AT COLGATE-PALMOLIVE RESEARCH CENTER...

"Our Mettler top-loaders let us test our ideas on the spot"

"We usually make formulations of our prototype materials right on our Mettler P-1200 top-loading balance," says Dr. Richard Turse, Senior Research Chemist at the Colgate-Palmolive Research Center.

"The speed and convenience of the Mettler is important to us. By cutting down on the mechanics of putting a test material together, we have more time for theoretical work. With quick, convenient and accurate formulation, we can try out our ideas right on the spot."

Dr. Turse's laboratory at Colgate-Palmolive works with proprietary pharmaceutical products—cough syrups, aerosols, effervescent preparations.

"Because much of our work calls for making up experimental formulations, the Mettler top-loader is in almost continuous use. We tare the beaker weight, add successive components, and fill to target weight...usually 100 or 200 grams. The P-1200 also has plenty of capacity when we make up kilogram quantities."

The New Brunswick, New Jersey facility is the primary research arm of the Colgate-Palmolive Company, the world's largest manufacturer of toilet articles and one of the largest producers of soaps and detergents. It uses more than 40 Mettler balances in analytical research and product preparation.

Find out how the new Mettler top-loaders combine the precision of analytical balances with top-loading convenience. Let us lend you a balance to try in your own laboratory. Write Mettler Instrument Corporation, 20 Nassau Street, Princeton, New Jersey.
Newly developed fluorescence system for Nikon microscopes offers unusual flexibility in antibody investigation

The new Nikon Fluorescence Attachment consists of a high-emission UV source and a compact stand on which the microscope is mounted and secured. The two become a single, integrated unit. The attachment enables any Nikon series S microscope to be used for dark-field and phase-contrast fluorescence, independently or in combination. The changeover is simple and fast, and offers considerable convenience in dealing with fluorescing and non-fluorescing structures. High fluorescence brightness is achieved through combined use of a 200-watt, high-pressure mercury-vapor lamp and a large-aperture collector lens of special high UV transmission glass. The system includes a turret condenser of high aperture with interchangeable inserts for dark-field or combined phase fluorescence at all magnifications.

The Nikon Fluorescence System is applicable to all fluorescence techniques: antigen-antibody, acridine-orange, auramine-staining, etc. Filters are turret-mounted, and are selected by simply rotating the turret. At no time can the eye be exposed to raw UV.

may be in short supply during the daytime, the accelerator may have to be operated at night only. (If so, tourists could visit the accelerator during the day, and the entrance fees charged might pay a significant fraction of the operating cost.)

When repair work must be performed in the circular tunnel, which would soon become highly radioactive, accelerator engineers would fill the entire tunnel with sea water. Mechanics employing aqualungs or diving suits could then work in complete safety.

A separately constructed central area of the assembly would contain machine shops, special power supplies, a large control room, administrative headquarters, and also a kind of motel (with parking for helicopters rather than cars) for the crew of approximately 1000 engineers and technicians. Recreation facilities would include a movie theater, squash courts, swimming pools, and a specially stocked fishing pool.

The plan circumvents rivalry from groups in different parts of the country. (The possibility of building the quadrants in smaller units that could pass through the St. Lawrence Seaway and be assembled in Lake Erie or Lake Michigan has not been ruled out.) Also, four different parts of the country could be given contracts for building the four arc-shaped platforms. (Already, a bid has been received from a Japanese shipbuilding firm experienced in building supertankers.) Since these four quadrants—and the linac structure and the experimental hall structures—could be built simultaneously in different shipyards, as much as 2 years could be saved relative to the time needed to construct a fixed synchotron.

Only in the last few weeks has the last and thorniest problem been solved: the problem of radiation beamed toward a particular part of the city adjacent to the harbor in question. If an emergent beam was aimed toward a certain portion of the city, persons living there would receive, during a typical month, five or ten times the permissible dose (from muons, which are fundamentally aquatic and can travel freely in water). The solution is to mount a 5-hp outboard motor tangentially at the outer edge of the platform and keep the motor running continuously, so as to rotate the entire accelerator at the rate of one revolution per week and thus distribute the radiation uniformly along the entire harbor-front. The direction of rotation will be the same as that of the protons in the accelerator, so as to add to their speed; even a slight increase is significant if the particles are already traveling at a speed almost equal to that of light.

William A. Shurcliff
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Metric System: Easy Conversions

Anyone who did not read Manuel Mateos’ letter (24 Sept., p. 1450) missed an important proposal. Mateos suggests a “metricized British system” whereby our quart and pound would be made slightly larger, thus making the new “metric quart” equal to 1 liter and the “metric pound” to 1/2 kilogram: the inch would become a bit shorter, so that 1 “metric inch” would equal 25 millimeters and 40 “metric inches”—1 “metric yard”—would be 1 meter.

This would be an easy way to make the metric system more acceptable to the general public. More important, however, for those of us who are not interested in the precise conversion when reading (or writing) articles using metric units, it is an ideal method of beginning to think in these equivalent units without constantly referring to conversion factors.

R. G. Petersen
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Psychologists’ Title

In the recent exchange of letters about degrees and titles, Wiesinger (10 Sept., p. 1174) writes that “it is not good form in English for a Ph.D. . . . to refer to himself as Dr. . . .” It should be noted that the clinical psychologist, who is a Ph.D., cannot function professionally without referring to himself as “Dr.” If he calls himself “Mr.” he is respected by neither his physician colleagues nor his patients. This poses a special problem for psychologists who work simultaneously in clinical and academic settings.

John G. Watkins
Department of Psychology, University of Montana, Missoula
The fast, flexible 1001 has more built-in features than any other 1024-channel analyzer ever made

The TMC 1001 has a 12.5 megacycle ADC, faster memory cycle time, and operates at higher counting rates than any previous 1024-channel analyzer. For flexibility, it has built-in, switch-selectable modes for simultaneous single and multi-channel pulse height analysis, multisampling and analog sampling. Its programming can be automatic, semi-automatic, manual or externally controlled. Set the 1001’s conversion gain switch in its 2x position and you’ve got resolution in a selected area equivalent to that of a 2048-channel analyzer. It’s TMC style... straight through.

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We know that you can’t find a 1024-channel analyzer anywhere that will match the flexibility, reliability and speed of the 1001. TMC likes being first. If you’re inclined the same way, you’ll want all the facts on the 1001. To get them, write: Nuclear Division, Technical Measurement Corporation, 441 Washington Avenue, North Haven, Connecticut 06473.