

A nighttime photograph of a city skyline, likely New York City, with numerous skyscrapers illuminated. The sky is a mix of dark blue and orange, suggesting a sunset or sunrise. A yellow-bordered box is superimposed over the upper portion of the image, containing the title and subtitle text.

***DIVISION OF
ALCOHOLISM AND
DRUG ABUSE***

*Department of Psychiatry
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PURPOSE OF THE DIVISION

The magnitude of the alcohol and drug abuse problem today is well-documented. Eighteen percent of the population experiences a substance use disorder at some point in their lives, and the cost of addictive illness to the public is calculated at \$246 billion per year in health care and lost work. Furthermore, at least 20% of patients in general medical facilities and 30% in general psychiatric units present with such problems, many of which go undiagnosed -- in some settings, many more. When the sequelae of addiction such as cirrhosis, psychopathology, trauma, and infection are present, they may receive proper medical attention; patients' primary addictive problems often go untreated.

Nonetheless, important advances are being made in the addiction field. Basic mechanisms in relation to receptors, membrane chemistry, and genetic transmission have been elaborated. Public awareness has been aroused so that substance abusers may seek help earlier, when treatment can be administered more effectively. New treatment concepts, both pharmacologic and psychosocial, have made recovery a possibility for the majority of alcohol and drug abusing patients. Furthermore, the health community has been alerted to the need for early diagnosis and provision of comprehensive care.

The addiction field has moved toward maturation, and it is essential that the trainees in medical teaching centers be exposed to faculty experts in the addictions. In order to develop a cadre of educators and researchers, a sequence of training for medical students, residents, allied health professionals, and fellows has been developed within academic medical centers. NYU has led the nation in this process in developing the field of addiction psychiatry in organized medicine.

Research into addictive illness has been expanded so that emerging concepts in etiology and treatment will be introduced into the medical mainstream. Here, too, the Division at NYU has been a leader in Substance Abuse research. This evolution was formally recognized by organized medicine in the establishment of a subspecialty in addiction psychiatry, and a formal fellowship training process.

The purpose of the Division of Alcoholism and Drug Abuse at NYU is therefore to implement new ideas in training, research and clinical care, and to establish a model for similar programs nationwide. It is uniquely equipped to do so with its extensive facilities and broad-based faculty. Furthermore, it is strongly supported in this mission by one of the country's leading departments of psychiatry and its leading academic medical center.

This investment in resources and innovative approaches has led to awards from the American Psychiatric Association, its Gold Award for outstanding achievements in the development of comprehensive substance abuse clinical care, and its Seymour Vestermark Award for excellence in medical education.

Marc Galanter, M.D., Director
Division of Alcoholism and Substance Abuse

FACILITIES AND AFFILIATED PROGRAMS

Addictive illness has been designated as a major academic and clinical focus in the NYU School of Medicine. The school employs a large array of facilities that serve as the base for the academic activities of the Division's faculty. The School's Division was established by the Department of Psychiatry in 1987, and consists of the following components:

Bellevue Hospital Substance Abuse Division

A network of coordinated clinical care, research, and training has been established within the following seven programs of the Bellevue Hospital Center's Substance Abuse Division. Stephen Ross, M.D. is Divisional Director of the clinical service, and Marc Galanter, M.D. directs academic programs. The Division is a component of the Hospital's Department of Psychiatry (Dr. Badaracco, Director). Staffed by NYU faculty, it reflects collaboration between the Medical School, the City's Health and Hospitals Corporation, and State agencies. Because of this, it has been possible to develop a rich, multimodality setting in which clinical and academic work can be conducted.

The Dual Diagnosis Unit (Dr. Crossman) is a 27-bed unit that was developed specifically for the rehabilitation of patients diagnosed for both general psychiatric and addictive disorders. It employs a behavioral treatment model combined with peer management techniques, and psychoeducational programs tailored to this population. The relative impact of these treatment approaches has been evaluated and studies have been conducted on the epidemiology and prognostic implications of syndromes observed among these patients. This unit serves as a principal site for training of fellows in addiction psychiatry.

The Chemical Dependency Outpatient Unit (Dr. Miescher) with 14,000 visits annually, begins treatment with an intensive period of engagement into ambulatory care, followed by outpatient group therapy and counseling. The program maintains close ties to facilities in the community and to the Bellevue Hospital Shelter for the homeless. It has developed special treatment approaches to the homeless alcoholic and buprenorphine treatment for opioid addiction, each subject to evaluation research.

The Chemical Dependency Inpatient Unit (Dr. Cheney) is a 20-bed service that provides both short-term detoxification and long-term rehabilitation. It maintains a full day program of group and milieu therapy, in addition to educational activities and Alcoholics Anonymous meetings. Studies on this unit have focused on the impact of cognitive impairment on rehabilitation, correlates of social and psychiatric deficits in disadvantaged populations, and the outcome of referral to long-term rehabilitation modalities. Dr. Joshua Lee is responsible for general medical care for this unit.

The Methadone Maintenance Treatment Program (Drs. Polydorou and Whitley) provides intensive medical and psychiatric treatment, as well as ongoing drug counseling, for 350 patients. In addition, a special therapeutic and counseling program, Children of Substance Abusers, addresses the needs of collaterals of these patients. Many of its patients were admitted because of their unique diagnostic and treatment needs, given the specialized care available at this facility. The program is actively involved in AIDS research activities at the Medical Center,

including studies on physiologic

and behavioral correlates of seroconversion, sexual behavior and physiology in HIV positive patients.

The Recovery Program (Dr. Horowitz) is an ambulatory treatment service adapted from the therapeutic community model for singly and dually diagnosed patients. Patients who have been hospitalized for sequelae of substance dependence and primary ambulatory patients are admitted, with referrals made from relevant hospital units. Induction into treatment occurs through intensive peer-support, and principles of the therapeutic community, modified to the hospital setting, are applied. The program is dedicated to the assessment of innovative treatment for addiction in the general hospital.

The Continuing Treatment Program (The Greenhouse, Dr. Weinstein) is a halfway house for the dually-diagnosed. It was developed specifically for homeless patients as an alternative to long-term hospitalization or residence in shelters and welfare hotels. It includes an intensive therapeutic program based on self-help modalities and directed at reintegration into community living. The program provides a model for rehabilitation by establishing continuity of care between hospital-based and community services.

Addictions Center of Excellence

This COE, one of six collaborative programs at the medical centers and designated under the direction of John Rotrosen, M.D., has diversity and expertise ranging from basic neuroscience, molecular biology and genetics, to community outreach. Some of NYU's longest-standing and largest NIH grants are from the National Institute on Drug Abuse (NIDA). Bellevue and the VA support exceptional clinical services central to ongoing education and research, and NYU's professional schools have outstanding clinical and research training programs across disciplines, including specialty services and integration of addictions expertise into primary care and other healthcare settings.

Goals are to bridge translational research, training and clinical services gaps. The aim is to establish a University-wide, multi-disciplinary consortium of institutions, programs, researchers and clinicians, serve a convening function to facilitate communication, collaboration, coordination, program development, grant-writing, service, teaching and clinical and research training, position the NYU addiction community to promptly and effectively respond to NIH and other funding opportunities calling for broad, translational approaches to addiction and its impact on the community and the public health. Also to develop NYULMC-based clinical programs to fill existing service gaps, expand community partnerships within which translational research can be realized. Research Collaborative Working Groups, Cores, and thematically linked Translational Research Projects capitalize on NYU's rich research, clinical and training resources.

Division of Internal Medicine

Under the supervision of Marc Gourevitch, M.D., M.P.H, the NYU School of Medicine, and the Colleges of Dentistry and Nursing launched a project to create, implement and evaluate a substance abuse research training program for physicians, nurses and dentists. The goal is to stimulate participants' interest in drug, inclusive of alcohol and tobacco, research. The project

uses interactive, computer based educational technology developed in module form, which is flexible and content-rich.

The Substance Abuse Research Education and Training (SARET, Adina Kalet, M.D) program educates an interdisciplinary group of medical, advanced practice nursing and dental students about addiction and the fundamentals of clinical research in this field. Learners are supported in a broad range of National Institute of Drug Abuse (NIDA) funded research opportunities, implemented through research engagement with seasoned mentors within the NYU community. The Division also offers primary care-based buprenorphine treatment at a public hospital clinic using an 'at-home' induction protocol. Eligible patients are opioid-dependent adults seeking buprenorphine treatment. Telephone support was easily handled by non-MD staff. Low intensity treatment paradigms may expand access to effective opioid dependence treatment in a variety of primary care settings.

The World Health Organization Collaborating Center

Since its inception, the NYU Division has worked closely with this Center (Eugene Laska, Ph.D., Director) housed at the Nathan Kline Institute. It is affiliated with The WHO Programme on Substance Abuse (Geneva). These efforts have focused on the development of cross-national initiatives to adapt medical training to a diverse group of countries, and to effect technology transfer of both new and long-demonstrated treatments to other national settings. The Division has organized meetings and publications for an international audience in this capacity. Recent projects include consultation on medical education, evaluation of treatment on a cross national basis, and collaboration with The International Society of Addiction Medicine. Dr. Galanter is responsible for the Substance Abuse Division of the WHO Collaborating Center.

Tisch University Hospital Facilities

These facilities include a practice suite for ambulatory treatment of patients by the faculty, as well as for clinical research trials. Patients may also be admitted to the NYU Tisch University Hospital for inpatient care.

The Center for Postgraduate Medical Fellowships in Alcoholism and Drug Abuse

This national center, under the direction of Dr. Galanter, was established in 1988 in order to serve as an informational base for training activities among postgraduate training programs and participates in setting standards for the education of fellows in psychiatry, medicine, and other specialties, and has employed a National Advisory Committee of leading academic figures in the substance abuse field. It has coordinated activities for a multi- specialty national consortium on postgraduate training. The Center maintains a comprehensive body of information on all addiction fellowships available in its published brochure and on its website, <http://www.med.nyu.edu/substanceabuse>.

Center for Spirituality and Healthcare

This center (Dr. Galanter, Director; Dr. Dermatis, Associate Director of Evaluation) was established to undertake projects on spirituality and its role in recovery from psychiatric and medical illness. It has involved research initiatives such as evaluating this issue in depressed college students, training psychiatrists to deal with empirical evidence regarding alternative and

complementary medicine techniques, and assessment of the spiritual orientation and needs of patients. Clinical initiatives include dissemination of Twelve-Step related recovery, and aiding medically ill patients to draw on their spiritual resources to cope with illness. The Center has embarked on a major project on training and evaluation of residents for the study of spirituality in addiction treatment.

Department of Veterans Affairs New York Harbor Healthcare System

The Department of Veterans Affairs New York Harbor Healthcare System addiction services (Dr. Casadonte) include both inpatient and ambulatory treatment facilities for detoxification and rehabilitation of alcoholic and drug abusing patients as well as research trials. These inpatient/outpatient programs, with the VA Psychiatry Department, serve as the locus for affiliated teaching and research functions of the Division.

The Nathan Kline Institute

The Institute (Harold Koplewicz, Director), funded by the NYS Office of Mental Health, has ongoing projects on service delivery research, alternative strategies for payment, and organization of and cost-benefit analyses of services. Faculty pursue a program of studies on the public sector systems that impact persons with severe mental illness. They conduct research with direct relevance to policy formation, program design and cross-agency coordination in matters pertaining to the care, well-being and livelihood of persons diagnosed with factors that affect the course of rehabilitation.

Drs. Carole Siegel, Kim Hopper and Marc Galanter conduct research programs concerning the problems of persons who have both mental illness and substance abuse. Dr. Alexander is the director of this core and an investigator in mail surveys to community service directors, a site study of the dually diagnosed among individuals using mental health services, and validation of screens for dual disorders in treatment settings.

Research activities also include: pharmacokinetics and analytical chemistry; positron emission tomography (PET) studies in collaboration with the Brookhaven National Laboratories; data management and data analysis; and magnetic resonance (MRI) imaging, functional MR and MR spectroscopy studies. Other studies at NKI on substance abuse include: neurochemical mechanisms (Ralph Nixon, Ph.D., M.D.); the pharmacokinetics and pharmacodynamics of cocaine and metabolites in pregnancy; predisposition to drug abuse and aggressive behavior; and the effect of nicotine on neurotransmitter release. Studies also examine the multiplicity of reward mechanisms, in particular differences between the effects of nicotine and those of cocaine. They are designed to identify nicotine-specific effects on dopamine release, and identify the mechanisms involved in the nicotine effects on reward versus the nicotine effects on cognition.

NIDA Postdoctoral Program and Laboratory

The NIDA-supported Postdoctoral Training Program in Research on Abused Drugs was established in 1992 and is based in the Department of Psychiatry (Dr. Kenneth Carr). Faculty members with active research programs in the study of drugs of abuse serve as preceptors of research trainees and operate a didactic program tailored to meet individual needs. The research areas of participant laboratories in this multidisciplinary program range from

psychophysical studies of electrical brain stimulation reward to the molecular biology of opioid receptors. The Training Program emphasizes laboratory research with research workshops in which trainees and faculty have an opportunity to present and critically discuss work in progress. The didactic component of the Program includes courses at the Medical School and a seminar series in which distinguished researchers in the drug abuse field are invited to speak to Program participants.

Current research is focused in the measurement of brain regional dopamine receptor-mediated signal transduction; effects of sub-chronic replacement of central insulin, leptin and anorexigenic neuropeptides in food-restricted subjects; and basic appetitive mechanisms. The program's laboratory has a general interest in the relationship between CNS mechanisms that regulate ingestive behavior and drug abuse, with a particular interest in neuroadaptations induced by food restriction that increase the reward magnitude of abused drugs and predispose subjects to binge-eating.

In recent years members have established in rats that unconditioned reward-related effects of numerous drugs of abuse and dopamine receptor agonists, whether injected systemically or intracerebrally, are increased by food restriction. In tissue preparations, they have identified a variety of dorsal and ventral striatal neuroadaptations that are hypothesized to mediate increased reward sensitivity and synaptic plasticity during chronic food restriction, including upregulation of D-1 dopamine receptor-mediated phosphorylation of NMDA receptor NR1 and AMPA receptor GluR1 subunits, and increased ERK 1/2 MAP kinase and CaM kinase II signaling. Current research is focused on striatal AMPA receptor trafficking and MAP kinase activation in response to palatable food and drugs of abuse, and their potential roles in the genesis of enduring maladaptive reward-directed behavior.

Daytop Therapeutic Community

This program, under the medical direction of Dr. Gregory Bunt, M.D. provides services for those who seek help with life's problems compounded by substance abuse. Over 100,000 individuals have reclaimed their lives with assistance of the program. Daytop is based on the [therapeutic community](#) concept: a highly structured, family environment where positive peer interaction is emphasized. Separate and individualized programs are available for adolescents, adults, and all family members. The staff consists of professionals in the fields of psychology, social work, medicine and education, as well as Daytop graduates who have gone through intensive training and certification in counseling. Daytop has been providing drug-free counseling services since 1963, making it the oldest and largest drug-free, self help program in the United States. In response to an overwhelming demand for Daytop Treatment Services from countries around the world, Daytop International was established in 1984. During the past sixteen years Daytop International has assisted over sixty-six countries in establishing treatment programs based on the self-help social learning model.

The National Drug Abuse Treatment Clinical Trials Network—New York Node

Translating new treatments to the broader community is an important public health challenge which is now the focus of the National Drug Abuse Clinical Trials Network launched by the National Institute on Drug Abuse in 1999. The mission of the Clinical Trials Network is to conduct effectiveness studies of behavioral and pharmacological interventions across a wide range of community-based treatment settings in diverse clinical populations; to transfer the

results of this research to providers and their patients within the community using science as a vehicle; and to provide policy advice to ensure the delivery of effective treatment to the broadest possible patient population.

This program is directed by John Rotrosen, M.D. and includes Paul Casadonte, M.D., Malcolm Reid, Ph.D., Marc Galanter, M.D., Mary Jeanne Kreek, M.D., James Robinson, M.Ed., Scott Kellogg, Ph.D. and others. Bridging the gap between research and practice is now the focus of the National Drug Abuse Treatment Clinical Trials Network launched by the National Institute on Drug Abuse. The Clinical Trials Network conducts effectiveness studies of behavioral and pharmacological interventions across a wide range of community-based treatment settings in diverse clinical populations, and disseminates the results of this research to providers and their patients within the community using science as a vehicle.

The Center for Health, Identity, Behavior and Prevention Studies

Under Perry N. Halkitis, Ph.D., Director, the Center has a focus on behavioral research in the fields of HIV and substance use. The Center research team is composed of individuals from a variety of disciplines including: psychology, public health, and neuroscience to name a few. Its web site includes information about the more commonly used recreational substances, HIV/AIDS information and resources as well as community referrals for HIV and substance use concerns respectively. As a premiere center for research on the topics of HIV and substance use, it provides numerous training opportunities for students at both the undergraduate and graduate level interested in gaining research experience.

Brain Research Laboratory

The Brain Research Laboratory (Dr. Prichep) is a Division of the Department of Psychiatry, broadly concerned with the development and application of new quantitative methods for evaluation of electrophysiological and/or metabolic aspects of brain functions in normal subjects and psychiatric patients. The laboratory is engaged in research on brain imaging methods such as topographic mapping of quantitative EEG (QEEG), focusing on effects of cocaine abuse.

Epidemiology Programs

Studies have been undertaken (Michael Marmor, Ph.D.) on HIV, the response of drug users to HIV testing and counseling, the utility of needle exchange programs in reducing the spread of HIV among intravenous drug users (IDUs), and the feasibility of IDUs as research volunteers in HIV vaccine. Clinical trials of an HIV vaccine in IDUs have also been done, along with testing another vaccine among men who have sex with men.

The Brook Research Group

The work of this group (Drs. Judith and David Brook) focuses on a number of the behavioral aspects of diseases and disorders of major interest in public health today, including the global pandemics of tobacco use, drug abuse and AIDS, as well as adolescent violence, using an epidemiological approach and advanced biostatistical techniques to analyze the data. In particular, these researchers and their staff study the psychosocial risk and protective factors of etiological significance in the development of these problematic, risk-taking behaviors, and their sequelae, including interpersonal functioning and coping strategies. The research team has also

conducted its studies internationally, in collaboration with colleagues in Columbia, South America, and South Africa.

Laboratory of Neurochemistry of Receptors and Peptides

Under Dr. Eric Simon, research projects have dealt with the neurochemistry of receptors and neuropeptides. The Laboratory's main thrust has been an understanding of the structure and functions of the endogenous opioid system, i.e. opioid receptors and endogenous opioid peptides. This laboratory was one of three which simultaneously discovered the opioid receptors and has continued to contribute actively to this area.

School of Nursing

The School of Nursing of NYU has an active academic program in Substance Abuse (Madeline Naegle, RN, Ph.D.) in both teaching and research. With support from a federal faculty development award and New York State foundation support, the program has developed nursing curriculum nationally and carries out educational activities in Division clinical services and other allied facilities. The program supports a three course substance related disorders course sequence designed to increase the number of nurse practitioners trained in the assessment and treatment of substance related disorders. The project also operates an interdisciplinary team for the development of web based learning modules on substance abuse.

Social Work

Lala Straussner, DSW directs a Post-Master's Certificate Program in Addictions. The curriculum integrates sophisticated, psychodynamically-oriented clinical understanding with the latest evidence-based knowledge regarding screening, assessment, and treatment of individuals with alcohol and other drug disorders. The program incorporates up-to-date information addressing the intersection of addiction and the unique issues and treatment approaches when working with individuals of various populations including women, persons with disabilities, co-occurring mental illness, as well as individuals in the GLBT community, criminal justice system, and in the workplace. It provides a certificate in Clinical Approaches to the Addictions and an advanced certificate practice seminar as well.

SELECTED CURRENT RESEARCH ACTIVITIES

Funding for the academic projects has been provided by the National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, the Center for Substance Abuse Treatment, the National Institute of Mental Health, the Veterans Administration, New York State Office of Mental Health, the Scaife Family Foundation, the JM and Milbank Foundations, the Bodman Foundation, the Langeloth Foundation, the Robert Wood Johnson Foundation, the Macy Foundation, the New York Community Trust, the John Templeton Foundation and The National Institute for Alcohol Abuse and Alcoholism.

The Division has undertaken a special research initiative over time to evaluate integrated services for the homeless and the dually diagnosed (Drs. Galanter, Dermatis, and Ross). Divisional services have been designed to provide continuity of care for these evaluative studies in order to examine the efficacy of innovative models for care within the general hospital system. Emphasis is placed on an intensive self-help model in order to instill patients in an orientation

toward abstinence and identification with their peers. The programs have been designed to serve as a model for other inner-city facilities dealing with similar populations. A behavioral treatment paradigm was instituted in the operation of the residential dual diagnosis units to modify established pathologic patterns with specific reference to securing the remission of acute psychiatric symptoms and training for relapse prevention. This model, adapted from established paradigms in the addiction and behavior therapy fields, employs peer assessment and token economy techniques. Fellows in addiction psychiatry, in particular, have been involved in these studies. Research into the nature of addiction and homelessness among patients admitted to our addiction services has yielded better understanding of the impact of psychological and social pathology and cognitive deficits on treatment outcome.

Drs. Judith Brook and David Brook study childhood determinants of adolescent/adult drug use. The overall goal of their longitudinal studies is to examine the etiologic determinants as well as the consequences of adult substance use disorders. Data collection is being conducted to examine interrelations and interactions of personality (including psychopathology), family, peer, and ecological factors (starting in early childhood) as they affect the course of substance use over time to study the consequences of long-term substance use on adult psychopathology and functioning; and to examine the impact of substance use across generations on parenting and offspring emotional regulation and behavioral problems including substance use. Their study on childhood predictors and consequences of adolescent smoking examines the etiologic determinants of young adult tobacco use/abuse and the consequences of use on the individual's functioning among African-American and Puerto Rican adolescents and adults.

A technique for the management of substance abusers in office practice, using family and peer supports called Network Therapy (Dr. Galanter), has been demonstrated to serve as an effective vehicle for engaging patients in treatment and sustaining abstinence. Network Therapy has been standardized and its outcome has been evaluated in the treatment of both cocaine addiction and (with buprenorphine) heroin addiction.

Two main training and technical assistance and evaluation initiatives are ongoing at the Center for Therapeutic Community Research in collaboration with George De Leon, Ph.D. The first is training for all staff in implementing modified therapeutic community programs in correctional settings; the second initiative is dissemination of a new systems approach to treatment and continuing care of substance abusers. The training initiative is delivered to community based providers, prison based programs, and other stake holders. The Center's criminal justice drug abuse treatment study evaluates juvenile justice substance users; the PI is Nancy Jainchill, Ph.D. Another study tests the generalization of a client-matching protocol developed by Drs. Melnick and De Leon, and applied to a national sample of drug abusers. Another project just being implemented is a randomized comparative evaluation of the effectiveness of CBT and TC programs for court referred substance abusers to a short term residential community correctional setting.

Marc Galanter, M.D. directs The Center for Spirituality and Healthcare, which focuses on a number of empirical studies on integrating the issue of patients' meaningful personal goals and beliefs into their coping with illness. Studies have been carried out on assessment of the level of spiritual orientation among patients diagnosed for both substance abuse and general psychiatric disorders, on residents in drug free therapeutic communities, on chaplaincy trainees, and university students. Studies have also been undertaken on the rehabilitation of addicted

physicians, with particular emphasis on Twelve Step based recovery. Additionally, a Twelve Step adaptation, Methadone Anonymous (Pathways to Recovery) was undertaken (Drs. Glickman and Galanter). In collaboration with Helen Dermatis, Ph.D., fellows in the program have evaluated the discrepancies between attitudes of medical staff and patients on the relative importance of spirituality in recovery. Dr. Dermatis and Center staff are embarking on studying means of improving compliance with medical care by promoting patients' opportunities to draw on their spiritual orientation and issues that are personally meaningful to them.

Scott Sherman, M.D., MPH, conducts research on structuring the health care system to support interventions targeting smoking as well as alcohol and drug abuse. He is PI on a 60-site VA study of increasing use of telephone counseling for smoking cessation and chairs the VA National Smoking and Tobacco Use Cessation Technical Advisory Group.

Joshua Lee, M.D. is an investigator and clinician within the Divisions of Alcoholism and Drug Abuse and General Internal Medicine. He conducts federal- and industry-sponsored health service research focusing on novel addiction pharmacotherapies in primary care and criminal justice settings.

Moses Chao, Ph.D., Professor, studies neurotrophins, potent trophic factors that were first characterized for their ability to regulate neuronal growth, survival and differentiation. There are many lines of evidence indicating that neurotrophins, such as Brain Derived Neurotrophic Factor (BDNF), play an important role in the pathophysiology of addictive disorders, depression and other psychiatric disorders, as well as a wide number of neurodegenerative disorders, including Alzheimer's and Huntington's diseases. Changes in the levels of BDNF have been shown to influence mesolimbic dopamine regions involved in cocaine addiction. In particular, the adaptor proteins and enzymatic activities that are recruited to the TrkB receptor to influence synaptic transmission and plasticity have been defined. Lab members are also identifying small molecule agonists that promote BDNF function. There is a growing understanding of how neurotrophins carry out cell-to-cell communication in the nervous system. Their signaling mechanisms offer the opportunity to identify biochemical events and pathways that underlie these complex disorders at a molecular and synaptic level.

Michael Marmor, Ph.D. is director of the Epidemiology Program in the NYU Center for AIDS Research, within which he also directs the clinical core that provides epidemiologic and biostatistical consultation to NYU's HIV/AIDS investigators. He directs the epidemiologic and statistical aspects of a current project on acute HIV infection; and is the site principal investigator at NYU of Phase I, II and III HIV vaccine clinical trials. He is conducting a clinical trial of a behavioral intervention designed to reduce HIV incidence among men who have sex with men.

The Social Science Research and Innovation Laboratory, under Mary Jane Alexander, Ph.D., is located in NKI's Division of Statistics and Services Research. The group's collaborative research across state agencies, local governments, providers and consumers of services was used to develop a public-private partnership between the NYS Health Foundation, NYS Office of Mental Health, and NYS Office of Alcohol and Substance Abuse Services to establish the Center for Excellence for the Integration of Care to integrate mental health and substance use services statewide. Dr. Alexander's NKI colleague Gary Haugland has identified clinical, fiscal and regulatory barriers to delivering integrated services across NYS, as well as strategies to develop and sustain locally integrated service networks; developed locally validated

tools like the MMS to identify both conditions in a broad range of traditional chemical dependency and mental health treatment settings and in jails, shelters and street outreach programs; and advised the current NYS OMH and NYS OASAS Task Force on Co-Occurring Disorders about screening tools, assessment approaches and evidence-based practices for statewide implementation. A new project is underway to identify how co-occurring disorders impact the ability of people who receive public assistance to comply with work requirements. Dr. Alexander is also the Director, and Co-Principal Investigator with Kim Hopper, Ph.D. of the NIMH funded Center to Study Recovery in Social Contexts. The Center has developed an investigative community of interdisciplinary social scientists, providers (including consumer providers), policy makers, advocates and service users to apply Amartya Sen's Capabilities approach to public mental health using a Community-Based Participatory Research model.

The Institute for Prevention Science at the NYU Child Study Center was established in 1998 by Laurie Miller Brotman, Ph.D., the Corzine Family Associate Professor of Child and Adolescent Psychiatry. Institute faculty conduct randomized controlled trials of family and school interventions to address conduct problems, obesity, suicide, anxiety and asthma management. Interventions focus on promoting healthy development and academic achievement among children from urban, low-income communities. Findings from these trials indicate that developmentally and theoretically-informed family and school interventions can result in long-term benefits for children's behavior, mental health, physical health and school functioning.

At the Nathan Kline Institute, Basalingappa Hungund, Ph.D. and colleagues study modulation of the endocannabinoid system (ECS) in the synaptosomal membranes of chronic alcohol exposed (alcohol-tolerant) mice, and had established a role of this system in alcohol-dependence and voluntary alcohol consumption. This lab was the first to report modulation of ECS in synaptosomal membranes of chronic alcohol exposed (alcohol-tolerant) mice. Since then they have established a role for the ECS in alcohol-dependence and voluntary alcohol consumption and demonstrated possible utility of drugs targeted against the ECS system in reducing alcohol tolerance/dependence and voluntary alcohol consumption. They have extended these studies further to isolate and identify the molecular targets at the level of signaling systems downstream, which could provide additional tools to treat addiction-related problems associated with alcohol abuse and alcoholism. Lab members are currently exploring the possible role played by ECS in neurobehavioral deficits in the offspring of mothers drinking during pregnancy. Preliminary results seem to implicate a role for AEA in FAE/FAS.

Abel Lajtha, Ph.D. is the Director of the Research Institute for Neurochemistry at NKI, and has served as the President of the Research Foundation for Mental Hygiene. His main interest remains brain proteins, membranes, and receptors, especially their functions and their changes with drugs, pathology, and aging. His work measured half-lives, established the dynamic turnover of brain proteins, established the presence of about ten amino acid transport systems as part of the blood-brain barrier, examined changes with aging in brain protein catabolism, and explored the complex receptor interactions modulating the central effects of drugs of abuse.

The research of Kenneth D. Carr, Ph.D. is concerned with the relationship between neural systems that mediate incentive-motivating effects of food and drugs, with a particular interest in the regulation of drug reward by endocrine and metabolic signals associated with negative energy balance and adipose depletion. Psychophysical curve-shift and progressive ratio protocols have been used in rats to measure sensitivity of brain reward circuitry to direct

electrical stimulation in the presence and absence of various drugs of abuse. Using these methods, it has been demonstrated that persistent negative energy balance, induced by chronic food restriction, enhances sensitivity of brain reward circuitry to centrally injected psychostimulants, opiates, and direct dopamine receptor agonists. Possible involvement of the endocrine adiposity hormones (e.g. leptin, insulin) is under investigation. CNS correlates of increased drug reward sensitivity, identified to date, include a variety of neuroadaptations localized to nucleus accumbens. The most recent findings, using gene microarrays, point to a number of additional proteins involved in neurotransmission and cell signaling that appear to be markedly altered by food restriction.

Ralph Nixon, M.D./Ph.D. studies how the chronic administration of drugs of abuse, including cocaine, opiates and alcohol substantially alters neurofilament levels and phosphorylation in brain regions related to reward. His lab shows that MKO mice lacking the middle subunit of neurofilaments (NFM) exhibit markedly exaggerated behavioral responses to cocaine and amphetamine, mediated by the dopamine D1 receptor, a suspected NFM ligand. These effects are selective for the NFM subunit because deletion of other neurofilament subunits in mice have negligible influence on cocaine responses and replacing half the normal level of NFM in MKO mice abolishes the abnormal stimulant response. NFM deletion does not alter total D1R levels but increases association of the receptor with surface membranes based on quantitative immunoblot analysis, Scatchard analyses of labeled SCH-23390 binding, immunocytochemistry and immuno-gold electron microscopy. MKO mice also displayed increased and prolonged p-ERK responses to cocaine in the cingulate cortex and increased phosphorylation of neurofilament proteins at polypeptide regulated by ERKs. Our results establish a role *in vivo* for NFM as a mediator of D1R-related signaling relevant to mechanisms of addiction and reward.

Jay Nierenberger, Ph.D. and his group use structural MRI techniques including diffusion tensor imaging, MR spectroscopy, volumetric MRI and multiecho T2 relaxography to understand neuroanatomical changes in substance use disorders and recovery from them. They currently test several populations: individuals with cocaine dependence receiving long-term residential treatment in a therapeutic community setting and active users of methamphetamine (not receiving treatment). They have begun investigating the histological basis of cocaine induced changes in white matter structure with a rodent study performed on our 7T system. The long-term goal of this laboratory is to establish a translational research program in addictions. Studies include white matter changes in methamphetamine abuse, and glutamate and dopamine modulation of white matter changes in schizophrenia. This project evaluates the relationship between white matter integrity and neuropsychological variables in individuals with methamphetamine use disorders using magnetic resonance diffusion tensor imaging, magnetic resonance spectroscopy and neurocognitive testing.

Mariko Saito, Ph.D. and her colleagues study alcohol-induced neurodegeneration in the developing mouse brain as a model of fetal alcohol syndrome. Specifically, they aim to clarify roles of cellular lipids on alcohol-induced cell death in the developing brain and in cultured neurons. Several studies using animal models have shown that a certain type of lipids that is abundant in neurons mediate the processes of cell death and cell survival. They hypothesize that alcohol-induced neuronal death is mediated or modified by these sphingolipids.

Csaba Vadasz, Ph.D. heads the Neurobehavioral Genetic Research Program. This program

develops strategies for identification of individual genes that control complex neural and behavioral phenotypes, and of creating advanced genetic animal models of psychiatric disorders. Current research includes studies on the genetics of the mesotelencephalic dopamine system. Their long-term goals are to map and identify genes for addiction in preclinical animal models, confirm genes as genetic risk factors in clinical studies, and realize the therapeutic potential in translational medicine.

The study of neurophysiology and neuropharmacology of addictive disorders under Malcolm Reid, Ph.D. includes a clinical lab to study the neurophysiology and pharmacology of conditioned cocaine and alcohol craving, and clinical treatment trials on experimental pharmacotherapies for drug addiction. The clinical treatment trials involve studies on opiate detoxification, cocaine addiction and smoking cessation. The studies on craving examine the quantitative and neuroanatomical EEG correlates of cocaine and alcohol craving and related anxiety/arousal in response to cue presentation. Neuroanatomical EEG mapping studies also examine the effects of an acute dose of cocaine, which may be compared and contrasted with the cue-induced responses. Cocaine addiction treatment studies also examine the association of laboratory-elicited cocaine craving responses with treatment outcome. Additional clinical projects include studies on the effects of stimulants (nicotine and cocaine) and cue exposure on neurocognitive function and impaired judgment in cocaine dependent subjects.

Addiction medication trials under Paul Casadonte, M.D. includes a range of NIH-, VA- and industry-sponsored studies aimed at developing medications to treat addictive disorders. Specific areas of recent focus include dependence on alcohol, nicotine, cocaine, methamphetamine, and opiates such as heroin and prescription pain killers. Treatment studies seek to reduce the use of addictive substances, to restore quality-of-life, and to collect important safety data. Many of these studies include a structured behavioral therapy addressing psychosocial issues around substance use. In addition to new medications some ongoing studies include innovative delivery systems for already marketed medications, for example sublingual tablets, trans-dermal patches or long-acting subcutaneous implants or injections.

The goal of the Mental Health and Addictive Disorders Research Program, directed by Dr. Rotrosen is to improve diagnosis and treatment of psychiatric and addictive disorders, and to extend what is known about underlying causes and physiology. Disorders of particular interest include the addictive disorders, attention deficit hyperactivity disorder (ADHD), stress disorders, and schizophrenia. Studies involve clinical neuroimaging, drug-of-abuse cue reactivity, modulation of the acoustic startle response, and collaborations with preclinical laboratories specializing in pharmacology, behavior, and genetics.

Kathlene Tracy, Ph.D. directs a community research and prevention program based on the community reinforcement approach. The goal of the program is to reduce patients' psychiatric and substance abuse symptoms by making changes in their daily environment to promote healthier lifestyles. The program promotes the development of innovative approaches that reduce associated stigma, and consequently provide environments where persons are more likely to adhere to treatments that match their particular goals in life.

Clare Kelly, Ph.D. has undertaken neuroimaging of spatial correlations of spontaneous

hemodynamic brain activity (obtained through blood oxygenation level dependent functional magnetic resonance) to define statistical maps that are strikingly convergent with known or hypothesized functionally connected circuits. This lab has developed methods to systematically apply this approach of functional connectivity in two brain areas centrally implicated in drug addiction: the anterior cingulate cortex and basal ganglia of healthy volunteers. These projects will lay the groundwork for future studies that will examine the clinical implications of decreased connectivity with respect to prediction of relapse, mood comorbidity, and cognitive rehabilitation.

Eric Klann, Ph.D.'s laboratory has spent the last several years delineating the regulation of cap-dependent translation initiation by the mTOR and ERK signaling cascades during long-lasting synaptic plasticity and memory formation in the hippocampus. In particular, using molecular, biochemical, electrophysiological, and behavioral approaches we have found that proper regulation of the mTOR substrates 4E-BP2 and p70 S6 kinase are critical for multiple types of protein synthesis-dependent synaptic plasticity and memory. These studies are relevant for drug addiction, which is manifested as long-term synaptic and behavioral changes in response to a number of drugs. Thus, the regulation of mTOR and ERK signaling, and cap-dependent protein synthesis may be involved in the adaptive changes at the synaptic and behavioral levels.

Maarten Reith, Ph.D. studies various families of high-affinity uptake ligands for the DAT, aiming for compounds that block cocaine binding to the DAT without the compound itself interfering with dopamine uptake, and for drugs with a slow onset and long duration of action. The significance lies in the development of lead compounds for the treatment of dependence on cocaine. Various approaches are also used in the Reith lab to study the interaction of drugs of abuse with DAT. The dopamine transporter is a membrane protein that regulates dopaminergic neurotransmission by mediating uptake and reverse transport (release) of DA in a Na⁺-dependent manner. One project is focused on elucidating the molecular details governing binding and translocation of substances targeting DAT.

Ed Ziff, Ph.D. studies mechanisms of synapse plasticity, and has initiated a program to understand the molecular mechanisms regulating synapses during reward system function. This is relevant to mechanisms of addiction to cocaine and other abused substances.

EDITORIAL ACTIVITIES

The Division houses the editorial office of a number of serials. These include the annual book series, *Recent Developments in Alcoholism*, an annual scholarly review jointly sponsored by the American Society of Addiction Medicine and the Research Society on Alcoholism; and *Substance Abuse* (Haworth Medical Press), a peer review journal of the Association for Medical Education and Research in Substance Abuse. *Substance Abuse* presents research and educational articles to a national and international audience. The Editorial Office of the American Psychiatric Press *Textbook of Substance Abuse Treatment*, a national standard, is also located here.

In addition, faculty are on Editorial Boards of numerous journals including *The American Journal on Addictions*, *Journal of Addictive Diseases*, *American Journal of Drug and Alcohol Abuse*, *Journal of Substance Abuse Treatment*, *Psychiatric Quarterly*, *The Journal of Mental Health Policy and Economics*, *Advances in Alcohol and Substance Abuse*, *Alcohol and Drug*

TRAINING PROGRAMS

Medical Student and Residency Training

Medical students and residents are given lectures and seminars in addiction, both in relation to pathogenesis and treatment. Medical students get lectures in the first and second years and weekly supervised clinical and literature exposure as part of their psychiatry clerkship experience during the third year. In addition, students with an interest in addiction can take electives in their first, second, and fourth years.

Students may also participate in the addiction programs of the Walter Reed Society of the School's **Master Scholars Program**. The Division conducts specialized training and apprenticeship within this Society, dedicated to increased humanism and professionalism in medical training.

In the **general psychiatry residency** program, seminars and case conferences are conducted in each postgraduate year (Marianne Guschwan, M.D.). The attempt is made to provide house staff with an understanding of the clinical science underlying addiction and then, in the context of case conferences and clinical supervision, to integrate this material into addressing the needs of patients on their respective training services. Elective experiences are offered, in particular, in the PGY IV year, both for NYU residents and for selected residents from other training programs. These experiences may be related to subsequent participation in the PGY V-VI fellowship program.

Academic Track for PGY I-IV Residents Interested in Substance Abuse

At the Time of Application – An applicant interested in the field of substance abuse will be given the brochure describing the Division, and arrangements made for him or her to speak with a faculty member with interests similar to their own.

For PGY I Residents on Arrival – Selected residents with appropriate experience who have expressed an interest in addictions will be directed to the appropriate faculty member within their first weeks. A mentor for the resident can be selected to counsel them on how to navigate their residency experience in order to develop their research focus. The mentor will meet at intervals with the resident to discuss a program and opportunities which would be most relevant to that resident. In order to assure proper acclimation to the residency, collaboration on initiating a project with a mentor at this point will be undertaken in a limited manner.

PGY II Year - The resident will be encouraged by the mentor to frame a project area to pursue, and should embark on reviewing relevant literature under supervision. Visits can be arranged to laboratories and clinical units at NYU and at other facilities to acquaint the resident with the nature of relevant projects in the New York area. Application can be made for meetings and experiences that the American Psychiatric Association, the American Society of Addiction Medicine or the American Academy of Addiction Psychiatry sponsors for residents interested in research. The resident can discuss with the Residency Director the possibility for tailoring the last two years to allow for flexibility to carry out a project under the supervision of a mentor.

PGY III Year - The resident will begin to conduct a research project in collaboration with senior faculty or the mentor and appropriate Divisional faculty. Methodology and statistical supervision may be provided if appropriate.

PGY IV Year - The resident will bring the project to completion so that data are analyzed and results presented at a scientific meeting and/or submitted for publication.

PGY V Year - The resident may be eligible to undertake the PGY V year as a subspecialty fellow, which would enable him or her to embark further on academic activities and prepare for an academic career in the field.

This experience is followed by a subsequent year as an attending physician with academic programming.

Combining AA and Spirituality with Biomedical Models

Faculty of the Division are involved in a collaborative venture with Internal Medicine to provide an innovative model for training of residents and fellows. Training in both the spiritually oriented AA approach, combined with the biomedical and psychological models, are used in didactic sessions for house staff so they can better understand the treatment of addicted patients. A manual for faculty and trainees with related audio-visual aids has been prepared, and the project has been evaluated for broader distribution with support from the Macy Foundation.

THE ADDICTION PSYCHIATRY FELLOWSHIP PROGRAM

The Addiction Psychiatry postgraduate medical fellowship program was designed to provide high quality clinical care; train teaching and research faculty for medical centers in the future; and conduct investigations into the etiology and treatment of addictive illness. PGY V residents (fellows) contribute to the development of the field of Substance Abuse in the same way that comparable fellows have done in earlier decades in subspecialty areas such as cardiology or endocrinology. The PGY V year has been followed by a second year as an attending. Since their establishment in 1998, many APA awards for leadership in American Psychiatry have been received by the NYU addiction psychiatry fellows. Graduated fellows have gone on to leadership positions in the addiction field.

Training components include:

Relevant basic science issues in each of these areas: biochemistry, pharmacology, epidemiology, social theories, genetic models, behavioral conditioning models

Supervised clinical experience in each of these areas:

Settings: inpatient and outpatient

Drugs: alcohol, opiates, cocaine, and other drugs of abuse

Clinical laboratory testing

Medical sequelae

Therapies employed include: pharmacotherapy; individual, group, family therapy, Network Therapy; and Twelve Step Recovery

Consultation, team leadership

Detoxification and rehabilitation: dual psychiatric and addictive illness

Research: carrying out an original project related to addictive illness

Teaching of medical students, house staff, and other personnel

During this program following the residency, fellows are assigned to both inpatient and outpatient Divisional units, where they evaluate and treat patients under faculty supervision. This includes teaching rounds, individual supervisory sessions, a clinical and research practicum, and exposure to ongoing faculty research. Didactic work is organized around weekly seminars, which continue throughout the PGY V year and the next year at the junior attending level. Seminars include both research methodology (Dr. Helen Dermatis) and academic readings on addiction (Drs. Stephen Ross and Jeffrey Guss), and clinical practicum (Dr. Annatina Miescher).

Each fellow conducts a research project which is submitted for publication prior to completion of the program. Work on this project begins in the first year and is supported by close faculty supervision throughout, including instruction in research methodology and techniques of data analysis. Research publications of the fellows are listed below:

Barbara Bartlik (M.D., Albert Einstein College of Medicine), 1987-89, (Bartlik B, Galanter M, Angrist B: Dimenhydrinate addiction in a schizophrenic woman. *J Clin Psychiatry* 50:476, 1989)

Gregory Bunt (M.D., NYU School of Medicine), 1987-89, (Bunt G, Galanter M, Lifshutz H, Castaneda R: Cocaine/"crack" dependency among psychiatric patients. *Am J Psychiatry* 147:1542-1546, 1990)

Merrill Herman (M.D., Cornell), 1987-89, (Herman M, Galanter M, Lifshutz H: Homelessness in patients with combined substance abuse and psychiatric disorders. *Am J Drug Alcohol Abuse* 17:415-422, 1991)

Anthony Kim (M.D., Columbia), 1988-90, (Kim A, Galanter M, Castaneda R, Lifshutz H, Franco H: Crack use and sexual behavior among psychiatric inpatients. *Am J Drug Alcohol Abuse* 18:235-246, 1992)

Paul Fritz (M.D., Columbia), 1989-91, (Fritz P, Galanter M, Lifshutz H, Egelko S: Developmental risk factors in postpartum women with positive urine toxicologies for cocaine. *Am J Drug Alcohol Abuse* 19:187-197, 1993)

Douglas Munsey (M.D., Cornell), 1989-91, (Munsey DF, Galanter M, Lifshutz H, Franco H: Antecedents, severity of abuse, and response of treatment in substance-abusing schizophrenic individuals. *Am J Addictions*, 1:210-216, 1992)

Mark Wallace (M.D., University of Louisville), 1989-91, (Wallace M, Galanter M, Kraskinski K, Lifshutz H: Women at high risk of HIV infection from drug use. *J Addict Dis* 12:77-86, 1993)

Charles Silberstein (M.D., Albert Einstein College of Medicine), 1990-92, (Silberstein C, Galanter M, Marmor M, Lifshutz H, Krasinski K, Franco H: HIV-1 among inner-city dually diagnosed inpatients. *Am J Drug Alcohol Abuse* 20:101-113, 1994)

Denise Szczucki (M.D., Penn State), 1991-93, (Szczucki D, Galanter M, Lifshutz H, Hoven C, Moore R: Drug use and psychiatric hospitalization among the homeless. *Am J Addict* 3:115-121, 1994)

Steven Katz, (M.D., NYS/Sackler School), 1991-93, (Katz S, Galanter M, Lifshutz H, Maslansky R: The impact on behavior of notifying methadone patients of their serostatus. *Am J Alcohol Drug Abuse* 21:37-46, 1995)

Jennifer Goldstein-Michaels, (M.D., NYU School of Medicine), 1991-93, (Michaels J, Galanter M, Resnick R, Marmor M, Lifshutz H, Perrone R: Community-based heroin addicts who turn to experimental treatment rather than conventional care. *J Addict Dis* 14:33-42, 1995)

Laurence Westreich (M.D., University of Minnesota), 1992-94, (Westreich L: A modified therapeutic community for the dually diagnosed. *J Subst Abuse Treat* 13:1-4, 1997)

Jorge Leal, (M.D., NY Medical College), 1992-94, (Leal J, Galanter M: The use of contingency contracting to improve outcome in methadone maintenance. *J Subst Abuse Treat* 16:155-167, 1995)

Lisa Goldfarb, (M.D., Columbia), 1993-95, (Goldfarb L, Galanter M, McDowell D, Lifshutz H, Dermatis H: Medical student and patient attitudes toward religion and spirituality in the recovery process. *Am J Drug Alcohol Abuse* 22:549-561, 1996)

David McDowell, (M.D., Columbia), 1993-95, (McDowell D, Galanter M, Goldfarb L, Lifshutz H: Spirituality and the treatment of the dually diagnosed: an investigation of patient and staff attitudes. *J Addict Dis* 15:55-68, 1996)

Robert Stockfish, (M.D., UMD New Jersey), 1993-95, (Stockfish R, Galanter M, Lifshutz H: Trends in dual diagnosis patients. *Am J Addict* 4:355-356, 1995)

Daniel Mierlak, (M.D., Ph.D., SUNY), 1995-97, (Mierlak D, Galanter M, Spivack N, Dermatis H, Jurewicz E, De Leon G: Modified therapeutic community treatment for homeless dual diagnosed men: who completes treatment? *J Subst Abuse Treat* 15:117-121, 1998)

Steven Taylor, (M.D., Howard), 1994-95, (Taylor SM, Galanter M, Dermatis H, Spivak N, Egelko S: Dual diagnosed patients in the modified therapeutic community: does a criminal history compromise adjustment to treatment? *J Addict Dis* 16:32-38, 1997)

David Krakow, (M.D., Hahnemann University), 1996, (Krakow DS, Galanter M, Dermatis H, Westreich LM: HIV risk factors in dually diagnosed patients. *Am J Addict* 7:74-80, 1998)

Tania Taubes, (M.D., Cornell), 1995-97, (Taubes T, Galanter M, Dermatis H, Westreich L: Crack cocaine and schizophrenia as risk factors for PPD reactivity in the dually diagnosed. *J Addict Dis* 17:63-74, 1998)

Daniel Leal, (M.D., University of Texas), 1995-97, (Leal D, Galanter M, Dermatis H, Westreich L: Correlates of protracted homelessness in a sample of dually diagnosed psychiatric inpatients. *J Subst Abuse Treat* 16:143-147, 1999)

Gopa Panikkar (M.D., Liaison Psychiatry Fellow, University of Maryland), 1997-98, (Panikkar G, Gilman S: Valproate induced hyperammonemia in the psychiatric setting. Two cases. *J Clin Psychiatry*, 60:557-559, 1999)

Marianne Guschwan (M.D., Loyola University), 1998-00, (Dermatis H, Guschwan M, Galanter M, Bunt G): Orientation toward spirituality and self-help approaches in the therapeutic community. *J Addict Dis*, 23, 2004)

Mary Salke (M.D., Columbia University), 1998-00, (Dermatis H, Salke M, Galanter M, Bunt G: The role of social cohesion among residents in a therapeutic community. *J. Substance Abuse Treatment*, 21:105-110, 2001)

Aaron S. Metrikin (M.D., University of Johannesburg), 1997-99, (Metrikin AS, Galanter M, Dermatis H, Bunt G: Somatization, anxiety, and depression in a drug free residential therapeutic community. *Am J Addict* 12:60-70, 2002)

Stephen Gilman (M.D., University of Pittsburgh), 1998-00, (Gilman S, Galanter M, Dermatis H. Methadone Anonymous: a 12 step program for methadone maintained heroin addicts. *J Subst Abuse Treat* 22:247-256, 2001)

Samuel Glazer (M.D., Cornell), 1998-00, (Glazer SS, Galanter M, Megwinoff O, Dermatis H, Keller DS: The role of therapeutic alliance in network therapy, a family and peer support-based treatment for cocaine abuse. *Subst Abuse* 24:93-100, 2003)

Petros Levounis (M.D., Medical College Pennsylvania), 1998-00, (Levounis P, Galanter M. Dermatis H, Hamowy A, De Leon G: Correlates of HIV transmission risk factors and considerations for interventions in homeless, chemically addicted and mentally ill patients. *J Addict Dis* 21:61-72, 2002)

Steven Lee (M.D., University of Pennsylvania), 1999-01, (Lee S, Galanter M, Dermatis H, McDowell D: Circuit parties and patterns of drug use in a subset of gay men. *J Addict Dis* 24:47-60, 2003)

Michael Sobel (M.D., NYU School of Medicine), 1999-01, (Sobel M, Galanter M, Dermatis H: Consultation on substance abuse patients in the general hospital)

Ramon Solhkah (M.D. NY Medical College), 1999-01, (Solhkah R, Galanter M, Dermatis H, Daly J, Bunt G: Spiritual orientation among adolescents in a drug-free residential therapeutic community. (*J Child Adolescent Subst Abuse*, *Am J Drug and Alcohol Abuse*, in press)

Peter Farol (M.D. Columbia University), 2000-02, (Farol P, Galanter M, Dermatis H: Client satisfaction in a residential modified therapeutic community program for dually diagnosed patients)

Lydia Fazio (M.D., Tufts University), 2000-02, (Fazio L, Galanter M, Dermatis H, Levounis P: Evaluation of medical student attitudes toward Alcoholics Anonymous. *Substance Abuse* 24:175-185, 2003)

Stephen Ross (M.D. UCLA School of Medicine), 2000-02, (Ross S, Dermatis H, Levounis P, Galanter M: A comparison between dually diagnosed inpatients with and without Axis II co-morbidity and relationship to treatment outcome. *Am J Drug Alcohol Abuse* 29:263-279, 2003)

Brealyn Sellers (M.D., University of Tennessee), 2001-03, (Sellers MB, Galanter M, Dermatis H, Nachbar M: Enhancing physicians' use of Alcoholics Anonymous: internet-based training. *J Addict Dis* 24: 77-86, 2005)

Marjorie Waldbaum (M.D., Albert Einstein College of Medicine), 2001-03, (Waldbaum M, Galanter M, Dermatis H, Greenberg W: A survey of addiction training in child and adolescent psychiatry residency programs. *Acad Psychiatry* 29:1-5, 2005)

Elizabeth Cho (M.D., University of Maryland), 2002-04 (Cho L, Dermatis H, Galanter M: Buprenorphine for heroin addicts: The issue of illicit opioid abuse during maintenance. *Substance Abuse* 27:1-2, 2006)

Romulo Aromin (M.D., University of Santo Tomas), 2002-04 (Aromin RA, Galanter M, Solhkah R, Dermatis H, Bunt G: Preference for spirituality and Twelve Step oriented approaches among adolescents in a residential therapeutic community. *J Addict Dis* 25: 89-96, 2006)

Mary Paizis (M.D., SUNY at Stonybrook School of Medicine), 2002-04 (Paizis M, Ross S, Dermatis H: Issues in treating patients with combined substance abuse and Axes I and II general psychiatric disorders. *Substance Abuse* 26(1):43-44, 2005)

Alexander Horowitz (M.D., Northwestern University), 2003-2005, (Horowitz A, Galanter M, Dermatis H, Franklin J: Use of and attitudes toward club drugs by medical students. *J Addictive Dis* 27:35-42, 2008)

Tina James (M.D. University of Louisville), 2003-2005, (Dermatis H, James T, Galanter M, Bunt G: Spiritual orientation and adaptation to therapeutic community treatment)

Michelle Widlitz (M.D. Sackler Medical School), 2003-2005, (Widlitz M, Dermatis H, Galanter M, Bunt G: Gang membership and subsequent engagement into a drug-free therapeutic community. *Subst Abuse* 28:33-40, 2007)

Indra Cidambi (M.D. Maimonides Hospital Center), 2004-2006, (Ross S, Cidambi I, Dermatis H, Weinstein J, Ziedonis D, Roth S, Galanter M: Music therapy: a novel motivational approach for dually diagnosed patients. *J Addictive Dis* 27:41-53, 2008)

Deborah Cano (M.D. University of Texas), 2004-2006, (Cano D, Dermatis H, Bunt G: Do Hispanic patients adapt as well to a residential therapeutic community as do members of other ethnic groups? *Subst Abuse* 30:79-80, 2009)

Aditi Shrikhande (M.D. Wayne State University) 2005-2007, (Shrikhande A, Dermatis H, Galanter M: The need for understanding the role of spirituality in twelve-step programs. *Subst Abuse* 29:1-3, 2008)

Benjamin Cheney (M.D. Temple University) 2005-2007, (Cheney B, Galanter M, Dermatis H, Ross S: Medical versus spiritual orientations: differential patient views toward recovery, in press)

Caroline Williams (M.D. Tufts University) 2005-2007, (Williams C, Galanter M, Dermatis H, Schwartz V: The importance of hopelessness among university students seeking psychiatric counseling. *Psychiatr Q* 79:311-319, 2008)

Tasha Morris (M.D. Columbia University), 2006-2007, (Morris T, Galanter M, Brooks J, Brooks D, Dermatis H: Predicting young adult alcohol dependence)

Mittsi Crossman (M.D. SUNY Downstate) 2006-2007, (Crossman M, Galanter M, Brooks J, Brooks D, Dermatis H:

The relationship between parental alcohol use, youth alcohol use, and youth psychological symptoms: a structural equation model)

Pablo Sanchez-Barranco (M.D. University of Seville) 2006-2007, (Sanchez-Barranco P, Galanter M, Dermatis H, McMahon C, Tracey K, LaGressa D: A pilot study on employing patients' spiritual orientation to cope with illness, presented October 13, 2007)

Patrick, Lisa (M.D., SUNY Downstate) 2007-2008

Shorter, Daryl (M.D., University of Illinois) 2007-2009

Chappin, Sean (M.D., Mt. Sinai) 2007-2009

McMenamin, Daniel (M.D., Cornell University) 2008-2010

Rottnek, Matthew (M.D., Mt. Sinai) 2008-2010

Warren, Matthew (M.D., Columbia) 2008-2010

Applications for Fellowship Training

Applications for fellowship positions should be addressed to Marc Galanter, M.D., (Professor of Psychiatry, NYU School of Medicine, 550 First Avenue, New York, NY 10016: Fax # 212-263-8285, marcgalanter@nyu.edu), preferably before November 1 of the year preceding the July 1 starting date of the fellowship. The application should include a letter indicating the physician's interest, and a curriculum vitae. Two letters of recommendation should be forwarded by residency teaching faculty at the same time, one of them should come from the applicant's training director.

Training Programs in Psychology

The Division conducts a number of training programs for psychologists (Ilene Cohen, Ph.D.). At the most junior level, a *Research Assistant Program* is a training opportunity offered to students matriculated in either undergraduate or graduate (M.A. or Ph.D.) psychology programs, who are seeking a supervised experience in a clinical research setting.

The *Externship Program* provides part-time training for second and third year graduate students matriculated in psychology doctoral programs, and is geared toward development of competence in psychological assessment.

An *Internship* rotation is part of the full-time pre-doctoral level training program of the Division of Psychology at the Medical School. The NYU-Bellevue internship is accredited by the American Psychological Association, and is offered to students matriculated in doctoral programs in Clinical and School Psychology.

Other Academic Activities

Divisional Grand Rounds is a monthly lecture series for visiting speakers of national prominence, and is open to all Medical Center staff. Other training seminars are directed at social work and counseling staff specifically. Additional specific programs include a variety of continuing medical education programs conducted in conjunction with the Medical Center. In addition programmatic involvement is carried out with several national, professional and scientific organizations in the addiction field, such as the American Academy of Addiction Psychiatry, the Association for Medical Education and Research in Substance Abuse, and the American Society on Addiction Medicine.

THE DEPARTMENT OF PSYCHIATRY

Clinical services at **Bellevue** originated in 1736 as part of New York City's "Public House of Correction, Workhouse and Poorhouse." A special unit for alcoholics was created in 1892, and a unit for housing the insane was opened in 1898. In 1985, the psychiatric units were transferred to a new Bellevue Hospital building. Bellevue's name, recognized around the world, is often thought to be synonymous with the hospital's psychiatric services because of the leading role they have played in the institution's development and in Academic Psychiatry nationally.

Affiliations are established throughout the state hospital system, in particular with the Nathan S. Kline Institute for Psychiatric Research, and Rockland, Manhattan, and Kirby Psychiatric Centers.

A collaboration with **Brookhaven National Laboratory** has resulted in research activity in positron emission tomography (PET). The Department has an affiliated **Psychoanalytic Institute** on its premises. In 1987, Robert Cancro, M.D., The Departmental Chair, established the Division of Alcoholism and Drug Abuse, directed by Dr. Galanter, within the Department, unifying existing teaching and research facilities and designating new ones. This represented a major initiative for the School of Medicine in research, teaching, and patient care.

THE SCHOOL OF MEDICINE

The history of the School of Medicine spans more than two centuries. Clinical instruction was started in Bellevue Hospital in 1847, and in 1861 Bellevue Hospital Medical College was founded when a College building was erected on the hospital grounds. The medical school became an integral part of New York University in 1898.

Most of the student teaching is carried out in the Bellevue Hospital Center, Tisch Hospital, and the NY Veterans Administration Hospital. Bellevue was founded in 1736, and is the oldest continuously operating hospital in the United States. The current facility is a modern 25-story building with 1,171 beds. Tisch University Hospital, opened in 1963, is an acute-care general hospital with 726 beds that admits patients from around the world. Another hospital that has

been integrated into the School of Medicine is the New York Veterans Administration Medical Center, an 851-bed general care facility located next to Bellevue Hospital Center.

The Nathan S. Kline Institute for Psychiatric Research conducts basic scientific, applied, and health service research. It is one of six World Health Organization Collaborating Centers in the United States.

SELECTED RECENT PUBLICATIONS

Aromin RA, Jr., Galanter M, Solhkhah R, Dermatis H, Bunt G. Preference for spirituality and twelve-step oriented approaches among adolescents in a residential therapeutic community. *J Addict Dis.* 2006; 25:89-96.

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Banko JL, Hou L, Poulin F, Sonenberg N, and Klann E. Regulation of eukaryotic initiation factor 4E by converging signaling pathways during metabotropic glutamate receptor-dependent long-term depression. *J. Neurosci.* 2006; 26:2167-2173.

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Brook DW, Saar NS, Brook JS. Earlier violent television exposure and later drug dependence. *Am J Addict.* 2008; 17(4):271-277.

Brook JS, Balka EB, Ning Y, Whiteman M, Finch SJ. Smoking involvement during adolescence among African Americans and Puerto Ricans: Risks to psychological and physical well-being in young adulthood. *Psychol Reports.* 2006; 99:421-438.

Brook JS, Ning Y, Brook DW. Personality risk factors associated with trajectories of tobacco use. *Am J Addict.* 2006; 15(6):426-433.

Brown LS, Kritz S, Goldsmith RJ, Bini EJ, Robinson J, Alderson D, Rotrosen J. Health services for HIV/AIDS, HCV, and sexually transmitted infections in substance abuse treatment programs. *Pub Health Reports.* 2007; 122:441.

Bruce RD, Altice FL, Gourevitch MN, Friedland GH. A review of pharmacokinetic drug interactions between opioid agonist therapy and antiretroviral medications: implications for clinical practice. *J Acq Immune Deficiency Syndr.* 2006; 41:563-572.

Cabeza de Vaca S, Kannan P, Pan Y, Jiang N, Sun Y, Carr KD. The adenosine A2a receptor agonist, CGS-21680, blocks excessive rearing, acquisition of wheel running, and increases nucleus accumbens CREB phosphorylation in chronically food-restricted rats. *Brain Res.* 2007; 1142:100-109.

Carr, KD. Food restriction: enhancing effects on drug reward and striatal cell signaling. *Physiol Behav.* 2007; 91:459-472.

Carr KD, Cabeza de Vaca S, Sun Y, Chau LS, Pan Y. Effects of the MEK inhibitor, SL-327, on rewarding, motor- and cellular-activating effects of d-amphetamine and SKF-82958, and their augmentation by food restriction. *Psychopharmacol.* September 3, 2008. Epub ahead of print.

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DIVISIONAL FACULTY

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NYU Medical School, Norman Sussman, M.D., Interim Chair

Faculty in the Department of Psychiatry and affiliated NYU faculty are listed here

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Judith S. Brook, Ph.D.
Kenneth Carr, Ph.D.
Marc Gourevitch, M.D. (Medicine & Psychiatry)
Adina Kalet (Medicine & Surgery)
Michael Marmor, Ph.D. (Environmental Medicine & Medicine)
Robert Maslansky, M.D. (Medicine)
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Ralph A. Nixon, Ph.D., M.D. (Psychiatry and Cell Biology)
John Rotrosen, M.D.
Eric J. Simon, Ph.D. (Psychiatry and Pharmacology)
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Scott Sherman (Medicine)
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The following faculty are Directors of the affiliated programs: Carol Bernstein, M.D. (Associate Professor of Psychiatry); Ze'ev Levin, M.D. (Director Residency Training); Ilene Cohen, Ph.D. (Clinical Associate Professor of Psychology); Marc Gourevitch, M.D. (Professor and Director of General Internal Medicine); Harold Koplewicz, M.D. (Professor, Director, Nathan Kline Institute, and Director of Child and Adolescent Psychiatry); Eugene Laska, Ph.D. (Research Professor; Epidemiology, NKI); Mary Anne Badaracco, M.D. (Professor of Psychiatry; Bellevue)