elevation of venous outflow resistance in order to vary intravascular pressure and blood flow in opposite directions.

Francis Haddy and his colleagues (Michigan State University) considered the role played by visceral smooth muscle in the intestinal vascular responses to a variety of naturally-occurring vasoactive agents. This muscle factor in the wall can be used to explain otherwise puzzling findings in the intestinal circulation. Harold Green expanded the consideration of hemodynamic responses to the naturallyoccurring agents.

Jacob Fine (Harvard) set forth his concept of the pathogenesis of irreversible shock: the stress of shock prompts sympathetic nervous hyperactivity which results in splanchnic ischemia; prolongation of this inadequate perfusion of the gut and abdominal reticulo-endothelial system permits a state of endotoxemia. This combination of factors pushes the shocked animal into irreversibility. Hiroshi Kuida criticized certain aspects of this hypothesis in the discussion paper.

Detailed studies of the circulatory events in canine endotoxic shock in which events in various segments of the splanchnic circulation lead to characteristic systemic circulatory effects were described by Fuad Bashour. A companion paper by Richard Lillehei covered added conceptual material and stressed a unitary view of the hemodynamics of many shock states.

Proceedings of this conference will be published as a special supplement in the journal *Gastroenterology*. The symposium was sponsored by the department of physiology of the UCLA School of Medicine and was supported by a grant awarded by the National Heart Institute (HE 10561-01).

EUGENE D. JACOBSON Department of Physiology, University of Oklahoma Medical Center, Oklahoma City 73104

# **Forthcoming Events**

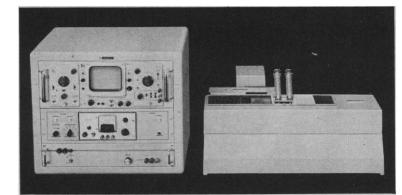
### January

2-6. Endocrinology, 3rd Asia and Oceania congr., Manila, Philippines. (L. S. Villadolid, Dept. of Medicine, College of Medicine, Univ. of the Philippines, Herran, Manila)

Herran, Manila) 3-7. Chemistry, 4th Caribbean symp., Univ. of the West Indies, Mona, Kingston, Jamaica. (W. R. Chan, Chemistry

9 DECEMBER 1966

# **DURRUM STOPPED-FLOW SPECTROPHOTOMETER**



# ABSORPTION RECORDINGS IN 5 MILLISECONDS

New Durrum instrument simplifies rapid kinetic studies based on the stopped-flow technique, permitting measurement of chemical reaction half times as short as five milliseconds. It mixes two liquid components, follows their change in monochromatic light absorption at selected wavelengths from 2500 to 8000 Angstroms, and records the change as a function of time on a storage oscilloscope. You can retain several successive traces for comparison, and photograph the CRT for a permanent record.

The instrument measures sample volumes as small as 0.2 ml of each component. Built-in heat exchange coil and circulating pump permit operation at elevated or reduced temperatures when used in conjunction with readily available laboratory water baths. Instrument parts contacting sample are fabricated of stainless steel, Teflon, Kel-F, glass or fused silica, and are capable of withstanding a wide variety of component solutions and reaction products.

## MULTIPLE-USE VERSATILITY

Modular design facilitates addition of new accessories and techniques as they become available in the fast-moving field of kinetic studies. The standard instrument measures absorption of visible light through a 20 mm light path. Standard equipment (price \$10,800) includes mixing chamber, monochromator and light source, power supplies and electronics, circulating pump and heat exchange coil, storage oscilloscope and camera. Accessories and attachments expand capabilities for fluorescence, ultraviolet, and short path length measurements. Prices for partial or complete systems range from \$4,900.00 to \$11,835.00.

### TYPICAL APPLICATIONS

Enzyme-substrate reactions, catalytic studies, metal-ligand reactions, bioluminescence, concentration jump, fluorescence, and absorption measurements are a few potential applications for the instrument.

### FOR FURTHER INFORMATION

Write Durrum for references, four page price list of systems and accessories, and new illustrated brochure describing the instrument.

Available through Techmation, Ltd., in London, Paris, Dusseldorf, and Amsterdam. Write for name of agent in other overseas locations.



Durrum Instrument Corp., 925 E. Meadow Dr., Palo Alto, Calif. 94303. Tel. (415) 321-6302

Cable: DURRUM, Palo Alto



Yes.

Some scientists mistakenly think there is no solution to the so-called "information explosion" — but there is. Many scientists have solved the problem of "keeping up" by examining the literature in a convenient, methodical way.

Several of the most convenient and methodical ways to search the literature are provided by various ISI information services. We make it our job to see that searching the scientific literature saves you time and money.

For a brochure describing ISI and its activities, just write Department 29–18.We'd like to show you what you've been missing.

Thousands of scientists throughout the world regularly utilize such original ISI services as:

- Current Contents Life Sciences
- Current Contents Physical Sciences
- Index Chemicus
- Encyclopaedia Chimica Internationalis
- Science Citation Index
  ASCA
- (Automatic Subject Citation Alert)
- ISI Magnetic Tapes
- ISI Search Service
- OATS
- (Original Article Tear Sheets)

325 Chestnut St Philadelphia Pa 19106 USA

Dept., Univ. of the West Indies, Mona, Kingston 7)

4-5. Society for **General Microbiology**, 48th general mtg., London, England. (The Society, c/o Soc. for Visiting Scientists, 19 Albermarle St., London W.1)

4–7. National Soc. of Professional Engineers, winter mtg., San Juan, P.R. (The Society, 2029 K St., NW, Washington, D.C. 20006)

4-7. Solid State Physics, conf., Manchester, England. (Inst. of Physics and the Physical Soc., 47 Belgrave Sq., London S.W.1)

5-6. Rheology and Texture of Food-Stuffs, symp., London, England. (P. Sherman, Unilever Research Laboratory, Welwyn, Herts., England)

9-10. Industrial Research, 2nd natl. conf., Purdue Univ., West Lafayette, Ind. (W. E. Spaulding, Krannert Graduate School of Industrial Administration, Purdue Univ., West Lafayette)

9-11. Electrical and Electronic Measurement and Test Instruments, conf., Ottawa, Ontario, Canada. ("EEMTIC '67," Box 6015, Postal Station J, Ottawa 13)

9-14. American Library Assoc., mtg., New Orleans, La. (D. H. Clift, The Association, 50 E. Huron St., Chicago, Ill. 66011)

9–18. Spectroscopy, intern. conf., Bombay, India. (Organizing Committee, Spectroscopy Div., Atomic Energy Establishment, 414 A Cadell Rd., Bombay 28)

10-12. Reliability, annual symp., Inst. of Electrical and Electronics Engineers, Washington, D.C. (IEEE, 345 E. 47 St., New York 10017)

10-13. Physics of Quiescent Plasmas, conf., Rome, Italy. (Quiescent Plasmas, Laboratorio Gas Ionizzati, EURATOM-C.N.E.N., C. P. 65, Frascati, Rome, Italy)

11-13. Surface Chemistry, 3rd Scandinavian symp., Fredensborg, Denmark. (Nordforsk, Ørnevej 30, Copenhagen NV)

12-14. Evaluation of Agents Used in Prevention of **Oral Diseases**, conf., New York Acad. of Sciences, New York. (J. Hein, Forsythe Dental Center, 140 Fenway, Boston, Mass. 02215)

13–14. Orthopaedic Research Soc., mtg., San Francisco, Calif. (R. A. Calandruccio, 869 Madison Ave., Memphis, Tenn.) 13–14. American Soc. for Surgery of

13–14. American Soc. for Surgery of the Hand, San Francisco, Calif. (R. M. Curtis, 2947 St. Paul St., Baltimore, Md. 21218)

14–19. American Acad. of **Orthopedic Surgeons**, San Francisco, Calif. (J. K. Hart, 29 E. Madison St., Chicago, Ill.)

16-18. Compressed Gas Assoc., annual mtg., New York, N.Y. (The Association, 500 Fifth Ave., New York 10036)

16-20. Australian and New Zealand Assoc. for the Advancement of Science, 39th congr., Melbourne, Australia. (W. W. Fee, The Association, Dept. of Chemistry, Univ. of Melbourne, Parkville, N.2, Australia)

16–20. Highway Research Board, NAS-NRC, 46th annual mtg., Washington, D.C. (E. W. Harris, 2101 Constitution Ave., NW, Washington, D.C. 20418)

16-21. Atomic, Molecular, and Solid State **Physics**, symp., Gainesville, Fla. (P.-O. Löwdin, Quantum Theory Project, Nuclear Sciences Bldg., Univ. of Florida, Gainesville 32601)

16-21. Recent Advances in **Tropical** Ecology, symp., Varanasi, India. (R. Misra, Intern. Soc. for Tropical Ecology, Dept. of Botany, Banaras Hindu Univ., Varanasi 5)

16–27. Low Energy Nuclear Physics, intern. seminar, Dacca, Pakistan. (A. M. Harunar Rashid, Atomic Energy Center, P.O.B. 164 RAMNA, Dacca)

16-31. Ocean Science, 5th Pan Indian congr., Bangkok, Thailand. (P. Cheosakul, Natl. Research Council, Bangkhen, Bangkok)

17-18. Engineering Socs. and Their Literature Programs, symp., Engineers Joint Council, New York. (EJC, 345 E. 47 St., New York 10017)

17-18. Simulation in Medicine and Biology, symp., Central and Midwestern States Simulation Council, Mayo Clinic, Rochester, Minn. (J. B. Bassingthwaighte, Dept. of Physiology, Mayo Clinic, Rochester 55902)

18–20. Oil and Water, symp., Brighton, England. (Inst. of Petroleum, 61 New Cavendish St., London W.1)

18–21. Conformation of Biopolymers, intern. symp., Madras, India. (C. Ramakrishnan, Centre of Advanced Study in Biophysics, Univ. of Madras, A.C. College Bldgs., Madras 25)

lege Bldgs., Madras 25) 18–22. **Parasitology**, 1st Latin. American congr., Santiago, Chile. (R. Donckaster, Dept. of Parasitology, Univ. of Chile, Santiago)

20-21. Blood, 15th symp., Wayne State Univ., Detroit, Mich. (W. H. Seegers, Dept. of Physiology, Wayne State Univ. School of Medicine, Detroit 48207)

20–2. International College of **Surgeons**, 3rd Caribbean surgical congr. and cruise. (S. E. Henwood, 1516 Lake Shore Dr., Ghicago, Ill. 60610)

22–3. Electron Microscopy, workshop, Northeastern Univ., Boston, Mass. (M. D. Maser, Millard Fillmore Hospital, 3 Gates Circle, Buffalo, N.Y. 14209)

23–24. Avionics, symp., Montreal, Canada. (Secretary, Canadian Aeronautics and Space Inst., 77 Metcalfe St., Ottawa, Ont.)

23-24. Coupled Reactor Kinetics, natl. mtg., Texas A&M Univ., College Station. (C. G. Chezem, Dept. of Nuclear Engineering, Texas A&M Univ., College Station 77843)

23–25. Aerospace Science, 5th mtg., American Inst. of Aeronautics and Astronautics, New York, N.Y. (Manager of Public Information, AIAA, 1290 Sixth Ave., New York 10019)

23–25. Society of **Thoracic Surgeons**, mtg., Kansas City, Mo. (F. X. Byron, The Society, City of Hope Medical Center, 1500 E. Duarte Rd., Duarte, Calif. 91010)

23–27. Relativistic Astrophysics, symp., New York, N.Y. (A. G. W. Cameron, Belfer Graduate School of Science, Yeshiva Univ., New York 10033)

24–27. Comparative Pharmacology, intern. symp., Natl. Inst. of Health, Bethesda, Md. (G. J. Cosmides, Room 5B29, Bldg. 31, NIH, Bethesda 20014)

25–27. American Crystallographic Assoc., mtg., Georgia Inst. of Technology, Atlanta. (W. L. Kehl, Gulf Research and Development Co., P.O. Drawer 2038, Pittsburgh, Pa. 15230)

SCIENCE, VOL. 154