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NEWS AND NOTES 1990, NOVEMBER 16

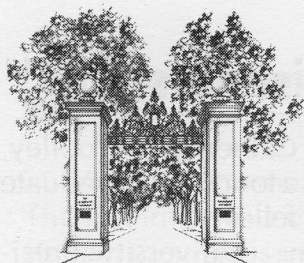
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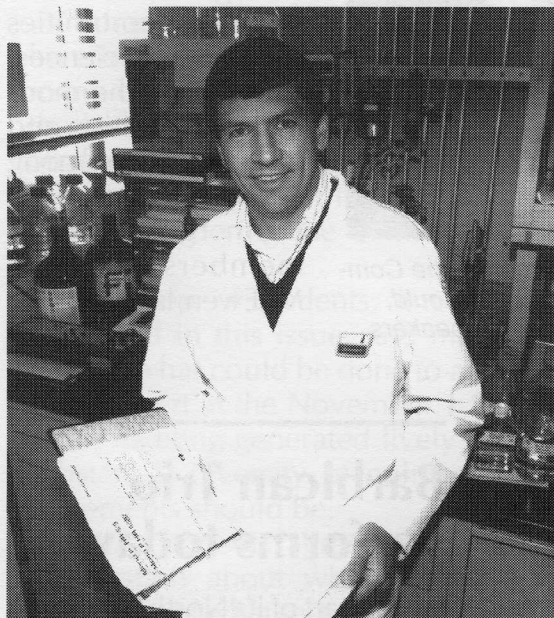
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News & Notes

A preemptive strike against shock?



Samuel Wright

Current events have everyone thinking about the risks and benefits of a strong defense system. Samuel Wright, Associate Professor in the Laboratory of Cellular Physiology and Immunology, has been thinking about these issues for years. But rather than focusing on a world thousands of miles away, he's been concentrating on a world within each one of us — our own immune systems.

The cells of the immune system work in a remarkably complex way to guard against infection and other illnesses. Generally, the system's vigilance helps maintain health. But sometimes,

like trigger-happy sentries, elements of the immune system overreact, causing serious illness or even death.

That can happen with tumor necrosis factor (TNF), a powerful substance produced by a type of immune cell called the macrophage. TNF "puts the whole body on red alert," said Wright. It stimulates many important infection-fighting reactions in the body, such as the production of certain proteins and the mobilization of immune system cells.

But too much TNF can be deadly. As Wright explained, an overabundance of TNF can cause a "spiral of events" that results in endotoxic shock, a dangerous condition characterized by multiple organ failure and plummeting blood pressure. Often, endotoxic shock leads to death.

There is currently no treatment for endotoxic shock. But research conducted by Wright and Robert Ramos, Assistant for Research, is pointing the way to an exciting new approach to the problem — one that would stop the overproduction of TNF before it occurs.

See Wright on page 4

Board elects two new trustees

At its November 12 meeting The Rockefeller University Board of Trustees elected two new members. The addition of Gustavo A. Cisneros and Dr. Pehr Gustaf Gyllenhammar brings the total number of university trustees to thirty.

Gustavo A. Cisneros is president and chief executive officer of Organización Cisneros, the parent organization of over fifty companies operating in Venezuela, other Latin American countries, the U.S., Europe and Asia, with factories and branches around the world. Born in Caracas, Venezuela, he earned B.S. and B.A. degrees from Babson College, graduating in 1968. Cisneros is involved with civic groups and committees in Latin America and the U.S., and he has been a member of The Rockefeller University Council since 1980.

Dr. Pehr Gustaf Gyllenhammar has been chairman and chief executive officer of Volvo since 1983. A native of Sweden, he was educated at the University of Lund, graduating in 1959. He, like Cisneros, is involved in numerous civic groups and committees worldwide. Gyllenhammar is also the author of four books on humans at work and industrial policy. ➔

LAB Dinner features talks on stress and brain diseases

Dozens of bankers, lawyers and accountants visited the university Tuesday evening to attend the first Law Accounting Banking (LAB) Dinner of the academic year. These professionals were members and guests of the University Committee on Trust and Estate Gift Plans, a group which includes representatives from some thirty leading banks, law firms, and accounting firms. This committee directs more than \$1 million in private gifts and grants to the university each year within the Development Program.

Organized in 1973, the committee is currently chaired by Frederick A. Terry, Jr., a senior partner in the law firm of Sullivan & Cromwell. Terry hosted the LAB Dinner, which



From left to right, Frederick A. Terry (Chairman of the Committee on Trust and Estate Gift Plans), Elizabeth Gould, Bruce McEwen and Catherine S. Woolley were speakers at Tuesday's event.

included a program on "Research on Stress, Alzheimer's Disease and Dementia." The program featured presentations by Professor Bruce McEwen, who heads the Laboratory of Neuroendocrinology, and two members of his research team, Elizabeth Gould, a postdoctoral investigator, and

Catherine S. Woolley, a fourth-year graduate fellow.

University President David Baltimore, also on the dinner program, spoke about the significance of research opportunities in the neurosciences. After dinner he moderated a question and answer session among committee members, their guests and members of the McEwen lab. →→

Media Resources Center to celebrate 80th anniversary

The Media Resources Center, located on the first floor of the Bronk Laboratory Building, will celebrate its 80th anniversary on Tuesday, November 27, with an open house from 3:00 to 6:00. The entire campus is invited to the event, which will feature demonstrations of the department's state-of-the-art technology and capabilities. Refreshments will be served, and a door prize (a 20" x 24" aerial photo of the university) will be awarded.

In 1910, Louis Schmidt came to the Rockefeller from the University of Pennsylvania to organize the Division of Illustration. Today, that office has grown into a full-service media department, specializing in scientific visual communication and offering not only illustration, but also computer graphics, photographic services, audio-visual support and services, a copy center, and an in-house offset print shop. →→

Barbican Trio performs today

As part of its North American Debut Tour, the Barbican Piano Trio will perform today at the Tri-Institutional Noon Recital. The performance is free and begins at 12:00 at Sloan House, 1233 York Avenue.

The Barbican Piano Trio is one of the most popular young ensembles in Britain today. Founded in 1986, the trio has won several awards and much critical acclaim. According to a critic for *The Times* of London, the three musicians (Rebecca Holt on piano, Sophie Barber on violin and Robert Max on cello) play with "a conviction and a freshness that has one listening anew to every phrase." During today's performance, the trio will perform works by Beethoven and Ireland. →→

Opinion

What does it mean to teach—and to study—at the Rockefeller? The institution is a university, with professors and students, but the student program is small, and, of course, there are no undergraduates here. During its half-century as The Rockefeller Institute, the place was a haven for scientists wanting to conduct research without encountering the often onerous burden of teaching in a traditional university or medical school.

For some faculty this is still true; indeed, many are also attracted here in part by the absence of a rigid academic program found at many other graduate schools. However, many students feel that the lack of structure in the program and courses leaves the overall quality of education away from the lab bench highly variable and, in many cases, lower in quality than it would otherwise be, especially considering the cumulative scientific expertise present on campus.

A group of students, known as the "Teaching Group," are interested in this issue, and met several times during October to discuss what could be done to ameliorate education at Rockefeller. Their report at the November 1 Student Representative Committee (SRC) meeting generated lively discussion, showing that there is a substantial diversity of opinion as to how formal academic requirements should be.

Most students agreed that there should be more centralized information about what courses will be offered and a clearer indication of what sort of background is required for various courses. Most students also agreed that teaching should be given greater consideration when decisions on faculty hiring and promotions are being made. In general it was felt that the courses would benefit if both faculty and students were more dedicated and serious about their approaches to formal teaching and learning.

In view of President Baltimore's stated intention to increase the quality of education available here, the Teaching Group submitted suggestions to the administration on how students believe these goals might be reached.

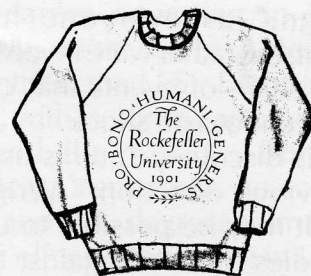
—by Robert Kovelman, Graduate Fellow and SRC member

(Editor's note: The SRC consists of students elected from each class of Ph.D. students, as well as one M.D.-Ph.D. student; the committee meets on the first Thursday of each month to discuss matters of interest to students and to the university as a whole. The Teaching Group to which Kovelman refers distributed its suggestions to members of the faculty this week. Members of the Teaching Group are Mark Benedyk, Peter Bokor, Monica Boyle, Piera Cicchetti, Firdaus Dhabhar, Scott Dougan, Adrian Ferré-D'Amaré, Pierre Gönczy, Heidi Greulich, Arlene Hirano and Christine Ramsaur. Gönczy, x7874, and Greulich, x8813, can be contacted for further information.)

Enroll now for Children's School

Applications are being accepted for admission to the Children's School for the academic year 1991-92. The school welcomes applications from any member of the university community whose child will be at least 2 years, 9 months old, but not more than 6 years, 3 months old by September 30, 1991.

First priority for enrollment is given to children from the university community. To receive priority enrollment, applications must be submitted by January 31. Application forms may be obtained at the school, located in Fricke Hall. →



Don't forget the Sweatshirt Shop!

Christmas is just a few weeks away, and those looking for a special gift for a special person might consider a visit to the university's Sweatshirt Shop. Located in the tunnel near the laundry, the shop is stocked with clothing and other items bearing the university logo. All proceeds go to support the Children's School. Yellow footprints in the tunnel lead to the shop, which is open 11:30-1:30 on Tuesdays. →

Wright (continued from page 1)

Macrophages produce TNF when they are presented with molecules of *endotoxin*, a substance contained in gram-negative bacteria. Wright and colleagues at The Research Institute of Scripps Clinic in California discovered that a special protein in the blood, called LBP, combines with the endotoxin. The LBP/endotoxin complex can then link up with receptors on macrophages. These receptors, called CD14 receptors, directly or indirectly trigger the TNF response.

"We've known about CD14 for a long time. In fact, one of the first antibodies to it was developed right here at the Rockefeller about eight years ago," Wright said. The surprise came when Wright and Ramos discovered that CD14 receptors were not "benign," as everyone had thought, but rather were involved in the chain of events that can lead to endotoxic shock.

This discovery "points us in an obvious direction," Wright said. It may be possible to use antibodies directed against the receptor and block its ability to link up with the LBP/endotoxin complex, thus short-circuiting the pathway to disease.

Wright emphasized that the goal is not to eliminate the TNF response completely, but merely to blunt it, since "TNF is a very beneficial substance."

While endotoxic shock has been recognized since ancient times, medical advances have made it a special problem in the twentieth century. "When you get people who are hospitalized, immunocompromised, and treated with large doses of antibiotics, they can end up with a

huge smash of endotoxin released when the bacteria die. As a result, much too much TNF is produced," said Wright.

Wright believes his discoveries may have implications for infections with gram-positive bacteria, as well. These bacteria do not produce endotoxins, but can produce reactions that are "clinically indistinguishable" from endotoxic shock, Wright said. He speculates that the mechanism for this reaction may also involve the CD14 receptor and an overproduction of TNF. If that proves true, receptor-blocking strategies may serve as preemptive strikes against a wide range of potentially fatal threats.

—by Susan Blum

Thesis presentation

Biomedical Fellow Jeffrey Ming will present his thesis at 3:45 on Monday, November 19 in Caspary Auditorium. A tea will precede the presentation at 3:15. The title of the thesis is *Soluble Factors in the Generation of Cytolytic T Lymphocytes: Effect of Interleukin 6 and Interleukin 2*.

News and Notes takes a holiday

There will be no *News and Notes* next week because of the Thanksgiving holiday. Watch for the next issue November 30.

Fall Film Series shows *Blue Collar*

This 1978 film stars Richard Pryor, Yaphet Kotto and Harvey Keitel as workers on a Detroit assembly line who are caught between corrupt management and a graft-ridden union when they stumble upon proof of crimes by each side. Powerful and realistic performances convey the frustration of dead-end poverty in working-class Detroit. The movie will be shown on Sunday, November 18, at 7:30 in Caspary Auditorium, and it is free to the Rockefeller, MSKCC and Cornell communities. ➔

Lunchtime Film Series continues



The Lunchtime Film Series will show *The Day the Universe Changed: The Social Impacts of New Medical Knowledge* on Thursday, November 29. This film traces society's recognition of the value of statistics to medical advances and identifies the origins of medicine as a science in the discovery of anesthesia, antiseptics and bacteriology. The film will be shown at 12:10 and 1:10 in Caspary Auditorium. ➔



News & Notes is published on Fridays throughout the academic year by the Public Affairs Office of Rockefeller University. Suggestions for articles are welcome and may be sent to Box 68, or call 570-8967. Articles may also be submitted via electronic mail to newsnotes. The deadline for each Friday's issue is the preceding Monday at 5:00 p.m. The Rockefeller University is an equal opportunity employer and has an affirmative action program to increase the employment of women and members of protected groups at all job levels. Editor: Robert Brown. Designer: Patricia Sadiq.