Faculty are available for consultation, training, and contractual projects.

IPR *faculty*
have established strong collaborative research ties with industry in the following ways:

- Preclinical and translational drug development research
- Pharmacodynamics of centrally acting drugs
- Pharmacogenetics of neuropsychiatric drugs
- Analytical and behavioral assay development for selecting lead compounds
- Animal models of psychiatric disorders

***To find out more** about collaborative research opportunities, find us on the web at:*

http://ipr.iupui.edu

Research funding sources include:

National Institute of Mental Health,
National Institute on Drug Abuse,
National Institute on Alcohol Abuse and Alcoholism,
National Institute on Aging,
Industry, and private foundations.

IPR

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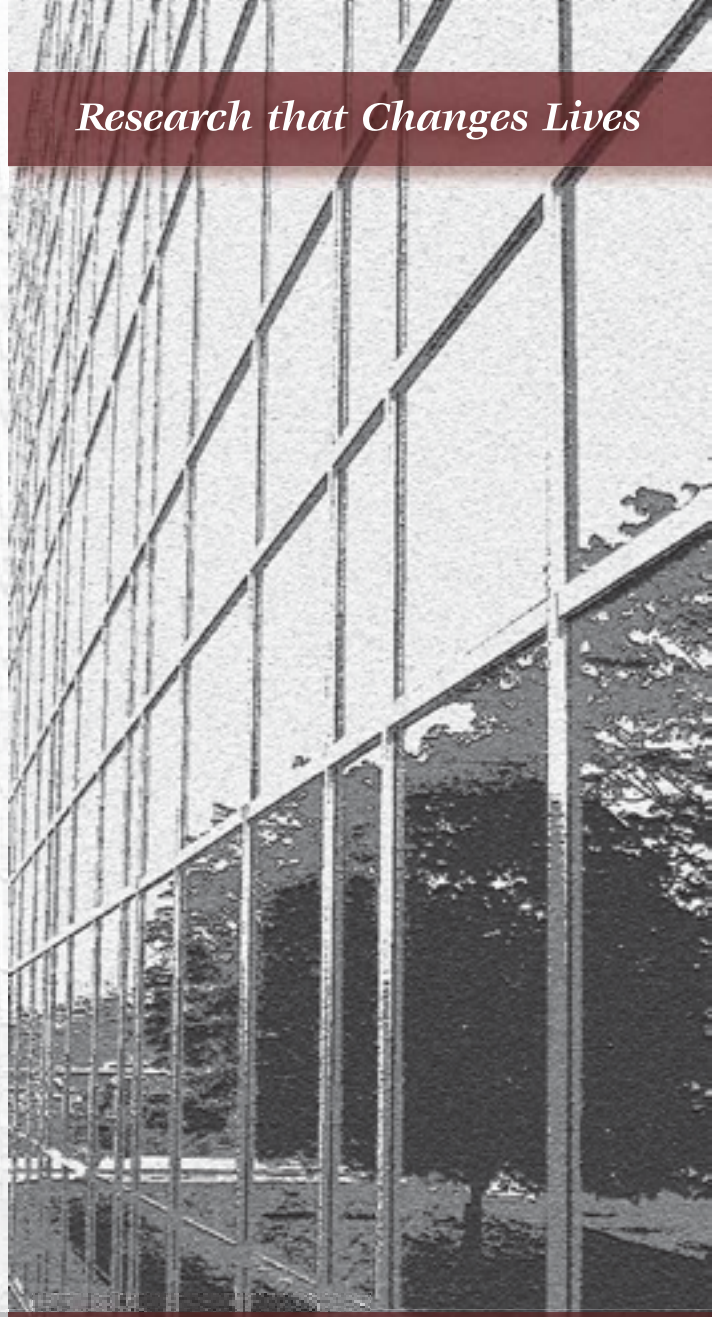
Research that Changes Lives



IPR

Institute of **P**sychiatric **R**esearch
Department of Psychiatry
Indiana University School of Medicine

IPR

Mission

The mission of the Institute of Psychiatric Research is to understand the neurobiological origins and treatment of psychiatric disorders and to communicate this understanding to all interested persons.

Research Experience

Since 1956, the IPR has been extending the boundaries of psychiatric research by demonstrating that glycine is a neurotransmitter, developing the serotonin hypothesis of depression, helping to establish the genetic and biochemical substrates of alcoholism, assembling the largest sample of bipolar disorder families for genetic studies, and developing an animal model of anxiety. In addition, IPR is home to journal editors for: *Psychiatric Genetics, Current Alzheimer Research, Journal of Autism and Developmental Disorders, Alcoholism: Clinical and Experimental Research.*

Research
that saves and reclaims lives – applying science to treatment.

Preclinical and Clinical Research and Methods

Addictions

Research that focuses on understanding the neurobiological and genetic determinants of substance abuse. Methods in humans: controlled settings for alcohol administration; EEG/ERP; neuroimaging (PET/fMRI); computerized alcohol administration; and candidate genes for alcoholism. Methods in genetic rodent models of alcoholism and animal models of cocaine and nicotine addiction: operant procedures; intracranial and intravenous self-administration; microdialysis; behavioral pharmacology; single-cell recording and microiontophoresis; EEG/ERP; computerized alcohol administration; genomics; proteomics; development of protocols to elicit specific patterns of drinking; and monitoring autonomic function.

Autism

Research into the genetics of autism and the development of animal models. Methods in humans: candidate gene studies. Methods in animals: models of social dysfunction co-morbid with aggression; immunohistochemistry; in-situ hybridization; receptor autoradiography; radioimmunoassay.

Neurodevelopmental Disorders

Investigations of psychiatric illnesses (autism, addictions, schizophrenia, mood disorders) as neurodevelopmental disorders. Methods: select brain lesioning in neonatal animals and characterizations of behavioral, physiological, molecular, biological and neurobiological development throughout the lifespan.

Anxiety Disorders

Investigations of the neural pathways involved in fear and anxiety. Methods: animal models of panic disorder, social anxiety and depression; in-situ hybridization; immunohistochemistry; monitoring autonomic function and behavioral activity.

Bipolar and Mood Disorders

Characterization of genes associated with bipolar disorder. Methods in humans: studies of clinical subtypes; identification of candidate genes; DNA sequencing; PCR genotyping; hybrid analysis of protein-protein interactions; neuropharmacogenomics; microarray gene expression; convergent functional genomics; phenochipping; neuroimaging. Methods in animal models: in-situ hybridization; immunohistochemistry; receptor autoradiography; radioimmunoassay; breeding studies and gene localization.

Schizophrenia

Investigations into the neurobiology of schizophrenia. Methods in animal models: gene expression; genomics; monitoring autonomic function and behavioral activity; intracerebral microinjection procedures; intravenous self-administration. Methods in humans: EEG/ERP.

Cognitive Disorders

Research focused on the mechanisms underlying degenerative diseases of the brain such as Alzheimer's disease, other dementias, and the pseudo-dementia of depression. Methods: specific drug development; evaluation of neuroprotective factors; neurocomputational modeling; receptor binding and membrane transport of neurotransmitters.

Circadian Rhythms and Sleep Disorders

Investigations of the genetic determinants of biological rhythms disrupted in psychiatric disorders. Methods: animal models; DNA sequencing; genomics; PCR genotyping; hybrid analysis of protein-protein interactions; molecular genetics and enzymology.

Faculty

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