

KEEMAN, Philip Childs, Am. astronomer; b. Bellevue, Pa., Mar. 31, 1908; s. Charles G. and Evelyn (Childs) K.; B.S., U. Ariz., 1929; M.S., 1930; Ph.D., U. Chgo., 1932. Instr., Yerkes Obs., U. Chgo., 1936-42; physicist Bur. Ordnance, Navy Dept., 1942-46; faculty Ohio State U., Columbus, also Ohio Wesleyan U., Delaware, 1935-36, 46—, asso. prof. astronomy, 1948-56, prof., 1956—. Mem. Am. Royal astron. socs. Author: (with W. W. Morgan, E. Kellman) An Atlas of Stellar Spectra, 1942; also numerous articles. Research in stellar spectral classification. Home: 5303 N. High St., Columbus, O. 43214. Office: Perkins Obs., Delaware, O. 43015.

KEENEY, Arthur Hall, Am. ophthalmologist; b. Louisville, Jan. 20, 1920; s. Arthur Hale and Eugenia (Hall) K.; B.S., Coll. William and Mary, 1941; M.D., U. Louisville, 1944; M.Sc., U. Pa., 1952, D.Sc., 1955; m. Virginia Alice Tripp, Dec. 27, 1942; children—Steven Harris, Lee Douglas, Martha Blackledge. Resident surgeon Willie Eye Hosp., Phila., 1949-51; dir. ophthalmic research, instr. to asso. prof. ophthalmology U. Louisville Sch. Medicine, 1951-65; area cons. ophthalmology to VA, 1954—; ophthalmologist-in-chief Willie Eye Hosp. and Research Inst., Phila., 1965—. Recipient Biedell award, 1951; Zentmayer award, 1951. Fellow Am. Ophthalmology Soc.; mem. Soc. Optal. de Columbia, Am. Acad. Ophthalmology and Otolaryngology, A.A.A.S., Am. Assn. Automotive Medicine (pres.). Author: Chronology of Ophthalmic Development, 1951; Lens Material in the Prevention of Eye Injuries, 1957. Contr. numerous articles to med. jous. on capillary mechanisms in glaucoma; macular disease; strabismus; dyslexia; Newcastle virus disease; safety lens materials. Home: 8320 Seminole Ave., Phila., 19118. Office: 1601 Spring Garden St., Phila. 19130.

KEEPEN, Vladimir Petrovich, see Köppen, Vladimir Peter.

KEEPIN, George Robert, Jr., Am. physicist; b. Oak Park, Ill., Dec. 5, 1923; s. George Robert and Erlene (Bennett) K.; Ph.D., U. Chgo., 1945; B.S., Mass. Inst. Tech., 1946, M.S., 1947; Ph.D., Northwestern U., 1949; m. Madge Mary Twomey, June 13, 1948; children—Robert, William, Ardis, Mavis, Denise. Postdoctoral fellow AEC, U. Cal. at Berkeley, 1949-50; physics staff U. Minn., 1950-52; research physicist Los Alamos Sci. Lab., 1952—, group leader pulsed neutron research, 1966—. Staff officer Internat. Atomic Energy Agcy. confs.; cons., mem. cons. profls. orgns. Fellow Am. Phys. Soc., Am. Nuclear Soc.; mem. Fedn. Am. Sci., Sigma Xi. Author: Physics of Nuclear Kinetics, 1963; also chpts. other books, articles in prof. jous. Developed technique for measurement of neutron energy spectra; delayed neutron and reactor physics research; inventor techniques for internat. nuclear safeguards, inspection and surveillance of fissile materials. Home: 155 Tunyo St. Office: Los Alamos Sci. Lab., Los Alamos 87544.

KEESOM, Willem Hendrik, Dutch physicist; b. Texel Island, 1876; became prof. U. Leyden (Netherlands), 1923. Produced solid helium, 1926; measurements on expansion coefficients of solid bodies at very low temperatures; specific melting and evaporation heat of hydrogen and helium.

KEETON, William Tinsley, Am. zoologist; b. Rea- noke, Va., Feb. 3, 1933; s. William Ivie and Doris (Tinsley) K.; A.B., U. Chgo., 1952, S.B., 1954; M.S., Va. Poly. Inst., 1956; Ph.D., Cornell U., 1958; m. Barbara Sue Orcutt, Aug. 9, 1958; children—Lynn Sue, Nancy Lee. Instr., Radford Coll., 1956; Schuler- gage fellow Cornell U., 1956-58, faculty, 1958—, asso. prof. biology, 1964—. Cons., N.Y. State Edn. Dept., 1961—. Fellow A.A.A.S. (Council 1963—); mem. Soc. for Study Evolution, Soc. for Systematic Zoology, Am. Entomol. Soc., Am. Soc. Zoologists, Animal Behavior Soc., Phi Kappa Phi, Sigma Xi, Gamma Alpha (nat. recorder 1960—). Author: A Taxonomic Study of the Millipede Family Spirobolidae, 1960; Biological Science, 1967; also articles. Research in evolutionary biology with particular emphasis on roles geographic and behavioral isolation in process speciation of animals, evolution of behavior, homing behavior. Home: 5 Snyder Heights, Ithaca, N.Y. 14850.

KEFFER, Frederic, Am. physicist, educator; b. An- sconda, Mont., May 23, 1919; s. Robert and Placie (Munger) K.; B.S., Wash. State U., 1943; Ph.D., U. Cal. at Berkeley, 1952; m. Lore Maria Sanders, Apr. 24, 1949; children—Thomas, Leslie. Faculty physics U. Pitts., 1952—, prof., 1959—, dept. chmn., 1963—; vis. prof. physics U. Cal. at Berkeley, 1959-60. Cons. Westinghouse Research Labs., 1952-55, Bell Telephone Labs., summer 1961. Mem. A.A.A.S., Am. Phys. Soc. Contr. articles on theory of ferromagne- tism, antiferromagnetism, magnetic resonance, spin waves, double refraction, superexchange, dipolar in- teractions, magnetic anisotropy to prof. pubs. Home: 235 Woodside Rd., Pitts. 15221.

KEGEL, Otto H., mathematician; b. Bethlehem, Pa., July 20, 1934; s. Friedrich Otto and Margarete (Wink- elmann) K.; Ph.D., U. Frankfurt/Main (Germany), 1961; m. Waltraut Wallner, Apr. 6, 1961; 1 dau., Hannah. Vis. asst. prof. U. Chgo., 1963-64; docent U. Frankfurt/Main, 1966—. Mem. Am. German, French, London math. socs. Contr. articles in field to tech.

Jours. Address: 40 Alt-Roedelheim, Frankfurt/Main, West Germany.

KEGELES, Gerson, Am. chemist; b. New Haven, Apr. 23, 1917; Alex and Jennie (Wilder) K.; B.S. in Chemistry, Yale, 1937, Ph.D., 1940, postgrad. 1940-41; postgrad. U. Wis., 1945-47; m. Bertha Webber, Apr. 16, 1944; children—Winifred, Lawrence, Stan- ley, Gloria, Joyce. Research phys. chemist Nat. Cancer Inst., 1947-51; mem. faculty Clark U., 1951—, prof. chemistry, 1956—, chmn. dept., 1960-63; cons. to industry, 1954—. Mem. Am. Acad. Arts and Sci., A.A.A.S., Am. Assn. U. Profs., Am. Chem. Soc., Am. Soc. Biol. Chemists, Biophys. Soc., Washington Acad. Sci. Research and pubs. primarily on optical meth- ods to facilitate the study of biol. materials, especially protein molecules. Home: 14 Tahanto Rd., Worcester, Mass. 01602.

KEHL, William Louis, Am. physicist; b. Canton, O., Apr. 14, 1915; s. Herman E. and Lela (Shepherd) K.; A.B., Washington and Jefferson Coll., 1938; M.S., State U. Ia., 1941; postgrad. U. Pitts.; m. Marie E. Clark, Nov. 28, 1942; children—Dennis W., Lorraine E. With Gulf Research & Devel. Co., Pitts., 1941—, r. research physicist, 1962—. Mem. Am. Crystallo- graphic Assn. (sec. 1964—), Am. Phys. Soc., Pitts. Diffraction Soc., Am. Soc. for Testing Materials. Re- search, pubs. on phase behavior inorganic mixed oxide systems, structural and catalytic properties mixed oxides and solid solutions metals; developed improved oil well casing perforator, improved catalysts for pe- trochem processing. Home: 1942 Fox Chapel Rd., Pitts. 15238. Office: P.O. Drawer 2038, Pitts. 15230.

KEHOE, Robert Arthur, Am. physician; b. George- town, O., Nov. 18, 1893; s. Jeremiah W. and Jessie (Jones) K.; student Ohio State U., 1914-15; B.S., U. Cin., 1918, M.D., 1920; m. Lucile Marshall, June 11, 1920; 1 dau., Kathlene. Pathologist, Jewish Hosp., Cin., 1920-24; faculty U. Cin. Coll. Medicine, 1921-49, research prof., 1939-49, prof. occupational medicine, dir. Inst. Indl. Health, 1948-65, dir. dept. preventive medicine and indl. health, 1948-65, prof. emeritus occupational medicine, 1964—; dir. Ket- tering Lab., 1930-65. Med. dir. Ethyl Corp., 1925-58; nat. cons. USAF Surgeon Gen. U. Cin. Grad. Sch. Arts and Sci., fellow, 1937—. Recipient Knudsen award, 1948-49; Tech. and Sci. Soc. Council Cin. award, 1952; Pub. Health Fedn. Cin. award, 1963. Fellow A.M.A. twice chmn. council on indl. health (1949—), Am. Pub. Health Assn. (governing council 1955—), Am. Acad. Occupational Medicine (pres. 1949, award 1957); mem. Royal Soc. Health, Indst. Med. Assn., A.A.A.S., Am. Physiol. Soc., Am. Indst. Hygiene Assn., Am. Chem. Soc., Air Pollution Control Assn. Am. (Mellon award 1960), Sigma Xi, others. Research, numerous pubs. field occupational health, toxicity of indst. products, solvents, metals, organic compounds, behavior of certain mineral elements, trace metals, especially lead and fluorides. Home: 345 Resor Av., Cin. 45220. Office: Kettering Lab. U. Cin. Coll. Medicine, Eden Av., Cin. 45219.

KEHR, August Ernest, Am. geneticist; b. Frankfurt, Ky., Mar. 2, 1914; s. Carl Adolf and Anna Esther (Heller) K.; B.S., Cornell U., 1936, M.S., 1947, Ph.D., 1950; m. Mary Louise Coon, Dec. 26, 1942; 1 dau., Janet Marie. Tch. sci. and agr., Unadilla, N.Y., 1936-42, Muckson, N.Y., 1942-47; research asst. plant breeding Cornell U., 1947-50; asso. prof. horticulture La. State U., 1950-54; with Dept. Agr., also prof. horticulture Ia. State U., 1954-58; asst. br. chief, vegetables and ornamentals research br. Dept. Agr., Beltsville, Md., 1958-65, br. chief, 1965—. Mem. fellowship evaluation com. NSF, 1957-59. Mem. Am. Genetics Assn. (pres. 1964—), Soc. Study Growth and Devel., Am. Potato Assn., Am. Hort. Sci., Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta. Contr. articles prof. jous., chpts. in books. Home: 10202 Green Forest Dr., Silver Spring, Md. 20903. Office: Plant Industry Station, Beltsville, Md. 20705.

KEHR, William Ralph, Am. agronomist; b. Blue Earth, Minn., July 1, 1921; s. John J. and Mary G. (Reintjes) K.; B.S., U. Minn., 1943, Ph.D., 1949; M.S., Kan. State U., 1947; m. Marie C. Sterner, June 22, 1946; children—Mary A., James W., Donald R. Plant breeder Cal. Packing Corp., Rochelle, Ill., 1949-53; research agronomist crops research div. Agr. Research Services, U. S. Dept. Agr., prof. agronomy U. Neb., Lincoln, 1953—. Fellow Am. Soc. Agronomy (dir.), A.A.A.S.; mem. Crop Sci. Soc. Am. (dir.), Am. Dehydrators Assn. (research council), Sigma Xi, Alpha Zeta, Gamma Sigma Delta. Research, numerous pubs. in genetics and improvement of alfalfa and grain crops, breeding methods, insect and disease resistance, quantitative inheritance, chem. composi- tion, genetics and cytogenetics of self- and cross- fertility, mgmt. systems of alfalfa. Home: 1410 N. 37th St., Lincoln, Neb. 68503.

KEIDEL, Wolf-Dieter, German physiologist; b. Gei- mersheim, Dec. 14, 1917; s. Georg and Fanny (Dotter- weich) K.; M.D.; m. Ursula Ludwig, Sept. 4, 1943; children—Dorothea, Ingrid, Matthias. Dir. Physiol. Inst., U. Erlangen/Nuremberg, 1961—, also full prof. physiology. Mem. German Physiol. Soc. (1st sec.), N.Y. Acad. Sci., Orlas-Iibro-Paris Coll. Author: Ky- bernetik in Einzeldarstellungen; Vibrationsreception;

Physiologie des N.S. von Standpunkt der Regelung- siche. Coeditor: Kybernetik (mag.), Zeitschrift f. experimentelle Medizin. Research on electrophysiology of sense organs, cybernetics, physiology of central neu- vus system. Home: am Meilwald 23. Office: Physi- cal Institute, University of Erlangen/Nuremberg; Universitätsstrasse 17, Erlangen, Germany.

KEIL, Karl Louis, German meteorologist; b. Waa- peral-Elberfeld, Germany, Nov. 7, 1898; s. Ka- Guido and Wilhelmine (Schmidt) K.; Ph.D., U. Gies- sen; m. Ilse Koppen, Dec. 3, 1926; children—Eti- hard, Karl, Otto. Asst., collaborating scientist Prussia- Obs., Lindenberg; with Prussian Meteorol. Inst., Ber- lin; govt. counselor Reichsamt für Wetterdienst, Ber- lin; cons. German Meteorol. Service, head librar- and information sects., Bad Kissingen; dir. climate at- mospheric sect. German Central Office Meteorology Offenbach. Mem. German Meteorology Soc., Germa- Soc. Geophysics. Author: Handwörterbuch der Meteorol- ogie, 1950, also articles. Editor: Meteorol. Rund- schau, Springer-Verlag, Heidelberg. Address: Schop- enauerstrasse 24, 605 Offenbach/M., Germany.

KEIL, Werner, German zoologist, ornithologist; b. Giesen-Lahn, June 3, 1925; s. Karl and Wilhelmine (Linn) K.; Ph.D., Julius-Liebig U., Giesen/Lahn; m. Erika Schmidt, Feb. 16, 1952; 1 child, Justa. Asst., Obs. Applied Ornithology, Hessia, Rhennania, Pfalz, Sarre, 1952-63 dir., 1964—. First pres. Ornithol. Observing Sta. Untermain, Frankfurt. Recipient Silver- metal Union Def. of Ornithology. Mem. German Soc. Ornithologists. Author: Ernährungsbiologie von Sing- vögeln; Steigerung der siedlungsdichte von Vögel; Abwehr von Vogelschäden in der Forst- und Landwirt- schaft; Untersuchungen zum Einsatz von Vögel im Rahmen der biologischen Schädlingsbekämpfung, Re- search on applied ornithology. Address: Steiner Strasse 44, Frankfurt/Main, Germany.

KEILHOTZ, Gerald W., Am. chemist; b. West Ches- ter, Pa., Aug. 7, 1912; s. Watson H. and Bessie (West- en) K.; B.A., Lincoln U.; M.A., U. Utah; Ph.D., Cre- State U.; m. Barbara J. Jackson, June 1946; children—Candace, Carol, Michelle. Instr., Ore. State U., 1941-42; research chemist Gen. Chem. Co., 1942-44, Sylvania Electric Co., 1944-48; instr. U. Tenn., 1948-52; with Oak Ridge Nat. Lab., 1948—, reactor chem- istry div., 1958—. Mem. Am. Chem. Soc., Am. Nu- clear Soc., Sci. Research Soc. Am. Research, pubs. in micro analysis, microwave spectroscopy, isotopic analysis, radiation damage, effects of radiation on corrosion of structural materials by molten fluorides, high temperature measurements, fission product re- lease, transport and deposition. Home: 7121 Chestnut Dr., Knoxville, Tenn. 37919. Office: P.O. Box X, Ridge 37830.

KEILIN, David, biologist; b. Moscow, USSR, Mar. 21, 1887; M.A., Magdalen Coll., Cambridge; prof. biology Cambridge U., 1931-52, also dir. Meltona Inst. Fellow Royal Soc. (Copley medal 1951), French Acad. Sci. (Linn. fgn.). Research on biochemistry of higher Diptera; demonstrated existence of cytochrome (pigment found in some yeast and bacteria cells). Of- fice: Meltona Inst., Cambridge, Eng.

KEILL, James, physician; b. Scotland, Mar. 27, 1673; M.D., Cambridge, Eng.; began practice medi- cine, Northampton, Eng., 1703. Fellow Royal Soc., 1711. Author: The Anatomy of the Human Body, 1685; An Account of Animal Secretion, the Quantity of Blood in the Human Body, and Muscular Motion, 1708. Supported mech. or intra-math. sch. medicine; ap- plied math. calculus to physiology; estimated quan- tity of blood in human body, blood flow, and force of heart. Died July 16, 1719.

KEILL, John, Brit. mathematician; b. Edinburgh, Scotland, Dec. 1, 1671; incorporated M.A., Balliol Coll., Oxford, Eng., 1694, D.M., Oxford, 1713; M.A., Edinburgh U.; m. Mary Clements; 1 son. Became lectr. expl. philosophy Ham. Hall, Oxford, 1700, Savilian prof. geometry, 1713; treas. of Palatines, 1709-11; deoyster to Queen Anne, 1712-13. Mem. Commn. for Longitude, Fellow Royal Soc., 1700. Author: In- troduction ad verum phisycum, 1701; On the Laws of Attraction, 1706; On the Newtonian Solution of Ke- ler's Problem, 1708; Euclidis elementorum libri, 1717; Introduction ad verum astronomiam, 1718. Defended Newton's claim as inventor of differential calculus in answer to Leibniz, 1705; application of Huyghen's theorems of centrifugal force to explain figure of earth; studied cohesion and elasticity; urged revival of study of Euclid, 1717. Died Oxford, Aug. 31, 1722.

KEIM, Christopher Peter, Am. physicist; b. Tecum- seh, Neb., Apr. 6, 1926; s. Jacob Henry and Mary (Pohlent) K.; A.B., Neb. Wesleyan U., 1927, Sc.D., 1959; M.S., U. Neb., 1932, Ph.D., 1940; m. Lucille Parli, June 25, 1929; children—Virginia Ann (Mrs. Clark Hayes), Robert Christopher. Engr., Lincoln Tel. & Tel. Co. (Neb.), 1929-31; prof. phys. sci. Year (Neb.) Coll., 1933-37; research fellow U. Neb., 1937-40; mem. chemistry faculty Tulsa U., 1940-41; re- search engr. Sylvania Electric Products Corp., Salem, Mass., 1941-42; research fellow Mellon Inst., Pitts., 1942-44; sr. physicist Tenn. Eastman Corp., Oak Ridge, 1944-47, Union Carbide Corp., 1947; dir. stable isotope research and prodn. div. Oak Ridge Nat. Lab., 1947-57, dir. tech. information div., 1957—; dir. Mgnt. Services, Inc. Recipient Alumni Achieve-