

American Men & Women of Science

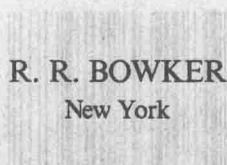
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A Biographical Directory of Today's Leaders in
Physical, Biological and Related Sciences.

Volume 2 • C-F

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Preface

American Men and Women Of Science remains without peer as a chronicle of North American scientific endeavor and achievement, having recorded the careers of over 290,000 scientists and engineers since its inception. The present work is the seventeenth edition since it was first compiled as *American Men of Science* by J. Mckeen Cattell in 1906. In the eighty-three years since the first edition, the number of American scientists and the fields they pursue have grown immeasurably. However, it is still our goal to achieve the purposes stated by Dr. Cattell when he first undertook the task of producing a biographical directory of currently active American scientists. His intention was not to provide intimate portraits of men's lives, but to record personal, educational and career data which would make "a contribution to the organization of science in America" and "make men [and women] of science acquainted with one another and with one another's work." It is the editors' hope that this edition, like previous ones, will fulfill these goals.

The seventeenth edition contains biographies of 3,831 men and women, for the first time. All fields of endeavor in the natural sciences are represented along with a discipline index, which groups the biographees by field of activity. The index organizes the biographees under disciplines adapted from the National Science Foundation's Taxonomy of Degree and Employment Specialties. The editors selected this classification system so that entrants would be grouped according to a consistent and recognized standard. In addition to the information provided by the discipline index, users will find information on biographees' specialties and research interests in the entries in the main volumes. Specific fields of interest may also be searched using *American Men and Women Of Science* online.

While the scientific fields covered by *American Men and Women Of Science* are comprehensive, no attempt has been made to include all American scientists. Entrants are meant to be limited to those who have made significant contributions in their field. The names of new entrants were submitted for consideration at the editors' request by current entrants and by persons in charge of academic, govern-

ment and private research programs. Those included met the following criteria:

1. Distinguished achievement, by reason of experience, training or accomplishment, including contributions to the literature, coupled with continuing activity in scientific work;
- or
2. Research activity of high quality in science as evidenced by publication in reputable scientific journals; or for those whose work cannot be published due to governmental or industrial security, research activity of high quality in science as evidenced by the judgment of the individual's peers;
- or
3. Attainment of a position of substantial responsibility requiring scientific training and experience.

This edition profiles living scientists in the physical and biological fields, as well as public health scientists, engineers, mathematicians, statisticians, and computer scientists. The information is collected by means of direct communication whenever possible. Forms are sent to all entrants for corroboration and updating; those whose biographies are appearing for the first time received verification proofs before publication. The information submitted by entrants is included as completely as possible within the boundaries of editorial and space restrictions. Full entries are repeated for former listees who do not return forms, but whose current location can be verified in secondary sources. References to the previous edition are given for those who do not return forms and cannot be located, but who are presumed to be still active in science or engineering. A notation is made when an entrant from the previous edition is known to be deceased. Non-citizens of the United States or Canada are included if working in North America for a reasonable duration.

In addition to the printed volumes, *American Men and Women Of Science* remains available for online searching through the subscription service of DIALOG Information

Services, Inc. (3460 Hillview Ave, Palo Alto, CA 94304). All elements of an entry, including field of interest, experience, and location can be accessed by key word. Tapes and mailing lists are also available through R.R. Bowker. Inquiries may be addressed to the Mailing List Department.

A project as large as publishing *American Men And Women Of Science* involves the efforts of a great many people. The editors take this opportunity to thank the seventeenth edition advisory committee for their guidance, encouragement and support. Appreciation is also expressed to the many scientific societies who provided their membership lists for the purpose of locating former entrants whose addresses had changed, and to the thousands of scientists across the country who took time to provide us with biographical information. Finally, we wish to thank Michael Gold and the Systems Development staff

for their dedicated programming efforts, Judy Redel and her staff for their indefatigable research, and all those whose care and devotion to accurate editing assured the successful production of this edition.

Comments and suggestions on any aspect of the seventeenth edition are encouraged and should be directed to The Editors, *American Men And Women Of Science*, R. R. Bowker, 245 West 17th Street, New York, New York 10011.

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February, 1989

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Abbreviations

AAAS—American Association for the Advancement of Science
abnorm—abnormal
abstr—abstract(s)
acad—academic, academy
acct—account, accountant, accounting
acoust—acoustic(s), acoustical
ACTH—adrenocorticotrophic hormone
actg—acting
activ—activities, activity
addn—addition(s), additional
Add—Address
adj—adjunct, adjutant
adjust—adjustment
Adm—Admiral
admin—administration, administrative
adminr—administrator(s)
admis—admission(s)
adv—adviser(s), advisory
advan—advance(d), advancement
advert—advertisement, advertising
AEC—Atomic Energy Commission
aerodyn—aerodynamic(s)
aeronaut—aeronautic(s), aeronautical
aerophys—aerophysical, aerophysics
aesthet—aesthetic(s)
AFB—Air Force Base
affil—affiliate(s), affiliation
agr—agricultural, agriculture
agron—agronomic, agronomical, agronomy
agrost—agrostologic, agrostological, agrostology
agt—agent
AID—Agency for International Development
Ala—Alabama
allergol—allergological, allergology
alt—alternate
Alta—Alberta
Am—America, American
AMA—American Medical Association
anal—analysis, analytic, analytical
analog—analogue
anat—anatomic, anatomical, anatomy
anesthesiol—anesthesiology
angiol—angiology
Ann—Annal(s)
ann—annual
anthrop—anthropological, anthropology
anthropom—anthropometric, anthropometrical, anthropometry
antiq—antiquary, antiquities, antiquity

antiqn—antiquarian
apicult—apicultural, apiculture
APO—Army Post Office
app—appoint, appointed
appl—applied
appln—application
approx—approximate(ly)
Apr—April
apt—apartment(s)
aquacult—aquaculture
arbit—arbitration
arch—archives
archaeol—archaeological, archaeology
archit—architectural, architecture
Arg—Argentina, Argentine
Ariz—Arizona
Ark—Arkansas
artil—artillery
asn—association
assoc(s)—associate(s), associated
asst(s)—assistant(s), assistantship(s)
Assyriol—Assyriology
astrodyn—astrodynamics
astron—astronomical, astronomy
astronaut—astronautical, astronautics
astronr—astronomer
astrophys—astrophysical, astrophysics
attend—attendant, attending
atty—attorney
audiol—audiology
Aug—August
auth—author
AV—audiovisual
Ave—Avenue
avicult—avicultural, aviculture

b—born
bact—bacterial, bacteriologic, bacteriological, bacteriology
BC—British Columbia
bd—board
behav—behavior(al)
Belg—Belgian, Belgium
bibl—biblical
biblog—bibliographic, bibliographical, bibliography
bibliogr—bibliographer
biochem—biochemical, biochemistry
biog—biographical, biography
biol—biological, biology
biomed—biomedical, biomedicine

biomet—biometric(s), biometrical, biometry
biophys—biophysical, biophysics
bk(s)—book(s)
bldg—building
Blvd—Boulevard
Bor—Borough
bot—botanical, botany
br—branch(es)
Brig—Brigadier
Brit—Britain, British
Bro(s)—Brother(s)
byrol—byrology
Bull—Bulletin
bur—bureau
bus—business
BWI—British West Indies

c—children
Calif—California
Can—Canada, Canadian
cand—candidate
Capt—Captain
cardiol—cardiology
cardiovasc—cardiovascular
cartog—cartographic, cartographical, cartography
cartogr—cartographer
Cath—Catholic
CEngr—Corps of Engineers
cent—central
Cent Am—Central America
cert—certificate(s), certification, certified
chap—chapter
chem—chemical(s), chemistry
chemother—chemotherapy
chmn—chairman
citricult—citriculture
class—classical
climat—climatological, climatology
clin(s)—clinic(s), clinical
cmdng—commanding
Co—Companies, Company
coauth—coauthor
co-dir—co-director
co-ed—co-editor
coeduc—coeducation, coeducational
col(s)—college(s), collegiate, colonel
collab—collaboration, coloborative
collabr—collaborator
Colo—Colorado
com—commerce, commercial

ABBREVIATIONS

Comdr—Commander
 commun—communicable, communication(s)
 comm(s)—commission(s), commissioned
 comnr—commissioner
 comp—comparative
 compos—composition
 comput—computation, computer(s),
 computing
 comt(s)—committee(s)
 conchol—conchology
 conf—conference
 cong—congress, congressional
 Conn—Connecticut
 conserv—conservation, conservatory
 consol—consolidated, consolidation
 const—constitution, constitutional
 construct—construction, constructive
 consult(s)—consult, consultant(s)
 consultants(s), consultation, consulting
 contemp—contemporary
 contrib—contribute, contributing,
 contribution(s)
 contribr—contributor
 conv—convention
 coop—cooperating, cooperation, cooperative
 coord—coordinate(d), coordinating,
 coordination
 coordr—coordinator
 corp—corporate, corporation(s)
 corresp—correspondence, correspondent,
 corresponding
 coun—council, counsel, counseling
 counr—councilor, counselor
 criminol—criminological, criminology
 cryog—cryogenic(s)
 crystallog—crystallographic, crystallographi-
 cal, crystallography
 crystalogr—crystallographer
 Ct—Court
 Ctr—Center
 cult—cultural, culture
 cur—curator
 curric—curriculum
 cybernet—cybernetic(s)
 cytol—cytological, cytology
 Czech—Czechoslovakia

DC—District of Columbia
 Dec—December
 Del—Delaware
 deleg—delegate, delegation
 delinq—delinquency, delinquent
 dem—democrat(s), democratic
 demog—demographic, demography
 demogr—demographer
 demonstr—demonstrator
 dendrol—dendrologic, dendrological,
 dendrology
 dent—dental, dentistry
 dep—deputy
 dept—department(al)
 dermat—dermatologic, dermatological,
 dermatology
 develop—developed, developing, develop-
 ment, developmental
 diag—diagnosis, diagnostic
 dialectol—dialectological, dialectology
 dict—dictionaries, dictionary
 Dig—Digest
 dipl—diploma, diplomate
 dir(s)—director(s), directories, directory
 dis—disease(s), disorders

Diss Abstr—Dissertation Abstracts
 dist—district
 distrib—distributed, distribution, distributive
 distribr—distributor(s)
 div—division, divisional, divorced
 DNA—deoxyribonucleic acid
 doc—document(s), documentary,
 documentation
 Dom—Dominion
 Dr—Drive

e—east
 ecol—ecological, ecology
 econ(s)—economic(s), economical, economy
 economet—econometric(s)
 ECT—electroconvulsive or electroshock
 therapy
 ed—edition(s), editor(s), editorial
 ed bd—editorial board
 educ—education, educational
 educr—educator(s)
 EEG—electroencephalogram, electroenceph-
 alographic, electroencephalography
 Egyptol—Egyptology
 EKG—electrocardiogram
 elec—electric, electrical, electricity
 electrochem—electrochemical, electrochem-
 istry
 electrophys—electrophysical, electrophysics
 elem—elementary
 embryol—embryologic, embryological,
 embryology
 emer—emeriti, emiritus
 employ—employment
 encour—encouragement
 encycl—encyclopedia
 endocrinol—endocrinologic, endocrinology
 eng—engineering
 Eng—England, English
 engr(s)—engineer(s)
 enol—enology
 Ens—Ensign
 entom—entomological, entomology
 environ—environment(s), environmental
 enzym—enzymology
 epidemiol—epidemiologic, epidemiological,
 epidemiology
 equip—equipment
 ESEA—Elementary & Secondary Education
 Act
 espec—especially
 estab—established, establishment(s)
 ethnog—ethnographic, ethnographic(al),
 ethnography
 ethnogr—ethnographer
 ethmol—ethnologic, ethnological, ethnology
 Europ—European
 eval—evaluation
 evangel—evangelical
 eve—evening
 exam—examination(s), examining
 examr—examiner
 except—exceptional
 exec(s)—executive(s)
 exeg—exegeses, exegesis, exegetic, exegetical
 exhib(s)—exhibition(s), exhibit(s)
 exp—experiment, experimental
 exped(s)—expedition(s)
 explor—exploration(s), exploratory
 expos—exposition
 exten—extension

fac—faculty

facil—facilities, facility
 Feb—February
 fed—federal
 fedn—federation
 fel(s)—fellow(s), fellowship(s)
 fermentol—fermentology
 fertil—fertility, fertilization
 Fla—Florida
 floricult—floricultural, floriculture
 found—foundation
 FPO—Fleet Post Office
 Fr—French
 Ft—Fort

Ga—Georgia
 gastroenterol—gastroenterological, gastroen-
 terology
 gen—general
 geneal—genealogical, genealogy
 geod—geodesy, geodetic
 geog—geographic, geographical, geography
 geogr—geographer
 geol—geologic, geological, geology
 geom—geometric, geometrical, geometry
 geomorphol—geomorphologic,
 geomorphology
 geophys—geophysical, geophysics
 Ger—German, Germanic, Germany
 geriat—geriatric(s)
 geront—gerontological, gerontology
 glaciol—glaciology
 gov—governing, governor(s)
 govt—government, governmental
 grad—graduate(d)
 Gt Brit—Great Britain
 guid—guidance
 gym—gymnasium
 gynec—gynecologic, gynecological,
 gynecology

handbk(s)—handbook(s)
 helminth—helminthology
 hemat—hematologic, hematological,
 hematology
 herpet—herpetologic, herpetological,
 herpetology
 Hisp—Hispanic, Hispania
 hist—historic, historical, history
 histol—histological, histology
 HM—Her Majesty
 hochsch—hochschule
 homeop—homeopathic, homeopathy
 hon(s)—honor(s), honorable, honorary
 hort—horticultural, horticulture
 hosp(s)—hospital(s), hospitalization
 hq—headquarters
 HumRRO—Human Resources Research
 Office
 husb—husbandry
 Hwy—Highway
 hydraul—hydraulic(s)
 hydrodyn—hydrodynamic(s)
 hydrol—hydrologic, hydrological, hydrology
 hyg—hygiene, hygienic(s)
 hypn—hypnosis

ichthyol—ichthyological, ichthyology
 Ill—Illinois
 illum—illuminating, illumination
 illus—illustrate, illustrated, illustration
 illusr—illustrator
 immunol—immunologic, immunological,
 immunology

Imp—Imperial
 improv—improvement
 Inc—Incorporated
 in-chg—in charge
 incl—include(s), including
 Ind—Indiana
 indust(s)—industrial, industries, industry
 inf—infantry
 info—information
 inorg—inorganic
 ins—insurance
 inst(s)—institute(s), institution(s)
 instnl—institutional(ized)
 instr(s)—instruct, instruction, instructor(s)
 instrnl—instructional
 int—international
 intel—intelligence
 introd—introduction
 invert—invertebrate
 invest(s)—investigation(s)
 investr—investigator
 irrig—irrigation
 Ital—Italian

J—Journal
 Jan—January
 Jct—Junction
 jour—journal, journalism
 jr—junior
 jurisp—jurisprudence
 juv—juvenile

Kans—Kansas
 Ky—Kentucky

La—Louisiana
 lab(s)—laboratories, laboratory
 lang—language(s)
 laryngol—laryngological, laryngology
 lect—lecture(s)
 lectr—lecturer(s)
 legis—legislation, legislative, legislature
 lett—letter(s)
 lib—liberal
 libr—libraries, library
 librn—librarian
 lic—license(d)
 limnol—limnological, limnology
 ling—linguistic(s), linguistic
 lit—literary, literature
 lithol—lithologic, lithological, lithology
 Lt—Lieutenant
 Ltd—Limited

m—married
 mach—machine(s), machinery
 mag—magazine(s)
 maj—major
 malacol—malacology
 mammal—mammalogy
 Man—Manitoba
 Mar—March
 Mariol—Mariology
 Mass—Massachusetts
 mat—material(s)
 mat med—materia medica
 math—mathematic(s), mathematical
 Md—Maryland
 mech—mechanic(s), mechanical
 med—medical, medicinal, medicine
 Mediter—Mediterranean
 Mem—Memorial
 mem—member(s), membership(s)

ment—mental(ly)
 metab—metabolic, metabolism
 metall—metallurgic, metallurgical, metallurgy
 metallog—metallographic, metallography
 metallogr—metallographer
 metaphys—metaphysical, metaphysics
 meteorol—meteorological, meteorology
 metrol—metrological, metrology
 metrop—metropolitan
 Mex—Mexican, Mexico
 mfg—manufacturing
 mfr(s)—manufacture(s), manufacturer(s)
 mgr—manager
 mgt—management
 Mich—Michigan
 microbiol—microbiological, microbiology
 micros—microscopic, microscopical, microscopy
 mid—middle
 mil—military
 mineral—mineralogical, mineralogy
 Minn—Minnesota
 Miss—Mississippi
 mkt—market, marketing
 Mo—Missouri
 mod—modern
 monogr—monograph
 Mont—Montana
 morphol—morphological, morphology
 Mt—Mount
 mult—multiple
 munic—municipal, municipalities
 mus—museum(s)
 musicol—musicological, musicology
 mycol—mycologic, mycology

n—north
 NASA—National Aeronautics & Space Administration
 nat—national, naturalized
 NATO—North Atlantic Treaty Organization
 navig—navigation(al)
 NB—New Brunswick
 NC—North Carolina
 NDak—North Dakota
 NDEA—National Defense Education Act
 Nebr—Nebraska
 nematol—nematological, nematology
 nerv—nervous
 Neth—Netherlands
 neurol—neurological, neurology
 neuropath—neuropathological, neuropathology
 neuropsychiat—neuropsychiatric, neuropsychiatry
 neuro.surg—neurosurgical, neurosurgery
 Nev—Nevada
 New Eng—New England
 New York—New York City
 Nfld—Newfoundland
 NH—New Hampshire
 NIH—National Institutes of Health
 NIMH—National Institute of Mental Health
 NJ—New Jersey
 NMex—New Mexico
 nonres—nonresident
 norm—normal
 Norweg—Norwegian
 Nov—November
 NS—Nova Scotia
 NSF—National Science Foundation
 NSW—New South Wales

numis—numismatic(s)
 nutrit—nutrition, nutritional
 NY—New York State
 NZ—New Zealand

observ—observatories, observatory
 obstet—obstetric(s), obstetrical
 occas—occasional(ly)
 occup—occupation, occupational
 oceanog—oceanographic, oceanographical, oceanography
 oceanogr—oceanographer
 Oct—October
 odontol—odontology
 OEEC—Organization for European Economic Cooperation
 off—office, official
 Okla—Oklahoma
 olericult—olericulture
 oncol—oncologic, oncology
 Ont—Ontario
 oper(s)—operation(s), operational, operative
 ophthal—ophthalmologic, ophthalmological, ophthalmology
 optom—optometric, optometrical, optometry
 ord—ordnance
 Ore—Oregon
 org—organic
 orgn—organization(s), organizational
 orient—oriental
 ornith—ornithological, ornithology
 orthod—orthodontia, orthodontic(s)
 orthop—orthopedic(s)
 osteop—osteopathic, osteopathy
 otol—otological, otology
 otolaryngol—otolaryngological, otolaryngology
 otorhinol—otorhinologic, otorhinology

Pa—Pennsylvania
 Pac—Pacific
 paleobot—paleobotanical, paleobotany
 paleont—paleontological, paleontology
 Pan-Am—Pan-American
 parasitol—parasitology
 partic—participant, participating
 path—pathologic, pathological, pathology
 pedag—pedagogic(s), pedagogical, pedagogy
 pediat—pediatric(s)
 PEI—Prince Edward Islands
 penol—penological, penology
 periodont—periodontal, periodontic(s), periodontology
 petrog—petrographic, petrographical, petrography
 petrogr—petrographer
 petrol—petroleum, petrologic, petrological, petrology
 pharm—pharmacy
 pharmaceut—pharmaceutic(s), pharmaceutical(s)
 pharmacog—pharmacognosy
 pharmacol—pharmacologic, pharmacological, pharmacology
 phenomenol—phenomenologic(al), phenomenology
 philol—philological, philology
 philos—philosophic, philosophical, philosophy
 photog—photographic, photography
 photogeog—photogeographic, photogeography

ABBREVIATIONS

- fotogr—photographer(s)
 photogram—photogrammetric, photogrammetry
 photom—photometric, photometrical, photometry
 phycol—phycology
 phys—physical
 physiog—physiographic, physiographical, physiography
 physiol—physiological, physiology
 Pkwy—Parkway
 Pl—Place
 polit—political, politics
 polytech—polytechnic(al)
 pomol—pomological, pomology
 pontif—pontifical
 pop—population
 Port—Portugal, Portuguese
 postgrad—postgraduate
 PQ—Province of Quebec
 PR—Puerto Rico
 pract—practice
 practr—practitioner
 prehist—prehistoric, prehistory
 prep—preparation, preparative, preparatory
 pres—president
 Presby—Presbyterian
 preserv—preservation
 prev—prevention, preventive
 prin—principal
 prob(s)—problem(s)
 proc—proceedings
 proctol—proctologic, proctological, proctology
 prod—product(s), production, productive
 prof—professional, professor, professorial
 Prof Exp—Professional Experience
 prog(s)—program(s), programmed, programming
 proj—project(s), projection(al), projective
 prom—promotion
 protozool—protozoology
 prov—province, provincial
 psychiat—psychiatric, psychiatry
 psychoanal—psychoanalysis, psychoanalytic, psychoanalytical
 psychol—psychological, psychology
 psychomet—psychometric(s)
 psychopath—psychopathologic, psychopathology
 psychophys—psychophysical, psychophysics
 psychophysiol—psychophysiological, psychophysiology
 psychosom—psychosomatic(s)
 psychother—psychotherapeutic(s), psychotherapy
 Pt—Point
 pub—public
 publ—publication(s), publish(ed), publisher, publishing
 pvt—private
- Qm—Quartermaster
 Qm Gen—Quartermaster General
 qual—qualitative, quality
 quant—quantitative
 quart—quarterly
- radiol—radiological, radiology
 RAF—Royal Air Force
 RAFVR—Royal Air Force Volunteer Reserve
- RAMC—Royal Army Medical Corps
 RAMCR—Royal Army Medical Corps Reserve
 RAOC—Royal Army Ordnance Corps
 RASC—Royal Army Service Corps
 RASCR—Royal Army Service Corps Reserve
 RCAF—Royal Canadian Air Force
 RCAFVR—Royal Canadian Air Force Volunteer Reserve
 RCAMC—Royal Canadian Army Medical Corps
 RCAMCR—Royal Canadian Army Medical Corps Reserve
 RCASC—Royal Canadian Army Service Corps
 RCASCR—Royal Canadian Army Service Corps Reserve
 RCEME—Royal Canadian Electrical & Mechanical Engineers
 RCN—Royal Canadian Navy
 RCNR—Royal Canadian Naval Reserve
 RCNVR—Royal Canadian Naval Volunteer Reserve
 Rd—Road
 RD—Rural Delivery
 rec—record(s), recording
 redevelop—redevelopment
 ref—reference(s)
 refrig—refrigeration
 regist—register(ed), registration
 registr—registrar
 regt—regiment(al)
 rehab—rehabilitation
 rel(s)—relation(s), relative
 relig—religion, religious
 REME—Royal Electrical & Mechanical Engineers
 rep—represent, representative
 repub—republic
 req—requirements
 res—research, reserve
 rev—review, revised, revision
 RFD—Rural Free Delivery
 rhet—rhetoric, rhetorical
 RI—Rhode Island
 Rm—Room
 RM—Royal Marines
 RN—Royal Navy
 RNA—ribonucleic acid
 RNR—Royal Naval Reserve
 RNVR—Royal Naval Volunteer Reserve
 roentgenol—roentgenologic, roentgenological, roentgenology
 RR—Railroad, Rural Route
 rte—route
 Russ—Russian
 rwy—railway
- s—south
 SAfrica—South Africa
 SAmerica—South America, South American
 sanit—sanitary, sanitation
 Sask—Saskatchewan
 SC—South Carolina
 Scand—Scandinavia(n)
 sch(s)—school(s)
 scholar—scholarship
 sci—science(s), scientific
 SDak—South Dakota
 SEATO—Southeast Asia Treaty Organization
 sec—secondary
 sect—section
- secy—secretary
 seismog—seismograph, seismographic, seismography
 seismogr—seismographer
 seismol—seismological, seismology
 sem—seminar, seminary
 sen—senator, senatorial
 Sept—September
 ser—serial, series
 serol—serologic, serological, serology
 serv—service(s), serving
 silvicult—silvicultural, silviculture
 soc(s)—societies, society
 soc sci—social science
 social—sociologic, sociological, sociology
 Span—Spanish
 spec—special
 specif—specification(s)
 spectrog—spectrograph, spectrographic, spectrography
 spectrogr—spectrographer
 spectrophotom—spectrophotometer, spectrophotometric, spectrophotometry
 spectros—spectroscopic, spectroscopy
 speleol—speleological, speleology
 Sq—Square
 sr—senior
 St—Saint, Street(s)
 sta(s)—station(s)
 stand—standard(s), standardization
 statist—statistical, statistics
 Ste—Sainte
 steril—sterility
 stomatol—stomatology
 stratig—stratigraphic, stratigraphy
 stratigr—stratigrapher
 struct—structural, structure(s)
 stud—student(ship)
 subcomt—subcommittee
 subj—subject
 subsid—subsidiary
 substa—substation
 super—superior
 suppl—supplement(s), supplemental, supplementary
 supt—superintendent
 supv—supervising, supervision
 supvr—supervisor
 supvry—supervisory
 surg—surgery, surgical
 surv—survey, surveying
 survr—surveyor
 Swed—Swedish
 Switz—Switzerland
 symp—symposia, symposium(s)
 syphil—syphilology
 syst(s)—system(s), systematic(s), systematical
- taxon—taxonomic, taxonomy
 tech—technical, technique(s)
 technol—technologic(al), technology
 tel—telegraph(y), telephone
 temp—temporary
 Tenn—Tennessee
 Terr—Terrace
 Tex—Texas
 textbk(s)—textbook(s)
 text ed—text edition
 theol—theological, theology
 theoret—theoretic(al)
 ther—therapy
 therapeut—therapeutic(s)

ABBREVIATIONS

therodyn—thermodynamic(s)
 topog—topographic, topographical,
 topography
 topogr—topographer
 toxicol—toxicologic, toxicological, toxicology
 trans—transactions
 transl—translated, translation(s)
 translr—translator(s)
 transp—transport, transportation
 treas—treasurer, treasury
 treat—treatment
 trop—tropical
 tuberc—tuberculosis
 TV—television
 Twp—Township

UAR—United Arab Republic
 UK—United Kingdom
 UN—United Nations
 undergrad—undergraduate
 unemploy—unemployment
 UNESCO—United Nations Educational
 Scientific & Cultural Organization
 UNICEF—United Nations International
 Childrens Fund
 univ(s)—universities, university
 UNRRA—United Nations Relief &
 Rehabilitation Administration
 UNRWA—United Nations Relief & Works
 Agency
 urol—urologic, urological, urology
 US—United States

USA—US Army
 USAAF—US Army Air Force
 USAAFR—US Army Air Force Reserve
 USAF—US Air Force
 USAFR—US Air Force Reserve
 USAR—US Army Reserve
 USCG—US Coast Guard
 USCGR—US Coast Guard Reserve
 USDA—US Department of Agriculture
 USMC—US Marine Corps
 USMCR—US Marine Corps Reserve
 USN—US Navy
 USNAF—US Naval Air Force
 USNAFR—US Naval Air Force Reserve
 USNR—US Naval Reserve
 USPHS—US Public Health Service
 USPHSR—US Public Health Service Reserve
 USSR—Union of Soviet Socialist Republics
 USWMC—US Women's Marine Corps
 USWMCR—US Women's Marine Corps
 Reserve

Va—Virginia
 var—various
 veg—vegetable(s), vegetation
 vent—ventilating, ventilation
 vert—vertebrate
 vet—veteran(s), veterinarian, veterinary
 VI—Virgin Islands
 vinicult—viniculture
 virol—virological, virology
 vis—visiting

voc—vocational
 vocab—vocabulary
 vol(s)—voluntary, volunteer(s), volume(s)
 vpres—vice president
 vs—versus
 Vt—Vermont

w—west
 WAC—Women's Army Corps
 Wash—Washington
 WAVES—Women Accepted for Voluntary
 Emergency Service
 WHO—World Health Organization
 WI—West Indies
 wid—widow, widowed, widower
 Wis—Wisconsin
 WRCNS—Women's Royal Canadian Naval
 Service
 WRNS—Women's Royal Naval Service
 WVa—West Virginia
 Wyo—Wyoming

yearbk(s)—yearbook(s)
 YMCA—Young Men's Christian Association
 YMHA—Young Men's Hebrew Association
 yr(s)—year(s)
 YWCA—Young Women's Christian Asso-
 ciation
 YWHA—Young Women's Hebrew Asso-
 ciation
 zool—zoological, zoology

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American Men & Women of Science

- CABANA, ALDEE**, b Beloeil, Que, July 20, 35; m 58; c 4. **PHYSICAL CHEMISTRY, MOLECULAR SPECTROSCOPY**. Educ: Univ Montreal, BSc, 58, MSc, 59, PhD(chem), 62. Prof Exp: Fel chem, Princeton Univ, 61-63; from asst prof to assoc prof, 63-71, dean, Fac Sci, 78-85, PROF CHEM, UNIV SHERBROOKE, 71-. **RECTOR, 85-Concurrent Pos**: Pres, Syndicate Prof Univ Sherbrooke, 75-76. **Honors & Awards**: Gerhard Herzberg Award, Spectros Soc Can, 76; Achambault Prize, Asn Can-French Advan Sci, 83. **Mem**: Fel Chem Inst Can; Spectros Soc Can; Can Asn Physicists; assoc mem Can Soc Chem Eng; Sigma Xi. **Res**: Infrared and Raman spectra of molecular crystals; high resolution infrared spectroscopy. **Mailing Add**: Rector Univ Sherbrooke Sherbrooke PQ J1K 2R1 Can
- CABANA, VENERACION GARGANTA**, b Lopez, Quezon, Philippines, Jan 9, 42; US citizen. **LIPOPROTEIN METABOLISM, ACUTE PHASE RESPONSE**. Educ: Philippine Univ Col, BS, 64; Univ Chicago, cert, 69; Univ Ill, MS, 72, PhD(immunol), 80. Prof Exp: Res assoc, Univ Wash, 72-75; from instr to asst prof immunol, Rush Med Col, 80-83; asst prof med, Univ Chicago, 84-87; ASSOC PROF MED, RUSH MED COL, 87- **Concurrent Pos**: Guest lectr, Univ Autonoma Montemorelos, Mex, 83-85. **Mem**: Am Asn Immunologists; Am Asn Clin Chem; Am Heart Asn Coun Atherosclerosis. **Res**: Lipoprotein metabolism and the acute phase response, that is alterations of lipids and apolipoproteins in the plasma and response to tissue destructive processes brought about by infections and noninfectious agents. **Mailing Add**: 548 Redwood St Bolingbrook IL 60439
- CABANES, WILLIAM RALPH, JR**, b Memphis, Tex, Nov 13, 32; m 62; c 1. **ORGANIC CHEMISTRY, POLYMER CHEMISTRY**. Educ: Univ Tex, Austin, BA, 53, MA, 55, PhD(org chem), 57. Prof Exp: Res fel chem, Univ Ariz, 62-64; lectr org chem, Univ Minn, Duluth, 64-65; ASSOC PROF ORG CHEM, UNIV TEX, EL PASO, 65- **Concurrent Pos**: R A Welch grant, 67-70. **Mem**: Fel AAAS; NY Acad Sci. **Res**: Organic polymers; polyampholytes. **Mailing Add**: Dept of Chem Univ of Tex El Paso TX 79968
- CABASSO, ISRAEL**, b Jerusalem, Israel, Nov 17, 42. **POLYMER CHEMISTRY**. Educ: Hebrew Univ Jerusalem, BS, 66, MS, 68; Weizmann Inst Sci, PhD(polymer chem), 73. Prof Exp: Asst res assoc & teacher chem, Hebrew Univ Jerusalem, 66-68; res asst, Dept Plastic, Weizmann Inst Sci, 68-73; fel, Gulf South Res Inst, 73-74, sr investr polymer chem, 74-75, group leader polymer chem & head & mgr, Polymer Dept, 76-80; PROF & DIR, POLYMER RES INST, STATE UNIV NY SYRACUSE, 80- **Concurrent Pos**: Prof sci, Technician High Sch, 68-72; sr res assoc, Weizmann Inst Sci, 73-; adj prof polymer dept, Univ Southern Miss, 77-; clin assoc prof biomat dept, La State Univ Med Ctr, New Orleans, 78- **Mem**: Am Chem Soc; Israel Chem Soc; NY Acad Sci. **Res**: Polymer alloys and blends; hollow fiber and synthetic polymeric membrane; synthesis and transport phenomena, for hemodialysis, urea formaldehyde, reverse osmosis, pervaporation, and polymer materials for artificial organs; self extinguish materials; development of ligand polymers. **Mailing Add**: Polymer Res Inst ESF State Univ NY Syracuse NY 13210
- CABASSO, VICTOR JACK**, b Port Said, Egypt, June 21, 15; US citizen; m 48; c 2. **VIROLOGY**. Educ: Lycee Francais, Egypt, BA, 33; Hebrew Univ, Israel, MS, 38; Sorbonne & Univ Algiers, ScD(bact), 41; Am Bd Microbiol, dipl, 61. Prof Exp: Spec investr pub health & hyg, Off Foreign Relief & Rehab Opers, US Dept State, Tunis, 43; chief bacteriologist, Greece & Mid East, UNRRA, 44-46; res virologist, Lederle Labs, 46-58; head virus immunol res dept, Lederle Labs, Am Cyanamid Co, 58-67; dir microbiol res dept, Cutter Labs, 67-69, assoc dir res microbiol, 69-74, dir, 74-76, vpres res & develop, 76-80; CONSULT & LECTR, 80- **Concurrent Pos**: Assoc mem, Pasteur Inst, Tunis; mem comt on stand methods for vet microbiol, Nat Acad Sci; mem working comt microbiol, Nat Comt Clin Lab Stand; mem subcomt rabies, Agr Bd, Nat Res Coun. **Mem**: AAAS; fel NY Acad Sci; fel Am Acad Microbiol; Am Pub Health Asn; Am Soc Microbiol; Am Vet Med Asn. **Res**: Virology; viral immunology; vaccine development; plasma fractions. **Mailing Add**: 490 Tharp Drive Moraga CA 94556
- CABBINESS, DALE KEITH**, b Binger, Okla, May 22, 37; m 58; c 2. **ANALYTICAL CHEMISTRY**. Educ: Southwestern State Col, BS, 60; Univ Ark, MS, 65; Purdue Univ, PhD(chem), 70. Prof Exp: Chemist, Dow Chem Co, 60-61; res scientist, 69-75, res group leader, 75-81, ASSOC DIR, CONOCO, INC, 81-; res group leader, Continental Oil Co, 75-81, ASSOC DIR, CONOCO, INC, 81- **Mem**: Am Chem Soc; Sigma Xi. **Res**: Chemical methods of analysis using kinetic techniques, continuous flow procedures, automation of same, and thermal environmental analysis; analytical techniques, chromatography, mass spectrometry. **Mailing Add**: Conoco Inc PO Box 1267 Ponca City OK 74603
- CABEEN, SAMUEL KIRKLAND**, b Easton, Pa, Jan 22, 31. **CHEMISTRY, INFORMATION SCIENCE**. Educ: Lafayette Col, BA, 52; Syracuse Univ, MS, 54. Prof Exp: Asst libr, Am Metal Climax Inc, 56-58; libr, Ford Instrument Co Div, Sperry Rand Corp, 58-64; asst dir, 64-68, DIR, ENG SOCS LIBR, 68- **Mem**: Spec Libr Asn; Am Soc Info Sci; Am Libr Asn. **Mailing Add**: Eng Socs Libr 345 E 47th St New York NY 10017
- CABIB, ENRICO**, b Genoa, Italy, Jan 11, 25; m 55; c 3. **BIOCHEMISTRY, ENZYMOLOGY**. Educ: Univ Buenos Aires, PhD(chem), 51. Prof Exp: Investr, Inst Biochem Invest, 49-53; vis investr biochem, Col Physicians & Surgeons, Columbia Univ, 53-54; investr, Inst Biochem Invest, 55-58; investr, Sch Sci, Univ Buenos Aires, 58-67; vis scientist, 67-69, SR RES BIOCHEMIST, NAT INST DIABETES, DIGESTIVE & KIDNEY DIS, 69- **Concurrent Pos**: Instr, Sch Sci, Univ Buenos Aires, 50-53; career investr, Nat Coun Sci & Tech Invests, 50-67; ed, Arch Biochem & Biophys, 70-72 & J Biol Chem, 75-79 & 82-87. **Mem**: Am Soc Microbiol; Soc Complex Carbohydrates; Fedn Am Sci; Am Soc Biol Chemists. **Res**: Metabolism of carbohydrates, particularly studies on the biosynthesis of di- and polysaccharides from sugar nucleotides; biosynthesis of yeast cell wall; regulation of glycogen synthesis in yeast and muscle. **Mailing Add**: Nat Inst Diabetes & Digestive & Kidney Dis Bldg 10 Rm 9N-115 Bethesda MD 20892
- CABLE, CHARLES ALLEN**, b Akeley, Pa, Jan 15, 32; m 55; c 2. **ALGEBRA, NUMBER THEORY**. Educ: Edinboro State Col, BS, 54; Univ NC, Chapel Hill, MED, 59; Pa State Univ, PhD(math), 69. Prof Exp: Teacher, high sch, NY, 54-55 & Pa, 57-58; from instr to asst prof math, Juniata Col, 59-67; assoc prof, 69-75, PROF MATH, ALLEGHENY COL, 75-. **CHMN DEPT, 70-Concurrent Pos**: Mem bd gov, Math Asn Am, 81-84, assoc ed, Focus, 82-85. **Mem**: Am Math Soc; Math Asn Am. **Res**: Group rings where ring is a finite field and group is Abelian; combinatorics and graph theory. **Mailing Add**: Dept of Math Allegheny Col Meadville PA 16335
- CABLE, JOE WOOD**, b Murray, Ky, Feb 17, 31; m 50; c 3. **SOLID STATE PHYSICS**. Educ: Murray State Univ, AB, 52; Fla State Univ, PhD(chem), 55. Prof Exp: PHYSICIST, OAK RIDGE NAT LAB, 55- **Mem**: Am Phys Soc. **Res**: Neutron scattering studies of magnetic materials. **Mailing Add**: Oak Ridge Nat Lab PO Box X Oak Ridge TN 37830
- CABLE, PETER GEORGE**, b New York, NY, May 5, 36; m 66. **SONAR ENGINEERING**. Educ: Haverford Col, BA, 58; Columbia Univ, MA, 60; Univ Md, PhD(physics), 66. Prof Exp: Physicist, Naval Underwater Sys Ctr, 66-68; res asst prof physics, Univ Md, 69-70; physicist, 71-76, SUPVR PHYSICIST, NAVAL UNDERWATER SYSTS CTR, 76- **Concurrent Pos**: Assoc fac, Mitchell Col, 67-69; adj fac, Hartford Grad Ctr, 77-81. **Mem**: Am Phys Soc; Acoust Soc Am; Sigma Xi. **Res**: Application of statistical methods to the characterizations of underwater acoustic transmission phenomena, including multipath fluctuations, scattering from rough boundaries and complex objects; acoustical noise and reverberation. **Mailing Add**: 315 Four Mile River Rd Old Lyme CT 06371
- CABLE, RAYMOND MILLARD**, b Campton, Ky, Apr 22, 09; m 36; c 4. **ZOOLOGY**. Educ: Berea Col, AB, 29; NY Univ, MS, 30, PhD, 33. **Hon Degrees**: ScD, Berea Col, 55. Prof Exp: Assoc prof biol, Berea Col, 33-35; from asst prof to prof, 35-75, EMER PROF PARASITOL, PURDUE UNIV, 75- **Concurrent Pos**: Guggenheim fel, Univ PR, 51-52; Deutsche Gessellschaft fel parasitol. **Honors & Awards**: Rudolph Leuckart Medal. **Mem**: AAAS; Am Soc Zool; Am Micros Soc; Am Soc Parasitol(vpres, 58, pres, 64); NY Acad Sci. **Res**: Parasitology. **Mailing Add**: 820 Carrollton West Lafayette IN 47906

- CABOT, JOHN BOIT, II**, b Denver, Colo, Aug 16, 46; c 1. NEUROANATOMY, NEUROPHYSIOLOGY. Educ: Univ Del, BEA, 69; Univ Va, PhD(physiol), 76. Prof Exp: Alfred Sloan Fel physiologist & neuroanat, Dept Physiol, Univ Va, 76-79; ASSOC PROF NEUROBIOL, DEPT NEUROBIOL & BEHAVE, STATE UNIV NY, STONY BROOK, 84-
Concurrent Pos: Prin investr, Neural Mechanisms Cent Cardiovasc Control, Nat Heart, Lung & Blood Inst, 79-; ad hoc mem, Exp Cardiovasc Study Sect, NIH, 81-82, mem, Exp Cardiovasc Study Sect, Div Res Grants, 83-87. Mem: Soc Neurosci; AAAS; Sigma Xi. Res: Anatomical, physiological and pharmacological characteristics of central nervous system pathways influencing peripheral cardiovascular function; identification of chemically definable inputs to the thoracolumbar sympathetic ganglionic neurons. Mailing Add: Dept Neurobiol & Biol Life Sci State Univ NY Stony Brook NY 11794
- CABOT, MYLES CLAYTON**, b Boston, Mass, Oct 23, 48. LIPID BIOCHEMISTRY, LIPID METABOLISM IN CELL SIGNAL TRANSDUCTION. Educ: Western Carolina Univ, BS, 70, MA, 72; Hebrew Univ, Hadessah Med Sch, Jerusalem, PhD(biochem), 76. Prof Exp: Damon Runyon-Walter Winchell Cancer Fel, 76-78; scientist, 78-80, sr staff scientist, Oak Ridge Assoc Univs, 80-84; SR SCIENTIST, W ALTON JONES CELL SCI CTR INC, 84- Concurrent Pos: Consult, USPHS, 78; adj fac mem, Univ VT Med Sch, Burlington, Vt, Clarkson Univ, Potsdam, Ny & minor res inst, Plattsburgh State Univ, Chazy, Ny. Mem: FASEB. Res: Structure and function of biological membranes; lipid metabolism in cancer cells; membrane modification; tumor promotion; role of lipids in cellular differentiation and agonist-induced cell signal transduction. Mailing Add: W Alton Jones Cell Sci Ctr Inc 10 Old Barn Rd Lake Placid NY 12946
- CABRAL, GUY ANTONY**, b Furnas, Port, Dec 15, 38; US citizen; m 69; c 3. VIROLOGY, ELECTRON MICROSCOPY. Educ: Univ Mass, BA, 67; Univ Conn, MS, 70, PhD(parasitol), 74. Prof Exp: Fel virol, Baylor Col Med, 74-76, asst prof, 76-78; ASST PROF VIROL, DEPT MICROBIOL, MED COL VA, VA COMMONWEALTH UNIV, 78- Mem: Am Soc Microbiol; Am Soc Parasitol; AAAS; Electron Micros Soc Am; Sigma Xi. Res: Viral oncogenesis; analysis of hepatitis type B subunit vaccines; non-A and non-B hepatitis research. Mailing Add: Dept Microbiol Med Col Va Sta Box 163 Richmond VA 23298
- CABRERA, BLAS**, b Paris, France, Sept 21, 46; US citizen; m 72; c 2. LOW TEMPERATURE PHYSICS. Educ: Univ Va, BS, 68; Stanford Univ, PhD(physics), 75. Prof Exp: RES ASSOC PHYSICS, STANFORD UNIV, 75- Mem: Sigma Xi. Res: Testing general relativity with an orbiting precise superconducting gyroscope referenced to a fixed star, using a London moment readout in an ultra-low magnetic field region. Mailing Add: Dept of Physics Stanford Univ Stanford CA 94305
- CABRERA, EDELBERTO JOSE**, b Pinar del Rio, Cuba, Nov 5, 44; US citizen; m 64; c 2. IMMUNOLOGY, IMMUNOPHARMACOLOGY. Educ: Univ Ill, Urbana-Champaign, BS, 67, MS, 68, PhD(zool), 72. Prof Exp: Res asst malaria, Univ Ill, Urbana-Champaign, 69-72; res scientist immunol, Univ NMex, 72-77; GROUP LEADER, NORWICH-EATON PHARMACEUT, 77- Mem: AAAS; Fedn Am Soc Exp Biol; Am Asn Immunologists; Asn Med Lab Immunologists. Res: Immunopharmacology and immunotoxicology of drugs; development of radioimmunoassays and enzyme immunoassays. Mailing Add: Norwich-Eaton Pharmaceut Inc PO Box 191 Norwich NY 13815
- CABRI, LOUIS J**, b Cairo, Egypt, Feb 23, 34; Can citizen; m 59; c 3. MINERALOGY, GEOCHEMISTRY. Educ: Univ Witwatersrand, BSc, 54, Hons, 55; McGill Univ, MSc, 61, PhD(geol, geochem), 65. Prof Exp: Geologist, Josan, SA, W Africa, 56, Sierra Leone Mineral Syndicate, 57-58 & New Amianthus Mines, SAfrica, 59; sci officer mineral, Dept Mines & Tech Surv, Can, 64-65; RES SCIENTIST, DEPT ENERGY, MINES & RES CAN, 66- Concurrent Pos: Sci ed, Can Mineralogist, 75-82, ed, Plantinum-Group Elements: Mineral, Geol, Recovery, 81. Honors & Awards: Waldemar Lindgren Citation, Soc Econ Geol, 66; Queen's Silver Jubilee Medal, 77. Mem: Mineral Soc Am; Mineral Asn Can; Geol Asn Can; Can Inst Mining & Metall; Prof Inst Pub Serv Can; Soc Econ Geologists. Res: Phase equilibrium research in sulfide and sulfide-type systems and applications to mineralogical problems and to genesis of ore deposits; distribution of trace precious metals in ores and concentrates; platinum-group elements, gold and silver; beneficiation and economic aspects of ore minerals. Mailing Add: 514 Queen Elizabeth Driveway Ottawa ON K1S 3N4 Can
- CACCIAMANI, EUGENE RICHARD, JR**, b Nyack, NY; m 61; c 3. COMMUNICATIONS THEORY-DIGITAL MODULATION-PSK, INFORMATION THEORY. Educ: Union Col, Schenectady NY, BEE, 58; Catholic Univ, MEE, 62, PhD(elec Eng), 72. Prof Exp: R&D Comput US Air Force, 58-62; sr mem tech staff, comp Sys RCA Corp, 62-65; mgr modulation tech commun, Comsat Labs, 65-37; vpres eng commun, Am Satellite Corp, 73-81; SR VPRES, COMMUN, M/A-COM TELECOM/HUGHES NETWORK SYSTS, 81- Concurrent Pos: Adj prof, George Wash Univ Continuing Educ Eng Dept, 75-; lectr/consult, Technol Transfer Instit, 77-; ed adv, Telecommun Prod & Technol, 83- Honors & Awards: Interface Award, 84. Mem: Fel Inst Elec & Electronics Engrs. Res: Digital satellite communications and data networks, development and patent holder of major satellite systems including SPC and IDMA, architect of numerous private corporate digital networks. Mailing Add: 11409 Rolling House Rd Rockville MD 20852
- CACELLA, ARTHUR FERREIRA**, b New Bedford, Mass, Nov 26, 20; m 50; c 5. POLYMER CHEMISTRY. Educ: NC State Col, BChE, 47; Inst Textile Technol, MSc, 49; Princeton Univ, MA, 52. Prof Exp: Res chemist, Benger Lab, El du Pont de Nemours & Co, Va, 54-58 & Inst-Textile Technol, 59-60; dir res & develop, Globe Mfg Co, 60-62; vpres & lab dir, Ameliotex, Inc, Rocky Hill, 62-82; RETIRED. Concurrent Pos: Adj prof physics & math, Union Co Col, Cranford, NJ, 80- Mem: Am Chem Soc; Am Inst Chemists; Am Asn Textile Chemists & Colorists; NY Acad Sci. Res: Stress relaxation of nylon; interaction of water vapor with natural and synthetic fibers; solubility of polymers; chemical modification of cotton; polyurethane chemistry of coatings and adhesives; hydrolysis; catalysis; spandex fibers. Mailing Add: 514 Queen Elizabeth Driveway Carlton Univ NJ 08816
- CACERES, CESAR A**, b Puerto Cortes, Honduras, Apr 9, 27. MEDICINE, COMPUTER SCIENCE. Educ: Georgetown Univ, BS, 49, MD, 53. Prof Exp: Intern med, Boston City Hosp, Mass, 53-54, resident, 54-55; resident, New Eng Med Ctr, 55-56; fel cardiologist, George Washington Univ, 56-60, from asst clin prof to assoc prof med, 60-69, prof & chmn dept, 69-71; PRES, CLIN SYSTS ASSOC, 71- Concurrent Pos: Chief, Med Sys Develop Lab, USPHS, 60-69; prof elec eng, Univ Md, College Park, 71-76. Honors & Awards: Dept Health, Educ & Welfare Super Serv Awards, 63 & 66. Mem: Soc Advan Med Sys (past pres); Int Health Eval Asn (past pres); Asn Advan Med Instrumentation (past pres). Res: Electrocardiography; cholesterol; cardiology; medical diagnosis; computers in medicine; clinical engineering; medical standards. Mailing Add: 1759 Q St NW Washington DC 20009
- CACIOPPO, JOHN T**, b Marshall, Tex, June 16, 51; m 81; c 1. SOCIAL PSYCHOLOGY, PSYCHOPHYSIOLOGY. Educ: Univ Mo, BS, 73; Ohio State Univ, MA, 75, PhD(psychol), 77. Prof Exp: Asst prof psychol, Univ Notre Dame, 77-79; from asst prof to assoc prof, 79-85, PROF PSYCHOL, UNIV IOWA, 85- Concurrent Pos: Prin investr, NSF, 79-, U I Old Gold Fel, 80, NIH, 80-81 & Hewlett Packard, 87; assoc ed, Psychophysiol, 84-; mem exec com, Am Psychol Asn, 85-88 & Bd Dir, Soc Psychophysiol Res, 85-88; vis fel, dept psychol, Yale Univ, 86. Honors & Awards: Phelps Scholar Award, Univ Mich, 88. Mem: Fel Am Psychol Asn; fel Acad Behav Med Res; fel Int Org Psychophysiol; Soc Psychophysiol Res; Soc Exp Social Psychol; AAAS; Sigma Xi; Psychonomic Soc; Asn Appl Psychophysiol & Biofeedback. Res: Psychophysiology; communication and persuasion. Mailing Add: 15 Woodland Heights Iowa City IA 52240
- CADA, GLENN FRANCIS**, b Columbus, Nebr, Nov 2, 49; m 72; c 3. FISHERY BIOLOGY, AQUATIC ECOLOGY. Educ: Univ Nebr, BS, 71, PhD(zool), 77; Colo State Univ, MS, 73. Prof Exp: Res technician limnol, Univ Nebr, 69-71; res asst aquatic ecol, Colo State Univ, 71-73; res asst ichthyol, Univ Nebr, 73-76, teaching asst ichthyol & limnol, 76-77; RES STAFF MEM AQUATIC ECOL, OAK RIDGE NAT LAB, 77- Mem: Am Fisheries Soc; Sigma Xi; Am Inst Fisheries Res Biol. Res: Ichthyoplankton ecology; environmental impacts of energy technologies, including steam-electric power plants, hydroelectric power, and coal conversion processes; salmonid ecology. Mailing Add: Oak Ridge Nat Lab PO Box 2008 Oak Ridge TN 37831
- CADA, RONALD LEE**, b Clarkston, Nebr, June 10, 44; m 66; c 2. PUBLIC HEALTH, MICROBIOLOGY. Educ: Colo State Univ, BS, 66, MS, 68; Univ Tex, DrPH, 74. Prof Exp: Microbiologist lab, Colo Dept Health, 68-70, consult, 70-72; asst prof dis control, Sch Pub Health, Univ Tex, 74-79; dir med specialties, Univ Iowa, 81-82, ext specialist, admin, 79-85; DIR LABS, COLO DEPT HEALTH, 85- Concurrent Pos: Lab consult, Community Health Asn, 75-76. Mem: Am Pub Health Asn; Conf Pub Health Labs; Asn State & Territorial Pub Health Dirs. Res: Methods and evaluation of health laboratory quality assurance practice; development of infection control practice and rural health delivery systems; continuing education for rural laboratory personnel. Mailing Add: Colo Dept Health 4210 E 11 Ave Denver CO 80220
- CADDELL, JOAN LOUISE**, b New York, NY, Jan 16, 27. PEDIATRICS, PEDIATRIC CARDIOLOGY. Educ: Col Women Univ Pa, BA & Sch Med, MD, 53; Natl Bd Med Examrs, Cert Med, 54; Am Bd Pediat, cert pediat, 58 & cert pediat cardiologist, 62. Prof Exp: Rotating intern med, Philadelphia Gen Hosp, 53-54; resident pediat, Children's Hosp Philadelphia, 54-57; fel cardiologist instr pediat, Yale Univ Sch Med, New Haven, 59-62; hon lectr pediat, Makerere Univ, Kampala, Uganda, 62-63, Rockefeller Found, Ibadou, Nigeria, 63-65; NIH res fel, MALAN Res, Chiang Mai, Thailand, 69-71; res prof pediat & adolescent med, St Louis Univ Sch Med, 80-83; guest researcher, 82-88, ADJ SCIENTIST, NAT INST CHILD HEALTH, NIH, 88- Concurrent Pos: Physician to Tarascan Indians, Childrens Hosp Philadelphia Sponsorship, 58; physician, Soc Protect Children from Cruelty, 58-59; prin investr res grants, Am Heart Asn, NIH & St Louis Univ, 72-82. Mem: Am Col Cardiol; Soc Exp Biol & Med; Am Inst Nutr; Am Soc Clin Nutr; Am Pediat Soc. Res: Magnesium metabolism as it applies to mothers, infants and children, with experimental studies in animal models; diagnosis of magnesium deficiency in cardiac, pulmonary and renal aspects and its anatomical and biochemical consequences. Mailing Add: Nat Inst Child Health & Human Develop NIH HGB Bldg 10 8C429 Bethesda MD 20892
- CADE, JAMES ROBERT**, b San Antonio, Tex, Sept 26, 27; m 53; c 6. INTERNAL MEDICINE. Educ: Univ Tex, MD, 54. Prof Exp: Fel, Cornell Univ, 58-61; assoc prof med, 61-72, chief med sch, 72-80, PROF RENAL MED, UNIV FLA, 72- Mem: Am Fedn Clin Res; Am Soc Clin Invest; Am Physiol Soc. Res: Renal, electrolyte and exercise physiology. Mailing Add: Dept Med Col Med Univ Fla Gainesville FL 32610
- CADE, THOMAS JOSEPH**, b San Angelo, Tex, Jan 10, 28; m 52; c 5. ORNITHOLOGY. Educ: Univ Alaska, AB, 51; Univ Calif, Los Angeles, MA, 55, PhD(zool), 58. Prof Exp: Assoc zool, Univ Calif, Los Angeles, 55-58; NSF fel, Mus Vert Zool, Univ Calif, Berkeley, 58-59; from asst prof to prof zool, Syracuse Univ, 59-67; PROF ORNITH, STATE UNIV NY COL AGR, CORNELL UNIV & RES DIR LAB ORNITH, 67- Mem STAFF INSTR, RES & EXTEN AT ITHACA, 72- Concurrent Pos: NSF grants, 60-65 & sr fel, Transvaal Mus, SAfrica, 65-66; USPHS grant, 63-66. Mem: Am Soc Mammal; fel Am Ornith Union. Res: Population and physiological ecology; behavior of birds and mammals. Mailing Add: Cornell Univ Lab Ornith 120 Langmuir Lab Ithaca NY 14853

- CADE, WILLIAM HENRY**, b San Antonio, Tex, July 5, 46; m 72; c 1. BEHAVIOR GENETICS, SEXUAL SELECTION. *Educ*: Univ Tex, Austin, BA, 68, MA, 73, PhD(zool), 76. *Prof Exp*: From asst prof to assoc prof, 78-85, PROF BIOL, BROCK UNIV, 85- *Concurrent Pos*: Can deleg, Int Ethological Conf, 78 & 81. *Mem*: AAAS; Soc Study Evolution; Animal Behav Soc; Entom Soc Can; Entom Soc Am. *Res*: Insect sexual behavior; selective agents influencing behavior include predators and parasites, female mating preferences and factors affecting male competition; behavior genetics of sexual behavior. *Mailing Add*: Dept Biol Sci Brock Univ St Catharines ON L2S 3A1 Can
- CADENHEAD, DAVID ALLAN**, b Tillicoultry, Scotland, Aug 5, 30. PHYSICAL CHEMISTRY. *Educ*: Univ St Andrews, BSc, 53; Bristol Univ, PhD(chem), 57. *Prof Exp*: Can Nat Defence fel, Royal Mil Col, Can, 57-59; fel, Alfred Univ, 59-60; asst prof, 60-64, assoc prof, 64-77, res assoc prof biochem, 70-77, PROF CHEM, STATE UNIV NY BUFFALO, 77-, ASSOC DEAN, FAC NATURAL SCI & MATH, 87- *Concurrent Pos*: State Univ NY Buffalo rep, Univ Space Res Assn, 74-; vis prof, San Francisco State Univ, 76. *Honors & Awards*: Alexander von Humboldt Sr US Scientist Award, 83. *Mem*: Am Chem Soc; The Chem Soc. *Res*: Adsorption and porosity; monomolecular and multilayer film studies; surface characterization of phospholipids; molecular interactions in mixed monolayers; cell membrane structure. *Mailing Add*: Dept Chem 112 Acheson Hall State Univ NY Chemistry Rd Buffalo NY 14214
- CADIGAN, ROBERT ALLEN**, b Glen Falls, NY, June 10, 18; m 44; c 4. GEOLOGY, EXPLORATION GEOCHEMISTRY. *Educ*: Univ of Puget Sound, AB, 47; Pa State Univ, MS, 52. *Prof Exp*: Geologist, 48-74, res geologist, 74-82, geologic consult, US Geol Surv, 82-84; RETIRED. *Concurrent Pos*: Adv tech coord comt, Nat Hydrogeochem Surv, US Dept Energy, 75-77; mem, Nat Adv Bd, Am Security Coun; prin investr, Uranium Resource Eval Prog, Delta, Utah Quadrangle, 77-80. *Mem*: Geol Soc Am; Am Soc Econ Paleont & Mineral. *Res*: Textural and geochemical properties of sedimentary rocks; geochemical exploration techniques applied to detecting areas in the United States containing economically important uranium ore deposits; geochemistry of radioactive mineral springs. *Mailing Add*: 9125 W Second Ave Lakewood CO 80226
- CADLE, RICHARD DUNBAR**, b Cleveland, Ohio, Sept 23, 14; m 40; c 3. PHYSICAL CHEMISTRY. *Educ*: Western Reserve Univ, AB, 36; Univ Wash, PhD(chem), 40. *Prof Exp*: Teaching fel, Univ Wash, 36-38; res chemist, Procter & Gamble Co, 40-47; unit head, Naval Ord Test Sta, Calif, 47-48; sr phys chemist, Stanford Res Inst, 48-54, mgr atmospheric chem physics, 54-63; prog scientist, Nat Ctr Atmospheric Res, 63-66, head, Chem Dept, 66-73, proj scientist, 73-79; CONSULT. 79- *Concurrent Pos*: Asst lectr, Univ Cincinnati, 41-43; consult, Army Chem Corps, 55; vis prof, Ripon Col, 66; mem tech adv comt, Denver Regional Air Pollution Control Agency, 67-72; consult, Gulf South Res Inst, 68-70; mem adv comt air pollution, chem & physics, USPHS, 69-73; panel mem polar meteorol, Nat Acad Sci-Nat Res Coun, 69-73, panel mem atmospheric chem, 70-75; adj prof, Pa State Univ, 72-75. *Mem*: Sigma Xi; Am Chem Soc; Am Geophys Union. *Res*: Properties of dilute solutions of colloidal electrolytes; preparation and identification of aerosols; chemical kinetics; atmospheric chemistry. *Mailing Add*: 4415 Chippewa Dr Boulder CO 80303
- CADLE, STEVEN HOWARD**, b Cincinnati, Ohio, Feb 19, 46; m 68; c 2. ANALYTICAL CHEMISTRY, ENVIRONMENTAL CHEMISTRY. *Educ*: Univ Colo, BA, 67; State Univ NY Buffalo, PhD(chem), 72. *Prof Exp*: Asst prof chem, Vassar Col, 72-73; assoc sr res chemist, 74-77, sr res scientist, 77-81, SR STAFF RES CHEMIST & SECT MGR, GEN MOTORS RES LABS, 81- *Honors & Awards*: Young Author Award, Electrochem Soc, 75. *Mem*: Am Chem Soc. *Res*: Analytical methods for trace atmospheric constituents, acid deposition and automotive exhaust emissions. *Mailing Add*: Res Labs Gen Motors Tech Ctr Warren MI 48090
- CADMAN, EDWIN CLARENCE**, b Bandon, Ore, May 14, 45; m 68; c 3. BIOCHEMICAL PHARMACOLOGY, CANCER RESEARCH. *Educ*: Stanford Univ, BA, 67; Univ Ore, MD, 71. *Prof Exp*: Resident, Stanford Med Sch, 71-74; fel oncol, Med Sch, Yale Univ, 74-76, from asst prof to assoc prof, 76-83, co-chief, sect med oncol, 81-83; Am Cancer Soc prof clin oncol, 85, PROF MED & DIR CANCER RES INST, UNIV CALIF, SAN FRANCISCO, 83- *Honors & Awards*: Fac Res Award, Am Cancer Soc, 80 & 82. *Mem*: Am Fedn Clin Res; Am Assn Cancer Res; Am Soc Clin Oncol; Am Soc Clin Invest. *Res*: Biochemical modulation and selective killing of cancer cells; transfer of drug resistance. *Mailing Add*: Cancer Res Inst Univ Calif Third Ave & Parnassus San Francisco CA 94143
- CADMAN, THEODORE W**, b Osceola Mills, Pa, Feb 28, 40; m 62; c 2. CHEMICAL ENGINEERING. *Educ*: Carnegie-Mellon Univ, BS, 62, MS, 64, PhD(chem eng), 65. *Prof Exp*: From asst prof to assoc prof, 65-73, chmn dept chem & nuclear eng, 78-84, PROF CHEM ENG, UNIV MD, COLLEGE PARK, 73- *Concurrent Pos*: Consult eng, ENSCI, Inc, 72- *Mem*: AAAS; Am Inst Chem Engrs; Am Chem Soc; Instrument Soc Am. *Res*: Computer simulation of chemical, biochemical, and petrochemical processes, process dynamics and process control. *Mailing Add*: 9110 St Andrews Pl College Park MD 20740
- CADMUS, ROBERT R**, b Little Falls, NJ, June 16, 14; m 41; c 2. PREVENTIVE MEDICINE, MEDICAL ADMINISTRATION. *Educ*: Col Wooster, AB, 36; Columbia Univ, MD, 40. *Hon Degrees*: DSc, Col Med & Dent NJ, Newark, 71. *Prof Exp*: Dir prof serv patients, Vanderbilt Clin-Columbia-Presby Hosp, NY, 45-48; asst dir, Univ Hosps, Cleveland, Ohio, 48-50; dir, NC Mem Hosp, 50-62; prof hosp admin, Univ NC, 52-66, chmn dept, 62-66; consult dir, NC Mem Hosp & res dir, Educ & Res Found, 62-66; prof prev med & pres, Col Med & Dent, NJ, Newark, 66-71; dir, Med Ctr Southeastern Wis, 71-75; exec dir & med dir, Found Med Care Eval Southeastern Wis, 75-79; RETIRED. *Concurrent Pos*: Consult, Nat Inst Arthritis & Metab Dis, 60-64 & Div Hosp & Med Facilities, USPHS, 63; mem comt, Clin Res Ctr, Div Res Facilities & Resources, 64-67; consult, Vet Admin Hosp, East Orange, NJ & USPHS Hosp, Staten Island, NY, 66-71; mem nat adv coun, Gen Med Sci, NIH; mem regional adv group, Health Serv & Ment Health Admin-Regional Med Prog; mem comprehensive health planning coun, Health Serv & Ment Health Admin; clin prof, prev med, Med Col Wis. *Mem*: Am Hosp Assn; Am Assn Hosp Consult. *Res*: Administrative medicine. *Mailing Add*: 8851 N Tennyson Dr Milwaukee WI 53217
- CADMUS, ROBERT RANDALL, JR**, b New York, NY, Oct 30, 46; m 70; c 2. OBSERVATIONAL OPTICAL ASTRONOMY. *Educ*: Swarthmore Col, BA, 68; Univ Wis-Madison, MA, 70, PhD(physics), 77. *Prof Exp*: Res asst physics, Univ Wis-Madison, 68-77; res assoc, Dept Physics & Astron, Univ NC, 77-78; Asst prof, 78-84, ASSOC PROF PHYSICS, GRINNELL COL, 84- *Concurrent Pos*: Vis asst prof physics, Iowa State Univ, 80-81. *Mem*: Am Phys Soc; Sigma Xi; Aston Soc Pac; Am Astron Soc. *Res*: Photometric and spectroscopic studies of semiregular variable stars and development of associated instrumentation. *Mailing Add*: Dept Physics Grinnell Col Grinnell IA 50112-0806
- CADOFF, IRVING B(ERNARD)**, materials science, for more information see previous edition
- CADOGAN, KEVIN DENIS**, b New York, NY, Feb 17, 39; m 61; c 4. PHYSICAL CHEMISTRY. *Educ*: Manhattan Col, BS, 60; Cornell Univ, PhD(phys chem), 66. *Prof Exp*: Res assoc chem, Cornell Univ, 66-67; res assoc chem, Lab Chem Biodynamics, Univ Calif, Berkeley, 67-69; asst prof, 69-74, ASSOC PROF CHEM, CALIF STATE COL, HAYWARD, 74- *Concurrent Pos*: NIH fel, 67-69; Fulbright-Hays lectr, US-UK Educ Comn, 70-71; Fulbright lectr, Inst Educ Technol, Univ Surrey, 70-71. *Mem*: Am Chem Soc. *Res*: Electronic spectroscopy and solid state photochemistry in aqueous and hydrocarbon solutions at cryogenic temperatures; environmental chemistry; induced and natural chemical cycles in the biosphere; scarce chemical research utilization; scientific utopia. *Mailing Add*: Dept Chem Calif State Univ Hayward CA 94542
- CADOGAN, WILLIAM P(ATRICK)**, b Revere, Mass, Nov 2, 19; m 43; c 5. CHEMICAL ENGINEERING. *Educ*: Mass Inst Technol, SB, 41, SM, 46, ScD(chem eng), 48. *Prof Exp*: Chem engr, Standard Oil Co, Ind, 48-51; vpres, Processes Res Inc, 51-56; mgr chem res & develop, Am Mach & Foundry Co, 56-63; vpres res, 63-85, DIR RES, EMHART CORP, 80- *Mem*: AAAS; Sigma Xi; Am Chem Soc; Am Inst Chem Engrs. *Res*: Adsorption of hydrocarbons; glass container forming; packaging machinery; food processing. *Mailing Add*: Emhart Corp PO Box 2730 Hartford CT 06101
- CADORET, REMI JERE**, b Scranton, Pa, Mar 28, 28; m 50, 69; c 4. PSYCHIATRY. *Educ*: Harvard Univ, AB, 49; Yale Univ, MD, 53. *Prof Exp*: Intern rotating, Robert Packer Hosp, 53-54; res assoc parapsychol, Parapsychol Lab, Duke Univ, 56-58; from asst prof to assoc prof physiol, Med Sch, Univ Minn, 58-65; resident psychiatrist, Sch Med, Wash Univ, 65-68, from asst prof to assoc prof, 68-73; PROF PSYCHIAT, MED SCH, UNIV IOWA, 73- *Mem*: Psychiat Res Soc. *Res*: Genetics of psychiatric illness; nosology of psychiatric conditions; personality; psychiatric epidemiology. *Mailing Add*: Dept of Psychiat 500 Newton Rd Iowa City IA 52242
- CADOTTE, JOHN EDWARD**, b Minn, Jan 28, 25; m 48; c 5. ORGANIC CHEMISTRY. *Educ*: Univ Minn, MS, 51. *Prof Exp*: Res chemist, Merck & Co, Inc, 51-52, Clinton Foods, Inc, 52-56 & Wood Conversion Co, 56-65; polymer researcher, 65-71, chemist, 66-75, sr chemist, N Star Div, Midwest Res Inst, 75-78; chief chemist, Filmtec Corp, 78-88; RETIRED. *Mem*: Am Chem Soc. *Res*: Adhesives; starch; thermosetting resins; Fourdrinier formed board products and coatings; reverse osmosis membranes. *Mailing Add*: 5637 Scenic Dr Minnetonka MN 55343
- CADWALLADER, DONALD ELTON**, b Buffalo, NY, June 14, 31; m 60; c 3. PHARMACY, ANALYTICAL CHEMISTRY. *Educ*: Univ Buffalo, BS, 53; Univ Ga, MS, 55; Univ Fla, PhD(pharm), 57. *Prof Exp*: Interim res prof, mil med supply agency contract, Univ Fla, 57-58; res assoc pharm, Sterling-Winthrop Res Inst, 58-60; group leader, White Labs, Inc, 60-61; from asst prof to assoc prof, 61-68, PROF PHARM, UNIV GA, 68- *HEAD DEPT*, 77- *Honors & Awards*: Lunsford-Richardson Pharm Award, 57. *Mem*: Fel AAAS; Am Pharmaceut Assn; fel Acad Pharmaceut Sci; fel Am Assn Pharmaceut Sci. *Res*: Behavior of erythrocytes in various solvent systems; solubility and dissolution of drugs; stability of drugs; drug manufacturing procedures and processes; biopharmaceutics. *Mailing Add*: Col Pharm Univ Ga Athens GA 30602
- CADY, BLAKE**, b Washington, DC, Dec 27, 30; m 60; c 3. SURGERY, ONCOLOGY. *Educ*: Amherst Col, AB, 53; Cornell Univ, MD, 57. *Prof Exp*: Fel surg, Sloan-Kettering Inst & Med Col, Cornell Univ, 57-67; ASSOC PROF SURG, MED SCH, HARVARD UNIV, 67- *Concurrent Pos*: Surgeon, New England Deaconess Hosp, Boston. *Mem*: AMA; Am Col Surgeons; Soc Surg Oncol; Soc Head & Neck Surgeons; Soc Surg Alimentary Tract; Am Assn Endocrine Surg. *Res*: Clinical interest in human tumors and cancers. *Mailing Add*: 110 Francis St Boston MA 02215
- CADY, FOSTER BERNARD**, b Middletown, NY, Aug 5, 31; m 53; c 3. BIostatistics. *Educ*: Cornell Univ, BS, 53; Univ Ill, MS, 56; NC State Univ, PhD, 60. *Prof Exp*: Soil scientist, Agr Res Serv, USDA, NC State Univ, 57-60; assoc prof statist, Iowa State Univ, 60-68; prof, Univ Ky, 68-71; prof biol statist, Cornell Univ, 71-85. *Mem*: Am Statist Assn; Am Soc Agron; Biomet Soc. *Res*: Statistical methods and experimental design in the agricultural and biological sciences. *Mailing Add*: PO Box 186 Paia HI 96779
- CADY, GEORGE HAMILTON**, b Lawrence, Kans, Jan 10, 06; m 29; c 2. INORGANIC CHEMISTRY, FLUORINE CHEMISTRY. *Educ*: Univ Kans, AB, 27, AM, 28; Univ Calif, PhD(chem), 30. *Prof Exp*: Asst prof chem, Univ S Dak, 30-31; instr inorg chem, Mass Inst Technol, 31-34; res chemist, gen labs, US Rubber Prod, Inc, 34-35 & Columbia Chem Div, Pittsburgh Plate

- Glass Co. 35-38; from asst prof to prof, 38-72, chmn dept, 61-65, EMER PROF CHEM, UNIV WASH, 72- Concurrent Pos: Sect leader, Manhattan Dist Proj, Columbia Univ, 42-43; GN Lewis Mem lectr, 67. Honors & Awards: Res Flourine Chem Award, Am Chem Soc, 72. Mem: AAAS; Am Chem Soc. Res: Preparation and properties of fluorides; hypochlorous acid and hypochlorites; determination of rare gases; composition of gas hydrates. Mailing Add: Dept Chem BG-10 Univ Wash Seattle WA 98195
- CADY, HOWARD HAMILTON**, b Sioux City, Iowa, Jan 15, 31; m 57; c 4. PHYSICAL CHEMISTRY OF HIGH EXPLOSIVES. Educ: Univ Wash, BS, 53; Univ Calif, PhD(chem), 57. Prof Exp: Asst, Radiation Lab, Univ Calif, 54-57; staff mem, 57-74, sect leader, 74-81, PROJ LEADER, LOS ALAMOS NAT LAB, 81- Mem: AAAS; Am Chem Soc; Am Crystallog Asn. Res: General physical chemistry; crystallography; phase diagrams; chemistry of explosives. Mailing Add: Los Alamos Nat Lab Group M-1 MS C920 Los Alamos NM 87545
- CADY, JOHN GILBERT**, b Seneca Falls, NY, Jan 30, 14; m 40. SOILS. Educ: Syracuse Univ, BS, 36; Univ Wis, MS, 38; Cornell Univ, PhD(soils), 41. Prof Exp: Asst soils, Univ Wis, 36-38 & Cornell Univ, 38-42; instr agron, Univ Idaho, 42-43; soil scientist, Mil Geol Unit, US Geol Surv, 44-46; soil scientist, Bur Plant Indust, Soils & Agr Eng, USDA, 46-51 & Soil Surv Lab, Soil Conserv Serv, 52-69. LECTR SOIL SCI, JOHNS HOPKINS UNIV, 69- Concurrent Pos: Soil mineralogist, Soil Classification Mission, Econ Coop Admin-Belgian Congo Nat Inst Agron Studies, 51-52. Mem: AAAS; fel Geol Soc Am; fel Am Soc Agron. Res: Soil genetics; weathering; soil mineralogy; relation of soil characteristics to geomorphology, land use and natural vegetation. Mailing Add: Dept of Geog & Environ Eng Johns Hopkins Univ Baltimore MD 21218
- CADY, K BINGHAM**, b Chicago, Ill, Mar 18, 36; c 4. NUCLEAR ENGINEERING. Educ: Mass Inst Technol, SB, 56, PhD(nuclear eng), 62. Prof Exp: Marine engr, Shipbuilding Div, Bethlehem Steel Co, 56-58, nuclear engr, 58-59; nuclear engr, Jackson & Moreland, Inc, 59-62; asst prof, 62-67. ASSOC PROF NUCLEAR SCI & ENG, CORNELL UNIV, 67- Concurrent Pos: Consult, Knolls Atomic Energy Lab, 66-69; nuclear engr, US Atomic Energy Comm, 69-70. Mem: Am Nuclear Soc. Res: Fast breeder reactor accidents and transients; energy systems analysis; nuclear reactor safety. Mailing Add: Ward Lab Dept Nuclear Sci & Eng Ithaca NY 14853
- CADY, LEE (DE), JR**, b St Louis, Mo, Nov 22, 27; m 65; c 2. CARDIOLOGY, INDUSTRIAL MEDICINE. Educ: Wash Univ, AB, 47, MA, 48, MD, 51; Yale Univ, MPH, 57, DrPH, 59. Prof Exp: Intern, Vet Admin Hosp & Baylor Univ, 51-52; epidemic intel officer, USPHS, 52-54; health officer, Int Coop Admin, 54-56; from asst to assoc prof phys med & rehab, NY Univ, 59-64; prof biomed & chmn dept, Univ Tex, Houston, 64-67; staff dir, Comt Emergency Med Care for Los Angeles County, 70-72; ADJ PROF MED, UNIV SOUTHERN CALIF, 67-; CHIEF CARDIOPULMONARY LAB, LOS ANGELES COUNTY OCCUP HEALTH SERV, 72- Concurrent Pos: USPHS spec res fel, 58-61. Mem: Fel AAAS; fel Am Col Cardiol; fel Am Pub Health Asn; Sigma Xi. Res: Cardiovascular disease; epidemiology; occupational medicine. Mailing Add: 1718 Warwick Rd San Marino CA 91108
- CADY, PHILIP DALE**, b Elmira, NY, June 26, 33; m 55; c 5. CIVIL ENGINEERING. Educ: Pa State Univ, BS, 56, MS, 64, PhD(civil eng), 67. Prof Exp: Engr, Esso Standard Oil Co, 56-57 & Lago Oil & Transport Co, 57-62; res asst civil eng, 62-67, from asst prof to assoc prof, 67-75, PROF CIVIL ENG, PA STATE UNIV, 75- Concurrent Pos: Secy comt, A2-E1, Hwy Res Bd, Nat Acad Sci-Nat Res Coun, 68-74; chmn comt 345, Am Concrete Inst, 71-74; consult to pub, indust & govt, 72- Honors & Awards: Thompson Award, Am Soc Testing & Mat, 68. Mem: Fel Am Soc Civil Engrs; fel Am Concrete Inst; Am Soc Testing & Mat. Res: Durability of portland cement concrete and concrete aggregates. Mailing Add: Dept Civil Eng 212 Sackett Bldg Pa State Univ University Park PA 16802
- CADY, WALLACE MARTIN**, b Middlebury, Vt, Jan 29, 12; m 42; c 3. GEOLOGY. Educ: Middlebury Col, BS, 34; Northwestern Univ, MS, 36; Columbia Univ, PhD(geol), 44. Prof Exp: Asst geol, Northwestern Univ, 34-36; asst, Columbia Univ, 38-40; substitute tutor, Brooklyn Col, 40-41; from jr geologist to prin geologist, US Geol Surv, 39-63, res geologist 63-85. Concurrent Pos: Coun Int Exchange Scholars lectr probs mod tectonics, Voronezh State Univ, USSR, 75. Mem: Fel AAAS; Soc Econ Geol; fel Geol Soc Am; Geochem Soc; fel Am Geophys Union. Res: Geology of northwestern Washington; regional geology of New England and adjacent Quebec; regional geology of southwestern Alaska; geotectonics; structural geology; metamorphic stratigraphy; archean geology of southwestern Montana. Mailing Add: 348 S Moore Lakewood CO 80226
- CADZOW, JAMES ARCHIE**, b Niagara Falls, NY, Jan 3, 36; m 58; c 4. ELECTRICAL ENGINEERING. Educ: Univ Buffalo, BS, 58; State Univ NY, Buffalo, MS, 63; Cornell Univ, PhD(elec eng), 64. Prof Exp: Engr, US Army Res & Develop Labs, 58-59; design engr, Bell Aerosystems Corp, 59-61; asst engr, Cornell Aeronaut Labs, 61-62; prof control & comunon eng, State Univ NY Buffalo, 64-77; prof, Va Polytech Inst & State Univ, 77-; RES PROF, DEPT ELEC & COMPUT ENG, ARIZ STATE UNIV. Mem: Inst Elec & Electronics Engrs. Res: Control and signal processing theory; digital filter theory; functional analysis and numerical algorithms; signal and system identification. Mailing Add: Dept Elec & Comput Eng Ariz State Univ Temple AZ 85287
- CAENEPEEL, CHRISTOPHER LEON**, b South Bend, Ind, July 1, 42; m 71; c 2. CHEMICAL ENGINEERING. Educ: Univ Notre Dame, BS, 64, MS, 64, PhD(chem eng), 70. Prof Exp: Chemist, O'Brien Paints, South Bend, Ind, 62-64; teaching asst chem eng, Univ Notre Dame, 64-65 & 66-67; engr, Standard Oil Co, Ohio, 65-66; res asst chem eng, Univ Notre Dame, 67-69; prof chem eng, Calif State Polytech Univ, Pomona, 70-80; WITH AMOCO RES CTR, 80- Concurrent Pos: Fac fel, NASA-Am Soc Eng Educ, 71-72; consult, Occidental Res Corp, 73- Honors & Awards: Intergovt Personnel Act appt, Environ Protection Agency, Durham, NC, 75-76. Mem: Am Soc Eng Educ; Am Inst Chem Engrs; Am Chem Soc; Sigma Xi. Res: Reactor design; hydro metallurgy; mass transport; mathematical modelling. Mailing Add: 3801 W Temple Ave Pomona CA 91768
- CAESAR, PHILIP D**, b New Haven, Conn, Mar 13, 17; m 40; c 2. PETROLEUM CHEMISTRY. Educ: Yale Univ, BS, 39; Univ Ill, MS, 48, PhD(chem), 50. Prof Exp: Chemist, res dept, Paulsboro Lab, Socony Mobil Oil Co, Mobil Res & Develop Corp, NJ, 39-45, res assoc, 45-56, supvr chem res, 56-60 & catalysis res, 60-64, mgr prod res sect, cmt res div, 64-70, mgr explor process res group, Process Res & Tech Serv Div, 70-77; RETIRED. Mem: AAAS; Am Chem Soc. Res: Thiophene chemistry; composition and properties of petroleum; catalysis research; petroleum processing; fuel cell applications. Mailing Add: 92 Chocolate Hole Cruz Bay VI 00830
- CAFARELLI, ENZO DONALD**, b White Plains, NY, Feb 15, 42; div; c 1. EXERCISE PHYSIOLOGY. Educ: East Stroudsburg State Col, BS, 69, MED, 70; Univ Pittsburgh, PhD(exercise physiol), 74. Prof Exp: Vis asst fel, John B Pierce Found Lab & fel environ physiol, Yale Univ, 74-77; ASSOC PROF, DEPT PHYS EDUC & FAC SCI, YORK UNIV, TORONTO, 77- Mem: Am Col Sports Med; Can Asn Sports Sci; Soc Neurosci. Res: Motor and sensory processes in human skeletal muscle. Mailing Add: 346 Bethune Col York Univ 4700 Keele St Toronto ON M3J 1P3 Can
- CAFASSO, FRED A**, b New York, NY, Feb 25, 30; m; c 2. MATERIALS CHEMISTRY. Educ: New York Univ, PhD(phys chem), 59. Prof Exp: Group leader, 66-69, sect head, 69-74, assoc div dir, 74-83, DEP DIV DIR, ARGONNE NAT LAB, 83- SR CHEMIST, 76- Mem: Am Chem Soc; AAAS; Res Soc Am; NY Acad Sci. Res: Physical and materials chemistry; liquid metals chemistry; high temperature spectroscopy; solution thermodynamics; magnetic properties of solids; electrode processes; alkali metal polyether solutions. Mailing Add: 1033 Fair Oaks Oak Park IL 60302
- CAFFARELLI, LUIS ANGEL**, b Buenos Aires, Argentina, Dec 8, 48. MATHEMATICS. Educ: Univ Buenos Aires, MS, 68, PHD(math), 72. Prof Exp: Fel math, Univ Minn, 73-75, asst prof, 75-77, prof, 77-79, prof, 79-80; PROF MATH, COURANT INST, NEW YORK UNIV, 80- Res: Problems of slump and energy optimization in mathematics and mechanics. Mailing Add: Inst Adv Study Sch Math Princeton NJ 08540
- CAFFEY, HORACE ROUSE**, b Grenada, Miss, Mar 24, 29; m 54; c 4. AGRONOMY, PLANT BREEDING. Educ: Miss State Univ, BS, 51, MS, 55; La State Univ, PhD(agron), 59. Prof Exp: Asst, Miss State Univ, 54-55; agronomist, Miss Rice Grower Asn, 55-57; res assoc, Agron Dept, La Exp Sta, 57-58; assoc agronomist, Delta Br Exp Sta, 58-62, prof & supt, Rice Exp Sta, La State Univ, 62-70; assoc dir, La Agr Exp Sta, 70-79, vchancellor admin & dir, Int Progs, 79-80, vchancellor, Int Prog, Ctr Agr Sci & Rural Develop, 80-81, chancellor, Univ at Alexandria, 81-84, CHANCELLOR, AGR CTR, LA STATE UNIV, BATON ROUGE, 84- Concurrent Pos: Int consult. Mem: Am Soc Agron. Res: Rice breeding; fertilization and cultural practices; agricultural research and extension administration. Mailing Add: Agr Ctr La State Univ PO Box 25203 Baton Rouge LA 70894-5203
- CAFFEY, JAMES E**, b Rockdale, Tex, May 5, 34; m 60; c 3. WATER RESOURCES, CIVIL ENGINEERING. Educ: Tex A&M Univ, BS, 55, MS, 56; Colo State Univ, PhD(civil eng), 65. Prof Exp: Instr civil eng, Arlington State Col, 59-61; asst civil engr, Colo State Univ, 61, res asst, 61-65; from asst prof to prof civil eng, Univ Tex, Arlington, 65-74; mgr urban resources dept, Planning Div, Turner, Collie & Braden, Inc, Houston, Tex, 74-76; water resources engr, Rady & Assocs, Inc, 76-80, assoc, 80-85; PRES, CAFFEY & MORRISON, INC, 85- Concurrent Pos: Engr, Freese, Nichols & Endress, Tex, 65-66, consult, 68-69. Mem: Fel Am Soc Civil Engrs; Nat Soc Prof Engrs; Am Geophys Union; fel Am Water Resources Asn; Sigma Xi; Am Water Works Asn. Res: Classical and stochastic hydrology, including groundwater, surface water and hydrometeorological problems; water resources planning and management from both supply and quality aspects; hydraulic engineering to complement hydrological interests; flood plain management. Mailing Add: 1506 Wagonwheel Trail Arlington TX 76013
- CAFFREY, JAMES LOUIS**, b Camden, NJ, July 2, 46; m 73. CARDIOVASCULAR PHYSIOLOGY, ENDOCRINOLOGY. Educ: Rutgers Univ, BA, 68; Univ Va, PhD(physiol), 73. Prof Exp: Post doctoral fel, Colo State Univ, 73-77; ASSOC PROF PHYSIOL, UNIV NTEX, COL OSTEO MED, 77- Mem: AAAS; Am Physiol Soc; Endocrine Soc; Shock Soc. Res: Stress; adrenal medulla-catecholamines; endogenous opiates-enkephalines; exercise; role of endogenous opiates in the circulatory system. Mailing Add: Dept Physiol Univ NTEX Tex Col Osteop Med Ft Worth TX 76107
- CAFFREY, ROBERT E**, b Scranton, Pa, Mar 9, 20; m 49; c 5. METALLURGY. Educ: Pa State Univ, BS, 49, PhD(metall), 55. Prof Exp: Res assoc, Pa State Univ, 51-52, instr metall, 52-53; mem tech staff, 54-58, SUPVR, BELL TEL LABS, 58- Concurrent Pos: Lectr, Lehigh Univ, 61-63. Honors & Awards: Jerome N Behrman Award, 49. Mem: Am Soc Metals; Am Inst Mining, Metall & Petrol Engrs; Electrochem Soc; Am Chem Soc; fel Am Inst Chemists; Sigma Xi. Res: High temperature application of metals and alloys in electron devices; insulators and metal deposition by chemical vapor deposition. Mailing Add: 250 S White Oak Annville PA 17003-1838
- CAFILISCH, EDWARD GEORGE**, b Union City, Pa, Dec 6, 25; m 49; c 3. ELECTRONICS. Educ: Allegheny Col, BS, 48; Ohio State Univ, PhD(org chem), 54. Prof Exp: Chemist, Plaskon Div, Libbey-Owens-Ford Glass Co, 48-49; asst & instr org chem, Ohio State Univ, 49-52; sr chemist, Solvents & Intermediates Div, Union Carbide Corp, 54-83; asst prof, WVa State Col, 80-83. Mem: Am Chem Soc. Res: Synthesis of aldehydes; chlorocarbons; fluorocarbons; polymerization of butadiene, pentadienes, and styrene; development of gas and liquid chromatography equipment; petrochemicals; organic analytical research. Mailing Add: 5119 Moody Dr Kingsport TN 37664

- CAFLISCH, GEORGE BARRETT**, b Columbus, Ohio, Mar 26, 52; m 79; c 4. **LIGHT SCATTERING, GEL PERMEATION CHROMATOGRAPHY.** *Educ:* WV Univ, BS, 73; Univ Wis-Madison, PhD(phys chem), 79. *Prof Exp:* Res chemist, 79-84, SR RES CHEMIST, EASTMAN CHEM DIV RES LAB, EASTMAN KODAK CO, 84. *Mem:* Am Chem Soc. *Res:* Polymer characterization; gel permeation chromatography; quasielastic light scattering; surface tension and wetting; barrier properties of polymeric materials. *Mailing Add:* Tenn Eastman Co Bldg 150 Kingsport TN 37662
- CAFLISCH, ROBERT GALEN**, b Charleston, WV, March 19, 56. **MICROSCOPIC MODELING, PHASE TRANSITIONS.** *Educ:* WV Univ, BS(physics) & AB(math), 78; Mass Inst Technol, PhD(physics), 84. *Prof Exp:* Physicist, Schlumberger-Doll Res Ctr, 84-86; PHYSICIST, UNIV RI, 86. *Mem:* Am Phys Soc; Am Math Soc. *Res:* Microscopic modeling of a variety of materials systems in order to obtain thermodynamic properties; phase transitions; materials systems including adsorbed layers, liquid crystals, spin glasses, ferroelectrics, intercalated graphite and others. *Mailing Add:* Phys Dept Univ RI Kingston RI 02881
- CAFRUNY, EDWARD JOSEPH**, b New Castle, Pa, Dec 17, 24; m 48; c 3. **PHARMACOLOGY.** *Educ:* Ind Univ, AB, 50; Syracuse Univ, PhD, 55; Univ Mich, MD, 60. *Prof Exp:* From instr to assoc prof pharmacol, Med Sch, Univ Mich, 55-65; prof pharmacol, Sch Med, Univ Minn, 65-68; prof & chmn dept pharmacol & exp therapist, Med Col Ohio, 68-73; pres, Sterling-Winthrop Res Inst, 73-77; prof pharmacol, Med Col Wis, 77-78; prof pharmacol & dean, Grad Sch Biomed Sci, 78-87, **DISTINGUISHED PROF, UNIV MED & DENT NJ, 87.** *Concurrent Pos:* Consult, Coun on Drugs, Am Med Assn, 63, 64; mem pharmacol & exp therapist study sect, NIH, 64-68 & anesthesiol training grant comt, 68-71; mem sci adv bd, Pharmaceut Mfg Assn Found, Inc, 68-, pharmacol test comt, Nat Bd Med Examrs, 69-73 & comt on probs of drug safety, Nat Acad Sci-Nat Res Coun, 70-; adj prof pharmacol, Med Col, Cornell Univ. *Mem:* AAAS; Am Soc Pharmacol & Exp Therapeut; NY Acad Sci; Am Soc Nephrol; Am Heart Assn. *Res:* Renal pharmacology; mechanism of action of diuretic agents. *Mailing Add:* Univ Med & Dent NJ Newark NJ 07103-2757
- CAGAN, ROBERT H**, b Brooklyn, NY, Apr 8, 38; m 68; c 2. **BIOCHEMISTRY.** *Educ:* Northeastern Univ, BS, 60; Harvard Univ, PhD(biochem), 66. *Prof Exp:* USPHS fel, Nobel Med Inst, Karolinska Inst, Sweden, 66-68; asst prof, 68-75, ASSOC PROF BIOCHEM, MONELL CHEM SENSES CTR, SCH MED, UNIV PA, 75-; ASSOC DIR, RES LIFE SCI, COLGATE-PALMOLIVE CO, 83- *Concurrent Pos:* Res chemist, Vet Admin Med Ctr, Philadelphia, 68-83; lectr, Int Symp Food Intake Chem Senses, Fukuoka, Japan, 76, Gordon Res Conf Taste & Olfaction, NH, 78 & 81, Joint Cong, Europ Chemoreception Res Orgn-Int Symp Olfaction & Taste, Noordwijkerhout, Neth, 80, Europ Chemoreception Symp, Jerusalem, Israel, 81, Int Conf Comp Physiol, Crans, Switz, 82; chmn panel/workshop, Winter Conf Brain Res, Colo, 76, 78, 81 & 84 & Idaho, 79; gen chmn, Int Symp Biochem Taste & Olfaction, Philadelphia, 80; mem, Commun Sci Study Sect, NIH, 80; contrib ed, *Nutrit Rev*, 78-83, rev bd, Amer J Otolaryngology, 78- *Honors & Awards:* Byron Riegel lectr, Northwestern Univ, 79; Manheimer lectr, Monell Ctr, 88. *Mem:* Fel AAAS; Am Soc Biochem & Molecular Biol; Swed Biochem Soc; Soc Exp Biol Med; Int Asn Dent Res; Am Soc Neurochem. *Res:* Biochemical basis of physiological function; enzymology of phagocytic cells; biochemical mechanisms of taste and olfaction; membrane receptor mechanisms; neurochemistry of gamma-aminobutyric acid; neural development in tissue culture; research management; life sciences; skin surfactant interactions; sensory evaluation. *Mailing Add:* Colgate-Palmolive Co Res & Develop Div 909 River Rd Piscataway NJ 08854
- CAGGIANO, JOSEPH ANTHONY, JR**, b Brooklyn, NY, July 30, 38; m 64; c 3. **NEOTECTONICS.** *Educ:* Allegheny Col, BS, 60; Syracuse Univ, MS, 66; Univ Mass, PhD(geol), 77. *Prof Exp:* Instr earth sci & geomorphol, Div Natural Sci, Elmira Col, 64-67; instr phys & hist geol & geomorphol, Dept Geol, Temple Univ, 67-68; asst, Dept Geol, Univ Mass, 68-72; proj geologist, D'Appolonia Consult Engrs, 73-77; STAFF GEOLOGIST & UNIT MGR, ROCKWELL HANFORD OPER, 77- *Concurrent Pos:* Res geologist field mapping, US Geol Surv, Boston, Mass, 70-73. *Mem:* Geol Soc Am; Asn Eng Geologists; Soc Econ Paleontologists & Mineralogists; Seismol Soc Am; Am Quaternary Assn. *Res:* Geologic analyses of late Cenozoic sediments, landforms, structures, contemporary seismicity and deformation to determine the tectonic evolution of an area and its potential impact on engineered facilities. *Mailing Add:* 330 Snyder Rd Richland WA 99352
- CAGLE, FREDRIC WILLIAM, JR**, b Metropolis, Ill, Dec 17, 24. **CHEMISTRY.** *Educ:* Univ Ill, BS, 44, MS, 45, PhD(chem), 46. *Prof Exp:* Mem sch math, Inst Advan Study, 47-48; fel chem, 48-49, res asst prof, 49-53, from asst prof to assoc prof, 53-60, PROF CHEM, UNIV UTAH, 60- *Concurrent Pos:* Consult, Dow Chem Co, 63- & Pac Northwest Pipeline Corp, 58-61. *Mem:* Am Chem Soc; Am Phys Soc; Am Crystallog Assn. *Res:* Chemical kinetics; theoretical chemistry; x-ray crystallography and crystal structures; applications of computers to chemical problems. *Mailing Add:* 348 University St Salt Lake City UT 84102
- CAHILL, CHARLES L**, b El Reno, Okla, Feb 23, 33; m 54; c 3. **PHYSICAL CHEMISTRY, BIOCHEMISTRY.** *Educ:* Okla Baptist Univ, AB, 55; Univ Okla, MS, 57, PhD(biochem), 61. *Prof Exp:* From asst prof to prof chem, Oklahoma City Univ, 61-71, chmn dept, 63-71, assoc dean col arts & sci, 67-71; PROVOST & VCHANCELLOR ACAD AFFAIRS & PROF CHEM, UNIV NC, WILMINGTON, 71- *Concurrent Pos:* NIH res grant, 62-70. *Mem:* AAAS; Am Chem Soc; Endocrine Soc; NY Acad Sci. *Res:* Physicochemical characterization of synthetic polymers and proteins. *Mailing Add:* 2216 Parham Dr Wilmington NC 28403
- CAHILL, GEORGE FRANCIS, JR**, b New York, NY, July 7, 27; m 49; c 6. **METABOLISM.** *Educ:* Yale Univ, BS, 49; Columbia Univ, MD, 53; Harvard Univ, MA, 66. *Prof Exp:* Intern med, Peter Bent Brigham Hosp, 53-54, from jr resident to sr resident, 54-58; from asst prof to assoc prof med, Harvard Med Sch, 58-70; dir res, 78-85, VPRES, HOWARD HUGHES MED INST, 85-; PROF MED, HARVARD MED SCH, 70- *Concurrent Pos:* Res fel biol chem & Nat Res Coun fel med sci, Harvard Univ, 55-57; sr assoc, Peter Bent Brigham Hosp, 59-64, physician, 68-82, sr physician, 82-; dir, Elliott P Joslin Res Lab, 64-78. *Honors & Awards:* Goldberger Award, AMA; Banting Award; Gairdner Award Can; Lilly Prize. *Mem:* AAAS; Am Soc Clin Invest; Am Physiol Asn; Am Clin & Climat Asn; Endocrine Soc; Am Acad Arts & Sci; Asn Am Physicians. *Res:* Metabolism of carbohydrate, lipid and protein. *Mailing Add:* Howard Hughes Med Inst 9701 Rockledge Dr Bethesda MD 20817
- CAHILL, JERRY EDWARD**, chemical physics, analytical instrumentation, for more information see previous edition
- CAHILL, JONES FRANCIS**, b Middletown, Ohio, Dec 8, 20; m 44; c 3. **AERODYNAMICS.** *Educ:* Univ Notre Dame, BS, 42. *Prof Exp:* Aeronaut res scientist aerodyn, Langley Res Ctr, Nat Adv Comt Aeronaut, 42-55; aerodyn engr aerodyn design & develop, Flight Sci Div, Lockheed-Ga Co, 55-69, sr staff scientist aerospace res, 69-74, flight sci mgr, C-141B Prog, 74-78, sr staff specialist, 78-86, mgr, 86-87; CONSULT, 87- *Mem:* Assoc fel Am Inst Aeronaut & Astronaut. *Res:* Experimental research on sophisticated high lift systems; scaling problems in transonic aerodynamics associated with shock-boundary layer interactions and shock induced separation. *Mailing Add:* 226 Whitlock Dr SW Marietta GA 30064
- CAHILL, KEVIN M**, b New York, NY, May 6, 36; m 61; c 5. **MEDICINE, TROPICAL MEDICINE.** *Educ:* Fordham Univ, AB, 57; Cornell Univ, MD, 61; Univ London & Royal Col Physicians, dipl trop med & hyg, 63; Am Bd Med Microbiol, dipl, 67; Am Bd Prev Med, dipl, 70. *Hon Degrees:* LLD, Iona Col, 79, LeMoyné Col, 79; DSc, NY Med Col, 80, St John's Univ, 81; LHD, Villanova Univ, 84, Fordham, 85, Univ Cent Am, 87. *Prof Exp:* Head, epidemiol dept & dir trop med, US Naval Med Res Unit, Cairo, Egypt, 63-65; clin assoc prof med, NY Med Col, 65-67; DIR, TROP DIS CTR, LENOX HILL HOSP, NY, 65-; PROF PUB HEALTH & PREV MED, NJ COL MED, 74-; PROF & CHMN, ROYAL COL SURGEONS IN IRELAND, 69- *Concurrent Pos:* Lectr, Univ Cairo & Univ Alexandria, 63-65; consult, UN Health Serv & USPHS, 65-; mem sci adv bd, Am Found Trop Med, 66-75; prof int health & trop med & chmn dept, Royal Col Surgeons, Ireland, 69-; chmn, Health Planning Comm & Health Res Coun, NY State, 80-80; asst to govt health affairs, 75-80; sr mem, New York City Bd Health, 75- *Honors & Awards:* Colles Medal, Royal Col Surgeons, 70. *Mem:* Fel Am Col Chest Physicians; Am Pub Health Assn; Am Soc Trop Med & Hyg; Royal Soc Trop Med & Hyg; AMA; Asn Am Med Col; Am Asn Public Health; Am Col Prev Med. *Res:* Tropical medicine. *Mailing Add:* 850 Fifth Ave New York NY 10021
- CAHILL, LAURENCE JAMES, JR**, b Frankfort, Maine, Sept 21, 24; m 49; c 3. **SPACE PHYSICS.** *Educ:* US Mil Acad, BS, 46; Univ Chicago, SB, 50; Univ Iowa, MS, 56, PhD(physics), 59. *Prof Exp:* Asst prof physics, Univ NH, 59-62; chief physics, Hqs NASA, 62-63; from assoc prof to prof physics, Univ NH, 63-68, dir space sci ctr, 67-68; dir Space Sci Ctr, 68-77, PROF PHYSICS, UNIV MINN, MINNEAPOLIS, 77- *Concurrent Pos:* Chmn, US-USSR Comt Co-op Space Res Geomagnetism, 63; mem working group, Int Year Quiet Sun, Int Comt Space Res, 63-64; consult, NASA, 63- *Mem:* Fel Am Geophys Union; Am Phys Soc. *Res:* Investigation of earth's magnetic field by rocket and satellite experiment. *Mailing Add:* Space Sci Ctr Univ of Minn Minneapolis MN 55455
- CAHILL, PAUL A**, b Akron, Ohio, May 21, 59; m 81. **CHEMISTRY GENERAL.** *Educ:* Rice Univ, BA, 81; Univ Ill, PhD(chem), 86. *Prof Exp:* MEM TECH STAFF, SANDIA NAT LAB, 86- *Concurrent Pos:* Fel, Nat Sci Found, 81. *Mem:* Am Chem Soc. *Res:* Organic nonlinear optical materials. *Mailing Add:* 13824 Brush Pl NE Albuquerque NM 87123
- CAHILL, RICHARD WILLIAM**, b Utica, NY, Dec 30, 31; m 68; c 3. **PHYSICAL CHEMISTRY, POLYMER CHEMISTRY.** *Educ:* Niagara Univ, BS, 58; Purdue Univ, PhD(phys chem), 63. *Prof Exp:* RES SCIENTIST CHEM, LOCKHEED MISSILES & SPACE CO, INC, 63- *Mem:* Am Chem Soc; Sigma Xi. *Res:* The fracture toughness of polymeric materials using the Charpy impact method to obtain the ductile-to-brittle transition temperature and correlation of their chemistry to predict aging trends. *Mailing Add:* Lockheed Res Lab D93-50 B204 3251 Hanover St Palo Alto CA 94304
- CAHILL, THOMAS A**, b Paterson, NJ, Mar 4, 37; m 65; c 2. **NUCLEAR PHYSICS, ATMOSPHERIC CHEMISTRY & PHYSICS.** *Educ:* Holy Cross Col, BA, 59; Univ Calif, Los Angeles, MA, 61, PhD(physics), 65. *Prof Exp:* Asst prof in residence physics, Univ Calif, Los Angeles, 65-66; NATO fel, Ctr Nuclear Studies, Saclay, France, 66-67; from asst prof to assoc prof, 67-76, dir, Inst Ecol, 72-75, PROF PHYSICS, UNIV CALIF, DAVIS, 76-; DIR, CROCKER NUCLEAR LAB, 80- *Concurrent Pos:* Orgn Am States fel, Chile, 68; Nat Defense Educ Act fel, 59-62; NATO fel, France, 66-67. *Mem:* Am Chem Soc; Air Pollution Control Assn; Am Phys Soc; Am Asn Aerosol Res. *Res:* application of nuclear and radiation techniques to ecological problems; atmospheric chemistry and physics especially visibility. *Mailing Add:* Dept of Physics Univ of Calif Davis CA 95616
- CAHILL, VERN RICHARD**, b Tiro, Ohio, May 5, 18; m 46; c 3. **MEAT SCIENCE.** *Educ:* Ohio State Univ, BSc, 41, MSc, 42, PhD(meat), 55. *Prof Exp:* PROF ANIMAL SCI, OHIO STATE UNIV, 46- *Concurrent Pos:* Consult & res, Inst Food Technol, Brazil, 75; consult meat process, USDA, 79-81; consult pork processing, Taiwan, 88. *Mem:* Am Soc Animal Sci; Am Meat Sci Assn; Inst Food Technologists. *Res:* Carcass yield of edible portion; meat tenderness and preservation; comminuted meat products. *Mailing Add:* 133 Aldrich Rd Columbus OH 43214