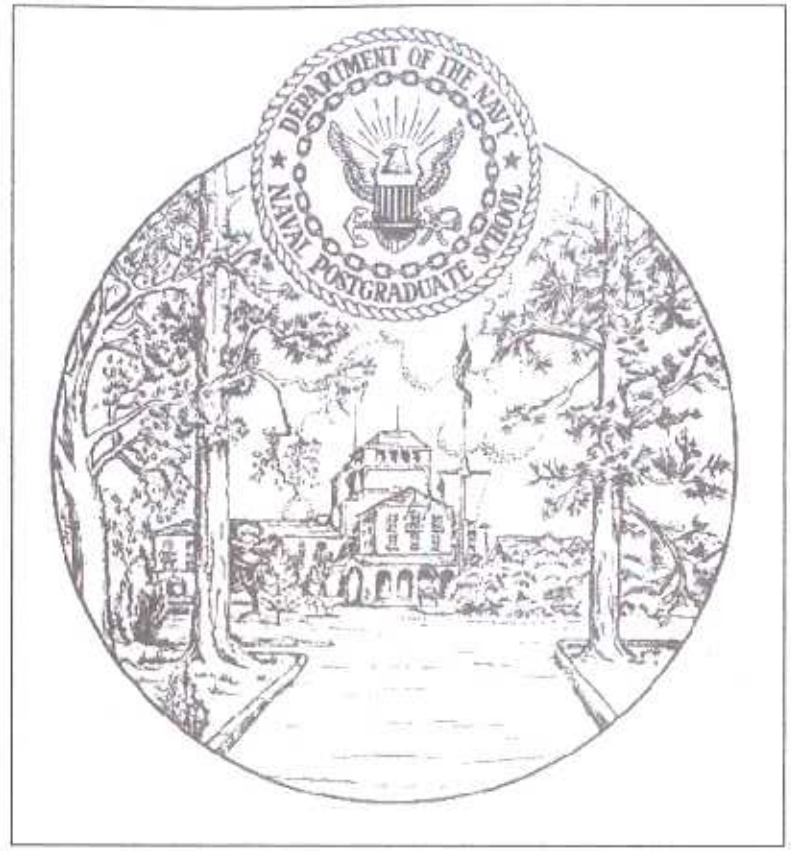


My Career at The Naval Postgraduate School
1946 ~ 1974

Professor W. Conley Smith

Rear Admiral E. E. Herrmann, USN

My Career at The Naval Postgraduate School
1946 ~ 1974

Professor W. Conley Smith

Below is a brief history of the school as printed in the program for the closing ceremonies held in Annapolis on 21 November, 1951.

- - - - - - - - - - - - - - - - - -

The U. S. Naval Postgraduate School was established in 1909 as the School of Marine Engineering, a division of the U. S. Naval Academy. It was established with the intention of providing naval officers with the means of obtaining secialized education in engineering.

In 1912, the School became the Post Graduate Department of the U. S. Naval Academy, and the scope of its curriculum was broadened. In 1919, the Department moved to its present quarters, which were formerly the Marine Barracks, and were subsequently named Halligan Hall in honor of Rear Admiral John Halligan, U.S.N. In 1921 the title Postgraduate School was adopted. The fields of study were increased and in 1947 the school was separated from the U. S. Naval Academy , given authority to grant Master's and Doctor's degrees, received Congressional approval for establishment at Monterey, California, and became officially known as the U. S. Naval Postgraduate School. In 1951, Congress approved a request for funds to move the School to Monterey, to prepare interim facilities, and to construct the first increment of the permanent school buildings.

The ceremony today marks the closing of the School in Annapolis. It will reopen in Monterey with the third term of the 1951/1952 Academic Year on 18 February 1952.

Emeritus Professor W. Conley Smith

2001

My Career at The Naval Postgraduate School
1946 ~ 1974

Professor W. Conley Smith

Naval Education:

The school for graduates of the Naval Academy was founded in 1909 with the purpose of augmenting the professional education of graduates of the Naval Academy with technical and engineering proficiency beyond what was possible within the curricula for the midshipmen at the Academy. It boasted a very small faculty of civilian professors of Mathematics and the standard branches of Engineering.

During World War II the school was expanded rapidly. The overwhelming technology of modern warfare demanded officers with knowledge of engineering subjects comparable to, if not superior to that of the civilians they were called upon to deal with in the industrial, supply world. Education equivalent to a Masters degree, and in some fields, a Doctorate was called for. The Navy could hardly spare junior officers from the fleet, at full pay, for the time required for such training, especially if it were to be obtained at private institutions. It was more economical, more cost effective, if the education could be obtained from a faculty and a curriculum controlled by the Navy. The quality of the teaching and of the curriculum could be assured if it could achieve an "approved" status from the appropriate examining boards of the American Association of Engineering Schools, or such self governing organizations.

The officers receiving orders to the school, upon their own request, would be able to spend coveted time ashore, often with new and growing families in return for which they would have to commit themselves to remaining within the Service for a certain number of years after graduating from the school. Furthermore they would earn an honest and respected degree which would be a considerable asset when they did resign and enter civilian life. From these considerations one may understand the peculiar nature of the "captive" civilian faculty and the

way our subjects and courses were scheduled and taught. The faculty was small and we enjoyed a freedom and respect beyond what I had experienced at the University of Maryland. Our students were chosen by a Selection Board, consisting of Naval officers and a senior faculty member or two, which met annually in Washington. The various bureaus of the Navy, Buships (Bureau of Ships), Buelectronics, Buair etc. as well as other Services and even the State Department, requested training and curricula for a number of persons, as deemed necessary to meet their needs in coming years. The Selection Board would endeavor to fill these needs from a list of officers who had applied after seeing an ALNAV (All Navy) release or other notice of the opportunity. It was our privilege as faculty members to suggest or promote certain courses or subjects to curricula officers representing the various bureaus. For example, in later years I managed to teach a course in Transducers, or as I called it, Measurement of Physical Quantities by Electrical Means. This proved quite popular.

The School:

When I joined the School in July of 1946 it was housed in a former Marine barracks building, Halligan Hall, on the western edge of the Academy grounds. The rooms and hallways and even the porches had been enclosed and partitioned to make classrooms and offices. A new part, large enough for an all-school assembly hall on the first floor, had been added and our electrical machinery laboratory was in the basement of this addition. The second floor was occupied by the Electronics Department, classrooms and laboratory. The distinction between the Electrical Engineering Department and the Electronics Department sprang not only from the different sponsorship by Buships and by Buelectronics, but also from a sort of personal feud between the Heads of these departments. Both Professor Terwilliger, of EE, and Professor Geit, of Electronics, were long time faculty members, both having joined the school in 1925. At one time each had the ear of a different Naval officer and to keep the peace, I suppose, the departments and faculties were separate. There was a convenient reason as well. Buships was

interested in motors, generators and electrical systems while Buelectronics' interest was in communication. Many years later, after both heads had retired, the two departments were joined, but by then the whole direction of electrical engineering education had been changed by the computer age.

I was employed as Assistant Professor in the Department of Electrical Engineering, of which ***Charles Van Orden Terwilliger*** was Head. He exercised virtually no control over his faculty except as he served on certain committees of the administration. We felt a glorious academic freedom to exercise our talents and abilities to the fullest and I think at that time each faculty member was worthy of the trust.

Officially I was a special appointee of the Secretary of the Navy as were all the members of the civilian faculty at the Academy and at the Postgraduate School. I was sworn in by the Superintendent, Captain Spanagel on 1 July, 1946, and my salary was to be $3970 per annum. This was more than my base salary at the University of Maryland but my rank was Assistant Professor while at Maryland I had been promoted to Associate Professor in November of 1943.

My desk in the crowded building was on the enclosed second story porch of Halligan Hall. ***Professor Orval Polk*** was across from me on the other side of a wide double desk. We numbered six in the Electrical Engineering Department in the summer of 1946 and within the year there were nine of us. Each one a "Character" of course. (Except Smith).

The Naval Academy, like West Point, was a show place. Everything was "spit and polish". All Naval personnel was proud of the appearance and the traditions of the place and visiting congressmen and taxpayers had to be impressed. The midshipmen at the Academy were always in neat uniform and they marched from class to class and to and from the huge residence building, Mahan Hall. They marched and drilled in close order on the parade grounds and they even marched to church on Sunday, the Church Parade, it was called.

At the Postgraduate School it was considerably more relaxed. We had no students below the rank of Lieutenant, Junior Grade, with one and one half gold bars on their cuffs, and sometimes we even had a

Navy Captain with fully four gold bars. While the school was on the Academy grounds the officers were always in uniform. In later years, and particularly after we moved to Monterey, the officer students wore their uniforms only on special days.

Although the atmosphere in Halligan Hall was less formal we still enjoyed the spit and polish in the offices, halls and classrooms. Floors were polished until they shined. Waste baskets were scrupulously emptied and chalk dust was not allowed to collect in the trays. After each class, the hall boy came in and washed and wiped the chalk board. Professors desks however, were never disturbed. Professor Kiefer in Mechanical Engineering was notorious for his overflowing desk. If you could not find a book or periodical in the library, check Kiefer's desk, was the rule.

My Department of Electrical Engineering:

At one end of our rather narrow office which had a slanting floor because it was originally a porch, sat ***Professor Terwilliger***, the department chairman mentioned above. Across from him sat ***Professor Carvel Wheeler***. It was another double desk but since these gentlemen were never on speaking terms, except in official matters, they had a high separator built across the middle of the desk with cubby holes for papers on each side.

Carvel was really a brilliant man and a conscientious and diligent teacher but he carried a chip on his shoulder. He befriended me and gave me excellent advice in political matters. We both had a technical propensity and liked to tinker with things. My wife, Jane and I occasionally visited him and his wife, Lucille at their home in Eastport and Carvel and I would tinker with his television, much to the annoyance of the girls who would just get interested in a show and we would twiddle something. He had one of the first televisions to come on the market. He had joined the school in 1929 and he resented it that Terwilliger continued to hold the department chairmanship when he was but 4 years senior to himself in service. As I noted above, the chairman of the department exercised no authority over other members and I was personally just as happy that Carvel never held the chair. He just might have have proved somewhat of a tyrant.

Carvel also voiced his displeasure that anyone with children, had income tax deductions while he and Lucille were childless. In later years in Monterey Carvel and I had a falling out. He established his office in the laboratory building, distancing himself as much as possible from Terwilliger, and he rather expected me to collect and deliver his mail from his box in the departmental office. I did it for a while because I went to the laboratory building most mornings, but finally I told him to get it himself.

Also at that end of the office sat ***Professor Frank LaCauza***. He was born in Italy in 1900 and came to the United States as a boy. He became a naturalized citizen in 1926. He was a graduate of Harvard and held BS, MS and MA degrees from that institution. He had also taken courses at MIT and at Sperry Gyro School. He had been a member of the Engineering Test Department at the General Electric Company, which was similar to my experience at Westinghouse. He had joined the school, like Wheeler, in 1929 and had organized the Electrical Engineering and Mathematics Departments at the US Naval School (General Line) at Newport Rhode Island. He and his wife Mary Ann, a Southern Lady with a lovely soft and husky voice, moved to Monterey before the bulk of the school, to head up the Line School, he asked me to go with him but I preferred to stay with the Engineering faculty. I liked and admired him a great deal although he was 13 years older. We attended a few engineering conventions together. He was very competent as a teacher and he knew his way around with the powers in the Navy. He had been knighted by the Italian government and held the rank of Knight Officer.

Next in seniority in the Department was ***Allen Edgar Vivell*** who had joined the school in 1945, only the year before I came aboard. If there was one colleague whom I did not admire for scholarship or engineering ability it was he. He was a Baltimore boy, educated at the technical high school there and subsequently at Johns Hopkins. Besides having worked for the Gas Company, he had taught at Swarthmore without distinction, I gathered. He was a politician and an accomplished apple polisher but without merit as a teacher. We were friendly, and my wife, Jane enjoyed

the confidence of his wife, Anne. He managed to become a Dean, among several, at the school in Monterey in later years. One must respect him for that.

Orval Polk, my desk mate, was eight years older than I and came to the school the same year I did. He had been a Professor at the University of Arizona before the war. He had conscientiously joined the Navy as a Lieutenant and had taught, or trained enlisted men in gunnery in Manhattan and at the Brooklyn Navy Yard. He and his wife, Frances had two children, Bill and Dorothy. Frances, over ninety, is still living at this writing, 1996. Orval was simply a very good man, honest, generous and self sacrificing to a fault. Frances once said he had not a lazy bone in his body. It was sad that he died of cancer at the age of 67.

I soon discovered that Orval was a pack rat. Consequently it was unnecessary for me to save any periodical or circular that came to my desk. If I ever wanted it again, Orval had it. I rather think that he was sometimes put upon, like Lepidus in Shakespeare's Julius Caesar who was "meet to be sent on errands".

Charles Oler also joined the faculty in 1946 a month or two after I arrived. He was a bachelor. I do not know his academic or professional background. He was from New York City and certainly of Middle European ancestry, not Jewish. A few years after the School moved to Monterey he married a widow with a teen aged son. Vera was Russian, very friendly but a little shy. She liked to entertain Charlie's friends to observe the Russian Orthodox Christmas.

Three other men came to the Electrical Engineering Department while the School was in Annapolis. ***Charles Rothauge***, another bachelor came in 1949. He was 30 years old with a brand new Doctor of Engineering degree from Johns Hopkins. His military career had been as a Major in the Army, largely at the Aberdeen Proving Ground near Baltimore. He lived with his parents in Baltimore and brought them with him to Monterey. After they died he married Loraine, a widow whom he met in his Methodist congregation in Pacific Grove. He became chairman of the combined Department in 1962 after Terwilliger's death and he died of heart disease in 1988.

George Thaler was also a Hopkins man but he had taught at the University of Notre Dame in Illinois previous to coming to the NPS. in 1951, just before the School moved to Monterey. His wife's name was, or is Roberta (Robbie) and they had four children, a boy, George, and three girls.. He was a scholar and a very competent teacher. He was the author of several text books on control systems and Servomechanisms, which was his specialty.

George died of cancer at the age of 85 on May 11, 2001, even as I revised these notes. I then am the only one left of the old EE Department. The Electronics Department employed a number of younger men who are still around and after the two departments merged, a considerable number were added to the faculty, many from West Coast schools.

The administration was most lenient to allow a group of us to continue our education at the Johns Hopkins University in Baltimore. Our teaching loads were made light and our schedules so arranged that we could go to Baltimore three days of the week. Our EE Department took the greatest advantage of this generosity. Charlie Oler, Orval Polk and I, took turns driving.

Once, in the early morning rush hour in downtown Baltimore Charlie Oler's big black used Cadillac, which he had just bought, ran out of gas. Charlie was a city boy, right out of New York and I truly believe this was his first automobile. I had noticed with some apprehension that he wasn't an expert driver. I'm sure he didn't realize what a gas guzzler he had acquired and there we were, three conservatively dressed young men, pushing and guiding the big old bus over the cobblestones trying to find a place to park. I don't remember how we finally made out but I do recall that Orval was concerned and serious. Charlie was embarrassed and talking to himself while I was laughing so hard I couldn't do my share of the pushing.

Syd Borg, a colleague in the Mechanical Engineering Department joined us and was able to earn his Doctorate. Charlie Oler, who had considerable credits from a former school also earned a Doctorate but Orval and I, although finishing all our course work, were unable to begin a doctoral dissertation before the School moved to California.

Admiral Herrmann and the Move of the School to Monterey:

I was aware when I joined the faculty in Annapolis that plans to move the school to the west coast were maturing. Proposals had been made to move to other locations such as to the Great Lakes Training Station near Chicago or to the Navy's property in Newport, Rhode Island. However, during the war the Del Monte Hotel property in Monterey had been leased and used as a training facility for line officers of the Navy. At the end of hostilities the Line School was phased out and the considerable real estate and buildings were a white elephant on the hands of the owners, the then Del Monte Properties Company. When ***Admiral E. E. Herrmann*** became superintendent of the school, replacing Captain Spanagel, real action began toward the move to Monterey. The Admiral was a mover and shaker and did not procrastinate in contracting for the move

On July 23. 1947, Congress authorized $2,500,000 for the purchase of the Hotel Del Monte for use as a Naval Postgraduate School. The president signed the bill on August 1. We in Annapolis were jubilant but we reserved rejoicing, knowing that "Authorization" was not tantamount to "Appropriation". None-the-less the General Line School was moved from Newport RI to Monterey and classes opened on March 11, 1948. On March 30, 1948, the House Appropriations Committee approved the expenditure of the $2,500,000 which started the action that resulted in the presentation of a Navy check of $2,149,800 to the Del Monte Properties Company.

Aerology was the first department from Annapolis to move. Aerological officers did their thing without too much reference to the engineering departments and could be moved separately. The next move brought the Naval Administration School to Monterey from Stanford.

Moving the engineering school from Annapolis depended upon an appropriation of considerable size for expansion and construction in Monterey. After several set backs and delays Congress finally appropriated $6,615,000 in construction funds on Oct. 19, 1951 and ground was broken in Monterey six days later.

With construction finally under way, superintendent, Rear Admiral Herrmann shifted his flag from Annapolis to Monterey and assumed local command

While in Annapolis, Jane and I had seen the handwriting on the wall, so to speak, as did other civilians on the faculty. We were the first however, to sell our house which was in Sylvan Shores on the South River and move to rental quarters with our three children. A few members of the faculty who had been uncertain about going to the Pacific shore made other plans and left the school. Admiral Herrmann shifted the school terms, so that classes were held through the summer of 1951 thus freeing the winter quarter for the move and adjustment. Closing ceremonies were held in Annapolis on Wednesday, 21 November, 1951. Secretary of the Navy Dan A. Kimball was the speaker at the opening ceremonies in Monterey on Feb. 15, 1952.

The logistics of the transition involved moving approximately 500 families, 50 boxcar loads of material, 40,000 library books, plus office and administrative equipment, some 3,000 miles across the country and getting the school re-established and operating in less than three months. This included getting a start on Navy housing, La Mesa village.

The main building of the original hotel , now designated Herrman hall, was little modified to suit the needs of the school. Most drastic was the conversion of one half of a large hall into a chapel to serve both Protestant and Roman Catholic services. Later the Catholics chose and modified a separate building to suit their needs. Our family used the attractive little chapel in the main building twice. Both times for marriages of our daughter, Anna (Twice married). We also used one of the dining rooms on the lower floor of the main building for the wedding receptions.

An amusing exchange occurred when I first called the Superintendent, who had been a student of mine in former years, to request the use of the facilities. Before putting me through, the Aid said, "Well professor, that depends on what grade you gave the Admiral when you had him in class."

The large front hall of the main building, which everyone calls the quarterdeck, was little changed. A number of small offices were added for administrative functions but the grandeur of the old hotel is still very apparent.

Two, four-and-a-half storied buildings attached to the main building by corridors, are called the East and West Wings. The West Wing housed the medical dispensary, a small child care facility and still there was adequate space for the Line School, mentioned above. The engineering school moved into the East Wing, occupying the two upper floors as well as the half story top floor for our offices. The Chemistry department was on the second floor with their laboratories and there were sufficient rooms left over for classrooms. All the rooms had been hotel rooms and the plumbing was still in place. We knew that this was a temporary situation for construction had started on the new buildings.

Meanwhile five "Butler" buildings had been erected on the back of the campus to house our laboratories as well as our machine shop and the Public Works department. All of our laboratory equipment had been installed in these buildings and all in all, we felt we had a lot more room than what we had when in Annapolis.

Nothing is ever sure in the Navy. We thought our electrical engineering offices would occupy space on the second floor of one of the new buildings named Root Hall. However, insufficient funds had been authorized for the construction of a separate library building and so we were moved to the third floor of the five story building named Spanagel Hall while the library moved into Root Hall. George Luckett, our librarian was not very happy with this for he had been looking forward to more or less an ideally designed library. He didn't get it until the late 60's, not long before his retirement.

The architects for the new buildings, Skidmore Owens and Merril, consulted the faculties quite intimately and followed our requests very closely, particularly in the design of laboratory spaces. Office space in Spanagel Hall had to conform to the general design of the building so most ofices were rather long and narrow and consequently were often occupied by two professors. I was fortunate to get a smaller office all for myself on the second floor.

It was recognized that a large assembly hall was required but our hopes were dashed for designing it to double as a concert hall, or more particularly, a theater or play house. Thus King Hall, otherwise excellent for lectures or assemblies, had no "fly loft" and there was no back stage space and no place for dressing rooms. Modifications to the original buildings came rapidly. The ground floor lobby of Spanagel Hall, open for the full width of the building, had a beautiful

The Early Trekkers

Making the transistion, Annapolis/Monterey in 1951/52

Those known living at this date (05/30/01) shown in **bold face**

	Year aboard	Spouse
Bauer, Wm. Malcomb	1946	Jeannette
Bauer, Robert Edmund	1948	?
Bell, Richard William	**1951**	**Betty**
Bleick, Willard Evan	1946	Jean
Buerger, Newton Weber	1942	Esther
Campbell, Richar Crowley	1948	Jean (Remarried P.Cuningham)
Chaney, Jesse Gerald	1946	1st wife deceased, remarried
Church, William Randolph	1938	Winnie
Clark, John Robert	1947	Frances
Coates, Wendell Marios	1931	Barbara
Coonan, Frederick Leo	1931	Anne
Cooper, Paul Eugene	**1946**	**Jodi**
Cunningham, Wm. Peyton	1946	1st wife Dorothy deceased,
Drucker. Eugene Elias	1950	**Corrinne** 2nd Jean
Duthie, William Dwight	1946	(see Campbell)
Faulkner, Frank David	1950	Teresa
Frey, Austin Rogers	1946	Elizabeth
Gardner, Edw. Markham	1929	Kay (Line School)
Gatcombe, Earnest Kenneth	1946	Mary
Gwain, Theodore Henry	1951	
Giarratana, Joseph	1946	Cathrine
Giet, Geroge Robert	1925	Cary
Goddard, Earl Gascoigne	1948	
Glasgow, Roy Stanley	1949	Jo
Haltiner, George Joseph	1946	Mary
Head, Richard Moore	1949	?
Hering, Carl Adolph	1946	Vera
Higgins, Geroge Judson	1942	Florence
Hoisington, David Boyson	1947	Elizabeth (Line School)
Houston, Raymond Kenneth	1946	Becky (Line School)
Jennings, Walter	1947	Mausita
Kalmbach, Sydney Hobart	1947	Ruth
Kahr, Charles Horace Jr.	**1947**	**Clarice**
Kavanaugh, Dennis	1926	Polly
Kiefer. Paul James	1920	Lucille
Kinney, Gilbert Edward	1942	Martha
Kinsler, Laurence Edward	1946	Kathleen (remarried Trattner)
Kohler, Henry Lebrecht	1943	Vel
Koehler, Wilbert Frederick	1948	?
Klamm, C. Frederick Jr.	1951	Elaine

Continued

The Department of Electrical Engineering

1952

Roy Glasgow, Academic Dean

Professor Charles Van Orden Terwilliger, Chairman

Professor Frank LaCausa

Assoc. Professor Charles Oler

Assoc. Professor Orval Polk

Asst. Professor Charles Rothauge

Assoc Professor W. C. Smith

Asst. Professor George Thaler

Professor Allen E. Vivell

Professor Carvel H. Wheeler

The Early Trekkers (Continued)

Making the transistion, Annapolis/Monterey in 1951/52

Those known living at this date (05/30/01) shown in **bold face**

	Year aboard	Spouse
LaCausa, Frank Emilio	1929	Mary Ann
Lang, William Warner	1951	
Lockhart, Brooks Janing	1948	1st Elizabeth, 2nd Patricia
Luckett, George Ridgley	1950	**Florence**
Marshall, George D. Jr.	1946	1st wife deceased, remarried ?
Martin, Frank Lionel	1947	**Cathy**
Menneken, Carl Ernest	1942	Jessie
Mewborn, Aladuke Boyd	1946	Hazel
McFarlin, George Harold	1948	Louise
Miller, Robert Lee	1946	1st Lillian, divorced 2nd ?
Murray, Raymond P.	1947	Mildred
Newton, Robert, Eugene	1951	Dotty
Oberbeck Thomas E.	1951	Louise, divorced
Oler, Charles Benjamin	1946	Vera
Oleson, Norman Lee	1948	Gaye
Paddock, John Pershing	1947	? (Line School)
Pierce, John Philip	1948	**Irma**
Polk,Orval Harold	1946	Frances
Prowell, Roy Walters	1946	**Dorothy**
Pulliam. Francis M.	1949	
Rawlins, Charles Henry Jr	1922	?
Reynolds, Melvin F.	1946	**Valerie**
Riggin, John Dewitt	1946	Connie (Line School)
Roadstrum, Wm. Henry	1948	
Rauthage, Charles Harry	1949	**Lorraine**
Schleicher, Allen K.	1950	Sandra
Sheingold, Abraham	1946	**Sylvia**
Sinclair, James Edw.	1949	?
Smith, Wm. Conley	1946	Jane
Stein, W. Alfred	1951	?
Stentz, Donald Alan	1949	Elizabeth
Stockel, Ivar Howard	1950	?
Terwilliger, Charles Van Orden	1925	Susie Gray
Thaler, Geroge Julius	1951	**Roberta**
Torrance, Charles Chapman	1946	Esther
Vavra, Michael Hans	1947	Vera
Vivell, Allen Edgar	1945	Anne
Wheeler, Richard Carvel H.	1929	Lucile
Wilson, James Woodrow	1949	**Alixe**
Wright, Harold Marshall	1945	Miriam

74 in the Engineering School, 5 in the Line School for a Total of 80
15 known to be living as of May 10, 2001

terrazo floor. Soon after occupancy the floor was covered and the space was partitioned to house an early computer facility. The electronics laboratories on the fourth floor were sectioned off into smaller laboratories with the coming of solid state (Transistor) electronics.

Admiral Herrmann did not live to see the occupation of the new buildings for which he was so largely responsible. It was a shock to all of us who liked and respected him when, as a victim of psychological paranoia, he shot himself in his office in 1954.

Since my retirement in 1974 many changes have come about, and many new buildings have been constructed. I no longer feel a part of the institution as I am sure I would if I had retired from a civilian university.

The saga of the move, the Exodus of some 70 faculty families, with all our worldly goods and in many cases with small children should be written by an experienced sociologist. Some exercised their GI (veterans) rights and moved into brand new houses which had been built to plans chosen in Annapolis. Still others established themselves in different regions of the many and widely variant locales available on the Peninsula. In our case Jane and I took ten days to make the drive from Ohio with our three children. We arrived in Monterey on January 2, 1952. After two weeks living in temporary quarters we found and bought and moved into a house high on the ridge which forms the Monterey peninsula. Here we planned to live out the rest of our lives.

Dean Roy Glasgow:

While Captain Spanagel was still superintendent ***Roy Glasgow*** joined the faculty as Dean. He was an experienced electrical engineer and had been Head or the Department at Washington University in St. Louis. He had also served after the war on inspection commissions sent to the former Nazi Germany, to evaluate their advances in engineering technology. He did not hold a Doctor's degree but he was the author of a respected textbook for Radio Engineering. He was my kind of man, engineer and educator and I think he admired my qualities somewhat also. Certainly he was instrumental in advancing me to a Senior Professor. He called on me to serve on the academic council and he seemed happy to honor my

research and development activity. I don't think the position of Dean at the Postgraduate School was particularly rewarding. Certainly it involved no administrative duties other than what Dean Glasgow called, "The care and feeding of the faculty". Principally the Dean and his Academic Council served only as advisors to the military administration, with the policy of the school being set in higher echelons of the Navy.

Officer Students:

Teaching at the Naval Postgraduate School was somewhat different from that at civilian schools and universities of my experience. The students were older and much more mature. Most of them were married and many had small children. They had all, at that time, graduated from the Academy and had all been in the fleet for a minimum of two years if only ashore at a desk job. It was not until later that the School began to get officers from the other services, that is from the Air Force or the Army, and many even from foreign services such as Argentina, Chile, Columbia; Korea, and Japan. The maturity and experience of our students naturally affected our lecturing and our teaching methods.

Our classes were small; never more than 20, and we never needed to call the roll, keep attendance records or make school wide announcements. These matters were always taken care of by the senior officer of the section. Also, if we wished to make some special arrangements such as setting up a field trip to an industrial site or Naval installation, or a radio station, we professors might call ahead for permission or for a convenient time, but then we had merely to ask the senior officer of the section to take care of everything. He, through the curricular officer would arrange the schedule and the bus transportation. In these respects our professorial activities were quite different for that in civilian schools. The student unrest, rebellion and general uproar in universities nationwide, which filled the newspapers and the media during the 60's was completely unknown to us. We scarcely realized what our counterparts at some of the Nation's universities were going through and were appalled when, at meetings and conventions, we learned of it.

Classroom work:

Teaching conditions were different in other ways from what existed elsewhere. In the first place, laboratory facilities were first rate. If new equipment or supplies were needed we had only to ask for them. Yearly we were requested to prognosticate as much as five years ahead as to what our needs might be in the way of instruments or special devices. Anything from the vast amount of Naval gear in store throughout the fleet was ours for the asking, with appropriate justification. While the School was in Annapolis a few of us made special trips to the Navy offices, then in temporary buildings around the Reflecting Pool on the Mall in Washington . There we could search supply lists for some special motor, transformer, etc. which we desired. After the war there was established a special governmental office for the disposal of surplus military equipment or all kinds. We of course had first choice along with other government entities, after us came civilian schools, militarily affiliated radio amateurs (MARS) organizations, and then industries and ultimately the junk dealers.

As is usual in most engineering schools we had sometimes to fabricate equipment for teaching or for a research project. For this purpose we had a well equipped and staffed machine shop and a sheet metal shop. After the school moved to Monterey all our laboratories had small machine shops attached. The chemistry department employed a glass blower and in Electrical Engineering and Physics we had departmental darkrooms. This was in addition to the school printing and photographic facility.

During the years of my tenure, working conditions were absolutely ideal. Except for the tactical and administrative differences noted above, classroom teaching, that is exposition of the subject, lecturing, was identical in all respects to what would be found in civilian universities. Most curricula of the school were of undergraduate level and we used the standard textbooks. Such courses led to a Bachelors degree. In courses of an advanced nature, leading to Masters degrees, we used copious notes of our own writing and manuscripts of books in preparation for publication. There was no restriction on textbooks. We chose them by consensus with others teaching the same course. Many faculty members

had courses which they enjoyed teaching and which became their specialties. After teaching the same subject for a few terms we developed a course content which was known and depended upon by our colleagues teaching subsequent courses in the same subject. If students were found unprepared or insufficiently familiar with a particular topic such as for example, the Decibel, the faculty member responsible was sure to hear about it. On the other hand, I was once especially commended by a senior faculty member for the mastery of that same topic exhibited by a section of mine, which he inherited the following term.

I had had considerable experience in classroom teaching,, an experience which I consider sadly lacking in many, if not most college professors. It is odd that teachers in primary and secondary schools universally take courses in pedagogy and must obtain a teaching certificate, whereas college professors need only an advanced degree, if that, in order to teach in an institution of higher education. In my experience, some of the "teaching" that goes on in college classrooms is simply dreadful. One would think that over the years, particularly years of probation, non gifted and ill adapted teachers would be weeded out, so to speak. This does not seem to be the case. In truth some of the worst or poorest teaching is to be found in the classrooms of long tenured and respected professors with an impressive string of letters, denoting academic degrees, after their names.

Impressive research and extensive publication on esoteric subjects seems to have a negative correlation with the ability to pass knowledge on to others. Few such characters could be found on the Naval school faculty. Our poorest, albeit learned teachers were those who came to us with bright new academic degrees, fresh from graduate school but with no prior teaching experience, no industrial experience, and little aptitude for speaking.

Before becoming a college professor I had taught for two years at the high-school level and for two years as a Graduate Assistant as well as a Visiting Lecturer at Ohio University. Good teachers pattern their classroom presence after an admired professor whom they had in college. I had some good ones. I had an additional advantage of being the son of a minister, well trained by precept and example in public speaking.

While in front of a class I never spoke for any length of time with my back to the students while I was working on the chalk board. I prided myself in being extremely sensitive to inattention or diversion which indicated misunderstanding. I never "lost" my class or audience.

Other than "Defense Classes" which I taught off campus while at the University of Maryland, my largest classes had been those in Physics while I was at the University of Miami where they might number 30 or 40 or more. My regular classes at the University of Maryland were quite small, hardly more than 12, because at that time all able bodied men of draft age were in the armed forces. At the Postgraduate school the sections, or classes never had more than 20 and most usually only 12 to 15. Thus we got to know our students rather intimately. This was particularly the case when the course we taught included laboratory work which we supervised closely. We required written reports on laboratory work which I think was excellent training for technical writing and especially for writing a Masters Thesis, if one would eventually be required of the student.

In all but the most advanced courses we were required to give marks or grades at the end of the quarter. This was universally despised I think, by the whole faculty. Our students were highly selected in the first place. Their work was either satisfactory, ie. excellent, or it was not. Marks other than "A" (or perhaps a "B") and "F" were of no use or meaning.

I believe the practice was necessary because certain examining boards always wanted, among other things, statistics and information on grade distribution and the number of drop-outs. Figures which were hardly applicable to our unique institution.

I always had a Course Outline, even when I was the only professor teaching the subject. This naturally changed over the years especially when we, as a department, modified and brought our various curricula up to date. In this regard let me point out that when I began teaching, engineering education was quite different from what it is today. Then, after the first or Freshman year, which included courses in History, English and Chemistry in standard engineering schools, we began with a course of Physics and perhaps a study of electricity and magnetism. Then we took up Direct Current Machinery, for an entire semester. This was

followed by a course in Alternating Current Machinery, of even longer duration. This was the main body of the curricula. Radio, was looked upon as a special branch of Electrical Engineering and in some schools, notably at Ohio University, my undergraduate school, radio was covered in a single semester course. I'm sure the situation was different at the better schools.

I never went to class without a lesson plan which usually consisted of a few cryptic notes. I knew exactly what and how much material I wished to cover that day. Our classes began on the hour and lasted 40 minutes. By the end of my teaching career I was expert on drawing to a close just before the bell rang.

Research:

It is absolutely essential that faculty in schools of higher education engage in research of some sort, "pure" or "applied", in order to stay abreast of the changing technology. Even in the cramped and crowded building on the Academy campus in Annapolis, Halligan Hall, there were nooks and crannies under the eves or below stairs where someone had a research project going. I am thinking specifically of one, W. F. Koehler, then Associate Professor of Physics, whom I discovered one evening after hours.

He had an interesting apparatus going "bloop - bleep - bloop - bleep", reminding me of the apparatus used by Alec Guiness in the movie, *The Man in the White Suit.* Koehler was working on a unique method to determine the ratio of the two specific heats of air. That is the specific heat at constant volume vs. that at constant pressure.

The faculty had a lot to say in the design of the new buildings planned for California and adequate facilities were provided for experimental research. I was one of the first faculty members at the school in Monterey to negotiate a research contract with the Naval Ordnance Laboratory and I made several trips to and from Washington in the course this work. I received no extra remuneration for my work, nor was my teaching load reduced, although there were funds transferred to the School by the Laboratory. In later years a large number of the faculty had such contracts with several different governmental agencies Their teaching loads were reduced and in some cases eliminated. I did

receive an honorarium of sorts ($50) for a patent development which I made with a graduate student and which we happily assigned to the Navy. It had to do with a unique digital method of communication. The recognition made by presentation before the whole faculty assembled was adequate and much appreciated.

Retirement:

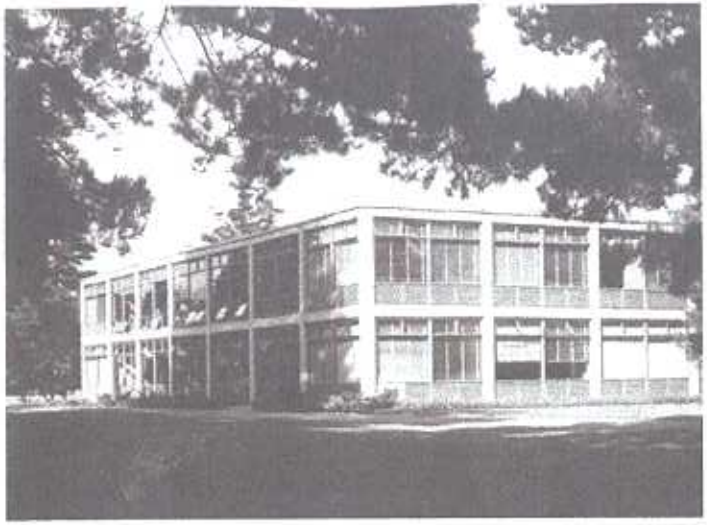
I retired from government service on the ninth of January, 1974, at the age of almost sixty one. Several matters influenced my decision, not the least of which was the feeling that I could no longer keep up with the rapidly advancing technology of the semiconductor age

Electrical Engineering had changed so much since I joined the school. Indeed, television was unknown when I began teaching. Very soon the transistor, the integrated circuit, the microchip and the computer had come upon the scene. Although I had managed to keep abreast and even though I taught a few courses in transistor science, I knew that if I stayed on to become an old hand in the Department, I would be relegated to teaching the more routine, the more basic courses of the curriculum while younger men would handle the more interesting work in advanced technology. This did not appeal to me. I was in the full vigor of life. My children were on their own and with my wife, I wished to travel and we had many things which we wanted to do.

Some Salary Data: (Remember the cost of mailing a letter in those years.)

The dollar figures shown have been translated to the present age (2001) using the Bureau of Labor Statistics Cost of Living Index.

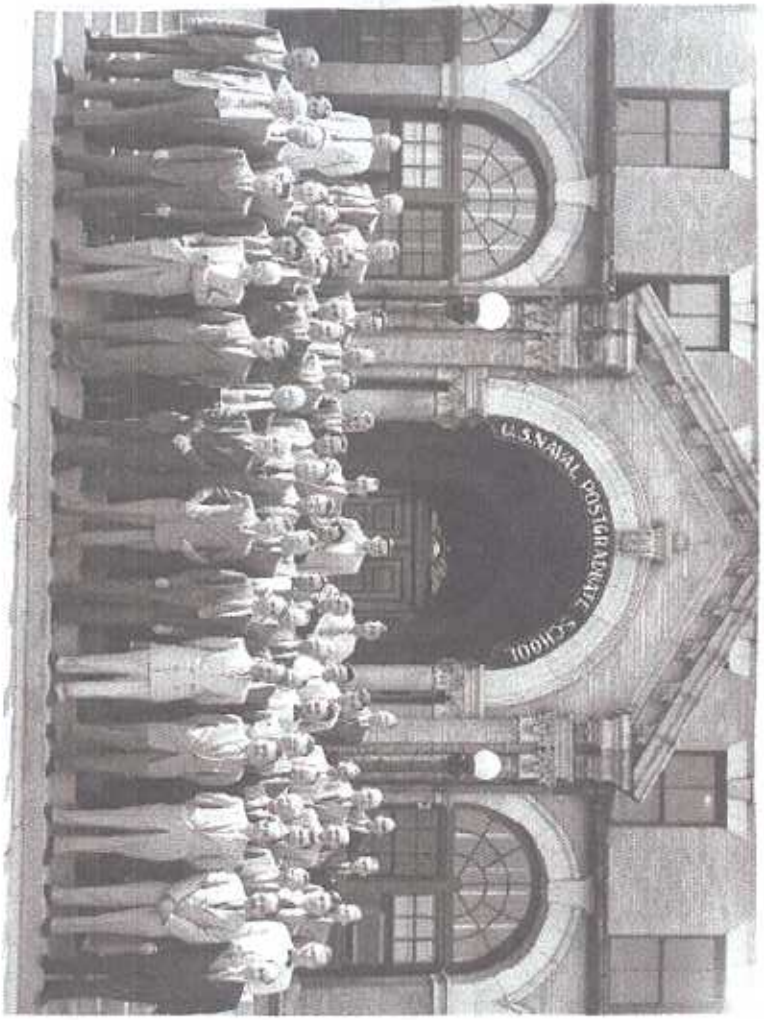
Employed	7/01/46	Assistant Professor	$36,325.50	per annum
Promoted	7/25/49	Associate Professor	$36,755	
Promoted	9/27/53	Professor	$52,182.	
Promoted	4/26/64	Senior Professor	$84,960	
Retirement	1/09/74	Emeritus Professor	$104,505	at retirement



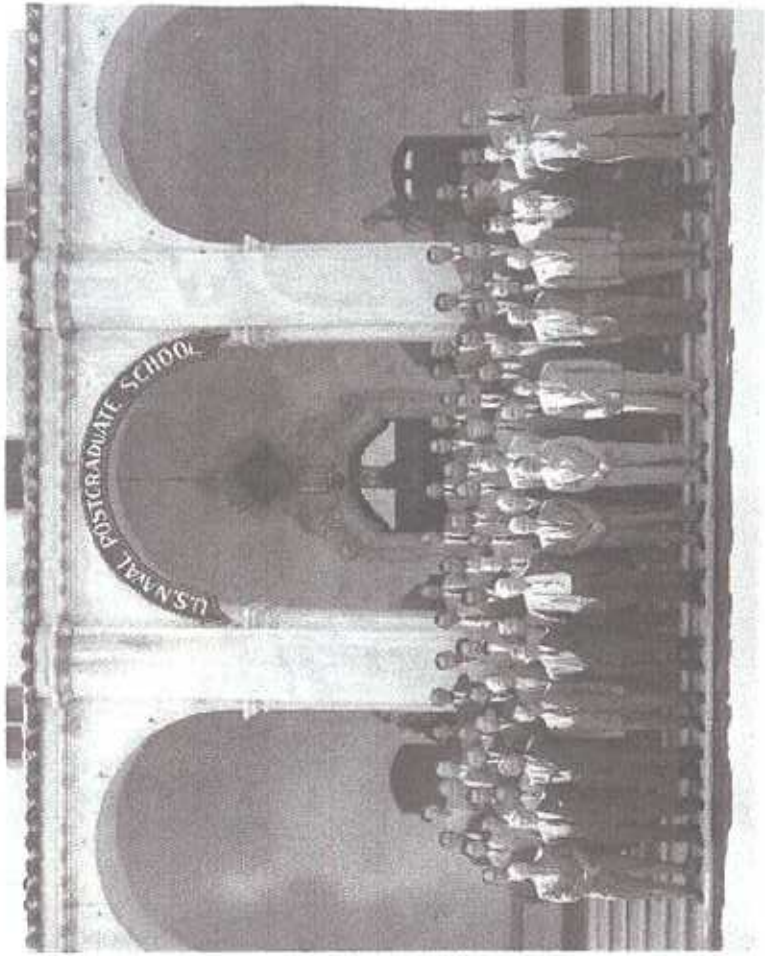
Bullard Hall - Electrical Engineering
Laboratory Building on the Campus in Monterey

Laboratory assistants in Monterey
Damon, Al White (Chief), Barney

The faculty in Annapolis 1949
Captain Spanagel, superintendant



The faculty in Annapolis 1951



The Faculty in Monterey 1952

Halligan Hall on the Academy grounds in Annapolis

Home of the U.S. Naval Postgraduate School

1919 – 1946