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1969-11-17

## Naval Postgraduate School Faculty Bulletin, 1969-11-17

Monterey, California, Naval Postgraduate School

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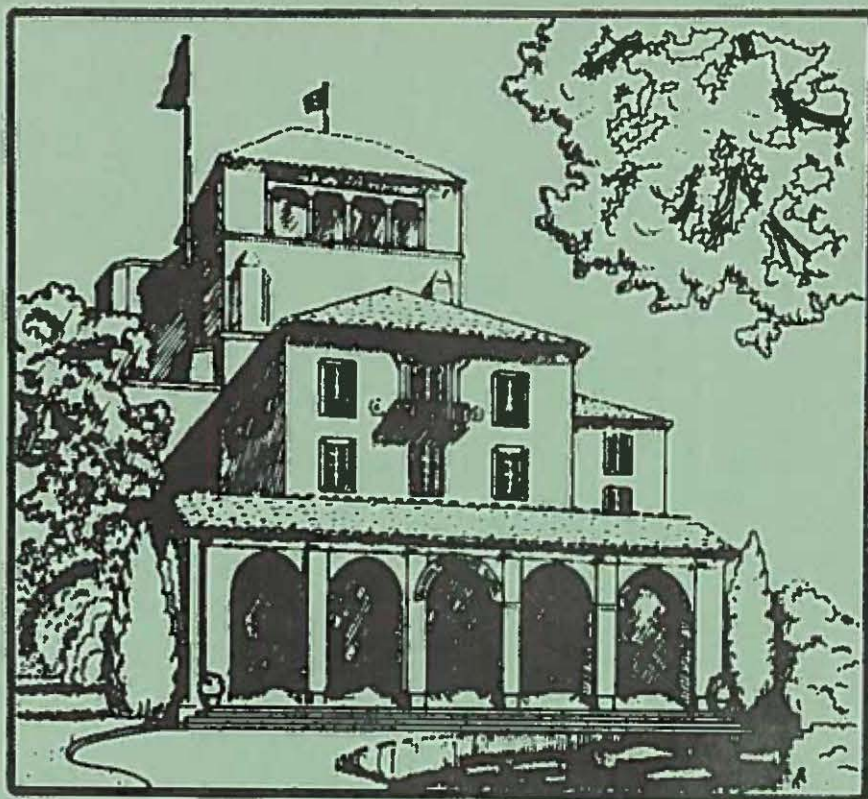
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## Naval Postgraduate School

# FACULTY BULLETIN

ISSUE NO. 21-69

17 NOVEMBER 1969

### NEW NPGS FACULTY

Associate Professor James A. Jolly received his BA degree from the University of the Pacific in 1950. Following graduation he was employed by Eitel-McGullough Inc. which later merged with Varian Associates Inc. of Palo Alto. He ultimately progressed through such positions as Manager of Production Engineering and Manager of Manufacturing and Industrial Engineering. In 1960 he was appointed to head an Advanced Development Group working on manufacturing processes and new vacuum tube products. Four years later he was asked to be the general manager of a group to plan, organize, and operate an activity to manufacture equipment for industrial processes using microwave energy as the heating mechanism. Concurrent with his industrial assignments he attended the University of Santa Clara Graduate School of Business. He received his MBA degree in 1963 and the following year he was accepted into their Ph.D. program.

His fields of concentration were Economics, Finance, Management and Marketing. He completed his course work and oral examinations in July of 1968. As a doctoral candidate his dissertation subject is in the area of Marketing Research. Professor Jolly is a member of Beta Gamma Sigma, the Institute of Electrical and Electronic Engineers, the Technical Association of the Paper and Pulp Industry, the Institute of Food Technologists, the American Marketing Association, and a charter member of the International Microwave Power Institute. He holds several U. S. and foreign patents. He joined the faculty of the Business Administration and Economics Department in September.

Lieutenant Junior Grade Norman K. Womer, USNR, attended Miami University in Oxford, Ohio, where he was active in the regular NROTC program. In 1966 he received his BA degree in Economics and a commission in the United States Naval Reserve. He then began graduate study at the Pennsylvania State University where he concentrated in the areas of econometrics, mathematical statistics, and economic theory. He received his Ph.D. in 1969 and his dissertation was on estimating the relations of an input-output model with variable coefficients. Mr. Womer joined the faculty of the Department of Business Administration and Economics in October. He is a member of Pi Mu Epsilon and the American Economics Association.

#### RESEARCH AWARDS

The following is a list of sponsored research funds received by the Naval Postgraduate School since 30 September 1969. The projects indicated by asterisks are continuations of existing programs.

<u>Source</u>	<u>Amount</u>	<u>Title</u>	<u>Principal Investigator</u>
Air Force Cambridge Research Laboratory, L.G. Hascom Field, Bedford, Mass.	\$ 5,000	*Spectroscopic Data Center	Prof. R. L. Kelly Physics
Naval Electronic System Command Washington, D. C.	\$20,000	*Applications of Hybrid Computations	Assoc. Prof. G. A. Rahe Electrical Engineering
National Aeronautics and Space Administra- tion Ames Research Center Moffett Field, Calif.	\$10,000	*Spectroscopic Data Center	Prof. R. L. Kelly Physics
Naval Supply Systems Command Washington, D. C.	\$20,000	*Naval Supply Systems	Asst. Prof. D. A. Schrady Prof. P. W. Zehna Operations Analysis

<u>Source</u>	<u>Amount</u>	<u>Title</u>	<u>Principal Investigator</u>
OPNAV-96 thru Office of Naval Research Washington, D. C.	\$14,000	A Study of System Performance Estimates	Assoc. Prof. C. A. Peterson Operations Analysis
Naval Ship Systems Command Washington, D. C.	\$10,000	Compatibility Analysis	Mr. A. Davis Electrical Engineering
Air Force Office of Scientific Research Arlington, Va.	\$26,000	*Laser Created Collisionless Shock Wave Phenomena	Assoc. Prof. F. Schwirzke Assoc. Prof. A. W. Cooper Physics
United States Atomic Energy Commission Washington, D. C.	\$ 6,583	*Atmospheric Trans- port of Radioactive Debris	Asst. Prof. J. D. Mahlman Meteorology
Navy Weather Research Facility Norfolk, Va.	\$20,000	*Meteorology Studies	Prof. G. J. Haltiner Meteorology

#### FACULTY PUBLICATIONS

G. F. Kinney, and Robert G. S. Sewell

Response of structures to blast: A new criterion. Annals of the New York Academy of Sciences, Vol. 152, Article 1, p. 532-547, 28 Oct 1968.

Abstract: The damage potential of a blast wave is conventionally described in terms of its peak overpressure, but this is a deficient criterion that ignores the laws of mechanics. A new criterion, critical impulse within a critical time, has sound theoretical background and is relatively easy to apply. Sample calculations are included.

Paul F. Pucci, J. A. Bevan, D. R. Breckenridge, V. R. Everly and L. C. Tedeschi

Experimentally determined effect of throughput and time on the cryopumping of Argon, Carbon Dioxide, and Nitrogen. Cryogenics, October 1969, p. 343-348.

Abstract: The influence of throughput on the experimentally determined capture coefficients in the cryopumping of argon, carbon dioxide, and nitrogen is reported. A model and its electronic analogue computer circuit for determining relative effects of system parameters is presented. The variation of capture coefficient with time ('bare surface effect') was also investigated.

T. Sarpkaya and D. C. Richardson

Turbulent jet over an inclined wall. ASME Transactions, No. 69-WA/FLCS-1, November 1969, p. 1-6.

Abstract: The flow in a turbulent wall jet, with a control port and setback between the nozzle exit and the leading edge of the wall, was probed at various stations along the jet for Reynolds numbers ranging from 20,000 to 140,000. A new integral equation was used in the interpretation of the results and in the determination of the limitations of the range of applicability of previous wall-jet analyses.

R. J. Smith

Foundation study for materials test structure. Proceedings, American Society of Civil Engineers, Vol. 95, No. SM6, November 1969, p. 1431-1451.

Abstract: This paper presents the results of a deep water sediment study in preparation for placement of a materials test structure.

#### PRINCIPAL PROFESSIONAL ACTIVITIES

Professor J. R. Borsting, Chairman of the Operations Analysis Department, was the discussion leader in a special Education Committee program at the 36th National ORSA meeting held in Miami Beach from 9-12 November.

Professor Borsting has been appointed as the United States Representative on the International Committee to organize a conference on education and training for Operations Research. This conference will be sponsored by NATO and will be held in Istanbul, Turkey in September 1970.

Professor John E. Brock of the Department of Mechanical Engineering moderated a panel discussion "How Code Rules for Nuclear Piping will influence Piping Design -- Today and Tomorrow" at the Heating, Piping and Air Conditioning Conference held in Chicago from 2-5 November.

Associate Professor Alan B. Coppens of the Department of Physics presented a paper entitled "Computerized Study of Finite Amplitude Traveling Waves in Rigid-Walled Ducts" at the Acoustical Society of America meeting held in San Diego from 3-8 November. He and Associate Professor J. V. Sanders also of the Physics Department co-authored and presented a paper entitled "Finite-Amplitude Processes in Ducts" before the Underwater Sound Advisory group in Austin, Texas from 10-12 November.

ENS Danny R. Dixon of the Department of Mathematics co-authored the technical report: U-126, 849, Southern Methodist University, TR-22, "Stress propagation in a three region cylindrical composite medium," with C. W. Tittle.

Professor H. Greenberg of the Operations Analysis Department presented two papers entitled "A Solution to Integer Linear Programs" and "Dynamic Programming Enumeration in Mathematical Programming" at the 36th National ORSA meeting held in Miami Beach from 9-12 November.

Associate Professor H. Arthur Hoverland of the Business Administration and Economics Department reviewed "Studies in Multiobjective Decision Models" by Erik Johnsen in The Accounting Review, Vol. 44, No. 4, October 1969.

Assistant Professors Toke Jayachandran, Department of Mathematics, and D. R. Barr, Operations Analysis Department, presented a paper entitled "Inference Procedures Based on Censored Time Dependent Observations" at the 16th Conference on the Design of Experiments in Army Research, Development and Testing, held at the Redstone Arsenal, Alabama, 22-24 October 1969.

Associate Professor Donald M. Layton of the Department of Aeronautics, reviewed a paper "Stability of Linear Stationary Systems with Time Delay" by S. G. Loo in Applied Mechanics Reviews, Vol. 22, No. 9, September 1969.

At the Acoustical Society of America meeting held in San Diego from 4-7 November the following papers were presented by members of the Department of Physics.

"Specular Scattering of Underwater Sound from Anisotropic Sea and Swell Surfaces" by Professor Herman Medwin and "Near-Grazing Specular Scatter from Sea and Swell" by Professors Medwin and Wayne M. Wright.

Associate Professor George Rahe of the Electrical Engineering Department has been elected Chairman of the Western Simulation Council. Simulation Councils, Inc. is the principal technical society devoted to the advancement of Simulation through the use of computers. The Western Area includes the states of California, Nevada, Arizona, and Hawaii.

Associate Professor Robert J. Renard of the Department of Meteorology, lectured on the "Current Status and recent Improvements in the Navy's Tropical-Storm Forecast Scheme" to both the Enlisted and Officer's Numerical Training Course at FNWC on 2 and 30 October.

Assistant Professor David A. Schrady, of the Department of Operations Analysis chaired a conference of the Education Committee at the 36th National ORSA meeting held in Miami Beach from 9-12 November.

Professor R. J. Smith of the Department of Oceanography has been selected to serve as the Editor-in-Chief for a seven volume comprehensive coverage of the field of ocean engineering. This study is currently under preparation by the Elsevier Publishing Company.

Assistant Professor Russel H. Stolfi of the Department of Government and Humanities presented a technical briefing entitled "The Vulnerability of Soviet Armored Equipment to Western Anti-Tank Systems" to the Commander-in-Chief, U. S. Army, Europe at Heidelberg, Germany, on 14 October 1969. Professor Stolfi also was guest of the German 5th Panzer Division at Baumholder on 17 October 1969 where he commented on the combat vulnerability of the German main battle tank, Leopard.

Professor George J. Thaler of the Department of Electrical Engineering chaired the session HYDROFOIL and SURFACE EFFECT CONTROL (Part II) at the Second Ship Control Systems Symposium held in Annapolis from 4-6 November.

#### DISTINGUISHED VISITORS

Captain Rita Lenihan, USN, Assistant Chief of Naval Personnel for Women visited the Postgraduate School on 7 November. Her visit included a luncheon with all women students and staff of the School and NALF.

The Honorable Spencer J. Schedler, Assistant Secretary of the Air Force for Financial Management addressed members of the Defense Management Systems Course on Friday, 7 November.

Dr. William Shockley, Professor of Engineering Science at Stanford University and inventor of the transistor addressed students, staff, and faculty members in King Hall on Tuesday evening, 11 November. Dr. Shockley's lecture entitled "Research Taboos in the Hard and Soft Sciences" was sponsored by the local chapter of the Society of Sigma Xi.

#### NOTICES

Faculty Council meets on 19 November 1969 at 1515 in Ingersoll Room 122. The Faculty Election Meeting will be held on 3 December 1969 at 1515 in Ingersoll Room 122. Also, the Council will meet on 10 December 1969 at 1515 in Spanagel 101A.

The next issue of the Faculty Bulletin will be 8 December.

TRAVEL - 17 NOVEMBER - 8 DECEMBER

Supported by BuPers Funds

D. W. Robinson	11/20-11/24	Claremont, Calif.	Attend meeting of American Mathematical Society
P. Pucci			
R. E. Newton			
R. Prowell			
T. Houlihan	11/16-11/20	L. A.	Attend 1969 Winter Annual meeting of the ASME
R. Winfrey			
D. H. Nguyen			
M. D. Kelleher			
P. J. Marto			
J. R. Borsting	11/16-11/20	San Diego	Attend MORS Symposium and Board of Directors meeting
H. Medwin	11/17-11/22	Moscow, Idaho Bozeman, Mont.; Provo, Salt Lake City, & Logan, Utah	Lecture tour with the Physics Colloquium Association
R. L. Ferguson	11/17-11/20	San Diego	Attend MORS Symposium
G. A. Rahe	11/18-11/22	Las Vegas	Attend National Simulat Council meeting & the Fall Joint Computer Conference
A. B. Cowie	11/18-11/22	Las Vegas	Attend Fall Joint Computer Conference

Supported by Other Funds

T. Sarpkaya	11/16-11/20	L. A.	Attend 1969 Winter Annual meeting of ASME
J. K. Arima			
R. R. Read	11/17-11/20	San Diego	Attend MORS Symposium
C. R. Jones			
G. Cantin	11/17-11/22	China Lake	Attend 1st JANNAF meeting
G. F. Lindsay	11/16-11/22	San Diego	Attend MORS Board of Directors meeting & 24th MORS Symposium



Supported by Other Funds Continued

A. F. Andrus            11/17-11/21      San Diego            Attend MORS Symposium

No Cost to the Gov't.

C. E. Menneken        11/15-12/4      Wash, D. C.            Attend meeting of  
London, Athens, &      NATO Mine Counter-  
Naples                    measures Working  
                                  Party; briefing; &  
                                  visit ONR