

torial guidance from the International Committee, will be privately published. A formal announcement with specific details will probably be made within the next few months. The new journal will include articles describing original research in various fields of precision measurements and the development of associated standards. In addition, review articles in various branches of metrology will be featured. The journal will publish articles in the language in which they are submitted by the author.

The International Committee consists of 18 members and is chaired by Richard Vieweg, former President of the Physikalisch Technische Bundesanstalt, Braunschweig, Germany. Vice chairman of the Committee is Leslie Howlett, director of the Division of Applied Physics, National Research Council, Ottawa, Canada, and the secretary is J. de Boer, professor of physics at the Institute for Theoretical Physics, University of Amsterdam, The Netherlands. The U.S. member of the committee is A. V. Astin, director of the National Bureau of Standards.

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Human Diploid Cell Strains

A symposium on the characterization and uses of human diploid cell strains was held in Opatija, Yugoslavia, 24-26 September 1963. There were 96 delegates from 18 countries. The sessions covered management of human diploid cell strains; biochemical, cytogenetic, and immunological studies on human diploid cells; virus spectrum of human diploid cells; production of human virus vaccines in human diploid cell strains; and results of clinical trials on the use of vaccines prepared in these cell strains.

Many laboratories receiving the cell strains reported success in propagating them and attributed most of the early failures in handling these strains to variations in media constituents.

The cells showed the classic normal human diploid karyotype until approximately the 40th cell generation. It was reported that, at least for some loci, cultured diploid cells carry and express the genes of their donor. The cell strains retain the donor's chromosomal complement and they also maintain biochemical and immunological prop-

erties of the donor cells. In a sense these observations are complementary since they indicate, at two structural levels, an apparent genetic resemblance between the cultured cells and the somatic tissues of the host.

Numerous attempts to isolate latent viruses from these cells have been unsuccessful. Dangers from extraneous oncogenic viruses, inherent in the use of primary explants of animal tissue, are largely circumvented, in the opinion of many workers, when diploid cell strains are used to produce vaccine.

Studies of the virus spectrum of human diploid cell strains indicated that they were susceptible to many viruses. These strains were considered valuable in work with the rhinoviruses that cannot generally be detected in other cell substrates. Since different cell strains vary in their sensitivity to rhinoviruses, it was felt important to use the most sensitive strains.

Both live-attenuated and killed vaccines for parenteral inoculation or oral administration have been made in these cell strains from poliovirus, rhinovirus, adenovirus, varicella, measles, vaccinia, and rabies. After adapting to the cell strains, the viruses investigated gave yields equal to those in other cell systems. Studies with polioviruses showed that they retained their genetic markers when propagated in the human cell strains.

It was urged that all laboratories using these cell strains for producing vaccine limit themselves to a few standardized strains. The use of a well-characterized tissue-culture system is as logical and necessary as the use of a well-characterized virus to be propagated in this system.

Clinical studies on a number of virus vaccines are in progress. It was reported that an oral poliomyelitis vaccine produced in human diploid cell strains has already been successfully tested in a large-scale field trial and that no untoward reactions have been noted in 7000 subjects who have received vaccine during the past 2 years. It was also reported that such vaccines proliferated in the gastrointestinal tract and elicited an antibody response.

On the basis of studies on the feasibility of large-scale production of virus vaccines in these cell strains, a subcommittee of the conference drafted "Minimum Requirements for Human Diploid Cell Strains To Be Used in Vaccine Preparation." These requirements were presented to the participants and adopted at a plenary session.

This symposium was sponsored by the Permanent Section on Microbiological Standardization of the International Association of Microbiological Societies.

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Forthcoming Events

March

2-4. **Fundamental Cancer Research**, 18th annual symp., Houston, Tex. (R. J. Shalek, Dept. of Physics, Univ. of Texas, Houston)

2-6. **Analytical Chemistry** and Applied Spectroscopy, Pittsburgh, Pa. (R. B. Fricioni, Allegheny Ludlum Steel Corp., Research Center, Brackenridge, Pa.)

2-6. Applied **Meteorology**, 5th conf., American Meteorological Soc., Atlantic City, N.J. (A. Hilsenrod, Federal Aviation Agency, Atlantic City)

3-7. Inter-American **Nuclear Energy** Commission, 5th, Valparaiso, Chile.) Pan American Union, Constitution Ave., NW, Washington, D.C. 20006)

3-21. World **Health** Assembly, 17th annual, Geneva, Switzerland. (WHO, Palais des Nations, Geneva)

4-6. **Thermal Radiation** of Solids, symp., San Francisco, Calif. (W. D. Harris, Engineering and Sciences Extension, Univ. of California, Berkeley 4)

4-7. **Psychoanalysis**, first Pan-American congr., Mexico City, Mexico. (The Congress, Insurgentes 421 "C"-108, Mexico 11, D.F.)

5-6. Theoretical and Applied **Mechanics**, southeastern meeting, Atlanta, Ga. (Dept. of Short Courses and Conferences, Georgia Inst. of Technology, Atlanta)

5-7. Evaluation and Mechanisms of **Drug Toxicity**, conf., New York, N.Y. (New York Acad. of Sciences, 2 E. 63 St., New York 21)

5-7. **Macromolecular** Colloquium, Freiburg im Breisgau, Germany. (Institut für Makromolekulare Chemie, Univ. Freiburg, Stefan-Meier-Str. 31, 78 Freiburg im Breisgau)

5-7. Pacific **Sociological** Assoc., Coronado, Calif. (S. M. Dornbusch, Stanford Univ., Stanford, Calif.)

6-8. Society of **Nuclear Medicine**, southwestern chapter, Houston, Tex. (S. N. Turiel, SNM, 333 North Michigan Ave., Chicago 1, Ill.)

6-8. National **Wildlife** Federation, 28th annual, Las Vegas, Nev. (NWF, 1412 16th St., NW, Washington, D.C. 20036)

7-12. **Proctology**, 16th teaching seminar, Miami Beach, Fla. (J. Reichert, 147-41 Sanford Ave., Flushing, N.Y. 11355)