

GENERAL SCIENCE

Special Award Winners

Outstanding finalists were chosen by scientists from Federal agencies and professional organizations for awards in their fields at the 16th National Science Fair-International.

► SCIENTISTS from Federal agencies and professional organizations selected outstanding finalists at the 16th National Science Fair-International for awards in their specialized fields.

THE AMERICAN CHEMICAL SOCIETY gave first awards to Susan Delphine Delaney, 17, Bladensburg Sr. H.S., Bladensburg, Md., for "Ionic Crystals in an Electrostatic Field," and to Alfred Arthur Hagedorn III, 16, Cheyenne Mountain H.S., Colorado Springs, Colo., for "Benzene—A New Synthesis." Both won plaques and \$100 awards to be used for science materials and study.

First Alternate awards of plaques went to Kathleen M. Thomas, 18, Cass Technical H.S., Detroit, Mich., for "Investigation and Applications of Diazo Coupling Reactions," and John Sterling Winn, 17, William Fleming H.S., Roanoke, Va., for "Spectrophotometric Determination of Rare Earth Chelates." All four students received subscriptions to the Journal of Chemical Education and their teachers received special plaques.

THE AMERICAN INSTITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS, INC., gave first awards of certificates and \$100 Savings Bonds to Noel Dunivant, Jr., 17, Whiteville H.S., Whiteville, N.C., for "Synthesis of Calcite by Hydrothermal Crystallization"; Alan Correll Hull, 18, Oneonta H.S., Oneonta, Ala., for "Relationship Between deHaas-van Alphen Effect and Magnetothermal Effect and How They Affect a Metal"; and Larry Willard Loveridge, 17, Provo H.S., Provo Utah, for "Electrolytic Decomposition of Titanium Dioxide." All three will receive subscriptions to one of the AIME Journals, and their teachers will receive recognition.

THE AMERICAN PATENT LAW ASSOCIATION presented a first award of a \$100 U.S. Savings Bond to William Andrew Voelkle, 18, Sam Houston Sr. H.S., Houston, Texas, for "Advanced Space Propulsion—The Ion Electrostatic Thruster." Honorable Mention Certificates were given to Joel H. Breger, 17, Northwood H.S., Silver Spring, Md., for "Design and Characteristics of a Miniature Superscopic Wind Tunnel"; Jerry Dale Cripe, 16, Auburn H.S., Auburn, Ind., for "Preparation of 2, 4, 6, 8 Tetramorpholino-pyrimido (4, 5-g) Pteridine"; John Richard Gott III, 18, Mayme S. Waggener H.S., Louisville, Ky., for "Pseudopolyhedrons—A New Class of Geometric Figures"; Raymond C. Kurzweil, 17, Martin Van Buren H.S., Queens Village, N.Y., for "Simulation of the Creative Process by Statistical Computer Circuitry"; and John McLean Shearman, 17, Lovington H.S., Lovington, N. Mex., for "Hormonal Control of Hematopoietic Functions."

THE AMERICAN PSYCHOLOGICAL ASSOCIATION gave a first award of a Certificate and \$100 U.S. Savings Bond to Cynthia Bess Miller, 18, Arlington H.S., Indianapolis, Ind., for "Effect of Operantly Conditioned Task Division on Neurotic Aggression Syndrome in Rodents." Certificates of Merit went to Frederick R. Aronson, 19, Pascack Valley H.S., Hillsdale, N.J., for "Genetic Changes in Behavior Produced by Low Levels of X-Irradiation in Mice"; Marilyn Beech, 16, Fulton H.S., Atlanta, Ga., for "Can Emotionality Resulting from Maternal Factors During Infancy be Modified by Clinical Therapy?"; Nancy Fering, 17, Sleepy Eye Public H.S., Sleepy Eye, Minn., for "Dreams as Experienced by Grade School Children—Relationship Between Intelligence and Dreaming"; James L. Moulton, 17, Western H.S., Las Vegas, Nevada, for "Moths can Foil the Sonar of Bats"; and Bengt Turner, 18, Hogre allmanna laroverket, Boras, Sweden, for "Beetles—and Hearing."

THE AMERICAN SOCIETY FOR METALS gave a first award plaque and \$100 to Larry Willard Loveridge, 17, Provo H.S., Provo, Utah, for "Electrolytic Decomposition of Titanium Dioxide." The second award

plaque and \$75 went to Gregory Wayne Kozlik, 16, Lane Technical H.S., Chicago, Ill., for "Field Emission Microscopy."

THE AMERICAN SOCIETY FOR MICROBIOLOGY gave its first award plaque, certificate of merit and \$100 to further the winner's career in science to Carolina Mederos, 17, Bishop Moore H.S., Winter Park, Fla., for "Inhibition of Tobacco Mosaic Virus by Modified Purine and Pyrimidine Analogues." The second award plaque, certificate of merit and \$75 went to Edward Emery, 16, New Albany Sr. H.S., New Albany, Ind., for "Microbial Variants in Strain B6 of *Agrobacterium tumefaciens*." Honorable mention plaques were awarded to John William Benge, 16, Lovington H.S., Lovington, N. Mex., for "Radiation Resistance and *Micrococcus radiodurans*"; James D. Haug, 17, St. Peter and St. Paul H.S., Seneca, Kans., for "Mutation of *Agrobacterium tumefaciens* by UV Irradiation and the Effect of Urethane on the Mutation Rate"; and Johnna Lou Russell, 16, Sandia H.S., Albuquerque, N. Mex., for "DNA Isolation and Transformation in *Staphylococcus aureus*."

THE ARMY AVIATION ASSOCIATION OF AMERICA presented five first awards of plaques and \$100 to Ann Marie Bigelow, 17, Galion Sr. H.S., Galion, Ohio, for Development of an Experimental Vibrating-Reed Anemometer"; Joel H. Breger, 17, Northwood H.S., Silver Spring, Md., for "Design and Characteristics of a Miniature Supersonic Wind Tunnel"; Jerry Wood Childers, 18, North Augusta Sr. H.S., North Augusta, S.C., for "The Channel Wing Aircraft"; James Hallett Oberlin, 17, New Haven H.S., New Haven, Ind., for "Design for a Man-Powered Flying Machine"; and John F.



NEW COUNCIL CHAIRMAN—Dr. Wayne Taylor (left), newly elected chairman of the National Science Fair-International Council, is congratulated by outgoing chairman Howard Weisbrod, supervisor of science education of the San Diego, Calif., schools. Dr. Taylor is an associate professor at the Science and Mathematics Teaching Center, Michigan State University.

Rollins, 17, Eisenhower H.S., Lawton, Okla., for "Design and Use of a Wind Tunnel in Applied Aeronautics."

THE ENTOMOLOGICAL SOCIETY OF AMERICA awarded a \$100 Savings Bond and the current issue of the Annual Review of Entomology to Gary E. Hatch, 17, Provo H.S., Provo, Utah, for "Flight Mechanism of the Dragonfly." A second award of \$25 was presented to Toshiko Fujitsu, 18, Seika Girls H.S., Kyoto City, Japan, for "Studies on Insect Galls in Structure and Formation."

THE FEDERAL AVIATION AGENCY awarded plaques and escorted trips to Agency facilities to winners in three categories: Aviation Medicine—Karen L. Cray, 17, Atchison H.S., Atchison, Kans., for "Effect of Environmental Changes on Behavior in Mice"; Aircraft and Engineering Design—John F. Rollins, 17, Eisenhower H.S., Lawton, Okla., for "Design and Use of a Wind Tunnel in Applied Aeronautics"; Aviation Electronics—Clifton Wilson Gantt, Jr., 18, Columbia H.S., Columbia, S.C., for "Microwaves: Theory and Applications."

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION awarded certificates of merit and two-day visits to NASA facilities to six winners for their creative scientific endeavor in space exploration: Dale Edward Fitz, 16, Arnett H.S., Arnett, Okla., for "An Earth Satellite"; Bryan Grummon, 17, Dawson County H.S., Glendive, Mont., for "Ultra-Sonic Pulsed Laser"; Alan Correll Hull, 18, Oneonta H.S., Oneonta, Ala., for "Relationship Between deHaas-van Alphen Effect and Magnetothermal Effect and How They Affect a Metal"; Ronald John Polinsky, 16, Central Catholic H.S., Reading, Pa., for "Infrared Spectra of DNA"; John F. Rollins, 17, Eisenhower H.S., Lawton, Okla., for "Design and Use of a Wind Tunnel in Applied Aeronautics"; and William Andrew Voelkle, 18, Sam Houston Sr. H.S., Houston, Texas, for "Advanced Space Propulsion—The Ion Electrostatic Thrustor." Each of the six winners will name a teacher to accompany him on the trip.

THE NATIONAL COMMITTEE FOR CAREERS IN MEDICAL TECHNOLOGY gave a first award of a certificate and a summer job with the American Registry of Pathology at the Armed Forces Institute of Pathology in Washington, D.C., plus travel expenses and a subscription to Laboratory Investigation to Margaret Janssen, 18, Henrietta Sr. H.S., Henrietta, Texas, for "Zone Electrophoresis—Relationship of Physical Variables to Rate of Migration." Citations were given to the winners of the Second Award: Yvonne Classen, 17, Wichita H.S. South, Wichita, Kans., for "Effects of Aldosterone on the Active Transport of NaCl Across Frog Skin Membranes." Sandra Edfort, 17, Central Catholic H.S., Kingston, Pa., for "Immunological Study of Gamma-Globulin and Haptoglobin in Mongoloids," an honorable mention was received by Doris Lynn Karon, 17, Bullard H.S., Fresno, Calif., for "Dissociation of Staphylococcus Bacteria in Tetracycline Environment."

THE NATIONAL PEST CONTROL ASSOCIATION gave a certificate and \$100 for science materials and experimentation in biology to Daniel Charles Kurtak, 17, Bishop Union H.S., Bishop, Calif., for "Mammalian Hormones and Insect Metamorphosis."

THE OPTICAL SOCIETY OF AMERICA presented a first award of \$100 for materials, equipment or books to Victor Micheal Martin, 18, Jacksonville H.S., Jacksonville, Ala., for "Practicalities of Optical Microwave Communication and Telemetry." The second award of \$75 went to Joel H. Breger, 17, Northwood H.S., Silver Spring, Md., for "Design and Characteristics of a Miniature Supersonic Wind Tunnel." Honorable Mentions were awarded to: Bryan Grummon, 17, Dawson County H.S., Glendive, Mont., for "Ultra-Sonic Pulsed Laser"; Thomas J. Hysong, 16, Woodward School for Boys, Washington, D.C., for "Graphic Analysis of Moire Patterns"; and Richard Earle Osgood, Jr., 17, Edmonds Sr. H.S., Edmonds, Wash., for "Infrared Spectrum of Softwood Needle Lignin."

THE SOCIETY OF WOMEN ENGINEERS presented a \$100 U.S. Savings Bond to Mary Doris Ruggere, 15, Central Catholic H.S., Kingston, Pa., for "Moebius Solids."

THE SOCIETY OF WOMEN ENGINEERS, ST. LOUIS SECTION, gave a \$25 U.S. Savings Bond to Ann Marie Bigelow, 17, Galion Sr. H.S., Galion, Ohio, for "Development of an Experimental Vibrating-Reed Anemometer."

THE U.S. ATOMIC ENERGY COMMISSION gave certificates and trips to Argonne National Laboratory to Patricia Anderson, 18, Los Alamos H.S., Los Alamos, N. Mex., for "X-Ray Induced Chromosome Breakage"; Frederick R. Aronson, 19, Pascack Valley H.S., Hillsdale, N.J., for "Genetic Changes in Behavior Produced by Low Levels of X-Irradiation in Mice"; George Stuart Beal, 17, Aldershot H.S., Burlington, Ontario, Canada, for "Electron Spin Resonance and the Xenon Fluorides"; Alan Curtis Huber, 17, Benjamin Bosse H.S., Evansville, Ind., for "Spark Chamber with System for Photographic Recording of Cosmic Ray Tracks"; John Forbes Hutchinson, 18, William Penn Charter School, Philadelphia, Pa., for "A 90° Mass Spectrometer"; Charles William Jernigan, 18, Leon H.S., Tallahassee, Fla., for "Plant Responses to Unipolar Air"; Frederick Otto Nietzel, 17, Dyer Central H.S., Dyer, Ind., for "Construction of Plasma Acceleration and Confinement Unit"; Kenyon Richard Strauss, 18, C. E. Byrd H.S., Shreveport, La., for "Low Frequency Electron Paramagnetic Resonance Spectroscopy"; Herbert Alonzo Terry, 16, Will C. Crawford H.S., San Diego, Calif., for "Can Short Wave Ultraviolet Radiation Induce Mutations?"; and Randy B. Wright, 17, Highland H.S., Salt Lake City, Utah, for "Effect of Radiation on the Growth and Structure of Crystals, and X-Ray Diffractions." Each winner will designate a teacher who also will be honored with an expenses-paid trip. Alternates were Ronald William Bailey, 16, Evans County H.S., Claxton, Ga.; Carmen Yolanda Bonta, 16, Mother Cabrini H.S., New York, N.Y.; Carla B. DeBord, 17, Rich Valley H.S., Saltville, Va.; Eva Griffeth, 18, Fort Knox H.S., Fort Knox, Ky.; Jacqueline Joy Jerome, 17, Murphy H.S., Mobile, Ala.; Anthony J. Lee, Jr., Notre Dame H.S., Trenton, N. J.; Thomas M. McGahee, 18, Central Catholic H.S., Melbourne, Fla.; Darrell Addison Posey, 18, Henderson County H.S., Henderson, Ky.; Eileen M. Rodell, 17, Littleton H.S., Littleton, Colo.;

and John Stephen Sabol, Jr., 18, Central Catholic H.S., Lafayette, Ind.

THE U.S. PATENT OFFICE awarded certificates and \$75 U.S. Savings Bonds to winners in five categories: Mechanical Engineering—John F. Rollins, 17, Eisenhower H.S., Lawton, Okla., for "Design and Use of a Wind Tunnel in Applied Aeronautics"; Electrical Engineering—Charles Lynn Whittington, 18, Culberson County Rural H.S., Van Horn, Texas, for "Radar—Radio Detection and Ranging Using VHF Techniques"; Chemistry—Kathleen M. Thomas, 18, Cass Technical H.S., Detroit, Mich., for "Investigation and Applications of Diazo Coupling Reactions"; Design or Dramatic Value—Darrell A. Posey, 18, Henderson Co. H.S., Henderson, Ky., for "Photoflash: Insect Enemy Control Without Chemicals"; Medicine—Arthur Frankel, 17, Stephen F. Austin H.S., Austin, Texas, for "Sodium-Amino Acid Linked Transport."

THE U.S. ARMY awarded a certificate and week's trip to an Army research facility to: Frederick R. Aronson, 19, Pascack Valley H.S., Hillsdale, N.J., for "Genetic Changes in Behavior Produced by Low Levels of X-Irradiation in Mice"; George S. Beal, 17, Aldershot H.S., Burlington, Ontario, Canada, for "Electron Spin Resonance and the Xenon Fluorides"; Barbara Ann Bennett, 18, Garfield H.S., Terre Haute, Ind., for "Mushroom Production by Tissue Culture and Fermentation—Related Nutritional Studies"; Curtis Bryant, 15, LeMars Community H.S., LeMars, Iowa, for "Studying the Solar Atmosphere"; Ruth F. Conner, 18, Melbourne H.S., Melbourne, Fla., for "Genetic Regulation in Development"; Vernon M. Cottes, 17, St. Augustine H.S., New Orleans, La., for "Properties of Gaseous Alkanes as Carrier Gases in Chromatography"; Francis O. Dudas, 15, Anaconda Central H.S., Anaconda, Mont., for "Plant Sociological Studies of Forster Creek Area, Montana"; Noel Dunivant, Jr., 17, White-

(Continued on p. 333)

GENERAL SCIENCE

K.C. Museum Room Shows Science Projects

► SCIENCE FAIR PROJECTS will be displayed the year around in a new room added to the Kansas City, Mo., Museum.

This Science Pioneer display, which can accommodate 22 exhibits, is planned to show exhibits of young scientists of the Kansas City area who have won honors in the local fair and the International Science Fair held annually. It was financed by the Bacchus Ball Cultural and Educational Foundation.

The new room was received for the Museum by Searcy Ridge, president, on the day of the return of Kansas City winners from the national fair, held in St. Louis.

The presentation of the room was made by William W. Groner, representing the Bacchus Foundation, and Donald Roedl, son of the director of the K.C. fair, representing the Science Pioneers, who sponsor the local science fair.

Special Award Winners

(Continued from p. 326)

ville H.S., Whiteville, N.C., for "Synthesis of Calcite by Hydrothermal Crystallization"; Arthur E. Frankel, 17, Stephen F. Austin H.S., Austin, Texas, for "Sodium-Amino Acid Linked Transport"; Arthur W. Garey, Jr., 17, Brown H.S., Atlanta, Ga., for "Stannic Chloride as a Solvent System"; John Richard Gott III, 18, Mayme S. Waggener H.S., Louisville, Ky., for "Pseudopolyhedrons—A New Class of Geometric Figures"; Samuel Walker Houston III, 17, Douglas Sr. H.S., Oklahoma City, Okla., for "Effects of Brain Experiments on the Development of the Cockroach"; Alan C. Huber, 17, Benjamin Bosse H.S., Evansville, Ind., for "Spark Chamber with System for Photographic Recording of Cosmic Ray Tracks"; David R. Jefferson, 16, High Point Sr. H.S., Beltsville, Md., for "Isosceles Trigonometry"; Gregory W. Kozlik, 16, Lane Technical H.S., Chicago, Ill., for "Field Emission

Microscopy"; Ida J. Rheuark, 18, J.E.B. Stuart H.S., Falls Church, Va., for "Developing Useful Products From Onion Skins"; John McLean Shearman, 17, Lovington H.S., Lovington, N. Mex., for "Hormonal Control of Hematopoietic Functions"; Robert I. Smith-Johannsen, 17, Queensbury H.S., Glens Falls, N.Y., for "Atmospheric Precipitation"; Morris Summers, 15, Terry Parker Sr. H.S., Jacksonville, Fla., for "Polyphenol Oxidase System of a Decapod Crustacean"; and William A. Voelkle, 18, Sam Houston Sr. H.S., Houston, Texas, for "Advanced Space Propulsion—The Ion Electrostatic Thruster."

Eight of the winners will be selected for summer research jobs. Twenty alternates were given certificates: William Henry Blair, 17, Fayetteville Sr. H.S., Fayetteville, N.C.; Joseph F. Celko, 18, Sylvan Hills H.S., Atlanta, Ga.; Jerry Dale Cripe, 16, Auburn H.S., Auburn, Ind.; Virginia L. Delaney, 17, Framingham South H.S., Framingham, Mass.; Kenneth Wayne Emert, 18, Robert E. Lee H.S., San Antonio, Texas; Melvin H. Goodwin III, 18, Sunnyslope H.S., Phoenix,

Ariz.; Alfred Arthur Hagedorn III, 16, Cheyenne Mountain H.S., Colorado Springs, Colo.; James Curtis Heck, 17, Jonesboro H.S., Jonesboro, Ark.; Alan Correll Hull, 18, Oneonta H.S., Oneonta, Ala.; Jay B. Jordan, 17, Roswell Sr. H.S., Roswell, N. Mex.; Harry Kyle Parks, Jr., 17, Gary H.S., Gary, W.Va.; William Rivera, 17, Immaculate Conception Academy, Mayaguez, Puerto Rico; John F. Rollins, 17, Eisenhower H.S., Lawton, Okla.; Frank Raymond Rudy, 16, Susquehanna Twp. Sr. H.S., Harrisburg, Pa.; Mary Doris Ruggere, 15, Central Catholic H.S., Kingston, Pa.; Jack T. Schaefer, 17, Davenport West H.S., Davenport, Iowa; Mary M. Schaefer, 15, Northern H.S., Flint, Mich.; Mizuyo Shigemoto, 17, Marugame H.S., Kagawa Pref., Japan; Sarah Terrell Smith, 17, Treutlen H.S., Soperton, Ga.; Leslie Everett Webb III, 18, Falfurrias H.S., Falfurrias, Texas; and Gene Harold Young, 18, St. Albans H.S., St. Albans, W.Va.

THE U.S. NAVY designated ten Navy Science Cruisers and awarded them Principal Award certificates and official Navy binoc-

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ulars, in addition to science-oriented trips on Naval vessels and at land-based USN research facilities. The Cruisers are: Vernon M. Cottles, 17, St. Augustine H.S., New Orleans, La., for "Properties of Gaseous Alkanes as Carrier Gases in Chromatography"; John Richard Gott III, 18, Mayme S. Waggener H.S., Louisville, Ky., for "Pseudopolyhedrons—A New Class of Geometric Figures"; Alan Correll Hull, 18, Oneonta H.S., Oneonta, Ala., for "Relationship Between deHaas-van Alphen Effect and Magnetothermal Effect and How They Affect a Metal"; Larry Willard Lovridge, 17, Provo H.S., Provo, Utah, for "Electrolytic Decomposition of Titanium Dioxide"; Frank Brobson Lutz, Jr., 17, Athens H.S., Athens, Ala., for "Determination of Susceptibility to a Transplanted Tumor"; Gregory Gilbert Marchand, 18, Longview Sr. H.S., Longview, Texas, for "Algae, Man, and the Future"; Robert I. Smith-Johannsen, 17, Queensbury H.S., Glens Falls, N.Y., for "Atmospheric Precipitation"; Robert Stephens, 18, Brookfield East H.S., Brookfield, Wis., for "Force Analysis of the Bermudan Mainsail"; Ray Edward Stowers, 18, Enid H.S., Enid, Okla., for "Effects of Sodium Fluoride on Bone Deterioration Caused by a Female Hormone"; and Dale Jay Walther, 16, East Anchorage H.S., Anchorage, Alaska, for "Establishing Plant Immunity as a Tool in the Search for Cancer's Cure."

THE U.S. NAVAL OCEANOGRAPHIC OFFICE awarded cruises on oceanographic ships for two weeks to a month, transportation to ships and return to Gregory Gilbert Marchand, 18, Longview Sr. H.S., Longview, Texas, for "Algae, Man and the Future" and to Robert E. Rychly, 18, Rapid City H.S., Rapid City, S. Dak., for "Stream Table Geology." Certificates were presented to three alternates: Alan Eugene Long, 15, Sikeston H.S., Sikeston, Mo., for "Measuring the Potential Horsepower of a Stream"; Kenneth Michael Merrill, 18, Jamestown Sr. H.S., Jamestown, N. Dak., for "Velocity of Sound"; and Kirk Kay Nielson, 17, Ben Lomond H.S., Ogden, Utah, for "Chemical Analysis of the Ogden River, a Great Salt Lake Tributary."

THE U.S. AIR FORCE awarded plaques, expenses-paid trips to USAF research facilities and salaried summer jobs at research laboratories in the fields of their individual interests to ten finalists. USAF winners and alternates to their awards were: In Aerospace Biological Sciences, David F. Hayes, 16, Rockville H.S., Vernon, Conn., for "Neuro-Electrical Potentials of the *Periplaneta americana*" (Alternate: Virginia M. Morris, 16, Columbia H.S., Richland, Wash.); in Aerospace Chemistry, Jeff B. Bentley, 15, Temple H.S., Temple, Texas, for "Research on Solid Propellants" (Alternate: Richard R. Jones, 17, Copper Basin H.S., Copperhill, Tenn.); in Aerospace Dynamics, Robert Stephens, 18, Brookfield East H.S., Brookfield, Wis., for "Force Analysis of the Bermudan Mainsail" (Alternate: Joel H. Breger, 17, Northwood H.S., Silver Spring, Md.); in Aerospace Electronics and Communications, Raymond C. Kurzweil, 17, Martin Van Buren H.S., Queens Village, N.Y., for Simulation of the Creative Process by Statistical Computer

Circuitry" (Alternate: Victor Micheal Martin, 18, Jacksonville H.S., Jacksonville, Ala.) in Aerospace Environmental Sciences, Robert I. Smith-Johannsen, 17, Queensbury H.S., Glens Falls, N.Y., for "Atmospheric Precipitation" (Alternate: Ann Marie Bigelow, 17, Galion Sr. H.S., Galion, Ohio); in Aerospace Medicine, Felice R. Tillman, 17, Metairie Park Country Day School, Metairie, La., for "Asphyxia—A Major Factor in the Reanimation of Hypothermic Rats" (Alternate: John L. Gilkey, 16, New Albany Sr. H.S., New Albany, Ind.); in Aerospace Physics, Alan Curtis Huber, 17, Benjamin Bosse H.S., Evansville, Ind., for "Spark Chamber with System for Photographic Recording of Cosmic Ray Tracks" (Alternate: Randy B. Wright, 17, Highland H.S., Salt Lake City, Utah); in Aerospace Physiological and Social Sciences, John C. Hawkins, 18, Skyline H.S., Salt Lake City, Utah, for "Psychologic Effects of a Controlled Prejudice on an Association-Response Learning Process" (Alternate: Ronald G. Owens, 16, Sylacauga H.S., Sylacauga, Ala.); in Aerospace Propulsion, William A. Voelkle, 18, Sam Houston Sr. H.S., Houston, Texas, for "Advanced Space Propulsion—The Ion Electrostatic Thruster" (no alternate); in Mathematical and Computational Sciences, Thomas J. Hysong, 16, Woodward School for Boys, Washington, D.C., for "Graphic Analysis of Moire Patterns" (Alternate: Richard M. Perry, 18, Baldwin H.S., Wailuku, Hawaii).

THE AEROSPACE EDUCATION FOUNDATION OF THE AIR FORCE ASSOCIATION presented precision slide rules to each of the ten winners of the U.S. Air Force Awards.

• Science News Letter, 87:325 May 22, 1965

GENERAL SCIENCE

Additional Members Elected to the APS

► THE AMERICAN PHILOSOPHICAL Society has submitted three new members to be added to the list published in the May 15th issue of the Science News Letter 87:308, 1965. They are.

Frederick B. Adams, Jr., bibliography, Pierpont Morgan Library, New York; Adolph A. Berle, Jr., law, Columbia University, New York; Barnaby C. Keeney, history, Brown University, Providence, R.I.

• Science News Letter, 87:334 May 22, 1965

Do You Know?

Imagining oneself in situations causing one to smoke and then practicing not smoking is an effective way to cut down on *smoking*, a study shows.

Children are most susceptible to streptococcal infection between the ages of 5 and 15.

More than 600,000 lives have been lost in earthquakes since 1900.

During the past 17 years, the male labor force has increased by 12%, while the female labor force has increased by 52%.

• Science News Letter, 87:334 May 22, 1965