuck) Yeager International Distinguished Aeronautical Achievements Award". This award is given periodically,with General Yeager's approval, to aeronautical engineers who work on a global level.

In 1990 the Council presented the "William B. Johnson International Interprofessional Founders Award " to George J. Hallinan from Rocketdyne Div., Rockwell International.

In February 1993 Lockheed Advanced Development Company granted privilege to use both service marks "Skunk Works" and the stylized "Skunk" in our award. The privilege may be granted annually at the discretion of the Lockheed Patent Counsel.

Through the years, the San Fernando Valley Engineers' Council has presented over 700 awards that recognize outstanding contributions by individuals in our community and throughout the world in the fields of engineering, education, special fields of work and public service.

SAN FERNANDO VALLEY ENGINEERS' COUNCIL San Fernando Valley, California

38th Anniversary **HONOR AWARDS GALA BANQUET**

Saturday, February 27, 1993

Social Hour - 6 p.m.

Welcome – 7:45 p.m.

Salute to the Flag

Dinner

Introductions

Keynote Address

Presentation of Awards

Merit Awards

Special Awards

Closing Remarks

Lloyd W. Higginbotham, FIAE Defense Logistics Agency, USAF/DPRO Higginbotham Associates President, San Fernando Valley Engineers' Council

Lloyd W. Higginbotham, FIAE **Daniel Goldin** NASA Administrator NASA Headquarters

Lloyd W. Higginbotham, FIAE Tim Hanneman, FIAE

Washington, D.C.

Drew Froelich

Lloyd Higginbotham, FIAE

1993 Awards and Presentations

William B. Johnson International Interprofessional Founders Memorial Award

Lloyd W. Higginbotham, FIAE Defense Logistics Agency, U.S. Air Force, DPRO Northrop Corporation, Hawthorne, California President, San Fernando Valley Engineers' Council

Roland V. Roggero, FIAE **Director Facilities Management** Westlake Medical Center Westlake Village, California Past-President, San Fernando Valley Engineers' Council

William B. Johnson International Interprofessional Founders Memorial Award

In 1955 Bill Johnson was one of the founding fathers of the San Fernando Valley Engineers' Council. Bill had an untiring commitment to form and build the Council into a unified and effective body represented by all facets of the engineering and scientific community. His standards and professional aura were to emulate perfection and elegance.

He was laying the groundwork for the younger generation to participate and enjoy the future in leading and influencing the developing international engineering community. Bill was considered the backbone of the Council. He chose giving recognition to outstanding persons as a means of providing a model of excellence.

The William B. Johnson International Interprofessional Founders Memorial Award was established by the San Fernando Valley Engineers' Council to perpetuate the image and memories of Bill - his leadership, methods, fortitude, standards, efforts, and achievements with compassion for others while focusing on bettering the engineering community.

Selection of recipients for the memorial award reflect his image.

Past Recipients First presentation was to William B. Johnson in 1982 No further presentations were made until 1990. George J. Hallinan Dr. John J. Guarrera 1990

Special Presentation

----- by -----

----- to -----

Lloyd W. Higginbotham 1992 1991

OUTSTANDING ENGINEERING ACHIEVEMENTS MERIT AWARDS - 1993

PRESENTED IN ALPHABETICAL ORDER

DR. WILLIAM J. BELLOWS, MEMBER OF TECHNICAL STAFF TOTAL QUALITY MANAGEMENT OFFICE ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS IN TAGUCHI METHODS DEVELOPMENT IN AN AEROSPACE ENVIRONMENT AND INTEGRATION OF A NEW POWERFUL ENGINEERING METHOD ACROSS A BROAD SPECTRUM OF ENGINEERING APPLICATIONS"

LORIN E. BLEWETT, SUPPORT TEAM MANAGER SPACE SHUTTLE MAIN ENGINE DEVELOPMENT ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS IN THE DEVELOPMENT OF LIQUID ROCKET ENGINES"

ANTONIO BUENDIA, TEST ENGINEER, ENGINEERING DEVELOPMENT LAB ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

> "RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS IN PRESSURE TESTING, SSME WHIRLIGIG TESTING AND ITS EFFECT OF TURBINE BLADE DAMPING, SPACE STATION TESTING AND SSME BALANCE TESTING IN THE EDL"

> > WALDON R. BURR, PRESIDENT W. R. BURR CONSULTANT INC. WOODLAND HILLS, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING CONTRIBUTIONS TO THE ENGINEERING PROFESSION IN THE FIELDS OF ELECTRONICS, MANUFACTURING, CONTROL SYSTEM DESIGN, QUALITY CONTROL AND PROJECT MANAGEMENT"

MARGARET M. CLARKE, PH.D., PROJECT MANAGER OF ROBOTICS SPACE SYSTEMS DIV., ROCKWELL INTERNATIONAL DOWNEY, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING ACHIEVEMENTS IN THE FIELD OF ROBOTICS, MARKETING OF ROBOTICS CAPABILITIES, AND BEING INSTRUMENTAL IN THE FORMATION OF A MULTIDISCIPLINED ROBOTICS PRODUCT DEVELOPMENT TEAM PURSUING BOTH CONTRACT AND R&D FOR ROCKWELL/NASA."

VICTOR COHEN, P.E., DOCUMENTATION CONTROL MANAGER TRW TECHNAR, RESEARCH AND DEVELOPMENT BUILDING **IRWINDALE, CALIFORNIA**

"RECOGNIZED FOR SIGNIFICANT CONTRIBUTION TO THE ENGINEERING PROFESSION AS PRESIDENT OF THE SANTA MONICA CHAPTER OF THE CALIFORNIA SOCIETY OF **PROFESSIONAL ENGINEERS**"

EDWARD J. DITATA, LEAD ENGINEER FOR "TRUCKSAR" NORTHROP B-2 DIVISION PICO RIVERA, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF A UNIQUE STATE-OF-THE-ART IMAGING INSTRUMENTATION RADAR AND A COMPLEX AVIONICS SYSTEM"

DANIEL FRANK DOMINIK. SENIOR ENGINEER SPECIALIST SPACE SYSTEMS DIV., ROCKWELL INTERNATIONAL DOWNEY, CALIFORNIA

"RECOGNIZED FOR DISTINGUISHED ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF A SPACE SHUTTLE COMPUTATIONAL FLUID DYNAMICS ASYMMETRIC MODEL CAPABLE OF DEFINING FLOW FIELDS AT ANY FLIGHT CONDITION"

" RECOGNIZED FOR OUTSTANDING CONTRIBUTION IN THE FIELD OF MATERIALS ENGINEERING BY PROBLEM RESOLUTION THROUGH FAILURE ANALYSIS TO SUPPORT SEVERAL CRITICAL SPACE SHUTTLE FLIGHT SCHEDULES "

" RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS AND TECHNICAL LEADERSHIP IN THE DESIGN OF ADVANCED MILITARY AIRCRAFT AND SYSTEMS"

CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF SPECIAL MATERIALS, PROCESSES AND EVALUATIONS FOR ALL THE SSME PROGRAMS"

AGOURA HILLS, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING CONTRIBUTIONS TO THE ENGINEERING COMMUNITY IN INDUSTRY AND PROCESSING IN THE FIELD OF AIRCRAFT AND AEROSPACE LANDING GEAR "

RICHARD MICHAEL EHRET, MANAGER OF MATERIALS AND PROCESSES SPACE SYSTEMS DIV., ROCKWELL INTERNATIONAL DOWNEY, CALIFORNIA

LYMAN M. EVANS, VICE PRESIDENT ADVANCED PROGRAMS LOCKHEED SKUNK WORKS PALMDALE, CALIFORNIA

JON D. FRANDSEN, PROJECT MANAGER SPACE SHUTTLE MAIN ENGINE MATERIALS, ENGINEERING AND TECHNOLOGY ROCKETDYNE DIV., ROCKWELL INTERNATIONAL

BRYAN FREEMAN, DIRECTOR OF PRODUCT ENGINEERING MENASCO AEROSYSTEMS, DIV. OF COLTEC INDUSTRIES

DIRK T. KIMBROUGH, LEAD ENGINEER, NONDESTRUCTIVE TEST ENGINEERING

ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO TECHNICAL ACHIEVEMENTS IN THE FIELD OF ULTRASONIC AND EDDY CURRENT INSPECTION TECHNOLOGIES"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE IMPLEMENTATION AND COMPLIANCE OF ENVIRONMENTAL SCIENCES CONTROLS, HEALTH AND SAFETY INCLUDING WATER POLLUTION AND HAZARDOUS MATERIALS"

DR. RONALD G. LOVELY, TEAM MANAGER - SPACE OPERATIONS SPACE STATION FREEDOM ELECTRIC POWER SYSTEM ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF NOMINAL AND CONTINGENCY PLANS AND PROCEDURES FOR ON-ORBIT ASSEMBLY MAINTENANCE, CONTROL AND OPERATIONS OF THE ELECTRIC POWER SYSTEM (EPS)"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DESIGN AND DEVELOPMENT OF HIGH SPEED INDUCTION MOTOR, ELECTROMAGNETIC PUMP AND POWER DISTRIBUTION EQUIPMENT FOR FLUE GAS DESULFURIZATION"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE HARDWARE ENGINEERING DISCIPLINE"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF A NASP ENGINE THAT REPRESENTS AN ADVANCEMENT IN THE STATE-OF-THE-ART IN HEAT EXCHANGER TECHNOLOGY"

NABIL (BILL) GOBRIAL, AIR QUALITY ENGINEER SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT DIAMOND BAR, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING CONTRIBUTIONS TO THE ADVANCEMENT OF THE ENGINEERING PROFESSION, AND BEING FOR THE LAST TEN YEARS A MEMBER OF THE CLEAN AIR ACT TEAM"

YAACOV GOLAND, PROJECT MANAGER ASAT MISSILE ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO DIVERSIFIED PRODUCTS AND SYSTEM INTEGRATION IN NATIONAL PROGRAMS INCLUDING SPACE STATION FREEDOM AND THE US ARMY ANTI-SATELLITE SYSTEM (ASAT)"

ROBERT C. GOETZ, VICE PRESIDENT OF ENGINEERING LOCKHEED SKUNK WORKS PALMDALE, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS AND TECHNICAL LEADERSHIP IN THE DEVELOPMENT OF ADVANCED AERONAUTICAL TECHNOLOGY"

JOHN A. GRIFFITH, CAD/CAM/CAE PROGRAM INTERFACE ENGINEER ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO DEVELOPING STRATEGIES/PLANNING, IDENTIFYING/IMPLEMENTING NEW CAD/CAM/CAE PROGRAMS IN TECHNOLOGIES AND APPROACHES ENHANCING DIVISIONAL PRODUCTIVITY"

ROBERT GRILL, PRESIDENT MENASCO AEROSYSTEMS, DIV. OF COLTEC INDUSTRIES AGOURA HILLS, CALIFORNIA

"RECOGNIZED FOR DISTINGUISHED CONTRIBUTIONS TO INDUSTRY AND THE COMMUNITY BY HIS LEADERSHIP, CREATIVITY AND MANAGEMENT ABILITIES"

KENNETH H. HAYASHIDA, SENIOR ENGINEER SPECIALIST SPACE SYSTEMS DIV., ROCKWELL INTERNATIONAL DOWNEY, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO ENHANCING ROCKWELL'S REPUTATION FOR EXCEPTIONAL ENGINEERING SUPPORT TO SPACE SHUTTLE VEHICLE PROCESSING"

STEPHEN R. LAFFLAM, DIVISION DIRECTOR, ENVIRONMENTAL, HEALTH AND SAFETY **ROCKETDYNE DIV., ROCKWELL INTERNATIONAL** CANOGA PARK, CALIFORNIA

JOHN W. MEISNER, MEMBER OF TECHNICAL STAFF ADVANCED POWER ENGINEERING ROCKETDYNE DIV., ROCKWELL CORPORATION CANOGA PARK, CALIFORNIA

TOM MELATIS, MANAGER, HARDWARE QUALITY ENGINEERING GTE GOVERNMENT SYSTEMS CORPORATION WESTLAKE VILLAGE, CALIFORNIA

RONALD MORINISHI, MEMBER OF TECHNICAL STAFF NATIONAL AEROSPACE PLANE ENGINEERING ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

THOMAS F. MULDOON, MANAGER MANUFACTURING SUPPORT AND TECHNOLOGY CONTROL SYSTEMS DIVISION PARKER HANNIFIN CORPORATION

IRVINE, CALIFORNIA

RECOGNIZED FOR ADVANCED PRINCIPLES OF MANUFACTURING, RESEARCH AND DEVELOPMENT IN COMPUTER INTEGRATED MANUFACTURING TECHNOLOGY AND TOOL MANUFACTURING SYSTEMS

> ALAN D. NELSON, MANAGER, FIELD OPERATIONS ENVIRONMENTAL HEALTH AND SAFETY ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE OPERATION AND MAINTENANCE OF GROUND WATER AND WASTE WATER SYSTEMS"

JAMES A. NESTLERODE, CHIEF PROGRAM ENGINEER **KINETIC ENERGY WEAPON PROPULSION** ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK. CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS, RESEARCH AND ADVANCED PROGRAMS IN THE FIELDS OF COMBUSTION, PROPULSION AND FLUIDS"

CHARLES S. OLSEFSKY, P.E. SCHOOL OF ENGINEERING AND COMPUTER SCIENCE CALIFORNIA STATE UNIVERSITY - NORTHRIDGE NORTHRIDGE, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING CONTRIBUTIONS TO THE ENGINEERING PROFESSION AND THE EDUCATIONAL PROGRAMS OF THE CALIFORNIA STATE UNIVERSITY AT NORTHRIDGE"

DANIEL W. OSBURN, RESPONSIBLE ENGINEER, PRODUCT SUPPORT TEAM NORTHROP B-2 DIVISION PICO RIVERA, CALIFORNIA

> "RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE B-2 STEALTH BOMBER, AIR VEHICLES 5 AND 6, LEFT HAND RADAR BAY (ZONE 107), AND AV-12 STRUCTURE/WIRE WEIGHT SAVINGS REDESIGN"

VINCENT PATERNOSTER, MEMBER OF TECHNICAL STAFF **ADVANCED MANUFACTURING** ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DEVELOPMENT OF SENSOR CONTROLLED ROBOTIC TIG AND VISION CONTROLLED MIG WELDING"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE SOFTWARE DISCIPLINE WITH EMPHASIS IN THE UTAIN/MAIS, B1 SECURITY AND THE CATIS TO RMS PROGRAMS"

GEORGE O. ROBERTS, MANAGER, P & W INTEGRATION SUPPORT TEAM ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE PRATT-WHITNEY TURBOPUMP PROGRAM, SSME OXIDIZER TURBOMACHINERY DESIGN STRUCTURAL ANALYSIS, AND THE BEARING AND BLADE STRESS UNIT"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE FIELD OF HYDROCARBONS AND PETROCHEMICAL PROCESSES"

STEPHEN STEPANEK, PROFESSOR COMPUTER SCIENCE DEPARTMENT

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE NORTHRIDGE, CALIFORNIA

"RECOGNIZED FOR HIS OUTSTANDING EXPERTISE IN COMPUTER OPERATING SYSTEMS AND COMPUTER NETWORKS, AND FOR HIS CONTRIBUTIONS IN THE FIELD OF HIGHER EDUCATION"

" RECOGNIZED FOR SIGNIFICANT POST-RETIREMENT CONTRIBUTIONS TO THE STANDING OF THE ENGINEERING PROFESSION, BEING INSTRUMENTAL IN THE ESTABLISHMENT AND NURTURING OF THE CSPE EDUCATION FOUNDATION"

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DESIGN, DEVELOPMENT AND TEST OF ROCKET ENGINE INTERCONNECT COMPONENTS"

TAMSEN E. PECHMAN, LEAD ENGINEER GTE GOVERNMENT SYSTEMS CORPORATION

WESTLAKE VILLAGE, CALIFORNIA

MICH SAKATA, CHIEF PROCESS ENGINEER

THE RALPH M. PARSONS COMPANY PASADENA, CALIFORNIA

JAMES STEWART, P.E. NORTHROP CORPORATION HAWTHORNE, CALIFORNIA

RONALD URQUIDI, LEAD PRINCIPAL ENGINEER SPACE SHUTTLE MAIN ENGINE DUCT TEAM ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

ROD VASQUEZ, P.E., PRINCIPAL CONSULTING WEST ENGINEERS WESTLAKE VILLAGE, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO THE DESIGN AND

IMPLEMENTATION OF CONSTRUCTION PROJECTS IN THE FIELDS OF ELECTRICAL AND

MECHANICAL ENGINEERING"

EGILS R. VIGANTS, PROGRAM INTEGRATOR, SPACE STATION FREEDOM DPRO ROCKWELL CANOGA CANOGA PARK, CALIFORNIA

> "RECOGNIZED FOR OUTSTANDING EFFORTS TOWARDS EDUCATION OUTREACH ACTIVITIES AT SFV LOCAL SCHOOLS FOR PROMOTING ENGINEERING PROGRAMS"

RICHARD A. WOOD, DEPUTY CHIEF, ENGINEERING DIVISION 412 TEST WING EDWARDS AFB EDWARDS AFB, CALIFORNIA

" RECOGNIZED FOR OUTSTANDING CONTRIBUTIONS TO THE US AIR FORCE AND THE SCIENCE OF FLIGHT TESTING"

DR. TIEN TSAI YANG, MEMBER OF TECHNICAL STAFF DIRECTED ENERGY & IMAGING ENGINEERING ROCKETDYNE DIV., ROCKWELL INTERNATIONAL CANOGA PARK, CALIFORNIA

"RECOGNIZED FOR OUTSTANDING ENGINEERING CONTRIBUTIONS TO CHEMICAL AND EXCIMER LASERS, OPTICAL AND CHEMICAL PHYSICS, AERODYNAMICS, COMBUSTION, REACTING FLOW, SOLID STATE PHYSICS, AND ELECTROMAGNETIC PHENOMENA"

DISTINGUISHED ENGINEERING ACHIEVEMENTS AWARD - 1993

DR. PETER T. LYMAN JET PROPULSION LABORATORY PASADENA, CALIFORNIA

DISTINGUISHED ENGINEERING EDUCATOR AWARD - 1993

DR. MICHAEL HASSUL

DEPARTMENT OF ELECTRICAL ENGINEERING CALIFORNIA STATE UNIVERSITY, LONG BEACH LONG BEACH, CALIFORNIA

DISTINGUISHED ENGINEERING PROJECT AWARD - 1993

MAGELLAN

THE MAGELLAN PROJECT TEAM CALTECH JET PROPULSION LABORATORY PASADENA, CALIFORNIA DOUGLAS G. GRIFFITH, PROJECT MANAGER .

General Charles E. (Chuck) Yeager International Flight Achievements Award

Daniel Goldin NASA Administrator NASA Headquarters Washington, D.C.

Joseph T. Gallager, President Teledyne Systems Northridge, Califonia

General Charles E. (Chuck) Yeager International Flight Achievements Award

On October 14, 1947 General Yeager became the first man to fly faster than the speed of sound. He also became the first man to fly more than twice the speed of sound. He has flown 183 types of aircraft during his career and has more than 11,000 hours of flight time.

During World War II, General Yeager distinguished himself in aerial combat over France and Germany by shooting down 13 enemy aircraft. He was shot down over German-occupied France but managed to escape capture with the help of the French Maquis.

His subsequent assignments included: test pilot of the Nation's first research rocket aircraft, Commander of the 417th Fighter Squadron, Commander of the First Fighter Squadron, Commandant of the Aerospace Research Pilot School, Commander of the 405th Fighter Wing when he flew 127 missions in South Vietnam, Commander of the 4th Tactical Fighter Wing in Korea during the Pueblo crisis, and Vice Commander of the Seventeenth Air Force after promotion to Brigadier General.

His military decorations and awards include: The Distinguished Service Medal with one oak leaf cluster, The Silver Star with one oak leaf cluster, The Legion of Merit with one leaf oak cluster, The Distinguished Flying Cross with two oak leaf clusters, The Bronze Star Medal with V device, The Purple Heart, Distinguished Unit Citation Emblem with one oak leaf cluster, and the Air Force Outstanding Unit Award Ribbon.

Selection of recipients for this distinguished award reflect a lifetime career of dedication to the progress of aerospace technology.

Special Presentation

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Special Presentation

Kelly Johnson Memorial Lockheed "Skunk Works" Award for Aeronautical Engineering Achievements

by

SHERMAN N. MULLIN, PRESIDENT Lockheed Advanced Development Company Calabasas, California

to

MAJOR GENERAL JAMES A. FAIN, JR. Deputy Chief of Staff, Requirements Wright Patterson Air Force Base, Ohio

Kelly Johnson Memorial Lockheed "Skunk Works" Award

Clarence L. "Kelly" Johnson's achievements over almost six decades captured every major aviation design award and made him an aerospace legend. These achievements go back to the 1930s, but he may be best known for organizing the Lockheed Skunk Works in 1943. It started as a small unit of engineering and production specialists to hurriedly create, build and fly the World War II XP-80 jet prototype for the U.S. Air Force. It was the first of many of the world's most advanced aircraft to be produced by the Skunk Works under his leadership.

Kelly played a leading role in the design of more than 40 aircraft, including the P-38 Lightning, the Constellation transport, the P2V Neptune anti-submarine patrol plane, the record-setting F-104 Starfighter, the U-2 reconnaissance aircraft and the SR-71 Blackbird.

He received more than 40 aircraft design and achievement awards and honors (several twice). Included are two Collier trophies, two Theodore von Karman Awards, the Wright Brothers Memorial Trophy, two Sylvanus Albert Reed Awards and the Daniel Guggenhein Medal. In 1964, President Lyndon Johnson presented him the nation's highest civilian honor, the Medal of Freedom. President Ronald Reagan honored Kelly Johnson with the National Security Medal in 1983 and the National Medal of Technology in 1988. Kelly was enshrined in the Aviation Hall of Fame in 1974.

The Kelly Johnson Memorial Lockheed Skunk Works Award is established to honor and to perpetuate his qualities, accomplishments, and standards as a model of excellence to be aspired to by future generations of engineers pioneering progress of the future.

Engineer of the Year Award - 1993

Presented by the 1992 Award Winner

President Lockheed Advanced Development Company Calabasas, California

President Rocketdyne Div., Rockwell International Canoga Park, California

Peter Recchia Omni Memorial Award - 1993

Presented by the 1992 Award Winner

President Rocketdyne Div., Rockwell International Canoga Park, California

The Peter Recchia Omni Memorial Award

The movies have their Oscars, the television industry has its Emmy and the San Fernando Valley Engineers' Council presents, for the 21st time, its Engineering Omni Award. This award was first presented in 1973 to the Engineer of the Year, San Fernando Valley. Since then, each succeeding Engineer of the Year has been awarded this beautiful, original trophy conceived, designed and produced by Peter Recchia, PE, SME, AIIE. Mr. Recchia was a dedicated supporter of the engineering community and when he passed away, the Omni Award was renamed in his honor, The Recchia Omni Memorial Award.

SHERMAN N. MULLIN

to ------

ROBERT D. PASTER, FIAE, FAIAA

SHERMAN N. MULLIN

President Lockheed Advanced Development Company Calabasas, California

to ------

ROBERT D. PASTER, FIAE, FAIAA

SAN FERNANDO VALLEY ENGINEERS' COUNCIL **1993 ENGINEERS WEEK COMMITTEE AND OFFICERS**

Lloyd W. Higginbotham, FIAE, President, SME, CASA, NYAS, AAAS, ASAE Dr. Robert Budica, FIAE, Junior Past President, AIAA Roland V. Roggero, FIAE, Chairman Program Committee, ASHE, CSHE, NFPA, NGS Dr. John J. Guarrera, PE, FIEEE, FIAE, Chairman Awards Committee, NSPE, CSPE, IEEE, ASEE, NCGA

Nelson Gould, FIAE, FASTM, Treasurer, SFVS, AIAA Waldon R. Burr, FIAE, Secretary, Awards Preparation, ISA, ASQC Norman Shaffier, PE, FIAE, Student Awards Committee, CSPE Dr. A. F. Ratcliffe, PE, FIAE, Awards Banquet Committee, IEEE Cliff Terry, PE, FIAE, Awards Banquet Committee, SME, NMA, CASA, CSPE William J. Douthitt, PE, FIAE, Awards Banquet Committee, SME, CASA ASSE, CSPE Ronald Smetzer, FIAE, Awards Banquet Committee, SME Dr. Eric Pitts, PE, FIAE, Awards Banquet Committee, CASA, RISME, SME James Ritchie, FIAE, Awards Banquet Committee, IIE Ronald A. Chaix, Awards Banquet Committee, CSHE Charles Olsefsky, FIAE, Awards Banquet Committee, IEEE

> Tim Hanneman, FIAE Industry Advisory Committee Chairman: Dr. Robert Caren, FIAE Members: **Drew Froelich** Joseph T. Gallager, FIAE **Charles Tennant**

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*Made up of past presidents

SPECIAL RECOGNITION

ROCKETDYNE DIVISION - ROCKWELL INTERNATIONAL

FOR 38 YEARS SUPPORT OF THE SAN FERNANDO VALLEY

ENGINEERS' COUNCIL ANNUAL ENGINEERS'

RECOGNITION PROGRAMS

James Ritchey Roland V. Roggero Dr. Charles Sanders Clifford Sheipe Cliff Terry Robert Vaughn

San Fernando Valley E Engineers' Council 1993 Award l Recipients

Rocketdyne Clongratulates

Outstanding Engineering Merit Awards



Stephen R. Lafflam Director Environment, Health & Safety



Member of Technical Staff Total Quality Management Office



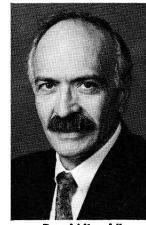
Lorin E. Blewett Team Leader Space Shuttle Main Engine Development



Antonio Buendia Responsible Test Engineer Engineering Development Laboratory



John W. Meisner Member of Technical Staff Advanced Power Engineering



Ronald Urguidi Lead Principal Engineer Duct Technical Team Space Shuttle Main Engine



Yaacov Goland Project Engineer, Anti-Satellite (ASAT) Kinetic Energy Weapon Engineering



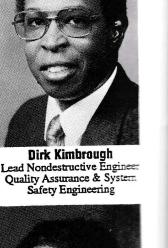
John A. Griffith Program Interface Engineer CAD/CAM/CAE Operations



Lead Nondestructive Engineer

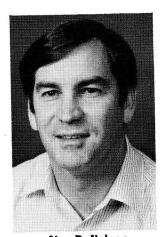


Vincent Paternoster Member of Technical Staff





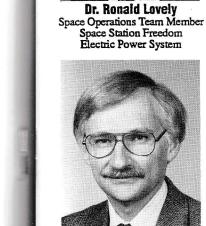
Advanced Robotic Manufacturing



Alan D. Nelson Manager Environmental Field Operations



James A. Nestlerode Chief Program Engineer Kinetic Energy Weapon Engineering



George O. Roberts Manager, Integration Support P & W Turbopump Program Space Shuttle Main Engine



Jon D. Frandsen Project Manager Materials Engineering Space Shuttle Main Engine



Ronald Morinishi Member of Technical Staff National Aero-Space Plane Engineering



Dr. Tien Tsal Yang Member of Technical Staff Directed Energy/Imaging Engineering

PAST RECIPIENTS OF THE ENGINEER OF THE YEAR AWARD SAN FERNANDO VALLEY

1959	Roy E. Marquardt, The Marquardt Corporation
1960	Richard Bradshaw, Consulting Structural Engineering
1961	Milford G. Childers, Lockheed California Company
1962	Paul R. Vogt, Rocketdyne
1963	George T. Harness, San Fernando Valley State College
1964	Ralph Balent, Atomics International
1965	Clarence L. Johnson, Lockheed California Company
1966	Steven J. Domokos, Rocketdyne
1967	James A. Roadston, Rocketdyne
1968	Dr. Arnold M. Levine, ITT Aerospace
1969	Willis M. Hawkins, Lockheed Aircraft Corporation
1970	Ralph A. Lamm, Bendix Electrodynamics
1971	Arthur A. Daush, Jr., Hughes Aircraft Company
1972	Dr. R. N. Ghose, American Nucleonics Corporation
1973	John J. Guarrera, SACOM
1974	Elliott A. Green, Lockheed California Company
1975	Mathew C. Ek, Rocketdyne
1976	Sam F. Iacobellis, Atomics International
1977	Lon L. Sanders, ITT Gilfillan
1978	Norman J. Ryker, Rockwell International
1979	Donald C. Tillman, City of Los Angeles
1980	Dominick J. Sanchini, Rocketdyne
1981	Ben R. Rich, Lockheed California Company
1982	Dr. Paul B. MacCready, President, AeroVironment, Inc.
1983	Charles G. Fargo, Rockwell International
1984	Dr. Malcolm Currie, Hughes Aircraft Company
1985	Phillip V. King, PE, FIAE, City of Los Angeles
1986	Sophia K. Ashley, PE, Naval Civil Engineering Laboratory,
	Port Hueneme, CA
1987	Dr. Rodney A. Boudreaux, FIAE, Vice President Engineering,
	Space Orbitor Division, Rockwell International, Downey, CA
1988	George J. Hallinan, PE, FIAE, Vice President, Space Station Power,
	Rocketdyne Division, Rockwell International
1989	Paul H. Lane, General Manager and Chief Engineer, Los Angeles,
	Department of Water and Power, Los Angeles, CA
1990	William F. Ezell, FIAE, Vice President Engineering and Test,
0 1990 ACC 4444	Rocketdyne Division, Rockwell International
1991	Edward G. Linhart, PE, FSME, FIAE, EGL Holdings
	President and CEO, EGL Holding Company, La Jolla, CA
1992	Sherman N. Mullin, President, Lockheed Advanced Development Co.,
	Calabasas, CA

PAST RECIPIENTS OF THE HONORARY ENGINEER OF THE YEAR AWARD

1969	Edward Reineke, Lt. Govern
1970	William Lear, Chairman of t
1971	William F. Rockwell, Jr., Ch
1972	The Honorable Donald R. Ja
	U.S. Air Force
1973	Daniel J. Haughton, Chairma
	Lockheed Aircraft Corporat
1974	Dr. Christopher C. Kraft, Jr
1975	Burt F. Raynes, Chairman of
1976	Grant L. Hansen, Vice Presi
2010	General Dynamics, San Dieg
1977	Aaron Cohen, Manager, Orb
	Lyndon B. Johnson Space Co
1978	Dr. David R. Scott, Former A
	Scott-Preyss Associates, Inc.,
1979	Major General James W. Sta
1980	Elmer B. Staats, Comptrolle
	Washington, D.C.
1981	Douglas T. Ross, Chairman o
	Waltham, MA
1982	Ronald Reagan, President of
1983	Malcolm Baldridge, United S
1984	James R. Berrett, President a
	Corporation, Bedford, MA
1985	Len J. Weaver, CEng, Execu
	International, London, Engla
1986	J. Tracy O'Rourke, Presiden
	Milwaukee, WI
1987	David R. McMurtry, Chairm
	Renishaw PLC, England
1988	Jon Michael Smith, FIAE, D
	Commercial Programs, NAS
1989	Dennis E. Wisnosky, Preside
	Naperville, IL
1990	Dick Cheney, United States S
1991	No presentation
1992	No presentation
	→ ■ → → → → → → → → → → → → → → → → → →

nor, State of California the Board, Lear Motors, Reno, NV hairman of the Board, Rockwell International lackson, Deputy Assistant Secretary,

nan of the Board, ation r., NASA, Lyndon B. Johnson Space Center of the Board, Rohr Industries sident and General Manager, ego, CA rbitor Project, NASA, Center Astronaut, President, c., Los Angeles, CA tansberry, Washington, D.C. er General of the United States,

of the Board, SOFTECH, Inc.,

of the United States States Secretary of Commerce and CEO, Computervision

utive Chairman, Polymark land ent, CEO, Allen Bradley Co.,

nan of the Board,

Deputy Assistant Administrator for SA Headquarters, Washington, D.C. ent, Wizdom Systems, Inc.

Secretary of Defense

MATH-COUNT STUDENT RECOGNITION

THE SAN FERNANDO VALLEY ENGINEERS' COUNCIL RECOGNIZES AND CONGRATULATES THE AWARD WINNERS IN THE 1993 NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS, SAN FERNANDO VALLEY CHAPTER, MATH-COUNT COMPETITION.

IN APPRECIATION

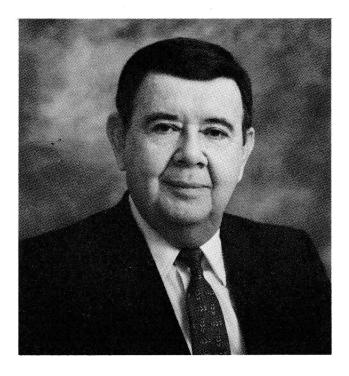
AEROSPACE CORPORATION	LOCKHEED ADVANCED SYSTEMS
AIAA SAN FERNANDO VALLEY	KAISER MARQUARDT
W.R. BURR CONSULTANTS, INC.	MANUFACTURING SYSTEMS
CONSULTING WEST ENGINEERING	MARTIN MARIETTA
CSHE LOS ANGELES CHAPTER	MASSANARI BEMIS ASSOCIATES, AIA
CSPE SAN FERNANDO VALLEY	MENASCO AEROSYSTEM DIV., COLTEC INDUSTRIES
CSPE SANTA MONICA	NORTHROP B-2
CSUN ENGINEERING & COMPUTER SCIENCE	THE RALPH M. PARSONS CO.
DUCOMMUN INC.	ROCKETDYNE DIV., ROCKWELL INTERNATIONAL
GTE GOVERNMENT SYSTEMS	SPACE SYSTEMS DIV., ROCKWELL INTERNATIONAL
HIGGINBOTHAM ASSOCIATES	SME CHAPTER 99
HONEYWELL INC.	SME CHAPTER 173
HUGHES ELECTRONICS SYSTEMS DIV.	SME REGION
HUGHES SPACE SYSTEMS DIV.	TELEDYNE SYSTEMS
IEEE SAN FERNANDO VALLEY	TRW INC.
CAL TECH JET PROPULSION LAB	WESTLAKE MEDICAL CENTER
	AIAA SAN FERNANDO VALLEY W.R. BURR CONSULTANTS, INC. CONSULTING WEST ENGINEERING CSHE LOS ANGELES CHAPTER CSPE SAN FERNANDO VALLEY CSPE SANTA MONICA CSUN ENGINEERING & COMPUTER SCIENCE DUCOMMUN INC. GTE GOVERNMENT SYSTEMS HIGGINBOTHAM ASSOCIATES HONEYWELL INC. HUGHES ELECTRONICS SYSTEMS DIV. HUGHES SPACE SYSTEMS DIV. IEEE SAN FERNANDO VALLEY

THE TEXT OF THE PROGRAM FOR THE 38TH ANNUAL SAN FERNANDO VALLEY ENGINEERS' COUNCIL HONOR AWARDS GALA BANQUET HAS BEEN COMPUTER GENERATED THROUGH THE COURTESY OF THE FACILITIES MANAGEMENT DIVISION, WESTLAKE MEDICAL CENTER WESTLAKE VILLAGE, CALIFORNIA

SPECIAL THANKS TO GUY STROEBEL, TELECOMMUNICATIONS TECHNICIAN

CONGRATULATIONS

ROLAND V. ROGGERO, FIAE



WILLIAM B. JOHNSON INTERNATIONAL INTERPROFESSIONAL FOUNDERS MEMORIAL AWARD



ON THE PRESENTATION OF

SAN FERNANDO VALLEY ENGINEERS' COUNCIL

WESTLAKE MEDICAL CENTER WESTLAKE VILLAGE, CALIFORNIA

No matter where we go, we never forget where we're from.

Since the space age began, Rocketdyne people have never stopped reaching a little higher to bring humanity closer to its destiny among the stars.

We provide power for American rocketry. Create lasers and solar energy sources. Develop the electrical power system for NASA's Space Station Freedom. And explore advanced engine concepts able to take the National Aero-Space Plane

directly into Earth orbit from a conventional runway.

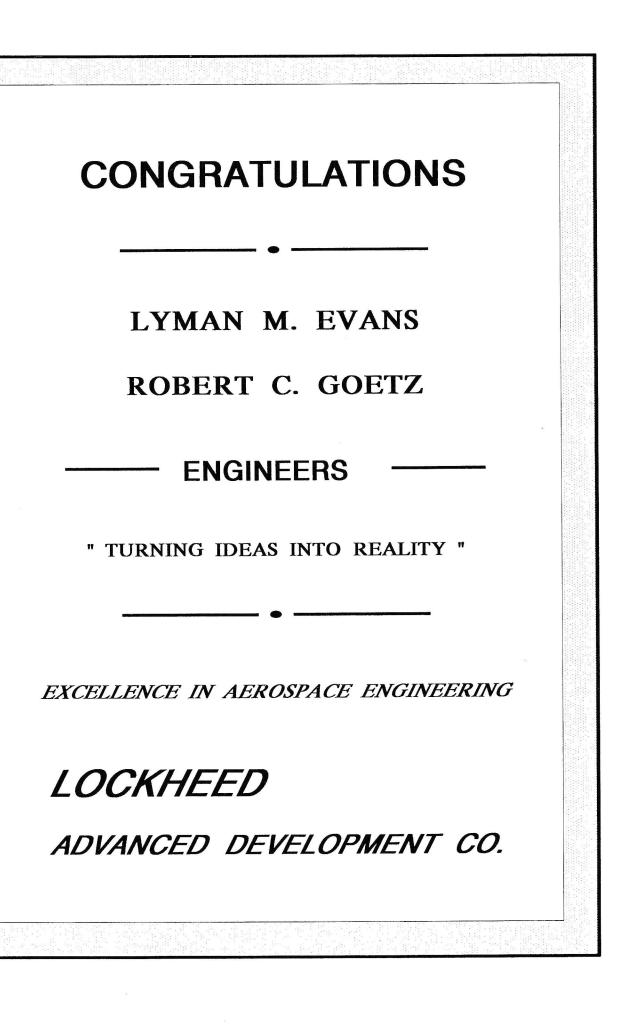
But Rocketdyne people also recognize a commitment much closer to home. It's an obligation to the well-being of the communities in which we live and work.

We carry that commitment wherever we go. Because no matter what new worlds we discover, our ultimate challenge will always be to take better care of our own.



...where science gets down to business







Congratulations to

ROLAND V. ROGGERO, FIAE

Recipient of the

SAN FERNANDO VALLEY ENGINEERS' COUNCIL

WILLIAM B JOHNSON INTERNATIONAL INTERPROFESSIONAL FOUNDERS MEMORIAL AWARD

massanari bemis associates

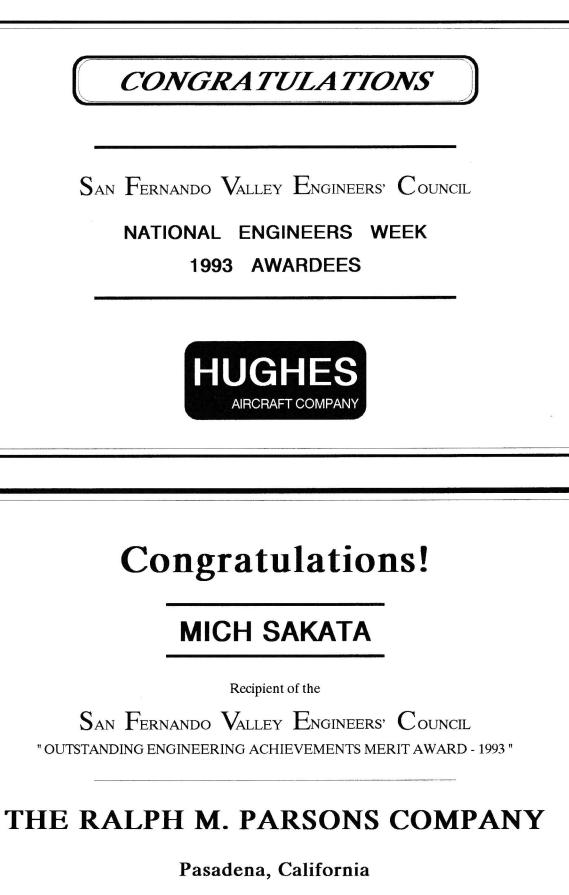
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CONGRATULATIONS 1993 AWARDEES SAN FERNANDO VALLEY ENGINEERS' COUNCIL **ENVIRO-CAL ASSOCIATES** HEALTH CARE ENGINEERING FACILITIES MANAGEMENT ENVIROMENTAL MANAGEMENT HAZARDOUS MATERIALS MALIBU CANYON PLAZA - SUITE 102 26500 W. AGOURA ROAD CALABASAS, CA 91302 TEL. (818) 889-3216



CONGRATULATIONS

NATIONAL ENGINEERS WEEK

AWARDEES 1993

Edward J. Ditata

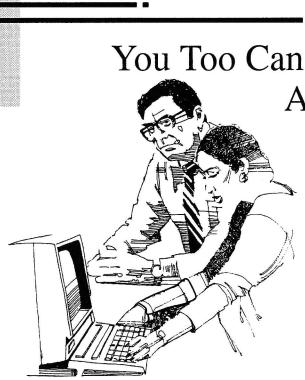
Daniel W. Osburn

Northrop Salutes Engineering Achievement

NORTHROP

B-2 Division

Pico Rivera, California



We're looking for Engineers with entry level to 8 years related experience to be responsible for defining systems, and designing, testing, implementing, documenting and integrating COTS/GOTS and developed software under DoD-STD-2167A. Candidates will also provide detailed written documentation and oral presentations to government and company management. In addition to a BSCS or equivalent, successful candidates must have either recent academic or work experience with the following: UNIX, C Language, Program Design Language, and LAN (Ethernet, TCP/IP). Experience with 32 bit workstations, Graphics, X-Windows, MOTIF, structured analysis and design, communications protocols, system integration, RDBMS design/applications, VMS, FORTRAN, and CATIS is highly preferred.

Weather Systems/Software Engineers

We're looking for Software Engineers to perform requirements analysis, designing and developing meteorological application systems, preparing and performing technical proposals and presentations, including design reviews. Must have a BSEE or equivalent. A MS in meteorology, atmospheric science, physics or equivalent a plus and two years related work experience. Must also be proficient in the following: Systems design, requirements analysis, integration and test of automated meteorological systems, database design, communications, graphics, man-machine interface, C Language and UNIX systems in a workstation environment.



Contact:

You Too Can Be a Member of the Award Winning Team

We extend our congratulations to our award recipients:

Tamsen Pechman Tom Melatis

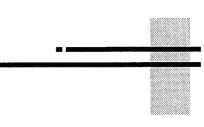
and all the other 1992 award recipients

Imagery/Intelligence Software Engineers



Government Systems

W. Fred Smith/Human Resources Imagery and Intelligence Processing Organization 31717 La Tienda Drive Westlake Village, CA 91362 An Equal Opportunity Employer



W. R. BURR CONSULTANT INC. Project Management Control Systems Design Electronic Engineering Manufacturing Quality Control CONSULTATION San Fernando Valley Engineers' Council AWARD WINNERS 5923 Hinton Ave. Woodland Hills, California 91367 (818) 347-1944

IN MEMORIAM

We regret the passing of

Harlan L. Russ, PE, FIAE

1988 President

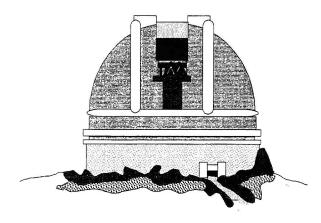
San Fernando Valley Engineers' Council

Turning Ideas Into Reality

Touch the thermostat and heat warms the room. Turn a faucet and clean water fills a glass. Lift the telephone receiver and voices speak from around the globe. **National Engineers Week** celebrates people responsible for these technological achievements; people who constantly improve our quality of life and help us compete in an increasingly technological world.

Each February the national spotlight shines on engineers, the people turning ideas into reality. Since the National Society of Professional Engineers established **National Engineers Week** in 1951, the annual observance has grown to an activity-packed event across America. It unites engineers and the public in a celebration of innovation and technology. Tens of thousands of engineers in U.S. corporations, government agencies, private firms and universities participate with government and business leaders, students, teachers and the media.

Engineering expositions and technological displays at local malls, business offices and libraries demonstrate the many innovative facets of the profession.

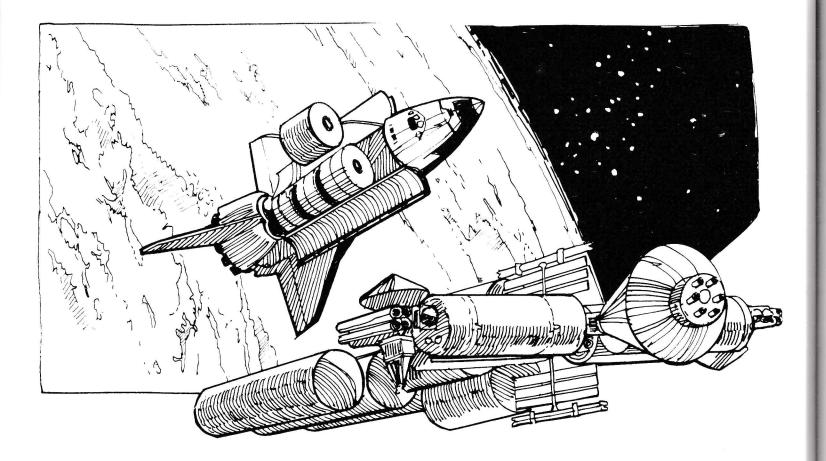


An annual exhibit at the Empire State Plaza in Albany, New York, draws some 10,000 visitors for displays, a trade show, and student contests. Engineers in Los Angeles have sponsored a public program on computer graphics in art at the California Museum of Science and Industry.

From the White House to the state house, proclamations praise **National Engineers Week**. Local officials draw attention to engineering successes in their communities as well as to future engineering needs.

The **San Fernando Valley Engineers' Council** is proud to sponsor the Annual Honor Awards Gala Banquet, as our effort to publicly recognize local engineers and engineering projects.

SPACE FITNESS ENERGY AND HUMAN WEEK NATIONAL ENGINEERS



ENGINEERS -

TURNING IDEAS INTO REALITY

ENGINEERS AND POWERS OF ENERGY NATIONAL ENGINEERS WEEK - 1993

by Dr. Martha Sloan **1993** President The Institute of Electrical and Electronics Engineers, Inc.

Energy has captivated mankind since the beginning of Engineers have channeled their energies into various modes of transportation, from steamships and railroads time. It was our ancestors' fascination with energy that to jets and electric-powered automobiles. The ingenuity drove their quest for fire. As we evolved, we learned to harness forms present in nature, such as coal, natural gas, of engineers is reflected in the medical world with such recent contributions as the artificial heart and magnetic oil, electricity and atomic energy. Then, when we needed to find alternatives, we learned to harness the sun, wind and resonance imaging. Engineers' contributions to society are linked with almost everything we do today, turning water. ideas into reality.

Engineers have been the main source of human energy that has fueled our quest for energy. And women During NATIONAL ENGINEERS WEEK, engineers engineers have contributed their energies as well. In fact, from corporations, government agencies, and universities will conduct Discover "E" teach-ins. In 1993, over 100 years ago, Bertha Lamme became the first woman graduated of an engineering degree program in the "E" represents energy, a fitting choice for all the engineers who have powered our way of life. Over the United States. Lamme headed the engineering 30,000 professionals will interact with nearly three million department at Westinghouse Electric, overseeing the students. These engineers will help youngsters feel the design and manufacture of motors and generators. empowerment that results when they are given the tools Today, over 20,000 women have followed Lamme's lead to turn their ideas into reality. These visits will also help and are currently enrolled in engineering programs. As students relate math and science to the world around we approach the millennium, we must continue to tap the energies of both men and women engineers, so we them. can maintain our competitive edge in an increasingly Throughout time, engineers have fueled our ideas. technological world.

Let's take February 14-20 to acknowledge our past and present contributions, and to encourage future We celebrate NATIONAL ENGINEERS WEEK, in contributions. As the nation's future lies increasingly in February 1993, to recognize engineering the minds and hands of engineers, we must continue to accomplishments of the past and present, and to lay the tap the energy in human and natural resources. groundwork for future successes. To acknowledge these

contributions, IEEE United States Activities is sponsoring a photography contest. "Visions of Technology: Powers of Energy" calls on practicing engineers and engineering students to capture on film engineers' achievements as they develop and conserve our nation's energy sources in an environmentally safe manner.

CHEVRON'S CHAIRMAN CALLS ON TOMORROW'S ENGINEERS TO BALANCE ENERGY AND ENVIRONMENT

By Kenneth T. Derr Chairman and CEO, Chevron Corporation

Some years ago, long before I became the chairman of Chevron, I worked for a very smart and able man, and engineer, who had a wonderful approach to problems that he summarized by saying, "A lot of apparent problems aren't really problems — they are a lack of relevant information." So, when confronted with a difficult situation, he'd step back, examine the problem from every angle, and often see the solution where others had only seen confusion.

To me this is the great advantage of engineering: You learn, by theory and practice, to take the problems of the world — and there's a never-ending supply — and find solutions and opportunities. An engineer is a problem solver.

And these days, I am specially interested in what may be the defining problem for the United States and the world in the coming years: energy and its pivotal role in creating the world of tomorrow.

I believe the 1990s in many ways will be critical for energy production and use — and for the human society that relies on energy to grow its food, warm its homes, run its factories, and fuel its cars and trucks. As the world's population grows and economies expand, as new technologies are born and old industries transform, energy will play a vital even central — role. We will face, in the coming year, the search for more energy, energy from new sources, greater energy conservation, and cleaner forms of energy.

This search will be difficult because of the technical hurdles, and those will be fascinating in themselves.

But for me, there's another dimension that makes engineering specially rewarding. It's the human side of engineering. As a career, it offers the young man or woman an almost unique opportunity to help shape a better world in two very important ways.

First, engineering as applied to global energy production will be central to improving the standard of living of the entire world, but specially for the hundreds of millions of people in developing nations in South America, Asia and Africa.

The population in many of these areas is growing rapidly. The world will have seven billion people by the year 2000, up from 5.3 billion today, and many of these will be children born into a world threatened with hunger, illiteracy, and disease. I feel that we have an obligation to help them develop their natural resources, especially the energy resources to fuel the agriculture and industry that will improve their standard of living.

The second way engineering can help is in finding better ways to protect the environment while producing the energy of tomorrow. It won't be easy. But I'm convinced that solutions will be found, and they will come largely from a diverse spectrum of men and women who are willing to do the hard work required in math and science that is absolutely essential to first understanding the problem and then finding solutions.

The United States and the world community must find reasonable solutions that balance environmental protection and economic development. How to achieve and sustain this balance will be an increasingly critical issue for tomorrow's engineering problem solvers.

I'd encourage young Americans who want to be part of this drive for a better tomorrow to consider technically oriented careers in engineering.

During **NATIONAL ENGINEERS WEEK**, thousands of engineers will reach into their communities and local schools to show how the engineering professional contributes to our quality of life and to interest youngsters in the technological world around them.

I hope you will join with us in this celebration of engineering as we meet today's technical challenges and create the world of tomorrow.

(Kenneth T. Derr is honorary chairman of National Engineers Week)