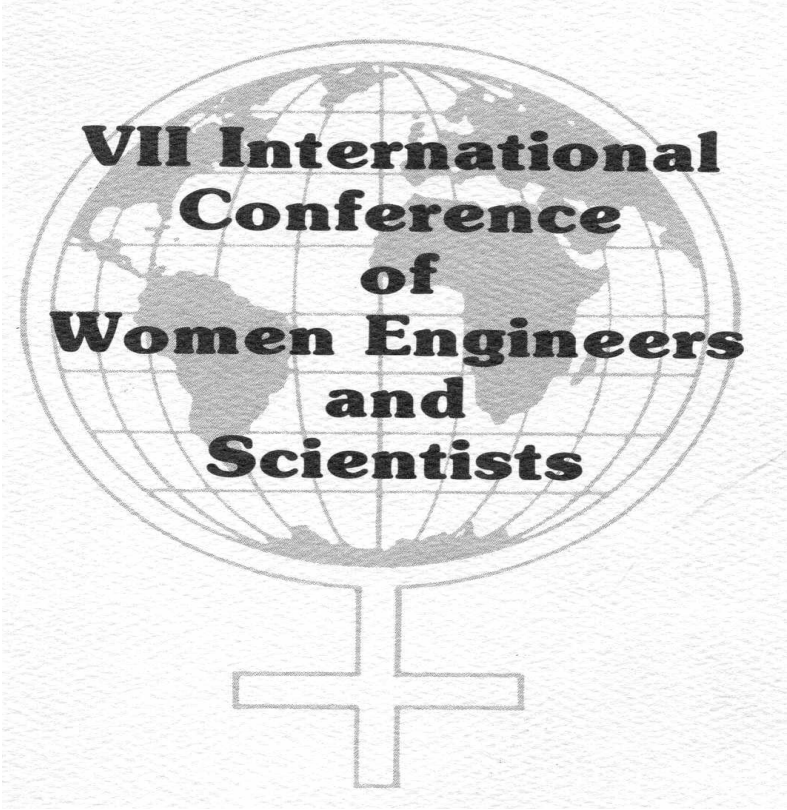
Technology
An International Bridge



1984

Presented by
The Society of Women Engineers
June 17-24
Washington, D.C.

VII INTERNATIONAL CONFERENCE
OF
WOMEN ENGINEERS AND SCIENTISTS

NATIONAL CONVENTION
AND
STUDENT CONFERENCE

TECHNOLOGY: AN INTERNATIONAL BRIDGE

SHOREHAM HOTEL

WASHINGTON, O.C.

JUNE 17 THROUGH 24, 1984

PRESENTED BY THE SOCIETY OF WOMEN ENGINEERS

HELLO AND WELCOME

The Baltimore/Washington section of the Society of Women Engineers and its Student sections, including the university of Maryland, The United States Naval Academy, The Johns Hopkins University, The University of Virginia, The Virginia Polytechnic Institute and State University, The university of Delaware, Catholic University, George Washington University and Howard University are pleased to invite you to the VII International Conference of Women Engineers and Scientists in Washington, D.C.

The theme of this year's 1984 Conference, Techno1ogy: An International Bridge will serve to narrow the gaps of understanding and knowledge amongst the peoples of the world. The Conference will include engineers and scientists from around the world as will as national representative's form The Society of Women Engineers and students in Anerica1 Universities affiliated with the Society of Women Engineers.

Washington, D.C., the capital of the United States, is one of the leading tourist attractions whose embassies and legations give it a cosmopolitan atmosphere and make Washington one of the best equipped cities to handle visitors from overseas.

The Shoreham Hotel, 2500 Calvert Street Northwest, Washington, D.C. 20008, will serve as Headquarters Hotel for the 1984 International conference. All technical sessions will be held in the Shoreham, as will the majority of banquets and receptions

We look forward to meeting with you June 17-24!

Chair,	Naomi MCAfee
	Suzanne Jenniches
	Pat Patterson
Secretary,	Gwendoolyn Hays
Treasurer,	Rosemary lafrance
Student Co-chairs,	Marilyn Berman
	Kathy Garber
Protocol,	Sue Lyon
Section president,	Mary Jones

Baltimore/Washington Swe

THE DISTRICT OF COLUMBIA
WASHINGTON, D.C.20004

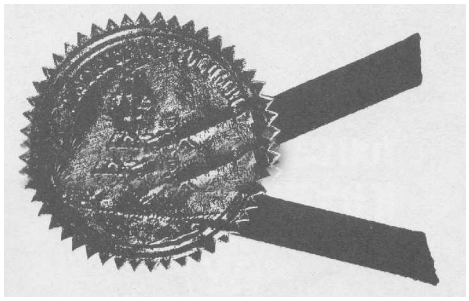
MARION BARRY, JR.
Mayor

GREETINGS TO THE BALTIMORE-WASHINGTON SECTION OF THE SOCIETY OF WOMEN ENGINEERS SEVENTH INTERNATIONAL CONFERENCE OF WOMEN ENGINEERS AND SCIENTISTS

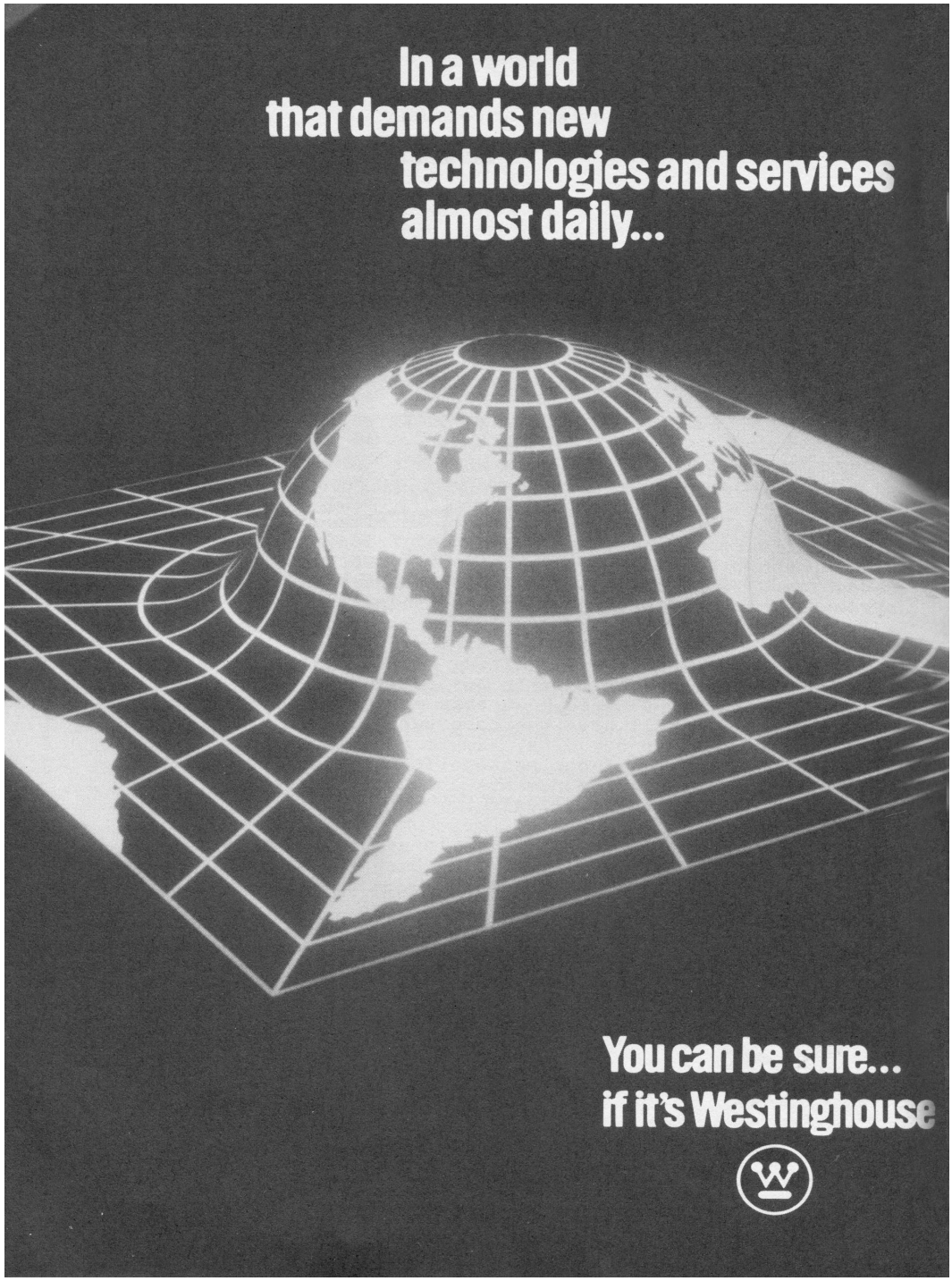
As Mayor of the District of Columbia, I am pleased to extend warm greetings to the members, guests and friends of the Baltimore-Washington Section of the Society of Women Engineers on the occasion of your seventh annual conference of Women Engineers and Scientists which is being held in Washington, D.C. June 17 -24, 1984

This is truly a wonderful and exciting event. It is my pleasure to greet all of you as visitors to our city. It is a special honor for Washington, D.C. to host this conference and while you are here I hope you will have the opportunity to enjoy the cultural experiences in our city, sample the diversity of life and cosmopolitan nature of our metropolitan region and to visit the many famous historical monuments and unique attractions that are a part of our Nation's Capital.

The citizens of our city join with me in greeting you on this meaningful occasion.



MARION BARRY, JR.
MAYOR
DISTRICT OF COLUMBIA


In a world
that demands new
technologies and services
almost daily...
You can be sure...
if it's Westinghouse

VII ICWES

TABLE OF CONTENTS PAGE

"I m in good in R&D at Wang"

Pat Martin, Sr. Hardware Engineer
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Wang Laboratories, Inc.

"I work with top R&D professionals... and everyone's supportive. I'm real pleased about the people I work with. "

As the Computer Company leading in office automation, Wang's first priority is to continue to attract the best people.

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Innovative philosophies and products have built success at Wang. And people are at the core of it all.

"My daughter is now 9 years old and she talks about being an engineer when she grows up... I'd like to see my daughter working at Wang."

Opportunities are currently available for talented professionals in the following areas:

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Telecommunications (CBX)
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SOFTWARE DEVELOPMENT

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Databases
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Charles S. Robb
Governor

June 1984

A MESSAGE FROM THE GOVERNOR

It's a pleasure to extend my warmest welcome to the participants of the VII International Conference of Women Engineers and Scientists.

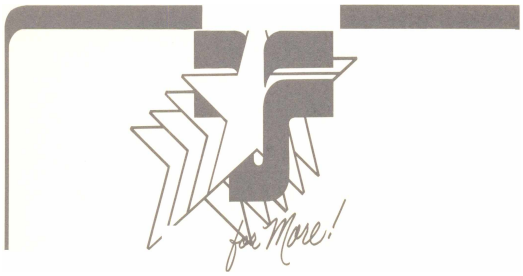
Virginia is extremely proud to be the home of much of the innovative technology and research-taking place in our nation today. We're equally proud of the significant role of women engineers and scientists who are making these important advances possible.

On this twentieth anniversary of cooperation through the International Conference of Women Engineers and Scientists, I want to express the appreciation and gratitude of the Commonwealth of Virginia for the achievements and continuing progress for the enjoyment and. benefit of all people made possible through the individual and collective efforts of your participants.

During your conference, I hope you will visit Virginia and see some of our historic sites, as well as our efforts to be a leader in building a better future.

Governor

TEAM 84



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At VERSATEC, we've been headed in the winning direction for some time. As acknowledged leaders in electrostatic printer/plotter technology and now front runners in computer graphics, we've achieved an industry first with our full color plotter. AND, in profitability, we're record-breakers as well. Last year we achieved 22% revenue growth and our profits increased by 60%.

VERSATEC's cutting edge is based on an entrepreneurial environment that encourages individuals to be champions. We've got spirit, drive and a company filled with high energy, motivated people all working in a setting that brings out the best in people and products. And, although we're a mid-sized uniquely informal company, we're actually part of XEROX, a Fortune 50 company.

Take a look at these championship opportunities...and go for more with us!

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- q Technical Support Specialist
- q Technical Writers
- q Software Support Specialist

In DEVELOPMENT & ENGINEERING, RESEARCH.

Mechanical Engineering Manager
Software Engineers
Hardware Design Engineers
Sr. Components Engineers

In MANUFACTURING

- q Advanced Manufacturing Engineer
- q Quality Engineers (Reqs. Chemistry Background)
- q Requirements Planning Supervisor.
- q Sr.Test Engineers

In ADMINISTRATION

Business Systems Analyst
Programmers/MIS
Financial Analyst

* ALL POSITIONS require appropriate related experience and degrees or equivalent experience.

When you go for more at VERSATEC, you'll have a lot going with you-excellent salaries and benefits that are FULLY PAID, a "profit over achievement sharing" plan now at an all time high of 6%, VERSATIME, a flexible work schedule program, and an on-site fully equipped fitness center. If you miss us at the SWE Conference, please send resume with salary history to Professional Employment, Dept. WE, VERSATEC, 2710 Walsh Avenue, Santa Clara, CA 95051. An equal opportunity employer m/f/h.

GENERAL CONVENTION INFORMATION

REGISTRA TION INFORM ATION

The registration desk will be located in the west Lobby of the hotel and will operate by the following Schedule: Sunday, June 17, noon to 6: 00 p.m.; Monday thru Friday, June 18-22, 8:00 am to 3:00 p.m.

The Information Booth will be available during the week to assist you and answer questions. Meal tickets, name badges and tickets to special events should be picked up at the Registration Desk when you arrive. You may also purchase additional mea1 and tour tickets.

PROGRAM UPDATES

Any program updates or changes will be posted on a bulletin board in the registration /information booth area

REFUND POLICY

If, for business reasons, an individual wishes to cancel his/her registration requests must be sent to the First Women's Bank, P.O. Box 2022, and Rockville, MD 20852, c/o VII ICWES by June 13, 1984. In such cases, only 70% of the original registration fee will be refunded immediately following the convention. No refunds will be made during the convention.

In the event of serious illness or death within the immediate family, a registrant will be refunded 100% of her/his registration fee, providing SWE is notified in writing. The request is to be received within 30 days after the convention.

No refunds will be made for meals or other functions if SWE has already made a financial commitment, which is nonrefundable. The Convention Committee will, however, endeavor to sell such tickets at the convention in order to minimize the registrant's loss.

GENERAL CONVENTION INFORMA TION

EXHIBITS

Industry exhibits will be located in the Ambassador Room, Foyer B, and the Bird cage walk on the following schedule: Wednesday, June 20, 7:00 am to 6:00 p.m.; Thursday, June 21, 7:00 am to 6:00 p.m. All are invited and encouraged to attend and browse at the exhibits, which will introduce and display new products and services to women engineers and scientists.

JOB FAIR

Interviews will be held from 1:00 p.m. to 9:00 p.m. on Tuesday, June 19 in the Empire Room. SWE policy prohibits recruiting and interviewing by companies during Student conference and Convention sessions. The Job Fair is an opportunity for all attendees to take advantage of. It is advisable to bring copies of a current resume. Appointments may be made on the sign-up sheet at the ICWES Registration Desk.

PROCEEDINGS BOOKS

Proceedings books, which include not only all presented papers, but additional Submitted papers and student technical competition papers, may be purchased at the Registrat100 Desk for $8.00.

GENERAL CONVENTION INFORMATION

TAKE A STUDENT TO DINNER

Tuesday evening has been set aside as -Take a Student to Dinner Night." We are asking conference participants to volunteer to take one or more students out for dinner. There are numerous restaurants with reasonably priced meals within walking distance of the hotel. Sign up at the Information Booth. Your Support is needed for the success of this activity.

POTOMAC RIVER CRUISE

The Baltimore/Washington Section of SWE invites you to join us Friday, June 22, from 11:45 am to 5:00 pm for a cruise aboard the first Lady, a magnificent replica of a Mississippi riverboat complete with paddle wheel and turn-of-the-century gaslight decor. See Washington, D.C. from the historic Potomac River and enjoy a New or leans -style buffet luncheon.

SELECTED EVENING EVENTS

The VII ICWES Committee will provide a ticket service for individuals who wish to take advantage of Washington's theater and concert events. Just check the Information Booth at least one day in advance to see which discount tickets are available. Tickets will be offered on cash in advance basis.

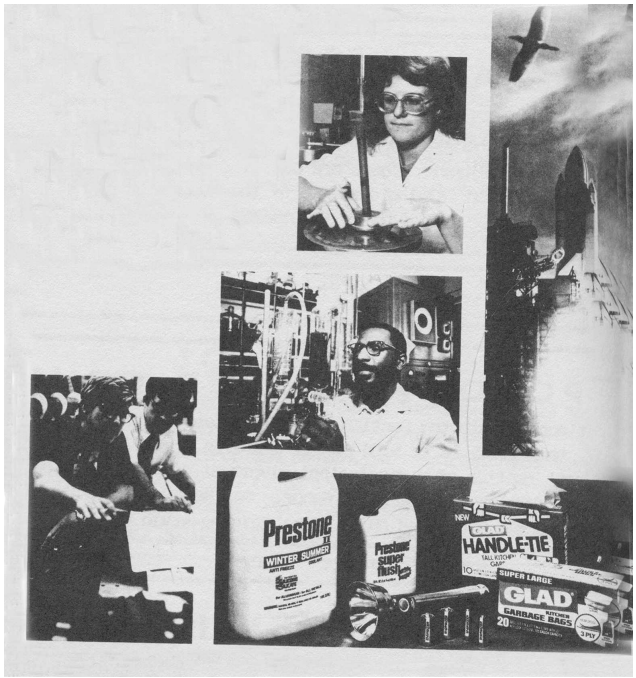
SIGHTSEEING GUIDE

Sightseeing brochures ant other information will be available at the Information Booth and also at the Convention ant Visitors Bureau (1575 I Street N.W.; (202) 789-7000). For recorded daily events information, call (202) 737-8866.

YOU AND UNION CARBIDE CORPORATION

A STRONG PARTNERSHIP

Union Carbide... the pioneer of the petrochemicals industry... a company making products used in areas ranging from sports equipment and cosmetics . . . to the Columbia space shuttle and the Lear Fan aircraft.



Union Carbide is renowned as:

- the maker of leading product lines such as Glad trash bags, Energizer batteries and Prestone anti-freeze;
- the largest U.s. supplier of industrial gases, cellulosic casings for processed meats, and tantalum capacitors;
- the inventor of the Unipol process which efficiently produces the world's most widely used plastic, polyethylene;

Union Carbide's continued leadership depends upon the innovations and efforts of scientists, engineers and other professionals.

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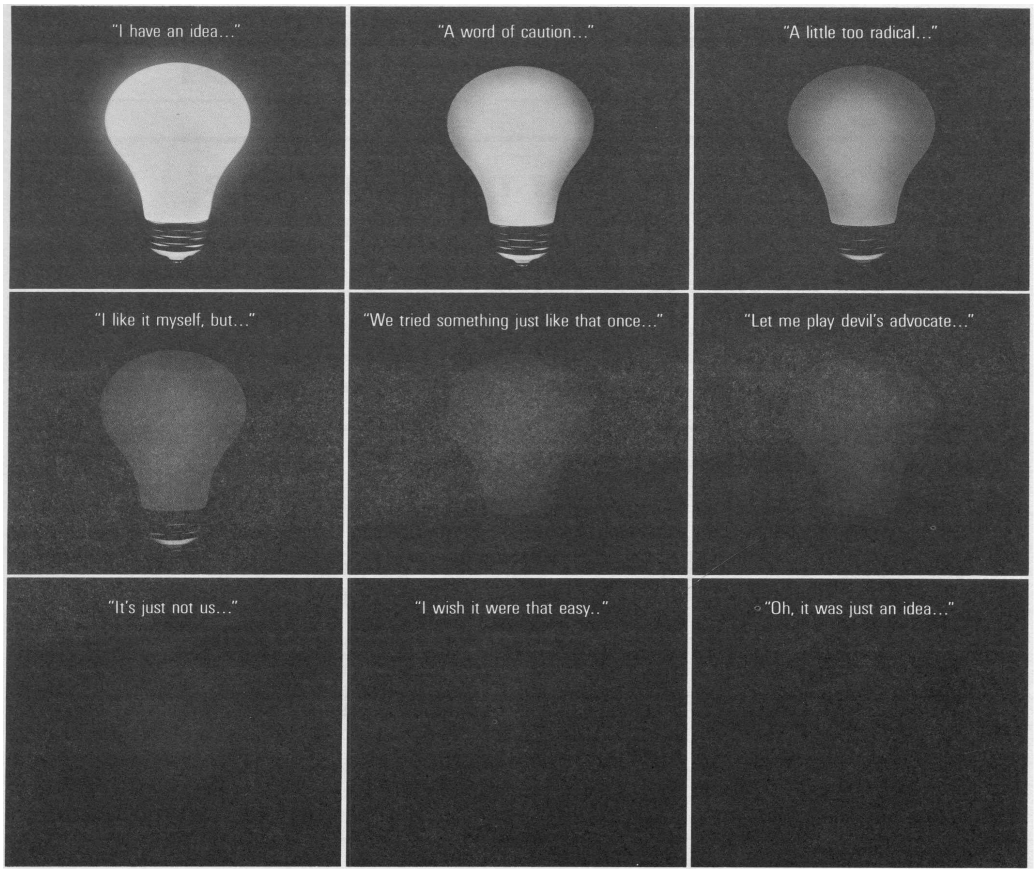
GENERAL CONVENTION INFORMATION

HOSPITALITY SUITES

A number Of the Industrial firms are sponsoring hospitality suites each evening where you are invited to drop by for wine, light snacks, and excellent conversation.

In addition to the suites listed on the -EVENTS OF THE DAY- sheets, be sure to check the Information Booth for the exact location and any additional hospitality suites for the evening.



It was just an idea.

An idea is a fragile thing.

Turning it off is much easier than keeping it lit.

A Company called TRW lives on ideas. So we look for people who have them and for people who won't snuff them out. In recent years TRW has been issued hundreds of patents in such diverse fields as fiber optics, space, lasers and transportation electronics.

Those ideas shone because somebody had them and somebody helped them. And nobody turned them off.

Tomorrow is taking shape at a company called TRW.

TRW

A Company called TRW

PRE-ICWES TOURS

TOUR #1 - JUNE 16 - WASHINGTON, DC

LUNCH ON THE ROOF TERRACE OF THE KENNEDY CENTER AS PART OF A 9 TO 5 -GET ACQUAINTED WITH DC"- DAY INCLUDING A PRIVATE TOUR OF THE WASHINGTON CATHEDRAL PLUS VISITS TO EMBASSY ROW, THYE NATIONAL ARCHIVES, LIBRARY OF CONGRESS, AND THE AIR AND SPACE MUSEUMS.

TOUR # 2 - JUNE 17 - WASHING TON, DC

A RELAXING WAY TO SPEND A CAREFREE SUNDAY FROM 9 TO 5 SEETING OLD TOWN ALEXANDRIA, THE CAPITOL, ARLINGTON CEMETERY WITH CHANGING OF THE GUARD, AND A VISIT TO MT. VERNON WITH LUNCH AT THE MT. VERNON INN.

TOUR # 3 - JUNE 16 & 17 – WILLIAMSBURG, VIRGINIA

LEAVE THE HOTEL AT 8 AM SATURDAY FOR AN ENJOYABLE DRIVE TO WILLIAMSBURG, VA IN TIMES FOR LUNCH AT THE MOTOE HOUSE. AFTER LUNCH, VISIT THE RESTORED AREA MAKING CERTAIN TO INCLUDE THE GOVERNOR'S PALACE, TIE CAPITOL, AND THE RALEIGH TAVERN. DINNER WILL BE AT THE KINGS ARMS TAVERN WITH OVERNIGHT AT THE HOSPATALITY HOUSE OR FT. McGRUDER INN.

SUNDAY WILL BE A TOUR OF JAMESTOWN FESTIVAL, PARK YORKTOWN VICTORY CENTER, AND CARTERS GROVE PLANTATION BEFORE RETURNING TO WASHINGTON. LUNCH IS INCLUDED.

TOUR # 4 - JUNE 16 & 17 - LURAY CAVERNS

AT 8 AM SATURDAY, LEAVE THE HOTEL AND HEAD WEST TO CAVERNS TO TOUR A TRULY FASCINATING NATURAL WONDER. AFTER LUNCH, VISIT THE HISTORIC CAR AND CARRIAGE CARAVAN FOLLOWED BY A SCENIC DRIVE TO CHARLOTTESVILLE, VA TO STAY OVERNIGHT AT THE ENGLISH INN.

MEET FOR BREAKFAST SUNDAY, AFTER WHICH MONTICELLO, PRESIDENT JEFFERSON'S HOME WILL BE TOURED. YOU WILL BE DRIVEN THROUGH THE UNIVERSITY OF VIRGINIA TO LUNCH AT MICKIE TAVERN AND MUSEUM. TOUR THE GRISTMILL BEFOFR THE RETURN TO WASHINGTON, DC.

POST-ICWES TOURS

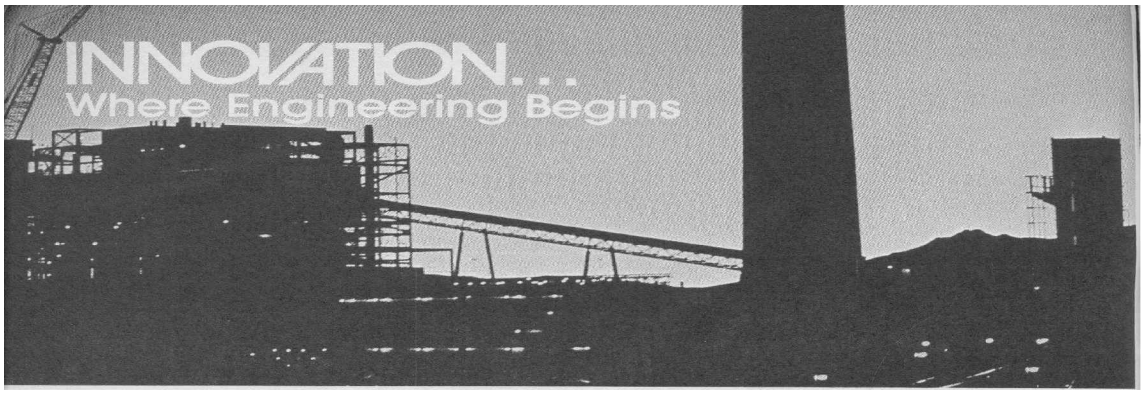
TOUR # 5 - JUNE 24 THROUGH 26 - NEW YORK CITY

TO UNWIND AFTER THE CONVENTION, JOIN FRIENDS FOR 2 NIGHTS AND 3 DAYS IN NEW YORK CITY, TRAVELLING VIA DELUXE MOTOR COACH WITH ACCOMADATIONS AT THE ST. MORITZ ON CENTRAL PARK SOUTH.

DINE AT TAVERN ON THE GREEN IN CENTRAL PARK AND ENJOY ORCHESTRA TICKETS TO "MY ONE AND ONLY." FAMILIARIZE YOURSELF WITH THE CITY ON A 4-HOUR TOUR OF UPTOWN AND DOWNTOWN AND "CHECK OUT" MANHATTAN ON A CIRCLE LINE BOAT CRUISE AROUND THE ISLAND; DON'T FORGET TO ADMIRE THE BROOKLYN BRIDGE IN ITS 101st YEAR.

TOUR # 6 - JUNE 24 THROUGH 27 – DISNEYWORLD

JOIN MICKEY MOUSE AND THE GANG TO VISIT THE MAGIC KINGDOM AND THAT FABULOUS EPCOT CENTER – THE EXPERIMENTAL PROTOTYPE COMMUNITY OF TOMORROW. ALSO VISIT NASA & THE KENNEDY SPACE FLIGHT CENTER.



From The Start...

At Stone & Webster, the decision is yours . . .you make the choice as to whether you want to work in Engineering or in Field Operations

In Engineering, you'll have the advantage of off-site design and engineering experience in a broad range of challenging projects from fossil, hydroelectric, and nuclear to alternate energy sources such as geothermal, coal gasification, solar and advanced coal technology. Our innovative training program and close interface with top profession- als - some of the best in the industry - will challenge your abilities and upgrade your professionalism. We have immediate career opportunities in the following engineering disciplines:

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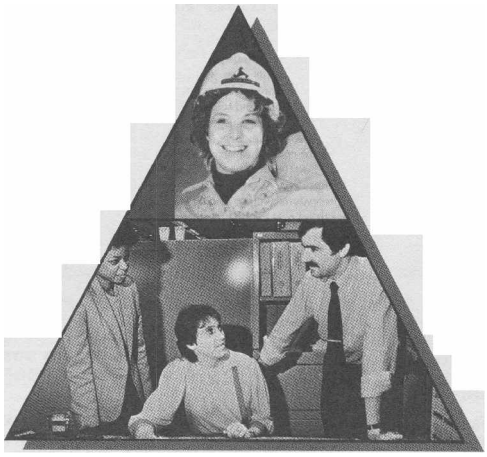
- **Nuclear**
- **Environmental**
- **Geotechnical**



The Choice Is Yours.

In field operations, you will receive hands-on interdisciplinary experience, coordinating on-site engineering with ongoing construction to solve complex problems. Hands-on construction experience is the bottom line in power generation today. With field experience, you increase your value to the industry with practical on-site exposure to actual day-to-day construction problems. We seek entry-level engineers in the following disciplines;

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- **construction Engineering**

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Boston,ma 02107	Boston, ma 02106	Cherry hill NJ 08034	Denver,co 80217	Houston,TX 77253	new York, NY 10116

TECHNICALSESSIONS

		BLUE ROOM	DIPLOHAT	PALLADIAN
JUNE 18		WOMEN IN ENGINEERING SCIENCE	MEDICINE	UNDERGRADUATE EDUCATION
MONDAY	8:15	KEYNOTE SPEAKER-REGWNCY BALLROOM		
	9:00	ATTITUDES & MOTIVATION	MECHANISMS OF ACTION OF DIETARY FIBERS	LOVE LETTERS FROM TEACHERS
	9:35	PROFILE OF A WOMEN ENGINEER	ADVANCES IN MEDICAL DIAGNISIS	FOREIGN STAFF AND STUDENT EXCHANGE
	10:30	LOOKING BACK TWENTY	CEREBRAL-PALSIED CHILD	ROOTS OF TECHNOLOGY
	11:05	PHILLIPINE WOMEN	IMPREGNATION OF A BONE FRACTURE PLATE	BREAKING INTO ENGINEERING
JUNE 19		DEFENSE	COMPUTER APPLICATIONS	ENERGY
TUESDAY	8:15	REST HELICOP TER HAULDOWN	TELECOMMUNICATIONS AND DATA PROCESSING ADVANCES	REACHING FOR THE SUN
	8:50	TOW ANTI- TANK GUIDED MISSILE	A CURE FOR THE INFORMATION EXPLOSION	L.A. POLLUTION CONTROL
	9:25	COMPUTER AND THE BATTLEFIELD COMMANDER	COMPUTER AIDED MEASUREMENT SYSTEM OF VLSI	METALLIC CONTACTS TO HEAVILY DOPED SI-GE ALLOYS
	10:15	EVOLUTION OF THE HERCULES	IMAGEGENERATION TECHNIQUES IN COMPUTER GRAPHICS	WASTE HEAT RECOVERY
	10:50	LARGE TRANSPORT AIRCRAFT	BUSINESS NETWORKS- PBX AND CENTRAL OFFICE BASED	SOLAR ENERGY FOR DEVELOPING COUNTRIES
JUNE 20		EDUCATION &TRAINIG	POTPOURRI	NUCLEARENGINEERING
WEDNESDAY	8:15	INSTRUCTIONAL TELEVISION(ITV)	WOMEN SCIENTISTS IN INDIA 1947-1984	BUILDING AN INTERNATIONAL NUCLEAR RESEARCH PROGRAM
	8:50	TRAINING:TECHNOLOGY TRANSFER	APPLICATION OF PARTICIPATORY WORK SCHEMES	HIGH LEVEL RADIOACTIVE WASTE TREATMENT
	9:25	WOMEN ENGINEERS IN INDIA	PROGRAMMABLE CONTROLLERS	NUMERICAL MODELING OF WELDING IN THE NUCLEAR POWER INDUSTRY
	10:15	CONTINUING EDUCATION	TECHNOLOGICAL CONDITIONS OF MODERN ARCHITECTURE	NUCLEAR ENERGY AND THE HIRD WORLD
	10:50	TRAINING SYSTEMS FOR DEFENSE PREPAREDNESS	ADJUSTABLE SPEED DRIVERS FOR EXISTING MOTORS	POST IRRADIATION EXAMINATION OF FUEL BUNDLE
JUNE 21		EFFECT OF TECHNOLOGY& SOCIETY	SOFTWARE ENGINEERING	OUR PLANET EARTH
THURSDAY	8:15	ENGINEERING, WORK & NEW TECHNOLOGY	THE SOFTWARE ENGINEER	WATER WAVE RESEARCH
	8:50	COMPETITIVE TERLECOMMUNICATIONS IN THE USA	FUNDAMENTALS OF COMPUTER SECURITY	TOXIC CHEMICAL WASTE DUMPS
	9:25	COMMUNICATIONS&SOCIO LOGICAL ASPECTS OF IRAN	AN OVERVIEW OF SOFTWARE TESTING	LIQUID CHROMATOGRAPHY
	10:15	A BRIDGE TO THE FUTURE	ADA-PAST,PRESENT,& FUTURE	GEOLOGY- THE CORNERSTONE OF THE CITY
	10:50	COMPUTER;TODAY&TOMO RROW	COMPUTER SYSTEMS ANALYSIS	WISCONSIN INTEGRATED EMERGENCY MANAGEMENT SYSTEM
JUNE22		APPLIED MATHEMATICS	MANUFATURING	TRANSPORTATION
FRIDAY	8:15	ROLE OF THE STATISTICIAN IN MANUFACTURING AND R&D	MANUFACTURING AS THE 20TH CENTURY ENDS	SPACE SHUTTLE
	8:50	PROBABILISTIC RISK ASSESSMENT	MULTINATIONAL ELECTRONIC TYPEWRITER MANUFACTURING	TRANSIT SUBWAY FOR SEATTLE
	9:25	PARAMETRIC COST ESTIMATION IN CONSTRUCTION	PRODUCE RELIABILITY	WIND TUNNEL FOR FULL-SCALE AUTOMOTIVE AERODYNAMICS
	10:15	ASPECTS OF PRECIPITATION RELEVANT TO LANDSLIDES	X-RAY/BETA SENSOR ADVANCES	MICROPROCESSOR-BASED CENTER OF GRAVITY CONTROL SYSTEM
	10:50	TRANSIENT BEHAVIOR OF SUPERCONDUCTING AL TERNATORS	QUALITY MANUFACTURING-A MANAGEMENT PERSPECTIVE	HOLOGRAPHIC AIDS

Careers add up to more here.
It's PG&E territory.

How do you measure the value of a career with Pacific Gas and Electric Company? Start with the security of one of the country's largest investor-owned utilities. Add the abundance of advancement opportunities coming up at all levels as some 123% of PG&E departmental managers retire in the next 10 years. Be sure to include the fact that career satisfaction has kept professional tenure at 25 + years. Perhaps most important, consider the challenge at the frontier of energy technology in the following opportunities for:

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To be successful, your background must include the appropriate BS degree (MS preferred), PE License, and several years of directly related experience (preferred). Future assignments may include opportunities in one of these areas:

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Responsibilities: Operation and maintenance of transmission/distribution electrical systems and power plants. Include engineering design of distribution systems within a geographical area. Departments: Communications, Hydrogenation, Power Control, Steam Generation, Substations, System Protection, Electric Transmission and Distribution.

Engineering

Responsibilities: Design and analysis of major generation, transmission and distribution systems. Departments: Electrical, Mechanical and Nuclear, Civil and Quality Control.

Gas Operations

Responsibilities: Engineering and operation of transmission and distribution systems in Northern and Central California. Departments: Gas Control, Gas Utilization, Gas Distribution, Gas System Design, Gas System Planning, Gas Pipe Line Operations, Gas Production and Storage.

Nuclear Power Generation

Responsibilities: Design, construction, licensing, and operation of nuclear power plants. Departments: Diablo Canyon Project, Quality Assurance, and Nuclear Plant Operations. Nuclear or Health Physics professionals will also be considered.

Planning and Research

Responsibilities: Investigate, analyze and solve engineering problems related to energy production, distribution, transmission and conservation. Departments: Engineering Research, Transmission Planning, Generation Planning, and Siting.

Look further for career value at PG&E and you'll discover competitive salaries and an impressive array of benefit plans that add 30-40% to your regular earnings - not to mention the rich, rewarding experience of living in Northern/Central California.

If you're qualified, please send your resume, cover letter indicating area(s) of interest and salary history to: Pacific Gas and Electric Company, Executive Employment Dept. E-45, 215 Market Street, Suite 925 San Francisco, CA 94106, APPLICANTS ONLY NO PHONE CALLS PLEASE. We aggressively support and promote affirmative action and equal employment opportunity.

PG and E

Pacific Gas and Electric co.
Where yours ideas can make progress possible

TECHNICALTOURS

NOTE: CAMERAS ARE NOT PERMITTED INSIDE OF THE FACILITIES; HIGH-HEELED, OPEN-TOED, OR TENNIS SHOES ARE NOT PERMITTED.

	MONDAV JUNE 18	TUESDAY JUNE 19	WEDNESDAY JUNE 20	THURSDAY JUNE 21	FRIDAY JUNE 22
BLUE ROOM DEPARTURE POINT	BETHLEHEM STEEL Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	BETHLEHEM STEEL Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	PLANETARIUM Bus departure 12: 00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	PLANETARIUM Bus departure 12: 00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	
	FORT MCHENRY TUNEL Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	FORT MCHENRY TUNEL Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	AQUARIUM Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.	AQUARIUM Bus departure 12:00 noon On your own lunch at Harborplace food pavilion Tour from 2:30 - 4:30 p.m. Return to shoreham 5:15 p.m.	
	US AGRICULTURAL RESEARCH SERVICE bus departure 1:15pm minibus riding tour of the grounds from 2:00-4:00 return to shoreham 4:45pm	CONSERVATION ANALYTICAL LAB bus departure 1:15pm Tour from 2:00-4:00pm return to shoreham 4:45pm	US AGRICULTURAL RESEARCH SERVICE bus departure 1:15pm minibus riding tour of the grounds from 2:00-4:00 return to shoreham 4:45pm	US AGRICULTURAL RESEARCH SERVICE bus departure 1:15pm minibus riding tour of the grounds from 2:00-4:00 return to shoreham 4:45pm	
	AIRCRAFT RESTORATION bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm	NATIONAL BUREAU OF STANDARDS bus departure 12:15pm on your own lunch at nbs robotics from 2:00-3:30 fire research 3:45-5:00 return to shoreham 6:00pm	NASA-GOODARD SPACE FLIGHT CENTER bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm	NATIONAL BUREAU OF STANDARDS bus departure 1:15pm fire research 2:00-4:00 return to shoreham 5:15pm	NASA-GOODARD SPACE FLIGHT CENTER bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm
		TAYLOR NAVAL SHIP R&D CENTER bus departure 1:15pm tour from 2:00-4:00pm Return to shoreham 4:45pm	POTOMAC ELECTRIC POWER bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm	TAYLOR NAVAL SHIP R&D CENTER bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm	NATIONAL INSTITUTE OF HEALTH bus departure 1:15pm tour from 2:00-4:00pm return to shoreham 4:45pm
		G WASHINGTON U HOSPITAL metro 1:00-4:00pm	G WASHINGTON U HOSPITAL metro 1:00-4:00pm	NATIONAL INSTITUTE OF HEALTH SEE DATA ON FRIDAY TOUR	SAME SCHEDULE FOR THE THURSDAY JUNE 21 TOUR
	INTELSAT Metro 1:30-2:45pm	INTELSAT METRO 1:30-2:45pm	INTELSAT METRO 1:30-2:45pm	INTELSAT METRO 1:30-2:45PM	INTELSAT METRO 1:30-2:45PM
	THE PENTAGON METRO 2:30-5:00PM	THE PENTAGON METRO 2:30-5:00PM	THE PENTAGON METRO 2:30-5:00PM	THE PENTAGON METRO 2:30-5:00PM	THE PENTAGON METRO 2:30-5:00PM

"NORTHROP VALUES MY ABILITIES, AND HELPS ME TO REALIZE MY POTENTIAL.
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Analytical Engineer
Prairie View A&M University. BSME

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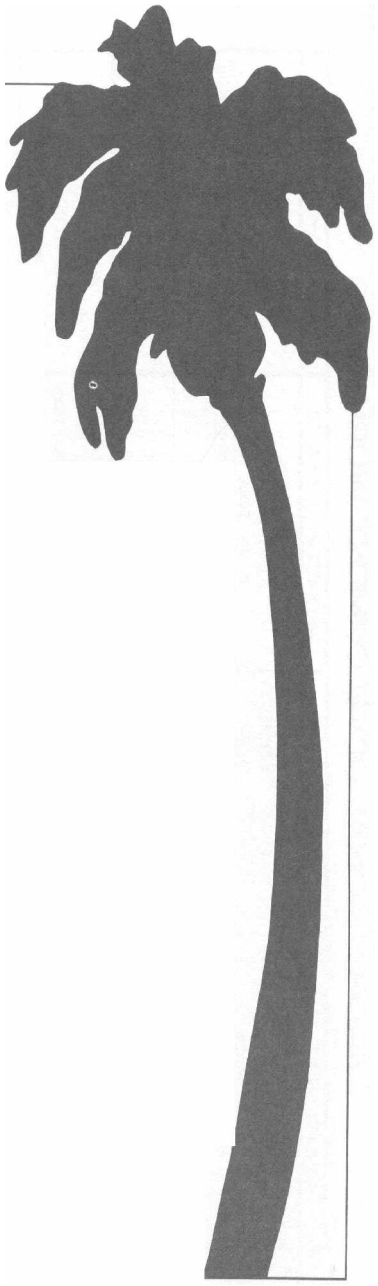
PROFESSIONAL DEVELOPMENT WORKSHOPS

	MONDAY JUNE 18	TUESDAY JUNE 19	WEDNESDAY JUNE 20	THURSDAY JUNE 21
	1-3 PM ROLE OF TECHNOLOGY IN GOVERNMENT G. HUNT, L. ANDRIANI, B. EDWARDS, & G. KOLSRUD	1-2 PM SHOULD YOU START YOUR OWN CONSULTING BUSINESS D. POWERS	1-2 PM IMPLEMENTING A FINANCIAL PLAN M. VAN DEUSEN	1-3 PM DUAL CAREER ISSUES SURVEY RESULTS AND PERSONAL PERSPECTIVES C. MILLER. S. FLEISCHMANN, P. PATTERS. & M. BEAN
	3-4 PM ALTERNATIVES TO FULL TIME EMPLOYMENT K. MACKALL & L. BERTUGLIA	2-3 PM INTERPERSONAL EFFECTIVENESS J. WANGLER & D. MINNEMAN	2-3 PM INVESTMENT DRESSING FOR SUCCESS E. JONES	3-4 PM ASSESSITING THE MANAGEMENT TASK TRACK G. MACNAB
		3-4 PM PEOPLE & TECHNOLOGY A MUST FOR BUSINESS SUCCESS V. COMSTOCK & L. COMFRY		
	1-2 PM EFFECTIVE SPEAKING FOR PROFESSIONALS P. BEAUDRY	1-2 PM CAREER TRANSITIONING -ENTRY LEVEL ENGINEERS G. COX	1-3 PM TECHNICAL OR MANAGERIAL? CLARIFYING CAREEP OPTIONS S. MANRING	1- 2:30 PM SEXUAL HARASSMENT AT THE WOEKSITE B. WHITE & M. BERMAN
	2-4 PM MEETINGS MADE SIMPLE ..AND PRODUCTIVE K. ARCHER	2- 3 PM CAREER TRANSITIONING - ENGINEERS WITH SEVERAL YEARS EXPERIENCE G. COX		
		3-4 PM SUCCESSFUL INTERVIEWING - FOR THE NEW GRAD E. LOWENSTERN	3-4 PM CREATIVE FINANCING FOR BUSINESS M. VAN DEUSEN	2:30 – 3:30 PM THIS THING CALLED STRESS R. WILLERT
	1-2 PM ASSERTIVENESS AND POWER STAYING IN CONTROL S. FOUNTAIN	1- 2:30 PM CONTINUING DEVELOPMENT M.CANON (MODERATOR) M. MASLANIK, S. RIEDEL S. MOORE, C. SCHAMP	1-2 PM EFFECTIVE RESUME WRITING D.ESTES	1-3 PM EFFECTIVE COMMUNICATION WORKSHOP C. MACHICH
	" TO BE HELD " IN THE CALVERT ROOM 1-3 PM THE RANT SEEKING WORKSHOP V. MEDINA & T. GIDEON	2:30- 4:00 PM ADVANCING YOUR CAREER BY PUBLISHING ARTICLES - CASTING THE DIE M. LEHTIMEN	2-3 PM BUSINESS & BED & BREAKFAST K. ARCHER	3-4 PM ASSERTIVENESS AND POWER STAYING IN CONTROL S. FOUNTAIN
	1-2 PM WHAT ENGINEERS NEED TO KNOW ABOUT EMPLOYMENT CONTRACTS AND PATENTS S. BERMAN	1- 2:30 PM GEARING UP FOR CAREER GUIDANCE I - CASTING THE DIE K.JOHNSON	1-2 PM OPPORTUNITIES FOR WOMEN IN GOVERNEMENT L. CURREN (MODERATOR)	1-2 PM FIELD ASSIGNMENTS IN THE ENGINEERING AND CONSTRUCTION INDUSTRY D. KAYLO & S. NEEPER
	2:30-SCHOLARSHIP 4 PM MANAGEMENNT PROGRAM C .KING	2:30- GEARING UP FOR 4 PM CAREER GUIDANCE II RE-ENTRY-SHIFING GEARS B. KING	2-3:30PM GEARING UP FOR CAREER GUIDANCE III MOTIVATING VOLUNTEERS-TOOLS FOR OVERCOMING INERTIA C.LECLAIR	2-3 PM ASME CODES& STANDARDS A CENTURY OF PROGRESS THROUGH VOLUNTARY ACTION W.WOOLLACOTT
			3:30-4PM SKIN CARE E.JONES	3-4PM RULES OF ENVIRONMENTAL PROTECTION IN THE US EPA S.SIMON,K.CONWAY,&

DEVELOP YOUR CAREER

OUR REPRESENTATIVE WANTS TO INTERVIEW . . . YOU!



Located on the coast between the cultural and educational opportunities of Los Angeles and the scenic coastline and beautiful beaches of the Ventura/Santa Barbara area, THE NAVAL SHIP WEAPON SYSTEMS ENGINEERING STATION (NSWSES) at Port Hueneme, California (that's "NEMESIS"at "Port Why-nee-me") has exceptional Civil Service career opportunities for graduating engineers.

YOU will be working with experts in weapon systems technology involving in-service engineering and integrated logistics support for U.S. Navy Ships in the fields of tactical software, digital computers, missile testing, launching systems, radars and systems engineering.

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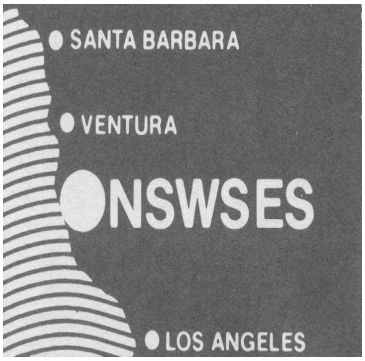
WE OFFER a federal benefits package as well as the challenge of dynamic career growth: Flextime, the opportunity for graduate education at nearby universities and colleges, uncrowded community living set on a scenic coastline of unparalleled beauty. Hiking . . . surfing . . . sailing . . . exploring the Southern California Mission heritage, the musical events of Ojai, and the horse trails of the ranches and canyons.

We are just a short drive north from the cultural and educational diversity of Los Angeles, yet our uncrowded, smog-free, relaxed environment sets us a world apart. Come see us. Develop your career and your lifestyle.



NANCY DUNBAR CODE 0610

Naval Ship Weapon Systems Engineering Station

PORT HUENEME, CA 93043

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OTHER CONFERENCE ACTIVITIES AT THE SHOREHAM

FILMS IN THE FORUM MEETINGS	MONDAY JUNE 18	TUESDAY JUNE 19	WEDNESDAY JUNE 20	THURSDAY JUNE 21
	WOMEN' S PROFESSIONAL &TECHNICAL ROLE IN FLIGHT TEST SUPPORT 1.00 PM 20 MINUTES	IS ANYBODYLISTENING? PROCTOR & GAMBLE MARKETING 1:30 PM 20 MINUTES	FOR McHENRY TUNNEL CONSTRUCTION OF THE TUNNEL SHOWN IN THE REGENCY BALLROOM 1:30 PM 25 MINUTES	AUTOMATED MANUFACTURING NBS RESEARCH FACILITY 1984 1:30 PM 14 MINUTES
	RESEARCH TO THE REALITY DAVID W. TAYLOR MODEL BASIN 1:30PM 38 MINUTES	STEEL MAKERS BETHLEHEM STEEL CORP 2:30 PM 28 MINUTES	FOR McHENRY TUNNEL CONSTRUCTION OF THE TUNNEL SHOWN IN THE REGENCY BALLROOM 2:30 PM 25 MINUTES	BEYOND HORIZONS INTELSAT 2:30 PM 24 MINUTES
	WONDERFUL WORLD OF FLAVOR McCORMIC SPICE COMPANY 2:30 PM 26 MINUTES	BEYOND HORIZONS INTELSAT 3:30 PM 24 MINUTES	FOR McHENRY TUNNEL CONSTRUCTION OF THE TUNNEL SHOWN IN THE REGENCY BALLROOM 3:30 PM 25 MINUTES	IS ANYBODY LISTENING? PROCTOR & GAMBLE MARKETING 3: 30 PM 26 MINUTES
	GENERATING SYSTEMS POTOMAC ELECTRIC COMPANY 3:30 PM 20 MINUTES	AUTOMATED MANUFACTURING MBS RESEARCH FACILITY 1984 4:30PM 14 MINUTES	FOR McHENRY TUNNEL CONSTRUCTION OF THE TUNNEL SHOWN IN THE REGENCY BALLROOM 4:30 PM 25 MINUTES	STEEL MARKERS BETHLEHEM STEEL CORP 4:30PM 8 MINUTES
	RESEARCH TO THE REALITY DAVID W. TAYLOR MADEL BASIN 4:30PM 38 MINUTES			
	STUDENT REGIONAL 9:00-11:00AM I BOARD II CLUB ROOM A III COUNCIL IV CLUB ROOM B V CABINET VI ROOM163	STUDENT REGIONAL 9:00-10:00 AM I BOARD IV CLUB ROOM A II CLUBROOM A V CABINET III COUNIL VI ROOM163	EXHIBITS BIRDCAGE WALK,FOVER B,& THE AMBASSADCR ROOM 7:00AM- 6:00PM	EXHIBITS BIROCAGE WALK,FOVER B,& THE AMBASSADOR ROOM 7:00 AM-6:00PM
	CAREER GUIDANCE CAUCAS ROOM 2:00-4:00	STUDENT GENERAL MAMBERSHIP EXECUTIVE ROOM 10:15-11:00AM	STUDENT TECHNICAL PRESENTATION COMPETITION TUDOR ROOM 8:00-12:00PM	SWE BOARD OF TRUSTEES ROOM 463 8:15AM-9:00 PM
	SWE SECTION LEADERSHIP TRAINING CALVERT ROOM 3:15-6:00PM	JOB FAIR EMPIRE ROOM 1:00-9:00PM	SWE FACULTY ADVISORS COUNCIL ROOM 1:00-2:45PM	SWE PROVISIONAL REGIONS 1:00-3:30PM
		STRATEGIC PLANNING SESSION " SPEAK OUT" CLUB ROOM A 1:00-3:00PM	INTERNATIONAL BUSINESS CALVERT ROOM 1:00-5:00PM	A CABINET F PALLAOIAN B CLUB ROOM A G PALLADIAN C CLUB ROOM B H ROOM 117 D COUNCIL I ROOM 163 E DIPLOMAT J TUDOR
		SWE ADVISORY BOARD INVITATION ONLY CLUB ROOM B 1:00-5:00 PM	WOMEN IN GOVERNMENT ROOM 117 3:00-4:00PM	
		STUDENT TPC PRACTICE TUDOR ROOM 1:00-5:00PM	WOMEN IN ADADEMIA CAUCUS ROOM 3:00-4:00PM	

			SWE MEMBER-AT-LARGE ROOM 163 3:00-4:00PM	

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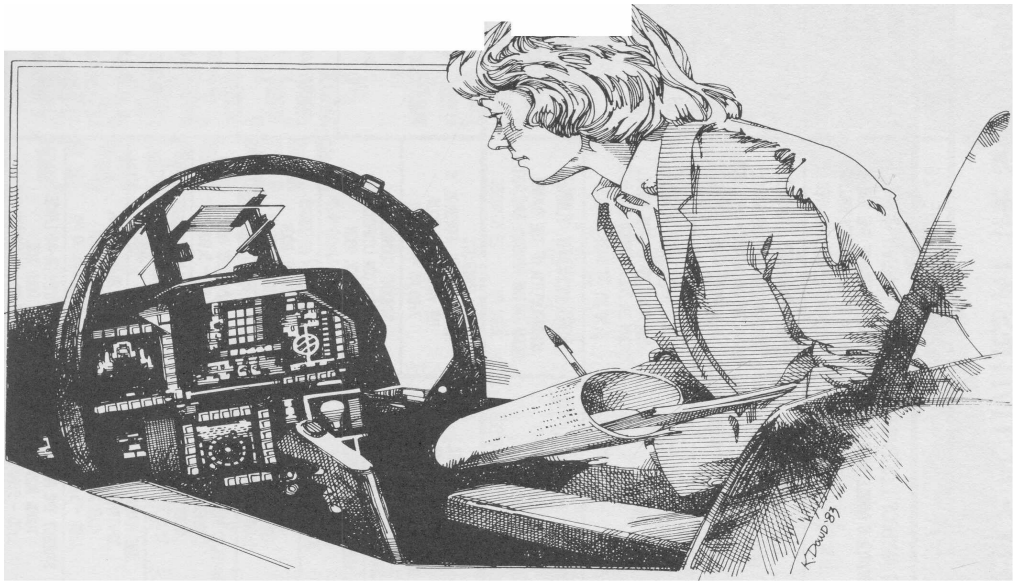
The Challenge is yours!



The Society of Women Engineers' development of standards, professionalism, and programs to meet the needs of women engineers at the collegiate and professional level are applauded by McDonnell Douglas Corporation.

We offer you a chance to continue that growth both personally and professionally by earning rewards through performance. The challenges and excitement of the most advanced technology in the world will be yours!

Learn how to become part of our top-flight team in the aerospace industry. See our representatives at our:

Job Fair Booth#216-June 19

q Wednesday, June 20, 1-2 p.m.
Effective Resume Writing
D. Estes-Staff Asst. to VP-Personnel

ibit Booth #133 - June 20 and 21

Professional Development Workshops

Thursday, June 21, 3-4 pm
Assessing the Fast Track to Management
G. MacNab-Dir. Human Resources

Resumes may also be mailed to:
Jack 5chwartzburt- Manager, College Relations
McDonnell Douglas Corporation
P.O. Box 516, Dept. ED-87
51. Louis MO 63166

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To Washington D.C.
For the
Society of Women Engineers
Tri-Conference on
''Technology - An International
Bridge"

Over the years, SWE's contributions through such activities as workshops, seminars, studies and reports, have greatly enhanced opportunities for women engineers throughout the United States. We salute your efforts.

While attending this year' conference, plan on visiting our exhibit and career booths. We will have representatives from Vandenberg AFB, on the Central California coast, New Orleans, Louisiana, and Denver, Colorado, ready to talk with you about the challenging and rewarding opportunities available at Martin Marietta Aerospace.

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In celebration of the
VII INTERNATIONAL CONFERENCE
OF WOMEN ENGINEERS AND SCIENTISTS
We request the pleasure of your company
at the Formal Welcome Reception
On Sunday, June 17, 1984
At 7:00 PM at the Shoreham Hotel
Ambassador Room
2500 Calvert St. NW
Washington, District of Columbia

R.S.V.P.

Black tie or International Dress

EVENTS OF THE DAY
SUNDAYJ U N E 1 7, 1 9 8 4

12:00 - 6:00	REGISTRATION	WEST LOBBY
2:00 - 6:00	CONVERSATION ROOM NORMALLY IN THE PRESS ROOM; TUDOR ROOM SUNDAY ONLY)	TUDOR ROOM
4:00 - 7:00	PARK PLACE CAFE OPEN HOUSE WINE & CHEESE RECEPTION –JUSTWEAR YOUR NAME TAG)	INFORMATION BOOTH
7:00 - 10:00	WELCOME RECEPTION	AMBASSADOR ROOM

CONVERSATION ROOM

LOCATED IN THE PRESS ROOM ON THE MAIN FLOOR
A PLACE TO MEET AND CHAT THROUGHTOUT THE CONFERENCE

EXECUTIVE OFFICE ROOM-663

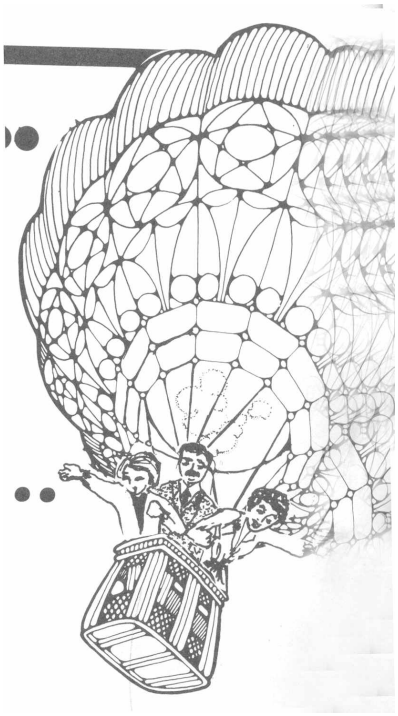
SWE EXECUTIVE OFFICES OPEN UNTIL SUNDAY JUNE 24 AT 4:00 PM

ICWES OFFICE-ROOM 463

INTERNATIONAL AND TRI-CONFERENCE COMMITTEE OFFICE

INTERNATIONAL ROOM-ROOM263

INTERNATIONAL DELEGATE REGISTRATION AND
A PLACE WERE ANYONE CAN RECEIVE SPECIAL ASSISTANCE & TOUR GUIDANCE



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...Or is it just *"Up* in *the* Air?"

Is your career really going somewhere, or, like the balloon, does it seem that it's just "full of hot air?"

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. LITTON GUIDANCE & CONTROL

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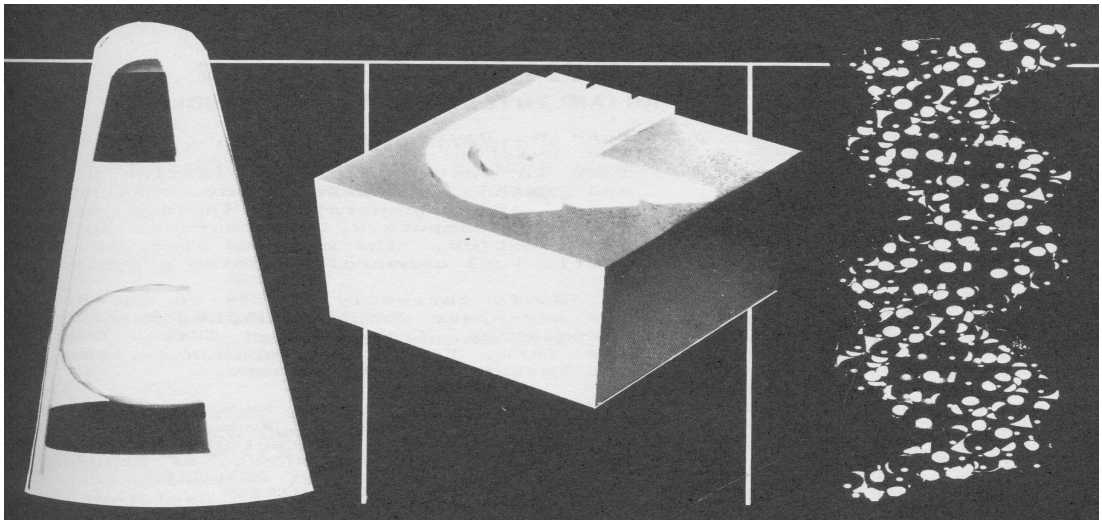

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VII ICWES
OPENING KEYNOTE SPEAKER
"SUPER COMPUTING AS AN INTERNATIONAL TECHNOLOGY"

Ruth M. Davis is President and Founder of the Pymatuning Group, Inc., which specializes in industrial modernization strategies and technology development. Technological areas of concentration include microelectronics, computers, information, automation, and robotics. The company also assists synthetic fuel commercialization projects.

Dr. Davis currently serves on the Boards of the Aerospace Corporation, Commercial Credit Corporation, Consolidated Edison Company of New York, United Telecommunications, Inc., and Varian Associates.

Dr. Ruth M. Davis

Dr. Davis has been Assistant Secretary of Energy for Resource Applications (1979-1981), and Deputy Under Secretary of Defense for Research and Advanced Technology (1977-1979). Prior to 1977 she served as Director of the Institute for Computer Sciences and Technology at the National Bureau of Standards; as the first Director of the National Center for Biomedical Communications in the Department of Health, Education, and Welfare; and as Staff Assistant for Intelligence and Reconnaissance in the Office of the Secretary of Defense.

Dr. Davis is also Adjunct Professor and Chairman of the Computer Advisory Committee in the School of Engineering, University of Pittsburgh. She is a member of the Council of Library Resources, the Board of Trustees of Thayer School at Dartmouth University, and the School of Engineering and Applied Sciences of the University of Pennsylvania.

Dr. Davis' honors, awards, and commendations include:

Department of Energy Distinguished Service Medal, 1981;
Department of Defense Distinguished Service Medal, 1979;
Honorary Doctorate of Engineering, Carnegie Mellon University, 1979; Computer Science Man-of-the-Year for 1979;
National Civil Service League Award, 1976;
Rockefeller Public Service Award for Professional Accomplishment and Leadership, 1973;
Federal Woman of the Year Award, 1972;
Department of Commerce Gold Medal, 1972;
Fellow, American Institute of Aeronautics and Astronautics;
Fellow, Society for Information Display; and
Fellow, American Association for the Advancement of Science.

The National Academy of Engineering and the National Academy of Public Administration have also elected Dr. Davis to membership.

Dr. Davis received all her degrees summa cum laude in mathematics. She obtained Ph.D. and M.A. degree

from the University of Maryland, and a B.A. degree from American University.

EVENTS OF THE DAY

MONDAY JUNE 18, 1984

7:00-8:00	CONTINENTAL BREAKFAST	REGENCY BALLROOM
7:00-8:00	SPEAKERS BREAKFAST (INVITATION ONLY)	CALVERT ROOM
8:00-6:00PM	REGISTRATION	WEST LOBBY
8:00-1:00	SIGN UP FOR EVENING EVENT& JOB FAIR	INFORMATION BOOTH
8:15-9:00	OPENING CEREMONIES & KEYNOTE ADDRESS	REGENCY BALLROOM
9:00-11:00	SWN STUDENT REGIONAL MEETINGS	
	REGION I	BOARD
	REGION II	CLUB ROOM A
	REGION III	COUNCIL ROOM
	REGION IV	CLUB ROOM B
	REGION V	CABINET
	REGION VI	ROOM 163
9:00-10:15	TECHNICAL SESSIONS	
	WOMEN IN ENGINEERING AND SCIENCE	BLUE ROOM
	MEDICINE	DIPLOMAT ROOM
	UNDERGRADUATE EDUCATION	PALLADIAN ROOM
10:15-10:30	BREAK	
10:30-11:40	TECHNICAL SESSIONS(continued)	
11:45-1:00	ON YOUR OWN LUNCH	INFORMATION BOOTH
12:45-10:00	SWE STUDENT TRIP TO THE US NAVAL ACADEMY	BLUE ROOM
12:00-5:15	TECHNICAL TOURS	BLUE ROOM
12:00-5:15	BETHLEHEM STEEL	
12:00-5:15	CONSTRCTION OF THE FORT MCHEMRY TUNNEL	
1:15-4:45	US AGRICUL TURAL RESEARCH SERVICE	
1:15-4:45	PAUL E.GARBER(AIRCRAFT RESTORATIONFACILITY	
1:30-2:45	INTERNATIONAL COMMUNICATION SATELLITE	
2:30-5:00	THE PENTACON	
1:00-4:00	PROFESSIONAL DEVELOPMENT WORKSHOPS	
1:00-2:00	EFFETIVE SPEAKING FOR PROFESSIONALS	BOARD ROOM
1:00-2:00	ASSERTIVENESS AND POWER:STAYING IN CONTROL	CAUCUS ROOM
1:00-2:00	EMPLOYMENT CONTRACTS AND PATENTS	DIRECTORS ROOM
1:00-3:00	ROLE OF TECHNOLOGY IN GOVERNMENT	EXECUTIVE ROOM
1:00-3:00	THE GRANT SEEKING WORKSHOP	CALVERT ROM
2:00-4:00	MEETINGS MADE SIMPLE … AND PRODUCTIVE	BOARD ROOM
2:30-4:00	SCHOLARSHIP MANAGEMENT PROGRAM	DIRECTORS ROOM
3:00-4:00	AL TERNATIVES TO FULL- TIME EMPLOYMENT	EXECUTIVE ROOM
1:00-6:00	MEETINGS	
2:00-4:00	CAREER GUIDANCE COMMITTEE	CAUCUS ROOM
3:15-6:00	SWE SECTION LEADERSHIP TRAINING	CALVERT ROOM
1:00-5:00	FILMS	THE FORUM
1:00-1:30	WOMEN' S ROLE IN FLIGHT SUPPORT	
1:30-2:15	RESEARCH TO REALITY	
2:30-3:00	WONDERFUL WORLD OF FLAVOR	
3:30-4:00	GENERATING SYSTEM	
4:30-5:00	RESEARCH TO REALITY	
1:00-6:00	ON YOUR OWN TOURS	INFORMATION BOOTH
6:00-8:00	INVITATION ONLY RECEPTION(swe corporation members, section presidents,& student representatives)	THE FORUM
6:30-10:30	SELECTED EVENING EVENT IN WASHINGTON	INFORMATION BOOTH

TECHNICAL SESSION ABSTRACTS

MONDAY JUNE 18, 1984 BLUE ROOM WOMEN IN ENGINEERING AND SCIENCE

Dr. A. Kulshrestha, Session Facilitator Gujarat Women's Economic Development Corp. India

A STUDY AND ANALYSIS OF FACTORS INFLUENCING PROFESSIONAL WOMEN ENGINEERS' ATTITUDES & MOTIVATION

Alia P. Gakuba
Doctoral Candidate, George Washington University

The subject of this study is a professional women engineer. The objectives of the study is to design factors influencing women engineers' motivation and attitudes to ward professional growth and discrimination in organizations. The Exploratory Model: Utilization of Women Engineers was developed. The Model consists of three parts.

Part I: is classified into Opportunity and Ability factors. Opportunity factors are volume of human energy, development of household technology and communications information, government, economic and social. Ability factors are women's performance in engineering schools and engineering fields and women's possible double role: occupational and maternal.

Part II; Motivational and Attitudinal factors are divided into internal and external. Internal factors are Bachelor's degree field, employment status, primary responsibility' highest degree completed, type of education involved, age group, years of professional experience, marital status, number of children and their ages, salary range, and professional registration. External factors are type of employer, size of employer, number of women engineers in organization, and existence of mentor.

Part III of the Model is utilization of women engineers, and consists of professional growth and discrimination factors.

All parts of the Model are interrelated. Motivational and attitudinal factors acting on opportunity and ability will produce a certain amount of output or utilization of women engineers in organizations.

TODAY'S PROFILE OF THE WOMAN ENGINEER

Haydee Hetrick Batelle Memorial Institute USA

A discussion of "The Profile of the Woman Engineer", a biannual publication of the Society of Women Engineers will be given. How SWE gathers statistics of women engineers all over the USA will be explained. The statistics will be used to explain past changes in membership interests and activities, analyze trends, and program for future changes.

The mechanisms for gathering the statistics have changed this year. A computerized answer sheet for automatic readout has been implemented. This faster and more accurate way of reading a large amount of information will be discussed. The system used for handling and analyzing the information will be described in detail. An explanation of how it works will be given.

LOOKING BACK TWENTY YEARS WITH A FOREIGN EYE

Jacqueline Julliard Consultant Switzerland

As a member-at-large of SWE since 1960, I recall here major events as I saw them during the memorable week of the first ICWES, June 15-21, 1964; as well as some world events in the background of that year.

PARTICIPATION OF PHILLIPINE WOMEN IN S & T DEVELOPMENT

Lydia G. Tansinsin
National Science and Technology Authority Philippines

The contemporary Filipino Woman has been glorified into images resulting from history and tradition. Her femininity is said to be a product of the unique infusion of her Asian, Spanish and American heritage. There are those who cast the modern Filipina as enlightened, well educated and socially free. Yet, others still think of the Filipina as the traditional Maria Clara: coy, subservient, patient and understanding. Today, the Filipina can be accepted not only as a capable mother but also as a partner in economic production and community involvement. However, the real issue about women has been focused, on the issue of discrimination particularly in the employment field. The UN Convention on the Elimination of All Forms of Discrimination Against Women defines discrimination against women as "any distinction, exclusion made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men, and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field". Because the issue centers on the employment aspect, provisions in the law concerning women relate much to this perspective.

MONDAY JUNE 18, 1984 DIPLOMAT ROOM MEDICINE

Dr. S. V. Bhide, session facilitator Cancer Research Center / India

MECHANISMS OF ACTION OF DIETARY FIBERS

Dr. Marie Cassidy George Washington University USA

Epidemiological evidence from diverse societies suggest strong relationships between dietary feeding patterns and the occurrence or absence of so-called "Western diseases" such as arteriosclerosis, colon cancer, diabetes and various gastrointestinal disorders. Based on the premise that the vast array of putative effects on a number of different body systems must originate in stimuli perceived by and acted upon by the only known source of contact, Le. The gastrointestinal system, we have studied the anatomical, biochemical and physiological features of this system in a rat model. Results obtained to date indicate that the intestinal absorption and. hence blood levels of important metabolites such as glucose, cholesterol, amino acids, inorganic ions and trace elements can be significantly modified by fiber ingestion. Underlying mechanisms

include structural and functional adaptation of the lining of the stomach and the small and large intestine.

THE CONTRIBUTION OF ENGINEERING & SCIENCE TO ADVANCES IN MEDICAL DIAGNOSIS

Professor Daphne F. Jackson University of Surrey England

Recent technological progress has led to the availability in developed countries of new diagnostic techniques, e. g. ultrasonic scanning, and thermography and computed tomography. The technical basis of some of these methods is described with emphasis on the nature of new information, which may be obtained. In several cases it is noted that engineering development has taken place in advance of scientific understanding of the response of biological tissue to the physical probe and that this has placed limits on the realization of the full potential of the method.

TECHNICAL SESSION ABSTRACTS

DESIGNING FOR THE SEVERELY CEREBRAL-PALSIED CHILD

S.E. Nickovich Bechtel Power Corporation USA

The problems of severely cerebral-palsied children are presented. Important characteristics for devices that support/ transport them are discussed. These are based on design work tested in prototype for three years on a variety of children with cerebral palsy at a center for exceptional children. Methodology relative to the engineer working in the medical area is included.

ANTIBIOTIC IMPREGNATION OF A BONE FRACTURE PLATE WITH INCREASED LEXIBLITY

Debborah J. Smith, Student - University of Iowa USA

The bone fracture plate was designed to prevent cases of mishealing fractures. There are two major problems encountered with the present plates: resorption and infection. Resorption is due to a change in the stress levels within the bone, due to the insertion of a stiff material on to the bone's surface. The infection occurs due to the surgical procedure or the implant itself.

To combat these problems, a new plate was designed. More flexibility was introduced to decrease the resorption and the plate was impregnated with antibiotics to help stop infections. Further studies will be made to determine the effectiveness and feasibility of the design.

MONDAY JUNE 18, 1984 PALLADIAN ROOM UNDERGRADUATE EDUCATION

Elaine Golda, Session Facilitator Bell Laboratories USA

HOW ENGINEERS & SCIENTISTS CAN GET LOVE LE'ITERS FROM TEACHERS

Betty P. Preece Melbourne High School USA

In Brevard County, Florida, which is adjacent to Kennedy Space Center as well as to major electronics and computer industries, a number of innovative programs in the secondary schools are being developed and supported by the local technical community. While the purpose has been to enhance the entire secondary curriculum, particular emphasis has been placed on math and science areas. Both faculty and students are benefiting from these attempts to bring them knowledge and awareness of current technology and career options. Sponsors believe that the result will be enlarged supply at all levels of technically literate and skilled, highly educated workers.

STAFF & STUDENT EXCHANGES BETWEEN USA - EUROPE , THE U.K.

Maria Ludika Watkins The City University England

There are a multitude Some of them entail abroad" programmes. Students from the U.S.A. to Europe. There they are brought and chaperoned by their own faculty never mixing with the natives. This paper describes a number of schemes developed between U.S.A., European and U.K. Universities (in particular T.C. U.) which enables overseas students to join existing courses at a U.K. University. This makes it possible for students of any discipline to come to the U.K. for periods from one term to one year and join British students on an equal footing, living in Halls of Residence and partaking in all student activities. The exchange provides similar facilities for U. K. students to study in Europe or the U.S.A. There is also an active movement of faculty members coming to the U. K. to teach and/or research while others go from the U.K. to the U.S.A.

ENGINEERS CAN STRENGTHEN EDUCATION: THE ROOTS OF TECHNOLOGY

Jean Richardson Jean Richardson and Associates, Inc. USA

Engineers can strengthen the roots of Technology education. If technology is the bridge to international understanding, then education is the foundation of technology. The roots of this foundation are mathematics. Engineers who deal with technical matters are concerned with the quality of mathematics taught in our schools.

Our schools are in a two-fold crisis: inadequate teaching and insufficient funds. Business and industry can play an important role in combating this crisis. To insure survival in rapidly growing technical fields, it is in businesses' best interest to share their knowledge with America's youth.

Industry can loan technically trained people to the schools, retired persons can share their knowledge and we can utilize the by-products of a technical society, such as computers and other video equipment.

A sound educational system is a necessity for our country's survival as a leader in industry. We must insure a great technical future by enacting and participating in educational programs for our country's greatest resource our youth.

BREAKING INTO ENGINEERING

Susan M. Hobart EG&G Idaho, Inc. USA

To be an engineer, or not to be an engineer, that is only one question on the mind of a young adult choosing a career. But just how does a young adult choose a career? A career-based decision requires much thought and development of the young adult. Outside influences, guidance, and upbringing have much to do with the initial decision to pursue a particular career. Once a decision is made to follow engineering as a profession, she must choose which college to attend, as well as which discipline of engineering to study. Concurrent with academic training, industrial training is very beneficial to the young adult who is interested in obtaining a complete education before attempting to break into the working world. A well rounded engineering education plus the pure desire to learn about and contribute to the profession are a good start for a young adult wanting to accomplish personal goals and to achieve success in her chosen profession.

TECHNICAL TOURS

THESE TECHNICAL TOURS ARE DESIGNED TO SHOW WHAT HAS BEEN DONE IN THE LAST QUARTER CENTURY TO BENEFIT TECHNOLOGICAL DEVELOPMENT AND TO INCREASE THE STANDARD OF LIVING. EACH TOUR IS UNIQUE AND EACH SHOWS THE DIFFERENT TRENDS IN FUTURE DEVELOPMENTS. THE TOURS ARE DESIGNED TO OFFER A GOOD INDUSTRIAL OR SCIENTIFIC PERSPECTIVE OF THE INDUSTRY TO THE NOVICE AS WELL AS PROVIDE A FORUM FOR DETAILED EXAMINATION AND INTERACTION FOR THE EXPERT IN THE FIELD. THE TOURSIN THE BALTIMORE AREA ALSO

OFFER A LOW COST OPPORTUNITY TO VISIT BALTIMORE' S FAMOUS HARBORPLACE PAVILIONS-AN INDOOR FESTIVAL OF 140 SHOPS AND RESTAURANTS LOCATED IN THE SCENIC INNER HARBOR.

BETHLEHEM STEEL BALTIMORE, MD
S.L. Condon, Host

This bus tour to Baltimore, which is limited to forty people, will visit steel manufacturing and processing plant. During this heavy industry tour, you will have the opportunity to see close-hand such processes as refining of molten iron in the open-hearth furnaces, the casting process, and ingot breakdown into useful shapes. The tour focuses on the basic steel-making processes and the restructuring of the industry through technology modernization to regain the US competitive position. This tour is available on Tuesday afternoon as well.

FORT McHENRY TUNNELBALTIMORE, MD
K. Merrill, Host

The 1.7-mile (2.8 kilometers) tunnel is under construction to connect highway 1-95 under Baltimore' s inner harbor. The tunnel, considered to be an engineering achievement, cost almost one billion dollars and will be open to traffic in 1985. This tour is offered Tuesday afternoon as well. Each bus tour to Baltimore is limited to forty people.

US AGRICULTURAL RESEARCH SERVICE BELTSVILLE, MD
M. Fellows, Host

This event is limited to twenty people to take a mini-bus tour of a nationwide research center located on 7,000 acres and divided into institutes for agricultural, animal, horticultural, plant genetics, plant protection, and human nutrition. The tour is offered on Wednesday and Thursday as well.

PAUL E. GARBER AIRCRAFT RESTORATION
WASHINGTON, DC
M. Feik, Host

This bus tour is limited to thirty people to visit a facility dedicated to the restoration and preservation of 90 historically significant aircraft from World War I through the Space Age. The tour includes a behind-the-scene look at the restoration workshop for preserving aircraft and other Smithsonian objects. This tour is a must for the mechanical and aerospace engineers as well as the history buffs.

INTERNATIONAL COMMUNICATIONS SATELLITE WASHINGTON, DC
G. Trevitt, Host

A Metro subway tour to this global satellite organization which serves more than 100 countries in transoceanic communication such as: telephone calls, telegrams, telex, transmission of computer data, and international television. The forty-five minute tour includes a film and a tour of the computer facilities. The attendance is limited to 18 people and is offered Monday through Friday. The tour is timed such that you can follow this tour with the Pentagon tours.

THE PENTAGON WASHINGTON, DC Multiple Hosts

A Metro Subway tour to the executive headquarters of the Department of Defense, which is one of the world's largest office buildings. The tour will remove the mystique surrounding the Pentagon and show the wide range of work con ducted at this facility. It has army collections, the Hall of Heroes, military women's exhibition, and 17 miles (28 kilometers) of executive officers' corridors. The attendance is limited to thirty-five people and is offered Monday through Friday.

SWE STUJENT TOUR OF THE US NAVAL ACADEMY AND HISTORIC ANNAPOLIS
DEPARTURE FROI THE BLUE ROOM AT 12:45 PM
ARRIVE AT THE US NAVAL ACADEMY AT 2:00 PM

US NAVAL ACADEMY TOUR FROM 2:15 TO 4:30
IN ADDITION TO SEEING CADETS, YOU WILL SEE BANCROFT HALL,
THE CHAPEL, THE MUSEUM, RICKOVER HALL, AND THE ENGINEERING LABS,

DINNER AT HUBBARD HALL ON THE SEVERN RIVER FROM 5:00 TO 6:00
HOSTED BY STONE AND WEBSTER ENGINEERING CORPORATION
ROAST BEEF & SLICED BREAD, HAM & HOT BISCUITS, CHEESE & CRACKERS,
FRESH VEGETABLES& DIP, PRETZELS& DIPCOOKIES, AND BEVERAGE

TOUR HISTORIC MNAPOLIS FROM 6:00 TO 8:30
ROAM THROUGH THE PICTURESQUE STREETS OF THE STATE CAPITOL, VISIT THE
HARBOR AREA, SEE THE MARKET HOUSE, MANY SHOOPS, AND THE 18TH CENTURY HOMES

DEPARTTURE PROMPTLY AT 8:45PM FROM GATE 1 OF THE US NAVAL ACADEMY (VISITOR' S ENTRANCE)
AT THE CORNER OF RANDALL STREET AND KING GEORGE STREET.

ARRIVBE AT THE SHOREHAM AT 10:00PM

MONDAY JUNE 18, 1984 PROFESSIONAL DEVELOPMENT WORKSHOPS

Session Facilitators Suzanne Nagel, AT&T Bell Laboratories Evelyn Weiss, Rockwell International

ROLE OF TECHNOLOGY IN GOVERNMENT

Dr. Gretchen Kolsrud (Moderator) Office of Technology Assessment - US Congress

To meet the challenge of rapidly changing technologies, government programs must be kept responsive, this panel will explain the impact that technology has made on government policies and programs. The prominent women engineers/scientists on the panel will present their views on this subject based on their personal experiences in working for government. A question and answer period will follow after all panel members have spoken.

ALTERNATIVES TO FULL-TIME EMPLOYMENT

Karen Mackall, NASA

Lynn Bertuglia, Franklin Associates, Ltd.

There are a number of alternatives to full-time employment which women engineers may consider in order to make time for parenting, pursuit of graduate degrees, or stress relief. These options and the financial, career advancement, childcare, and other implications of alternative employment will be discussed by women engineers employed in government and private practice.

EFFECTIVE SPEAKING FOR PROFESSIONALS

Paul Beaudry, Beaudry Associates

The Effective Speaking Workshop will cover preparation, organization, and use of voice, persuasion and effective reading of papers. It will give you the technique of the 'One-Minute Speech' -how to prepare an extemporaneous speech in one minute. And, if time permits, some tips will be given on the use of audio-visuals, video feedback and microphone techniques.

MEETINGS MADE SIMPLE...AND PRODUCTIVE

Karen Archer, AT&T Bell Laboratories

This workshop will explore the skills needed to organize and run effective meetings. It will also cover some enhanced skills and techniques that will make your meetings more participatory and directed. While the topics covered will be applicable to many situations, the focus will be on informal meetings of 2 to 12 people interacting - like a SWE officers' meeting or a project planning meeting on the job.

ASSERTIVENESS AND POWER: STAYING IN CONTROL

Sharon Fountain, Performance Development Corporation

Your responsibility is to get the task accomplished: Your job will be easier if you know and understand how to use your own power to stay in charge of where you are going and how you are going to get there. This workshop will assist you in:

* Being in control of situations rather than being controlled by them;
* Saying what you think and feel in a way that others can hear and act on;
* Accomplishing your goals calmly and effectively through increased awareness of the dynamics of personal and position power.

THE GRANT SEEKING WORKSHOP

Victor Medina, University of Maryland Terry Gideon, SWE Grants Committee

This session entails a brief discussion of SWE's past experience with rant seeking. Additional discussion includes the proper procedure that SWE sections should follow when preparing grant requests. There will be a one-hour presentation on grant seeking and applications, to be followed by a question and answer period.

WHAT ENGINEERS NEED TO KNOW ABOUT EMPLOYMENT CONTRACTS AND PATENT RIGHTS

Stanford Berman, Berman, Alsenberg and Platt

Frequently, engineers do not own or even benefit from their own creative ideas and designs. Corporations often require engineers to sign away their present and future rights. Are these arrangements legal? Enforceable? Fair? This session will address these issues and time will be allocated for questions.

SCHOLARSHIP PROGRAM MANAGEMENT

Connie King, Exxon

This program will provide a forum for discussion of the elements of successful scholarship programs. Chairs of section scholarship programs and SWE members interested in starting section scholarship programs are invited to attend.

CAREER GUIDANCE COMMITTEE MEETING

Cheryl Collarini, SWE Career Guidance Committee

Annual Career Guidance Meeting to evaluate 1983 programs and formulate 1984 Committee goals. General discussion of section programs, problems, solution. All are welcome to attend.

SECTION LEADERSHIP TRAINING MEETING

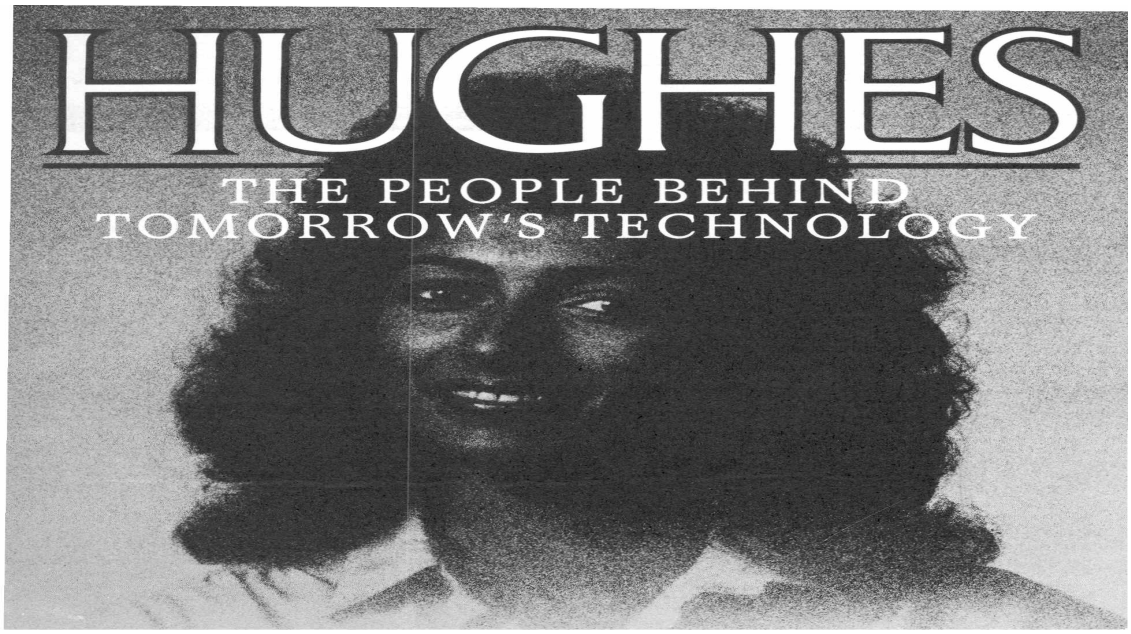
Barbara Wollmershauser, SWE President

Two delegates from each Section are invited to participate in the Section Leadership Session. This session is planned to develop a better understanding of SWE's national and local goals, resources, organization and programs.

CASSETTE TAPES OF VII ICWES ARE AVAILABLE!!!

AUDIO-STATS EDUCATIONAL SERVICES IS PLEASED TO OFFER ITS SERVICES FOR

CASSETTE DUPLICATION OF THE TECHNICAL SESSIONS AND SELECTED PROFESSIONAL DEVELOPMENT SESSION PRESENTATIONS. CASSETTE DUPLICATES .ILL BE AVAILABLE FOR



SALE. WITHIN ONE HOUR OF THE CLOSE OF THE SESSION. CHECK THE INFORMATION BOOTH FOR MORE DETAILS.

PEOPLE LIKE YOU

Talented . . . determined. . proud. The people behind Hughes Aircraft Company are leaders in technological In explorations that extend far beyond today's horizons. Scientific resourcefulness … plus creative engineering. The people of Hughes have been responsible for landmark accomplishments including the development of electronic weapons control systems in the 1950's to the first satellites launched from the Space Shuttle in the 1980's.

At Hughes, there is a Stimulating relationship between the people and their work . . . between the individual and the

On the Importance Of self.

A good century of hard work, hard knocks and technological acceleration has brought us into the eighties with a sense of wonder

Tempered by conscience. That is the nature of Todays Corporation-in a sense a model of society, dealing with similar issues: education, social responsibility, nourishment, and diversity.

We recognize the differences in people, knowing that men and women, black and white, young and old each bring a unique perspective to our society. Not merely by virtue of their physical attributes, but also by the way they think, how they grew, what they've experienced. Our differences, though, are not nearly as strong as our similarities in desire, ambition, and the need to be productive.

Like you, we value the importance of self. But with our

universal and insatiable need to be unique comes the desire to be productive. To see our skills at work on important projects.

These are the issues that guide our self. Often we meet with great success. Sometimes with failure. But always with the knowledge that we are being challenged to the maximum and rewarded for our efforts.

By learning from our differences and stressing our similarities, we may continue to nourish the self. And drive the enterprise forward.

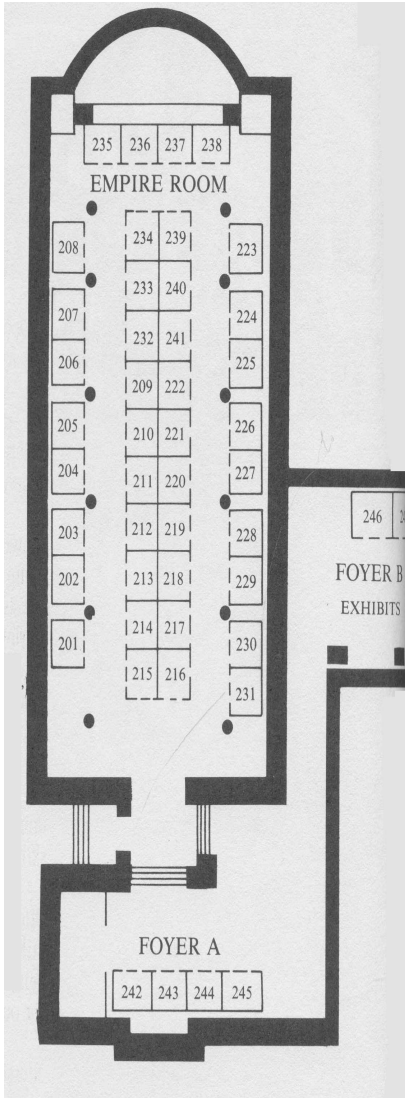
If you'd like to find out more about Honeywell, write Bea Lutz-Brown, Honeywell, P.O. Box 524, and Minneapolis, MN 55408.

Honeywell is an equal opportunity employer.

Together. We can find the answers.

Honeywell

SWE - JOB FAIR
SHOREHAM HOTEL
WASHINGTON, D.C.
JUNE 19, 1984



HOURS: I P.M. - 9 P.M.

BOOTH#	EXHIBITOR
206	THE AEROSPACE CORPORATION
219	AGENCY FOR INTERNTIONAL DEVELOPMENT
203	AIR PRODUCTS AND CHEMICALS, INC.
228	AMP INFORPORATED
242	ATLANTIC RESEARCH COMPANY
237	AT&T,BELL LABORATORIES, AT&T COMMUNICATIONS, AT&T INFORMATION SYSTEMS, AT&T TECHNOLOGIES
233	BELL COMMUNICATIONS RESEARCH
210	BOISE CASCADE COMPOSITE CAN DIVISION
245	CENTRAL INTELLIGENCE AGENCY
230	CORNING GLASS WORKS
218	DATA GENERAL CORPORATION
249	DAVID TAYLOR RESEARCH & DEVELOPMENT CENTER
215	DIABLO SYSTEMS, INC.
201	DIGITAL EQUIPMENT CORPORATION
240	EASTMAN KODAK COMPANY
229	EBASCO INCORPORATED, COLLEGE RELATIONS
226	ENGINEERING RESEARCH ASSOCIATES
241	FMC CORPORATION
209	GENERAL DYNAMICS CORPORATION
224/25	GENERAL ELECTRIC COMPANY
223	HONEYWELL INC.
217	HUGHES AIRCRAFT COMPANY
247	INTEL CORPORATION
227	JET PROPULSION LABORATORY (JPL)
207	LAWRENCE LIVERMORE NATIONAL LABORATORY
221/222	MARTIN-MARIETTA AEROSPACE
216	MC DONNEL DOUGLASS CORPORATION
212	MC GRAW-HILL, INC., PERSONNEL
208	THE MITRE CORPORATION
211	THE MITRE CORPORATION (EEO)
244	MOTOROLA SEMICONDUCTOR PRODUCT SECTOR
204/205	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
236	NAVAL AIR SYSTEMS COMMAND
238	NAVAL OCEAN SYSTEMS CENTER
235	NAVAL SURFACE WEAPONS CENTER
239	NEW YORK TELEPHONE COMPANY
246	NEWPORT NEWS SHIP BUILDING AND DRY DOCK COMPANY THE PERKIN-ELMER CORPORATION
220	ROCKWELL INTERNATIONAL
213	SANDIA NATIONAL LABORATORIES
214	STONE & WEBSTER ENGINEERING CORPORATION
202	TENNESSEE VALLEY AUTHORITY
248	U.S. ARMY COLD REGIONS RESEARCH & EQUIPMENT LAB
243	U.S. ARMY CORPS OF ENGINEERS
234	U.S. NUCLEAR REGULATORY COMMISSION
232	WANG LABORATORIES, INC.
231	

EVENTS OF THE DAY 1984

TUESDAY JUNE 19, 1984

7:00 - 8:00	CONTINENTAL BREAKFAST	PALLADIAN ROOM
7:00 - 8:00	SPEAKERS BREAKFAST (INVITATION ONLY)	CALVERT ROOM
1:00 - 8:00	SWE PAST PRESIDENTS BREAKFAST (INVITATION ONLY)	COUNCIL ROOM
8:00 - 6:00 PM	REGISTRATION	WEST LOOBY
8:00 - 1:00	SIGN LP FOR EVENING EVENTS & JOB FAIR	INFORMATION BOOTH
9:00 - 10:00	SWE STWENT REGIONAL METINGS	
	REGION I	BOARD
	REGION II	CLUB ROOM A
	REGION III	COUNCIL ROOM
	REGION IV	CLUB ROOM B
	REGION Y	CABLNET
	REGION VI	ROOM 163
8:15-10:00	TECHNICAL SESSION	BLUE ROOM
	DEFENSE	DIPLOMAT ROOM
	COMPUTER APPLICATIONS	PALLADIAN ROOM
	ENERGY	

10:00-10:15	BREAK	EXECUTIVE ROOM
10:15-11:25	TECH4ICAL SESSIONS (Continued)	INFORMATION BOOTH
10:15-11:00	SWE STUDENT GENERAL MEMBERSHIP MEETING	BOARD ROOM
11:30-1:00	ON YOUR OWN LUNCH	
12:00-6:00	TECHNICAL TOURS	
12:00-5:15	CONSTRUCTION OF THE FORT MCHENRY TUNNEL	
12:00-5:15		
12:15-6:00	BETHLEHEM STEEL	
1:00-4:00	NATIONAL BUREAU OF STANDARDS	
1:15-4:45	THE GEORGE WASHINGTON UNIVERSITY HOSPITAL	
1:15-4:45		
1:30-2:45	CONSERVATION ANALYTICAL LAB	
2:30-5:00	DAVID W. TAYLOR NAVAL SHIP R&D CENTER	
	INTERNATIONAL COMMUNICATION SATELLITE	
	THE PENTAGON	
1:00-4:00	PROFESSIONAL DEVELOPMENT WORKSHOPS	ELXCUTIVE ROOM
1:00-2:00	SHOULD YOU START YOUR OWN CONSULT	BOARD ROOM
1:00-2:00	BUSINESS?	CAUCUS ROOM
1:00-2:30	CAREER TRANSITITIONING – ENTRY LEVEL	DIRECTORS ROOM
1:00-2:30	CONTINUING TO GOAL	EXECUTIVE ROOM
2:00-3:00	GEARING UP FOR CAREER GUIDANCE I	BOARD ROOM
2:00-3:00	INTERPERSONAL EFFECTIVENESS	DIRECTORS ROOM
2:30-4:00	CAREER TRANSTITIONING - EXPERIENCED	CAUCUS ROOM
2:30-4:00	GEARING UP FOR CAREER GUIDANCE II	EXECUTIVE ROOM
3:00-4:00	CAREER ADVANCEMENT THROUGH	BOARD ROOM
3:00-4:00	PUBLISHING	
	PEOPLE & TECHNOLOGY	
	SUCCESSFUL INTERVIEWING	
1:00-5:00	MEETINGS	CLUB ROOM A
1:00-3:00	STRATEGIC PLANNING -SPEAK OUT- SESSIO	CLUB ROOM B
1:00-5:00	SWE ADVISORY BOARD (INVITATION ONLY)	TUDOR ROOM
1:00-5:00	SWE STUDENT TECHNICAL PRESENTATION COMPETITION PRACTICE	
1:00-9:00		EXPIRE ROOM
1:30-5:00	JOB FAIR	THE FOURM
1:30-2:00	FILMS	
2:30-3:00	IS ANYBODY LISTENING?	
3:30-4:00	STEEL MAKERS	
4:30-5:00	BEYOND HORIZONS	
1:00-6:00	AUTOMATED MANUFACTURING	INFORMATION BOOTH
5:00-7:00		INFORMATION BOOTH
7:00-10:00	ON YOUR OWN TOURS	INFORMATION BOOTH
6:30-10:30	MOTOROLA HOSPITALITY SUITE	INFORMATION BOOTH
6:30-10:30	HUGHES AIRCRAFT HOSPITALITY SUITE	INFORMATION BOOTH
	TAKE A STUDENT TO DINNER	
	SELECTED EVENING EVENT IN WASHINGTON	

TECHNICAL SESSION ABSTRACTS

TUESDAY JUNE 19, 1984 BLUE ROOM DEFENSE

Angela Iannuzzeillo, Session Facilitator Transit Office Downsview, Ontario Canada

A SAFE WAY TO LAND. RAST HELICOPTER HAULDOWN

Elizabeth J. Stanley DAF Indal Ltd. Canada

The RAST (Recovery Assist, Securing and Traversing) system provides mechanical assistance for helicopter landings on aviation capable ships. The system enables powered traversing between the flight deck and hangar with the minimum requirement of a two-man deck crew. The securing and traversing functions are independent of recovery assist, permitting free-deck landings when required or desired. With RAST the helicopter can operate in Sea State five with wave heights of 13 feet, and ship roll angles of 30 degrees, 8 degrees of pitch and decks heaving at 20 feet per second. When landing at night or during times of poor visibility, the HRS (Horizon Reference System) provides a horizon reference outside the aircraft and relative to the ship. The RAST sys tern is essential; without it, helicopter operations would not be able to function except in the lightest of sea conditions.

DEVELOPMENT OF AN EXTENSIBLE PROBE TO IMPROVE THE PENETRATION OF THE TOW ANTI-TANK GUIDED MISSILE

Joyce A. Zohar Fairchild Weston Systems USA

Recent advances in the armor of unfriendly tanks demanded a quick, cost effective response. Retrofit of the existing TOW missile, a tube launched, optically tracked, wire guided anti-tank weapon, with an improved warhead containing an extensible probe proved a successful solution. Since hundreds of thousands of TOW missiles are in the field among the forces of the United States, NATO countries and other allies, the development of the extensible probe required a high volume, low cost design with high reliability under severe environmental conditions. The primary design considerations were related to rigidity of the probe in flight, space requirements of the stowed probe prior to launch and material

requirements to meet temperature and vibration extremes.A two-stage program involving the development of two separate probes, one for interim retrofit and one for the balance of the field units, was successfully completed, tested and put into production. The first stage was in production nine months from selection of the design.

COMPUTERS AND THE BATTLEFIELD COMMANDER

Marcia Ann Thorton Captain. US Air Force USA

Today's high technology offers a degree of sophistication to the battlefield commander that has never existed before. The types of technology being used by the Armed Forces provide a more dependable command and control environment and an enhanced, more realistic training environment as well as increased capability for analysis of proposed and fielded weapons systems. However, the users of these emerging technologies must remember that the technology is only a tool and is not meant to replace the human element in the battlefield environment. The technology must be designed to enhance the user's job; it is not intended to usurp the man. There are too many variables that involve the human element which are too numerous or nebulous to quantify. These are precisely the elements that the user must supply to any technological tool in the battlefield.

THE EVOLUTION OF THE HERCULES
- THE INTERNATIONAL AIRPLANE

Kay C. Cornelius Lockheed. Georgia Company USA

The Hercules airplane story is a saga of perhaps the world's most effective and versatile transport aircraft. The Hercules was originally designed in the early 1950's to meet rigorous Air Force requirements for hauling cargo and personnel into advanced bases with short unimproved runways. It is now being widely utilized by over 55 countries and is still being produced in an astonishing variety of models and derivatives. Included in the special missions for which it is uniquely suited are cargo-troop carrier, flying hospital, aerial photomapper, search and rescue, weather observer, and forest fire fighter. The Hercules' phenomenal success has largely been due to the ongoing efforts of Lockheed's engineers to incorporate structural changes and improvements, thus meeting international customers' varied needs and keeping the aircraft at the forefront of airlifted design technology. This paper describes the structural evolution of the Hercules and the many paths it has taken over the years.

FINITE ELEMENT ANALYSIS OF LARGE TRANSPORT AIRCRAFT

Gisela W. McClellan Lockheed - Georgia Company USA

Increased emphasis is being placed on designing aircraft structure to be lightweight, durable, and damage tolerant. In order to assure structural integrity in respect to these requirements, accurate internal loads are required. These loads are obtained by use of finite element models. This paper describes the process of creating finite element models to represent aircraft structure. It covers the fundamental concepts of the finite element, basic aircraft structural configuration, and how finite elements are used to represent aircraft structure. The process of creating a model, the application of external loads and how an analysis is accomplished are described. Also covered are refined models, detail models and models used for crack analyses. Illustrations of actual aircraft structure, aircraft and detailed, models, basic finite element concepts and analysis output usage are included.

TUESDAY JUNE 19, 1984 DIPLOMAT ROOM COMPUTER APPLICATIONS

Martha Sardina, Session Facilitator General Dynamics Convair San Diego, CA USA

THE EFFECT OF TELECOMMUNICATION & DATA PROCESSING ADVANCES

Irene Lehman Sylvester Northrup Corporation USA

Within the past few years there have been major technology changes that allow substantially different approaches to the design of information systems. In this reassessment of information systems, the basic elements of telecommunication and data processing must be carefully selected and combined to optimize the total information system capability and long-range use. Increases in technical efficiencies may be anticipated from application of new developments in desktop computing, high capacity digital switching for voice and data, expanded capacity for video, low cost local storage, and extremely rapid computational capability for desktop applications.

A CURE FOR THE INFORMATION EXPLOSION

Ellen Krantz Columbia InfoTech Corporation USA

Online databases, whether used through a library or information broker, are the answer to the information explosion. Knowledge of what they can offer will help any professional make effective use of the information available. For example, suppose I need anything published in the last year on the artificial heart. If I do it manually, I must go to the last 12 monthly guides of 3 different indexes. Now, suppose I wanted only research done at the University of Utah. This information cannot be gleaned from the indexes in the library. All the articles would have to be retrieved and looked at for relevance. Online, this information could be gotten in seconds. There are 2 services routinely offered in conjunction with searching, document retrieval, and SDI.Document retrieval is typically offered as a 24-hour rush service

Or a cheaper 1-2 week service. SDI or Selective Dissemination of Information is usually a monthly service, where all new articles on a selected topic are automatically mailed to you.

A COMPUTER AIDED MEASUREMENT SYSTEM FOR VLSI

Dr. Sbobba Gupta Central Electronics Engineering Research Institute India

Details of a Computer Aided Measurement system for integrated circuits have been given. The above system has been set up to provide DC electrical measurements on VLSICs, along with the software for extraction of model parameters of the devices. As an example, Model parameter extraction programme for MOS devices has been discussed in detail. The interactive nature of the system gives an IC design engineer, the capability to completely characterize an MOST and study performance of the device and its model.

IMPROVEMENTS IN IMAGE GENERATION TECHNIQUES IN COMPUTER GRAPHICS

Mary C. Whitton Wbitland Associates USA

This paper surveys the major techniques, which increase the realism of 3-D (solid) objects generated by and displayed on raster computer graphics systems. The topics are technically presented and illustrated using examples from a wide variety of application areas. The discussion covers object descriptions (polygons, constructive solid geo metry, sculptured surfaces, procedure models), lighting models (ambient, diffuse, and specular), shading models (flat, Gouraud, and Phong), anti-aliasing (spatial, temporal), and motion. Ongoing research in temporal anti-aliasing and motion of articulated objects is mentioned. A short annotated bibliography is provided.

BUSINESS NEIWORKS. PBX AND CENTRAL OFFICE BASED

Sylvie Tessler Northern Telecom Canada Ltd.Canada

Today we have the technology to replace the tandem tie trunk networks currently serving many large business users with intelligent networks

based on stored program control machines. Such networks are necessary to ensure the end user's control over his network and the associated costs while maintaining a high quality of service and providing advanced capabilities such as 64KB/S digital data transmission and electronic business telephone sets.

However, with the advanced technologies available now in the digital central office, such business networks can be served via telephone company facilities. Shared switching and transmission facilities allow these services to be extended to even the smaller multi-location user cost effectively. By using an enhanced signalling protocol based on commonly used signalling techniques, this public network business user can gain the benefits of an intelligent private network as offered to the PBX owner. Such users can also benefit from the advances being made in the public network, such as the introduction of common channel signalling, without the capital cost and risk of obsolescence with privately owned equipment.

TUESDAY JUNE 19, 1984 PALLADIAN ROOM ENERGY

Marianne A. Musella, Session Facilitator Mobile Research & Development Corporation Princeton, NJ USA

REACHING FOR THE SUN

Dr. Maria Telkes, USA

Global energy balance and its influence on human development is dominated by solar energy and the use of stored energy. In the form of fossil fuels, stored sunshine could be replaced to a major extent by human habitations equipped with solar collectors and thermal/electrical converting and store facilities. Tropical regions, receiving nearly continuous sunshine could rely nearly completely on the Sun for energy source. The Building Industry could enrich living styles by changing the South facing wall and roof areas into power plants that are nonpolluting and pay for themselves in a few years. Women engineers could benefit greatly by being Solar-oriented.

ROLE OF WOMEN IN PROMOTING UTILISATION OF SOLAR ENERGY IN DEVELOPING COUNTRIES

Mary Ann Huff Chute Engineering USA

HERS: POLUTION CONTROL/ENERGY GENERATION FOR THE CITY OF LOS ANGELES

Margaret B. Umpbres James M. Montgomery Consulting Engineers, Inc. USA

Historically, the City of Los Angeles has disposed of sludge generated at the Hyperion Treatment Plant through its 7-mile Metropolitan Area outfall to Santa Monica Bay. As a result of the Los Angeles and Orange County Metropolitan Area (LA/OMA) Sludge Study, the City has designed the Hyperion Energy Recovery System (HERS) not only to remove the sludge from the ocean, but also to make the Hyperion Plant a net energy producer rather than a net user. Currently under construction, the HERS project will dewater 265 tons per day of sludge using solid bowl centrifuge, dehydrate the sludge using the Carver-Greenfield process, combust the dried product in a fluidized bed combustor producing steam, and produce electricity through use of gas and steam turbine units. In addition to eliminating sludge discharge to the ocean, it is estimated that the project will produce a net 7 MW of power.

METALLIC CONTACTS TO HEAVILY DOPED SI-GE ALLOYS

Dr. K.P. Suleebka University of Roorkee India

The metallic contacts to thermoelectric materials have to be ohmic, possess low resistance, be stable at operating temperatures, have low diffusion into semiconductor material and vice versa and provide high rate of heat conduction. The pollycrystalline Si-Ge thermoelectric generator's operating temperatures are high (up to 1100^0C), and they are heavily doped (carrier concentration $l0^{20}cm^{-3}$). The mechanical contacts are difficult to make because of the requirement of very low contact resistance and of poor adherence of metals to Si-Ge alloy. Out of the many metals tried, sputtered Mo-Au contacts gave Promising results.

The potential for recovery and use of waste heat from transformers is explored in this report by the Project Design Engineer for the first commercial transformer waste heat recovery project at the Broad Street substation of Seat the City Light. An extensive monitoring system was designed to study the operation and energy saving potential of this waste heat source. Three 75 KVA and four 50 KVA transformer units are fitted with seven oil-to-water heat exchangers which feed a hot water district heating system that will initially supply heat to the Pacific Science Center and expanded to serve other public buildings of Seattle Center. The paper discusses design parameters, challenges, and preliminary data from the two year-monitoring programs, as well as looks at the future potential for transformer waste heat recovery.

Dr. A. Kulshrestha Gujarat Women's Economic Development Corporation India

Women form nearly fifty percent of world population and about 45 percent of energy requirement come from domestic sector stressing the importance of role of women in optimum utilization of solar energy specially for developing countries.

TECHNICAL TOURS

THESE TECHNICAL TOURS ARE DESIGNED TO SHOW WHAT HAS BEEN DONE IN THE LAST QUARTER CENTURY TO BENEFIT TECHNOLOGICAL DEVELOPMENT AND TO INCREASE THE STANDARD OF LIVING. EACH TOUR IS UNIQUE AND EACG SHOWS THE DIFFERENT TRENDS IN FUTURE DEVELOPMENTS. THJE TOURS ARE DESIGNED TO OFFERS A GOOD INDUSTRIAL OR SCIENTIFIC PERSPECTIVE OF THE INDUSTRY TO THE NOVICE AS WELL AS PROVIDE A FORUM FOR DETAILED EXAMINATION AND INTERACTION FOR THE EXPERT IN THE FIELD. THE TOURS IN THE BALTIMORE AREA ALSO OFFER A LOW CAST OPPORTUNITY TO VISIT BAL TIMORE' S FAMOUS HARBORPLACE PAVILIONS-AN INDOORFESTIVAL OF 140 SHOPS AND RESTAURANTS LOCATED IN THE SCENIC INNER HARBOR.

FORT McHENRY TUNNEL BALTIMORE, MD K. Merrill, Host

The 1.7-mile (2.8 kilometers) tunnel is under construction to connect highway 1-95 under Baltimore's inner harbor. The tunnel, considered to be an engineering achievement, cost almost one billion dollars and will be open to traffic in 1985. This tour is offered Tuesday afternoon as well. Each bus tour to Baltimore is limited to forty people.

BETHLEHEM STEEL BALTIMORE, MD S.L. Condon, Host

This bus tour to Baltimore, which is limited to forty people, will visit a steel manufacturing and processing plant. During this heavy industry tour, you will have the opportunity to see close-hand such processes as refining of molten iron in the open-hearth furnaces, the casting process, and ingot breakdown into useful shapes. The tour focuses on the basic steel-making processes and the restructuring of the industry through technology modernization to regain the US competitive position. This tour is available on Tuesday afternoon as well.

NATIONAL BUREAU OF STANDARDS GAITHERSBURG, MD

M. Auman, Robotics Host S. Davis, Fire Research Host

This tour will feature two of the National Bureau of Standard's facilities. The Robotics Center features some of the most sophisticated research being done in the US today in the area of automated manufacturing. We will tour the automated facility where robots are being studied for sensors, controls, vision, and safety applications. The fire research segment of the tour will feature the test tunnel where performance of materials against fire and heat is studied to determine the optimum resistivity and economical thickness of material. The computer facility where analytical models are being developed for exotic materials will also be shown. The laboratory develops information on the rate of heat, the flame spreading characteristics, and the movement of smoke and toxic gases during the performance of materials in the fire environment.

GEORGE WASHINGTON UNIVERSITY HOSPITAL WASHINGTON, DC
M. Bombaci, Host

A tour through the various hospital departments, including the computers, will focus on where the high technology equipment can be found in a medical application. Computer analysis and instrumentation associated with blood analysis, cardiology, EKG and stress, radiology and cancer virus will be featured.

CONSERVATION ANALYTICAL LABORATORY SUITLAND, MD A. Postlethwaite, Host

The Analytical Laboratory associated with the Smithsonian Institute technically examines and provides conservational treatment of historical, archae logical, ethnographic, and contemporary materials. Get the behind the scenes look at this National Museum, as the tour emphasizes the techniques used to slow down the degradation of material caused by heat, humidity, etc. There will also be a statistical presentation of the techniques used for prediction of degradation.

DAVID W. TAYLOR NAVAL SHIP RESEARCH BETHESDA, MD Capt. Gauthey, Host

The center conducts research on ship's performance, design of high strength materials, construction of new models, instrumentation, improvements in aerodynamics, and acoustics of ships. This tour will demonstrate the evolution of a concept from the computer model to the scale model to the full-scale development model to production hardware. This tour is not only applicable to the defense industry, but demonstrates techniques, which are state of the art in industry as well.

INTERNATIONAL COMMUNICATIONS SATELLITE WASHINGTON, DC G. Trevitt, Host

A Metro subway tour to this global satellite organization which serves more than 100 countries in transoceanic communication such as: telephone calls, telegrams, telex, transmission of computer data, and international television. The forty-five minute tour includes a film and a tour of the computer facilities. The attendance is limited to 18 people and is offered Monday through Friday. The tour is timed such that you can follow this tour with the Pentagon tours.

THE PENTAGON WASHINGTON, DC Multiple Hosts

A Metro Subway tour to the executive headquarters of the Department of Defense, which is one of the world's largest office buildings. The tour will remove the mystique surrounding the Pentagon and show the wide range of work conducted at this facility. It has army collections, the Hall of Heroes, military women's exhibition, and 17 miles (28 kilometers) of executive officers' corridors. The attendance is limited to thirty-five people and is offered Monday through Friday.

A SPECIAL THANKS

FIRST WOMEN'S BANK OF MARVLAND

IN RECOGNITION FOR THE ADVICE AND ASSISTANCE WITHOUT WHICH THE VII ICWES COMMITTEE COULD NOT HAVE SURVIVED.

TUESDAY JUNE 19, 1984
PROFESSIONAL DEVELOPMENT WORKSHOPS
Session Facilitators
Janeen Johnson, ATT
Frann Shore, General Electric

SHOULD YOU START YOUR OWN CONSULTING BUSINESS
Doris Powers, T&E International, Inc.

Many seminars tell you "How to Start Your Own Consulting Firm." Almost none address the question of whether or not you SHOULD. This session will provide insight, from five years of experience, into problems you will REALLY face in starting your own consulting firm. Being aware of these will help you make your decision.

CAREER TRANSITION FOR ENTRY LEVEL ENGINEERS
Geraldine Cox, Chemical Manufacturers Association

Transitions from college to the first professional position can make or break a career. The do's and don'ts, the structure of informal groups and the new employee's role will be highlighted by scientists and engineers who have made successful entry transitions.

CONTINUING TO GROW
Mary C. Cannon (Moderator), Atlanta Section

This panel will discuss the necessary elements of a continuing development program. All sections represented have either won national recognition for their programs or have a strong on-going continuing development program worthy of national recognition. I t is hoped

that this workshop will encourage other sections (both large and small) to place more emphasis on this important function.

GEARING UP FOR CAREER GUIDANCE - I PRE-COLLEGE - CASTING THE DIE

Kimberly Johnson

Do you need ideas, resources or "how to" for pre-college career guidance? Come hear about some successful programs and be prepared to share your own successes, problems, and experiences. This workshop is the first of three that will provide a forum for career guidance.

INTERPERSONAL EFFECTIVENESS FOR SCIENTISTS & ENGINEERS

Joan Wangler, Edin Associates

Doris Minneman, Edin Associates

Understanding the behavior of people is a subject not covered in scientific or engineering classes, yet people problems are among the most common causes of management and project failures. Learn about current research in personality preferences, which can be readily applied to understanding the most complex re source you face.

CAREER TRANSITIONING FOR ENGINEERS WITH SEVERAL YEARS EXPERIENCE

Geraldine Cox, Chemical Manufacturers Association

How does a good technical performer make a transition to first level management and then middle management? What are the qualities, skills and handicaps in the transition process? Veterans of the system will discuss transitions into management.

GEARING UP FOR CAREER GUIDENCE - II RE-ENTRY - SHIFTING GEARS

Beth King

Is your section participating in a re-entry program for those making career changes, seeking advanced degrees, or resuming interrupted careers? (This is one of SWE's four goals.) Come hear about successful re-entry programs, and share your expertise as well as problems. This is the second in a series of three workshops designed to improve a section's effectiveness in career guidance.

PUBLISHING AS A KEY TO PROFESSIONAL DEVELOPMENT

Merja Lehtinen, US Women Engineer Editor

By-lines by women are relatively infrequent in engineering and scientific journals and magazines. This practical workshop explores why and where you should publish as well as tips on how you can get published. This session will discuss why it is so crucial to your career development.

PEOPLE & TECHNOLOGY - A MUST FOR BUSINESS SUCCESS

Vivian Comstock, Westinghouse Defense

LeeAnn Comfry, Westinghouse Defense

As technology continues to advance at such a rapid rate, the need for/increased human interface has become one of the most important links in the manufacturing process. Using a case study approach, this session will discuss various methods of training, motivating and involving employees to achieve higher levels of performance.

SUCCESSFUL INTERVIEWING FOR THE NEW GRAD

Evy Lowenstern, E-Systems, Inc., Melpar Division

The basic techniques, style and background needed for successful interviewing will be covered in this session. Dress, professionalism and educational preparation will also be covered.

STRATEGIC PLANNING "SPEAK OUT" SESSION

Barbara Wollmershauser, SWE President

The Strategic Planning Committee has developed a forecast predicting what the Society will be like in 1989. This forecast was developed using two data points: five years ago and today and a straight-line projection was used for the point in time five years from now. At the "Speak Out" the membership will have the opportunity to evaluate what SWE will become and to provide the Strategic Planning Committee with ideas of change.

TAKE A STUDENT TO DINNER

TUESDAY, JUNE 19, 1984

HAVE A CHANCE TO WINE AND DINE A TECHNOLOGIST OF TOMORROW - TAKE A STUDENT TO DINNER. SIGN UP FOR THE ENGINEERING OR SCIENTIFIC FIELD OF YOUR CHOICE AT THE INFORMATION BOOTH SUNDAY THROUGH TUESDAY.

Your imagination.

Imagination can "see" the human heart in a matter of moments. It can launch rockets, program robots, and create new technologies for energy conservation. It can be as vast as the universe, or as contained as a microchip.

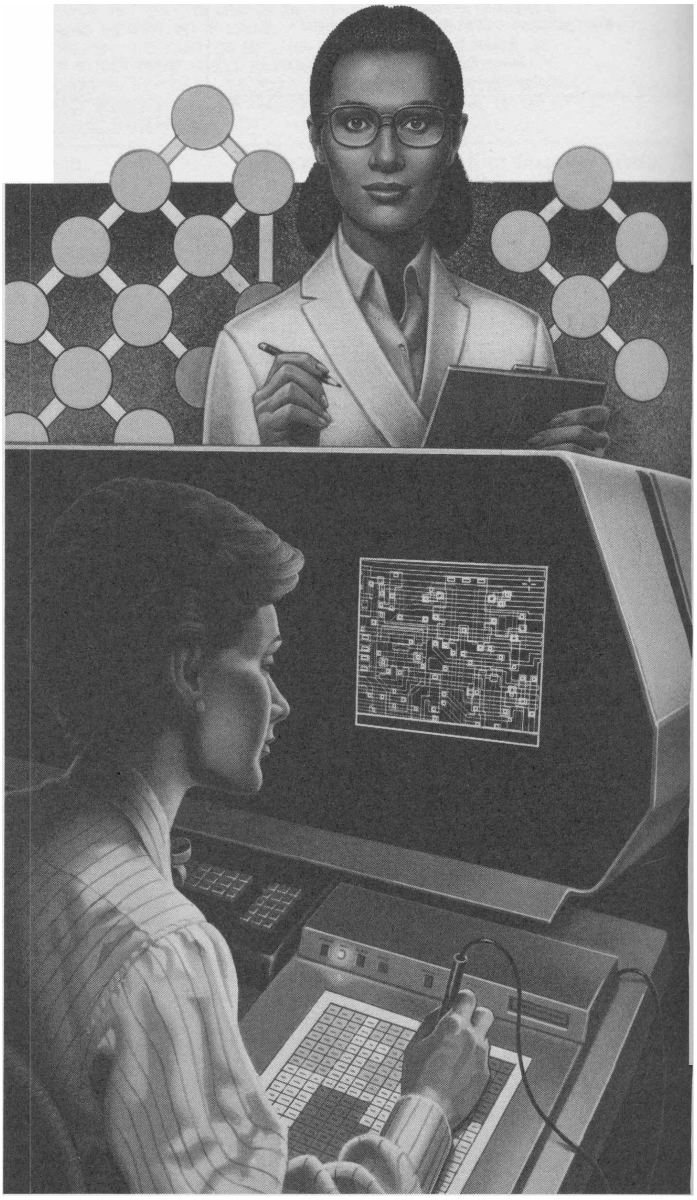
Imagination can lead you to the career of your life with General Electric.

For engineers or future engineers who are creative, energetic, and searching for excellence in high technology, the future is working here.

It's working right now - in space flight systems, robotics, magnetic resonance, jet propulsion, materials research, microelectronics - a whole New World of stimulating careers.

It's working with a company that is diverse enough to nurture entrepreneurship in those employees who are willing to dream, to reach, and to dare to challenge the status quo.

If you are this kind of engineer, we invite you to talk high technology with the GE representatives at this SWE Tri-conference. Visit our exhibit booth and test your skill at programming our minirobot. Then, find out more about opportunities at GE at our job fair booths.



An equal opportunity employer.

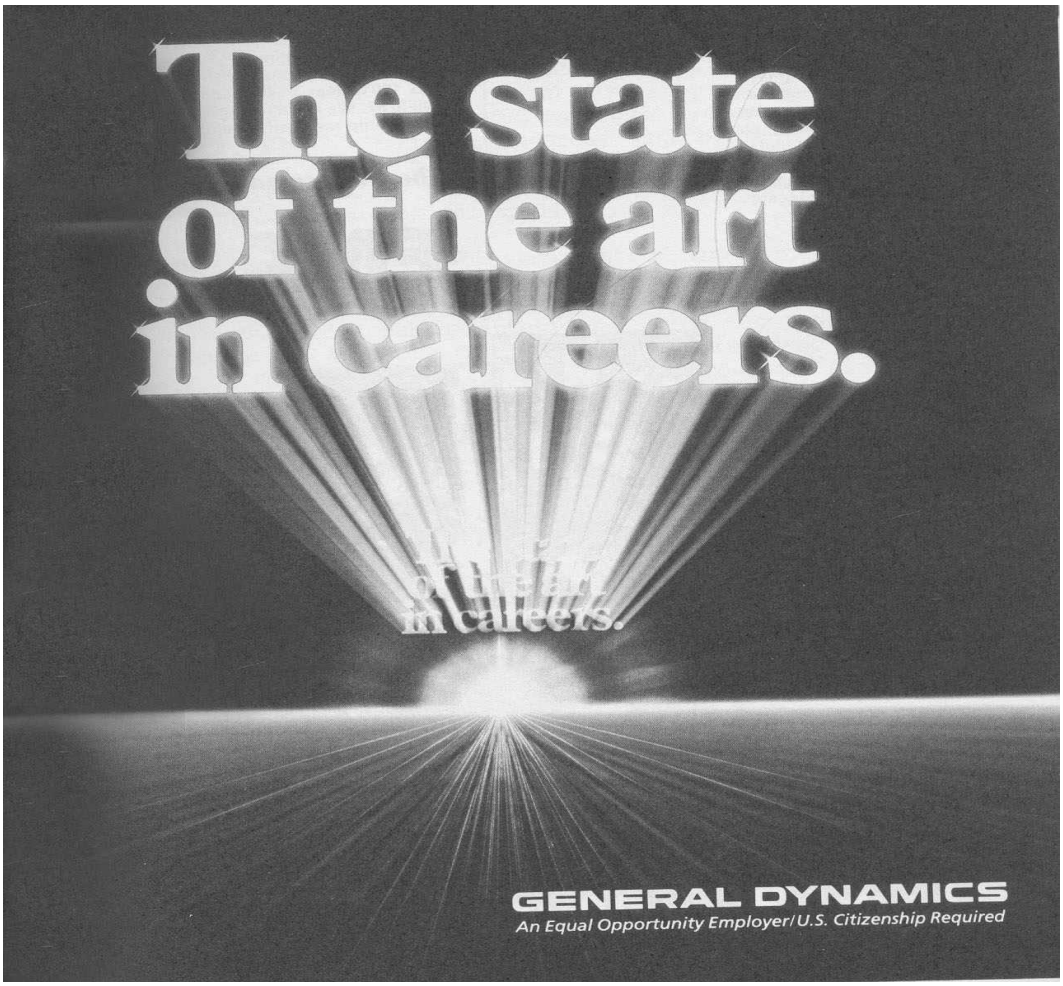
- If you can dream it,
You can do it.

To design and develop today's most technologically advanced defense products, General Dynamics requires the talents of highly-motivated women engineers and scientists, particularly in Computer Science and Electrica1/ Electronic Engineering.

If you are a top performer in one of these fields, explore the wide range of opportunities available in the following technologies: Aeronautics, Advanced Signal Processing, Radar Systems, Embedded Software, Lasers and Electro-optics, Composite Structures, VLSI, Non-linear Structural Analysis, Robotics and CAD/CAM.

At General Dynamics, you will work with our innovative professionals in applying these technologies toward a wide variety of aerospace, computer systems, electronics, shipbuilding and military land vehicle programs. Plus, you can stay current in your field and make the most of your career through our corporate-wide training and lifelong education programs.

Don't settle for less than state of the art in your career. Send your resume to Sue Shike, Corporate Manager, College Relations, General Dynamics Corporation, Dept. SWE, Pierre Laclede Center, St. Louis, and MO 63105.



"The Hands-On, High Tech Team."

FMC is world famous as the leading designer and manufacturer of military tracked vehicles. If you're a professional who wants to apply state-of-the-art technology, and experience the results firsthand, we could be ideal for you.

For the specialist and generalist alike, FMC is a place where talent and effort are backed by a commitment to expanded R&D. And where increased electronic involvement is helping us build a reputation for the advanced application of microprocessors, computers, fiber optics, and much more.
Currently we have openings for:

Engineers

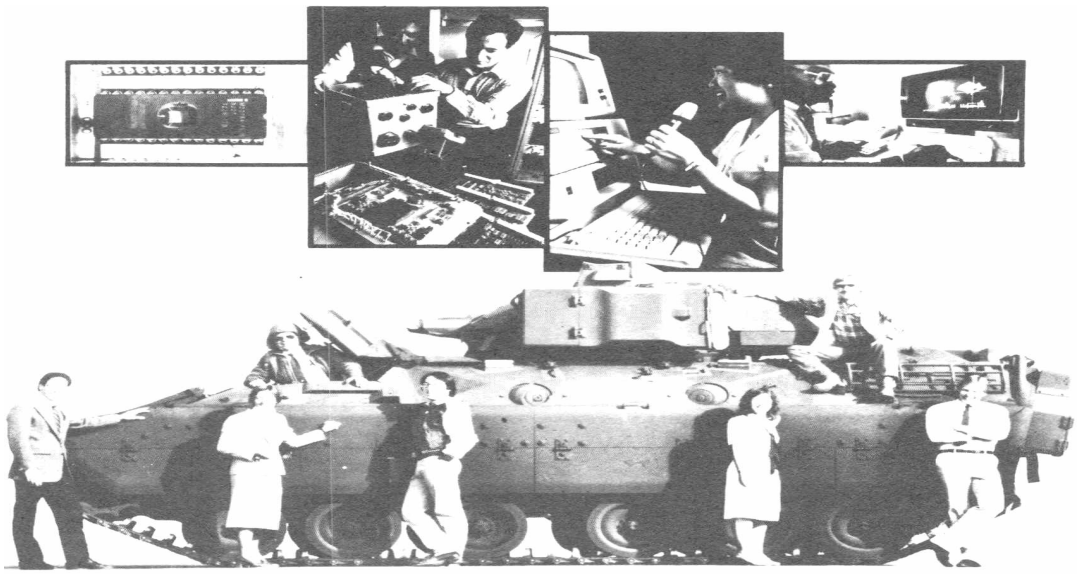
- vehicle power generation and distribution system designers
- digital circuit design engineers
- analog circuit design engineers
- motor speed control designers
- Electro mechanical designers
- vehicle electronics engineers
- quality assurance engineers
- mechanical design engineers
- industrial engineers
- methods engineers
- n/c programmers
- safety engineers
- fire control engineer
- turret engineer
- armament analyst
- missile analyst
- human factors specialists
- engineering checkers

Data processing

- sr. systems analysts and systems analysts IBM 3081
- sr. programmer analysts and programmer analysts IBM 3081
- technical computing specialists

To learn more about career opportunities, from entry level to project management, call or write: FMC Corporation Ordnance Division, 1107 Coleman Avenue, Box 1201, Dept. 06.9.51, San Jose, CA 95108, (408) 289.3767. We are an equal opportunity employer. U.S. citizenship required for most positions.

The Performance Professionals
FMC



VII ICWES
SWE STUDENT BANQUET KEYNOTE SPEAKER

Dr. Geraldine V. Cox

Geraldine V. Cox is Vice President and Technical Director of Chemical Manufacturers Association. CMA is a nonprofit trade association whose company members represent more than 90% of the productive capacity of basic industrial chemicals in this country.

Dr. Cox directs technical activities for the chemical industry association, which include: occupational health and safety, toxic substance regulations, environmental programs, energy, transportation, engineering standards, and biomedical and environmental special research programs. She also directs management of CHEMTREC -- the industry-funded 24-hour-a-day emergency response network for hazardous chemical spills.

Dr. Cox serves on: the Committee on Environment of the U.S. Chamber of Commerce; the U.S. Coast Guard Chemical Transportation Advisory Committee; the American Chemical Society's Board Committee on Environmental Improvement where she chairs the Hater Resources Subcommittee; and is on the Board of Directors of the Hazardous fv1aterials Advisory Council. She is President of the Federation of Organizations for Professional Women, and was co-chair of the Conservation Foundation's Dialogue Group on Hazardous Waste Siting.

Dr. Cox was selected as a White House Fellow in 1976, and was one of the Ten Outstanding Young Women in America in 1975.

SWE STUDENT RECEPTION AND BANQUET

WEDNESDAY, JUNE 20, 1984

WINE AND CHEESE RECEPTION IN THE AMBASSADOR ROOM from 6:30 TO 7:30

(PRESENT BANQUET TICKET AT THE DOOR)

RECEPTION HOSTED BY CORNING GLASS

BANQUET AND CEREMONIES IN THE REGENCY BALLROOM from 7:30 TO 10:30

The Student Banquet and ceremonies are the highlight of the Student conference.

The Awards include:

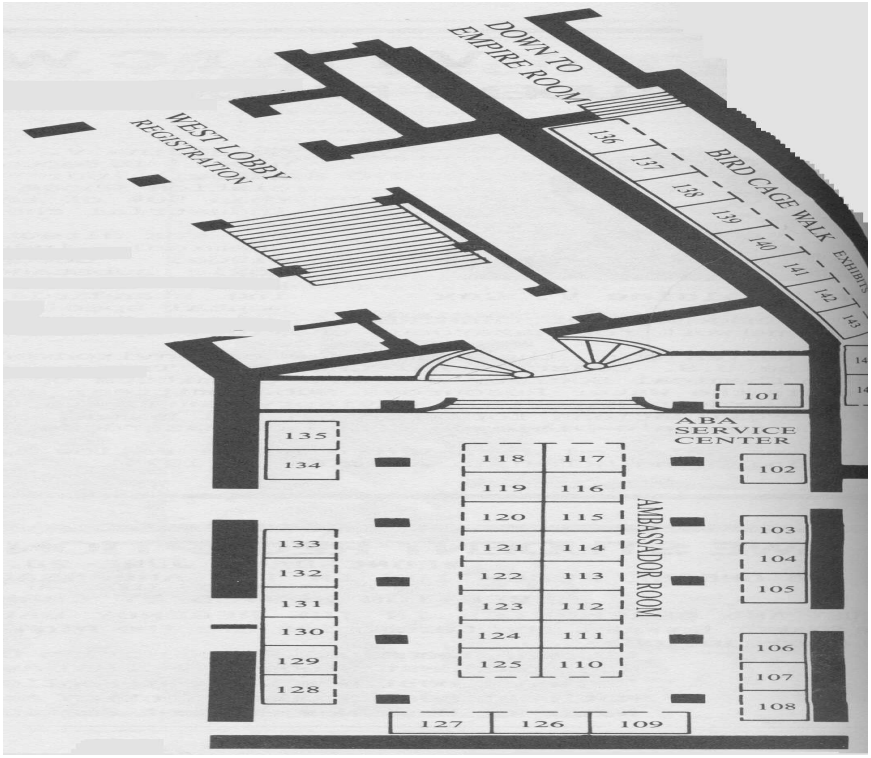
Student Technical Presentation Competition Awards
Regional Best Student Section Award
Regional Best New Student section Award
National Best Student section Award
National Best New Student Section Award

BOOTH	EXHIBITOR
130	THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
106/107	AT&T BELL LABORATORIES, AT & T COMMUNICATIONS, AT&T INFORMATION SYSTEMS AND AT&T TECHNOLOGIES
139	BECHTEL POWER CORPORATION
120	CORNING GLASS

118	DIABLO SYSTEMS, INC.
122/123	DIGITAL EQUIPMENT CORPORATION
143	EASTMAN KODAK COMPANY
140	EG&G IDAHO, INC.
144/145	GENERAL DYNAMICS CORPORATION
131/132	GENERAL ELECTRIC COMPANY
116/117	GRUMMAN AEROSPACE CORPORATION
101	GTE CORPORATION
111/112	HEWLETT-PACKARD
109	HONEYWELL INC.
128/129	HUGHES AIRCRAFT COMPANY
105	JET PROPULSION LAB (JPL)
124	MARTIN-MARIETTA AEROSPACE
133	MC DONNEL DOUGLAS CORPORATION
102	MC GRAW HILL, INC. - "GRADUATING ENGINEER"
108	THE MITRE CORPORATION (EEO)
141	MOUNTAIN BELL
126/127	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
119	NATIONAL SCIENCE FOUNDATION
104	NAVAL CIVIL ENGINEERING LABORATORY
121	NAVAL CIVILIAN PERSONNEL COMMAND
136	NAVAL CONSTRUCTION BATTALION CENTER
137	NAVAL FACILITIES ENGINEERING COMMAND; CHESAPEAK DIV.
142	NORTHROP CORPORATION
113	PACIFIC GAS & ELECTRIC COMPANY
110	THE PROCTER & GAMBLE COMPANY
114/115	ROCKWELL INTERNATIONAL
125	STONE & WEBSTER ENGINEERING CORPORATION
134/135	TEKTRONIX, INC.
138	U.S. ARMY CORPS OF ENGINEERS
103	WANG LABORATORIES, INC.

SWE - EXHIBITION
SHOREHAM HOTEL
WASHINGTON, D.C.
JUNE 20-21, 1984

HOURS: 7 A.M. - 6 P.M.



EVENTS OF THE DAY
WEDNES DAY JUNE 20, 1984

7:00-8:00	**CONTINENTAL BREAKFAST**	AMBASSADOR ROOM
7:00-8:00	**SPEAKERS BREAKFAST (INVITATIOI ONLY)**	CALVERT ROOM
8:00-6:00pm	**REGISTRATION**	WEST LOOBY
7:00-6:00pm	**EXHIBITS** (LOCATED THROUGHOUT THE BIRD CAGE WALK & AMBASSADOR ROOM)	AMBASSADOR ROOM
8:00-1:00	**SIGN UP FOR EVENING EVENTS IN WASHINGTON**	INFORMATION BOOTH
8:00-12:00	**SWE STUDENT TECHNICAL PRESENTATION COMPETITION**	TUDOR ROOM
8:15-10:00	**TECHNICAL SESSIONS** EDUCATION & TRAINING POTPOURRI NUCLEAR ENGINEERING	BLUE ROOM DIPLOMAT ROOM PALLADIAN ROOM
10:00-10:15	**BREAK**	
10:15-11:25	**TECHNICAL SESSIONS** (Continued)	
11:30-1:00	**ON YOUR OWN LUNCH**	INFORMATION BOOTH BLUE ROOM
12:00-5:15 12:00-5:15 1:00-4:00 1:15-4:45 1:15-4:45 1:15-4:45 1:30-2:45 2:30-5:00	**TECHNICAL TOURS** BALTIMORE HARBOUR TOUR: PLANETARIUM OR AQUARIUM THE GEORGE WASHINGTON UNIVERSITY HOSPITAL U S AGRICULTURAL RESEARCH SERVICE NASA. GODDARD SPACE FLIGHT CENTER POTOMAC ELECTRIC POWER INTERNATIONALCOMMUNICATION SATELLITE THE PENTAGON	
1:00-4:00 1:00-2:00 1:00-2:00 1:00-2:00 1:00-3:00 2:00-3:00 2:00-3:00 2:00-3:30 3:00-4:00 3:30-4:00	***PROFESSIONAL DEVELOPMENT WORKSHOPS*** IMPLEMENTING A FINANCIAL PLAN EFFECTIVE RESUME WRITING OPPORTUNITIES FOR WOMEN IN GOVERNMENT TECHNICAL OR MANAGERIAL? INVESTMENT DRESSING FOR. SUCCESS BUSINESS & BED & _BREAKFAST GEARING UP FOR CAREER GUIDANCE III CREATIVE FINANCING FOR BUSINESS SKIN CARE	EXECUTIVE ROOM CAUCUS ROOM DIRECTORS ROOM BOARD ROOM EXECUTIVE ROOM CAUCUS ROOM DIRECTORS ROOM BOORD ROOM DIRECTORS ROOM
1:00-5:00 1:00-2:45 1:00-5:00 3:00-4:00 3:00-4:00 3:00-4:00	***MEETINGS*** SWE FACITY ADVISORS INTERNATIONAL BUSINESS MEETING (PLENARY SESSION) WOMEN IN GOVERNMENTCOMMITTEE WOMEN IN ACADEMIC COMMITTEE *SWE MEMBER-AT -LARCE MEETING*	COUNCIL ROOM CALVERT ROOM ROOM 117 CAUCUS ROOM ROOM 163
1:30-5:00	**FILMS** CONSTRUCTION OF THE FORT MCHENRY TUNNEL (SHOWN ONCE EACH HOUR)	REGENCY BALLROOM
2:00-5:00	**VISIT YOUR SENATOR OR REPRESENTATIVE** (SIGN UP FOR AN APPOINMENT MONDAY THROUGH WEDNESDAY)	INFORMATION BOOTH
2:00-5:00	**VISIT THE EMBASSIES** (SIGN UP FOR AN APPOINMENT MONDAY THROUGH THURSDAY)	INFORMATION BOOTH
1:00-6:00	**ON YOUR OWN TOURS**	INFORMATION BOOTH
5:00-7:00	**MARTIN MARIETTA HOSPITALITY SUITE**	INFORMATION BOOTH
5:00-7:00	**MOTOROLA HOSPITALITY SUITE**	INFORMATION BOOTH
6:30-7:30	**SWE STUDENT BANQUET RECEPTION**	AMBASSADOR ROOM
7:30-10:30	**SWE STUDENT BANQUET**	REGENCY BALLROOM
6:30-10:30	**SELECTED EVENING EVENTS IN WASHINGTON**	INFORMATION BOOTH

TECHNICAL SESSION ABSTRACTS

WEDNESDAY JUNE 20, 1984
BLUE ROOM
EDUCATION & TRAINING
Veronica Gliniak, Session Facilitator
Atlanta, Georgia
USA

INSTRUCTIONAL TELEVISION (lTV) - THE WAVE OF THE FUTURE

Marilyn Berman University of Maryland, College Park USA

Since the Fall of 1980, the University of Maryland at College Park has offered courses via live television. The ITV system is the only one in the state of Maryland, and only one of a dozen such systems in the nation. The system allows live instruction to be delivered up to a thirty-mile radius of College Park. Additional relay towers can be built or satellites can be utilized to beam the signal to greater distances.

Classes are broadcast live from the campus to on-site specially designed classrooms, and displayed to students on monitors in the ITV on-campus classrooms. Television cameras focus on all facets of the teaching operation so that the classroom atmosphere is successfully created miles away from the actual classroom.

ITV also allows employers to offer employees education program that is university quality but convenient. There are savings in employee time costs. There is flexibility in the system to all agency and company needs.

There is the potential to offer degree programs in engineering and other high technology areas to remote regions where this instruction is presently unavailable.

TRAINING: A KEY TO SUCCESSFUL TECHNOLOGY TRANSFER

Carol L. Aton, Georgia Institute of Technology, USA

The successful transfer of new technology to a developing country depends heavily on a high quality, well-planned training program. This paper describes the five major steps of training--needs analysis, program design, course and materials development, implementation, and evaluation. The example used is a program conducted by The Georgia Institute of Technology for the Industrial Technology Application Project (ITAP), funded by the U.S. Agency for International Development at the request of the Government of Egypt. Supporting the overall project objective of improving productivity in industry, the training program is designed to increase the trainees' capacities and skills to provide diagnostic and technical services to a variety of Egyptian industries.

WOMEN ENGINEERS IN INDIA & IMPACT OF WOMEN'S POLYTECHNICS

lla Ghose ,Women's Polytechnic,India

The technological capability of a nation has great significance for the economic prosperity of the country. As such, technological education and training of scientific and technical personnel is vital for the economic development of a country and is regarded as an area of high priority in economic planning.

But for a handful of girls from affluent and enlightened families in the urban areas, women's participation and involvement in India's effort in technological development were disappointing in spite of the fact that women were given equal rights and access to all facilities. The vast majority of women remained disinterested due to traditional conservatism of Indian society and other socio-economic factors.

The establishment of women's polytechnics paved the way for the technical education of women in India. The concept of women I s polytechnics, where women are joining in great numbers, is rather new.

THE CONTINUING EDUCATION OF A THOUSAND WOMEN ENGINEERS

Dr. Dormer Ems, P. Eng. University of Toronto Canada

A questionnaire survey of Canadian women engineers has revealed the salient role played by both formal and self directed continuing education in facilitating the combination of successful engineering career and satisfying family life. As well as their participation in educational programmes intended for practicing engineers, many women described their personal solutions to the problems peculiar to women in a traditionally masculine profession.

While each woman's experience is unique, there are recurring themes of versatility, determination, and a sense of hum our. The women engineers of any nation could easily relate to these Canadian solutions to our common problem of being engineers who are also women.

TRAINING SYSTEMS FOR DEFENSE PREPAREDNESS

Annette Gethwright Honeywell, T&CSO, USA

The biggest challenge facing the Military today in defense preparedness is training equipment operators and maintenance personnel. One solution to providing adequate training for today's sophisticated equipment is to use training pilots, navigators, sonar and weapons operators, and maintenance personnel for this equipment. A basic training system consists of a computer system and appropriate input and output equipment that monitors the actions of the trainee and responds to those actions using algorithms and mathematical models describing the system being simulated. Training systems include physical aspects such as aural and visual stimuli as well as environmental and mechanical simulation depending on the degree of realism required to provide appropriate training cues.

WEDNESDAY JUNE 20, 1984 DIPLOMAT ROOM POTPOURRI
Gail Worthington, Session Facilitator Boeing Aerospace Corporation Seattle, WA USA

WOMEN SCIENTISTS IN INDIA 1947 - 1984

Dr. S.v. Bhide
Cancer Research Center India

The last fifty years have seen a dramatic change in Women' s status in India. In the first quarter of this century women were confined to cooking and housekeeping chores. They were entirely dependent on the menfolk in the family. However, with the advent of education in India both men and women had access to modern education, science and technology. From 1945 till 1970 women still chose humanities, few of them science, the universities. However, the last decade has seen Indian women working in all branches of science and technology which includes conventional branches of engineering, space technology, computer and bio-medical technology. Irrespective of the type of specialization women engineers and scientists constitute 25% of the workforce. Many of them are leaders of scientific and technological personnel working at times in field services. Data on the above aspects will be presented with special reference to socio-economic effects of the society.

APPLICATION OF PARTICIPATORY WORK SCHEMES IN A RESEARCH AND ENGINEERING ENVIRONMENT

Mary Ann Zimmerman Cummins Engine Company, Inc. USA

This paper describes the effects of strategies used to implement participatory work schemes in the Research and gineering Division of a multinational corporation associa

TECHNICAL SESSION ABSTRACTS

Ted with the Automotive industry. The implications of their "New Standards of Excellence" philosophy on the manner in which work is done to design the Company' s main product, diesel engines, is described.

PROGRAMMABLE CONTROLLERS

Deborah A. Kaylo Bechtel Power Corporation USA

The Programmable Controller (PC) is a solid state control system, which has a programmable memory, which stores instructions thereby implementing specific functions. The functions include I/O control logic, timing, counting, arithmetic and manipulation of data.

The PC is composed of a central processor, I/O interface, memory, and programming devices. The PC was designed precisely for industrial control system applications and performs much the same as a relay panel or a hard wired solid state logic system. The utilization of the PC will allow the manufacturing and the power industry to achieve greater control.

TECHNOLOGICAL CONDITIONS OF MODERN ARCHITECTURE

Olga Vujovic Yugoslavia

Changes in architectural expression appeared with the coming of the industrial Revolution at the end of the last century. The invention of reinforced concrete and steel were a great challenge for architects. Technological possibilities of moulding the new materials were the basis for a new architectural expression, which is universal. The technology was improving and developing: the Crystal Palace of Paxton, P. L. Nervi' s shells, glass skyscrapers...However, for the architecture to be of lasting value besides the technical achievements a spark of humanity and harmonious design are necessary. A thorough knowledge of technology and the technical possibilities are a prerequisite of successful, valuable and up-to-date architectural design. The above is going to be illustrated with examples of Yugoslav modern architecture.

ADJUSTABLE SPEED DRIVES FOR EXISTING MOTORS

MANNI WONG Bechtel Power Corporation USA

Most of today's motor drives especially drive for fans and pumps, were designed to operate at rated peed regard less of changes in the load. Controlling the operating speed of the equipment to meet the load demand offers advantages such as energy savings and increased equipment life. Recent developments in power electronics have made adjustable speed drives more efficient and cost competitive.

This paper will discuss adjustable speed drives for existing motors as follows:

INTRODUCTION: Energy savings, increased equipment life and other operating characteristics have renewed the interest in adjustable speed drives.

THEORY OF OPERATIONS: Three types of solid state drives and two types of electromechanical drives will be discussed and compared.

RECENT DEVELOPMENTS: Recent developments in power electronics have improved the designs for current source inverters, voltage source inverters with PWM and GTO inverters.

FUTURE TRENDS

WEDNESDAY JUNE 20, 1984 PALLADIAN ROOM NUCLEAR ENGINEERING

Ada Pressman, Session Facilitator Bechtel Power Corporation USA

OECD LOFT PROJECT: BUILDING AN INTERNATIONAL NUCLEAR RESEARCH PROGRAM

Kristen R. Thompson EG&G Idaho, Inc.USA

In 1983, the Organization for Economic Cooperation and Development (OECD) in conjunction with the United States Department of Energy (DOE) organized an international consortium. This consortium established the OECD Loss-of Fluid Test (LOFT) Project at the Idaho National Engineering Laboratory (INEL). This project would undertake research that is intended to improve the understanding and predictability of transient behavior in pressurized water reactors (PWRs) for the international nuclear community. Common experimental goals have been established that will enhance the reliability, availability, economics, and safety of PWRs. This paper will discuss the research program being conducted and the communication skills neces S8£ Y clear power development.

HIGH LEVEL RADIOACTIVE WASTE TREATMENT

Karen L. Willams EG&G Idaho, Inc. USA

An important and controversial aspect of the U.S. nuclear energy program is proper management of the high-level radioactive waste created by nuclear facilities. This paper presents the current status and future plans for waste treatment in the U. S., and compares our program with programs of other nations.

The U. S. Department of Energy, here at its Idaho National Engineering Laboratory (INEL), is actively pursuing waste management alternatives. The INEL's recently completed (September 1982) calcining facility is the nation' s only full-scale production plant to solidify high-level liquid radioactive wastes. The new fuel dissolution and storage plant (expected 1984 completion) at the INEL will also include valuable technological advances in radioactive waste treatment methods, and will pay for itself within five years of operation. The paper will discuss these new facilities and their contribution to state-of-the-art treatment of radioactive wastes in the U.S.These treatment processes pave the way for future long-term (I.e. thousands of years) storage capability.

NUMERICAL MODELING OF WELDING IN THE NUCLEAR POWER INDUSTR

Carolyn J. Einerson, EG&G Idaho, Inc.USA

Welding procedures for use in the nuclear power industry are expensive to develop. Optimization of procedure development presently depends strongly on the skill and in tuition of the resident welding engineer. This method is critical because errors have the potential of causing ex

A SPECIAL THANKS

U. S. POST OFFICE - HANOVER, MARYLANO

IN RECOGNITION FOR THE SUPPORT AND ADVICE WITHOUT WHICH THE VII ICWES COMMITTEE COULD NOT HAVE SURVIVED.

Pensive system failures. Computer aided design (CAD) techniques would greatly benefit the nuclear industry in terms of safety, increased productivity, and cost savings, but have not been fully developed due to a lack of critical basic information. There are several fundamental parameters involved in welding processes, which need to be understood in order to develop a model that predicts the outcome of a weld. The parameter that has been studied in this work is the shape of the heat flux distribution across the work piece from a gas tungsten arc. The shape of the flux is important because it plays a large role in determining weld bead width and penetration. Experiments have been performed to determine the heat flux distribution by striking the front surface of a very thin anode with a gas tungsten arc. An AGA thermovision camera records the amount of infrared radiation leaving the backside of the anode from which the heat flux distribution can be derived by numerical analysis.

NUCLEAR ENERGY AND THE THIRD WORLD

Nezhat N. Vaziri, Iran

The last decade has seen an increasing worldwide commitment to the utilization of nuclear power plants as a source of electricity. Nuclear generating capacity is projected to grow from the current level of about 169000MW(e) to over 1500 GW (e) by the year 2000.

Annual fuel requirements are projected to increase from about 45000 t. U308 to almost 160,000 by the year 2000. Reasonably assured resources of US $ 800kg U_3O_8 have been estimated at 1747,000 and estimated additional resources at the same cost total about l605, 000t.

About 98.7% of the world nuclear electricity is produced by 15 industrial and centrally planned economy countries (excluding China). Latin-America, Africa and Asia (excluding China, Japan, and USSR) produce about 44.2% of estimated resources of US$ 80/kg U308, and 36% of world annual production, which produces only 1. 3% of the world's nuclear electricity.

HARBORPLACE/MARYLAND SCIENCE CENTER BALTIMORE, MD

Multiple Hosts

The tour to the Baltimore Inner Harbor includes an on your own lunch at the famous Harborplace with its 140 shops and restaurants coupled with the Maryland Science Center and the Davis Planetarium.The planetarium offers a broad range of programs ranging from the traditional constellation shows to an innovative glimpse of the universe. This tour is also offered on Thursday.

HARBORPLACEI AQUARIUM BALTIMORE, MD Multiple Hosts

A second tour to the Baltimore Inner Harbor includes an on your own lunch at the famous Harborplace with its 140 shops and restaurants and the Baltimore Aquarium. The aquarium is the largest and the most sophisticated aquarium in the US. It has a 7-story structure, houses over 5000 creatures, and contains over one million gallons (3.8 million liters) of water. As you spiral through the structure, you are surrounded by a dazzling array of aquatic life; you can stop in the petting zoo, stand side-by-side brilliant macaws, white-faced tree ducks, and Present evidence on the distribution of uranium deposits show that the majority occur in association with precambrian rocks or in tectonically distributed phanerozoic rocks immediately overlying the basement. Most of the known uranium deposits in the world Were formed before the continental drift. These deposits are located within the geological environment of the huge ancient continent of Gondwana. Most of the third World countries are located in Gondwana-Land, and nearby regions. Geological setting, metallogenic history, and structural processes show that there are favourable conditions for different types of uranium mineralization.

By considering the explored uranium in Europe and North America and their time-capital investment the necessity for more exploration activities should be planned in the Third World.

It is hoped that scientifically planned exploration programmes in carefully selected areas may bring to light larger potential deposits of uranium, and bring about a very important role in energy policy for the Third World in the future.

POSTIRRADIATION EXAMINATION OF EXPERIMENTALLY TESTED PWR FUEL BUNDLE

Lois' C. Van Deusen EG&G Idaho, Inc. USA

A thirty-two rod experimental, pressurized water reactor fuel bundle was tested in the Power Burst Facility at the Idaho National Engineering Laboratory as part of the International Severe Fuel Damage! Research Program. After testing, the bundle was examined in a shielded, remote handling facility to determine the condition of the bundle after a severe reactor transient. This paper presents a description of the specially designed remote handily tools and techniques used in the postirradiation examination of this bundle This equipment and procedures will be used in subsequent in-reactor tests in this internationally funded test series.

TECHNICAL TOURS

THESE TECHNICAL TOURS ARE DESIGNED TO SHOW WHAT HAS BEEN DONE IN THE LAST QUARTER CENTURY TO BENEFIT TECHNOLOGICAL DEVELOPMENT NAD TO INCREASE THE STANDARE OF LIVING.EACH TOUR IS UNIQUE AND EACH SHOWS THE DIFFERENT TRENDS IN FUTURE DEVELOPMENTS. THE TOURS ARE DESIGNED TO OFFER A GOOD INDUSTRIAL OR SCIENTIFIC PERSPECTIVE OF THE INDUSTRY TO THE NOVICE AS WELL AS PROVIDE A FOURM FOR DETAILED EXAMINATION AND INTERACTION FOR THE EXPERT IN THE FIELD. THE TOURS IN THE BALTIMORE AREA ALSO OFFER A LOW COST OPPORTUNITY TO VISIT BALTIMORE' S FOMOUS HARBOPLACE PAVILIONS-AN INDOOR FESTIVAL OF 140SHOPS AND RESTAURANTS LOCATED IN THE SCENIC INNER HARBOR.

Unflappable two-toed cloths in the Rain Forest, and enter the silent depths of the 220,000 gallon Open Ocean Tank where you'll gaze in wonderment at Lemon sharks, Bull sharks, Tiger sharks, Sandbar sharks, and large game fish all swimming endlessly around you. You must see it to believe it. This tour is also offered Thursday.

If space permits, you may purchase a bus ticket and spend all your time shopping and eating at Baltimore's Harborplace. Check at the Information Booth.

GEORGE WASHINGTON UNIVERSITY HOSPITAL WASHINGTON,

DC M. Bombaci, Host

A tour through the various hospital departments, including the computers, will focus on where the high technology equipment can be found in a medical application. Computer analysis and instrumentation associated with blood analysis, cardiology, EKG and stress, radiology and cancer Virus will be featured.

US AGRICULTURAL RESEARCH SERVICE BELTSVILLE, MD M. Fellows, Host

This event is limited to twenty people to take a mini-bus tour of a nationwide research center located on 7,000 acres and divided into institutes for agricultural, animal, horticultural, plant genetics, plant protection, and human nutrition. The tour is offered on Thursday as well.

NASA/GODDARD SPACE FLIGHT CENTER GREENBELT, MD D. Ihilt, Host

One of the largest facilities for near-earth type satellites, space-flight tracking and worldwide communication for scientific and technological exploration into outer space. Goddard has been responsible for major advances in communications, weather and climate research, earth resources, and space physics and space astronomy. These accomplishments were achieved concurrently with unprecedented worldwide ground support roles for the Mercury, Gemini, Apollo, Skylab, and Space Shuttle manned flight missions. This tour is also offered Friday.

POTOMAC ELECTRIC COMPANY WASHINGTON, DC P. M. Whorl, Host

With the ever-increasing demand for electricity, coal has come into the forefront again as a prime energy source. A visit to the Potomac Electric Company highlights the advances in energy production with this energy source. The tour includes a close-up look at the latest technology and computerized management of pulverizers, boilers, turbine generators, the control room, and an environment protection facility.

INTERNATIONAL COMMUNICATIONS SATELLITE WASHINGTON, DC G. Trevitt, Host

A Metro subway tour to this global satellite organization which serves more than 100 countries in transoceanic communication such as: telephone calls, telegrams, telex, transmission of computer data, and international television. The forty-five minute tour includes a film and a tour of the computer facilities. The attendance is limited to 18 people and is offered Monday through Friday. The tour is timed such that you can follow this tour with the Pentagon tours.

THE PENTAGON WASHINGTON, DC Multiple Hosts

A Metro Subway tour to the executive headquarters of the Department of Defense, which is one of the world's largest office buildings. The tour will remove the mystique surrounding the Pentagon and show the wide range of work conducted at this facility. It has army collections, the Hall of Heroes, military women's exhibition, and 17 miles (28 kilometers) of executive officers' corridors. The attendance is limited to thirty-five people and is offered Monday through Friday.

WEDNESDAY JUNE 20, 1984
PROFESSIONAL DEVELOPMENT WORKSHOPS
Session Facilitators
Roberta Brown, Delmarva Power Company Jaclyn Spear, Westinghouse

IMPLEMENTING A FINANCIAL PLAN
Marie Van Deusen, Paine Webber

Learn the latest strategies for maximizing return, trolling risk and saving excessive taxes in your folio. Session will include goal setting, how to money to invest, investment instruments, risks and fits of each.

EFFECTIVE RESUME WRITING
David Estes, McDonnell Douglas

This session will provide a detailed look at how to write an effective resume. This workshop also includes the mechanics of developing an appropriate cover letter.

OPPORTUNITIES FOR WOMEN IN GOVERNMENT
Linda Curren (Moderator), Batelle Columbus Richard Scribner, American Assoc. for the Advancement of Science

Three presentations will be made by representatives of government agencies and associations on positions available for scientists and engineers in government.

TECHNICAL OR MANAGERIAL? CLARIFYING CAREER OPTIONS
Dr. Susan Manring, Case Western Reserve University

As women move into senior technical or managerial positions' there are a number of special challenges which face women and organizations. This workshop will focus on helping women clarify their career goals (technical or managerial) and identify needed ski 11 development areas. Attention will also be given to issues of power and organizational facts of life.

INVESTMENT DRESSING FOR SUCCESS
Eyvette Jones, Casual Corner

In this workshop, Casual Corner will introduce its concept of investment dressing. We will show you how to:

- Plan a wardrobe
- Purchase new, multi-purpose items
- Make the most of the clothes you already own
- Protect your investment by giving them proper care
- Improve your image with a great looking wardrobe

BUSINESS & BED & BREAKFAST
Karen Archer, AT&T Bell Laboratories

Are you tired of staying in plastic hotels with Lysol rooms and anonymous lobbies? Make your business travel

Much more pleasant by choosing to go Bed and Breakfast - a wonderful hospitality package which includes overnight accommodations and breakfast in elegant, friendly homes. This seminar will let you know how to use them for your business travel.

GEARING UP FOR CAREER GUIDANCE - III MOTIVATING VOLUNTEERS–
TOOLS FOR OVERCOMING INERTIA Carol Leclair

Do you have problems motivating your fellow SWE members? Or have you found the Magic Key? Experts on the subject t will present tried and true techniques, but we also want to hear what actually works in your section. This is the last of three workshops on career guidance, but it will be applicable to all areas of your life.

CREATIVE FINANCING FOR BUSINESS

Marie Van Deusen, Paine Webber

Knowing the financial markets, products and special tax considerations for corporations and businesses can help you deploy your financial resources more effectively. Also you will learn about risk management techniques, retirement planning and employee benefit opportunities.

HOW TO CARE FOR YOUR SKIN

Eyvette Jones, Casual Corner

In today's hectic work life, it's important to take time for yourself and your skin. This workshop is geared to today's woman and the optimum way to pamper your face and still have time to read the Wall Street Journal. This workshop will discuss proper care of your skin.

Engineering Research Associates... The Company that Offers more!

If you are that hardware design or software engineer who demands the kind of exciting work environment that can only be provided by a young. Dynamic. Growing company. Talk to Engineering Research Associates.

At ERA. You will be involved in state-of-the art technology. You will have the room to grow professionally and personally. You will become a part of a vibrant employee-oriented corporate unit.

We are a leader in the signal processing aspect of Electronic Warfare (EW). Our range of activities includes signal search systems design. development. integration. deployment support. And analysis of mission data.

Analytical activities at ERA encompass EW. C3 (Command, Control and Communications) and Intelligence information requirements. Distribution, and display, as well as system architecture formulation and design. The resulting systems are computer intensive.

We are also engaged in Computer-Based Instruction training, including interactive color graphics digitized audio presentation and distributed processing technology. To learn more about this defense-oriented high-tech company. Which offers an array of benefits and opportunities, please contact Engineering Research Associates. Dept. 001. 1517 Westbranch Drive, McLean. VA 22 102.

Engineering Research Associates

U.S. Citizenship Required, EOE, Affirmative Action Employer

OPPORTUNITIES UNEQUALED.

"EG&G IDAHO has given me the opportunity to learn and participate in many varied aspects of the company.

I have been involved in reliability and statistical analysis, quality engineering and am currently manager of Facilities Planning Branch.

EG&G supports continued education and many employees are taking courses to further their education and development.

While in Quality
Assurance, the company provided me the opportunity to take courses in preparation for becoming a certified quality engineer by the ASQC.

I have taken the many management development courses offered internally and have attended technical seminars and conferences both as a presenter and as a participant.

Living in Idaho Falls has given me many opportunities to experience outdoor activities - including skiing and hiking as well as visiting national parks and recreation areas. Yellowstone is just two hours away, and Idaho Falls is small enough so I'm never lost in a crowd."

EG&G Idaho is the prime contractor for the Department of Energy's Idaho National Engineering Laboratory. Here you can be part of a community of scientists and engineers seeking new solutions to key problems of nuclear and non-nuclear energy.

Some of the areas of opportunity include: mechanical, chemical, electrical, and design engineering, quality assurance and control; reliability and statistics; radiological engineering; ceramics technology; solid-state physics; and computer system analysis.

Send your resume to Ron Cutadean, EG&G Idaho, Inc., Staffing and Development (D67), P.O. Box 1625, Idaho Falls, Idaho 83415
U.S. Citizenship Required
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EVENTS OF THE DAY

THURSDAY JUNE 21, 1984

7:00-8:00	CONTINENTAL BREAKFAST	AMBASSADOR ROOM
7:00-8:00	SPEAKERS BREAKFAST (INVITATION ONLY)	CALVERT ROOM
7:00-8:00	SWE FELLOWS BREAKFAST (INVITATION ONLY)	COUNCIL ROOM
8:00-6:00PM	REGISTRATION	WEST LOBBY
7:00-6:00PM	EXHIBITS (LOCATED THROUGHOUT THE BIRD CAGE WALK & AMBASSADOR ROOM)	AMBASSADOR BOOTH INFORMATION BOOTH
8:00-1:00	SIGN UP FOR EEVENING EVENTS IN WASHINGTON	ROOM 463
8:15-9:00PM	SWE BOARD OF TRUSTEES MEETINGS	
8:15-10:00	TECHNICAL SESSIONS	BLUE ROOM
	EFFECTS OF TECHNOLOGY	DIPLOMAT ROOM
	ON SOCIETY	PALLADIAN ROOM
	SOFTWARE ENGINEERING	
	OUR PLANET EARTH	
10:00-10:15	BREAK	
10:15-11:25	TECHNICAL SESSIONS (Continued)	
11:30-1:00	ON YOUR OWN LUNCH	INFORMATION BOOTH
12:00-5:15	TECHNICAL TOURS	
12:00-5:15	BALTIMORE HARBOUR TOUR: PLANETARIUM OR	BLUE ROOM
1:15-4:45	AQUARIUM	
1:15-5:15	U S AGRICULTURAL RESEARCH SERVICE	
1:15-4:45	NATIONAL BUREAU OF STANDARDS - FIRE	
1:15-4:45	RESEARCH	
1:30-2:45	DAVID W. TAYLOR NAVAL SHIP R&D CENTER	
2:30-5:00	DAVID W. TAYLOR NAVAL SHIP R&D CENTER	
	INTERNATIONAL COMMUNICATION SATELLITE	
	THE PENTAGON	
1:00-4:00	PROFESSIONAL DEVELOPMENT WORKSHOPS	
1:00-2:00	FIELDASSIGMENTS	
1:00-2:30	ENGINEERING/CONSTRUCTION INDUSTRY	DIRECTORS ROOM
1:00-3:00	SEXUAL HARASSMENT AT THE WORKSITE	BOARD ROOM
1:00-3:00	DUAL CAREER ISSUES	EXECUTIVE ROOM
2:00-3:00	EFFECTIVE COMMUNICATIONS WORKSHOP	CAUCUS ROOM
2:30-3:30	ASME CODES & STANDARDS	DIRECTORS ROOM
3:00-4:00	THIS THING CALLED STRESS	BOARD ROOM
3:00-4:00	ASSESSING THE MANAGEMENT FAST TRACK	EXECUTIVE ROOM
3:00-4:00	ASSERTIVENESS & POWER: STAYING IN CONTROL	CAUCUS ROOM
	RULES OF ENVIRONMENTAL PROTECTION IN TIE US EPA	DIRECTORS ROOM
1:00-3:30	MEETINGS - PROVISIONAL REGION	THE FORUM
	REGION A CABINET ROOM REGION F PALLADIAN ROOM	
	REGION BCLUB ROOM A REGION G PALLADIAN ROOM	
	REGION C CLUB ROOM B REGION H ROOM 117	
	REGION D COUNCIL ROOM REGION I ROOM 163	
	REGION EDIPLOMAT ROOM REGION J TUDOR ROOM	
1:30-5:00	FILMS	
1:30-2:00	AUTOMATED MANUFACTURING	
2:30-3:00	BEYOND HORIZONS	INFORMATION BOOTH
3:30-4:00	IS ANYBODY LISTENING?	INFORMATION BOOTH
4:30-5:00	STEEL MAKERS	THE FORUM
2:00-5:00	VISIT THE EMBASSIES	INFORMATION BOOTH
	(SIGN UP FOR AN APPOINTMENT MONDAY THROUGH	INFORMATION BOOTH
	THURSDAY)	INFORMATION BOOTH
1:00-6:00	ON YOUR 0WN TOURS	
7:30-9:30	TEKTRONIX HOSPITALITY SUITE	
5:30-7:30	FOPW RECEPTION HONORING WOMEN UIN AEROSPACE	
5:00-7:00	EG&G IDAHD HOSPITALITY SUITE	
6:30-10:30	SELECTED EVENING EVENTS IN WASHINGTON	

TECHNICAL SESSION ABSTRACTS

THURSDAY JUNE 21, 1984 BLUE ROOM EFFECTS OF TECHNOLOGY ON SOCIETY
Sharon Henderson Babb, Session Facilitator Atlanta, Georgia USA

ENGINEERING, WORK, AND NEW TECHNOLOGY

Rosemary West Loughborough University, England

More than anything else, the practical utility of the products of engineering skill has contributed towards a higher living standard with less toil. In earlier centuries less toil must have been an almost unmitigated blessing but continued erosion of the number of man-hours of paid work due to faster and more pervasive developments in electronic technology require a more fundamental re-appraisal of the various social and technological factors. To quote from A. E. Cawkell, "Engineers should make it their business to understand the issues and publicize the accumulating evidence about trends in this revolution."

Various stages in the electronic revolution, both existing and projected, are charted with emphasis upon the part which women engineers and scientists have to play in ac centuating the positive contributions and minimizing the harmful effects of the new technology.

EVOLUTION OF COMPETITIVE TELECOMMUNICATIONS IN THE USA

Becki Wright AT&T Communications.USA

Gone are the days when you could jus t drop by "the phone company", and get your phone equipment, your local and your long distance service all from one company. Today you can buy a phone at your local department store, order your local phone service from one company, and order long distance service from any number of other companies.

This session will present a brief history of the events in the telecommunications industry leading up to the breakup last January of A.T.& T. - "the biggest company in the world" and discuss what the future may hold for you and your phone in the United States.

RECENT DEVELOPMENT OF COMMUNICATIONS & SOCIOLOGICAL ASPECTS OF THIS DEVELOPMENT PARTICULAR REFERENCE TO IRAN

M.M. Rahmani, International Centre of Theoretical Physics, Iran

It is indeed an interesting exercise to correlate the growth of the modern civilization with landmarks of discoveries, inventions in electronics and telecommunication. The range of human communication has expanded through many orders because of the successful developments in telegraph, telephone, radio, TV and now satellite systems. The present status of telecommunication is easily visualized by going through the progress made in the last two decades.

The changing social needs and the development of new technology are bringing the evolution of new communication capabilities, e.g., Videotex, Electronic Mail, Teleconferencing and interview CATV. These are also leading to automated offices and wired homes, where most of the future information will be generated, processed and utilized for running the industries, businesses and the government, and for education and recreation. Sociological aspects of modern communication are of great importance and are discussed with special reference to Iran.

A BRIDGE TO THE FUTURE

B.K. Krenzer USA

Revolutions come and go. The current High-Tech Revolution is beginning to cause problems like those generated by its predecessor, the Industrial Revolution. Before those problems become solidified into the system we need to seek out and define the undesirable side effects of the technology revolution; to consider how serious these side effects may be; to decide what "fixes" are possible and profitable to pursue; and finally to determine how, when, and where to implement those "fixes."

COMPUTERS: TODAY & TOMORROW

Kamala Balaraman Bohabha Atomic Research Centre, India

Computers, one of the most spectacular developments in the fields of science and technology of this century, have come to stay, both in the developed and the developing countries. Their use, if ever, is on the increase in every field of human endeavour, such as communication, in formation handling, mining, medicine, engineering, etc., not to talk of basic research in the sciences where it is an essential component. In the recent past, computers have been tried successfully as educational aids in primary and secondary schools, not only in USA and other developed nations but in India, too. Computer experts come up every day with newer and newer avenues for the exploitation of the 'computer potential'. The 'tomorrow' of computers is, at once, fantastic and staggering; at times, even worrying. The impact of such giant strides in this field has necessarily an effect on the economic and socio logical structures of any society. An attempt is made to discuss all these aspects, particularly from the point of view of a developing/ nation vis-a-vis that of a developed one.

THURSDAY JUNE 21, 1984 DIPLOMAT ROOM **SOFTWARE ENGINEERING**
Sharon Loemer, Session Facilitator Dowell Inc. Tulsa, OK USA

SOFTWARE ENGINEERING

Diane B. Revell Mitre USA

Software engineering is one of the newest fields of engineering. As computers have become more commonplace and as their capabilities have increased, the need for software engineers has grown. The software engineer applies the principles of computer science to the design, implementation, testing, and maintenance of computer programs. Three main points are covered: the need for software engineers, the work performed by software engineers, and the education and certification of software engineers.

FUNDAMENTALS OF COMPUTER SECURITY

Dr. Francis M. Berting Westinghouse Hanford, USA

Protection of an organization's data must now include the protection of mini and microcomputers, software, stored data and printed reports. Management, as well as users, must become aware of potential vulnerabilities and available safeguards. These vulnerabilities are surveyed, from minor equipment failure to major disasters. from accidental errors to large-scale vandalism. An approach to estimating the probability of pertinent threats and harms is described. Preventive measures involving physical environment, operating system and organizational procedures are presented with emphasis on cost/benefit evaluation.

TECHNICAL SESSION ABSTRACTS

AN OVERVIEW OF SOFTWARE TESTING

Marilee J. Wheaton The Aerospace Corporation, USA

Software has become a major component in aerospace systems, comprising almost eighty percent of the total cost of the system. It is imperative that the software be completely reliable in order to meet mission requirements. Only through extensive software testing, can one be assured that the software will perform its intended functions. An overview of software testing is presented and five major areas are covered: the philosophy of software testing, software testing strategies, program test methods, automated test tools, and current research and future trends in the area of software testing. An alternative approach to the current method of ensuring software quality is emphasized. Instead of checking the final product for software quality, assure that the quality is initially built into the product by introducing software testing methodologies earlier in the software development cycle.

ADA. PAST, PRESENT, AND FUTURE

Elizabeth Strong, Honeywell, USA

This paper will present an overview of Ada, the new programming language sponsored by the U. S. Department of Defense. The paper will discuss the origins, the current status, and a scenario of the future for Ada.

The software crisis was the motivation for the development of Ada. A standard, high-order programming language was perceived to be a solution to the crises, and thought to provide a tremendous cost savings through the portability and re-usability of standardized software. An engineering approach was taken to the process of designing this new language. This paper will provide a brief history of the development of Ada, and will highlight the international aspects of the Ada effort.

Ada is a state-of-the-art programming language with features that address the issues of software reliability and maintainability, and support modern software design principles. Standardization is the cornerstone of the Ada effort, and it extends beyond the language itself and into the area of the software tool environment. Ada is currently an ANSI standard. A validation test suite has been established and a few validated compilers are available. The future for Ada? Components industry. Perhaps the beginnings of software

COMPUTER SYSTEMS ANALYSIS. AN EXERCISE FOR SHERLOCK HOLMES

Shivran Siddhu, Stone & Webster Engineering Corporation, USA

Manpower turnover in the computer system design and programming causes junior programmers to have the responsibility to maintain systems. This results in a frustrating experience and a question common to both management and the computer system users. The question: What is the scope of the system? Sherlock Holmes, the computer systems analyst, is called in to investigate and give a report. The simplified and the comprehensive method used by the author to analyze the system are dealt with.

Section I deals with the detailed documentation, which includes summary, flow charts, file description, off data sets, data dictionary of key terms, sample input documents, and report samples.

Section II deals with a comprehensive method to subgroup the systems developed by the author. It also deals with relationship charts between reports and programs, and reports and procedures. Thus it summarizes for the computer system users the detailed system documentation.

Section III is a comprehensive report of Sherlock Holmes to the management.

THURSDAY JUNE 21, 1984 PALLADIAN ROOM OUR PLANET EARTH

Helen Grenga, Session Facilitator Georgia Institute of Technology USA

RECENT TRENDS IN WATER WAVE RESEARCH

Dr. Helene R. Schember, TRW, USA

Progress in the familiar environmental field of water waves has taken the form of a number of diverse trends. This paper describes a selection of exciting theoretical, numerical and experimental advances in our understanding of waves in water. Included in this presentation will be a discussion of the following active research topics: Satellite measurements of ocean waves using active microwave sensors such as the scatter meter, altimeter and synthetic aperature radar; the effects of non-linearity and weak non-linearity on waves through wave-wave interactions and bottom topography; the generation of waves by wind and wind-wave coupling; very steep waves and breaking waves.

TOXIC CHEMICAL WASTE DUMPS IN AN INDUSTRIAL CIVILIZATION; PLANET EARTH, USA, MASS.

Yee Cho, Massachusetts Dept. of Environmental Quality Engineering, USA

High technology industries (I.e., electronics, computers) have grown rapidly in Massachusetts. The number of identified abandoned hazardous waste sites has also grown to over 100 in the state. Sixteen of these sites are on the national priority list for federal cleanup actions. In this nation ,of 50 states, Massachusetts has the eleventh largest number of sites in this priority list. In comparison, this industrial state has one of the smallest land areas in the nation. This report will analyze first what these abandoned toxic dump sites are, especially in their relationship to the number and types of industries in the state. Secondly, it will reveal the nature of these toxic sites--are they abandoned drums and barrels dangerously oozing toxic and reactive chemicals? Or, are they ponds and lagoons of hazardous and toxic chemicals in open fields? Or, are they simply layers of rainbow colored soil resting on top of underground drinking water systems and bordering the recreational lake and river systems? And, finally, it will examine the technologies available to address gross contamination of this planet, and the technologies Massachusetts has employed in addressing these sites.

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY: ITSAPPLICATION IN ENVIRONMENTAL ANALYSIS

N. Thakkar & V.H. Kondawar, National Environmental Engineering Research Institute, India

To the Environmental Scientist HPLC (High Performance Liquid Chromatography) is a technique for separating organic pollutants from complex mixtures occurring in air, water or soil. HPLC can help determine the number of pollutants in a mixture, how much of each pollutant is present and the purity of the sample. It is a fast, precise and economical technique for detecting organic pollutants. A basic HPLC system is illustrated. An example of the application of HPLC is the analysis of carbamates without the additional complexity of a derivitization step. A reverse phase liquid chromatographic method with UV detection is described for the trace determination in water of selected carbamate class agricultural pesticides. A UV 254 detector is operated. Calibration curves are linear over a wide range of sample concentration (ppb to ppm). Detection limits in the range of 150-400 pg (signal/noise ratio 2:1) have been obtained for test carbamates, corresponding to sample concentration of nearly 10-15 ppb. Detection limits are controlled by "pump" noise resulting from fluctuations in background current.

TECHNICAL SESSION ABSTRACTS

GEOLOGY, THE CORNERSTONE OF A CITY

Mary Ellen Russell, Consultant, University of Washington, USA

Modern cities develop where a balance of geological factors related to agriculture occur, such as water supply, transportation and natural resources. Industrialization, based on cheap energy, introduced suburban living. Cities expanded into areas having resources necessary for growth and often-unfavorable geology conditions. The move underground to tunnels for sewers and water supply, then parking, transportation and shopping malls, aggravates the problem. Man' s advanced technology has enabled him to perform engineering feats, formerly thought to be impossible, but emphasis has been on accomplishment with little heed to conditions lending to an environmental aftermath.

A few North American cities have comprehensive geological studies. More information is available in public agencies and should be retrieved before it is destroyed. Computer technology could develop and update a database to be used by Geologists working with Engineers for competent planning. Expanded countrywide, indeed Geology would become the Cornerstone of all cities.

WISCONSIN INTEGRATED EMERGENCY MANAGEMENTSYSTEM (IEMS)

Sharon A. Carroll, Wisconsin Department of Administration, USA

A narrative and slide presentation on the program developed in Wisconsin by the Division of Emergency Government.

HARBORPLACE/MARYLAND SCIENCE CENTER BALTIMORE, MD

Multiple Hosts

The tour to the Baltimore Inner Harbor includes an on your own lunch at the famous Harbor place with its 140 shops and restaurants coupled with the Maryland Science Center and the Davis Planetarium. The planetarium offers a broad range of programs ranging from the traditional constellation shows to an innovative glimpse of the universe.

HARBORPLACEI AQUARIUM

BALTIMORE, MD Multiple Hosts

A second tour to the Baltimore Inner Harbor includes an on your own lunch at the famous Harbor place with its 140 shops and restaurants and the Baltimore Aquarium. The aquarium is the largest and the most sophisticated aquarium in the US. It has a 7-story structure, houses over 5000 creatures, and contains over one million gallons (3.8 million liters) of water. As you spiral through the structure, you are surrounded by a dazzling array of aquatic life; you can stop in the petting zoo, stand side-by-side brilliant macaws, white-faced tree ducks, and unflappable two-toed sloth' s in the Rain Forest, and enter the silent depths of the 220,000 gallon Open Ocean Tank where you'll gaze in wonderment at Lemon sharks, Bull sharks, Tiger sharks, Sandbar sharks, and large game fish all swimming endlessly around you. You must see it to believe it.

If space permits, you may purchase a bus ticket and spend all your time shopping and eating at Baltimore' s Harbor place. Check at the Information Booth.

This is a nationwide program that is federally funded. Wisconsin has taken the lead in establishing an integrated system of emergency management. The presentation describes Wisconsin's program and types of emergencies that occur in the state and throughout the world.

ELAIOGRAPHICAL INVESTIGATIONS OF AUTOCHTONOUS CULTIVARS OF OLIVES IN SUBREGION OF BOKA KOTORSKA

Dr. Ksenija Miranovic Agricultural Institute, Yugoslavia

The region of olives in Montenegro is composed of two specific sub regions, differing from each other by the ecological conditions, structure of cultivars and by the level of applied agro techniques. Territorially, the sub region of Bar consists of the following communities: Bar, Budva and Ulcinj with 56% of the total number of trees, and the region of Boka Kotorska with the following communities: Herceg Novi, Kotor and Tivat, with 44% of trees.

In the entire Adriatic coastal area of olives, it is necessary to extend the structure of sortiment including also some quality cultivars, which are being examined in groves - collections. In that, the more valuable domestic sorts, which are well adapted to existing ecological conditions, should also in -future be represented in the assortment.

TECHNICAL TOURS

THESE TECHNICAL TOURS ARE DESIGNED TO SHOW WHAT HAS BEEN DONE IN THE LAST QUARTER CENTURY TO BENEFIT TECHNOLOGY DEVELOPMENT AND TO INCREASE THE STANDARD OF LIVING. EACH TOUR IS UNIQUE AND EACH SHOWS THE DIFFERENT TRENDS IN FUTURE DEVELOPMENTS. THE TOURS ARE DESIGNED TO OFFER A GOOD INDUSTRIAL OR SCIENTIFIC PERSPECTIVE OF THE INDUSTRY TO THE NOVICE AS WELL AS PROVIDE A FOURM FOR DETAILED EXAMINATION AND INTERACTION FOR THE EXPERT IN THE FIELD. THE TOURS IN THE BALTIMORE AREA ALSO OFFER A LOW COST OPPORTUNITY TO VISIT BALTIMORE' S FAMOUS HARBORPLACE PAVILIONS-AN INDOOR FESTIVAL OF 140 SHOPS AND RESTAURANTS LOCATED IN THE SCENIC INNER HARBOR.

US AGRICULTURAL RESEARCH SERVICE BELTSVILLE, MD

M. Fellows, Host

This event is limited to twenty people to take a mini-bus tour of a nationwide research center located on 7,000 acres and divided into institutes for agricultural, animal, horticultural, plant genetics, plant protection, and human nutrition.

NATIONAL BUREAU OF STANDARDS GAITHERSBURG, MD

S. Davis, Host

The fire research tour will feature the test tunnel where performance of materials against fire and heat is studied to determine the optimum resistivity and economical thickness of material. The computer facility where analytical models are being developed for exotic materials will also be shown. The laboratory develops information on the rate of heat, the flame spreading characteristics, and the movement of smoke and toxic gases during the performance of materials in the fire environment.

DAVID W. TAYLOR NAVAL SHIP RESEARCH BETHESDA, MD

Capt. Gauthey, Host

The center conducts research on ship 0 s performance, design of high strength materials, construction of new models, instrumentation, improvements in aerodynamics, and

Acoustics of ships. This tour will demonstrate the evolution of a concept from the computer model to the scale model to the full-scale development model to production hardware. This tour is not only applicable to the defense industry, but demonstrates techniques which are state of the art in industry as well

NATIONAL INSTITUTE OF HEALTH ROCKVILLE, MD
P. Brandenburg, Host

The tour of the National Institute of Health is being specifically designed to address the interests of ICWES. There are tours of the engineering facilities with a special emphasis on the development of high technology instrumentation, which extends beyond the health applications. The theme of the tour discussions will be basic and applied research and specific industrial and health applications. This tour is offered on Friday as well.

INTERNATIONAL COMMUNICATIONS SATELLITE WASHINGTON, DC
G. Trevitt, Host

A Metro subway tour to this global satellite organization which serves more than 100 countries in transoceanic communication such as: telephone calls, telegrams, telex, transmission of computer data, and international television. The forty-five minute tour includes a film and a tour of the computer facilities. The attendance is limited to 18 people and is offered Monday through Friday. The tour is timed such that you can follow this tour with the Pentagon tours.

THE PENTAGON WASHINGTON, DC
Multiple Hosts

A Metro Subway tour to the executive headquarters of the Department of Defense, which is one of the world's largest office buildings. The tour will remove the mystique surrounding the Pentagon and show the wide range of work conducted at this facility. It has army collections, the Hall of Heroes, military women's exhibition, and 17 miles (28 kilometers) of executive officers' corridors. The attendance is limited to thirty-five people and is offered Monday through Friday.

THURSDAY JUNE 21, 1984
PROFESSIONAL DEVELOPMENT WORKSHOPS
Session Facilitators Ann Michels, Self-employed Debra Simoff, AT&T Bell Laboratories

FIELD ASSIGNMENTS IN THE ENGINEERING/ CONSTRUCTION INDUSTRY
Sandra Neeper & Debbis Kaylo, Bechtel Power Corporation

Two engineers will discuss their first-hand field assignment experiences. The. Type of field engineering experience to be discussed include: construction, startup, design engineering liaison to construction and/or startup. The functions associated with these tasks include: walk down of design, interface with laborers, implementation of design, startup testing, formulation of procedures for test, resolution of on-site problems, relations with subcontractors and client management.

SEXUAL HARASSMENT AT THE WORKSITE
Bettie White & Monica Crespo, NASA

This workshop will define sexual harassment, provide examples of sexual harassment, explain the effects of sexual harassment on job performance and provide a summary of recent court decisions.

DUAL CAREER ISSUES ..SURVEY RESULTS& PERSONAL PERSPECTIVES
Claire Miller (Moderator), Resource: Careers

A seminar for managers addressing the emerging issues of the changing work force and the impact these changes have on organizations .A slide presentation of the survey fundings of 167 organizations and 800 dual career individuals will be shown. A discussion will follow on work and family issues and their influence on the new policies and practices which organizations must develop for recruiting, retention, relocation, and employee benefits.

EFFECTIVE COMMUNICATION WORKSHOP
Cheryl Machnich, MCC Powers

How important is communication to effective management? If you sometimes have difficulty selling your ideas to others or getting cooperation and support from other managers, you may be communicating on the wrong wavelength. Findings from behavorial research suggest that there are four different communication styles - affiliator, conceptualizer, analyzer and activator. This workshop is directed at helping you change or improve your communication style.

ASME CODES & STANDARDS A CENTURY OF PROGRESS THROUGH VOLUNTARY ACTION
William Woollacott, ASME

A new film, "A Fitting Occupation," will be shown which will provide viewers with a better understanding of what mechanical engineers do and marks an important centennial in the profession - that of uniform codes and standards. In 1884 ASME pioneered The Codes and Standards Program under which it mobilizes industry, government and consumer interests into volunteer committees to develop uniform codes and standards for the manufacture, construction, testing and safety of all kinds of devices, from bolts to boilers. The film shows how the committees work, the reasons for establishing codes and standards and some of the many things for which codes and standards have been set. Discussion will follow.

THIS THING CALLED STRESS
Roxanne Willert, Adantic Research Corporation

Stress is a part of all our lives. Even if we choose to live in a plastic bubble isolated from everything in the world, we would still encounter stress. What is this be hemoth? How do we know if we have it? And what can we do to minimize its negative impact on our lives?

ASSESSING THE MANAGEMENT FAST TRACK
Georganne MacNab, McDonnell Douglas

An 18 minute film, entitled "Minds over Matter", will set the stage for the presentation to follow covering the skills, attributes, attitudes, and experiences beneficial to upward movement within the industrial organization. Time will be provided at the conclusion for questions and answers.

ASSERTIVENESS & POWER: STAYING IN CONTROL
Sharon Fountain, Performance Development Corporation

Your responsibility is to get the task accomplished: Your job will be easier if you know and understand how to use your own power to stay in charge of where you're going and how you're going to get there. This workshop will assist you in:

- Being in control of situations rather than being controlled by them;
- Saying what you think and feel in a way that others can hear and act on;
- Accomplishing your goals calmly and effectively through increased awareness of the dynamics of personal and Position power.

RULES OF ENVIRONMENTAL PROTECTION IN THE US EPA
Sharah Simon, EPA Region I, Kathleen Conway & Nancy Wentworth, EPA

The mission of the EPA is 1) presenting basic research and technical assistance performed by the EPA; 2) turning scientific findings into legally enforceable ambient standards; and 3) running regional programs and encouraging controlled technical implementation. These functions and how they are performed and carried over through different administrations will be discussed.

AN OPEN INVITATION FROM FOPW

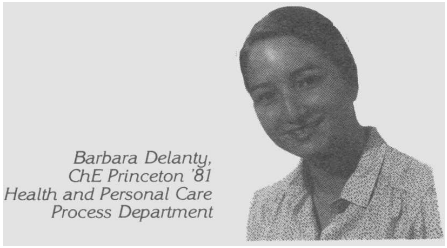
TO A WINE AND FINGER FOOD RECEPTION HONORING WOMEN IN AEROSPACE
JUNE 21, 1984, THURSDAY FROM 5:30 - 7:30 PM

ROOM S-325 (SENATE CAUCUS ROOM) IN THE RUSSELL SENATE OFFICE BUIDING ON CAPITOL HILL
CONTACT THE INFORMATION BOOTH FOR METRO TRANSPORTATION INFORMATION
$10:00 TICKETS MUST BE PURCHASED IN ADVANCE FROM DR. GERRY COX THROUGH THE INFORMATION BOOTH.

SWE IS AN AFFLIATE OF THE FEDERATION OF ORGENIZATIONS FOR PROFESSIONAL WOMEN

HERE' S WHY I PICKED PROCTER & GAMBLE

Getting A Diploma does not make you a chemical engineer. It makes the end of undergraduate life as a chemical engineering student. I wanted a company that could help me help me make the transition from student to engineer as quickly as possible.
That' s why i chose P&G
In less than six months,I become the process engineer on crest toothpaste .where else can you get that kind of visibility and responsibility in your first year? like Princeton, P&G excepts a little more.

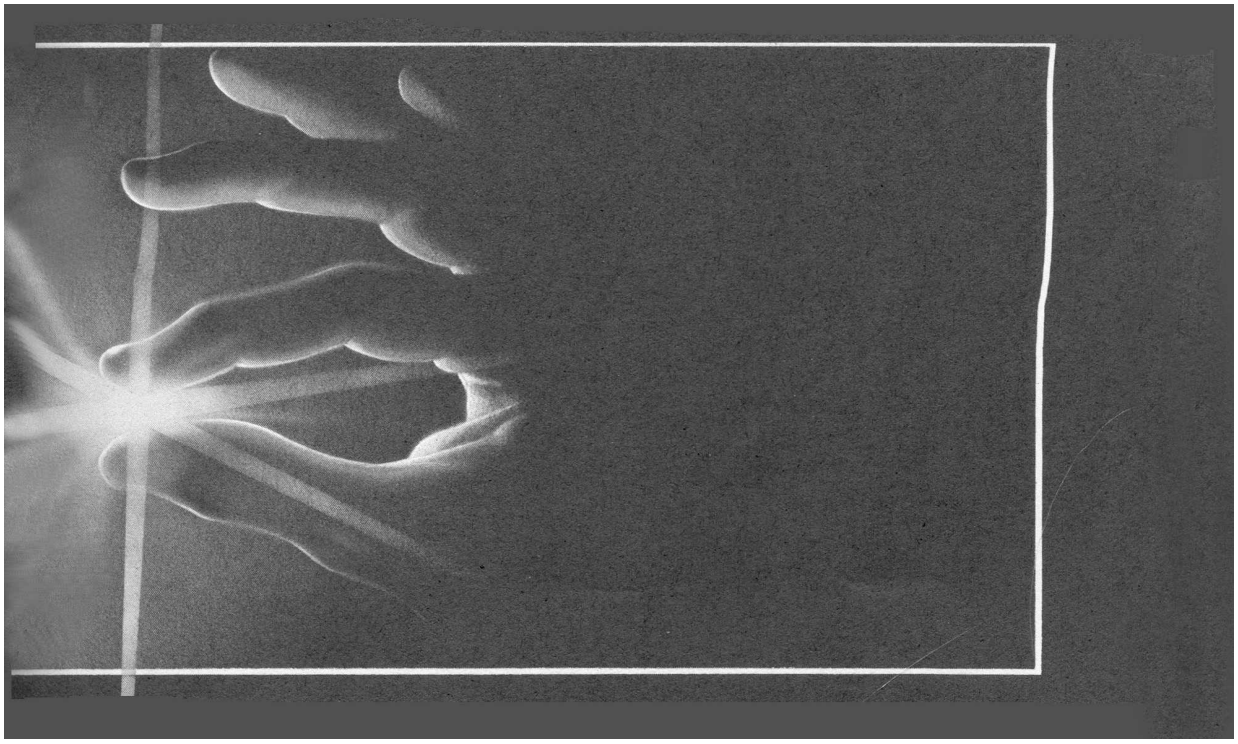


But the real attaction of procter& gamble lies not in its technical training. But in the way the company trains you to be an effective worker. P&G can teach you hoe to sell an idea to your boss and to others, and how to move a project. And you won' t learn it accidentally after five years of trial and error.
Procter& Gamble gives the same consideration to getting the most out of its people as it does to building its share of the market. A good engineer must be both technically. Competent and a good project manager. good engineers don' t just happen. they are made. That' s why I' m here

We have opportunities in: Engineering
BS-MS in ME, EE, ChE, CE
Location: Cincinnati
Manufacturing Management
BS-MS Engineering or Science,
MBA or MIM with Engineering BS.
Location: throughout the U.S.
R&D/Product Development
BS-MS-ChE.
MBA with undergraduate degree in ChE or Chemistry.
Location: Cincinnati
Management Systems
BS-MS in Systems, IE, EE, Applied Math, OR, Computer or Management Science.
MBA with technical BS.
Location: Cincinnati
For more information on any of the above, check your Placement Office.

PROCTER & GAMBLE

An Equal Opportunity Employer



THE FUTURE

THE LIGHT OF IMAGINATION

Imagination is a human wonder. Inherent in imagination is the ability for addressing change, for creative thinking and innovative accomplishment. It is imagination that lights the way to the future.

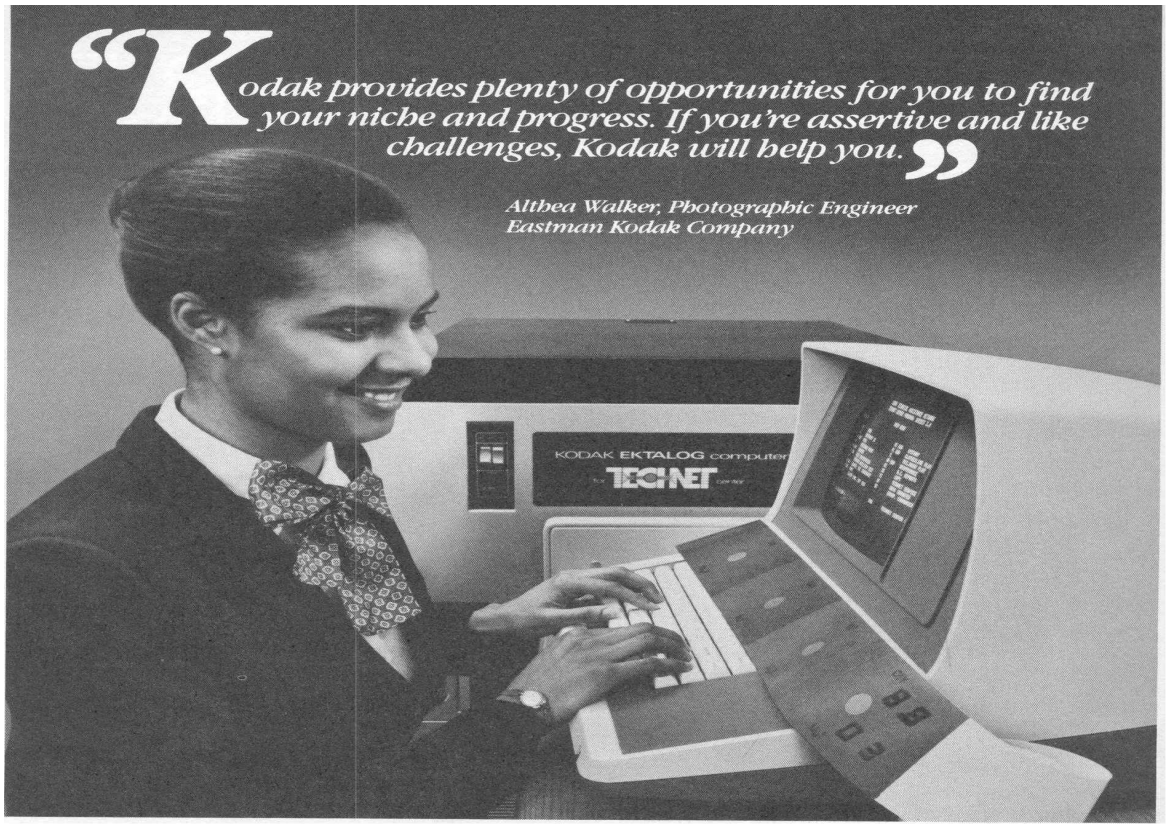
Interlocked with the impressive achievement of EBASCO in engineering, construction and design are the contributions of over 6000 people, who extend their thinking and their standards beyond the status quo.

Doing things better is what EBASCO is all about. Our facilities in more than 60 countries and in every part of the United States continue to be benchmarks of progress. Our people at our world headquarters in New York, regional/branch offices and at construction sites across the country each day prove the future is not something that happens. The future is what we make it.

EBASCO

Meeting The Challenge Of Change

EBASCO SERVICES INCORPORATED. College Relations. Two World Trades Center. New York. NY 10048
Offices in: ATLANTA GA•HOUSTON TX•JERICHO NY•LYNDHURST NJ•LOS ANGELES CA•SEATTLE WA
We Are An Equal Opportunity Employer M/F/H



Turn Tour Ambitions Into Achievements.

Althea Walker is excited about Kodak. After receiving her electrical engineering degree at Rensselaer Polytechnic Institute, she came to Kodak, "because it is an established company doing exciting, nontraditional things in Engineering:'

She started in photographic technology helping to automate in-house equipment. Since then, she's become involved with the continual updating and improvement of programs for Technet center, Kodak's worldwide-computerized technical assistance network for. Photofinishers.

"I love seeing a product grow and being a part of that growth;' she says. "I work with a variety of people on Technet center, and I am using my technical expertise to help meet the customers' changing needs. It's the way I've always wanted to use my training:"

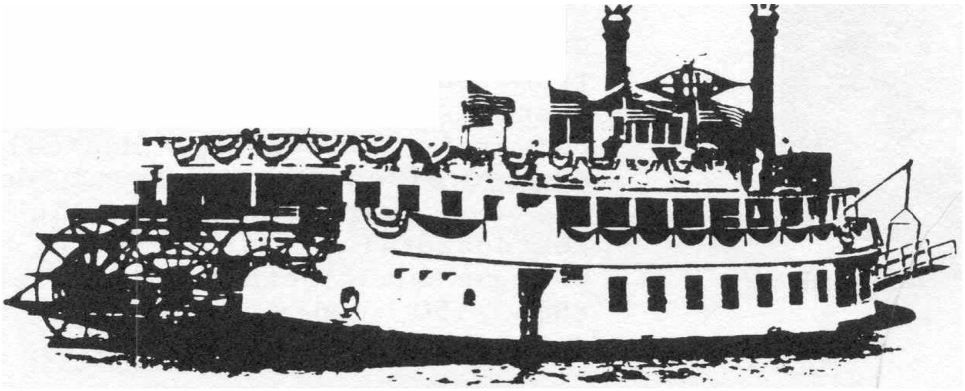
Althea shares her enthusiasm and talents with the community through organizations like PRIS^{2}M (Program for Rochester to Interest Students in Science and Math) and Junior Achievement. She's membership chairperson for the local chapter of SWE (Society of Women Engineers); she also speaks to college students about career opportunities at Kodak.

If you're excited by the opportunities that Kodak has to offer, send your resume to Personnel Resources, Dept. DSWE, Eastman Kodak Company, Rochester, NY 14650.
We'll be waiting to hear from you.

An equal opportunity employer manufacturing photographic products, electronic equipment, fibers. Plastics. and chemicals. Major plants in Rochester, N.Y; Kingsport, Tenn.; Windsor, Colo.; Longview, Tex.; Columbia, S.C.; Batesville, Ark.; and a sales force all over the U. S.

64

POTOMAC RIVER CRUISE
AND
OLD NEW ORLEANS RIVER BOAT BUFFET
FRIDAY - JUNE 22
11:45 - 5:00



COME ON ALONG! COME ON ALONG!
IT' S THE FEDERAL JAZZ COMMISSION BAND!!!
{EVEN BETTER THAN ALEXANDER' S BAGTIME BAND}

SEE WASHINGTON FROM THE HISTORIC POTOMAC RIVER ABOARD THE FIRST LADY,
A MAGNIFICENT REPLICA OF A MISSISSIPPI RIVERBOAT COMPLETE WITH
PADDLEWHEEL AND TURN OF THE CENTURY GASLIGHT DECOR.

A VARIETY OF BAR SNACKS WILL BE SERVEDTHROUGHOUT THR CRUISE
CASH BARS ON THE LOWER & MID DECKS FROM 1: 00 TO 4: 00

A TWO HOUR OPEN BUFFET WILL BE SERVED ON THE LOWER & MID DECKS FEATURING:
BEEF OFFERED WITH SAUCE BEBNAISE
CHICKEN SALAD LAFAYETTE WITH VEGETABLES, FRESH SPICES, AND ALMONDS
WHOLE SALMAN POACHED IN WHITE WINE WITH CHILLED SAUCE VERTE
FRESH SALAD WITH HARICOT VERTS, BELGIUM CARROTS, ROSEBUD BEETS, PETITE POIS,
HEARTS OF PALM, CAULIFLOWER, & VINAIGRETT
TINY NEW POTATOES TOPPED WITH SOUR CREAM AND BLACK CAVIAR
SHRIMP AND VEGETABLE MOUSSE MOSIAC
FRUIT CART WITH CANTALOUPE, HONEYDEW MELON, PINEAPPLE, STRAWBERRIES, GRAPES SERVED WITH
DIPS OF RASPBERRY CREAM AND KEY LIME
MINIATURE PASTRIES SUCH AS ECLAIRS, NAPOLEONS, FRUIT TARTS, LEMON ROULADES,
MOCHA SQUARES, CHOCLATE TRIANGLES, AND RUM BALLS

YALL COME - HEAR!!!

VII ICWES
ACHIEVEMENT AWARD BANQUET
KEYNOTE SPEAKER

Dr. Estelle R. Ramey

Estelle R. Ramey is a Professor of Physiology and Biophysics at Georgetown University Medical School. She has been Vice President of the Washington Heart Association and is currently a member of the Board of Directors.

Dr. Ramey has a MS in Physical Chemistry from Columbia University and a PhD with special training in endocrinology from the University of Chicago Medical School. When she received her doctoral degree in 1950, she was awarded a US Public Health Service Postdoctoral Fellowship in Endocrinology. Her research output is represented by more than 150 papers published in scientific journals and two books.

Dr. Ramey serves on: Executive Advisory Panel of Chief of Naval Operations, US Navy; the Board of Directors (and former President) Association of Women in Science Educational Foundation; Advisory Board of Secretary of Health, Education, and Welfare; Advisory Board of International Institute for Women's Studies; Public Affairs Committee, Endocrine Society; and a visiting professor and guest lecturer for twelve major universities and colleges. Dr. Ramey has nine honorary degrees and has received the Washingtonian of the Year Award-1972, Outstanding Alumna University of Chicago-1973, Woman of Achievement Award-Public Broadcasting Corporation, and many other honors too numerous to list here.

Dr. Ramey has great pride in her family and shares the honors with her husband, son, daughter, and her grandchildren.

ACHIEVEMENT AWARD RECEPTION AND BANQUET
FRIDAY, JUNE 22, 1984
HORS O'OEUVRES & CASH BAR IN THE AMBASSADOR ROOM FROM 6:30 TO 7:30
(PRESENT BANQUET TICKET AT THE DOOR)

BANQUET AND CEREMONIES IN THE REGENCY BALLROOM FROM 7:30 TO 10:30

The Achievement Award is the highest tribute given by the Society of Women Engineers. It is conferred each year upon a woman who has made significant contributions to Engineering in the fields of engineering, research, education or administration. The 1984 recipient, DR. GERALDINE V - COX, will be honored at this reception and banquet.

EVENTS OF THE DAY
FRIDAY JUNE 22, 1984

7:00-8:00	CONTINENTAL BREAKFAST	PALLADIAN ROOM
7:00-8:00	SPEAKERS BREAKFAST(INVITTATION ONLY) "FY 84 CHARATERED SECTINS"	CALVERT ROOM COUNCIL ROOM
7:00-8:15	BREAKFAST (INVITATION ONLY)	WEST LOBBY
8:00-3:00PM	REGISTRATION	INFORMATION BOOTH
8:00-1:00	SIGN UP FOR EVENING EVENT IN ASHINGTON	
8:15-10:00	TECHNICAL SESSIONS APPLIED MATHEMETICS MANUFACTURING TRANSPORTATION	 BLUE ROOM DIPLOMAT ROOM PALLADIAN ROOM
10:00-10:15	BREAK TECHNICAL SESSIONS(continued)	
10:15-11:25	MEET SWE' S LEGAL COUNSEL (AN INVITATION TO CSR MEMBERS)	PRESIDENT' S SUITE
11:30-12:30	ON YOUR OWN LUNCH	INFORMATION BOOTH
11:30-1:00	POTOMAC EXCURSION	BLUE ROOM
11:45-5:00	TECHICAL TOURS	BLUE ROOM
1:15-4:45	NASA, GOODARD SPACE FLIGHT CENTER	
1:15-4:45	NATIONAL INSTITUTE OF HEALTH	
1:30-2:45	INTERNATIONAL COMMUNICATION SATELLITE	
2:30-5:00	THE PENTAGON	
1:00-6:00	ON YOUR OWN TOURS	INFORMATION BOOTH
6:30-7:30	AWARDS BANQUET RECEPTION	AMBASSADOR ROOM
7:30-10:30	AWARDS BANQUET	REGENCY BALLROOM
6:30-10:30	SELECTED EVENING EVENTS IN WASHINGTOMN	INFORMATION BBOTH

TECHNICAL SESSION ABSTRACTS

FRIDAY JUNE 22, 1984 BLUE ROOM APPLIED MATHEMATICS
Margaret Hickel, Session Facilitator 3M Company, USA

SEPARATING FACT FROM FICTION: THE ROLE OF THE STATISTICIAN IN MANUFACTURING AND R&D

Beverly Newton Hewlett Packard, USA

In today's world of complicated technical problems, it is important that an engineer have access to all tools necessary for effective problem solving. The statistician is just such a tool. With proper training, a statistician can enhance the engineer's problem solving abilities by supplying methods of experimental design and data analysis, which are a) more efficient in time and/or money, and b) more likely to yield concrete results. It is often mistakenly assumed that, as more problems are identified, more engineers are needed to solve these problems. In reality, a more productive engineering department may be created simply with the addition of a well-chosen statistician instead of the addition of more engineers. This paper describes the many aspects of choosing and training a statistician for the manufacturing and R&D environments. It also answers the questions: When is a statistician needed? What information should be collected in preparation to work with a statistician? What are the pitfalls to avoid.

PROBABLISTIC RISK ASSESSMENT AS AN ANALYTICAL TOOL

Diane L. Acey, Pickard, Love, and Garrick, Inc., USA

Probabilistic risk assessment is an analytical tool in use for a multitude of industries on an international scale. This tool represents a method for exhaustively determining what failure scenarios can occur at a facility and their consequences in terms of health and financial considerations. Currently, the" state of the art" for this technology encompasses: the use of facility specific component failure information to supplement industry generic data bases, consideration of the human response element and explicit inclusion in the analysis of how common causes, either external (i.e., floods, fires, etc.) or internal (component, sys tem design deficiencies, etc.) can incapacitate a system. The results of the analysis are presented in the form of the probability that with a certain frequency, a specific event sequence will occur, resulting in some range of potential consequences.

PARAMETRIC COST ESTIMATION IN CONSTRUCTION

Christine J. Wilson EG&G Idaho, Inc.USA

This paper provides an introduction to and application of the Freiman Analysis of System Technique (FAST) parametric cost estimating methodology. EG&G Idaho, Inc., under the direction of the Department of Energy (DOE), is the FAST Project Office whose role is to provide evaluation, development, and implementation of the FAST models. The FAST Construction model was designed to calculate costs, schedules and risks or uncertainties for engineering, project management, and construction. It can process the effort for site work, construction projects, buildings, and utilities in either a macro or micro manner. Accurate costing of projects in the planning and the conceptual de sign stage is a current concern of both government and industry. With the advent of the construction parametric methodology, we now have the capability to identify unforeseen costs due to design growth and unidentified detail in the early stages of design.

ASPECTS OF PRECIPITATION RELEVANT TO LANDSLIDFS

Charlotte I. Muchow, Consultant, USA

Precipitation may trigger landslides directly during precipitation and indirectly through vegetation, weathering, and surface or subsurface erosion.

The determination of precipitation thresholds for landslides requires site-specific rainfall data. This paper discusses the aspects of precipitation that affect the calculation of thresholds. First, rainfall may not be accurately measured. Wind causes significant measurement error, especially on hillslopes. Second the variability of rainfall in time and space affects both prediction for advance warning and estimation of site-specific data after a storm.

A numerical model of raindrops in wind is used to evaluate potential measurement error on a hillslope. The model showed that the vertical component of wind significantly affected the amount of rainfall measured on a hillslope. As a topographic example of this - model, a coastal bluff failure in Malibu, California, is used.

OPTIMAL DESIGN STUDY OF THE TRANSIENT BEHAVIOUR OF SUPERCONDUCTING ALTERNATORS

Dr. Sohier M. Sakr, Ain Sham University, Egypt

The paper presents a method to calculate the transient analysis of super conducting alternators with two damper shields. The optimal design study is carried out through a computer program to determine the optimum reactance' s that would produce minimum transient effects. Also, the optimum time constants for the two shields are determined to minimize their eddy currents induced under fault conditions.

It was found that the optimum conditions are obtained when the machine has the following reactance' s: a) the smallest possible values of the direct axis components of the mutual reactance' s between the armature and each of the field, the first and the second shield respectively; b) the direct axis component of the self armature reactance is in the order of one per unit; c) the direct axis component of the self field reactance is between 0.9 and 1 per unit.

A reasonable compromise for the primary and secondard shields time constants is 2 and 0.5 respectively.

FRIDAY JUNE 22, 1984 DIPLOMAT ROOM MANUFACTURING
Partricia Shamamy, Session Facilitator Lawrence Institute of Technology Warren, MI. USA

MANUFACTURING AS THE 20TH CENTURY ENDS –

NEW ROLES FOR ENGINEERS & SCIENTISTS

Martha J. B. Thomas GTE Products Corporation USA

As the world spins on toward the later part of the 20th century, it carries with it totally new concepts of manufacturing technology. Evolving from the assembly-production line manufacturing processes of the early part of the century, followed by the on rush of computer technology and engineers' adaptation of this technology to manufacture, all has lead to CAD (Computer Aided Design), CAM (Computer Aided Manufacture) and CIM (Computer Integrated Manufacture). Even robotics has merged with manufacturing process. What role will Scientists and Engineers have during these changes? Where next?

TECHNICAL SESSION ABSTRACTS

CONTROLLING MULTINATIONAL ELECTRONIC, TYPEWRITER, MANUFACTURING

Cecilia D. Craig, Xerox, USA

Manufacturing five hundred electronic typewriters per day is a complex problem for any manufacturing site. Now, add an international dimension, which requires over 100 more to be built per day in Europe using the identical typewriter design.

Building in two locations - Dallas, Texas, and Lille, *Fnnce* - required the Xerox Office Products Division totightly control all design and process changes from Dallas. The Dallas site has had to effectively balance worldwide inventories, meet increasing volume requirements and continue to reduce manufacturing costs. Import charges drove Xerox to procure from European as well as US vendors.

To structure the system, Xerox developed the Managing Unit (Dallas)/Affected Unit (Lille) concept. In addition to controlling all aspects of manufacturing, this MU/AU concept was used to direct a phased implementation while introducing to the market place a successful new product. Photographs of both semi-automated production lines will illustrate the talk.

IMPROVING PRODUCT RELIABILITY THROUGH MANUFACTURING AUTOMATION

Marilyn Rae Schnell, Printronix Corporation, USA

To retain its competitive edge in the dot matrix line printer market, PRINTRONIX needed to revise and improve its final testing procedures for its P300 (300 lines per minute) printers.

This presentation is a case study of the methodologies used to determine the optimal set of computerized tests used for the P300 printers. Included in this discussion is: the relationship between objective (machine) and subjective (human) tests and how each type of test improves product reliability; time efficiency; ease of use for test operators; results and acceptance.

COMBINED X-RAYIBETA SENSOR ADVANCES NUCLEAR GAUGING TECHNOLOGY

Dawn E. Holt, Fife Corporalion, USA

A combination sensor utilizing two isotopes, one of which emits low-energy X-rays and the other mid-energy beta particles, has been developed to gauge foil laminates and magnetic films (floppy disks, tapes, etc.). The measurement technique takes advantage of the preferential X-ray absorption of metallic coatings and provides automatic compensation for substrate thickness variation. The sensor is designed for on-line monitoring and functions under microprocessor control.

QUALITY MANUFACTURING - A MANAGEMENT PERSPECTIVE

Shirley Gliege Drazha, Honeywell, USA

We are all faced with the challenge of change and the crunch of the 80's. Quality manufacturing of software and hardware must be kept at a profitable yet reliable level. Can our existing production techniques be applied successfully to meet the need of new technology? Various methods will be discussed including Just-In-Time Manufacturing processes and Manufacturing Quality Work teams to improve our production quotas. New techniques will be highlighted which are becoming necessities to manufacture software to meet the needs of our customers.

FRIDAY JUNE 22, 1984 PALLADIAN ROOM TRANSPORTATION

Terry Kann, Session Facilitator City of Seattle Engineering Department USA

SPACE SHUTTLE: INTERNATIONAL COOPERATION IN ORBIT

Anita E. Gale Rockwell International, USA

Although the Space Shuttle is an American innovation, over 40% of its planned missions include major international payloads. Payloads have been flown, and more are planned, for Canada, Germany, Indonesia, India, and the nations of the European Space Agency (ESA). Future payloads are also planned for Saudi Arabia, Mexico, Australia, the United Kingdom, Italy, Luxembourg, Japan, Brazil, and the member nations of Intelsat. Although most of these international payloads are communications satellites, they do include major scientific research projects for ESA, Germany, and Japan. Some of these payloads represent major milestones for the Space Shuttle itself.

Indeed, international participation in Space Shuttle development has provided systems that make possible some of its unique capabilities. Most notable of these are the Canadian-developed Remote Manipulator System (RMS), essential for satellite retrieval and repair missions, and the ESA Spacelab, which greatly improves the Space Shuttle's usefulness for conducting scientific experiments in space.

A TRANSIT SUBWAY FOR SEATTLE: AN ENGINEERING AND A LOCAL CHALLENGE

Elaine Guillot Municipality of Metropolitan Seattle USA

Conceptual engineering for the North Corridor Alternatives Analysis has costed a CBD transit subway. Its design could handle either electric articulated buses or light rail trains. The operator favors the CBD Subway mainly for its carrying capacity and service expansion potential. Running long buses or trains in mixed traffic has many operational constraints. Even a dedicated transit street cannot fully tap in modern bus or rail technologies. Local opposition to a CBD subway does exist among some circles. Revival of a 15-year-old debate is taking place with somewhat new arguments. Layout of the subway route presents engineering design problems. Their treatment at the conceptual phase uses both proven and innovative construction methods. Timing for the proposed subway project bears upon its total construction cost. Availability of Federal capital funds remains a key factor in the local decision making.

WIND TUNNEL FOR FULL-SCALE AUTOMOTIVE AERODYNAMICS – GMAL

Lydia B. Lazurenko, P.E. General Motors, USA

The design and operation of the wind tunnel constructed by General Motors in 1980 is presented. Flow path design criteria, special features (boundary layer control and heat exchanger systems), test instrumentation (two-balance system) and data acquisition and reduction are discussed. The wind tunnel was designed for the aerodynamic testing of full-scale models of passenger cars, vans and trucks and reduced scale models of larger vehicles.

TECHNICAL SESSION ABSTRACTS

MICROPROCESSOR-BASED CENTER OF GRAVITY CONTROL SYSTEM FOR FLIGHT TESTING COMMERCIAL TRANSPORT AIRPLANES

Liana M. Rowe, Boeing Airplane Company, USA

During drag and cruise testing, the location of an airplane's Center of Gravity (CG) is critical to optimum performance. In the pas t, CG has been maintained by transferring water between tanks in the forward and aft sections of the airplane. The operator used outputs from analog sensors to monitor tank status (Full/Empty), with the only option being to transfer full tanks when a change was required.

CG can now be maintained with inputs to a microprocessor that has gross weight and CG tracking capabilities. The Water Encoder Transfer System (WETS) is part of an incremental water ballast system, which changes water moment by transferring selected quantities of water between forward and aft tanks. Now, instead of relying on full/empty sensors to monitor tank status, the operator can move water in less-than-full tank quantities while WETS tracks weight, water moment, and CG. The ability to move less than a full tank of water allows the operator to maintain airplane CG location to within 0.1%.

TECHNICAL TOURS

THESE TECHNICAL TOURS ARE DESIGNED TO SHOW WHAT HAS BEEN DONE IN THE LAST QUARTER CENTURY TO BENEFIT TECHNOLOGICAL DEVELOPMENT AND TO INCREASE THE STANDARD OF LIVING. EACH TOUR IS UNIQUE AND EACH SHOWS THE DIFFERENTS TRENDS IN FUTURE DEVELOPMENTS. THE TOURS ARE DESIGNED TO OFFER A GOOD INDUSTRIAL OR SCIENTIFIC PERSPECTIVE OF THE INDUSTRY TO THE NOVICE AS WELL AS PROVIDE A FOURM FOR DETAILED EXAMINATION AND INTERACTION FOR THE EXPERT IN THE FIELD.

NASA/GODDARD SPACE FLIGHT CENTER GREENBELT, MD

D. Ihilt, Host

One of the largest facilities for near-earth type satellites, space-flight tracking and worldwide communication for scientific and technological exploration into outer space. Goddard has been responsible for major advances in communications, weather and climate research, earth resources, space physics and space astronomy. These accomplishments were achieved concurrently with unprecedented worldwide ground support roles for the Mercury, Gemini, Apollo, Skylab, and Space Shuttle manned flight missions.

NATIONAL INSTITUTE OF HEALTH ROCKVILLE, MD

P. Brandenburg, Host

The tour of the National Institute of Health is being specifically designed to address the interests of ICWES. There are tours of the engineering facilities with a special emphasis on the development of high technology instrumentation, which extends beyond the health applications. The theme of the tour discussions will be basic and applied research and specific industrial and health applications.

INTERNATIONAL COMMUNICATIONS SATELLITE WASHINGTON, DC

G. Trevitt, Host

A Metro subway tour to this global satellite organization, which serves more than 100 countries in transoceanic communication such as: telephone calls, telegrams, telex, transmission of computer data, and international television. The forty-five minute tour includes a film and a tour of the computer facilities. The attendance is limited to 18 people and the tour is timed such that you can follow this tour with the Pentagon tours.

HOLOGRAPHIC AIDS FOR INTERNAL COMBUSTION FLOW STUDIES

Carolyn A. Regan NASA - Lewis Research Center, USA

Worldwide interest in improving the fuel efficiency of internal combustion (I.C.) engines has sparked research efforts designed to learn more about the flow processes of these engines. The flow fields must be understood prior to fuel injection in order to design efficient valves, piston geometries, and fuel injectors. Knowledge of the flow field is also necessary to determine the heat transfer to combustion chamber surfaces. Computational codes can predict velocity and turbulence patterns, but experimental verification is mandatory to justify their basic assumptions.

Due to their non-intrusive nature, optical methods are ideally suited to provide the necessary velocity verification data. Optical systems such as Schlieren photography, laser velocimetry, and illuminated particle visualization have been used in I.C. engines, and now their versatility has been improved by employing holography. These holographically enhanced optical techniques are described in this paper, with emphasis on their application in I.C. engines.

THE PENTAGON WASHINGTON, DC

Multiple Hosts

A Metro Subway tour to the executive headquarters of the Department of Defense, which is one of the world' s largest office buildings. The tour will remove the mystique surrounding the Pentagon and show the wide range of work conducted at this facility. It has army collections, the Hall of Heroes, military women's exhibition, and 17 miles (28 kilometers) of executive officers' corridors. The attendance is limited to thirty-five people.

FY84 CHARTERED SECTIONS BREAKFAST

Barbara Wollmershauser, SWE President

In honor of the Sections chartered during the 1983-1984 year, a champagne breakfast will be held with those sections chartered last fiscal year as host. All Section members of each, as well as the Executive Committee and Membership Committee, are invited to attend.

INVITATION TO CSR REPRESENTATIVES TO MEET SWE'S LEGAL COUNSEL

Barbara Wollmershauser, SWE President

You are invited to come to the President's suite to join the Executive Committee and the Board of Trustees meeting with Mr. Howie Presant, SWE's legal counsel. This is an opportunity to discuss problems of a legal nature with Mr. Presant that you have encountered or anticipated encountering in the coming year. Mr. Presant will also be on the Potomac Cruise and will be available for Section questions during that time.

TECHNICAL SESSION INVITED SPEAKERS

WOMEN IN ENGINEERING & SCIENCE
DR. ALLA P. GAKUBA

Alla Petrovna Gakuba is a structural engineer whose engineering career has spanned through three continents. Dr. Gakuba earned a Doctor of Business Administration with a major in Management of Science and Technology at George Washington University, a Master of Administrative Science from Johns Hopkins University, and a Civil Engineering degree from Odessa Civil Engineering Institute, U.S.S.R.

Dr. Gakuba' s international engineering experience included working in the U.S.S.R., Africa and the U.S.A. under different systems (Metric and Standard) and Russian, French and English languages. She has designed and supervised almost all possible structures: buildings, bridges, airport sports, and subways, including the reinforced concrete shed at Dar-es-Salaam Airport, the Presidential Lodge in Tanzania, s 10 span bridge over Patapsco River, and three span prestressed concrete bridge in Philadelphia Airport. She also has experience as a translator, interpreter, narrator for technical movies, and guest-speaker in graduate schools.

Dr. Gakuba is married and has two sons.

ENERGY
DR. MARIA TELKES

Maria Telkes, Physical-chemist, Ph.D. is noted for her activities in Solar Energy Conversion and Thermal Energy Storag Starting at M. I. T.in Cambridge, MA she designed and built the first Solar House. Her academic projects continued at the Universities of Pennsylvania and Delaware. Industrial Solar Energy Conversion research and development involved Curtiss Wright Co. and the Melpar Division of Westinghouse Air-Brake Co. Her responsibilities included solar water purification, solar driers, cookers and thermoelectric generators. Solar Thermal storage with Phase Change salt-hydrates has been tested in three different buildings.

AWARDS: ASHRAE award, 1975: National Academy of Sciences Building Research Board Quarter Century award, 1977: International Solar Energy Society' s Abbot award, 1977; NERO Distinguished Service award, 1978.

MEDICINE
DR. MARIE H. CASSIDY

Dr. Cassidy is a Professor of Physiology at the George Washington University Medical Center with teaching, research and administrative responsibilities. She is a former councillor of the Association for Women in Science, and has been active in the Federation of Organizations for Professional Women, the Committee on Professional Opportunities for Women in the Biophysical Society, the Executive Council, Committee on Women in the American Physiological Society, and the Advisory Board of the Women Studies Program at GWU. She is also Vice President of the American Heart Association Board (NCA) and Chair of its Public Relations Committee. Current appointive duties include peer reviewing for grants programs at NIH, NSF, and the Veterans Administration Research Groups.

Dr. Cassidy's scientific training was obtained in Ireland and England. Dominant and active research interests include gastrointestinal and respiratory transport mechanisms and associated diseases, with specific focus on the mechanisms of neonatal development and the action of dietary fibers in the body.

Her publication list includes over 100 scientific papers and presentations in her field and some relating to health policy, professional women as public policy advocates and religious/ethical considerations in science and medicine.

Dr. Cassidy is married to an architect and has two daughters and two sons.

EDUCATION & TRAINING
DR. MARILYN R. BERMAN

Dr. Berman is the Assistant Dean of the College of Engineering at the University of Maryland, with the primary responsibility for undergraduate student affairs. She earned her Ph.D. in 1979 in higher education administration from the University of Maryland.

Dr. Berman is known for her pioneering work on the College Park campus of the University of Maryland in the areas of teaching, counseling, and research to encourage returning older students, primarily mature married women to pursue their education. She has done innovative work in the area of increasing the opportunities for women and minorities in engineering.

Dr. Berman serves as a member of national organizations, which address the needs of women and minorities. She has been successful in bringing grants for attracting and retaining women and minority engineering students to the University of Maryland. She has presented her research on the older returning woman student and on women and minorities in engineering at numerous national conferences, and has published journal articles in these areas.

Dr. Berman is co-chair for the SWE student conference this year. She also serves as the President of the Maryland Association for Higher Education. Dr. Berman has been married for twenty-seven years to a patent attorney and has two sons and a daughter.

EVENTS OF THE DAY

SATURDAY JUNE 23, 1984

7:00-8:00	**CONTINENTAL BREAKFAST**	**PALLADIAN ROOM**
8:00-1:00	**SIGN UP FOR EVENING EVENTS IN WASHINGTON**	**INFORAMTION BOOTH PALLADIAN ROOM**
8:30-11:30	**SWE COUNCIL OF SECTION REPRESENTATIVES(OPEN TO SWE MEMBERS ONLY)**	
10:00-11:30	**VII ICWES CLOSING SESSION**	**ROOM 263**
11:30-1:00	**ON YOUR OWN LUNCH**	**INFORMATION BOOTH**
1:00-5:00	**SWE COUNCIL OF SECTION REPRESENTATIVES (continued) (OPEN TO SWE MEMBERS ONLY)**	**PALLADIAN ROOM**
1:00-6:00	**ON YOUR OWN TOURS**	**INFORMATION BOOTH**
6:30-10:30	**SELECTED EVENINGS EVENTS IN WASHINGTON**	**INFORMATION BOOTH**

EVENTS OF THE DAY

SUNDAY JUNE 24, 1984

7:00-7:00	**DEPARTURE FOR POST-ICWES TOURS**	**MAIN LOBBY**
9:30-10:00	**SWE MEMBERSHIP BRUNCH**	**THE FOURM**
10:00-12:00	**SWE MEMBERSHIP MEETING**	**THE FORUM**

COUNCIL OF SECTION REPRESENTATIVES MEETING

OPEN TO SWE MEMBERS ONLY

CSR DISCUSSION FROM 8:30 TO 11:30 AM

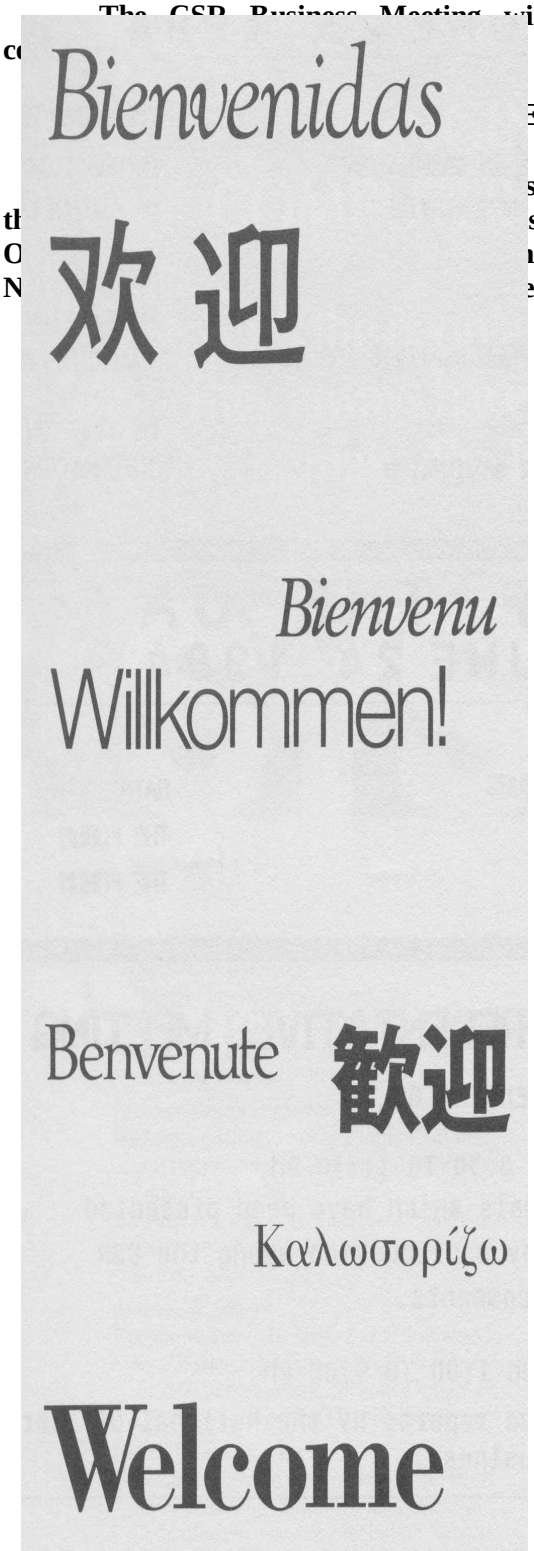
A short review of the Bylaws proposals, which have been presented, to the CSR will be made, followed by a discussion among the CSR of their questions, concerns, and comments.

BUSINESS MEETING FROM 1:00 TO 5:00 PM

The CSR Business Meeting will include reports by the National Officers and co

ERSHIP MEETING

ss is concluded at the Membership Meeting following th s awards and presentations, and reports by National O fill also be presented. Installation of SWE's 1984-85 N ee completes the 1983-84-business year.



Technology is the best international bridge builder because it speaks a common language.

But people, sometimes, do not. The best and brightest technological innovation spawned by the best and brightest engineers would simply stand still if people couldn't communicate these breakthroughs to each other. And find ways to integrate them into all cultures.

At Digital, we believe our growth throughout the world today stems from our commitment to engineering excellence. Excellence that we've shared with the world.

The innovative ideas of the company's founders set the stage for the minicomputer revolution and Digital's rapid worldwide growth. Their commitment to engineering excellence - as strong today as it was in the beginning- has ensured this growth.

And because our market is as large as the world we're in, we're striving to make sure that everyone everywhere can use our fast-growing lines of products. That's why Digital's three personal computers come with 16 different foreign language kits. That's why some Digital video terminals feature tri-lingual keyboards. And these are just two examples of putting our technology to work for a

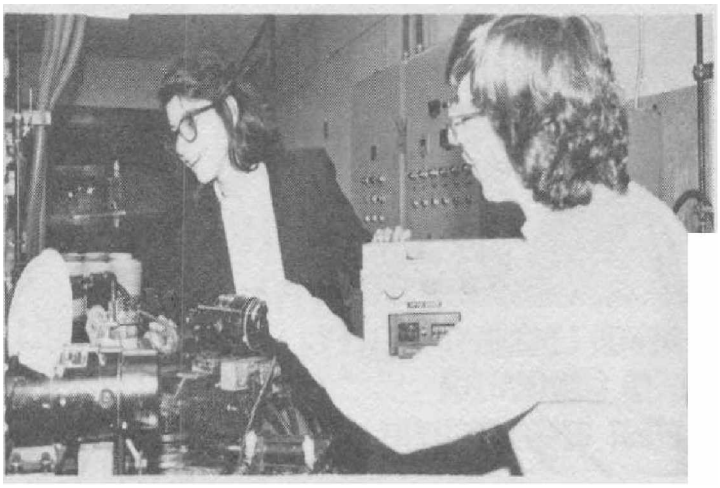
worldwide market.

Innovation. Engineering excellence. Strong worldwide citizenship. They're all lofty goals. And that's all they would be if Digital didn't attract the right men and women-engineers who share these ideals into our worldwide employee ranks, which have grown from the original three to a current 78,500.

Engineers at Digital share an atmosphere of discovery and an appreciation of good ideas. They understand the value of technology because they know it speaks all languages. And they've made it work.

So welcome. From one international organization to another. Our representative looks forward to meeting you at booths 122 and 123. Or contact Deanna Sklenak, Digital Equipment Corporation, 146 Main Street ML03-4/T69, Maynard, MA 01754.

With Corning You Can Change Careers



Corning Glass offers you an opportunity that's hard to match. The chance to explore all your interests in one innovative work environment. At your own place.

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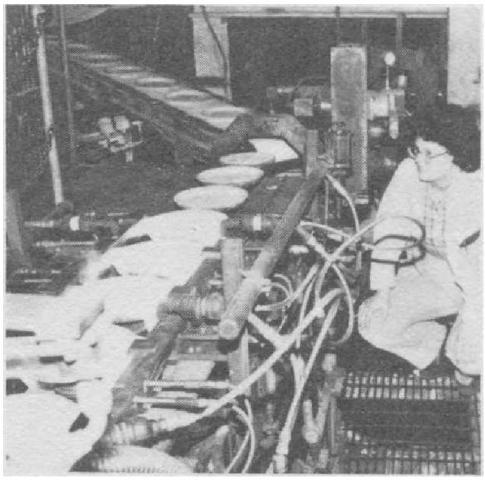

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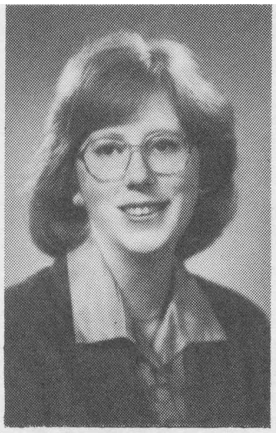
To learn more about Corning, make an appointment to see our recruiters through the Placement Center.

CORNING

1983-84 SWE OFFICERS AND EXECUTIVE COMMITTEE



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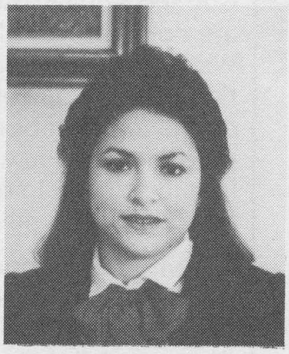

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1983-84 SWE OFFICERS AND EXECUTIVE COMMITTEE

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GRACE BERTOLINI

U.S. WOMEN ENGINEER EDITOR

MERJA LEHTINEN

The creation of a new national resource

We are a brand new research and technology company, Bell Communications Research. Our mission is to provide the Bell Operating Companies with the kind of expert technical know-how they need to run and operate their businesses effectively.

We are owned by seven of the largest telecommunications firms in the United States, the Regional Bell Operating Companies, and were originally founded as the Central Services Organization. Recently we changed this temporary name to Bell Communications Research—a name we think symbolizes tradition, function and purpose. We are providing the Bell Operating Companies with information systems; systems engineering; network planning services; projections of the types of equipment needed for network growth; and research and exploratory work in science and technology.

Our professional technical staff alone numbers 4,000 plus already, but we could use more people with motivation and energy to join this new national resource which is destined to become a world leader in communications research.

The people who join us now in this unique venture can expect to participate in the inception and continuation of numerous efforts at the frontiers of technology including:

- Developing computer-based systems for automating many Bell operating companies' functions
- Planning networking capabilities to link information systems among multiple locations
- Providing the knowledge base for the Bell operating companies' applications of technology in every facet of telecommunications
- Defining network and operations architecture towards the ultimate objective of an Integrated Services Digital Network (ISDN)
- Planning and implementing advanced technologies in switching and transmission systems

We are seeking individuals with MS or PhD degrees, or with a BS degree and a minimum of three years relevant experience.

We're looking for a broad range of professionals to staff many key openings:

Electrical and Systems Engineers

with an interest in computer science or with a broad understanding of telecommunications to one or more of the following areas:

–Voice/data network design
–Data communications and data protocols
–Software engineering
–Systems engineering
–Product development
–Switching and transmission equipment
–Microprocessors
–Telecommunications standards
–Quality and reliability assurance
–Network architecture

Computer Scientists

with a background in one or more of these areas:

–Design and development of large-scale on-line data base systems
–Communications and network design
–Packet-network protocols
–Transactions systems
–Software research and development
–Software quality and reliability systems
–Software standards

Other professionals with backgrounds in one of these areas:

–Human factors engineering
–Econometrics
–Operations research
–Statistics
–Physics

If you're looking for a dynamic environment where you can make things happen, stop by our booth at the SWE Job Fair on Tuesday, June 19, 1984.

If you are unable to visit with us send your transcripts and resume, detailing education and experience, to: Manager of Technical Employment, Bell Communications Research, Department 82/012/84, Building RRC, Room 4B237, P.O. Box 1300, Piscataway, NJ 08854.

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COUNCIL OF SECTION REPRESENTATIVES

The Council of Section Representatives serves as the chief legislative and policy-determining body of the Society of women Engineers. It is comprised of:

- One elected representative from each Section
- Two appointed representatives from the members at Large
- One elected representative from each Student. Activity Region

1983-84 REPRESENTATIVES

Atlanta	301	Kay cornelius
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1980	University of California. Berkeley	University of Colorado. Denver
1979	Purdue University	Washington University
1978	Clarkson College of Technology	Carnegie-nellon University
1977	Clarkson College of Technology	North Dakota State University
1976	University of California. Los Angeles	Colorado State University

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Region	Best Student Section	Best New Student Section
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II	University of Pittsburgh	
III	Vanderbilt University	Virginia Polytechnic Institute 6 State university
IV	University of nichigan	
V	Oklahoma State University	University of Missouri/Columbia. Kansas City
VI	University of the Pacific	University of California. San Diego
1982.		
I	Cornell University	Fairleigh Dickinson university
II	University of North Dakota	Lawrence Institute of Technology
III	Georgia Institute of Technology	Duke University
IV	University of California. Los Angeles	California State University at Chico
1981		
I	pennsylvania State University	Fairleigh Dickinson University
II	Purdue university	Lawrence Institute of Technology
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IV	University of "Washington	San Diego State University
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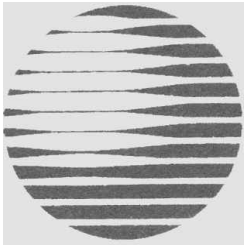

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- Lorie Gamble
  Memphis State University
  A Velcro Projectile Sharp-Shooter
  Constance M. Sparks
  Mississippi State University
  A Correlation for Helical Coil Shell and tube Heat Exchangers

- Naomi Brill
  University of Minnesota
  Redesign of a Die Cast Hinge
  Michelle Arne Irme
  Michigan Technological University
  An Engineering Analysis of the Drynoch Landslide
  Patricia J. Wenstadt (alternate for M. Irmen)
  Marquette University
  Determination of the Effectiveness of a Physical Theraphy Ankle
  Rehabilitation Program on reducing Time out of Balance in Normal subjects

- Sharon Borland
  University of Missouri – columbia/kansas City
  Investigation of the hydraulic characteristics of the Scouring film Reactor
  Christine Nelson
  University of Missouri - Rolla
  The Cost of the Three Mile Island Accident to the Callaway
  Nuclear Power Plant

- Ellen Pepin
  Oregon State University
  A Robot Em-Effector for Resistance welding Circuit Board
  Connections in Electronic components

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  University of California - Los Angelos
  Obstacles and Tradeoffs of duplicating a wideband Amplifier
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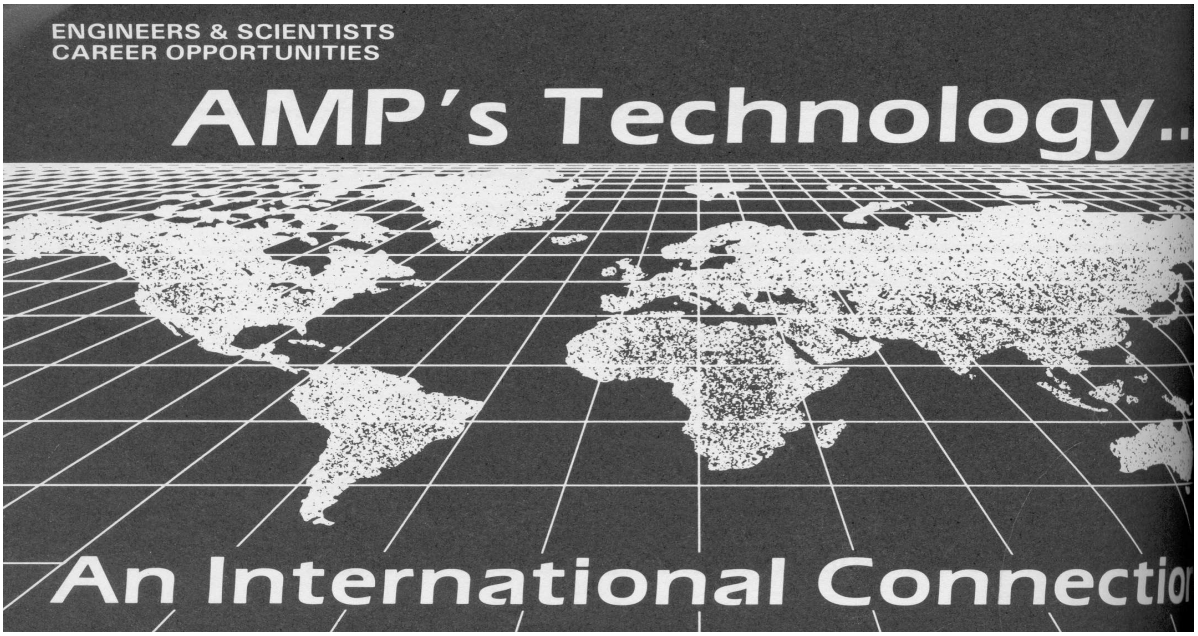

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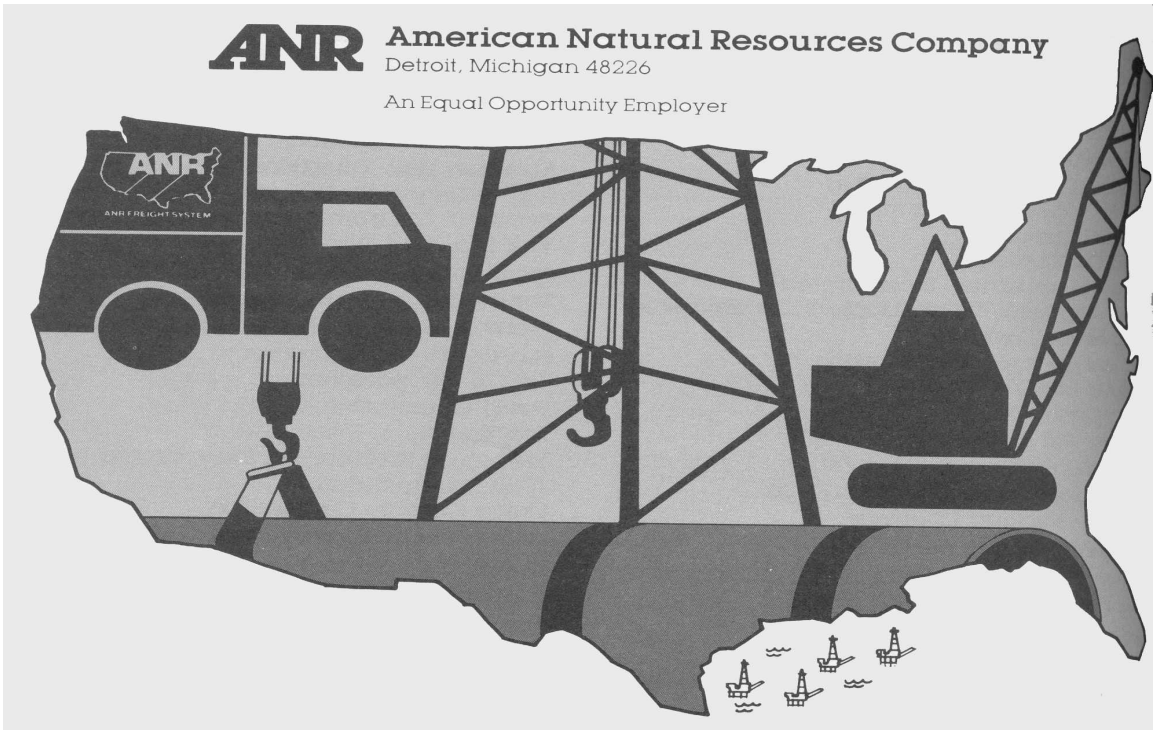

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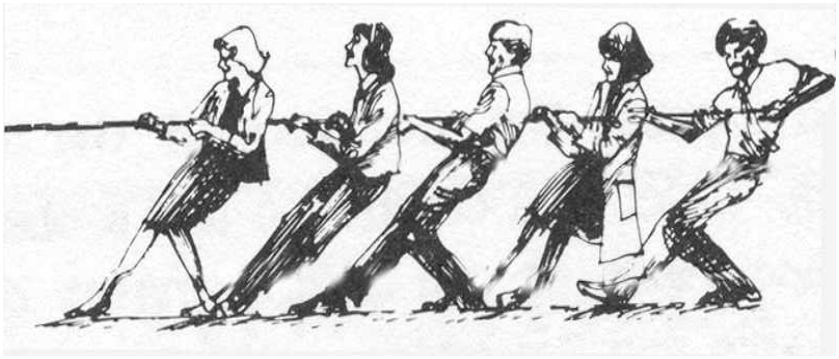

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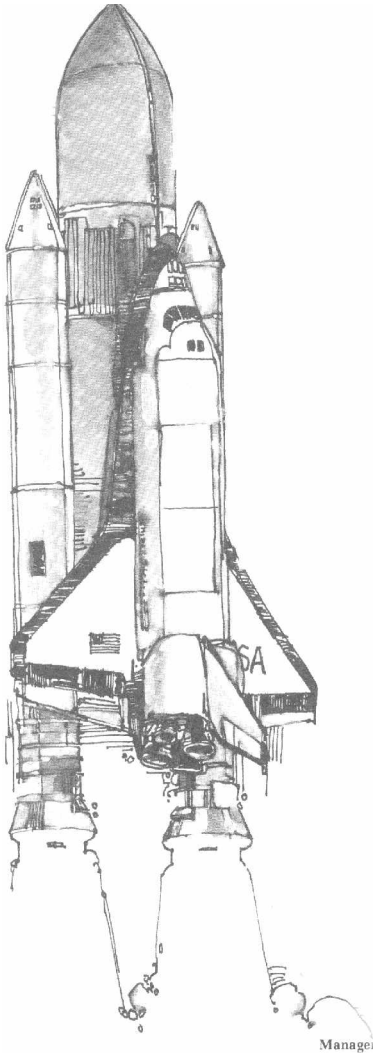

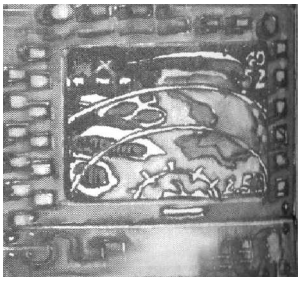

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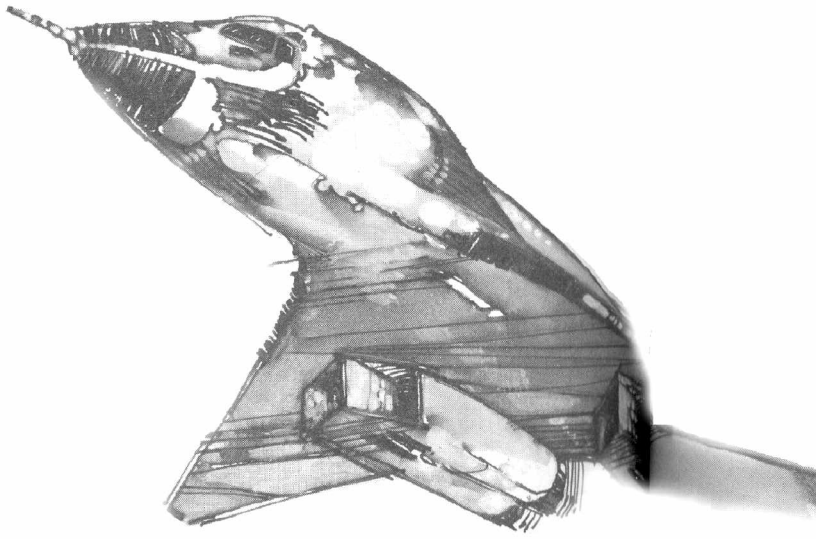

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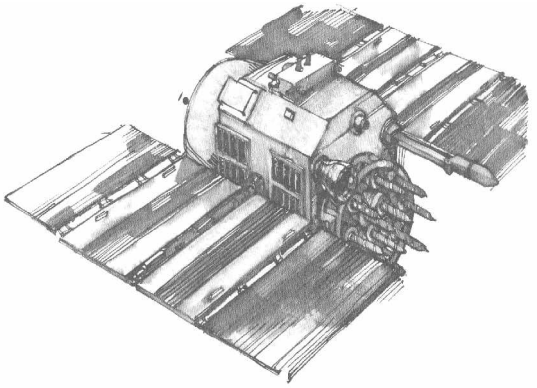

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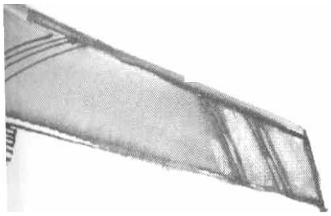

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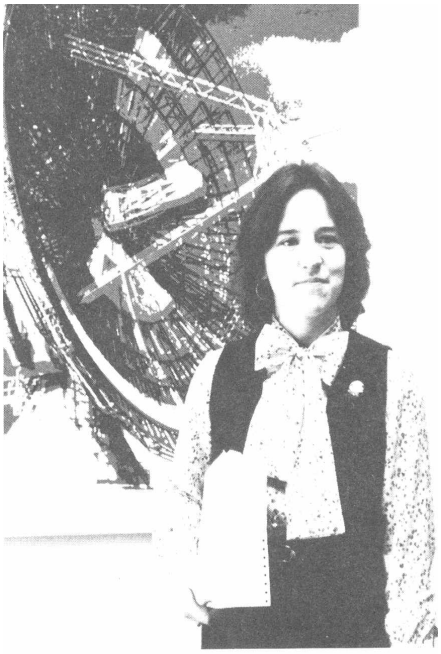
IF YOU WANT TO GET INVOLVED . . .
TALK TO CHRIS QUINN



After receiving her degree in Mathematics from UCLA, Chris joined the Peace Corps and served the next two years as a volunteer math teacher at Zorzor Training Institute in Monrovia, Liberia, Despite a demanding teaching schedule, Chris found time to illustrate a Midwifery Handbook for the Curran Hospital, prepared pamphlets for Liberian craft shops, edited the Peace Corps/Liberia Newsletter - Kuman Ju, and served as Director of the Annual Talent Show to promote scholarship funds for needy Liberian students.

Chris is still involved as an employee at The Aerospace Corporation. Recently, she served as President of The Aerospace Women's Committee (AWC) and as a member of the Aerospace Affirmative Action Committee. In the past, she's made significant contributions to the NSF Women in Science Program, co-chaired our 1981 Women's Week, edited the AWC Newsletter, served as AWC Librarian, coordinated the 1979 Women's Week publicity and displays, was a member of the 1979 Stress Workshop Subcommittee, designed and constructed displays for the company's Twenty-Year Celebration, assumed responsibility for the 1980 Women's Week displays and was involved in Aerospace's first company-supported Awareness Task Force. In addition, she participated in planning the 1981 Equal Opportunity Workshop, made a mathematics encouragement presentation to Torrance women high school students, represented the company in the Youth Motivational Task Force and at various universities, SWE Conferences and recruiting events.

As a Member of the Technical Staff, Chris is employed in our Microelectronics Department where she performs computer simulation support in the general area of Electrical/Electronic Circuit Analysis. Her outstanding contributions have earned her letters of commendation for her contributions to the Navstar/Global Positioning System Joint Program Office and, in 1978, she was nominated Young Woman of the Year by the Business Professional Women's Society.

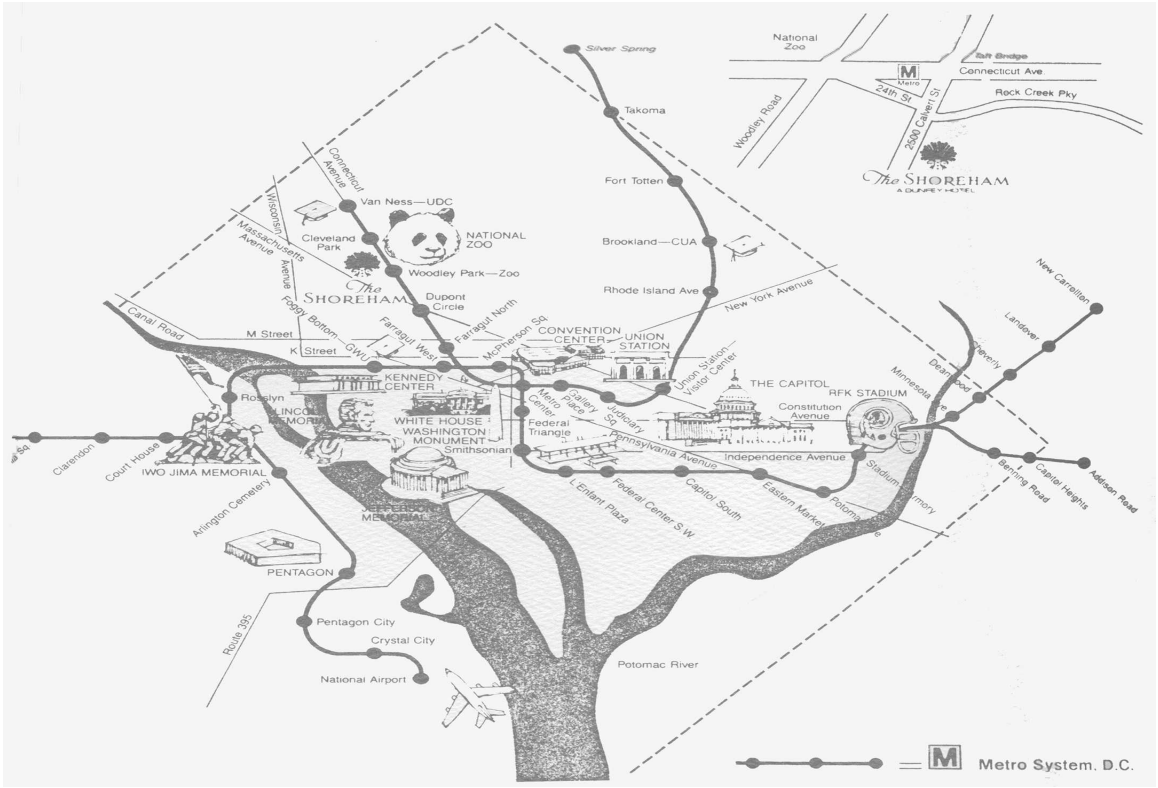
The Aerospace Corporation still needs a few good women - women trained in Engineering and the Physical Sciences - possessing established professional goals, a deep sense of commitment and who seek real responsibility. If you would like to work with professional women who are highly involved, we invite you to submit your resume to: **Professional Placement, M2/118, Dept. 00508.**

The Aerospace Corporation
P.O. Box 92957, Los Angeles, CA 90009
An Affirmative Action Employer
U.S. Citizenship Required

ENGINEERING: THE KEY TO SURVIVAL

The Society of Women Engineers
Minnesota Section
invites you to the
1985
National
Convention
in the
Twin Cities
June 23-29

For more information, contact:
Glynis Hinschburger
1985 Convention Chair
7951 Nancy Drive
Lino Lakes, MN 55014
(612) 330-7684 (work)



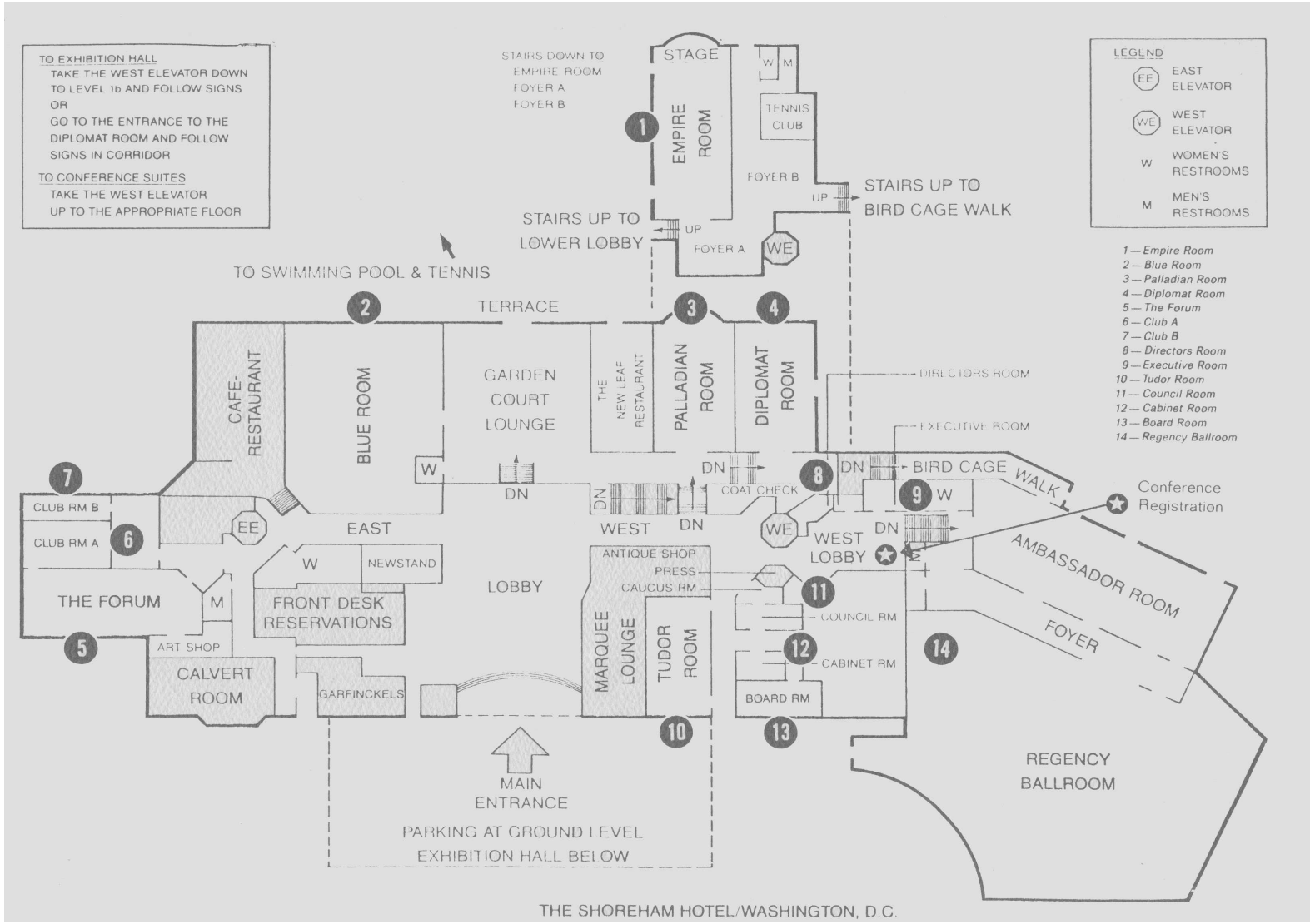
WASHINGTON D.C. IN BRIEF

CLIMATE

Washington has a moderate climate in June with temperatures ranging from as degrees the day to 65 degrees at night. Most Washington buildings are air-conditioned and they can be quite cold after you have been out in the sunshine.

GETTING AROUND IN WASHINGTON

To get around in Washington it is helpful to know the general layout of the cit The basic plan is a grid divided into four quadrants-Northwest (N.W.), Northeast (N.E.), Southwest (S.W.), Southeast (S.E.), Southeast (S.E.). Theses letters determine in which of the four possible quadrants a given address is located. Streets running north and south numbered while streets running east and west are designated by letters. The pattern is crisis-crossed by diagonal avenues named after states. Traffic circles named after prominent persons are located at strategic intersections. Most tourist attractions are in the N.W. quadrant.



THE SHOREHAM HOTEL/WASHINGTON, D.C.