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## Naval Postgraduate School Faculty Bulletin, 1968-03-18

Monterey, California, Naval Postgraduate School

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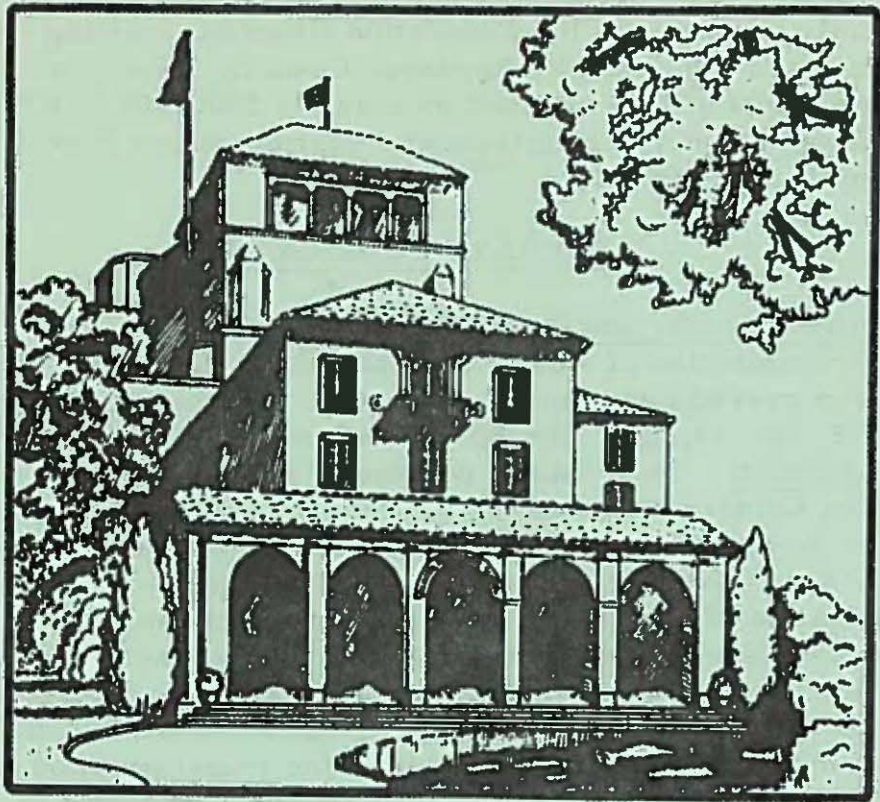
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Naval Postgraduate School

# FACULTY BULLETIN

18 March 1968

## RESEARCH FUNDS

The Naval Postgraduate School has been informed that it is the intent of the Director of Naval Laboratories to make \$250,000 of Independent Exploratory Research funds available for use at the School in Fiscal Year 1969. This is part of the program of the Chief of Naval Material in which naval laboratories are enabled to initiate research and develop ideas under internal guidance and control without specific systems command project approval. While these funds are generally identified for use in applied or early development areas, it is believed that a significant fraction of the unsponsored research at the School can be supported by these funds and thus release Foundation research funds for more basic studies.



It is planned to administer these funds in the same manner as that currently employed in the Foundation Program utilizing the recommendations of the existing Research Council. The actual transfer of these funds and the planned increase to \$300,000 in FY '70 are, of course, subject to congressional appropriations approximating current budget levels.

### FACULTY PUBLICATIONS

Neighbours, J. R. and G. E. Schacher

Determination of elastic constants from sound-velocity measurements in crystals of general symmetry. Journal of Applied Physics, Vol. 38, No. 13, pp. 5366-5375. December 1967.

Abstract: The "elastic constants" of a crystal are referred to a Cartesian coordinate system which has a definite relation to the crystal axes. In order to relate measured sound velocities to the elastic properties of the crystal one needs to solve the equation of motion for the direction under consideration, and to know the transformation equations that relate the elastic properties along the propagation direction to the desired elastic constants. In this paper a perturbation solution to the equation of motion is presented as well as the transformation equations for triclinic and all higher symmetry crystal classes.

Reinhardt, Richard A. and LCDR Robert K. Sparkes, RCN

Kinetics of the consecutive substitutions of ammonia by chloride ion in tetraamminepalladium (II) Ion. Inorganic Chemistry, Vol. 6, No. 12, pp. 2190-2193. 2<sup>+</sup>1967.

Abstract:  $\text{Pd}(\text{NH}_3)_4^{2+}$  reacts with  $\text{Cl}^-$  in acid to form  $\text{Pd}(\text{NH}_3)_2\text{Cl}_2$  by a two-step process, each step following the two-term rate law. Activation energies are all smaller than for corresponding Pt(II) complexes; activation entropies are negative. The trans and cis effects are discussed.

Schacher, G. E., and LT D. B. Dickmann, USN

A fortran program for calculating internal fields in general dipole lattices. Journal of Computational Physics, Vol. 2, No. 2, pp. 87-89. November 1967.

### NOTICE

Faculty members desiring use of the School recreation facilities in 1968 should submit their Privilege Cards to the Secretary of the Academic Dean for 1968 validation before 1 April 1968.



## PROFESSIONAL MEETINGS

The Naval Postgraduate School is hosting the Ninth Annual Meeting of the Western Division of the Academy of Management at the Mark Thomas Inn, 21-23 March. Professor H. Paul Ecker, Executive Director of the Navy Management Systems Center, and Associate Professor H. Arthur Hoverland of the Business Administration and Economics Department, are Co-Chairmen of arrangements. Admiral McNitt and Professor Hoverland will welcome the participants. The registration fee is \$11. Faculty members and students interested in the meeting may contact Professor Hoverland at Extension 2041 for details.

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The 23d Meeting of the Working Group on Liquid Propellant Test Methods of the Interagency Chemical Rocket Propulsion Group, Army-Navy-Air Force-NASA, will be held at the Postgraduate School 28-29 March in Spanagel Hall. Participants are from government and industry laboratories. Professor James E. Sinclair of the Material Science and Chemistry Department is serving as local coordinator for the meeting.

## PRINCIPAL PROFESSIONAL ACTIVITIES

Associate Professor William C. Boggess of the Government and Humanities Department addressed the monthly Twelfth Naval District meeting of Medical Service Corps Officers at NAS Alameda on 7 March. Participants numbering about 200 included retired officers who are serving in medical specialties in civilian capacities. Professor Boggess's talk was entitled "On Listening."

Associate Professor Russell B. Bomberger of the Government and Humanities Department spoke before a group of 70 supervisors and foremen at the Mare Island Naval Shipyard on the topic "Executive Communication" on 29 February.

Dean R. F. Rinehart participated in the meeting of the Advisory Board to the Air Training Command, USAF, at Randolph Field on 8-9 March 1968.

Professor George J. Haltiner, Chairman of the Meteorology and Oceanography Department, has accepted an appointment to the 1968 Awards Committee of the American Meteorological Society. The function of the Committee is to recommend to the Executive Committee the names of persons to be accorded the various awards, honors and distinctions given by the Society.

A review by Dean R. F. Rinehart of a paper by C. G. Cullen and C. A. Hall entitled "Functions on Semi-simple Algebras" appeared in Mathematical Reviews, Vol. 35, No. 1, page 40-41, January 1968.

On Tuesday, 20 February 1968, Professor T. Sarpkaya, Chairman of the Department of Mechanical Engineering, presented a seminar at Stanford University. The seminar was titled "Theoretical Analyses of Vortex Breakdown." The seminar was presented to an inter-departmental organization for coordinating the thermal-sciences interests of physics, mechanical, chemical, and aeronautical engineering departments.

### DISTINGUISHED VISITORS

Dr. John N. Adkins, Assistant Chief Scientist, Office of Naval Research, visited the Postgraduate School on 11 March to discuss curricular and long range matters with members of the faculty and staff, and to meet with Advanced Science students. The Office of Naval Research is the curriculum sponsor for the Advanced Science programs.

Mr. Harold A. Hyde, Vice Chancellor, Business and Finance, University of California, Santa Cruz, visited the Postgraduate School on 5 March for a briefing at the Navy Management Systems Center on progress of FY 1968 Resources Management Systems Tests at selected military test sites.

Vice Admiral KIM, Yong-kwan, Chief of Naval Operations, Republic of Korea Navy, and members of his party visited the Postgraduate School on 15 March for an orientation tour. His visit included a tour of the Computer Facility and laboratories in Spangell Hall.

On 15 March a group of 14 senior foreign Naval Officers from the Fleet ASW School, San Diego, visited the Postgraduate School for an orientation tour. The group included Rear Admiral SUN, Tzu-Tsung of the Republic of China Navy. Their tour of the School was similar to VADM Kim's.



## CALENDAR OF PROFESSIONAL TRIPS

. L. Armstead . C. Crittenden, Jr. . R. Clark . E. Harrison, Jr. . Heinz . L. Johnson . R. Neighbour s . Reese . E. Schacher	3/18-3/21	Berkeley	Attend American Physical Society Meeting
. L. Myers	3/18-3/22	San Diego	Attend In-Service Seminar on "Computer Simulation as a Teaching Aid.
. Kodres	3/18-3/22	Los Angeles	Instruct in UCLA short course "Systematic Methods for Computer Aided Design of Computer
. J. Thaler	3/19-3/26	Annapolis Washington Princeton, N. Jersey	Consultations at USN Marine Engr Lab and Naval Ship Engr Center Attend 2nd Annual Princeton Conference on Information Systems.
. A. Titus	3/19-3/20	Berkeley, Stanford	Attend Systems Theory Seminar discuss research with Prof. Wi at Stanford.
. E. Fuhs	3/20	Long Beach	Attend change of command ceremony of USS GALVESTON (CLG
. E. Roberts	3/20-3/26	Washington, Boston	Visit OASD(SA), NavAirSysCmd, OpNav, MIT. Course development for CO/XO Course, NMSC.
. E. Harrison, Jr.	3/21-3/22	Thousand Oaks and Malibu	Consult with various people at North American Aviation, Hughes Research and Cal Tech.
. E. Fuhs	3/21	Los Angeles	To talk with present MOL astronauts and discuss at Navy Space Systems Activity a concept for a space oriented weapon system.
. F. Huff . L. Jacobs	3/21-3/24	Seattle	Att. joint mtg. Western Political Science Assn and Pacific NW Pc

L. Kelly	3/23-3/31	Washington Annapolis	Consult NRL Spectroscopy Project.
R. Parker	3/24-3/29	Princeton New York	Att. 2nd Ann Princeton Conf on Information Sciences and System visit IEEE Hqs regarding Asilom Conf.
E. Fuhs	3/25-3/30	Dahlgren, Washington	Visit research sponsor, attend Naval ABRES Adv Grp meeting.
L. Kohler	3/25-3/29	Philadelphia Toledo	Discuss operation and constructi of NAEC Smoke Tunnel; inspect multipurpose fuel burner.
Sarpkaya	3/27-3/30	Lafayette, Indiana	Att Conf on "Numerical Methods Turbulent Boundary Layers and Separated Flows" ASME.
F. Rinehart	3/28-4/5	Washington Gaithersburg Puerto Rico	Att mtg of NRC Panel Advisory; 5th Ann Deans' Institute, ASEE, ECAC; conduct business at BuPe:
D. Senger J. Steckler	3/27-3/31	San Diego	Att 48th Ann. Convention of West. Psychological Association.
E. Ball	3/31-4/2	Palm Springs	Attend AIAA/ASME 9th Structure Structural Dynamics and Materia Conference.
emistry Dept.	4/1-4/5	San Francisco	Attend Nat'l mtg of American Chemical Society