



E000541

ARTHRITIS PROGRAM

Names Referred for Consultants

	<u>Source and Name</u>	<u>Recommended Selection</u>	<u>Pahl Approval</u>
A.	<u>Present Council Members</u>		
	Hiroto, Edwin C.	Member	
	Mars, Audrey M	Member	
	Merrill, John P.	Chairman/member	
	Morgan, Mariel S.		
	Ochsner, Alton		
	Ogden, C. Robert		
	Schreiner, George E.		
	Musser, Marc J. (VA)		
B.	<u>Former Council/Committee Members</u> (Partial list assembled by Mrs. Handel)		
	Ancrum, Gladys (Nursing)	Member	
	Brindley, George V. (Thoractic Surg.)		
	• Cannon, Bland W. (Neurosurg)		
	• Ellis, Effie C. (Child health)	Member	
	• Evarist, Bruce W. (Ped.)		
	Hunt, William (Surg)		
	• James, Grace M. (Ped)		
	• Kerr, Elizabeth E. (Nursing)		
	Komaroff, Anthony L. (Internal Med)		
	Kralewski, John E. (Hlth Admin)	Chrman or Member	
	Luginbuhl, William H. (Pathology)		
	• Mayer, William D. (Pathology)		
	• McPhedron, Alexander M. (Neuro)		
	• Nutliken, Sewell P. (P.H. Admin)		
	Roth, Russell B. (Urology)		
	Scherlis, Leonard (Cardio)		
	Schreiner, George E. (Neph)		
	Slater, Robert J. (Ped)		
	• Thurman, William G. (Ped)		
	• Toomey, Robert E. (Hosp. Admin)		
	Watkins, Benj. W. (Podiatry)		
	• White, Philip T. (Nemo)		

SOURCE & NAME

RECOMMENDED
SELECTION

PAHL
APPROVAL

C. AMERICAN RHEUMATISM ASSOC.

BROWN, CURLAND C.

DUFF, IVAN F.

ENGLEMAN, EPHRAIM P.

SHULMAN, LAWRENCE E.

SMYTH, CHARLEY J.

WEISS, THOMAS E.

MEMBER

MEMBER

Mr. Keener

X

Sagr. Biol. Co. fel. 55-56, M.S. 55; Am. Soc. Microbiol. fel. Univ. Ill. 55; Ph.D.(bact), Univ. Wis. 55; Asst. microbiol. Univ. B.C. 53-57; Law. Mich. 55-56; bact. Univ. W. Va. 55-56; asst. prof. microbiol. Univ. Kans. 60-64, assoc. prof. sch. med. 64-70; PROF. BIOL. UNIV. CALIF. 70- Nat. Insts. Health res. grant, 61-67, spec. res. fel. 60-70; Kans. Cancer Inst. r.f.s. grant, 67-69; Can. Nat. Res. Coun. grant, 70- Am. Soc. Microbiol.; Am. Soc. Cell Biol.; Can. Soc. Cell Biol.; Can. Soc. Biochem. Can. Soc. Microbiol. Genetic regulatory mechanisms in biosynthesis, growth and development in both prokaryotic and eukaryotic cells. Address: Dept. of Biology, University of Calgary, Calgary 44, Alberta, Can.

DUEKSEN, JOHN HUGO, b. Chilliwack, B.C. Dec. 23, 34; m. 60; c. 2. CHEMICAL ENGINEERING. B.A.S. Univ. B.C. 58; Athlone fel. Eng. 58-60; dipl. Imp. Col. Sci. & Technol. Univ. London, 60; Ph.D.(chem. eng), McMaster Univ. 62. CHEM. RES. ENGR. Atomic Energy of Can. 61-64. CHEVRON RES. CO. STANFORD OIL CO. CALIF. 67- Am. Inst. Chem. Eng. Am. Chem. Soc. Polymerization kinetics and reactor modeling; petroleum hydrocracking—process and catalyst research and development. Address: Process Research Dept, Chevron Research Co, 576 Standard Ave, Richmond, CA 94802.

DUERR, FREDERICK G, b. St. Paul, Minn. May 17, 35; m. 54; c. 3. ZOOLOGY, COMPARATIVE PHYSIOLOGY. B.A. Minnesota, 56, Ph.D.(zool), 65. ASSOC. PROF. zool, South Dakota, 61-67; BIOL. Univ. Sask. Regina, 67-68; UNIV. N.DAK. 68- AAAS; Am. Soc. Zool.; Am. Soc. Parasitol. Comparative physiology of digestive tract parasitism; physiology of respiration and nitrogen excretion. Address: Dept. of Biology, University of North Dakota, Grand Forks, ND 58202.

DUERRE, JOHN A, b. Webster, S.Dak. Aug. 21, 30; m. 57; c. 3. MICROBIAL BIOCHEMISTRY, PHYSIOLOGY. B.S. S.Dak. State Col. 52, M.S. 56; Ph.D. (bact), Minnesota, 60. Atomic Energy Comm. fel. Argonne Nat. Lab. 60-61; res. bacteriologist, Rocky Mt. Lab. Nat. Inst. Allergy & Infectious Diseases, 61-63; asst. prof. MICROBIOL. SCH. MED. UNIV. N.D. 63-65, assoc. prof. 65-71, PROF. 71- Nat. Sci. Found. res. grant, 68-71; vis. scientist, neuropsychiat. res. unit, Med. Res. Coun. Labs. Eng. 69-70; Nat. Insts. Health career development award, 70- res. grant, 71- Sulfur amino acid metabolism in mammalian systems; methylation of brain histones; microbiology. Address: Dept. of Microbiology, University of North Dakota, Grand Forks, ND 58201.

DUERST, RICHARD WILLIAM, b. Rice Lake, Wis. Aug. 18, 40; m. 64; c. 2. PHYSICAL & ANALYTICAL CHEMISTRY. B.A. St. Olaf Col. 62, Nat. Insts. Health Summer grant, 62; Ph.D.(chem), California, Berkeley, 66. Fel. phys. chem, Lawrence Radiation Lab, California, 66-67; Nat. Res. Coun-Nat. Bur. Standards res. fel. Nat. Bur. Standards, Md. 67-69; ASST. PROF. DEPT. CHEM. WIS. STATE UNIV. EAU CLAIRE, 69- Summers, tech. student, Union Carbide Chem. Co. 61 & res. asst. Lawrence Radiation Lab, California, 63-66. Am. Chem. Soc.; The Chem. Soc. Am. Phys. Soc. Nuclear magnetic resonance studies of inorganic systems; dissociation of strong acids; hydration of ionic species in aqueous solution; metal-metal pair interactions; effect of isotopic substitution on physical properties. Address: Dept. of Chemistry, Wisconsin State University, Eau Claire, WI 54701.

DUESEL, BERNARD FRANCIS, b. Webster, Mass. June 18, 07; m. 38; c. 4. CHEMISTRY. A.B. Clark, 29. A.M. 30. Res. chemist, Pyridium Corp, 30-43, asst. dir. develop, 43-48; sr. res. chemist, Novera Chem. Co. Div. Warner-Lambert Pharm. 46-57, chief develop. chemist, 57-59, sr. develop. chemist, 59-61, res. mgr. 61-69; RETIRED. Am. Chem. Soc. Pharmaceuticals; sulfa drugs; vitamins; pharmaceutical chemistry. Address: 512 Valley Ave, Yonkers, NY 10703.

DUESING, CONSTANTIN MICHAEL, b. Berlin, Ger. Dec. 15, 32; m. 59. PETROLOGY, MINERALOGY. B.Sc. & M.Sc. Munich, 54, Ph.D.(geol), 59. NATO fel. geol, McGill, 60-62; RES. GEOLOGIST, J. ROY GORDON RES. LAB, INT. NICKEL CO. CAN, LTD, 62- Can. Inst. Min. & Metall.; Mineral. Asn. Can; German Geol. Assn German Mineral. Soc. Igneous and metamorphic petrology; economical geology of ore deposits. Address: J. Roy Gordon Research Lab, International Nickel Co. of Canada, Ltd, Clarkson, Ont, Can.

DUESTERHOEFT, WILLIAM CHARLES JR, b. Austin, Tex. Dec. 10, 21; m. 49; c. 1. ELECTRICAL ENGINEERING. B.S. Texas, 43, M.S. 49; Ph.D. (elec. eng), Calif. Inst. Tech. 53. Elec. engr. Gen. Elec. Co. 43-46; instr. elec. eng. Texas, 46-48, asst. prof. 48-49; instr. Calif. Inst. Tech. 49-52; aerophysics engr. Gen. Dynamics/Convair, 52-54; assoc. prof. ELEC. ENG. UNIV. TEX. AUSTIN, 54-60, PROF. 60- Corp. consult, 54- Inst. Elec. & Electronics Eng; Am. Soc. Eng. Educ; Am. Phys. Soc. Plasma dynamics; geophysics; power and energy conversion systems. Address: Dept. of Electrical Engineering, University of Texas at Austin, Austin, TX 78712.

DUFF, DALE THOMAS, b. Ross Co, Ohio, Dec. 26, 30; m. 58; c. 1. CROP PHYSIOLOGY. B.S. Ohio State Univ, 57, M.S. 64; Ph.D.(crop sci), Mich. State Univ, 67. Trainee, Soil Conserv. Serv, U.S. Dept. Agr, 55-57; agronomist, Clinton County Farm Bur. Coop Assn, Ohio, 58-61; asst. instr. agron, Ohio State Univ, 61-64; teaching asst. crop sci, Mich. State Univ, 64-67; ASST. PROF. PLANT & SOIL SCI, UNIV. R.I. 67- U.S.N. 49-52. AAAS; Am. Soc. Agron; Crop Sci. Soc. Am; Am. Inst. Biol. Sci. Stress physiology of turf grasses, especially high temperature and low temperature effects upon growth. Address: Dept. of Plant & Soil Science, University of Rhode Island, Kingston, RI 02881.

DUFF, DAVID CECIL BUCHANAN, b. Edinburgh, Scotland, Oct. 15, 01; m. 32; c. 1. BACTERIOLOGY, IMMUNOLOGY. B.A. Toronto, 26, M.A., 27, Ph.D., 30. From instr. to prof. bact. & Immunol, British Columbia, 23-70; RETIRED. Consult. pathologist, Pac. Biol. Sta. 30-40; investr. Atlantic Biol. Sta. 26; Fisheries Exp. Sta. Prince Rupert, 29. R.C.A.F. 43-44. Flight Lt. Brit. Soc. Gen. Microbiol. Microbial physiology; marine microbiology; roles of marine micro-organisms in relation to the turnover of elements in the seas. Address: 4687 W. 5th Ave, Vancouver 8, B.C., Can.

Force, 43-44, dir. training & chief trop. med. dept, U.S. Air Force Sch. Aerospace Med, 43-47, wmd. surgeon & chief print. serv. br. Far East Air Force, Japan, 47-49; prof. med. sci. & tactics, Hopkins, 49-51, mem. staff, hq. Sarron General's Off, 51-53, commandant, U.S. Air Force Sch. Aerospace Med, 53-59, dep. surgeon, Germany, 59-62, command surgeon, Air Force Systs. Command, 62-64, Technical Air Command, 64-68; DEP. COMD. PROG. PLANNING, TEX. STATE DEPT. HEALTH, 63- U.S.A.F., 49-66, Brig. Gen. Am. Med. Assn. Am. Pub. Health Assn; fel. Am. Col. Physicians; Am. Col. Prev. Med; Aerospace Med. Assn; Am. Soc. Parasitol; Royal Soc. Trop. Med. & Hyg. Military preventive and aviation medicine. Address: State Dept. of Health, 1100 W. 49th St, Austin, TX 78756.

DUFF, GEORGE FRANCIS (DENTON), b. Toronto, Ont. July 28, 26; m. 51; c. 5. MATHEMATICS. B.A. Toronto, 48, M.A., 49; Ph.D.(math), Princeton, 51. Moore instr. Mass. Inst. Tech. 51-52; asst. prof. MATH, UNIV. TORONTO, 52-57, assoc. prof. 57-61, PROF., 61-, CHMN. DEPT., 68- Ed. Can. J. Math. 57-61. Am. Math. Soc; Can. Math. Cong.(pres. 71-73). Differential equations. Address: 26 Buckingham Ave, Toronto 317, Ont, Can.

DUFF, JAMES GORDON, b. Rosetown, Sask. Apr. 3, 30. PHARMACEUTICAL CHEMISTRY. B.S.P. Saskatchewan, 53, M.Sc. 55; Ph.D.(pharmaceut. chem), Florida, 58. Instr. pharm. Saskatchewan, 58-59, spec. lectr. 59-61; DIR. COL. PHARM. DALHOUSIE UNIV. 61-, PROF. PHARMACEUT. CHEM, 63- Am. Assn. Col. Pharm. synthesis of organic medicinal compounds. Address: College of Pharmacy, Dalhousie University, Halifax, N.S., Can.

DUFF, IVAN FRANCIS, b. Pendleton, Ore. July 20, 15; m. c. 2. INTERNAL MEDICINE. A.B. Oregon, 38; M.D. Michigan, 40. Intern. univ. hosp, UNIV. MICH, 40-41, asst. resident INTERNAL MED, 41-42, resident, 42-46, instr. MED. SCH, 46-48, asst. prof. 48-53, assoc. prof. 53-60, PROF. 60-, PROF. IN CHARGE ARTHRITIS DIV, UNIV. HOSP. 60-, asst. physician, 48-53. Dir. Regional Arthritis Control Prog, Mich. 69-71. Med.C. 42-46. Comdr. Am. Fedn. Clin. Res; Am. Rheumatism Assn; fel. Am. Col. Physicians. Rheumatic and thromboembolic diseases. Address: Arthritis Division, Bldg. 9, Room 920, University Hospital, Ann Arbor, MI 48104.

DUFF, JACK (ERROL), b. Baltimore, Md. May 17, 18; m. 47. ELECTRONICS. U.S. Case Inst. Technol. 33. Jr. engr. HOOPER CO, 39-41, sr. engr. 41-45, dir. elec. sect. 45-54, res. coord. 54-55, DIR. RES. 55- With Off. Sci. Res. & Develop. U.S.N., 44. Inst. Elec. & Electronics Eng. Small series motor design; industrial electronic control and inspection equipment design; analysis of multivibrator circuits; electrostatic heating-thermal control; frequency multiplier. Address: Engineering Dept, Hoover Co, 101 Eastern St, North Canton, OH 44720.

DUFF, JAMES THOMAS, b. Sandusky, Ohio, Jan. 23, 25. MICROBIOLOGY. B.S. Ohio State, 47, M.S. 49; Ph.D. Texas, 60. Microbiologist, immunol. br. med. invest. div, U.S. Army Biol. Lab, Ft. Detrick, 49-50, 59-65; microbiologist, NAT. CANCER INST, 63-65; ASSOC. CHIEF, VIRAL CARCINOGENESIS BR, 66- Res. scientist, dept. bact. Univ. Tex. 57-59. U.S.N. 43-46, Res. 46-, Comdr. AAAS; N.Y. Acad. Sci.; Tissue Culture Assn; Am. Soc. Microbiol; Sci. Res. Soc. Am; Brit. Soc. Gen. Microbiol. Azotobacter bacteriophage; Clostridium botulinum toxins and toxoids; tissue culture; psittacosis group vaccines; viral oncology. Address: Viral Carcinogenesis Branch, National Cancer Institute, Bethesda, MD 20014.

DUFF, MCGEE A. b. Moran, Tex. Aug. 22, 26; m. 51; c. 2. ANALYTICAL CHEMISTRY. B.S. Southern Methodist, 50, M.S. 52; Ph.D.(anal. chem), La. State, 56. Res. anal. chemist, CELANESE CHEM. CO. 55-58. GROUP LEADER, 58- U.S.N. 44-46. Am. Chem. Soc. Process development. Address: Celanese Chemical Co, P.O. Box 9077, Corpus Christi, TX 78408.

DUFF, RAYMOND STANLEY, b. Hodgdon, Maine, Nov. 2, 23; m. 45; c. 3. PEDIATRICS, SOCIOLOGY. B.A. Maine, 48; M.D. Yale, 52, M.P.H. 59. Intern & res. pediat, Yale-New Haven Hosp, 52-55; dir. bur. med. serv. New Haven Health Dept, 55-56; instr. pediat. & pub. health, sch. YALE, 56-59, asst. prof. pediat. & social, 59-67, ASSOC. PROF. PEDIAT. SCH. MED. 67- Asst. dir. ambulatory serv. Yale-New Haven Hosp. 56-59. U.S.A. 43-46, 2nd Lt. AAAS; fel. Am. Pub. Health Assn; fel. Am. Acad. Pediat; Am. Sociol. Asn. Behavioral aspects of health, especially health or illness care in large hospitals as influenced by patients, families, physicians, nurses, administrators and others. Address: Dept. of Pediatrics, School of Medicine, Yale University, New Haven, CT 06520.

DUFF, ROBERT (HODGE), b. Durand, Mich. Oct. 21, 29; m. 58; c. 3. INORGANIC & PHYSICAL CHEMISTRY. B.S. Mich. State, 51; Ph.D.(inorg. chem), Indiana, 61. Control chemist, Am. Agr. Chem. Co, Mich. 51-53; asst. Indiana, 53-59; electron microscopist & phys. chemist, Nat. Bur. Standards, 59-61; staff scientist electron micros, Avco Corp, Wilmington, 61-66; res. assoc. LEDGEMONT LAB, KENNECOTT COPPER CORP, LINCOLN, 66-70, ANAL. CHEMIST, 70- AAAS; Am. Chem. Soc; fel. Am. Inst. Chem; Electron Micros. Soc; Am. Int. Soc. Stereology; Int. Metallographic Soc. Use of electron microscopy in all phases of material science; use of x-rays for elemental analysis with the electron microscope. Address: 21 Robin Hood Rd, Arlington, MA 02174.

DUFF, RUSSELL E (ARL), b. Grand Rapids, Mich. Nov. 28, 26; m. 47; c. 5. PHYSICS. B.S.E. Michigan, 47, M.S. 48, Ph.D.(physics), 51. Res. assoc. eng. res. inst. Michigan, 47-51; mem. staff, Los Alamos Sci. Lab. 51-61; Inst. Defense Anal. 61-62; proj. leader, Lawrence Radiation Lab, 62-64, div. leader, 64-67; DIR, SYSTS. SCI. & SOFTWARE & GEN. MGR. APPL. NUCLEAR DIV, 67- U.S.N.R. 44-46. Am. Nuclear Soc; Am. Phys. Soc. Shock and detonation hydrodynamics; high temperature chemistry. Address: Applied Nuclear Division, Systems, Science & Software, P.O. Box 1620, La Jolla, CA 92037.

DUFF, WILLARD MOYLE, b. Canon City, Colo. July 20, 39; m. 63; c. 1. PHYSIOLOGY. B.S. Midland Col. 61; M.S. Nebraska, 63. U.S.P.H.S. fel. 65-67, Ph.D.(physiol), 67. Res. assoc. physiol. sch. med. Creighton, 63-65, assoc. instr. 64-65; asst. prof. BIOL. UNIV. HARTFORD, 67-70, ASSOC.

- SHULMAN, HERMAN L, b. N.Y.C. Feb. 24, 22; m. 42; c. 2. B.Ch.E. City Col. New York, 42; Du Pont fel. Pennsylvania, 47-48. M.S. 48, Ph.D.(chem. eng.) 50. Chem. engr. Gen. Motors Corp., 42-43; Barrett Div. Allied Chem. & Dye Corp., 43-46; res. chem. engr. Publicker Indus. Inc. 46-47; asst. prof. CHEM. ENG. CLARKSON COL. TECHNOL. 48-51. assoc. prof. 51-54. PROF. 54-, DIR. DIV. RES. 59-. DEAN GRAD. SCH. 64-. V.PRES. & DEAN SCH. ENG. 68-, assoc. dir. div. res. 54-59, chmn. dept. 59-64. Am. Soc. Eng. Educ.; Am. Chem. Soc.; Am. Inst. Chem. Eng. Mass transfer absorption; packed columns; ion exchange; gas-bubble columns; organic processes; flowmeters. Address: Clarkson College of Technology, Potsdam, NY 13676.
- SHULMAN, HYMAN L, b. Warren, Ohio, Feb. 25, 19; m. 43; c. 2. ELECTRONICS. B.A. California, Los Angeles, 48, M.A. 51. Mem. staff, Northrop Aircraft Corp., 51-54; Hughes Aircraft Corp., 54-55; sr. mem. tech. staff, Space Tech. Labs, Inc., 55-58; mem. sr. staff, electronics dept., Rand Corp., 58-59; dir. res. & develop. labs, AC Spark Plug Div., Gen. Motors Corp., 59-63; MEM. TECH. STAFF, RAND CORP., 63-. Guidance and navigation; flight control and weapons systems; dynamics. Address: 10426 Lindbrook Dr., Los Angeles, CA 90024.
- SHULMAN, JONAS ALVIN, b. Baltimore, Md., Sept. 5, 56; m. 58; c. 2. INTERNAL MEDICINE. Dartmouth Col., 53-56; M.D. Univ. Md., 60. Intern. internal med. Univ. Md. Hosp., Baltimore, Md., 60-61; asst. resident med. Univ. Wash., 61-62; R.G. Petersdorf fel. infectious diseases & med. 62-64. instr. & chief resident med. Univ. Wash. Hosp., 66-67; asst. prof. INFECTIOUS DISEASES, SCH. MED. EMORY UNIV., 68-70. ASSOC. PROF. & COORD. CLIN. CURRICULUM, 70-, DIR. DEPT. MED. & PREV. MED., 72-74. Dipl. Am. Bd. Internal Med., 63. U.S.P.H.S., 64-66. Infectious Disease Soc. Am. Epidemiology of hospital infections; antibiotics; clinical pharmacology and efficacy studies. Address: Division of Infectious Diseases, Emory University School of Medicine, 69 Butler St., S.E., Atlanta, GA 30303.
- SHULMAN, LAWRENCE E(DWARD), b. Boston, Mass., July 25, 19; m. 59; c. 1. INTERNAL MEDICINE. A.B. Harvard, 41; Ph.D.(pub. health), Yale, 45, M.D. 49. Res. assoc. John B. Pierce Found., Conn., 42-45; intern. MED., Hopkins Hosp., 49-50, asst. res. hosp., 52-53, physician, 53, fel. SCH. MED., JOHNS HOPKINS UNIV., 50-52, instr., 53-56, asst. prof., 58-63, ASSOC. PROF., 63-, DIR. CONNECTIVE TISSUE DIV., DEPT. MED., 54-. Sr. investigator, Arthritis & Rheumatism Found., 57. Consult. Nat. Inst. Arthritis & Metab. Diseases. AAAS; Am. Rheumatism Assn.; Am. Med. Coll.; Am. Fedn. Clin. Res.; N.Y. Acad. Sci. Connective tissue disorders, including rheumatic diseases, especially collagen disorders; immunologic and epidemiologic studies. Address: 916 Clinical Science Bldg., Johns Hopkins Hospital, Baltimore, MD 21205.
- SHULMAN, LEON J, b. Los Angeles, Calif., Sept. 22, 13; m. 49; c. 1. MEDICINE. B.A. California, Los Angeles, 35; M.D. Southern California, 40. Intern. Los Angeles County Hosp., Calif., 39-41; from intern to chief res., Margaret Hague Maternity Hosp., 42-45; instr. OBSTET. & GYNEC. SCH. MED. UNIV. SOUTH CALIF., 45-56, asst. clin. prof., 57-59, ASSOC. CLIN. PROF., 59-. Private practice. Mem. attend. staff & consult., St. John's Hosp., 45-; jr. attend. staff, Los Angeles County Gen. Hosp., 45-55, sr. attend. 55-; attend. staff, Santa Monica Hosp., 59-. Dipl. Am. Bd. Obstet. & Gynec., 47. Fel. Am. Med. Assn.; fel. Am. Col. Obstet. & Gynec.; fel. Am. Col. Surg. Address: 2200 Santa Monica Blvd., Santa Monica, CA 90404.
- SHULMAN, MORTON, b. Chicago, Ill., July 7, 33; m. 55; c. 3. MEDICINE, ANESTHESIOLOGY. B.S. Illinois, 55, M.D. 58. Asst. ANESTHESIOLOGIST, UNIV. ILL., 59-61, res. fel. 61-62, instr., 63-64, asst. prof., 64-70, ASSOC. PROF., 70-. Attend. anesthesiologist, Vet. Admin., 64-; vis. prof., Louisville, 69. Consult. col. vet. med., Illinois, 68-. U.S.A.F., 61-63, Capt. Am. Soc. Anesthesiol.; Int. Anesthesia Res. Soc. Cardiovascular pharmacology of vasoactive drugs; pharmacology of respiratory drugs, new general anesthetics, local anesthetics and analgesics. Address: Dept. of Anesthesiology, Illinois Masonic Hospital, 836 Wellington, Chicago, IL 60657.
- SHULMAN, NAHUM RAPHAEL, b. Hartford, Conn., June 23, 25; m. 49; c. 4. HEMATOLOGY, IMMUNOLOGY. Hopkins, 41-43, M.D. 47. Intern med., Harvard Med. Serv., Boston City Hosp., Mass., 47-48; asst. res., Cornell Med. Serv., Mem. Hosp., New York, 48-49, res., 49-50, chief res., 50-51; chief hemat. div., Naval Med. Res. Inst. & hematologist, Naval Hosp., Bethesda, Md., 55-57; CHIEF CLIN. HEMAT. BR., NAT. INST. ARTHRITIS, METAB. & DIGESTIVE DISEASES, 57-. Inst. & Damon Runyon Clin. res. fel. Sloan Kettering Inst., 49-51; prof. clin. med., Georgetown, 51-. Dipl. Am. Bd. Internal Med. U.S.N., 51-55; U.S.P.H.S.R., 57-, Lt. Am. Soc. Clin. Invest.; Am. Fedn. Clin. Res.; Int. Soc. Hemat.; Am. Assn. Immunol.; Transplantation Soc.; Assn. Am. Physicians. Blood clotting; enzymology; mechanisms of complement fixation; problems of immunohematology and blood cell physiology; drug sensitization; hepatitis. Address: National Institute of Arthritis, Metabolic & Digestive Diseases, Bethesda, MD 20814.
- SHULMAN, ROBERT GERSON, b. N.Y.C., Mar. 3, 24, m. 52; c. 3. CHEMICAL PHYSICS. A.B. Columbia, 43, A.M., 47, Ph.D.(chem.), 49. Atomic Energy Comm. fel. Calif. Inst. Tech., 49-50; head semiconductor res., Hughes Aircraft Co., 50-53; MEM. TECH. STAFF, BELL TEL. LABS, INC., 53. Rask Oersted lectr., Copenhagen, 59; Guggenheim fel. lab. molecular biol. Med. Res. Coun. Eng. 61; vis. prof., Ecole Normale Supérieure Univ., Paris, 62; Appleton lectr., Brown Univ., 65; summer vis. prof., Univ. Tokyo, 63; Reilly lectr., Univ. Notre Dame, 69; vis. lectr., Princeton, 71-72. U.S.N.R., 44-46, Ltjg. Fel. Am. Phys. Soc. Biophys. Soc. Microwave spectroscopy; semiconductors; nuclear magnetic resonance; molecular orbital theory of transition metal complexes; transition metal to DNA; metallo-enzymes; phage genetics; paramagnetic resonance spectra of nucleic acids. Address: Biophysics Dept., Bell Labs., Mountain Ave., Murray Hill, NJ 07974.
- SHULMAN, SETH DAVID, b. Lynn, Mass., Mar. 11, 46; m. 69; c. 1. ASTROPHYSICS. B.A. Harvard, 53; M.D.(physics), Columbia Univ., 70. RES. PHYSICIST, E.O. HULL BUFT. CTR. SPACE RES. NAVAL RES. LAB., 70-71. Am. Astron. Soc.; Am. Phys. Soc. X-ray astronomy and studies of the inter-
- SHULMAN, SIDNEY, b. Baltimore, Md., Aug. 22, 23; m. 45, 68; c. 6. IMMUNOCHEMISTRY. B.S. George Washington, 44; Ph.D.(chem), Wisconsin, 49. Assoc. Allegany Ballistics Lab., U.S. Army Ballistics Missile Agency, Md., 44-46; asst. chem., Wisconsin, 46-48, prof. assoc., 49-52, assoc. immunochem. sch. med. State Univ. N.Y. Buffalo, 52-58, asst. prof., 54-58, assoc. prof. immunochem. & biophys., 58-65, PROF. immunochem., 65-68; MICROBIOL. NEW YORK MED. COL., 68-, chmn. dept., 68-69. Lederle med. faculty fel., 54-57; U.S. Pub. Health Serv. sr. res. fel., 58-62; Nat. Insts. Health res. career award, 63-68; consult. immunol., Buffalo Vet. Admin. Hosp., 64-; Fulbright travel award, 65; Commonwealth Fund travel award, 65; mem. Int. Coord. Com. Immunol. Reproduction. AAAS; Am. Chem. Soc.; Am. Soc. Biol. Chem.; Am. Soc. Microbiol.; Am. Acad. Allergy; Am. Soc. Hemat.; Soc. Exp. Biol. & Med.; Soc. Cryobiol.; N.Y. Acad. Sci.; Brit. Biochem. Soc.; Am. Fertil. Soc.; Soc. Study Reproduction. Tissue proteins; autoantibodies; physical chemistry of proteins; cryobiology; urogenital tract antigens and enzymes; immunology of reproduction and infertility. Address: Dept. of Microbiology, New York Medical College, New York, NY 10029.
- SHULMAN, SOL, b. Smorgon, White Russia, Nov. 6, 29; U.S. citizen; m. 53; c. 4. ORGANIC & POLYMER CHEMISTRY. B.S. Washington (Seattle), 52; M.S. Wisconsin, 54; Ph.D.(chem), N.Dak. State, 63. Teaching asst. chem., Wisconsin, 53-54; res. chemist, Archer-Daniels-Midland Co. Minn., 54-59; instr., N.Dak. State, 59-64, asst. prof., 64-65; assoc. prof. CHEM. MOORHEAD STATE COL., 65-66, prof., 67-69, chmn. dept., 66-69; PROF. & HEAD DEPT., ILL. STATE UNIV., 69-. Fel. AAAS; Am. Chem. Soc.; fel. Am. Inst. Chem. Chemistry of lipids; synthesis. Address: Dept. of Chemistry, Illinois State University, Normal, IL 61761.
- SHULMAN, YECHIEL, b. Tel Aviv, Israel, Jan. 28, 30; nat; m. 59; c. 3. ENGINEERING, MANAGEMENT. S.B.(aeronaut. eng.), S.B.(bus. & eng. admin) & S.M., Mass. Inst. Tech., 54, Du Pont fel., 53-54, 56-57, Sc.D.(aeronaut. & astronaut. eng.), 59; Univ. Chicago, 71-72. Res. engr., aeroelastic & struct. res. lab., Mass. Inst. Tech., 54-56, asst. 57-59; asst. prof. mech. eng. tech. inst., Northwest Univ., 59-62, assoc. prof. mech. eng. & astronaut., 62-67; res. consult., ANOCUT ENG. CO., 67-68, V.PRES. ADVAN. ENG. 69-. DIR. ELECTRONIC SYSTS. GROUP, 70-. Consult., Am. Mach. & Foundry Co., 60-62; res. div. Gen. Am. Transportation Corp., 62-67; mem. res. & develop. com. Nat. Mach. Tool Builders Assn. Israel Defense Army, 48-50. Am. Inst. Aeronaut. & Astronaut.; Soc. Mfg. Eng.; Am. Soc. Eng. Educ.; Am. Soc. Mech. Eng. Electrochemical machining; digital control systems for process machinery; laser metrology, aerothermoelasticity; shell structures; astrodynamics and optimization; structural dynamics; flight mechanics. Address: 1248 Ash St., Winnetka, IL 60093.
- SHULT, ERNEST E, b. Tonica, Ill., Sept. 29, 35; m. 57; c. 2. ALGEBRA, MICROBIAL GENETICS. B.A. Southern Illinois, 58, M.A., 60; Nat. Sci. Found. fel. & Ph.D.(math), Illinois, 64. Res. assoc. genetics of yeast, biol. res. lab., Southern Illinois, 54-57, chief theoretician, 58-61, instr. math., 63-64, asst. prof., 64-65; Nat. Sci. Found. fel., Chicago, 65-66; assoc. prof. MATH, South. Ill. Univ., 66-69, PROF., 69-70; UNIV. FLA., 70-. Mem. Inst. Advan. Study, 68-69. U.S.A., 57-58, Res. 58-63. Am. Math. Soc. Abstract algebra; microbial genetics, especially yeast genetics; theory of finite groups. Address: Dept. of Mathematics, University of Florida, Gainesville, FL 32601.
- SHULTS, MAYO G(LENWOOD), b. Kans., Oct. 20, 17; m. 43; c. 2. MATHEMATICS. A.B., Ft. Hays Kans. State Col., 38, fel., 38-39, M.S. 39; M.S. Calif. Inst. Technol., 44; Kansas, 47-48, 64-65, Nat. Sci. Found. summer grant, 59, 60, summers, 61, 62, Okla. State, 51, 52. Instr. math, high sch., Kans., 39-41; Garden City Jr. Col., 41-43, 46-47; asst. instr., Kansas, 47-48; instr., North. Okla. Jr. Col., 48-58, chmn. dept., 57-58; asst. prof. MATH, PANHANDLE STATE COL., 58-63, assoc. prof., 63-, ACTING HEAD DEPT., 72-U.S.N.R., 43-46. Address: 202 N. Perkins, Guymon, OK 73942.
- SHULTS, W(ILBUR) D(OTRY), II, b. Atlanta, Ga., Nov. 24, 29; m. 50; c. 3. ANALYTICAL CHEMISTRY. A.B., Emory, 50, M.S., 51; Ph.D.(chem), Indiana, 66. From jr. chemist to assoc. chemist, OAK RIDGE NAT. LAB., 51-55, CHEMIST & GROUP LEADER ANAL. CHEM., 57-. Chem. C., U.S.A., 55-57. Am. Chem. Soc. Instrumental analysis. Address: Oak Ridge National Lab., Oak Ridge, TN 37830.
- SHULTZ, ALLAN R, b. Huntington, Ind., Jan. 8, 26; m. 49; c. 4. PHYSICAL CHEMISTRY. A.B., Manchester Col., 48; Ph.D.(chem), Cornell, 53. Res. assoc. chem., Mass. Inst. Tech., 52-54; RES. CHEMIST, Minn. Min. & Mfg. Co., 54-63; GEN. ELEC. RES. & DEVELOP. CTR. SCHENECTADY, 63-AAAS; Am. Chem. Soc. Polymer chemistry and physics; radiation chemistry of polymers. Address: 111 Acorn Drive, Scotia, NY 12302.
- SHULTZ, CHARLES H, b. Lancaster, Pa., May 29, 36. GEOLOGY. B.S. Franklin & Marshall Col., 58; univ. summer fel., Ohio State, 60, Nat. Sci. Found. fels. 61-62, Ph.D.(petrol), 62. Geologist, Humble Oil & Ref. Co., 62-64; asst. prof. GEOL., Ohio State Univ., 64-70; ASSOC. PROF., SLIPPERY ROCK STATE COL., 70-. Geol. Soc. Am.; Am. Geophys. Union. Tertiary volcanic petrology; radar as a remote sensing device for geologic data; tectonics and metamorphism of the Appalachian Mountains. Address: Dept. of Geology, Slippery Rock State College, Slippery Rock, PA 16057.
- SHULTZ, C(LIFFORD) G(LEN), b. Wichita, Kans., Sept. 9, 24; m. 50; c. 3. ANALYTICAL & WATER CHEMISTRY. B.A., McPherson Col., 49; Ph.D. (chem), New Mexico, 57. Asst. prof. chem., Eastern New Mexico, 55-56; res. chemist, Mich. Chem. Corp., 56-57, group leader anal. res. 57-60; assoc. prof. chem., Evansville Col., 60-66; CONSULT. 66-. PRES. NAT. LAES. INC., 69-. Nat. Sci. Found. res. grants, Univ. Calif., 61. Ore. State Univ., 63 & Ind. Univ., 64. U.S.A., 43-45. Am. Chem. Soc. Anal. Chem. Div. Pollution Control Team. Water and industrial waste analysis and treatment management. Address: 810 S. Rutherford, Evansville, IN 47714.
- SHULTZ, FRED T(OWNSEND), b. Grinnell, Iowa, Mar. 5, 23; m. 61; c. 4. GENETICS. A.B., Stanford, 47; Ph.D.(genetics), Univ. Calif., Berkeley, 52. Asst. POULTRY HUSB., Univ. Calif., 49-52, jr. res. geneticist, 52-53, res. assoc., 53; DIR. B.O.L. FRONTIERS INST., 60-. Pres. Annual Breeding Consult., 52-. U.S.A.A.F., 42-45, 2nd Lt. Am. Poultry Sci. Assoc., 49-53; Genetics Soc. Am.; Am. Genetics Assn.; Soc. Study Evolution Biol.;

- SMULYAN, HAROLD, b. Phila, Pa, Jan. 2, 29; m. 52; c. 3. INTERNAL MEDICINE, CARDIOLOGY. A.B. Pennsylvania, 49; M.D. Buffalo, 53. Instr. MED. STATE UNIV. N.Y. UPSTATE MED. CTR. 59-60, asst. prof. 60-65, ASSOC. PROF. 65- U.S.A.F. 55-57, Capt. Am. Fedn. Clin. Res; Am. Heart Assn. Hypertension; circulatory control; exercise physiology. Address: Dept. of Medicine, State University of New York Upstate Medical Center at Syracuse, 750 E. Adams St, Syracuse, NY 13210.
- SMURA, BRONISLAW B. b. Syracuse, N.Y. Aug. 9, 30; m. 52; c. 2. CHEMICAL ENGINEERING. B.Ch.E. Syracuse, 52, M.Ch.E. 54; Ph.D.(chem. eng), 68. CHEM. ENGR. ALLIED CHEM. CORP. 57- Nat. Guard, 48-61, Capt. Am. Inst. Chem. Eng. Rates of physical adsorption; degradation hazards in tail gas from commercial chlorine liquefiers; mechanism of reaction between organic compounds and halogen acids; mass transfer by diffusion through a high temperature inert gas; high temperature fluid bed operation; chlorine plant technical advisement. Address: Allied Chemical Corp, P.O. Box 6, Solvay, NY 13209.
- SMUTNEY, ROBERT R(OOSEVELT), b. Chicago, Ill, Sept. 7, 27; m. 53; c. 3. CHEMICAL ENGINEERING. B.S. Illinois, 51. Chem. engr, exp. sta. Hercules Powder Co. 51; ABBOTT LABS, 52-60, group leader, develop. eng. sect, 60-64, sect. head, chem. eng. sect. 64-66, biochem. & pharmaceutical. eng. 66-68, mgr. develop. eng. 68-70, MGR. PHARMACEUT. PROD. ENG. 70- Startup team leader, P.R. Fermentation plant. 68. U.S.M.C. 44-47. Assoc. mem. Am. Inst. Chem. Eng. Engineering aspects of biological-biochemical synthesis; fractional distillation; electrochemical operations; ion exchange processes; pyrolytic syntheses. Address: Abbott Labs, D550, 1400 Sheridan Rd, North Chicago, IL 60064.
- SMUTNY, EDGAR J(OSEF), b. N.Y.C., Apr. 20, 28. ORGANIC CHEMISTRY. B.A. Colorado, 48; Allied Chem. & Dye Corp. fel. Minnesota, 52-53, Ph.D. (chem), 53. Mem. staff, Allied Chem. & Dye Corp. 48-49; asst. org. chem. Minnesota, 50-52; res. fel. Calif. Inst. Tech. 53-55; res. chemist, SHELL DEVELOP. CO. 55-63, RES. SUPVR. 68- Am. Chem. Soc. The Chem. Soc. Small ring compounds; strain energy; photochemistry; free radical chemistry; heterocyclic chemistry; organometallic chemistry; sulfur compounds; homogeneous palladium catalysis; heterogeneous catalysis. Address: General Chemistry Dept., Shell Development Co, Houston, TX 77001.
- SMUTZ, MORTON, b. Twin Falls, Idaho, Jan. 10, 18; m. 45. CHEMICAL ENGINEERING. B.S. Kans. State Col. 40, M.S. 41; Ph.D.(chem. eng), Wisconsin, 50. Chem. engr, Monsanto Chem. Co. 41; asst. prof. chem. eng. Bucknell, 49-51; assoc. prof. Iowa State, 51-55, prof. & head dept. 55-61; asst. dir, Ames Lab, U.S. Atomic Energy Comm, 55-64, dep. dir, 64-69; ASSOC. DEAN ENG. RES. UNIV. FLA. 69- U.S.A., 41-46, Maj. Am. Chem. Soc; Am. Soc. Eng. Educ. Am. Inst. Chem. Eng. Solvent extraction. Address: 300 Engineering Bldg, University of Florida, Gainesville, FL 32601.
- SMYLIE, DOUGLAS QUINN, b. New Liskeard, Ont, June 22, 36; m. 64; c. 2. GEOPHYSICS. B.Sc. Queen's (Ont), 58; M.A. Toronto, 59, Ph.D. (physics), 63. Fel. GEOPHYS. Toronto, 64; asst. prof. Western Ontario, 64-68; 65-68, C. 68-71, ASSOC. PROF. 71- Nat. Res. Coun. Can. operating grant, UNIV. B.C. Am. Geophys. Union; fel. Royal Astron. Soc. Rotation of the earth; Chandler wobble; main magnetic field; elasticity theory of dislocations. Address: Dept. of Geophysics, University of British Columbia, Vancouver 8, B.C. Can.
- SMYLIE, ROBERT EDWIN, b. Lincoln County, Miss, Dec. 25, 29; m. c. 3. MECHANICAL ENGINEERING. B.Sc. Miss. State Univ, 52, M.Sc. 56; Sloan fel. Mass. Inst. Technol. 66-67, M.Sc. 67. Indust. engr, Ethyl Corp, Tex, 52-54; instr. mech. eng. Miss. State Univ, 54-56; lead engr, Skybolt Missile Syst. thermo-conditioning syst, Douglas Aircraft Co, Calif. 56-62; chief, Apollo Support Oil, Crew Sys. Div, MANAGED SPACECRAFT CTR. NASA, 62-66, asst. chief div, 67-68, acting chief, 68-70, CHIEF, CREW SYS. DIV, 70- Mem. U.S. Del. engaged in discussions with U.S.S.R. to establish common docking systems for spacecraft of the two countries. Except. serv. medal, NASA, 69; Victor Prather Award, 71. Am. Inst. Aeronaut. & Astronaut. Analyses, design and development in specific advanced system areas such as space suits, extravehicular activity support hardware and environmental and thermal control subsystems. Address: 1215 Woodland, Seabrook, TX 77568.
- SMYRK, CHARLES M(CAHAN), JR, b. Baltimore, Md, June 18, 27; m. 52; c. 4. CHEMISTRY. B.A. Hopkins, 51; Temple, 52-54. Chemist, Marshall Lab, E.I. DU PONT DE NEMOURS & CO. INC, 51-55, develop. chemist, 55-60, assoc. 60-62, supvr. Marshall Lab, 62-66, TECH. COORD. TEFLOX FINISHES, 66- U.S.A.F. 45-47. Organic coatings; resins; polymers. Address: 308 E. Lancaster Ave, Wynnewood, PA 19096.
- SMYRNITIS, P(AULINE) Z(OE), b. Williamsport, Pa, Mar. 21, 24. BIO-CHEMISTRY. B.S. George Washington, 48, M.S. 53; Ph.D., Georgetown, 56. BIOCHEMIST, NAT. INSTS. HEALTH, 49- Am. Soc. Microbiol. Intermediary metabolism. Address: Lab. of Biochemistry, Bldg. 3, Room 106, National Heart & Lung Institute, National Institutes of Health, Bethesda, MD 20014.
- SMYSER, GERALD STANLEY, b. Phila, Pa, Nov. 23, 44; m. 67; c. 1. ANATOMY. B.S. Muhlenberg Col, 66; Nat. Insts. Health trainee & Ph.D.(anat), Temple Univ, 71. ASST. PROF. ANAT. COL. MED. & LECTUR. ORAL BIOL., COL. DENT, UNIV. SASK, 71-, Med. Res. Coun. Can. grant, col. med, 71-73. Neuroanatomy, especially central nervous system terminations of vagus nerve afferent fibers. Address: Dept. of Anatomy, University of Saskatchewan College of Medicine, Saskatoon, Sask, Can.
- SMYTH, CHARLES P(HELPS), b. Clinton, N.Y. Feb. 10, 95; m. 55. PHYSICAL CHEMISTRY. A.B. Princeton, 16, A.M. 17; Ph.D.(chem), Harvard, 21; Hon. D.Sc. Univ. Oxford, 73. A. Sci. Lectur., Nat. Bur. Stand., 37. Instr. CHEM. PRINCETON, 20-23, asst. prof. 23-27, assoc. prof. 27-30, prof. 30-58, David B. Jones prof. 58-63, EMER. DAVID B. JONES PROF. 63-, chemist, Manhattan Dist. Prof. 43-45. Corp. expert, Int. Critical Tables, 24; expert consult, Europ. Theater of Oper. U.S. Army, 45; chmn. Fulbright fel. adv. comt. chem. fel. bd. Nat. Sci. Found., 50-54; consult. Off. Naval Res, 63-, liaison scientist, London Off. Off. Naval Res, 69-70. Cert. appreciation, War Dept, 45; Off. Sci. Res. & Develop, 45; Medal of Freedom, U.S. Army, 47; cert. recognition pub. serv. U.S. Dept. State, 58. C.W.S. U.S.A. 18; U.S.N.R. 37-41, Lt. Comdr. Nat. Acad. Sci; Am. Chem. Soc.(Nichols Medal, 54); fel. Am. Phys. Soc.; Am. Philos. Soc.; fel. The Chem. Soc.; Royal Inst. Gt. Brit. Electromotive forces of amalgams; vapor pressure; refraction; heat capacities; dipole moment and molecular structure; molecular rotation in solids; microwave absorption in liquids; dielectric constant and loss; molecular relaxation times. Address: Frick Chemical Lab, Princeton University, Princeton, NJ 08540.
- SMYTH, CHARLEY J(OHNSON), b. Mart, Tex, Feb. 7, 09; m. 38; c. 3. MEDICINE. A.B. Michigan, 31, M.S. 38; M.D. Jefferson Med. Col. 35. Asst. physician Rackham arthritis res. Michigan, 38-41; instr. INTERNAL MED. WAYNE, 41-49; asst. prof. SCH. MED. UNIV. COLO. DENVER, 49-54, asst. prof. 54-67, PROF. 67-, dir. grad. & postgrad. med. educ, 49-54, Med. dir, Wayne County Gen. Hosp. 41-49; consult, U.S. Army. Am. Soc. Clin. Pharmacol. & Therapeut; fel. Am. Med. Assn. Am. Rheumatism Assn; Am. Fedn. Clin. Res; master Am. Col. Physicians. Arthritis and rheumatism; amino acid. Address: Dept. of Medicine, University of Colorado Medical Center, 4200 E. Ninth Ave, Denver, CO 80220.
- SMYTH, DONALD M(ORGAN), b. Bangor, Maine, Mar. 20, 30; m. 51; c. 2. SOLID STATE CHEMISTRY. B.S. Maine, 51; Ph.D.(inorg. chem), Mass. Inst. Tech. 54. Sr. engr, Sprague Elec. Co. 54-61, head, solid state res. 61-71; ASSOC. PROF. METALL. MAT. SCI. & CHEM. & DIR. MAT. RES. CTR. LEHIGH UNIV, 71- Vis. instr, Williams Col.(Mass) 59-61, mem. CTR. ADV. panel, Gov. Sci. Adv. Comn, Commonwealth Pa. Am. Chem. Soc. Electrochem. Soc. factory div. res. award, 60; Am. Inst. Chem. Am. Ceramic Soc. Defect structure and electrochemistry of inorganic solids. Address: Materials Research Center, Lehigh University, Bethlehem, PA 18015.
- SMYTH, HAROLD THOMAS, b. Lisburn, North. Ireland, Feb. 7, 10; nat; m. 37, 60; c. 5. CERAMICS. B.Sc. Queen's (Ireland), 31, Porter scholar & M.Sc. 32; fel. Mass. Inst. Technol. 32-36, univ. scholar & Ph.D.(physics), 36. Jr. demonstr. physics, Queen's (Ireland), 31-32; res. physicist, Corhart Refractories Co, Ky. 36-45, dir. res. 45-48; res. physicist, applied physics lab, Hopkins, 48-49; res. specialist CERAMICS, RUTGERS UNIV. NEW BRUNSWICK, 49-56, PROF. 56- Physicist, Silver Spring Lab, Kelleys Corp, 48-49. AAAS; Am. Ceramic Soc. Spectroscopy; refractories; intensity measurements in arc spectrum of copper; structure of glass; mechanical properties of ceramic materials. Address: Wood Circle, East Brunswick, NJ 08816.
- SMYTH, H(ENRY) D(WOLF), b. Clinton, N.Y. May 1, 98; m. 36. PHYSICS. A.B. Princeton, 18, S.M. 20, Ph.D.(atomic physics), 21; Ph.D.(atomic physics), Cambridge, 24; hon. Sc.D. Drexel Inst. Tech. 50, Case, 53, Hamilton Col, 65; hon. L. D. Rutgers Univ, 68. Nat. Res. Coun. fel. physics, Cambridge & Princeton, 21-24; instr. PRINCETON, 24-25, asst. prof. 25-29, asst. prof. 29-36, prof. 36-66, chmn. dept. 35-49, bd. sci. & eng. res. 54-59, univ. res. bd. 59-69, EMER. PROF. PHYSICS, 66- Mem. subcom. physics, Nat. Res. Coun, 28-35; Guggenheim fel. Univ. Göttingen, 31-32; mem. U.S. Atomic Energy Comm, 49-54; U.S. rep. & ambassador, Int. Atomic Energy Agency, Vienna, 61-70. Civilian with Off. Sci. Res. & Develop; Nat. Defense Res. Comt; Consult, Manhattan Dist. Proj, U.S. Nuclear Acc. 43-45. Fel. Am. Phys. Soc.(pres. 57); fel. Am. Philos. Soc.; Am. Engrs. Soc.; Am. Acad. Arts & Sci. Ionization of gases; positive ray analysis; molecular structure; matter, motion and electricity; atomic energy. Address: 5 Lafayette Rd. W, Princeton, NJ 08540.
- SMYTH, HENRY F(IELD), JR, b. Phila, Pa, Jan. 5, 03; m. 29; c. 2. TOXICOLOGY. B.S. Pennsylvania, 25, Ph.D.(med. chem), 34. Special investr, State Dept. Labor & Indust, Pa, 25-26; consult, 28-38; instr. sanit. chem. Pennsylvania, 28-37; fel. MELLON INST, 37-40, sr. fel. 40-47, admin. fel. 47-67, ADV. FEL. 67-; ADJ. PROF. OCCUP. HEALTH, GRAD. SCH. PUB. HEALTH, UNIV. PITTSBURGH, 67-, lectr. med. sec. & grad. sch. pub. health, 51-67. Pittsburg, Smyth Lab., Pa, 26-37, chmn. Am. Bd. Indust. Hyg. 60-57. Hyg. with Off. Rubber Reserve, 44. AAAS; Am. Chem. Soc; Am. Indust. Hyg. Assn.(dir. 46-49, exec. secy. 47-54, pres. 53-54, Donald E. Cummings Mem. Award, 56); Soc. Toxicol.(merit award. 66). Toxicity of organic industrial chemicals. Address: 41 Bel Aire Rd, Delmont, PA 15626.
- SMYTH, JOHN B(RIDGES), b. Pembroke, Ga, June 8, 14; m. 38; c. 4. PHYSICS. B.S. Georgia, 34, M.S. 37; Ph.D.(physics), Brown, 42. Teacher, high sch, Ga, 34-35; asst. physics, Georgia, 35-37; physicist, Tenn. Eastman Corp, 37-38; asst. physics, Brown, 38-42; from assoc. physicist to physicist, U.S. Navy Electronics Lab, 42-55; PRES. & TECH. DIR. SMYTH RES. ASSOCS, 55- Mem. int. com. II, Int. Sci. Radio Union. AAAS; Am. Phys. Soc; Acoust. Soc. Am; fel. Inst. Elec. & Electronics Eng. Galvanomagnetic effects; supersonics; theory of wave propagation; transmission of supersonic waves through stratified media. Address: 5011 Helix Terr, La Mesa, CA 92041.
- SMYTH, JOSEPH RICHARD, b. Louisville, Ky, Oct. 10, 44. GEOLOGY. MINERALOGY. B.S. Va. Polytech. Inst. 66; S.M. Univ. Chicago, 68, NASA trainee, 68-70, Ph.D.(mineral), 70. Res. fel. geol. Harvard, 70-72; Vis. FEL. LUNAR SCI. INST, 72- Mineral. Soc. Am; Geol. Soc. Am; Am. Geophys. Union. High temperature crystallography of rock-forming silicates. Address: Lunar Science Institute, 3303 NASA Rd. 1, Houston, TX 77058.
- SMYTH, MICHAEL P(AUL), b. Albany, N.Y. Oct. 2, 34; m. 59; c. 1. ELECTRICAL ENGINEERING, SYSTEMS ANALYSIS. B.S. Syracuse, 57; M.S. 59; Ph.D.(elec. eng), Pennsylvania, 63. Elec. engr, Gen. Elec. Co. 57, res. asst. radar display, Syracuse, 57-59; instr. elec. eng. Pennsylvania, 59-64, asst. prof. 61-64, asst. prof. ENG. MEDFORD COL. 67-71 PROF. & DIR. 71- 64, consult. Nat. Bur. Stand. 67-68, Gen. Elec. Co. 67-68, Mem. Franklin Inst., 61. Instr. Electron Microscopy and Methods of Systems Analysis; industrial educational methods. Address: School of Engineering, Widener College, Chester, PA 19313.
- SMYTH, NICHOLAS PATRICK DILLON, b. Dublin, Ireland, Apr. 1, 24; nat; m. 55; c. 5. MEDICINE. B.Sc. Nat. Univ. Ireland, 46, M.Sc. 48, M.B. B.Ch.

- SHULMAN, HERMAN L. b. N.Y.C. Feb. 24, 22; m. 42; c. 2. B.Ch.E. City Col. New York. 42; Du Pont fel. Pennsylvania, 47-48; M.S. 48, Ph.D.(chem. eng.) 50. Chem. engr. Gen. Motors Corp., 43-47; Barrett Div, Allied Chem. & Dye Corp., 43-46; res. chem. engr. Publicker Indus. Inc. 46-47; asst. prof. CHEM. ENG. CLARKSON COL. TECHNOL. 48-51; assoc. prof., 51-54; PROF., 54; DIR. DIV. RES., 59-; DEAN GRAD. SCH., 54-; V.PRES. & DEAN SCH. ENG., 68-; assoc. dir. div. res., 54-59; chmn. dept., 59-64. Am. Soc. Eng. Educ.; Am. Chem. Soc.; Am. Inst. Chem. Eng. Mass transfer absorption; packed columns; ion exchange; gas-bubble columns; organic processes; flowmeters. Address: Clarkson College of Technology, Potsdam, NY 13676.
- SHULMAN, HYMAN L. b. Warren, Ohio, Feb. 25, 19; m. 43; c. 2. ELECTRONICS. B.A. California, Los Angeles, 48, M.A. 51. Mem. staff, Northrop Aircraft Corp., 51-54; Hughes Aircraft Corp., 54-55; sr. mem. tech. staff, Space Tech. Labs., Inc., 55-58; mem. sr. staff, electronics dept., Rand Corp., 58-59; dir. res. & develop. labs., AC Spark Plug Div., Gen. Motors Corp., 59-63; MEM. TECH. STAFF, RAND CORP., 63-. Guidance and navigation; flight control and weapons systems; dynamics. Address: 10426 Lindbrook Dr., Los Angeles, CA 90024.
- SHULMAN, JONAS ALVIN, b. Baltimore, Md., Sept. 5, 36; m. 58; c. 2. INTERNAL MEDICINE. Dartmouth Col., 53-56; M.D. Univ. Md., 60. Intern. internal med., Univ. Md. Hosp., Baltimore, Md., 60-61; asst. resident med., Univ. Wash., 61-62; R.G. Petersdorf fel. infectious diseases & med., 62-64, instr. & chief resident med., Univ. Wash. Hosp., 66-67; asst. prof. INFECTIOUS DISEASES, SCH. MED. EMORY UNIV., 68-70; ASSOC. PROF. & COORD. CLIN. CURRICULUM, 70-, DIR. DEPT. MED. & PREV. MED., 72-Dipl. Am. Bd. Internal Med. 63. U.S.P.H.S., 64-66. Infectious Disease Soc. Am. Epidemiology of hospital infections; antibiotics; clinical pharmacology and efficacy studies. Address: Division of Infectious Diseases, Emory University School of Medicine, 69 Butler St, S.E., Atlanta, GA 30303.
- SHULMAN, LAWRENCE E(DWARD), b. Boston, Mass., July 25, 19; m. 59; c. 1. INTERNAL MEDICINE. A.B. Harvard, 41; Ph.D.(pub. health), Yale, 45, M.D. 49. Res. assoc., John B. Pierce Found., Conn., 42-45; intern MED., Hopkins Hosp., 49-50, asst. res. hosp., 52-53; physician, 53; fel. SCH. MED. JOHNS HOPKINS UNIV., 50-52, instr., 53-56, asst. prof., 56-63; ASSOC. PROF., 63-, DIR., CONNECTIVE TISSUE DIV., DEPT. MED., 54-. Sr. investigator, Arthritis & Rheumatism Found., 57. Consult. Nat. Inst. Arthritis & Metab. Diseases. AAAS; Am. Rheumatism Assn.; Assn. Am. Med. Cos.; Am. Fedn. Clin. Res.; N.Y. Acad. Sci. Connective tissue disorders, including rheumatic diseases, especially collagen disorders; immunologic and epidemiologic studies. Address: 916 Clinical Science Bldg., Johns Hopkins Hospital, Baltimore, MD 21205.
- SHULMAN, LEON J. b. Los Angeles, Calif., Sept. 22, 13; m. 49; c. 1. MEDICINE. B.A. California, Los Angeles, 35; M.D. Southern California, 40. Intern. Los Angeles County Hosp., Calif., 39-41; from intern to chief res., Margaret Hague Maternity Hosp., 42-45; instr. OBSTET. & GYNEC. SCH. MED. UNIV. SOUTH CALIF., 45-56, asst. clin. prof., 51-59; ASSOC. CLIN. PROF., 59-. Private practice. Mem. attend. staff & consult., St. John's Hosp., 45-; jr. attend. staff, Los Angeles County Gen. Hosp., 45-55, sr. attend., 55-; attend. staff, Santa Monica Hosp., 59-. Dipl. Am. Bd. Obstet. & Gynec., 47. Fel. Am. Med. Assn.; fel. Am. Col. Obstet. & Gynec.; fel. Am. Col. Surg. Address: 2200 Santa Monica Blvd., Santa Monica, CA 90404.
- SHULMAN, MORTON, b. Chicago, Ill., July 7, 33; m. 55; c. 3. MEDICINE. ANESTHESIOLOGY. B.S. Illinois, 53, M.D. 58. Assn. ANESTHESIOLOGY UNIV. ILL., 59-61, res. fel., 61-62, instr., 63-64, asst. prof., 64-70; ASSOC. PROF., 70-. Attend. anesthesiologist, Vet. Admin., 64-; vis. prof., Louisville, 69. Consult. col. vet. med., Illinois, 68-. U.S.A.F., 61-63, Capt. Am. Soc. Anesthesiol.; Int. Anesthesia Res. Soc. Cardiovascular pharmacology of vasoactive drugs; pharmacology of respiratory drugs, new general anesthetics, local anesthetics and analgesics. Address: Dept. of Anesthesiology, Illinois Masonic Hospital, 836 Wellington, Chicago, IL 60657.
- SHULMAN, NAHUM RAPHAEL, b. Hartford, Conn., June 23, 25; m. 49; c. 4. HEMATOLOGY, IMMUNOLOGY. Hopkins, 41-43, M.D. 47. Intern med., Harvard Med. Serv., Boston City Hosp., Mass., 47-48; asst. res., Cornell Med. Serv., Mem. Hosp., New York, 48-49, res., 49-50, chief res., 50-51; chief hemat. div., Naval Med. Res. Inst. & hematologist, Naval Hosp., Bethesda, Md., 55-57; CHIEF CLIN. HEMAT. BR., NAT. INST. ARTHRITIS, METAB. & DIGESTIVE DISEASES, 57-. Inst. & Damon Runyon Clin. res. fel. Sloan Kettering Inst., 49-51; prof. clin. med., Georgetown, 51-. Dipl. Am. Bd. Internal Med. U.S.N., 51-55; U.S.P.H.S.R., 57-. Lt. Am. Soc. Clin. Invest.; Am. Fedn. Clin. Res.; Int. Soc. Hemat.; Am. Assn. Immunol.; Transplantation Soc.; Assn. Am. Physicians. Blood clotting; enzymology; mechanisms of complement fixation; problems of immunohematology and blood cell physiology; drug sensitization; hepatitis. Address: National Institute of Arthritis, Metabolic & Digestive Diseases, Bethesda, MD 20814.
- SHULMAN, ROBERT G(ERSON), b. N.Y.C., Mar. 3, 24; m. 52; c. 3. CHEMICAL PHYSICS. A.B. Columbia, 43, A.M., 47, Ph.D.(chem.), 49. Atomic Energy Comm. fel., Calif. Inst. Tech., 49-50; head semiconductor res., Hughes Aircraft Co., 50-53; MEM. TECH. STAFF, BELL TEL. LABS. INC., 53-. Rask Oersted lect., Copenhagen, 59; Guggenheim fel. lab. molecular biol. Med. Res. Coun. Eng., 61; vis. prof., Ecole Normale Supérieure Univ., Paris, 62; Appleton lect., Brown Univ., 65; summer vis. prof., Univ. Tokyo, 65; Reilly lect., Univ. Notre Dame, 69; vis. lect., Princeton, 71-72. U.S.N.R., 44-46, Lt. Jg. Fel. Am. Phys. Soc. Biophys. Soc. Microwave spectral theory; semiconductors; nuclear magnetic resonance; molecular orbital theory of transition metal compounds; electron spin resonance; DNA; metallo-enzymes; phage genetics; paramagnetic metalloproteins; synthesis of nucleic acids. Address: Biophysics Dept., Bell Labs., Murray Hill, NJ 07974.
- SHULMAN, SETH DAVID, b. Lynn, Mass., Mar. 11, 45; m. 69; c. 1. ASTROPHYSICS. F.A. Harvard, 64; Ph.D.(physics), Columbia Univ., 70. RES. PHYSICIST, E.O. HULL BUOY CTR. SPACE RES. NAVAL RES. LAB., 70-. Am. Astron. Soc.; Am. Phys. Soc. X-ray astrophysics and studies of the inter-
- SHULMAN, SIDNEY, b. Baltimore, Md., Aug. 22, 23; m. 45, 68; c. 6. IMMUNOCHEMISTRY. B.S., George Washington, 44; Ph.D.(chem), Wisconsin, 49. Assoc. Allegheny Ballistics Lab., U.S. Army Ballistics Missile Agency, Md., 44-46; asst. chem., Wisconsin, 46-48, proj. assoc., 49-52, assoc. immunochem. sch. med., State Univ. N.Y. Buffalo, 52-54, asst. prof., 54-58, assoc. prof. immunochem. & biophys., 58-65, PROF. immunochem., 65-68; MICROBIOL., NEW YORK MED. COL., 68-, chmn. dept., 68-69. Lederle med. faculty fel., 54-57; U.S. Pub. Health Serv. sr. res. fel. 58-62; Nat. Inst. Health res. career award, 63-68; consult. immunol., Buffalo Vet. Admin. Hosp., 64-; Fulbright travel award, 65; Commonwealth Fund travel award, 65; mem. Int. Coord. Com. Immunol. Reproduction. AAAS; Am. Chem. Soc.; Am. Soc. Biol. Chem.; Am. Soc. Microbiol.; Am. Acad. Allergy; Am. Soc. Hemat.; Soc. Exp. Biol. & Med.; Soc. Cryobiol.; N.Y. Acad. Sci.; Brit. Biochem. Soc.; Ann. Fertil. Soc. Study Reproduction. Tissue proteins; autoantibodies; physical chemistry of proteins; cryobiology; urogenital tract antigens and enzymes; immunology of reproduction and infertility. Address: Dept. of Microbiology, New York Medical College, New York, NY 10029.
- SHULMAN, SOL, b. Smorgon, White Russia, Nov. 6, 29; U.S. citizen; m. 53; c. 4. ORGANIC & POLYMER CHEMISTRY. B.S. Washington (Seattle), 52; M.S. Wisconsin, 54; Ph.D.(chem), N.Dak. State, 63. Teaching asst. chem., Wisconsin, 53-54; res. chemist, Archer-Daniels-Midland Co. Minn., 54-59; instr., N.Dak. State, 59-64, asst. prof., 64-65; assoc. prof. CHEM., Moorhead State Col., 65-66, prof., 67-69, chmn. dept., 66-69; PROF. & HEAD DEPT., ILL. STATE UNIV., 69-. Fel. AAAS; Am. Chem. Soc.; fel. Am. Inst. Chem. Chemistry of lipids; synthesis. Address: Dept. of Chemistry, Illinois State University, Normal, IL 61761.
- SHULMAN, YECHIEL, b. Tel Aviv, Israel, Jan. 28, 30; nat. m. 50; c. 3. ENGINEERING, MANAGEMENT. S.B.(aeronaut. eng.), S.B.(bus. & eng. admin) & S.M., Mass. Inst. Tech., 54, Du Pont fel., 53-54, 56-57, Sc.D.(aeronaut. & astronaut. eng.), 59; Univ. Chicago, 71-72. Res. engr., aeroelastic & struct. lab., Mass. Inst. Tech., 54-56, asst. prof. mech. eng. & astronaut., 62-67; inst. Northwest Univ., 59-62, assoc. prof. mech. eng. & astronaut., 62-67; res. consult., ANOCUT ENG. CO., 67-68, V.PRES. ADVAN. ENG., 69-. DIR. ELECTRONIC SYSTS. GROUP, 70-. Consult. Am. Mach. & Foundry Co., 60-62; res. div., Gen. Am. Transportation Corp., 62-67; mem. res. & develop. com. Nat. Mach. Tool Builders Assn. Israel Defense Army, 48-50. Am. Inst. Aeronaut. & Astronaut.; Soc. Mfg. Eng.; Am. Soc. Eng. Educ.; Am. Soc. Mech. Eng. Electrochemical machining; digital control systems for process machinery; laser metrology, aerothermoelasticity; shell structures; aerodynamics and optimization; structural dynamics; flight mechanics. Address: 1248 Ash St, Winnetka, IL 60093.
- SHULT, ERNEST E. b. Tonica, Ill., Sept. 29, 35; m. 57; c. 2. ALGEBRA, MICROBIAL GENETICS. B.A., Southern Illinois, 58, M.A. 60; Nat. Sci. Found. fel. & Ph.D.(math), Illinois, 64. Res. assoc. genetics of yeast, biol. res. lab., Southern Illinois, 54-57, chief theoretician, 58-61, instr. math, 63-64, asst. prof., 64-65; Nat. Sci. Found. fel., Chicago, 65-68; asst. prof. MATH., South. Ill. Univ., 66-69; PROF., 69-70; UNIV. FLA., 70-. Mem. Inst. Advan. Study, 68-69. U.S.A., 57-58, Res. 58-63. Am. Math. Soc. Abstract algebra; microbial genetics, especially yeast genetics; theory of finite groups. Address: Dept. of Mathematics, University of Florida, Gainesville, FL 32601.
- SHULTS, MAYO G(LENWOOD), b. Kans., Oct. 20, 17; m. 43; c. 2. MATHEMATICS. A.B., Ft. Hays Kans. State Col., 38, fel., 38-39, M.S. 39; M.S. Calif. Inst. Technol., 44; Kansas, 47-48, 64-65, Nat. Sci. Found. summer grant, 59, 60, summers, 61, 62, Okla. State, 51, 52. Instr. math, high sch. Kans., 39-41; Garden City Jr. Col., 41-43, 46-47; asst. instr., Kansas, 47-48; instr., North. Okla. Jr. Col., 48-58, chmn. dept., 57-58; asst. prof. MATH., PANHANDLE STATE COL., 58-63, assoc. prof., 63-, ACTING HEAD DEPT., 72-U.S.N.R., 43-46. Address: 202 N. Perkins, Guyton, OK 73942.
- SHULTS, WILBUR D(OTRY), II, b. Atlanta, Ga., Nov. 24, 29; m. 50; c. 3. ANALYTICAL CHEMISTRY. A.B. Emory, 50, M.S., 51; Ph.D.(chem), Indiana, 66. From jr. chemist to assoc. chemist, OAK RIDGE NAT. LAB., 51-55, CHEMIST & GROUP LEADER ANAL. CHEM., 57-. Chem.-C, U.S.A., 55-57. Am. Chem. Soc. Instrumental analysis. Address: Oak Ridge National Lab, Oak Ridge, TN 37830.
- SHULTZ, ALLAN R. b. Huntington, Ind., Jan. 8, 26; m. 49; c. 4. PHYSICAL CHEMISTRY. A.B., Manchester Col., 48; Ph.D.(chem), Cornell, 53. Res. assoc. chem. Mass. Inst. Tech., 52-54; RES. CHEMIST, Minn. Min. & Mfg. Co., 54-63; GEN. ELEC. RES. & DEVELOP. CTR., SCHENECTADY, 63-64; AAAS; Am. Chem. Soc. Polymer chemistry and physics; radiation chemistry of polymers. Address: 111 Acorn Drive, Scotia, NY 12302.
- SHULTZ, CHARLES H. b. Lancaster, Pa., May 29, 36. GEOLOGY. B.S. Franklin & Marshall Col., 58; univ. summer fel., Ohio State, 60, Nat. Sci. Found. fels., 61-62, Ph.D.(petrol.), 62. Geologist, Humble Oil & Ref. Co., 62-64; asst. prof. GEOL., Ohio State Univ., 64-70; ASSOC. PROF., SLIPPERY ROCK STATE COL., 70-. Geol. Soc. Am.; Am. Geophys. Union. Tertiary volcanic petrology; radar as a remote sensing device for geologic data; tectonics and metamorphism of the Appalachian Mountains. Address: Dept. of Geology, Slippery Rock State College, Slippery Rock, PA 16057.
- SHULTZ, CLIFFORD G(LEN), b. Wichita, Kans., Sept. 9, 24; m. 50; c. 3. ANALYTICAL & WATER CHEMISTRY. B.A., McPherson Col., 49; Ph.D.(chem), New Mexico, 57. Asst. prof. chem., Eastern New Mexico, 55-56; (chem), New Mexico, 57. Asst. prof. chem. corp., 56-57, group leader anal. res., 57-60; asst. chemist, Mich. Chem. Corp., 56-57; CONSULT. 66-. PRES. NAT. LAQS. INC., 60-. Nat. Sci. Found. res. grants, Univ. Colo., 61, Ore. State Univ., 62, 63 & Ind. Univ., 61. U.S.A., 42-49. Am. Chem. Soc. Am. Inst. Chem. Educ. Pollution Control F. m. Water and wastewater treatment plant construction management. Address: 810 S. Rotherwood, Evansville, IN 47711.
- SHULTZ, FRED T(OWNSEND), b. Grinnell, Iowa, Mar. 5, 23; m. 61; c. 4. GENETICS. A.B., Stanford, 47; Ph.D.(genetics), Univ. Calif., Berkeley, 52. Asst. POULTRY HUSB., Univ. Calif., 49-52, jr. res. geneticist, 52-53, res. assoc., 53-; DIR. B.O.L. FRONTIERS INST., 60-. Pres. Animal Breeding Consult., 52-. U.S.A.A.F., 42-45, 2nd Lt. Am. Poultry Sci. Assn.; Poultry Consult., 52-. U.S.A.A.F., 42-45, 2nd Lt. Am. Poultry Sci. Assn.; Poultry Sci. 53); Genetics Soc. Am.; Am. Genetics Assn.; Soc. Study Evolution; Poultry Sci. Assn. Nat.