

# ADAI TODAY

## Research in Alcoholism and Drug Abuse at the University of Washington

Summer/Autumn 1984

### ALCOHOLISM AND DRUG ABUSE INSTITUTE: A DECADE OF PROGRESS

Encouragement, assistance and support of research in the area of alcohol and drug abuse have been major goals of the Alcoholism and Drug Abuse Institute since it was established in 1973. To help advance research efforts, ADAI has developed resources and programs over the last decade that benefit University of Washington scientists and others working directly or indirectly in the field of substance abuse.

The Institute has assembled one of the most comprehensive library collections of alcohol and drug abuse literature in the Pacific Northwest. Researchers and others interested in the field have access to more than 800 books, 30 different journals and 15 newsletters. The ADAI library is part of a network of more than 100 substance abuse libraries in the United States and around the world cooperating in the acquisition and dissemination of current research information.

ADAI's Small Grants Program has played an important part in the Institute's role of stimulating and supporting research in the alcohol and drug abuse field. On-going since 1974, this program awards \$100,000 annually to University of Washington faculty for research in alcohol and other drug problems. Proposals dealing with the problems of alcohol and drug abuse are encouraged from all disciplines. During the last ten years, the Institute has funded more than 150 projects, totaling close to \$1,000,000. Studies of fetal alcohol syndrome, narcotic-abuse, thyroid dysfunction in alcoholics, adolescent drug use, marijuana and breast cancer, smoking prevention and biochemical studies of tranquilizers are just a few of the diverse projects that have received Institute support. These awards have provided University investigators the means to obtain the necessary preliminary data to compete successfully for major support from outside funding sources. In 1981-82, ADAI funded 11 proposals

through the Small Grants Program; more than \$1,600,000 in additional funds has since been awarded the UW based on data originally gathered in these pilot projects. For every dollar awarded by ADAI that year, \$6.42 was generated in outside funding. This suggests we are achieving our goal of providing the impetus to seek and obtain critical insights into the problems of alcohol and drug abuse.

In 1983 ADAI established its Priority Research Program to promote research in areas of major public concern in Washington State. The program's first topic, "Driving While Intoxicated," is clearly an area of both local and national importance. Each biennium the Institute allocates a significant portion of its funds to supporting both intramural and extramural projects in the priority research area. Awards are made to UW faculty on a competitive basis. After a topic area is identified, guidelines are developed defining the parameters within which research might be conducted and determining the areas where it is most urgently needed. A "Request for Proposals" is distributed throughout campus encouraging the submission of grant applications. Reviewers from both in and outside the University evaluate the responses for relevancy and scientific merit. The projects currently funded will provide extensive data concerning the problem of drinking and driving (ADAI's intramural DWI research is described on page 3). Members of the academic and professional communities are encouraged to contact Hank Samson at the Institute with their suggestions or ideas concerning future priority research areas. ADAI will be determining the topic within the next few months and will consider your ideas carefully.

The Institute hopes that in the coming years it will be able to continue contributing to a better understanding and treatment of the problems of addictions.

## SAMSON APPOINTED ACTING DIRECTOR



Herman Samson, ADAl Acting Director

Dr. Herman (Hank) Samson, research associate professor in the Department of Psychology, has been named acting director of the Alcoholism and Drug Abuse Institute. He assumed his new responsibilities in June following Director Ruth E. Little's departure for a year's leave of absence to study genetic epidemiology at the University of Michigan.

Samson joined the University of Washington faculty in 1978 and has been associate director of ADAl for the past two years. During that time he oversaw the research funding programs of the Institute and the organization of the Research Affiliate Program. His research, funded by a Research Scientist Development Award from the National Institute on Alcohol Abuse and Alcoholism, is in the human validation of animal models of alcoholism. After receiving his doctorate in biopsychology in 1968 from the University of Waterloo, Waterloo, Ontario, Samson served on the faculties of Arizona State University and Rutgers University.

The new acting director foresees no significant changes in ADAl's current policies. "I just hope to present Dr. Little with an even stronger Institute upon her return," he said.

Little's studies at the University of Michigan are funded by the prestigious Senior Fellowship from the National Institutes of Health. This award is designed to provide opportunities for experienced scientists to broaden their scientific backgrounds and acquire new research capabilities. Dr. Little's work will focus on the genetic factors in the risk of disease.

## ADAl RESEARCH AFFILIATE FOCUS

*The ADAl Research Affiliate Program is an informal network of more than 60 University of Washington faculty members studying a variety of topics related to substance use or abuse. The researchers meet periodically to exchange information and ideas generated by their work. The ADAl newsletter will occasionally feature highlights of individual affiliate's work in an effort to increase community awareness of the research conducted by members of the group. University of Washington faculty interested in research affiliate status should contact ADAl for further information.*

Dr. Bonnie Worthington-Roberts, professor of nutritional sciences in the Department of Epidemiology, is a research affiliate currently involved in two alcohol-related studies. In her study titled "Dietary Patterns and Nutritional Status of Alcohol-Abusing Adolescents," she, along with Dr. James Farrow and Ms. Jane Rees, is investigating the growth, development and nutritional status of male adolescents with histories of heavy alcohol use. The subjects are residents of the Seattle area and are recruited through a local detention facility. The subjects' alcohol consumption patterns are estimated from interviews conducted at the detention facility. Their nutritional status is assessed by a battery of anthropometric measurements, clinical and biochemical tests and analyses of eating habits. The investigation is the first of its kind conducted among adolescents.

Results from the study should be useful in the development of educational, nutritional and rehabilitation strategies for adolescent alcohol abusers. The project was funded by an award from ADAl's Small Grant Program.

Worthington-Roberts also is acting principal investigator, while Dr. Ruth Little is on leave, of a study investigating the effect of maternal diet, alcohol and tobacco use during lactation on the growth and development of nursing infants. Many studies have shown that these factors have a profound influence on fetal growth, and this project is designed to determine if they have a similar effect on nursing newborns.

Worthington-Roberts has conducted several other studies in the alcohol field. In research undertaken in the mid-1970s, she determined that regular exposure to ethanol to the level of intoxication promoted the uptake of macromolecules in the small intestine of laboratory rats. Worthington-Roberts documented the increased permeability to macromolecules with electron microscopy. This finding has since been documented in other

laboratory animals and in alcoholics. The project was funded by ADAl.

In addition to conducting research and teaching classes, Worthington-Roberts has written numerous journal articles and book chapters. She also has written two books, *Nutrition in Pregnancy and Lactation* and *Contemporary Developments in Nutrition*, both of which received the Book of the Year Award from the *American Journal of Nursing*.

Recently Worthington-Roberts was named director of the new interdisciplinary graduate program in nutritional sciences offered through the Office of the Vice President of Health Services. Students in the program may focus on maternal and child nutrition, nutritional biochemistry, national and international nutrition, clinical nutrition or foods and food science. Worthington-Roberts also is chief nutritionist for the Child Development and Mental Retardation Center at the University.

Worthington-Roberts received her B.S. in dietetics, her M.S. in nutrition, and her Ph.D. in biological structures from the University of Washington.



Bonnie Worthington-Roberts, Research Affiliate

Funds for this newsletter came from ADAl's gift account and not from state-provided research monies.

ADAl Today Editor: Sharrie Wylie

## ADAI INTRAMURAL RESEARCH: DWI SYSTEMS DESCRIPTION

As part of ADAI's Priority Research Program, Dr. Charles N. Uhl, assistant director of ADAI and visiting professor in the Department of Epidemiology, is heading a study of Washington State efforts to solve the Driving While Impaired problem.

The "Washington State DWI Systems Description" project is financed by ADAI and sponsored by the Washington Traffic Safety Commission and the Washington Inter-Agency Committee on Alcohol and Traffic Safety. The project has been underway since October 1983 and is scheduled for completion this fall.

Efforts to reduce DWI involve many different, sometimes overlapping, agencies and jurisdictions. The goal of this project is to explain what the various countermeasures are, describe how they relate to each other, identify the responsible agencies, determine how they are implemented, and examine their effectiveness in deterring DWI.

Numerous components of the DWI countermeasure system are considered, including a description of drinking-and-driving laws, an examination of law enforcement, the prosecution and adjudication of DWI offenders and the sales and consumption of alcoholic beverages. Deterrence measures, such as driver's license suspension, compliance with fines and mandatory jail sentences, diagnostic assessment of alcoholism and referral for treatment and efforts to inform and educate the public will also be described. Finally, the role of public participation in formulating and implementing anti-DWI policy is examined.

A major objective of the study is the analysis of the progression of DWI offenders through the court system. Data are being collected from court records of a large sample of DWI offenders who were arrested between July 1, 1982 and December 31, 1983 in 11 counties scattered throughout the state. Statistical analysis of these data will provide valuable information about how state laws are being applied and about the characteristics of persons involved in DWI offenses. Wherever possible, the strengths and weaknesses of DWI countermeasures will be identified.

This study also will investigate if changes in the frequency of alcohol-related traffic accidents, particularly those resulting in injury or death, have occurred since anti-DWI laws went into effect in 1980. A reduction in injuries and fatalities related to drinking and driving is the public health goal of DWI countermeasures.

## CONFERENCE STIMULATES RESEARCH IDEAS



*Dennis Donovan, DWI conference participant*

"Questions and Answers About DWI: Can Research Help?" was the theme of an ADAI conference held October 13, 1983, on the University of Washington campus. Approximately 70 attended the conference which was designed to identify questions that might be answered through research.

Those who work directly with the DWI system often know the urgent questions that are not always apparent to researchers. Six representatives from the professional community were invited to present the critical issues in the DWI field from their own perspectives. Three of the most frequently posed questions were: Can we identify the most effective deterrents to driving under the influence of alcohol? Is there an alternative to the breathalyzer?; and Should other treatment methods be developed and implemented? These and other questions were pursued by conference participants during the small group discussions that followed.

The meeting offered an unusual opportunity to highlight both practical and technical aspects of alcoholism research needs.

## NIAAA ISSUES REPORT

The National Institute on Alcoholism and Alcohol Abuse (NIAAA) has just released the Fifth Alcohol and Health Report. Like its predecessors, this report summarizes current knowledge about the health and social consequences of alcohol abuse. It also lists 13 Objectives for the Nation to be achieved by 1990. Among the goals listed are reductions in alcohol-related traffic fatalities, a 24 percent decrease in the incidence of fetal alcohol syndrome and an increased awareness among adolescents and adults of the health risks associated with alcohol use.

## LIBRARY COLLECTION GOES ON-LINE

ADAI has acquired Sci-Mate, a computer software package from the Institute for Scientific Information, that will be used to create an on-line data base of the library's collection. The new software will allow fast and easy searching of the alcohol and drug literature collected by ADAI, using combinations of authors, words in titles and subject keywords.

There are now two ways to search the literature: manually, by using the indexes of each journal and printed bibliographies which may become outdated quickly; or by using commercial data bases which, while they provide powerful access to the world's literature, are costly and time consuming to use. Often a simpler search of ADAI's collection would suffice.

Sci-Mate will take several months to install and load with bibliographic data. By January, its use will be helping provide faster and easier assistance to library users.

## NEW ALCOHOL AND DRUG JOURNALS PUBLISHED

Three journals for researchers and practitioners in alcohol and substance abuse have recently begun publication.

*Alcohol: an International Biomedical Journal*, issued six times a year, covers all aspects of alcohol, its biological actions and effects on behavior. The editors hope to enhance the rapid dissemination of information to an international audience of alcohol researchers.

*Alcoholism Treatment Quarterly*, from Hawthorth Press, promises to "bridge the gap between research journals, policy journals and publications for the general public," while providing clinical information that "enhances quality care for the alcoholic and his/her family."

Also new is the *Journal of Substance Abuse Treatment*, a quarterly publication from Pergamon Press. The editors hope to "address techniques and treatment approaches directly utilized in the provision of clinical services, with the goal of helping the frontline practitioner to deal more effectively with the (drug and alcohol abuse) patient."

Subscription information and copies of the editors' guidelines for contributors to these journals are available from ADAI Librarian Nancy Sutherland, 543-0937.

## SMALL GRANTS AWARDED BY ADAI 1983-84

ADAI's Small Grants Program provides funding to University of Washington faculty members for research in alcohol and other drug abuse problems. Awards are made through a peer-review process twice a year on the basis of scientific merit and relevance to the alcoholism and drug abuse fields. The intent of the Institute is to provide initial funding of new projects, and it is expected that applicants will eventually seek outside grant support for continuation of their research programs. The funding limit for individual awards is \$13,000. Guidelines for submitting proposals may be obtained by contacting the Institute at 543-0937. Projects funded in 1983-84 are:

THE EFFECTS OF ALCOHOL ON LEADER BEHAVIOR, PERFORMANCE, AND DECISION MAKING  
Fred Fiedler, Department of Psychology

This preliminary study will examine the effects of moderate alcohol consumption on the control perceived by leaders, their consequent decision strategies and quality of their decisions.

ACUTE AND CHRONIC EFFECTS OF ALCOHOL ON THYROID METABOLISM: EVALUATION OF A RAT MODEL  
William L. Green, Department of Medicine

This research will define the effects of both acute and chronic ethanol ingestion on the thyroid hormone system and its possible role in complications of alcoholism.

SEROTONIN-NARCOTIC ANTAGONIST INTERACTIONS  
Akira Horita, Department of Pharmacology

The goal of this study is to determine if narcotic antagonists interact with non-narcotic receptor systems within the rat's smooth muscle system.

EFFECTS OF ALCOHOL ON METACOGNITIVE PROCESSES IN HUMAN MEMORY  
Thomas O. Nelson, Department of Psychology

The effects of alcohol on metamemory will be explored to determine if alcohol enhances, reduces or has a negligible effect on one's ability to adequately monitor multiple sources of information.

COVALENT LIGANDS FOR NARCOTIC RECEPTOR SUBCLASSIFICATION  
Wendel L. Nelson, Department of Medicinal Chemistry

The objective of this research is to obtain selective ligands for multiple opiate receptors which will allow for further characterization of the receptor system and its possible involvement in drug abuse.

EFFECTS OF IN-UTERO ALCOHOL EXPOSURE ON CHILDREN'S LANGUAGE ABILITIES  
Ann P. Streissguth, Department of Psychiatry and Behavioral Sciences

The effects of prenatal alcohol exposure on the language development of children will be investigated.

EFFECT OF CHRONIC ETHANOL CONSUMPTION ON MYOCARDIAL FUNCTION  
Glen Tibbits, Department of Kinesiology

This work is to determine if the effects of chronic alcohol consumption in rats change the contractility of the heart and the mechanisms that might be involved.

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