

# Meetings

## Quantitative Biology

The 24th Cold Spring Harbor Symposium on Quantitative Biology will be held 3-10 June. The topic of the meetings will be "Genetics and 20th Century Mendelism," and geneticists, anthropologists, and paleontologists will participate in the program. Individual sessions will deal with the theory of the gene and raw materials of evolution, natural selection and race formation, ecological systems and social organization, isolating mechanisms and speciation, the fossil record and rates of evolution, and trends of evolution.

The symposium is open to all who are interested, but because of space limitations it is important to make advance reservations. For program and information address the Biological Laboratory, Cold Spring Harbor, N.Y.

## Information Processing

The First International Conference on Information Processing is to be held in Paris, 13-22 June. The conference is being organized by the United Nations Educational, Scientific and Cultural Organization with the help of a number of consultants representing the United States, France, Sweden, Italy, Belgium, Russia, West Germany, the Netherlands, the United Kingdom, and Japan. The United States Committee for the International Conference on Information Processing—representing the Institute of Radio Engineers, the Association for Computing Machinery, and the American Institute of Electrical Engineers—will coordinate American participation in the meeting.

The formal program of the conference will include some 60 technical papers in six major areas: methods of digital computing; logical design of digital computers; common symbolic language for digital computers; automatic translation of languages; collection, storage, and retrieval of information; and pattern recognition and machine learning.

These topics will be covered in 11 3-hour plenary sessions in the new UNESCO Palace from 15 June through 20 June. A general rapporteur will present an introductory discussion on each of the six main subjects. There will be simultaneous oral translation of the technical papers into English, French, Russian, Spanish, and German. Comments from the floor will be invited, and the published conference proceedings will contain the entire text of the papers and the discussion from the floor, provided the latter is also submitted in writing. All abstracts and preprints will be mailed to officially registered conference participants.

# RADIOACTIVITY AT WORK...#2

**Our business is radioactivity—applying it, measuring it, protecting against it**

This is the second in a series of reports devoted to NSEC's work with the exciting new tool, radioactivity. Its uses appear endless, not only in the nuclear industry, but also in the fields of chemicals, petroleum, pharmaceuticals, medicine, steel and coal. Applied radioactivity helps us examine product and process improvements, indicates ways to reduce costs, and probes for answers to complex research problems. With radioisotopes and radioactivity, we seek solutions by methods never before practical or economically feasible.

*One of our project descriptions may apply directly to a problem you are facing, or point up a general application in your field. Take advantage of NSEC's specialized skills and equipment. See how safely and profitably the phenomena of radioactivity can be put to work for you.*

## ACTIVATION ANALYSIS

Where a high degree of quality control is desired, activation analysis offers a sensitivity far exceeding conventional quantitative analysis. Elements in quantities as minute as one part per billion can be identified and measured. Activation analysis is important in manufacturing, and in research projects requiring rigid standards of purity. It is especially useful in the processing of rare or expensive materials since, in most cases, only a fraction of a gram of material is required.

In activation analysis, exposure of the test sample to a stream of neutrons creates radioisotopes with distinct radiation characteristics. Even minute quantities of trace elements are made sufficiently radioactive that sensitive counting equipment can measure them. Activation analysis may be performed for as many trace elements as desired in a single small sample.

*NSEC offers activation analysis as a commercial service. We can handle complete testing and analysis or can assist in establishing a standardized procedure for production line use. Ask Dr. Paul Kruger, Manager of our Chemistry Department, about this service.*

## RADIOTRACERS IN BIOMEDICAL RESEARCH

Radiotracing is proving extremely valuable in medical and pharmacological research. Radioactive tracers in infinitesimal amounts are used to follow the course of a substance through a living organism. With tracers, research scientists discover where the substance goes, how long it takes to get there, and what happens when it arrives.

Recently, NSEC completed a study determining the behavior of a radioactive enzyme for a drug manufacturer. Information was needed regarding the speed with which the product was absorbed and how it was distributed in the body. The experiments provided valuable data for the manufacturer. Extended animal tracer experiments are now

in progress and human studies are about to be undertaken.

*Information about the method and radioisotope selected will soon appear in a scientific journal. For additional information on this and similar tracer studies, just write us. Our report on services for study of the reticulo-endothelial system is also available.*

## PROJECT SUNSHINE

When an atomic bomb test is made anywhere on earth, radioactivity is scattered into the air and carried about by wind currents. These "hot" atoms fall with precipitation and settle on animals, vegetation, soil, and water. This fallout contains the dangerous radioactive nuclide, strontium-90, and it is desirable to maintain constant knowledge of the amount.

To monitor this fission fallout, the Atomic Energy Commission set up "Project Sunshine." NSEC has been active in the program since 1955, analyzing samples received from all over the world. NSEC recently has been awarded two additional major contracts to measure fallout in Pittsburgh rainfall and in particulate material in the air.

Close to half the fallout measurements, and most of the particulate material analyses in this country are being conducted by NSEC.

*NSEC is one of very few private firms with the necessary low-level counting equipment to perform such vital work. This, and similar apparatus designed and built by our staff, is used to conduct research that leads to a better life for us all. Would you like to discuss the ways it might assist you?*

## FISSION PRODUCT BEHAVIOR IN A REACTOR SLURRY

In a proposed nuclear power reactor, the fuel used is a slurry of uranium oxide and thorium oxide particles. NSEC made a preliminary study of the probable distribution of fission products within the reactor, to aid in the design of the fuel-decontamination processes. High pressure, high temperature studies were made in an autoclave using reactor-irradiated slurries, as well as synthetic mixtures of fission products.

NSEC has conducted hundreds of radiochemical analyses of experimental nuclear fuel elements, reactor coolant water and other reactor components. NSEC also assists in determining fuel burn-up efficiency, and the rate of gain for breeder reactors. We are taking part in the development of nuclear power plants for aircraft, and are advising many firms which are fabricating fuel elements for various reactors.

*If your work involves nuclear reactors or components, call us at HOMestead 2-4000 in Pittsburgh. We'll work with you from the preliminary environmental radioactivity survey through the disposal or use of the radioactive waste.*

For more detailed information on our studies and services, just call or write. Proposals and quotations on your specific needs will be made without cost or obligation. And if you would like to keep informed of the latest developments in this constantly changing field, just write on your letterhead and ask us to put you on the mailing list for our monthly publication, "Radioactivity at Work."

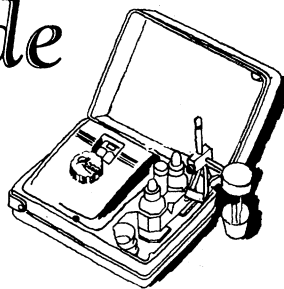
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Conference events will also include symposia, oral surveys on the status of information processing in each country, and an international exhibition of data processing equipment. Technical descriptions of such equipment will be scheduled in conjunction with the exhibits.

Some 1500 specialists will attend the conference, which is expected to lead to creation of an international organization to plan future conferences and to aid in international exchange of information in the field. For conference details, write to: United States Committee for the International Conference on Information Processing, Box 4999, Washington 8, D.C.

### Quantum Electronics

An International Conference on Quantum Electronics—Resonance Phenomena will be held at the Shawanga Lodge, Bloomingburg, N.Y., 14–16 September. The conference will consider basic problems in physics and electronics that are important to the increasing use of molecular and atomic resonances in masers, atomic clocks, and related devices, as well as the application of quantum electronics to scientific problems.

It is intended that this will be a working conference rather than a tutorial meeting. Consequently, attendance is being limited to those who are active in appropriate fields of research. For information, write to I. Rowe, Scientific Department, Office of Naval Research, 346 Broadway, New York 13, N.Y.

### Education of the Scientist

A conference on The Education of the Scientist in a Free Society will be held at Marquette University, 20–22 May, as part of the 50th anniversary celebration of Marquette's College of Engineering. The speakers will include: Edward Teller, University of California, "What is Scientific Education?—The Problem Today"; Senator Paul Douglas, Illinois, "What Does Free Society Demand of the Scientifically Educated?"; and Fred-eric Lindvall, California Institute of Technology, "On the Nature of an Engineer."

### Arid Lands Research

The Spanish Government will be host to UNESCO's Symposium on the Water Relations of Plants in Arid and Semi-Arid Zones, which will take place in Madrid, 24–30 September. As part of UNESCO's arid-lands program, symposia bearing on subjects directly related to the fields of arid-zone research are or-

ganized each year with the assistance of different member states.

In addition to its own specialists, the Spanish Government proposes to invite various foreign scientists to attend, while UNESCO will arrange for the participation of a number of experts, particularly from North Africa, the Middle East, and South Asia. It is hoped that certain specialists will also be able to attend at their own expense or at the expense of the institutions for which they work. The total number of participants will not exceed 60.

The UNESCO Department of Natural Sciences, Place Fontenoy, Paris 7<sup>e</sup>, will arrange for the coordination of scientific papers so that the various sections of the

program will be properly balanced. Certain specialists have been invited by UNESCO to submit reviews of research on the main subjects of the symposium. These reviews will be circulated beforehand and will serve as an introduction to the work of the various sections.

Members of the symposium wishing to present scientific papers are requested to send the title, together with a summary of not more than 250 words, to UNESCO's Department of Natural Sciences *not later than 1 June 1959*. Only original scientific papers bearing on the program of the various sections will be accepted. The full texts of all scientific papers to be presented orally during the symposium must reach UNESCO *not*

*later than 1 August 1959*, in order to leave sufficient time for reproduction and circulation before the opening of the symposium.

All papers and summaries must be prepared either in English or in French; they will be reproduced only in the original language. Participants who wish to prepare their papers in Spanish are requested to supply an English or French translation.

The Spanish Government has set up an organizing committee responsible, in particular, for making all local arrangements for the reception and accommodation of members of the symposium. The secretary of this committee is Mr. Eladio Asensio, Instituto Nacional de Investigaciones Agronomicas, Avenida de Puerta de Hierro, Madrid.

The symposium will be followed by a study tour in southeastern Spain, organized by the Spanish Department of Agriculture. The organizing committee will in due course supply all particulars regarding this tour.

## Forthcoming Events

### May

24-27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa 2, Ontario.)

24-29. American Tuberculosis Assoc., Chicago, Ill. (Mrs. W. B. White, 1790 Broadway, New York 19.)

24-29. Social Welfare, natl. conf. and annual forum, San Francisco, Calif. (National Conference on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.)

25-27. American Gynecological Soc., Hot Springs, Va. (A. A. Marchetti, 3800 Reservoir Rd., NW, Washington 7.)

25-27. American Soc. for Quality Control, Cleveland, Ohio. (L. S. Eichelberger, A. O. Smith Corp., Milwaukee, Wis.)

25-27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa, Ontario, Canada.)

25-27. Telemetering, natl. conf., Denver, Colo. (R. Schmidt, AVCO Mfg. Co., 201 Lowell St., Wilmington, Mass.)

25-28. Smoking and Lung Cancer, and Pulmonary Emphysema, symps., American Trudeau Soc., Chicago, Ill. (H. W. Harris, Medical Sessions Committee, ATS, 1790 Broadway, New York 19.)

25-29. Transistors and Associated Semiconductor Devices, intern. conv., London, England. (Institution of Electrical Engineers, Savoy Pl., London, W.C.2.)

25-31. Electroheat, 4th intern. cong., Stresa, Italy. (International Union for Electroheat, 14, rue de Stäel, Paris 15<sup>e</sup>, France.)

26-29. American College of Cardiology, Philadelphia, Pa. (P. Reichert, 480 Park Ave., New York 22.)

27-28. Legal Environment of Medical Science, 1st natl. conf. (Natl. Soc. for Medical Research and Univ. of Chicago), Chicago, Ill. (Natl. Soc. for Medical Re-

## Millipore BRIEF #172

### A Method for Concentrating Cancer Cells Suspended in Large Quantities of Fluid.

Large volume fluid specimens containing cancer cells are filtered through an MF 25mm Hg regulated vacuum. The cells, then present on filter surface are fixed (10% formalin), stained with hematoxylin and eosin (alcohols and xylol) and mounted on immersion oil for microscopic examination.

Seal, S. H.  
Cancer  
9:5:866-68, October, 1956

## Millipore BRIEF #187

### Studies of Tissue Homotransplantation in Mice; Using Diffusion Chamber Methods.

Reviews the several studies carried on by the authors of the growth of cells *in vivo* and *in vitro* in diffusion chambers constructed of MF material so as to prevent direct cellular contact between graft and host tissue. Homografts were found to survive in diffusion chambers in nonimmune hosts. It then developed that homografts in diffusion chambers also survived in immune hosts.

Algire, G. H., Weaver, J. M., Prehn, R. T.  
Annals New York Academy of Sciences  
64:5:1009-13, March, 1957

## Millipore BRIEF #184

### A New Sterility Test for Antibiotics; An Application of the Membrane Filter Technique.

Following experimentation, Holdowsky assayed 90 samples of various antibiotics. In 71 instances, sterility as determined by the FDA procedure was confirmed by the MF technique. Of 19 remaining, 16 proved unsterile by MF, but sterile by FDA. Both methods indicated unsterility of another: sample labeled sterile by the manufacturer. Of the two remaining, both methods indicated sterility of drugs determined unsterile by the manufacturer.

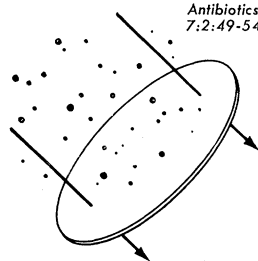
Holdowsky, S.  
Antibiotics & Chemotherapy  
7:2:49-54, February, 1957

## Millipore BRIEF #196

### Use of Millipore Membrane Filter in the Diagnostic Tuberculosis Laboratory.

The Millipore membrane filter was successfully adapted for use in the diagnostic tuberculosis laboratory. Cultures for *Mycobacterium tuberculosis* on membrane filters are usually positive in 3 to 7 days. Tarshis' blood agar yields positive cultures approximately 7 to 10 days earlier than those obtained with modified Lowenstein-Jensen medium. Methods of sample preparation for MF filtration are presented for urine, spinal fluids, gastric washings, sputum and other body fluids.

Haley, Lleanor D., Arch, Rosty  
American Journal Clinical Pathology  
27:1:117-121, January, 1957



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search, 920 S. Michigan Ave., Chicago 5.)

28-30. American Ophthalmological Soc., Hot Springs, Va. (M. C. Wheeler, 30 W. 59 St., New York 19.)

29-30. International Assoc. for Bronchology, 9th cong., Madrid, Spain. (J. Abello, IAB, Lagascar 13, Spain.)

29-2. Giornate Avicole Varesine (intern. symp.), Varese, Italy. (T. Bonadonna, Univ. of Milan, Milan, Italy.)

30-5. Applications of Atomic Energy to the Petroleum Industry, symp., 5th World Petroleum Congress, New York, N.Y. (C. E. Davis, General Secretary, 5th World Petroleum Congress, 527 Madison Ave., New York 22.)

31-3. Special Libraries Assoc., 50th annual conv., Atlantic City, N.J. (Miss M. E. Lucius, 31 E. 10 St., New York 3.)

31-5. Industrial Research Conf., 10th annual, New York, N.Y. (R. T. Livingston, Director, IRC, 409 Engineering, Columbia Univ., New York 27.)

## June

1-3. Evolution, symp., annual, Saskatoon, Saskatchewan, Canada. (Mrs. L. C. Metivier, Royal Soc. of Canada, Natl. Research Bldg., 100 Sussex Drive, Ottawa, Ontario.)

1-4. American Dermatological Assoc., Atlantic City, N.J. (W. M. Sams, 25 Southeast Second Ave., Miami, Fla.)

1-4. Spectroscopy, 10th annual symp., Chicago, Ill. (G. W. Bailey, Borg-Warner Research Center, Des Plaines, Ill.)

1-5. International Silk Assoc., cong., Munich, Germany. (H. Bonvallet, 25, Place Tolozan, Lyon 1, France.)

1-6. International Commission for Northwest Atlantic Fisheries, 9th annual (by invitation), Montreal, Canada. (ICNAF, Forest Bldg., Carleton St., Halifax, Nova Scotia.)

2-6. American Rheumatism Assoc., Washington, D.C. (E. F. Hartung, 580 Park Ave., New York 21.)

2-6. Rheumatic Diseases, 2nd Pan American cong., Washington, D.C. (R. T. Smith, West Point, Pa.)

3-5. Cellular Aspects of Immunity, symp. (by invitation), Royaumont (near Paris), France. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1, England.)

3-7. American Assoc. of Bioanalysis, Cincinnati, Ohio. (L. D. Hertert, 490 Post St., Room 1049, San Francisco, 2, Calif.)

3-7. American College of Chest Physicians, Atlantic City, N.J. (M. Kornfeld, 112 E. Chestnut St., Chicago, Ill.)

3-10. Quantitative Biology, symp., 24th, Cold Spring Harbor, N.Y. (M. Demerec, Director, Biological Lab., Cold Spring Harbor, N.Y.)

4. Fine Structure as Related to Absorption, Synthesis and Transport in the Gastrointestinal Tract, symp., Atlantic City, N.J. (E. C. Texter, Gastroenterology Research Group, Medical School, 303 E. Chicago Ave., Northwestern Univ., Chicago 11, Ill.)

4. Petroleum Geochemistry, symp., New York, N.Y. (E. G. Baker, Esso Research and Engineering Co., P.O. Box 51, Linden, N.J.)

4-5. American Geriatrics Soc., Atlantic

City, N.J. (R. J. Kraemer, 2907 Post Rd., Warwick, R.I.)

4-6. Endocrine Soc., 41st annual, Atlantic City, N.J. (H. H. Turner, 1200 N. Walker, Oklahoma City, Okla.)

4-7. American Medical Womens Assoc., Atlantic City, N.J. (Miss L. T. Majally, 1790 Broadway, New York 19.)

4-7. American Therapeutic Soc., Atlantic City, N.J. (O. B. Hunter, Jr., 915 19 St., NW, Washington 6.)

4-8. Electrolytes, intern. symp., Trieste, Italy. (Societa Italiana per il Progresso delle Scienze 7, Rome, Italy.)

5-7. American College of Angiology, 5th annual, Atlantic City, N.J. (A. Halpern, 11 Hampton Court, Great Neck, N.Y.)

5-7. American Gastroenterological Assoc., and American Gastroscopic Soc., annual, Atlantic City, N.J. (H. M. Pollard, University Hospital, Ann Arbor, Mich.)

6. American Acad. of Tuberculosis Physicians, Atlantic City, N.J. (O. S. Levin, P.O. Box 7011, Denver 6, Colo.)

6. International Cardiovascular Soc. (North American Chapter), Atlantic City, N.J. (P. T. DeCamp, 3503 Prytania St., New Orleans, La.)

6-7. American Diabetes Assoc., Atlantic City, N.J. (E. Paul Sheridan, 1 E. 45 St., New York 17.)

6-7. Society of Investigative Dermatology, Inc., 20th annual, Atlantic City, N.J. (H. Beerman, 255 S. 17, Philadelphia 3, Pa.)

6, 20, and 27. Recent Advances in Medical Technology, symp., Staten Island, N.Y. (N. Colosi, Wagner College, Staten Island, N.Y.)

7-11. American Soc. of Heating and Air Conditioning Engineers, semi-annual, Vancouver, B.C., Canada. (A. V. Hutchinson, ASHAE, 62 Worth St., New York 13.)

7-13. Fertility and Sterility, 3rd world cong., Amsterdam, Holland. (W. W. Williams, 20 Magnolia Terrace, Springfield, Mass.)

8-12. American Medical Assoc., Atlantic City, N.J. (F. J. L. Blasingame, 535 N. Dearborn St., Chicago 10, Ill.)

8-12. Association for Research in Ophthalmology, Inc., Atlantic City, N.J. (L. V. Johnson, 10515 Carnegie Ave., Cleveland 6, Ohio.)

9-11. Canadian Federation of Biological Societies (Canadian Physiological Soc., Pharmacological Soc. of Canada, Canadian Assoc. of Anatomists, Canadian Biochemical Soc.), Toronto, Ontario, Canada. (E. H. Bensley, CFBS, Montreal General Hospital, 1650 Cedar Ave., Montreal 25, P.Q.)

9-11. Interferometry, intern. symp., Teddington, England. (Intern. Symp. on Interferometry, Natl. Physical Laboratory, Teddington.)

9-12. Health Technicians, 6th intern. cong., Paris, France. (Secrétariat Général du Ve Congrès-Exposition International des Techniciens de la Santé, 37, rue Montholon, Paris 9e.)

10-12. Gas Chromatography, 2nd intern. symp., East Lansing, Mich. (H. S. Kindler, Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

(See issue of 17 April for comprehensive list)