





CREDIT UNION OFFICERS—As a follow up to the recent annual meeting of the NWC Federal Credit Union...

Afternoon of Gospel Music Slated April 1 at NWC All Faith Chapel

Another Sunday afternoon musical has been scheduled at the NWC All Faith Chapel on April 1, at 4 p.m. The Covenant Gospellers and Charles Magnuson at the piano will bring an afternoon of gospel music...

PROMOTIONAL OPPORTUNITIES

Applications for positions listed in this column will be accepted from current NWC employees and should be filled with the persons named in the ad. All others desiring employment with the Naval Weapons Center...

Mechanical or Aerospace Engineer or Physicist, GS-830 861 1310, 13 or 14 (1 vacancy) PD No. 7235196, Code 3506 — This position is located in the HARM Program Office of the Electronic Systems Department...



SALTY SAND SAILOR SHIPS OVER—PN2 Stanley A. Hess joined the Navy to go to sea. Instead he came to the Naval Air Facility three years ago...

Dr. Howard Wilcox To Present Public Lecture on 'Energy Crunch'

A free public lecture on "The Energy Crunch—Present Trends and Future Prospects for the U.S.A. and the Navy," will be presented on Wednesday, April 4, starting at 7:30 p.m. at the Burroughs High School Lecture Center.

(Continued on Page 7)

Employee In The Spotlight

John E. Kleine, head of staff for the Systems Development Department, has spent all except two years of his work life at China Lake. "And those years were spent on the desert working with rockets," he smiled.



John E. Kleine

Division where he became scientific staff assistant to the Surface Launched Weapons Fire Control Branch. "That was interesting work, as all my work over the years has been," John pointed out.

He became the head of staff for Code 30 in May 1965. "We've enjoyed living at China Lake these past 28 years," John stated.

"The shack was abandoned in the old mining town of Goldstone and when Anita and I moved in, we found that my co-workers had spent countless hours renovating the place as a wedding gift," he recalled.

John was one of the rare individuals drafted into the U.S. Navy. That occurred in July 1944.

"I found out later that Capt. Hayward had gone through the records and pulled the file on any man who had ever worked with rockets before and had them assigned to Inyokern," John said.

He reported to Bob Appleton and went to work for Jim DeSanto as a range officer in the Experimental Operations Department. John worked for a year as a Naval officer and then in June 1946, he began his Civil Service career.

John was in on the ground floor as far as the rocket program at NOTS was concerned. He worked on barrage rockets, Tiny Tim, Big Richard, the early 5 in. spin rockets, Holy Moses, and many others.

John was working as an ordnance technician and was later reclassified as a scientific staff assistant. In February 1964 he transferred to the Test Department's Instrument Development

Opportunities...

(Continued from Page 2) evaluation of newly designed instrumentation systems. He designs and constructs special electronic circuits for tests and measurements to determine the feasibility of preliminary design and engineering model hardware.

Minimum Qualification Requirements: As defined in CSC Handbook X-118. Job Relevant Criteria: Knowledge of solid state devices and components, especially of the type used in airborne telemetry systems.

File applications for above with Pat Gaunt, Bldg. 34, Rm. 212, Ph. 2514. Secretary, GS-318/4 & PD No. 7330031, Code 306—Position is located in the Surface Weapons Division, Systems Development Department.

File applications for above with Mary Morrison, Code 657, Rm. 212, Ph. 2371.

Banquet Held...

(Continued from Page 6)

the most improved player trophy, and Steve Nathan garnered an All-Golden Lake patch.

Wrestlers' Awards

Robert Dunn was voted the most valuable wrestler of the 1973 season by his teammates on the varsity wrestling team.

Ending the bouquets on a semi-humorous note, his teammates selected John Dial for a special consolation prize — the Golden Goose Egg award.

Blazers Win...

(Continued from Page 6)

sign cagers wrapped the game up with a 21 point effort in the fourth quarter.

Dale Christenson led all scorers with 29 points to aid his team in the win.

Also on Thursday, the Dispensary "Docs" crushed the NAF Officers, 60-40, to continue their win streak.

In the final game, played March 15, the Snarfs blasted the Red Devils, 54-29, to remain in second place in Division B-1.



90 YEARS OF SERVICE — Three members of the Fire Division of the NWC Security Department received 30 year length of service awards during recent ceremonies.

HAPPENINGS AROUND NWC

Through arrangements made by the Indian Wells Valley Lions Club, an eyemobile screening unit will be in Ridgcrest on Sunday.

kamp, an associate professor of art at Bakersfield College.

Public Relations

The screening unit will be set up adjacent to the Security-Pacific Bank in the Ridgcrest Plaza shopping center from noon to 4 p.m. Purpose of its visit will be to offer free, painless tests aimed at detecting cases of hidden glaucoma.

A two day program designed to emphasize to employees who meet the public the importance of their daily contacts with their employers — the public — has been scheduled on April 10-11 at the Training Center.

Art League

A silk screen demonstration and discussion of other graphic methods will be presented at the March meeting of the Desert Art League, which will be held on Monday, starting at 7:30 p.m., at the Community Center.

The course, which is to be conducted by members of the U.S. Civil Service Commission staff, will be held from 8 a.m. to 4 p.m. Areas to be covered will include person to person contacts, how to project a pleasing personality by phone, and understanding the difficult customer.

Featured will be Dalene Oster-

Employees interested in attending should submit NWC Enrollment Form 12410/28 via department channels in order to reach Code 654 no later than next Friday, March 30.



RADM. CARMODY VISITS VX-5 — Rear Admiral M.D. Carmody, Commander of the Operational Test and Evaluation Force, Norfolk, Va., is shown presenting information on staff operations and policies of his command during a briefing session held here recently for personnel of Air Test and Evaluation Squadron Five.

The Rocketeer

Official Weekly Publication Naval Weapons Center China Lake, California

RADM. Henry Suerstedt, Jr. NWC Commander

H. G. Wilson Technical Director

C. E. Van Hagan Head, Technical Information Department



Don R. Yockey Editor

Jack C. Lindsey Associate Editor

Jeanne Schreiber Editorial Assistant

PH1 D. C. Manderscheid PH2 R. D. Cox, PH2 D. W. Yeatts, PHAN Jerry Sizemore, PHAN D. M. Jeneraux, ADJAN Bill Brooks, PHAA Shellee K. Reed

Staff Photographers

DEADLINES: Tuesday, 4:30 p.m. Photographs Tuesday, 11:30 a.m. The Rocketeer receives American Forces Press Service material. All are official U.S. Navy photos unless otherwise identified. Printed weekly with appropriated funds by a commercial firm in compliance with NavExos P35, revised July 1968. Office at Nimitz and Lauritsen. Information published in the Rocketeer does not necessarily reflect the official views of the Department of Defense.

Phones 3354, 3355, 2347



DIVINE SERVICES

PROTESTANT 1015 Sunday Worship Service 0900 Sunday School—All Ages 1130 Wednesday Noon Bible Study 1130 Sunday School Classes are held in Chapel Annexes 1, 2, 4 (Dorms 5, 6, 8) located opposite the Center Restaurant.

ROMAN CATHOLIC MASS 1700 fulfills Sunday obligation 0700 0830 1130

BLESSED SACRAMENT CHAPEL MASS 1135 Daily except Saturday 1135 1700 First Friday only 0800 to 0825

CCD CLASSES Sunday Kindergarten thru 6th grades 1015 Wednesday Seventh and 8th grades 1900 Above classes are held in Chapel Annexes across from Center Restaurant. As announced Ninth thru 12th grades "In Home" Discussion Groups Monthly Youth Groups Contact Chaplain's Office for specifics.

JEWISH SERVICES EAST-WING, ALL FAITH CHAPEL Friday 1st and 3rd ONLY Sabbath Services 2000 Saturday Sabbath School 0900 UNITARIANS CHAPEL ANNEX 95

Sunday Services 1930



ANNUAL CERAMICS SHOW HELD — A wide variety of ceramics work, representing the efforts of the members of the Desert Ceramics Club, was on display this past Sunday and Monday at the Community Center...

—Photo by ADJAN Bill Brooks



# NWC Scientist Visits Earthquake-Battered City

Dr. Pierre St. Amand, head of the NWC Research Department's Earth and Planetary Sciences Division, returned Feb. 26 from a survey of the earthquake-battered city of Managua — capital of the South American country of Nicaragua.

The NWC scientist, who is both a geologist and seismologist, was one of seven international experts invited to Nicaragua by the Organization of American States (OAS). From this on-the-spot inspection of the earthquake damage will come reports containing recommendations on rebuilding Nicaragua's largest city, which has a population of more than 400,000 persons.

Damage from the major earth tremor of last Dec. 23 was immediately apparent when the Nicaraguan Airlines plane touched down at the airport near Managua, Dr. St. Amand recalled, for cracks were clearly visible in the airport building.

That damage turned out to be slight, however, compared to near-total destruction of the city's downtown area (approximately 1 by 2 miles in size) where only 14 buildings remain in a useful state,

Dr. St. Amand said.

The quake was centered in the middle of Nicaragua's capital city. Nearly all of the older four and five-story buildings collapsed, but some newer 20-story structures are repairable — even though seriously damaged.

One or two aftershocks per day were being felt and there was one magnitude three earthquake while he and other members of the international team were in Managua, Dr. St. Amand added. This is due to the fact that the city is located right over an area 10 to 15 miles across that is undergoing what seismologists call "extension."

When there is slippage along an earthquake fault, there is shaking in this large fault zone.

Managua has had three damaging earthquakes since the beginning of this century, Dr. St. Amand said, and this latest one was about on a par with the 1931 quake that virtually destroyed the city. The official estimate of the damage this past December has been set at \$1 billion, while the estimate of fatalities ranges from 1,000 to 8,000 persons. "They're still fishing victims out of the

wreckage," the NWC scientist reported.

Dr. St. Amand and his associates were quartered in a slightly damaged house that was rented for them by the OAS, and "were well taken care of" even though things were far from plush. No stores of any kind, other than public markets, were open, and only two restaurants were functioning, he said. Staple foods were in very short supply and meat also was scarce.

Due to the destruction caused by the earthquake, some 100,000 inhabitants of Managua's downtown area were forced to move in with friends or relatives in outlying areas, and housing conditions are cramped in surrounding towns. Fortunately, because the area's water supply was not contaminated, there was no municipal health problem as an aftermath of the quake.

Studies of the area undertaken by Dr. St. Amand are aimed at determining how large an earthquake in this area can be anticipated in the future, and how often such a catastrophe might occur. Also, he is attempting to describe the general process that



**TYPICAL DAMAGE** — A landslide along the edge of the Tescapa crater, around which the City of Managua is built, left this scene of damage following the destructive earthquake of last Dec. 23. Not far from where this picture was taken are the Nicaraguan presidential palace and the U.S. embassy — both of which were a total loss. The direction the trees are leaning indicates that the land in this area slid to the right, it was noted by Dr. Pierre St. Amand, who snapped the photo.

led to the Dec. 23 disaster and while in Managua checked nearby areas for possible suitable sites on which Nicaragua's capital city could be rebuilt. No decision has yet been made on rebuilding the city, Dr. St. Amand noted.

The city could be successfully rebuilt on the present site, provided that good, modern building practices are observed, the NWC scientist said.

He and other members of the international team which visited Managua have already made one report to the OAS on their findings and recommendations, and Dr. St. Amand has a second, more detailed report ready for the OAS General Secretary in Washington.

The NWC scientist was on leave from his duties here while taking part in this study. Since he was the only member of the commission who could speak both English and Spanish, he was kept busy acting as an interpreter for the group. The others were:

Nicholas Ambrasey, a structural engineer from Imperial College in London; A. J. Harrison, a transportation expert from Great Britain's Department of the Environment; Jack Dykman, an economist from Berkeley, Calif.; Luis Raoul Rodriguez, an architect from Bogota, Columbia; Carlos Azedo Mendez, a financier from Venezuela, and Rubens Costa, a city planning expert from Rio de Janeiro.



**EARTHQUAKE BATTERED CITY** — This aerial view of the badly damaged City of Managua was snapped by Dr. Pierre St. Amand while riding as a passenger in a Cessna aircraft being flown by a Nicaraguan Air Force pilot. The two taller structures (both bank buildings 15 and 20 stories high) bear out Dr. St. Amand's contention that well-constructed buildings can withstand earthquakes of the type that flattened most of Nicaragua's capital city. The NWC scientist found that a gravel mat under the taller of the two buildings had insulated it against the Dec. 23 earthquake which brought near-total destruction to the downtown area of Managua. When this photo was taken, demolition work had already been started and the debris from a number of demolished buildings hauled away.

## Aircraft Survivability Program Discussed

Plans for a program that will concentrate on developing future Navy aircraft which have designed-in tolerance and resistance to both ballistic and directed high energy weapons were discussed during a week-long meeting held recently at the Naval Weapons Center.

The meeting was conducted under the joint chairmanship of John S. Fontenot, manager of the Systems Development Department's Aircraft Survivability Program, and Cdr. Ted Mead, from the Naval Air Development Center (NADC) at Johnsville, Pa. In attendance as representatives of the Naval Air Systems Command headquarters were Cdr. M. L. Johnson (09 JA) and Cdr. D. D. Hicks (03 PAF).

Purpose of the meeting was to prepare a multi-laboratory 5-year plan for a Navy Aircraft Survivability Program, sponsored by NAVAIRSYSCOM headquarters. In addition to NWC, par-

ticipating laboratories are NADC, the Naval Weapons Laboratory, Dahlgren, Va.; the Naval Air Propulsion Test Center, Trenton, N. J.; the Naval Ammunition Depot, Crane, Ind., and the Naval Research Laboratory, Washington, D.C.

The recent significant Naval aviation losses in combat have emphasized the need for a thoroughly coordinated Navy technical development program specifically concerned with the matter of aircraft survivability/vulnerability, it was brought out during the meeting held here.

The program being undertaken will consist of a balanced combination of both exploratory and advanced development. Orientation of the program is toward unique Navy combat problems and environment. Areas to be covered are:

1. Ship-to-air threats (including laser).

2. V-STOL (vertical/short take-offs and landings) and sea control ship aircraft.

3. Existing unique Navy aircraft, such as the A-6, RA-5 and F-14.

4. Marine amphibious assault and close air support aircraft.

The work that is planned is divided into an initial segment encompassing combat analysis and assessment of aircraft vulnerability and survivability. In addition there will be technology development effort on fuel systems, powerplants, materials and structures, fuels and fluids, armor and flight controls.

Final phase of the work will be concerned with the application of survivability specifications and advanced aircraft preliminary design.

## Wrong Phone Number Listed

A type gremlin of the kind that drives reporters and editors up the wall surfaced in a headline published in the March 16 issue of the **ROCKETEER**.

The boo-boo cropped up in listing the telephone number to dial for a just-initiated "dial a message" safety program.

The correct number to call is 446-2774—and it was stated in the body of the story. Unfortunately, however, an incorrect number slipped through in the headline.

The **ROCKETEER** staff regrets the error, and is particularly apologetic to the Douglas Savage family, whose home phone number was listed by mistake.

## Aetna Agent Due

Paul Wilhelm, the Aetna Insurance representative, will be at the Community Center next Wednesday, March 28, from 9 a.m. until 4 p.m.

## Dr. Kaspaul To Give Talk About 'Atoms and Evs'

Dr. Alfred F. Kaspaul, consultant to Hughes Aircraft Co., will address a luncheon meeting at the CPO Club next Thursday, March 29.

Dr. Kaspaul's talk, which is entitled "All About Atoms and Evs," will cover a discussion of image and data recording using scanning electron beams.

The meeting is being jointly sponsored by the China Lake Chapters of the American Ordnance Association (AOA) and the Institute of Electrical and Electronics Engineers (IEEE).

Dr. Kaspaul and his wife, Dr.



Dr. Alfred Kaspaul

Erika Kaspaul, in addition to providing consultation to Hughes, operate Nucleation Technology Corp., at Malibu, where they produce equipment for electron and/or photon beam recorders and similar devices.

The luncheon, which is scheduled for 11:30 a.m., will feature an open-face steak sandwich, priced at \$2.50. Advance registration is required no later than Monday, and must be guaranteed.

Tickets can be obtained from IEEE members Ray Caruso, NWC ext. 3214 and Buzz Teeter, ext. 3965 or AOA members F. L. Carlisle, ext. 2214 and Stan Reynolds ext. 3230.

# Spring Fashions Highlight WACOM Show

The Women's Auxiliary of the Commissioned Officers' Mess (WACOM) held its annual fashion show on Tuesday, March 13, in the Mojave Room of the club. Approximately 270 persons attended this event.

The fashion parade began at 1:30 p.m. after WACOM members had been served lunch. Mrs. Mary Beth Tietze, a fashion coordinator for the Broadway Department Store in Bakersfield, was the commentator.

Mary Gerber, of WACOM, was the over-all chairman. Hamel's Furniture Store and Sprouse Reitz, both in Ridgecrest, supplied background scenery. The Broadway Dept. Store in Bakersfield provided the fashions.

Models for the show were Doe Keihner, Jean Boyd, Eileen Bright, Betty Sturman, Sherry Freitag, Janie Hall and Dianne Sherman, plus an additional group of professional models from Bakersfield.

## Photos by PHAA Shellie Reed



**ABOVE**, Diane Sherman, Bette Sturman and Jane Hall (l.-r.), model fashions perfect for "at home" or "on the go."

**LEFT**, modeling a black matte satin swimsuit, Patti, a professional model, looks ready for the poolside weather ahead. She carries a companion caftan.



**COORDINATES** make the scene as Patti steps out in a tunic-shirted pants ensemble, topped with a soft brimmed hat, a must for all Spring wardrobes.



**DOE KEIHNER** is ready for shopping in this cool linen pants ensemble of white and blue plaid. The cuffed pants help to project the look of '73.



**ABOVE**, Mardi Kieki, a professional model, presents a new idea in evening wear — a lacy white caftan over a matching white halter dress.



**RIGHT**, Mary Beth Tietze, Broadway Dept. Store fashion coordinator, wore a floral voile peasant dress in shades of apricot and jade green. **LEFT**, Diana Sherman models a halter-topped shorts outfit in red and white. The outfit is ideal to wear for a picnic, boating, or just a day of fun.