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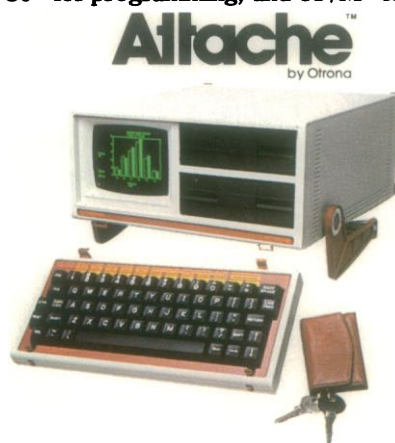
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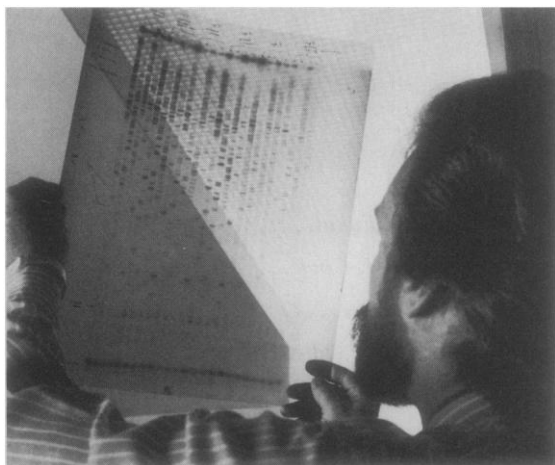


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Sun-drying cassava chips in Thailand. See page 755. [C. Hershey, Centro Internacional de Agricultura Tropical, Cali, Colombia]

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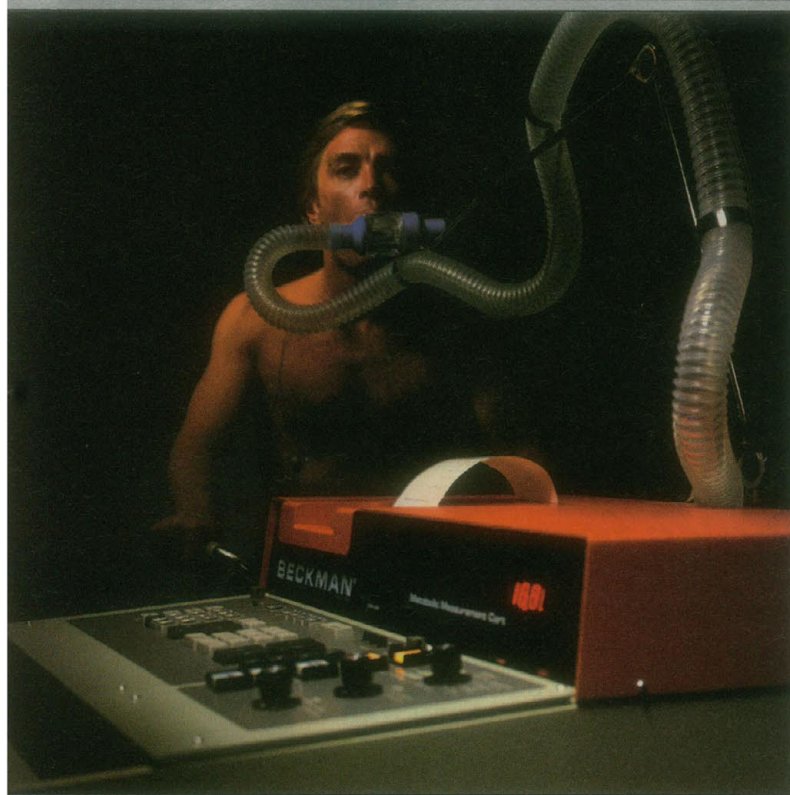
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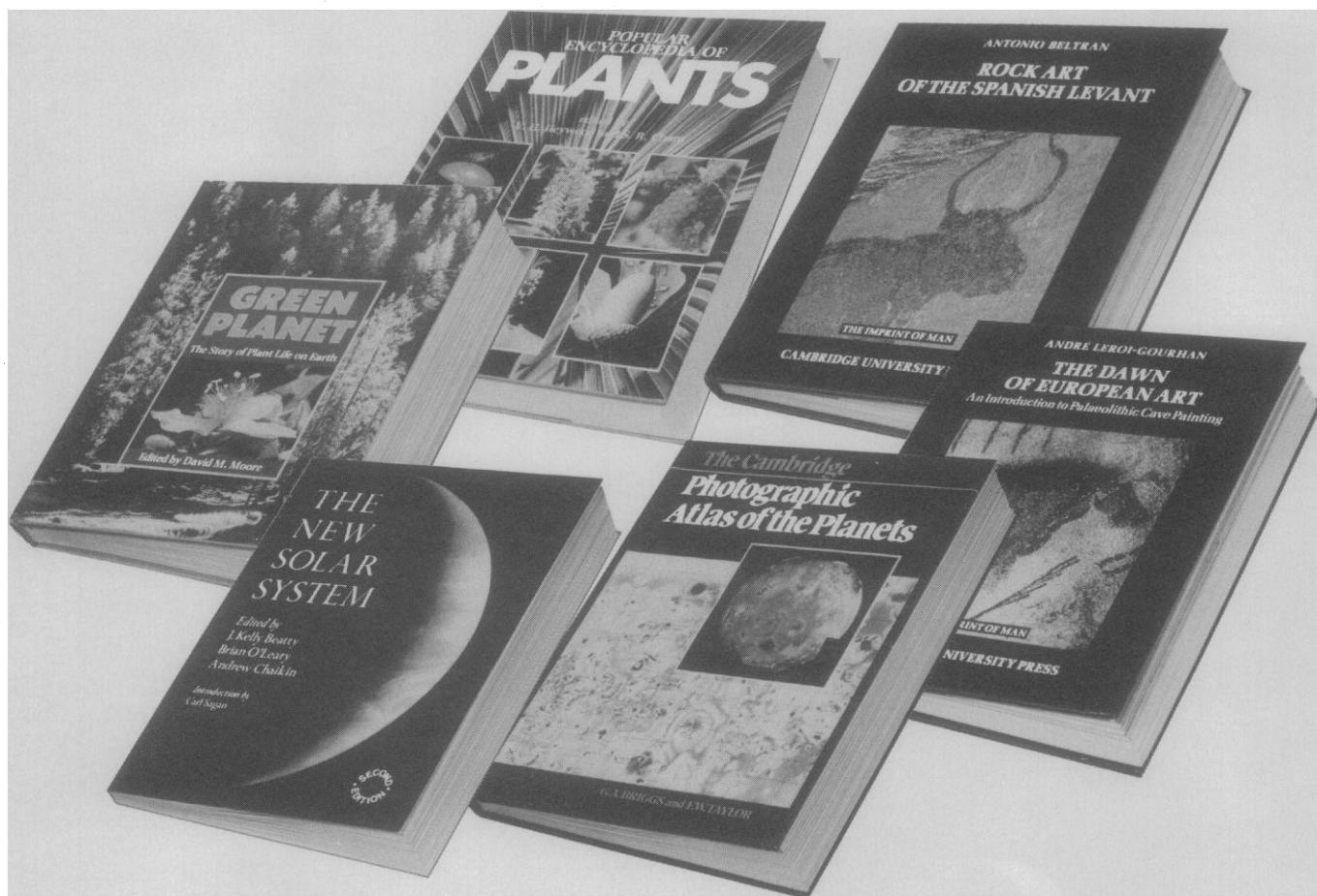
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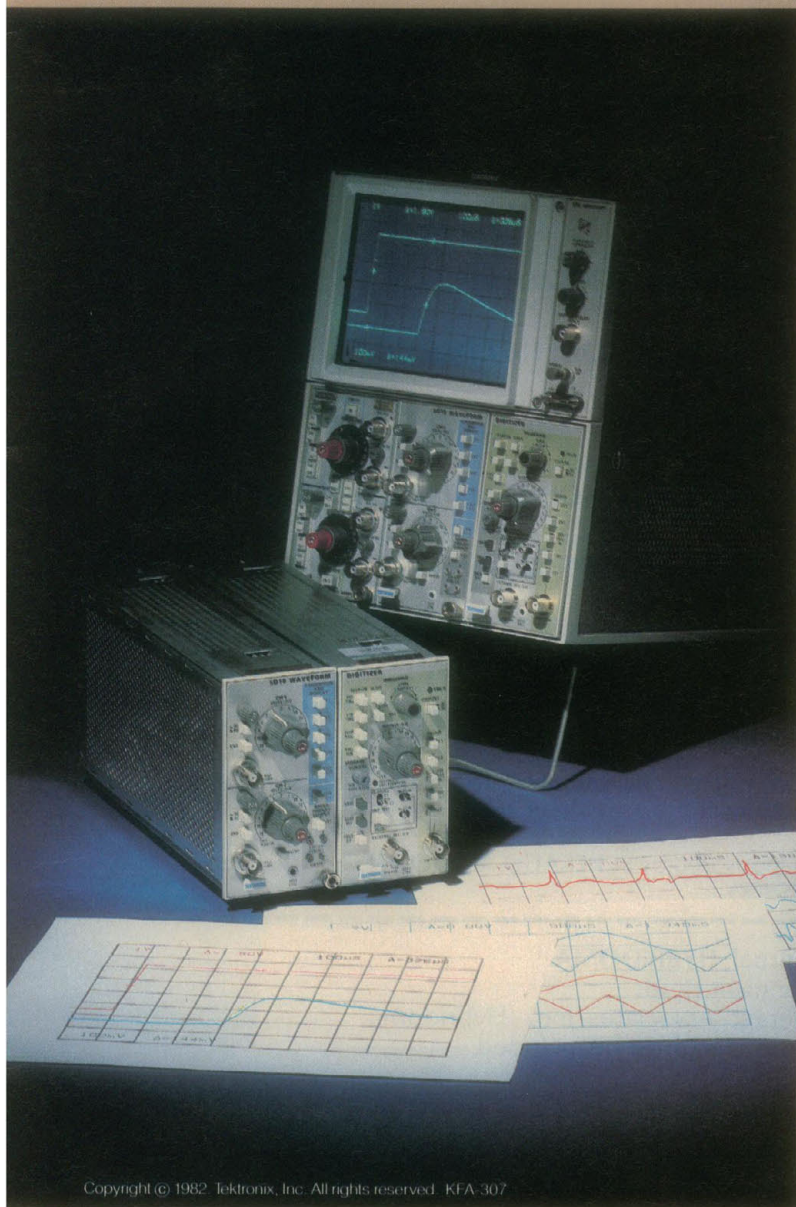
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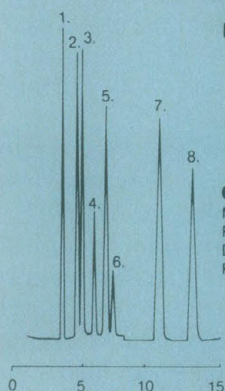
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4. 2-chlorophenol
5. 2, 4-dinitrophenol
6. 2-nitrophenol
7. 4-chloro, 3-methylphenol
8. 2, 4-dichlorophenol

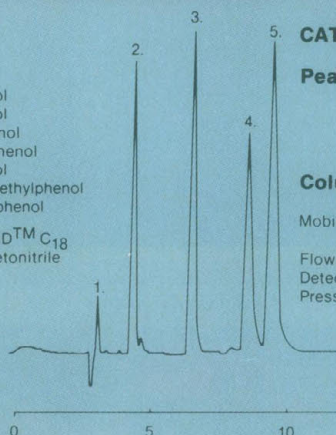
Column: BAKERBOND™ C₁₈
Mobile Phase: Water/Acetonitrile
Flow Rate: 2 ml/min
Detector: UV 254
Pressure: 172 atm



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3. epinephrine
4. norepinephrine
5. dopamine

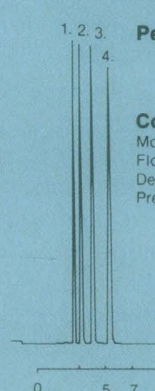
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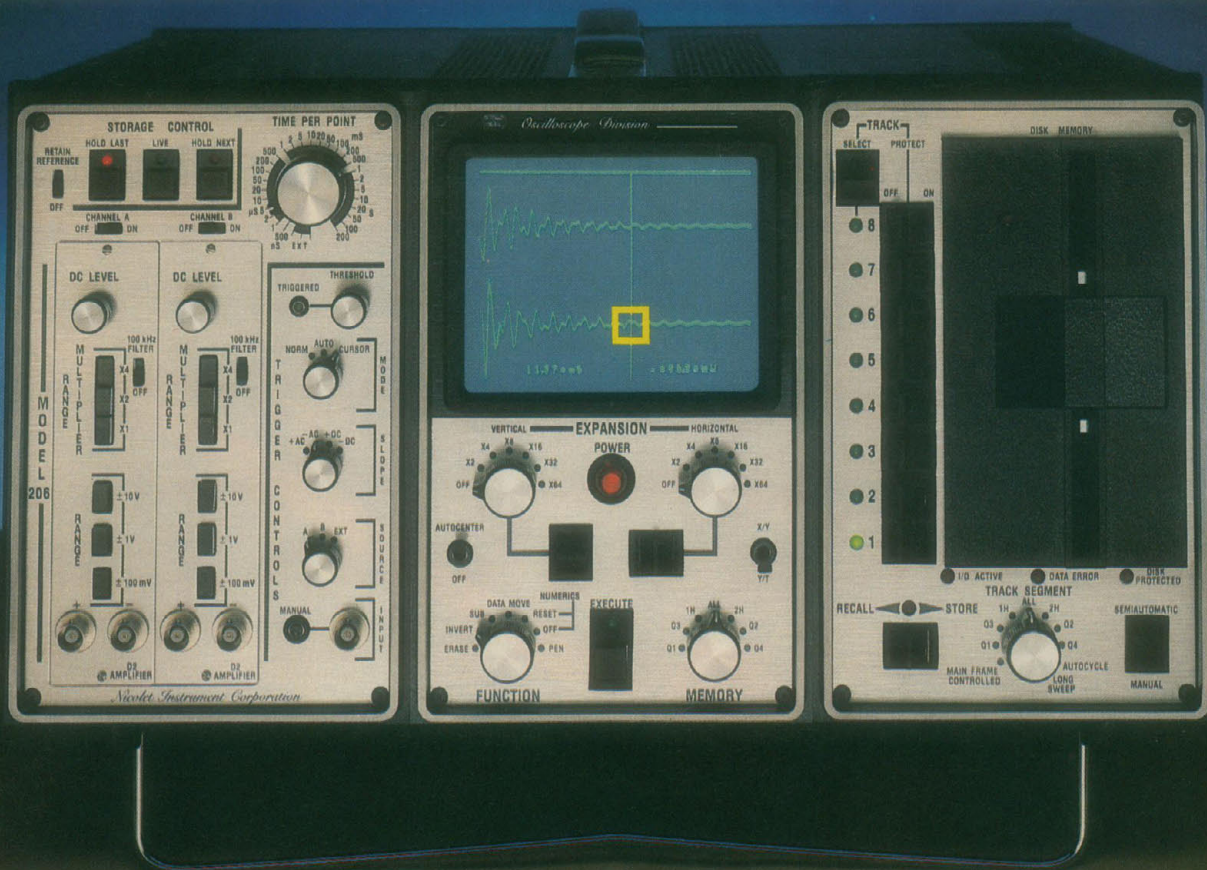
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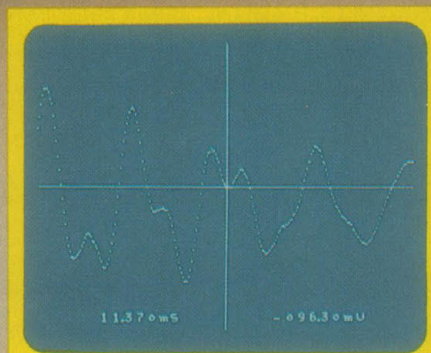




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Premium per \$1,000	\$2.53	\$1.69	\$1.69	\$1.69	\$1.52
Issued to women aged 35					
First-year premium	\$110.25	\$147.00	\$220.50	\$294.00	\$330.75
Premium per \$1,000	\$2.20	\$1.47	\$1.47	\$1.47	\$1.32

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Premiums for MOD ONE policies increase beginning with the second year, but generous dividends, credited concurrently, will automatically reduce those premiums. Under the present dividend scale, expected payments for the second and subsequent years of the 5-year policy period in the examples above will be identical to the premium for the first year shown. While dividends cannot be guaranteed for the future, of course, TIAA has paid dividends on life insurance each year since 1918.

To receive personal illustrations of new MOD ONE policies, mail the coupon, or phone the TIAA Life Insurance Advisory Center Toll Free at 800-223-1200 (in New York, call collect 212-490-9000). No one will call on you as a result of your inquiry.

Eligibility to apply for TIAA life insurance is extended to employees of colleges, universities, private schools, and certain other nonprofit educational and research institutions. The employee's spouse is also eligible provided more than half of their combined earned income is from a qualifying institution.

Note to present TIAA policyowners: MOD ONE premium rates apply only to policies issued on or after October 1, 1982, but cash dividends payable in accordance with the 1982 scale will continue to provide equitable treatment for policies issued prior to that date.

*Modified first-year premium.



Established as a Nonprofit Service
Organization by the Carnegie Foundation
for the Advancement of Teaching

**Life Insurance Advisory Center
Teachers Insurance and Annuity Association
730 Third Avenue, New York, NY 10017**

S-208

Please mail me the facts about new TIAA MOD ONE life insurance policies with personal illustrations of low-cost term policies for my age.

Name _____ Birthdate _____

Title/Position _____

Home Address _____

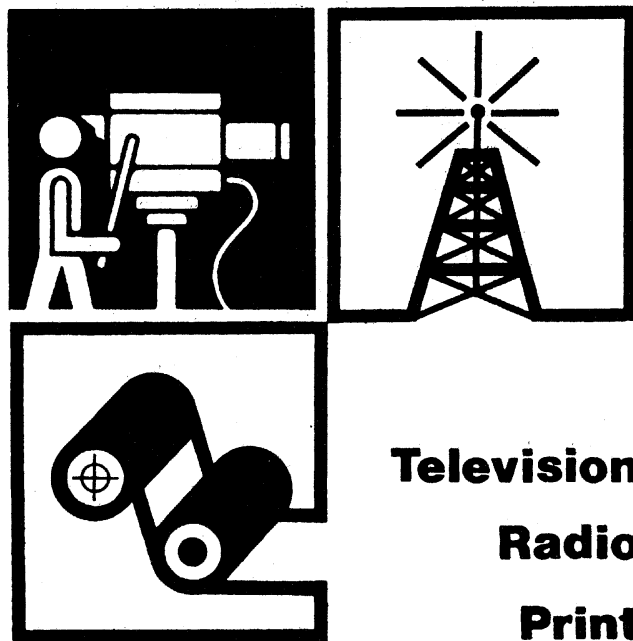
City _____ State _____ Zip _____

Nonprofit educational or scientific employer
(college, university, private school, etc.)

If your spouse is also eligible according to the rules at left, please

fill in: Spouse's name _____ Birthdate _____

1982 AAAS Westinghouse Science Journalism Awards



Television
Radio
Print

Rules

The aim of this competition is to encourage and recognize outstanding reporting on the sciences and their engineering and technological applications in newspapers, general circulation magazines, radio, and television. The following categories are not eligible: items on the field of medicine, items published originally in AAAS publications or produced by AAAS; reports by employees of the AAAS or Westinghouse Electric Corporation.

Print

- An entry for a newspaper competition may be any of the following: a single story; a series of articles; or a group of three unrelated stories, articles, editorials, or columns published during the contest year. A magazine entry may be a single story or series published during the contest year.

- A completed entry blank must be submitted together with seven copies of each entry in the form of tear sheets, clippings, reprints, or syndicate copy (not over 8½" x 11"), showing name and date of the publication. **ENTRIES MUST NOT BE ELABORATE!**

Broadcast

- An entry for the radio or television competition may be an individual news story, feature, or a series, regardless of length, broadcast during the contest year on either public or commercial stations. Entries must be comprised of scripted material. Interviews are not eligible.

- A completed entry blank must be submitted together with a cassette in the case of radio and copy of the script or a ¾" video-cassette in the case of television and copy of the script.

- Each entrant may submit three entries for any one category.

- Each entry must have been published or produced and broadcast within the United States during the contest year—1 October 1981 through 31 December 1982. (In case of a series, more than half of the items comprising it must have been published or broadcast during the contest year.) The date on the issue in which an article appears will be considered as the date of publication. All entries must be postmarked on or before midnight, 15 January 1983.

- Persons other than the author may submit entries in accordance with these rules. Entries will not be returned.

- Winner of the 1981 awards are not eligible for the 1982 awards. Persons winning three times are no longer eligible.

- The Judging Committee, whose decisions are final, will choose the winners. There are five awards of \$1,000: for the winning entry in the over 100,000 daily circulation newspapers competition; for the winning entry in the under 100,000 circulation newspapers competition; for the winning entry in the general circulation magazine competition; for the winning entry in the radio competition; and for the winning entry in the television competition. For award purposes, newspaper circulation will be sworn ABC daily circulation as of 30 September 1982. The Judging Committee may cite other entries for honorable mention.

- The awards will be presented at the dinner meeting of the National Association of Science Writers during the Annual Meeting of the American Association for the Advancement of Science in May 1983. Travel and hotel expenses of the award winners will be paid. **Entrants agree that, if they win, they will be present to receive their awards, unless prevented by circumstances beyond their control.**

Grayce A. Finger

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

1515 Massachusetts Avenue, N.W. Washington, D.C. 20005

ADENOSINE

Adenosine, [2,8,5'-³H]-
15-(4'-aminobenzyl)-1-carazolol, [¹²⁵I]-
15-(4'-azidobenzyl)-1-carazolol, [¹²⁵I]-
Cyclohexyladenosine,
N⁶-[adenine-2,8-³H]-
Diethyl-8-phenylxanthine,
1,3-[phenyl-4-³H]-
Methyl-2-phenylethyladenosine,
L-N⁶-1-[adenine-2,8-³H], ethyl-2-³H]-
(Phenylisopropyladenosine)

α-ADRENERGIC

Aminoclonidine, p-[3,5-³H]-
Clonidine · HCl, [4-³H]-
Dihydro-α-ergocryptine,
9,10-[9,10-³H(N)]-
WB-4101
(2,6-Dimethoxyphenoxyethyl)
aminomethyl-1,4-benzodioxane,
2-[phenoxy-3-³H(N)]-
Epinephrine, levo-[N-methyl-³H]- or
[N-methyl, ring-2,5,6-³H]-
2-[β-(4-Hydroxy-3-iodophenyl)
ethylaminomethyl] tetralone, [¹²⁵I]-
Norepinephrine, levo-[7,8-³H(N)]- or
[ring-2,5,6-³H]-
Phenoxymethylamine · HCl,
[phenoxy-³H]-
Prazosin, [furoyl-5-³H]-
Rauwolfscine, [methyl-³H]-
Yohimbine, [methyl-³H]-

β-ADRENERGIC

Azidobenzylcarazolol, L-para-
[benzyl-3,5-³H]-
Carazolol, DL-[3,6-³H(N)]-
Dihydroalprenolol · HCl, levo-[propyl-
1,2,3-³H]- or [propyl, ring-³H]-
Epinephrine, levo-[N-methyl-³H]- or
[N-methyl, ring-2,5,6-³H]-
Hydroxybenzylisoproterenol, p-[7-³H]-
Iodocyanopindolol, [¹²⁵I]-
Iodohydroxybenzylpindolol, [¹²⁵I]-
Isoproterenol, DL-[7-³H(N)]-
Norepinephrine, levo-[7,8-³H(N)]- or
[ring-2,5,6-³H]-
Propranolol, L-[4-³H]-

ALANINE

Alanine, β-[3-³H(N)]-

ASPARTATE

Aspartic acid, D-[2,3-³H]-

Aspartic acid, L-[2,3-³H]-

BENZODIAZEPINE

Diazepam, [methyl-³H]-
Ethyl β-carboline-3-carboxylate,
[ethyl-2-³H]-
Flunitrazepam, [methyl-³H]-
Flurazepam, [ethylene-³H]-
Methyl β-carboline-3-carboxylate,
[methyl-³H]-
Propyl β-carboline-3-carboxylate,
[propyl-2,3-³H]-
RO5-4864, [N-methyl-³H]-
RO15-1788, [N-methyl-³H]-

CALCIUM

Nitrendipine, [5-methyl-³H]-

CHOLINERGIC

Acetylcholine iodide, [N-methyl-³H]-

Muscarinic

Choline chloride, [methyl-³H]-
Dioxolane, L-(+)-cis-[2-methyl-³H]-
Oxotremorine-M acetate, [methyl-³H]-
Propylbenzylcholine mustard,
[propyl-2,3-³H]-
Quinuclidinyl benzilate,
L-[benzyl-4,4'-³H(N)]-
Scopolamine methyl chloride,
[N-methyl-³H]-

Nicotinic

Amino-4-guanidobutane,
1-[1,2-³H(N)]- (Agmatine)
Bungarotoxin, α-[¹²⁵I]-
Choline chloride, [methyl-³H]-
Nicotine, DL-[N-methyl-³H]-
Tubocurarine chloride,
dextro-[1,3-³H(N)]-
Maleimidobenzyltrimethylammonium
iodide, 4-N-[methyl-³H]- (MBTA)

DOPAMINERGIC

ADTN (Amino-6,7-dihydroxy-
1,2,3,4-tetrahydronaphthalene, 2-),
[5,8-³H]-
Apomorphine, L-(-)-[8,9-³H]-
Dihydro-α-ergocryptine,
9,10-[9,10-³H]-
Dihydroxyphenylethylamine, 3,4-
[ring-2,5,6-³H]-
Domperidone, [benzene ring-³H]-
Flupenthixol, cis-[ring-³H]-
Haloperidol, [H(G)]-
Propylnorapomorphine, L-(-)-
[N-propyl-³H(N)]-
Spiperone, [benzene ring-³H]-
Sulpiride, (-)-[methoxy-³H]-

GABA

Aminobutyric acid, γ-[2,3-³H(N)]-
Baclofen, DL-[butyl-4-³H(N)]-
Dihydropicrotoxinin, α-[8,10-³H]-
DMBB, (+)-[butyl-2,3,4-³H]-
DMBB, (-)-[butyl-2,3,4-³H]-
Muscimol, [methylene-³H(N)]- or
[4-³H]-
Nipecotic acid, [ring-³H]-
Piperidine-4-sulfonic acid, [ring-³H]-
Tetrahydroisoxazolo (5,4-c)
pyridin-3-ol, 4,5,6,7-[5,7-³H]- (THIP)

GLUTAMATE

Glutamic acid, L-[3,4-³H]-

Methyl-D-aspartic acid, N-[methyl-³H]-

GLYCINE

Dihydrostrychnine, [21,22-³H]-

Glycine, [2-³H]-

Strychnine, [benzene ring-³H]-

HISTAMINE

H₁
Doxepin, [methyl-³H]-
Histamine · 2HCl,
[ring, methylenes-³H(N)]-
Mianserin · HCl, [N-methyl-³H]-
Pyrilamine, [pyridinyl-5-³H]-
(Mepyramine)

H₂

Histamine · 2HCl,
[ring, methylenes-³H(N)]-
Tiotidine, [methyl-³H]- (ICI 125, 211)

OPIATE

Dihydromorphine, [N-methyl-³H]-
Enkephalin (5-L-leucine),
[tyrosyl-3,5-³H(N)]-
Enkephalin (5-L-methionine),
[tyrosyl-3,5-³H(N)]-
Enkephalin-(2-D-alanine-5-
L-methionine), [tyrosyl-3,5-³H]-
Enkephalin (5-L-leucine), [tyrosyl-¹²⁵I]-
Enkephalin (5-L-methionine),
[tyrosyl-¹²⁵I]-
Enkephalinamide (2-D-alanine-5-
L-methionine), [tyrosyl-3,5-³H]-
Ethylketocyclazocine, [9-³H]-
Morphine, [N-methyl-³H]-
Naloxone, [N-allyl-2,3-³H]-
Phencyclidine, [piperidyl-3,4-³H(N)]-
SKF-10,047, [N-allyl-2,3-³H]-

SEROTONIN

Dihydro-α-ergocryptine,
9,10-[9,10-³H(N)]-
Hydroxytryptamine binoxalate,
5-[1,2-³H(N)]-
Hydroxytryptamine creatinine
sulfate, 5-[1,2-³H(N)]-
Lysergic acid diethylamide,
[N-methyl-³H]-
Mianserin · HCl, [N-methyl-³H]-
Spiperone, [benzene ring-³H]-

PEPTIDE LIGANDS

Angiotensin II (5-L-isoleucine),
[tyrosyl-3,5-³H(N)]- or [tyrosyl-¹²⁵I]-
Bradykinin, [2,3-prolyl-3,4-³H(N)]- or
(8-tyrosine)-triacetate,
[8-tyrosyl-¹²⁵I]-
Formyl-methionyl-L-leucyl-L-
phenylalanine, N-[phenylalanine-
ring-2,6-³H(N)]-
Formyl-L-norleucyl-L-leucyl-L-
phenylalanine, N-[phenylalanine-
ring-2,6-³H(N)]-

Luteinizing hormone, [¹²⁵I]-
Melanotropin release inhibiting
hormone, [L-prolyl-2,3,4,5-³H(N)]-
Substance P, [2-prolyl-3,4-³H(N)]- or
(8-tyrosine), [¹²⁵I]-
Thyrotropin releasing hormone
[L-prolyl-2,3,4,5-³H(N)]- or [¹²⁵I]-
Thyrotropin releasing hormone
(3-methyl-histidine³),
[L-histidyl-4-³H(N)]-
L-prolyl-3,4-³H(N)]-

RELEASE-UPTAKE AGENTS

Amino-4-guanidobutane,
1-[1,2-³H(N)]- (Agmatine)
Amphetamine sulfate, D-[³H(G)]-
Chlorpromazine hydrochloride,
[benzene ring-³H]-
Desmethylinipramine hydrochloride,
[2,4,6,8-³H]-
Dihydrocapsaicin,
[nonanamide-6,7,9-³H(N)]-
Imipramine hydrochloride,
[N-methyl-³H]-
Nitroimipramine hydrochloride,
2-[N-methyl-³H]-
Reserpine, [benzoyl-³H(G)]-

STEROID

Androgen

Dihydrotestosterone,
[1,2,4,5,6,7,16,17-³H(N)]-
Hydroxyandroster-4-ene-3, 17-dione,
19-[6,7-³H(N)]-
Methyltrienolone, [17α-methyl-³H]-
Testosterone, [1,2,6,7,16,17-³H(N)]-
Testosterone, Δ⁶-[³H]-

Estrogen

Estradiol, [2,4,6,7,16,17-³H(N)]-
Iodo-3, 17β-estradiol, 16α-[¹²⁵I]-
Moxestrol, [11β-methoxy-³H]-
Tamoxifen, [N-methyl-³H]-

Glucocorticoid

Dexamethasone, [6,7-³H(N)]-
Dexamethasone mesylate, [6,7-³H]-
and unlabeled

Hydrocortisone, [1,2,6,7-³H]-
Triamcinolone acetate, [6,7-³H(N)]-

Mineralocorticoid

Aldosterone, D-[1,2,6,7-³H(N)]-

Progesterone

Dihydroprogesterone, [1,2-³H(N)]-
Nor-17α-ethynyltestosterone,
19-[6,7-³H(N)]-
Progesterone, [1,2,6,7-³H(N)]-
Promegestone, [17α-methyl-³H]-

VITAMIN D₃

Dihydroxyvitamin D₃,
1α,25-[26,27-³H]-
Hydroxyvitamin D₃, 25-[26,27-³H]-
Vitamin D₃, [1,2-³H(N)]-

Now, let us explain...

As you can see, it's NEN's list of labeled ligands — by far the longest available — and growing. So we thought a chart that explained how they are organized by class and function would be helpful. It's called "Receptor Site Analysis," it's attractive, and it's yours free.

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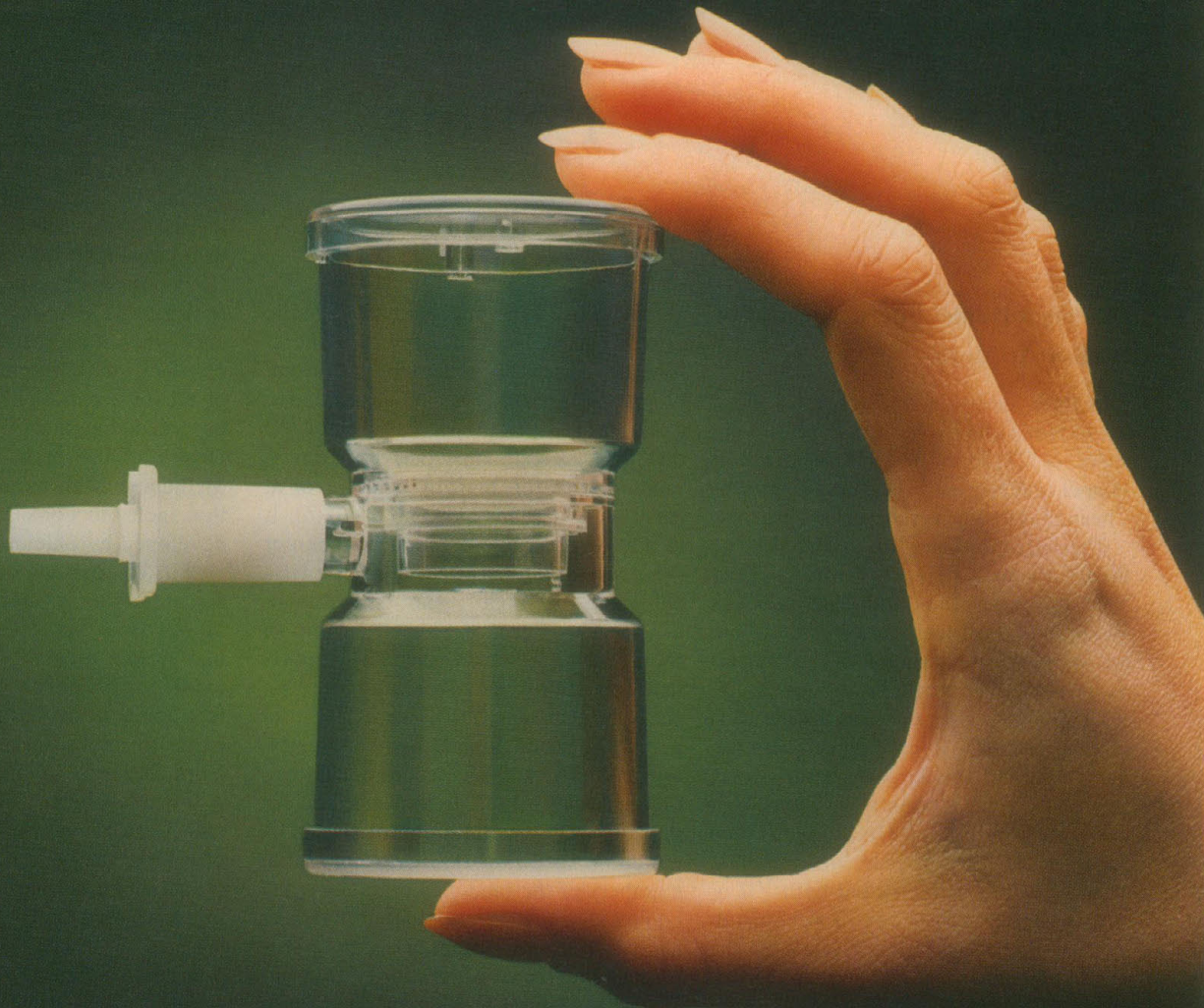
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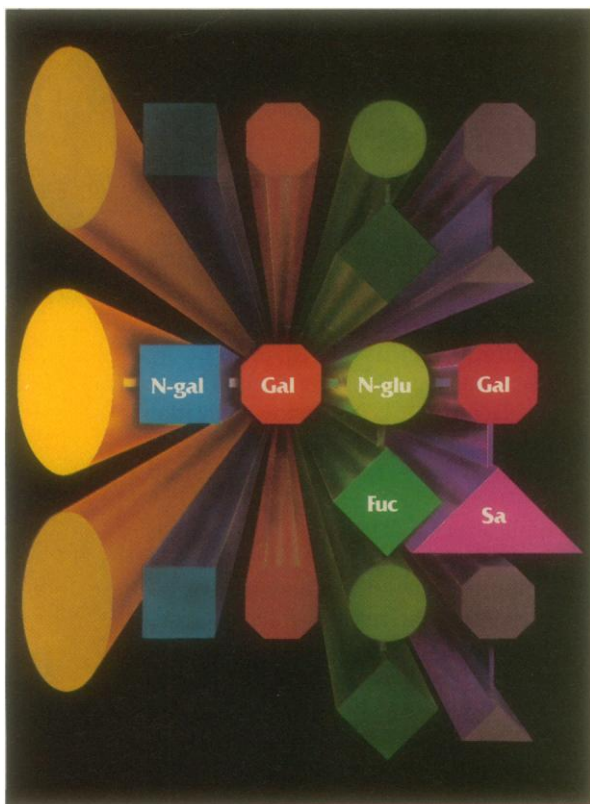
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Previous recipients have proposed projects as varied as a program for radio-tracking the endangered Himalayan snow leopard and a plan for documentation of European cave paintings. Yet each has shared the initiative and enterprise that have characterized Montres Rolex S.A. and the people who wear our watch.

Projects to be considered for the Awards should fall into one of three categories:

- Applied Sciences and Invention
- Exploration and Discovery
- The Environment

A distinguished international committee has been selected to judge the entries.

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The applications will be judged on the basis of their general demonstrations of the "spirit of enterprise" plus their qualities of newness, originality, inventiveness, interest, feasibility, significance and likelihood of completion.

Your entry must be completed in English on an official application form and reach the Secretariat before the 31st of March, 1983. The Awards will be presented in Geneva in April, 1984.

To obtain an official application form, together with the detailed rules and conditions, write to: The Secretariat, The Rolex Awards for Enterprise, P.O. Box 178, 1211 Geneva 26, Switzerland.

The Rolex Awards for Enterprise. If you have an idea that's going places, we can help it get there.



ROLEX

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

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International Science

Those who have participated in international scientific activities are generally enthusiastic about the values flowing from them. Activities favored include postdoctoral training, sabbaticals, individual visits, closed symposia, and work at shared major facilities. The benefits include the advancement of science, awareness of advances elsewhere, and a contribution to international amity.

I have repeatedly encountered scientists who have spent a year or more in the United States. Their friendliness has been most heartwarming. These people have often been successful in science and, in addition, have reached important positions in their homelands. All too frequently, around the world the United States is lied about or criticized unfairly. Our scientist friends quietly help to limit the damage from such propaganda. They are some of the best ambassadors of goodwill for this country.

But too many of these friends are no longer young. They were brought here in the postwar period, when support for foreign fellows was liberal. Since then, funds for postdoctoral fellowships for scientists from other countries have decreased. This is unfortunate. At the postdoctoral level identification of talented scientists is relatively easy. The good judgment of an international network of scholars can be utilized to place these young people in spots where they can attain growth in stature while participating in frontier research. A number of biomedical fellowships are available, but the picture is dismal in other areas of the natural sciences.

Humans apparently have a deep-seated need for interaction. The number of sessions of various clubs and organizations must amount to millions each year. In much of human activity, participants play a zero-sum game—there are winners and losers. Those who have not participated in creative scientific work tend to assume that interactions of scientists are also zero-sum events, but this is usually not true. What is often different about the interactions of scientists, particularly in small groups and in one-on-one situations, is that mutual benefits can accrue. Highly creative scientists get much of their stimulus and fresh ideas from interaction with their peers. They believe strongly in the net positive value of such contacts and are hence impatient and critical when actions of government interfere with the mobility of scientists.

In Washington, the view seems to be that we are superior, that we can only lose by interaction with foreign scientists. We have much to learn from others, and our position will not be improved by isolation from them. One factor that may not be appreciated is the behavior of scientists in one-on-one situations. These are very effective modes of interchange, whether they occur at the time of scheduled meetings or otherwise. Top scientists understand that in order to get information, one must give it. They spend little time in situations in which a balanced or favorable exchange is not forthcoming. Rather they seek encounters which can be mutually rewarding and where enthusiasms can be shared. One of the mistakes made by the Soviet Union is its restriction of the travel of its top scientists. If and when it sends representatives to meetings, they are usually second-raters or party hacks. Their quality is recognized and they are accorded the status they deserve. They get little. In contrast, there have been excellent, mutually rewarding interchanges with scientists of our NATO allies. We should make a special effort to foster those relationships. In addition, interactions with our hemispheric neighbors have been good and these should be increased.

Most human activities lead to little in the way of constructive residues. Much effort goes into zero-sum games. Along with literary, artistic, and musical creative efforts, science is among the few activities that leave a lasting heritage and also tend to promote international amity rather than foster tensions. In a violence-prone world, it is necessary to be prepared to defend oneself. But is there no or little room for constructive activities that make some contribution toward conciliation?—PHILIP H. ABELSON

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