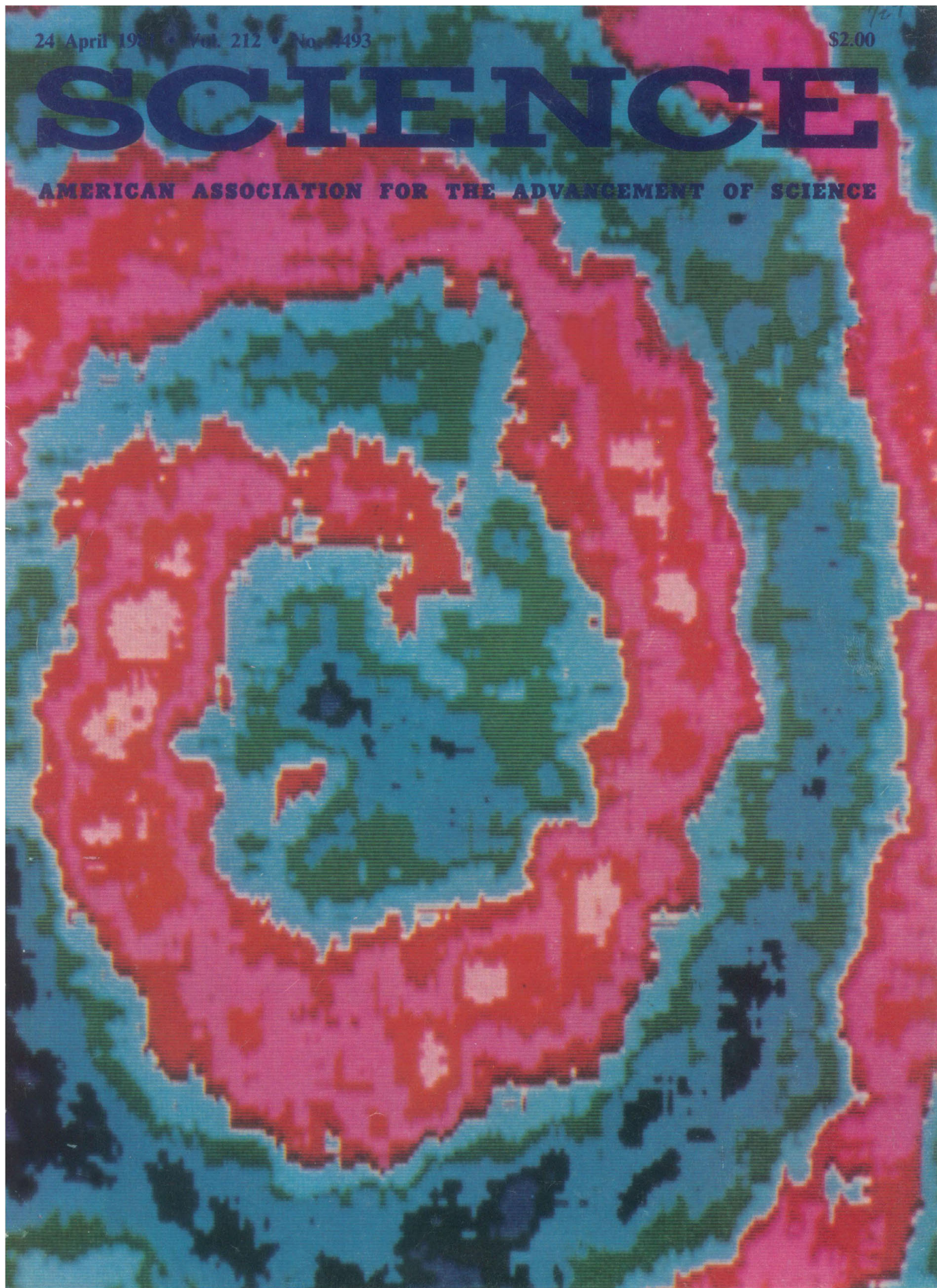


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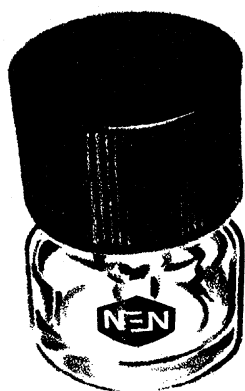


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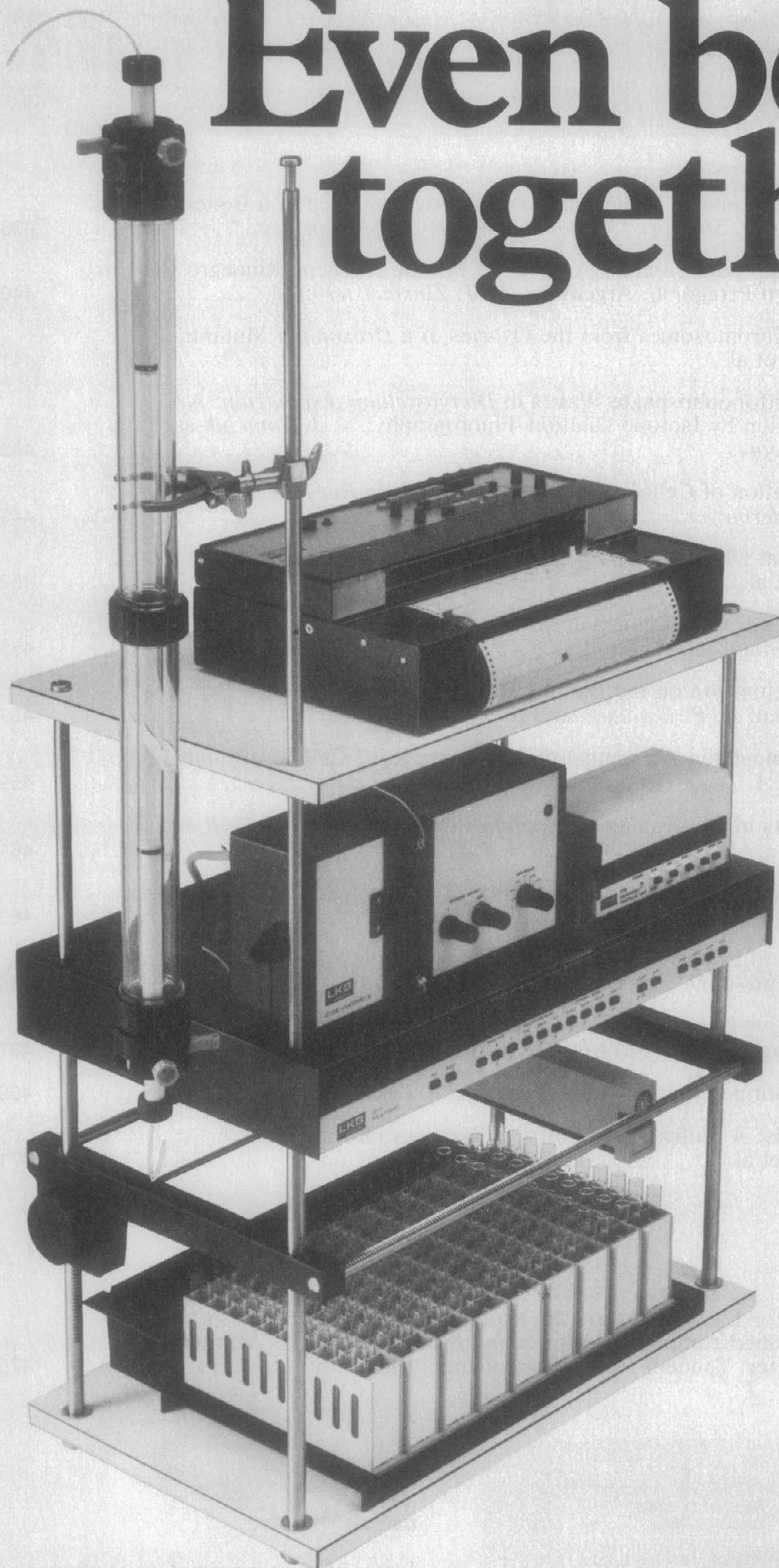
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## COVER

Image of spiral origin of wave of adenosine 3',5'-monophosphate (cyclic AMP) being propagated within a monolayer of aggregating *Dictyostelium discoideum* amoebae. Rotation period is about 7 minutes; wave velocity about 300 micrometers per minute; highest cyclic AMP concentrations are about  $10^{-6}M$ . Area represented in this image is about 0.3 square centimeter and contains about 150,000 amoebae. See page 443. [Computer image processing by M. J. Potel, Department of Biophysics and Theoretical Biology, University of California]

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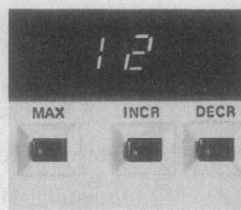
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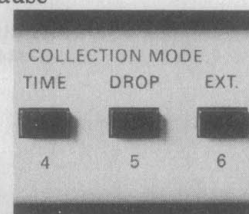
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SCIENCE VOL. 212



The French Institute of Health and Medical Research (Institut National de la Santé et de la Recherche Médicale) is organizing a series of meetings on advanced research topics in various biomedical fields. The meetings which started four years ago, are known as the INSERM CONFERENCES.

The aims of the conferences are :

- to foster the exchange of ideas, to evaluate new methods and new lines of investigation ;
  - to bring together scientists, mostly from European countries, working in universities and public or private research institutions.
- The meetings will be held under the direct responsibility of a chairman and a co-chairman.

The INSERM CONFERENCES have the following special features :

- only highly topical subjects are dealt with ;
- if possible, the data presented should not have been the subject of any earlier complete publication, a condition which therefore excludes general reviews ;
- the Conferences do not publish proceedings or any other material, even in a summarized form.

The chairman of each INSERM Conference will invite 15 to 20 scientists to give a report in line with the above conditions. The number of contributions will be limited to three or four per session and, at the discretion of the chairman, at least one third of the time will be given over to discussion and brief informal communications.

In addition to the invited speakers, at least fifty participants will attend the meeting, and efforts will be made to select young scientists. Experienced research workers from fields other than those relating to the Conference will also be welcome to attend. Participants will be chosen in such a way as to enable those engaged in all types of scientific research to establish personal contacts, exchange information and find new ways of working together.

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The INSERM CONFERENCES 1981 will be held at the Domaine de Seillac, near Blois (180 km from Paris), during the months of September and October (full address : Domaine de Seillac, 41150 Seillac, France). Each conference will last three and a half days, from Sunday evening (departure from Paris) to Thursday afternoon. Working sessions will be held from 9 a.m. to 12.30 p.m. and from 5.30 p.m. to 8 p.m. On free afternoons, participants will have a wide choice of leisure activities at the Domaine de Seillac and in the surrounding area (Tennis, Table-tennis, bicycling, visit to the Castles of the Loire).

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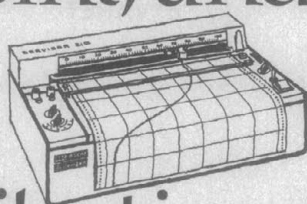
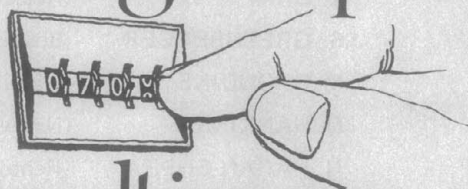
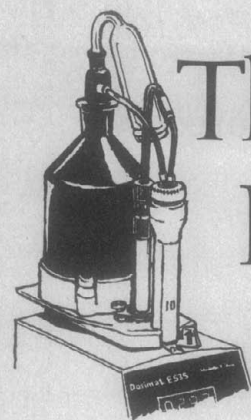
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SE-04-81-CY





## We interrupt our program for this brief announcement:

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Anti-human Lyt 2*	Anti-mouse Thy 1.2,	Anti-mouse Lyb 2.1
Anti-human Lyt 3*	biotin labeled	Sheep anti-mouse Ig,
Anti-human Ia	Anti-mouse Thy 1.2,	alkaline phosphatase
	fluorescein labeled	labeled
VIRAL	Anti-mouse Thy 1.1	Anti-mouse Lyb 2.3
Anti-murine	Anti-mouse Lyt 1.2	Anti-mouse TL
leukemia virus gp70	Anti-mouse Lyt 1.1	
Anti-murine	Anti-mouse Lyt 2.1	
leukemia virus p15 (E)		

\* Indicates order of clone isolation, not target cell function

And several others are to be announced shortly. So let us put your name on our special mail list for news of the latest additions and send you a comprehensive product line brochure.

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# Worth a second look

## Improving with time— the Zeiss Standard.

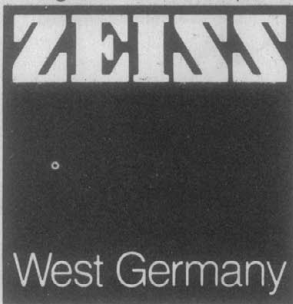
A Zeiss Standard is one thing you can buy that will always get better. It's proven, and has constantly been improved, for thirty years. You can trust the machinery to work, to stand up, even to take abuse. It's been simplified and strengthened, so that there's little to go wrong, and a lot that can't ever be topped—such as the optics!

## Compact and small— the most versatile

You can do more with a Standard, because the accessories you need exist *now*; they're not "in preparation." And it accepts the full line of great Zeiss interchangeable optics: put a Planapo on a Standard and it works just as well as when it's on a Universal. Don't take chances—get proven optics, proven engineering, proven worth.

**Quality service—Expert dealers.**

The great name in optics



## First look.

Right from the start you'll be impressed with the time-proven design, the look of quality. Compact. Small. Strong and simple. Constantly improved, proven in use.

## Second look.

Look again, and you'll be impressed with its possibilities, how it can grow into a sophisticated research tool with many specially items and accessories for all known applications.

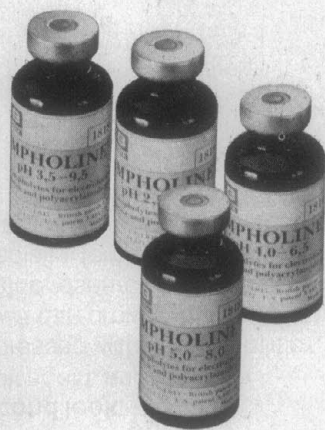


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# LKB ANNOUNCES MORE.

## MORE CONVENIENCE

New pre-blended Ampholine® carrier ampholytes for electrofocusing are available in three narrow and one wide pH range. Now there's no need to spend time mixing to achieve these specific ranges. Just select the pre-blended Ampholine you need (pH 2.5 to 4.5, 4.0 to 6.5, 5.0 to 8.0 and 3.5 to 9.5). They're designed to give the same linear, virtually drift-free pH gradient achieved using standard Ampholine with LKB Agarose-EF or acrylamide gels.

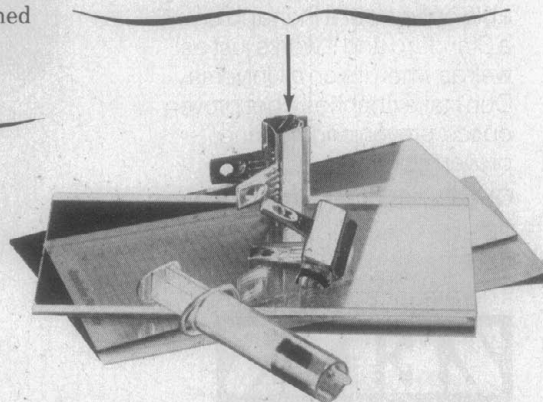


## MORE POWER

The new Model 2197 Power Supply for electrofocusing and electrophoresis offers top-of-the-line features at a very affordable price. The Model 2197 delivers up to 2500V for high-resolution electrofocusing and its 250mA output makes it useful for other electrophoretic techniques. Choose constant power/constant voltage/constant current/time control modes to suit your application. Automatic crossover between running modes compensates for varying gel conditions. Built-in timer with alarm and automatic shutoff allows for time control. With accurate control of four parameters, you can achieve maximum resolution and reproducibility in all your electrofocusing and electrophoresis experiments. Bright LED display lets you monitor performance easily and the Model 2197 is designed to comply with all relevant safety standards.

## MORE ECONOMY

LKB's new capillary gel casting system easily produces gels only one quarter the thickness of standard ones. You save substantially on reagent use and you'll be able to employ higher voltage for decreased run times because the new thinner gels dissipate heat more efficiently. The capillary gel casting kit works with agarose and acrylamide gels. Combine it with the new pre-blended Ampholine and the 2500 volt power supply to significantly reduce your run times while cutting costs. Ask your local LKB representative for more information on these new products and the complete line of LKB instruments and consumables. Depend on the leader in electrofocusing to give you more.



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### **New Flatfield Achromats.**

Flatfield EFAchromats at a price only fractionally higher than standard achromats are the result of new optical glasses developed by Leitz.

### **Performance Engineered.**

The objectives face away from the observer. This gives the pathologist free access to the specimen. The condenser is centerable, focusable and interchangeable

for phase contrast. The controls are positioned for optimum anatomical comfort. There are no compromises in quality. Therefore service requirements and projectable "downtime" are virtually insignificant.

### **Leitz Service.**

The expertise and experience of the well-established network of dealers specializing in microscopy and the professional know-how of Leitz representatives are now standing by, ready to serve the clinical lab.

### **Accessories.**

The modular Laborlux 12 accepts the complete line of Leitz objectives, eighteen filter systems and light sources of incident light fluorescence, phase contrast and darkfield. There are also two and three head discussion tubes and the Combiphot II automatic camera that turns the Laborlux 12 into a low cost/high performance photomicroscope.

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For a considerably lower cost, but still providing Leitz quality for the clinical lab, the new Laborlux 11 is recommended.



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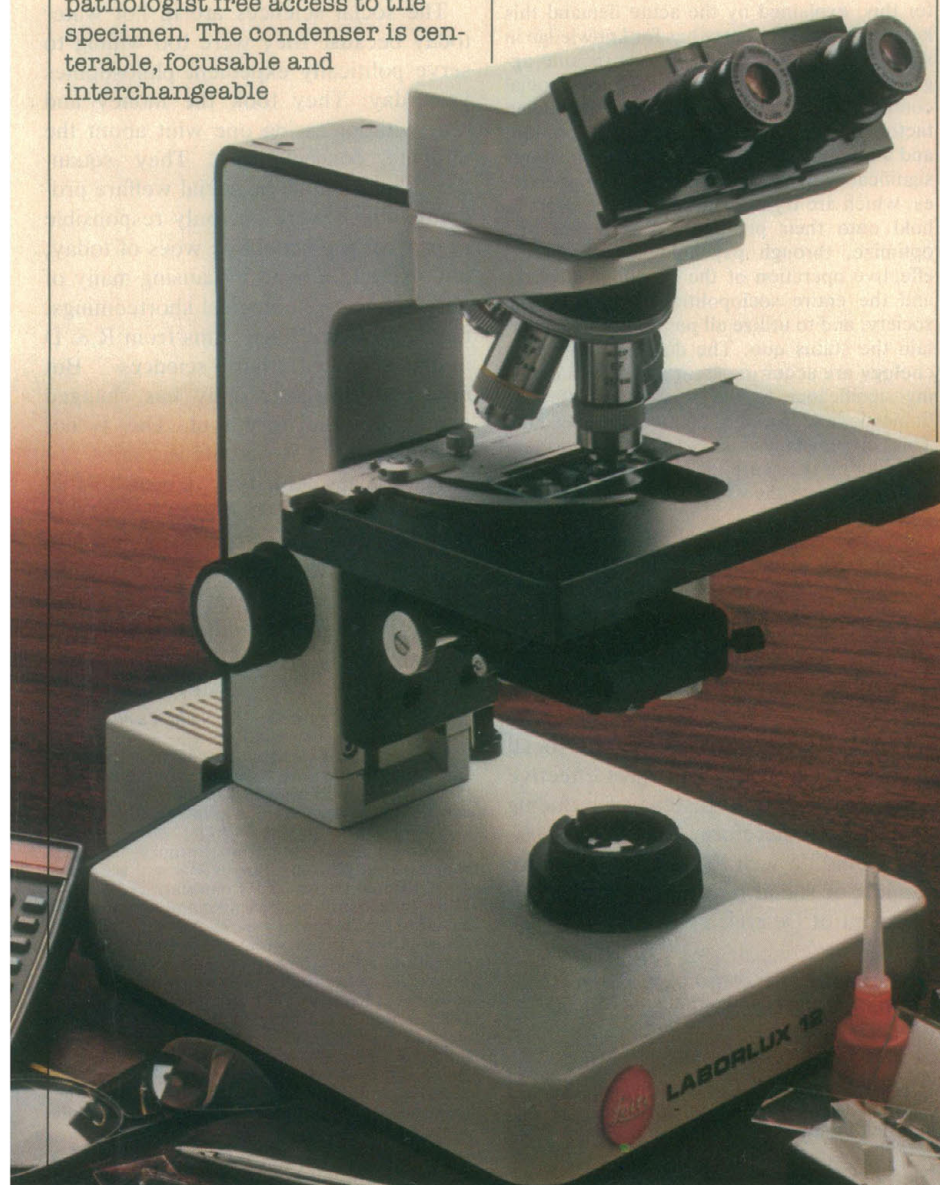
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# Napco<sup>®</sup> announces: the years-ahead incubator system that won't be matched.

The new Napco water jacketed 6000 series embodies more important benefits and features than any incubator ever marketed.

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## 1. More accurate control of chamber temperature.

By positioning sensors not only in the water jacket, *but also in the chamber itself*, Napco permits more precise chamber monitoring than other water jacketed incubators.

## 2. New electronic controls, digital display.

New solid state control system reduces chamber variances, and scanning digital displays monitor chamber parameters.



## 3. The first modular design.

All control elements can be unplugged from the chamber module for quick service.



## 4. Unique wet-jet air flow system.

The exclusive wet-jet air flow system provides maximum chamber uniformity and assures

the highest relative humidity available in any incubator.

## 5. More secure chamber uniformity.

Superior new Napco door closure systems ensure integrity of inner chamber.



## 6. The only water jacketed CO<sub>2</sub> incubator you can get really clean.

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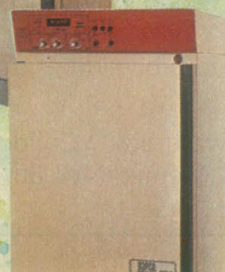
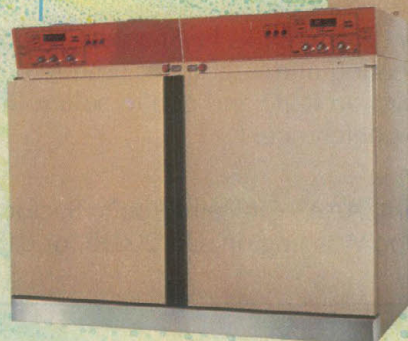


## 7. The best service in the industry.

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## Introducing a new constant flow incubator~ the 4000 series.

The new modular Napco constant flow system embodies a unique principle that offers superior results in tissue culture and related disciplines. Each of the modular chambers has its own individual controls and separate metering system, to accommodate specific environments in each module.



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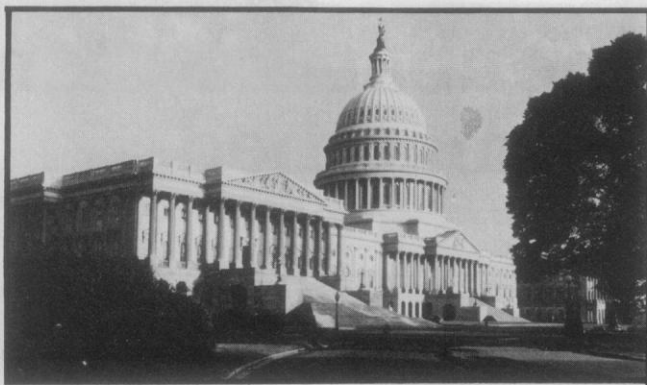
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All Napco water-jacket incubators are available in three space saving models.

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## R&D and the New National Agenda

**Announcing the 6th Annual  
Colloquium on R&D Policy**  
25-26 June 1981  
**The Shoreham Hotel**  
2500 Calvert Street, NW  
Washington, DC



The 6th Annual AAAS Colloquium on R&D and Public Policy, sponsored by the AAAS Committee on Science, Engineering, and Public Policy, will convene 25-26 June 1981 in Washington, D. C.

You are invited to participate in this Colloquium and in discussions with leaders in government, industry, and the scientific and technical communities on issues of current concern relating to R&D and public policy-making in the new administration.

### *Colloquium Topics*

What will be the focus of federal R&D funding? Which programs are being cut back and which increased? What philosophical tenets underlie this set of policies? How is Congress reacting to the new administration's budget recommendations for R&D? What impacts will the new budgets have on the R&D community? Speakers and panelists will provide answers and highlight problems as they address the following topics:

- *Federal R&D* • R&D issues in the FY 1982 budget • Outlook for FY 1983 and the future • R&D policies and budgets of federal agencies
- *Defense R&D* • R&D issues in the defense budget • Current policies and program content • Trends and future projections • Alternative perspectives on defense R&D
- *Agency Perspectives* • Question and answer sessions on R&D programs and policies with officials of key federal agencies
- *R&D Outlook in the Scientific and Engineering Community* • Impacts of new R&D budgets and policies on engineering; physical, social, and biomedical sciences; science and engineering education • Short- and long-range outlook for health of U. S. science and technology

*Research and Development: AAAS Report VI*, by Willis H. Shapley, Albert H. Teich, and Gail J. Breslow, will be provided in advance to colloquium registrants. The *Report* covers R&D in the federal budget for FY 1982, and other topics on R&D and public policy. Registrants will also receive the published proceedings of the conference.

For further details, write: R&D Colloquium, AAAS Office of Public Sector Programs, 1776 Massachusetts Avenue, NW, 8th Floor, Washington, DC 20036, or call (202) 467-4310





## 6th R&D Colloquium

Washington, 25-26 June 1981

The sixth AAAS R&D Policy Colloquium will be held on Thursday and Friday, 25 and 26 June 1981, at the SHOREHAM HOTEL, 2500 Calvert St., NW, Washington, DC 20008.

Registrant's Name \_\_\_\_\_  
(last name) (first and initial)

Affiliation \_\_\_\_\_

Address \_\_\_\_\_  
(street and number)

(city)

(state and zip)

(telephone number)

☐ Please check here if you need special services due to handicap. We will contact you prior to the meeting.

### AAAS Colloquium Advance Registration—enclosed is check or purchase order for:

- ☐ \$110 Full Registration (includes lunch on both days, dinner on Thursday, the R&D: FY 82 Report, and the Colloquium Proceedings)
- ☐ \$65 Partial Registration (includes Report and Proceedings only)
- ☐ \$30 Student Registration (includes Report and Proceedings only; available to full-time graduate or undergraduate students only)

Separate Meal Tickets (lunches at \$15 and dinner at \$22):

- ☐ Lunch on Thursday, 25th; ☐ Dinner on Thursday, 25th; ☐ Lunch on Friday, 26th

Previous Reports and Proceedings (at \$5 each):

- ☐ R&D: FY 81 ☐ R&D: FY 80 ☐ R&D: FY 79 ☐ R&D: FY 78 ☐ R&D: FY 77  
☐ Proc. 80 Col. ☐ Proc. 79 Col. ☐ Proc. 78 Col. ☐ Proc. 77 Col. ☐ Proc. 76 Col.

Program, badge, meal tickets, and R&D: FY 82 Report will be sent about 12 June. Registrations received after 12 June will be held at the AAAS Registration Desk at The Shoreham Hotel. Previous reports ordered will be sent as soon as possible. Proceedings of 81 Colloquium will be sent as soon as available.

Mail to: AAAS Meetings R&D, 1776 Massachusetts Ave., NW, Washington, DC 20036

### Shoreham Hotel Reservation—AAAS Colloquium (25-26 June)

(Reservations received after 24 May cannot be guaranteed)

#### Names and Addresses of All Occupants of Room:

Name \_\_\_\_\_ Name \_\_\_\_\_

Address \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Room: ☐ Single (\$63\*) ☐ Double (\$77\*) ☐ Twin (\$77\*) (\*Plus 10% D.C. sales tax and 80¢ occupancy tax.)

Arrival: Date \_\_\_\_\_ Time \_\_\_\_\_

Be sure to list definite arrival and departure date and time. Hotel reservations will be held only until 6 p.m. unless otherwise specified. Check out time is 1:00 p.m.

Departure: Date \_\_\_\_\_ Time \_\_\_\_\_

Please indicate any special housing needs due to a handicap \_\_\_\_\_

Please enclose separate check, made out to Shoreham Hotel, for first night's room charge or indicate major credit card No.:

Card name \_\_\_\_\_ Number \_\_\_\_\_ Expires \_\_\_\_\_

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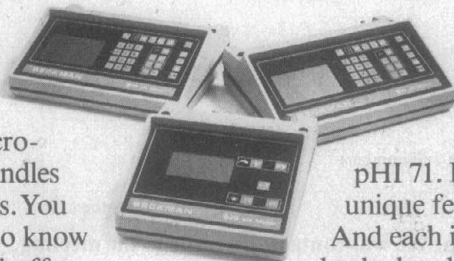
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## Gordon Research Conferences

Most of the scientists who have attended Gordon Research Conferences give them highest marks. An indicator of the usefulness of the conferences is their survival for 50 years and growth in number from 1 in 1931 to 115 this year. Each brings together about 100 researchers for 5 days under circumstances that favor maximum interaction. Conferees include persons from academia, industry, and government who are active at the frontiers of a moving field. They range in status from Nobel laureates to graduate students. Most of the conferences are held during the summer on campuses of private schools in rural New Hampshire. Conferees sleep in the school dormitories and have their meals together. Sessions are held in the mornings and evenings with afternoons free for conversations. A limited number of talks are given and ample time is allowed for discussion. This is fostered by the rule that the talks and the comments on them are off the record. Topics for the conferences (*Science*, 13 March) are drawn from most of the natural sciences, including chemistry, physics, geochemistry, biochemistry, biophysics, physiology, neurochemistry, and medicine.

Holding more than 100 conferences with more than 10,000 participants involves a major exercise in logistics. These are managed by Alexander Cruickshank of the University of Rhode Island, who is director of the Gordon Research Conferences. Overall policies are set by a ten-person board of trustees, who are in effect the executive committee of a council that includes about 180 persons. Detailed scientific management rests with the chairpersons of the various conferences, who have authority to fix the agenda, choose and invite speakers, and select the conferees. This authority lasts for 1 year. Near the conclusion of a conference, a new person is elected to organize the next meeting.

Scientific research areas have a life of their own—birth, youthful exuberance, maturity, and senescence. It is a principal concern of the trustees and council to recognize new fields and to diminish or phase out holding of conferences in areas that are no longer yielding exciting new knowledge. Quality of conferences is assessed by monitors and by use of questionnaires distributed to all participants.

In 1930 Neil Gordon, then a professor of chemistry at Johns Hopkins University, recognized the need for better, more intense communication among research scientists. He envisioned most of the principles that now guide the conferences. The first implementation was modest. It took the form of a seminar at Johns Hopkins in 1931, which was attended by faculty members, students, and others. In 1932 and 1933 seminars organized by Gordon were again held at the university. In 1934 he arranged four conferences that were held at Gibson Island, on Chesapeake Bay near Baltimore. By 1935 the conferences had essentially taken their present form and had the following titles and chairpersons: "The chemistry of aliphatic free radicals," Francis O. Rice; "Long chain molecules," Thomas Midgley, Jr.; and "Vitamins," E. V. McCollum.

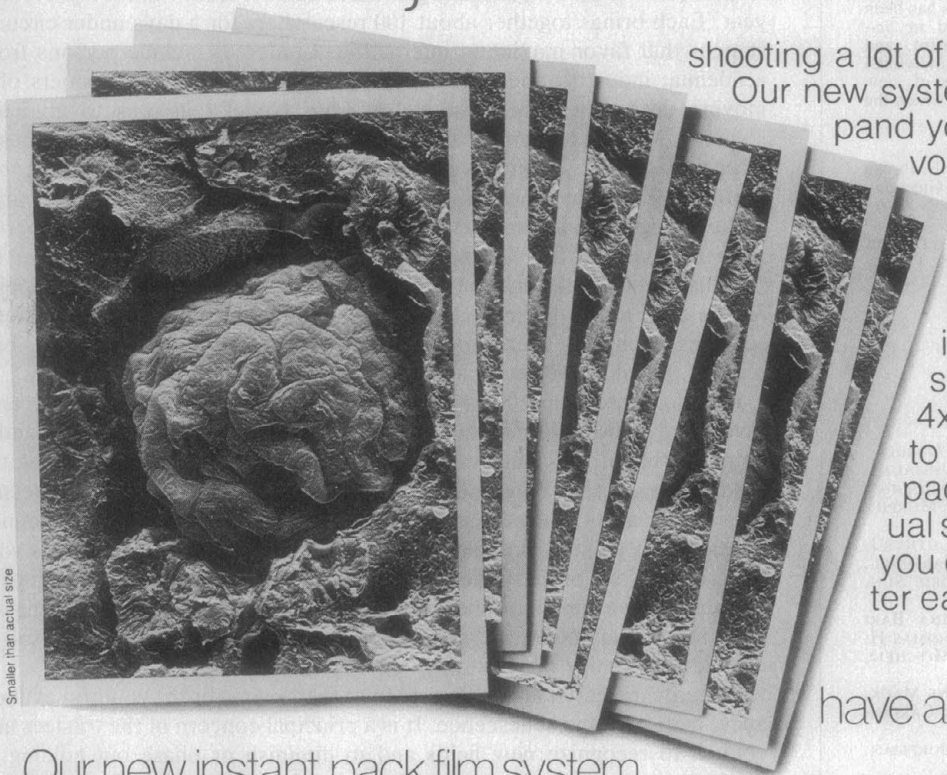
In 1938 Gordon was successful in negotiating a formal relationship with the AAAS; since then, programs of the conferences have been printed in *Science*. Gordon continued as director until ill health interfered. In appreciation for his wisdom and efforts, the conferences were named for him in 1948, a year before his death. The move to New Hampshire occurred in 1947 and W. George Parks became director. He was succeeded in 1968 by Alexander Cruickshank. During their combined tenure, the number of conferences expanded from 10 in 1947 to the present 115. In 1956 the Gordon Research Conferences were incorporated in New Hampshire, and since then the relationship with AAAS has been nominal.

Neil Gordon was a research scientist working in chemistry who perceived a need and had the energy, adroitness, and wisdom to meet the need. The product of his thought and initiative has become a unique and important series of conferences, and their name is a fitting recognition of his efforts.

—PHILIP H. ABELSON



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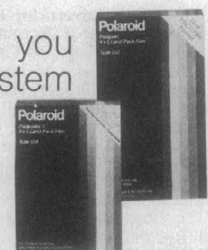
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