Blood Collection Groups

Asked to Offer Plans
For Nat'l Donor Systems

An HEW-sponsored conference, held at NIH on Sept. 24, to implement a national all voluntary, non-commercial blood donor system concluded with a request for major blood collection groups to present within 2 weeks an interim plan to govern their activities until a permanent system could be agreed upon in January.

These groups included: the American Blood Resources Association, the American Association of Blood Banks, and the American National Red Cross.

In his opening remarks, HEW Secretary Caspar W. Weinberger assured the conferees of the Government's full participation to safeguard this "very precious resource."

Expressing faith in the private sector, he called for "creative implementation" of the National Blood Policy.

Government Is Catalyst

Secretary Weinberger stressed that, while the Government should be the primary catalyst to improve the collection and distribution of blood, it would be "best not to be run by the Federal Government."

HEW Assistant Secretary for Health Dr. Charles C. Edwards, who presided at the all-day Conference on Implementation of the National Blood Policy, also emphasized that it was not a Federal function.

(See DONOR SYSTEMS, Page 6)

Dr. M. Mead Will Deliver NIH Lecture on October 17

Dr. Margaret Mead will deliver an NIH lecture, entitled The Changing Significance of Territoriality in Human Societies, on Wednesday, Oct. 17, at 8:15 p.m., in the Clinical Center Jack Masur Auditorium.

Dr. Mead is associated with the American Museum of Natural History in New York City and is a Fogarty Scholar-in-Residence.

Attendance will be limited to NIH staff and families.

New Synthetic Antigen Modifies Growth Of Tumor Cells by Mimicking Antigens

Using highly sophisticated laboratory techniques, Dr. W. T. Shier—an NIH-supported scientist at the Salk Institute in California—has manufactured a chemical substance, an antigen, which mimics antigens found on the surface of some tumor cells.

The synthetic antigen used as an immunizing agent protected rats against a transplanted tumor and was of some benefit to mice with a different kind of cancer, Dr. Shier indicated.

Many disease-causing agents escape detection by the body's immune system because the chemical structures (antigens) on their surfaces are not "foreign" enough to elicit an adequate immune response.

Scientists theorize that if a weak antigen can be attached to a carrier which the body can recognize, a protective immune response will be elicited when the animal is exposed to the carrier-antigen complex.

Offers Some Hope

This has been called the "chemical vaccine" approach, and it is believed to offer some hope for the control of some cancers.

Dr. Shier reports that he first determined that the antigen found on some tumor cells belongs to a class of chemicals known as glycoproteins. From the blood of an Antarctic fish, he extracted appropriate glycoproteins and converted them into a form suitable for testing as a synthetic tumor-specific antigen.

This synthetic antigen, called FA, was then treated with methylated bovine serum albumin (MBSA) and the complex FA(MBSA) was formed.

The effectiveness of the carrier-antigen complex as an immunizing agent, or vaccine, was evaluated in a series of experiments in which rats were given solutions of varying amounts of FA(MBSA) or MBSA alone.

Each animal received an initial injection, then a booster 2 weeks later. Three weeks after the booster injection, cells of a chemically induced rat breast tumor were transplanted in the animals.

Protection against the transplanted tumor was observed with... (See SYNTHETIC, Page 8)

Policies for Protecting All Human Subjects

In Research Announced

HEW Secy. Caspar W. Weinberger today (Tuesday, Oct. 9) announced the proposed regulations for providing additional protection to humans involved in research and development activities supported by the Department.

The proposed regulations, published in today's Federal Register, would amplify the existing requirements that grantee and contractor organizations establish initial and continuing review mechanisms for all HEW-supported activities in which humans are risk factors.

Secretary Weinberger emphasized that neither the existing policy nor the new regulations in any way reduce the Department's own responsibilities for the review of grant and contract proposals.

"The welfare of subjects is as much a matter of concern to the Department as to the research organization," said the Secretary.

(Continued on Page 7)

Richard L. Hopkins

Named to NICHD Post

Richard L. Hopkins was recently appointed associate director for Program Services, National Institute of Child Health and Human Development.

Prior to this appointment, he served as deputy associate director and later as acting associate director for Program Services.

Mr. Hopkins joined NICHD in 1964 as chief of the Grants and Contracts Management Branch. In 1969 he received HEW's Superior Service Award for his "skills in developing and implementing new and broader concepts of grants and contracts management" in NICHD.

Mr. Hopkins began his career here as an NIH management trainee in 1962 and worked in the Office of the Director and other Institutes until he joined NICHD.

Mr. Hopkins

(See SYNTHETIC, Page 8)
CC Employees Honored for Special Achievements

At the ceremony, Dr. Chalmers receives a scroll signed by CC employees from Acting Director Dr. Roger L. Black (c) assisted by L. Earl Laurence, executive officer. Dr. Chalmers lauded the award winners and termed NIH a "spectacular place."

Nearly 300 Clinical Center employees received awards for special achievements at the CC Annual Honor Awards Ceremony on Sept. 25.

Dr. Thomas C. Chalmers, in his final official appearance as CC Director, presented the awards at the ceremony in the Masur Auditorium.

PHS commendation medals were presented to Dr. Jean R. Herdt, deputy chief, Diagnostic Radiology Department, and Gloria S. Burich, chief, Medical Record Department.

Awardees Named

The medals were also given to Marion N. Keagle, assistant chief, Helen M. Mangan, clinical nurse expert, Beatrice Marino, chief training officer, and Barbara A. Rolling, clinical nurse expert; they are all in the Nursing Department, and Thomas H. Hodges, assistant chief, Pharmacy Department.

EEO Discussion Planned For Thursday, Oct. 18.

A discussion on EEO in the Federal Government will take place at noon on Thursday, Oct. 18, in the Masur Auditorium.

Robert G. Vaughan, presently a law professor at the American University Law School, will be the speaker at this special meeting.

Prof. Vaughan, while with Ralph Nader's Public Interest Research Group, wrote The Spoiled System and directed the study Behind the Promises—EEO in the Federal Government.

The meeting is sponsored by SHER, the Self Help for Equal Rights organization.

Specialists to Conduct Course for Consumer

A consumer education course, conducted by the University of Maryland Extension Service, will be offered to NIH employees.

First Session, Oct. 17

The course, sponsored by the Employee Relations and Recognition Branch, OPM, will consist of five one-hour sessions. The first session is scheduled for Wednesday, Oct. 17, from 9 to 10 a.m.

Subjects to be covered during the course include savings at the market, credit versus cash, purchasing and maintaining an automobile, and developing your own spending plan.

Employees who wish to attend the sessions may request permission from their supervisors. For further information call ERRB, Ext. 49473.

General Schedule of New Annual Salary Rates

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*Pay levels limited to $36,000 by Title 5 of the United States Code.

For Civil Service employees at NIH, the new 4.77 pay increase—effective for the pay period beginning Oct. 14—will be reflected in checks issued Nov. 6.

THE NIH RECORD
Marsha Jessup, NIH Medical Illustrator, Does More than Make Pretty Pictures

By Nancy Breslau

Agriculture Secretary Earl L. Butz appointed a number of new members to the general administration board of the Department of Agriculture's Graduate School last spring.

The graduate school board meets 3-5 times a year and determines the course offerings and policies of the evening school.

Youngest Member on Board

Marsha Jessup, one of NIH's medical illustrators, was one of those chosen. She's the youngest member of the board, one of two women, and in most distinguished company.

But Marsha's a member of a pretty select group herself. There are fewer than 300 medical illustrators in this country.

Louds TV Graphics

Marsha's been associated with the graduate school since 1971. She teaches a visual communications course, and is especially excited about new innovations in multimedia techniques: "I can't think of a better way to break down esoteric scientific research for the layman than TV graphics."

Currently, Marsha is taking an educational technology course at Catholic University and working with slides, film, and video tape.

Besides teaching courses, taking courses, and working at NIH, she also vice-president of the Guild of Natural Science Illustrators.

Sums Up Attitude

Marsha Jessup summed up her own down-to-earth attitude about her profession in just a few words: "If it doesn't teach, it's not worth making any pretty pictures."

Ms. Jessup majored in zoology at Howard University and received her master of science degree in medical and biological illustration from the University of Michigan.

Mental Health Booklets Designed for Teachers

Three booklets designed to assist teachers have been published by the National Institute of Mental Health.

Teachers Talk About Their Feelings consists of excerpts from tape recordings of 16 new teachers who express their feelings freely. They talk about students, administrators, other teachers, the system, and themselves.

Promoting Mental Health in the Classroom describes methods and materials teachers can use to develop an atmosphere conducive to mutual learning experiences by encouraging healthy interactions.

This book can be used by elementary and secondary teachers.

Multi-Ethnic Literature in the High School is a new resource tool for high school teachers who wish to foster mental health by helping students gain a better self-image as well as an improved understanding of peoples from diverse cultural and ethnic backgrounds.


Immunization Campaign Starts

The Center for Disease Control, PHS, has initiated a vaccination drive for October.

Targets are polio, rubella, measles, diphtheria, whooping cough, and tetanus.

CDC officials hope to reach 90 percent of the 5 million pre-school children aged 1 to 4 years.

Drug for Skin Cancer To Be Manufactured, Marketed by Miles Lab.

A drug proven by research to be often helpful in treating a frequently fatal form of skin cancer will be manufactured and marketed by Miles Laboratories, Inc., through an agreement with the National Cancer Institute.

The drug, called DTIC (dacarbazine or imidazole carboxamide) is useful in advanced stages of malignant melanoma—when this rare form of skin cancer is no longer curable by surgery.

In NCI-sponsored studies, approximately 20 percent of more than 700 patients with advanced melanoma responded to DTIC with disappearance or lessening of disease for at least 4 weeks.

Several other drugs have given comparable response rates in some studies, but the results with DTIC have been more consistent in NCI tests.

Under the NCI-Miles Laboratories agreement, a new drug application will be submitted to the Food and Drug Administration. The application must be approved by FDA before DTIC can be marketed.

NCI to Provide Data

NCI will provide scientific data for the application based on drug evaluations in patients treated by NCI's cooperative clinical study groups and its Division of Cancer Treatment.

Upon FDA approval, the Miles' Dome Laboratories Division will produce and distribute the drug with recommendations that it be used only for those patients with advanced, or metastatic, malignant melanoma.

In the U.S. there are about 12,900 malignant melanoma patients—an estimated 7,500 are in advanced disease stages.

DTIC was first synthesized in 1960 at Southern Research Institute in Birmingham, Ala., under an NCI research contract. The drug's chemical formula is 5-(3, 4-dimethyl-1-triazeno)-imidazole-4-carboxamide.

What happened? (See page 7.)
Some 90 NIH keymen and coordinators joined with Government employees from other departments and agencies at the combined Federal Campaign Fair held on the Kennedy Center Roof Terrace, Sept. 19.

Clowns vied for attention with the balloons, streamers, and dance music that floated through three rooms of exhibits from 50 CFC agencies. The agencies displayed pictures, films, colorful posters and crafts to demonstrate the services their organizations performed.

The highlight of the Fair was the keynote address by HEW Secy. Caspar Weinberger, chairman of the 1974 Combined Federal Campaign for the Washington area.

He stated, “The Department cannot solve all the country’s problems. We must rely on individuals for help. This is what the Combined Federal Campaign does. Personal commitment, the kind that is evident here this morning, is what we need.”
The Music Float Through 3 Rooms of Exhibits From 50 CFC Agencies

The Secretary then urged keymen to walk around the exhibit areas and see the beneficiaries of the campaign.

Among the outstanding displays, the Christ Child Settlement House had photographs of children and adults participating in a variety of programs for pre-schoolers, school children, teens, and senior citizens.

The Boys Clubs of Greater Washington exhibited paintings, models, etchings, African sculpture and woodcrafts made by the youngsters.

In a health-related exhibit, the Center for Sickle Cell Anemia at Howard University and Freedmen's Hospital showed medical staff working in diagnosis, genetic counseling, research, and treatment of patients, and distributed information on sickle cell anemia at the booth.

The overall CFC goal is $9.2 million with the NIH goal $264,000.

Last year, the 104 CFC agencies served over one million people in the Washington Metropolitan area.

Contribute

to

CFC
Latest Therapy Techniques and Skin Bank Help Sherry White Recover From Burns

An 8-year-old girl with burns over 92 percent of her body will live because of the latest techniques in burn therapy and the new Dallas Skin Bank which provided human skin for grafting, according to Dr. Charles Baxter, whose burn research is funded by the National Heart and Lung Institute.

Dr. Baxter is professor of surgery at the University of Texas Southwestern Medical School.

In discussing the case of Sherry White—the girl who was burned last May in an accident at her home—Dr. Baxter said it was "as large a burn injury as a human being has ever survived."

Most patients who have received burns over 50 percent of the body have died.

Sherry was injured when gasoline that was being used to clean tar from her feet ignited.

New Methods Used

She received second and third degree burns on her entire body except the sole of her right foot and the back of her head where hair grew.

Dr. Baxter said that a combination of techniques including new concepts in nutrition, new ways of administering antibiotics, isolation, monitoring of tissue for bacteria, use of human skin as protection, and early surgical removal of burn tissue contributed to the medical victory of this little girl.

One of the main reasons for Sherry's survival was use of human skin from the 6-month-old Dallas Skin Bank. The bank is both a repository for human skin kept viable by freezing and a research center for developing some of the new techniques.

Human Skin Grafted

Human skin may be used for grafting immediately or frozen for later use if it is removed from the donor less than 24 hours after death.

Because Sherry's mother was the only live donor, skin from the bank, matched by blood and tissue typing techniques, was also used.

The graft which the doctors used to cover Sherry's exposed wounds will keep infection from spreading and help regenerate the growth of her skin.

She will eventually reject the foreign skin, but this will happen gradually.

Nutrition Is Important

Another new technique used on Sherry was early massive excision of the burned tissue. The cutting away of the burns has traditionally been done at a later time.

Nutrition played an important role in the survival of a burn patient since so many calories are lost when the body loses its protective covering and energy escapes.

Company is important—especially Charley—the dog that Dr. Baxter gave to Sherry. On his occasional visits, Charley is freshly bathed and wrapped in a baby blanket. Sherry is at Parkland Hospital Pediatric Burn Unit, but will soon be transferred to another hospital for plastic surgery.

The doctors gave Sherry special nutrients with intravenous drip, a tube, and oral feeding.

Later, when Sherry was able to help feed herself—she requires 3,700 calories a day, two and a half to three times the normal intake of calories her mother brought favorite foods including tacos, spaghetti, and pizza.

Danger of Infection

Infection in an open wound could result in death for a burn patient. Dr. Baxter and Dr. William Curretti, assistant professor of surgery, developed a new biopsy technique to monitor the level of infection in the wound.

They take tissue from the wound and do cultures which enable them to be aware of dangers much sooner than has previously been possible. They can start antibiotic treatment immediately at any warning sign.

Dr. Baxter said another life-saving technique developed at the Dallas medical school is sub-eschar cryosurgery, the administration of antibiotics between live tissue and dead burn tissue.

When a new infection starts, the application of antibiotics to the explicit area is added to more traditional methods.
POLICIES PROTECT HUMAN RESEARCH SUBJECTS
(Continued from Page 1)

"and no grant or contract involving human subjects will be made unless the proposal has been reviewed and approved by an appropriate professional committee within the Department.

"Furthermore, no research proposal involving human subjects will be implemented in any installation of the Department without first undergoing review similar to that required by grantees and contractors, modified only to the extent that administrative differences require."

Today's action is the first of several steps leading to the development of a uniform Federal policy. A later policy to be issued will conform already established parallel requirements for conducting research in HEW's own laboratories, clinics and other facilities.

Seek to Control Risks

The proposed regulations represent the latest of a series of Federal efforts to safeguard the welfare of subjects exposed to risk in research activities.

Similar controls were introduced regarding NIH grants in 1966, and on PHS contracts in 1967.

The controls, which were revised in 1969, were incorporated into an HEW policy issued in 1971. Over 650 research organizations have formally complied with this policy and should have little difficulty in meeting the new requirements.

The changes from the existing policy will restrict professional membership on review committees; they may include lawyers, ministers and other groups. Each proposed research project in terms of local laws, standards of professional conduct and practice, and community attitudes will be considered.

Each organization must agree to notify HEW immediately of any risk to which human subjects may be exposed, and if the risks are outweighed by potential benefits.

The rights and welfare of the patient must be safeguarded throughout each project, and the patient's informed consent obtained by adequate and appropriate methods.

Information to be given to the subject before asking his consent, as spelled out in the regulations, must include:

- A fair explanation of the procedures to be followed, and their purposes, including identification of any procedures which are experimental;
- A description of the attendant discomforts and risks reasonably to be expected;
- A disclosure of any benefits reasonably to be expected;
- An offer to answer any inquiries concerning the procedures, and
- An instruction that the subject is free to withdraw his consent and to discontinue participation in the project or activity at any time.

Inquiries on data, views, and arguments relating to the proposed regulations may be presented in writing, in triplicate, to the

Branch, Division of Research Grants, NIH, 9000 Rockville Pike, Bethesda, Md. 20014.

Comments must be forwarded within 30 days from the date of publication of the proposed regulations in the Federal Register.

On Sept. 26 an assembly was held for all NIH Upward Mobility College students to discuss the future of the program. Speakers were (I to r) Richard Jackson, program manager, NIH Upward Mobility College Program; Dr. Gregory Rigby, director of the Office of Experimental Programs, Federal City College; John Sangster, director, Office of Personal Management; Dr. John Sherman, NIH Deputy Director; Neil French, FCC/UMC Student Government Chairman; and James Robinson, deputy director, HEW Office of Upward Mobility.

HEW Manpower Seminars Held at Stone House

A 5-day training session for manpower utilization project leaders, sponsored by HEW, was recently held at Stone House.

Study teams from the National Cancer Institute, Food and Drug Administration, Office of Education, and Health Services Administration met to discuss the design, development, and implementation of Manpower Utilization Systems.

The manpower utilization program was established to measure the internal manpower productivity of an organization and to assist in making managerial decisions regarding workloads and manpower.

Senior analysts and program representatives translate the organization's goals into numbers of people necessary to do the work. Last year, the National Institute of Allergy and Infectious Diseases became the first institute at NIH to adopt this work-measure system.

The NIAID prototype has been expanded this year; the National Cancer Institute and the National Institute for Dental Research will apply the MUS to their own grants programs.

Dr. Marvin E. Mundel, an HEW consultant, led the MUS seminar. NCI participants included Dr. Robert Engle, supervisory chemist; Dr. Allen Heim, research microbiologist; and Dr. Ihor Masnyk, scientist administrator; Larry Tidmore, contract specialist; and William Quinn, management analyst.

Lou Evangelista and Paul Schaffer, OMP management analysts, also attended.

Collection Inefficiencies Identified By Blood Banking Task Force

An HEW Blood Banking Task Force identified gross inefficiencies in collection and processing of blood.

Approximately 25 percent of the 8.8 million units of whole blood collected annually for transfusion are never transfused. The majority of these units are wasted through outdated.

Careful studies strongly suggest there are about 17,000 cases of overt posttransfusion hepatitis per year, about 350 deaths from this disease, and about 5 times as many sub-clinical cases.

Med. Study Aids Use Multimedia Methods

Nine multimedia study aid packages have been produced by the National Library of Medicine's National Medical Audiovisual Center in Atlanta and are now available for sale by MUS's National Audiovisual Center.

The units are designed primarily for medical students and generally include study guides and slide/tape presentations.

In addition, there may be motion picture clips, mannequins, and optional materials for review, practice, and self-evaluation.

Available packages include Glaucoma Screening—Tonometry (part 1 of a series on ophthalmology), Ophthalmoscopy (part 2 of the ophthalmology series), Introduction to the Neurovascular Examination, and Peripheral Circulation (part 1 of a series titled Introduction to Congenital Heart Disease). Other units which may be purchased from the National Audiovisual Center include General Background (part 2 of the congenital heart disease series), Introduction to Mammography, Mammography Techniques, Breast Diseases: Their Importance to Your Daily Practice, and The Femoral Triangle.

For further information, write the National Audiovisual Center, Government Services Administration, Attn: Sales Branch, Washington, D.C. 20409.
SYNTHETIC
(Continued from Page 1)
the lowest levels of FA(MBSA) given, while enhancement of tu-
mor growth was found with higher levels of the immunizing agent.

These results, obtained with the synthetic antigens, are consistent with those observed when tumor-specific antigens themselves have been used as immunizing agents.

Dr. Shier, whose work is sup-
ported by a National Institute of Allergy and Infectious Diseases
grant and a National Cancer In-
stitute contract, explains that lower levels of a glycoprotein an-
tigen favor the production of a cell-mediated immune response—
that part of the total response which is mediated by small lymph-
ocytess (white cells) and is respon-
sible for reactions such as graft rejection.

Higher levels of a glycoprotein antigen favor the production of a humoral response—specific immu-

nity which is mediated by blood proteins known as antibodies. It is not yet known why tumor en-

hancement, under these circum-
stances, takes place.

Mice Used

Similar experiments were also carried out in mice challenged with myeloma cells. Although only minimal protection by FA(MBSA) was observed, further study revealed that protection was specific, that is, directed only against tu-

mor cells and not against normal cells.

This observation lends support to the suggestion that tumor cells do differ from normal cells in the number or distribution of glyco-

protein antigens found on their surfaces—an important difference which may, eventually, be exploit-
ed in the treatment or prevention of human tumors.

Dr. Shier published a report of his findings in the July 13, 1973
issue of Nature.

Jeanne M. Reid Doubles as Julia Child Of NASA Skylab Project; Plans Meals

Jeanne M. Reid, dietitian director, National Institute of Arthritis,
Metabolism, and Digestive Diseases, doubles as the Julia Child of the
NASA Skylab space project.

An experienced research dietitian, Miss Reid has been involved for
several years in planning the con-
trolled diets consumed by all the Skylab astronauts and back-up pilots prior to, during, and after their 28- and 56-day flights.

Miss Reid's participation in the NASA program began under the
direction of Dr. G. Donald Whe-
don, NIAIDD Director and prin-
cipal investigator in a Skylab medical study to assess the effect of weightlessness and inactivity on human calcium and nitrogen metabolism.

Diet Controlled

To assure the validity of the study, the diets of the astronauts and of their back-ups must be me-
ticulously controlled, with careful monitoring and analysis of all in-
take and output.

This necessitates adherence to
very narrow day-by-day variances in the amounts of calories, protein, calcium, phosphorus, sodium, magnesium and potassium con-
sumed by the astronauts, while attempting to make the meals pleasing to the taste—a real chal-

lenged to a dietician.

For the most recent flights, Miss Reid and two NASA dietitian as-

sociates planned 17 different sets of daily menus for each man in accordance with his food prefer-

ences.

In addition, completely different pre- and post-flight menus were
required. With final approval from Miss Reid, meals for 140 days of
planned manned missions were launched in Skylab.

The dietitian's responsibilities do not stop there, however.

Should an astronaut consume more or less food than planned during flight, or a menu change be

necessary due to heat damage, Miss Reid and her assistants must calculate the nutrients already in-
gested and recommend measures to correct any possible imbalance.

The astronauts' fare includes
frozen foods, such as beef filet, prime rib, lobster Newburg, va-
nilla ice cream, plus an array of rehydratable freeze-dried foods.

Adding variety to the daily menu are canned fruits, stewed tomatoes, cookies and hard candi-

es.

Mom's Cooking It Isn't

Although falling short of Mom's home cooking, the meals are rela-
tively palatable, and the controlled diets are well accepted.

Miss Reid, a frequent commuter
between Bethesda and Houston's
Johnson Space Center, must wear a face mask and surgical gloves
while working in the metabolic kitchen to minimize the risk of food contamination.

Also, a e a h "primary contact" with space flight crews must have a thorough physical every week, including blood work, as well as a limited daily check-up before going on duty.

These precautions illustrate the
total role of the dietitian in the manned space flight program.

An officer in the Public Health
Service, Miss Reid came to NIH in
1953 as a senior assistant dieti-

tian in the Clinical Center's Nu-

trition Department. Prior to that
appointment, she held the position of chief therapeutic dietitian at
Jackson Memorial Hospital in Miami.

Miss Reid received her B.S. in

Following her undergraduate studies, Miss Reid served a "Dietetic Intern-
ship" at New York Hospital-Cornell
Medical Center.

At the urging of the President that Government agencies review, update, and
coordinate their graphics. Dr. Robert S. Stone, NIH Director, appointed Arthur
Frisbee to arrange for such a review with the Federal Graphics Improvement
Program of the National Endowment of the Arts. Mr. Moore (l), chief of the
Medical Arts and Photography Branch, DRS; Nancy Hanks, chairman, National
Endowment of the Arts, and Jerome Perlmutter, coordinator, Federal Graphics
Improvement Program, meet in Ms. Hanks' office.

Jeanne M. Reid, as Julia Child.

Symposium to Cover New Research Methods And Instrumentation

A symposium on Recent Develop-
ments in Research Methods and
Instrumentation will be held Oct.
24-25 in the Jack Masur Auditi-

orum.

Dr. A. J. Sheppard of the Food
and Drug Administration will presi-

diate over the first morning's pro-
gram.

Among topics to be discussed are
High Speed Liquid Chromato-

graphic Systems, Column Per-
formance, High Efficiency Liquid
Chromatography, and Signal En-

hancement with Digital Electronic Techniques.

Spectroscopy, histochemistry, and recent advances in tissue culture will be discussed in subsequent symposium sessions.

Other session chairman include Dr. Eric B. Sheinin, FDA; Dr. James D. Jamesion, Yale University School of Medicine, and Dr. Katherine K. Sanford, of the National Cancer Institute's Labora-
tory of Biology.

The annual symposium is being sponsored by NIH and local sec-
ctions of seven national scientific societies.

On Oct. 24 sessions will be held at 9 a.m. and 2 p.m. and on Oct.
25 at 9:30 a.m. and 2 p.m.

The symposium meetings are open; there is no registration fee.

For further information, call Judy Summers, OAS, Ext. 62316.

NMAC Publishes Motion Picture, Videotape List

The National Library of Medi-

cine's National Medical Audiovis-

cual Center has published its 1973

NMAC Motion Picture and Vидеo-
tape Catalog.

The catalog lists 848 16 mm mo-

tion pictures for short-term loan and 227 videotapes available for free duplication from the NMAC in Atlanta, Ga.

Materials listed are only for use by professional health sciences edu-
cational purposes.

The publication (GPO Number:
HE 20.3608/4:973, Stock Number
1762-00149) may be purchased
only from the Superintendent of
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nutrition from the University of Alabama and an M.S. in food and

nutrition from the University of Maryland.