

Lead Faculty

Kenneth Leonard, Ph.D.

Director, Research Institute on Addictions
Senior Research Scientist
Research Professor, Department of Psychiatry

Richard Rabin, Ph.D.

Professor
Department of Pharmacology & Toxicology

James Olson, Ph.D.

Director
Environmental Health Sciences Division
Professor
Department of Pharmacology & Toxicology
Social and Preventative Medicine

Marc Kiviniemi, Ph.D.

Assistant Professor
Department of Community Health & Health Behavior

Carl Li, M.D., M.P. H.

Research Assistant Professor
Department of Social & Preventative Medicine

Qing Ma, Ph.D.

Research Assistant Professor
Department of Pharmacy

Gene Morse, PharmD

Professor & Associate Director
Center of Excellence in Bioinformatics and
Life Sciences

Kate Rittenhouse-Olson, Ph.D.

Professor and Director
Biotechnology Program

Elizabeth Morsheimer

Coordinator of Pre-professional Advising
Student Advising Services

Explore, Discover, Engage

UB's Extension Learning Experiences are curricular-based intercession programs that allow you to explore the diversity of majors within broad career choices. The goal is to energize your relationship with UB by exposing you to academic, research, and professional opportunities in academic areas you previously may not have considered.

Participating Departments Student Advising Services

Elizabeth Morsheimer, Student Advising Services, will guide you through how to change your intended major and how to include undergraduate research in your chosen curriculum.

Career Services

The Office of Career Services provides services and resources to undergraduate, and graduate students, as well as alumni. Staff will be on hand to administer the StrengthsQuest assessment which helps students discover their talents and how best to achieve academic success.

Academic Programs and Degrees Relevant Undergraduate School Programs at UB

Biochemistry (BS)
Biotechnology (BS)
Pharmaceutical Sciences (BS)
Pharmacology and Toxicology (BS)
Sociology (BA)

Relevant Graduate School Programs at UB

Biochemistry (MA, PhD)
Biotechnology (MS)
Community Health & Health Behavior (PhD)
Pharmacology and Toxicology (MA, PhD, MD/PhD)
Epidemiology (MPH, MS, PhD)
Rehabilitation Counseling
Social Welfare (PhD)
Social Work (MSW)

Possible Careers

Recovery Coach
Case Manager
Detox Specialist
Clinical Supervisor
Substance Abuse/ Addictions Counselor
Researcher, and More!

Explorations of Health & Science Translational Research in Multidisciplinary Teams: From Bench to Bedside

Addressing Addiction with Collaborative Teams

May 19-24, 2013

Greiner Hall

University at Buffalo



Discovery
Seminar/
Extension
Learning
Experience

**UNDERGRADUATE
ACADEMIES**
A Living & Learning Community

About the Experience

You will explore health science careers within the framework of translational research and multidisciplinary teams in the area of substance abuse and addictions. The experience will help you find the appropriate major, graduate programs, and career for your passions. You will have the opportunity to learn first-hand the potential of health and science related disciplines as pathways to interesting and fulfilling careers. Students will earn an opportunity to directly in a small-group format with faculty in health science departments.

Why Should You Participate?

- Work closely with faculty in the health sciences fields
- Develop a clear path to educational programs that includes hands-on research training
- Gain new insights into how a career in health science research can be pursued while completing your degree at UB
- Learn about career pathways that are being developed today and will be “jobs of the future”
- Appreciate how undergraduate research experiences may strengthen your application to research-oriented undergraduate and graduate programs

Excursions Include:

Research Institute on Addictions (RIA)

RIA is a research center of the University at Buffalo and a national leader in the study of alcohol and substance abuse issues. RIA's research programs, most of which have multiple year funding, are supported by federal and private foundation grants.

Center of Excellence in Bioinformatics and Life Sciences (COE)

The mission of the CoE is to study the mechanistic processes involved in human disease with the goal of developing diagnostics tools and therapeutic interventions, preventative treatment and other disease management devices and processes to improve the health and well-being of the population. This scientific mission is balanced by the responsibility to act as a facilitator of economic development in Upstate New York via partnerships with government, academia and industry. Faculty in the CoE Translational Pharmacology Research Core conduct innovative research using new laboratory instrumentation such as ultra performance liquid chromatography and mass spectrometry to measure drugs in patients with HIV infection and substance addiction.

Experience Schedule

STUDENTS WILL RESIDE IN GREINER HALL, AND MUST COMMIT TO PARTICIPATE IN THE ENTIRE EXPERIENCE. LECTURES AND EXPERIENTIAL LEARNING WILL TAKE PLACE BOTH ON AND OFF CAMPUS. TRANSPORTATION WILL BE PROVIDED TO AND FROM THE EXPERIENCE SITE(S).

Sunday, 5/19/13: Students arrive at Greiner Hall. Welcome dinner and introduction.

Monday, 5/20/13: The program begins with an orientation to the experience and a review of expectations. A broad overview of the concepts associated with substance abuse and addiction will also be given. This will be followed by a presentation titled: “Understanding the Mechanism of Action of Abused Substances: From single molecules to whole animals,” presented by the Department of Pharmacology & Toxicology. In this session students will be introduced to the molecular approach to the topic of substance abuse as well as animal and human behavior.

Tuesday 5/21/13: This session will address the issues of substance abuse in the context of public health. Presentations will be given by the Departments of Community Health & Health Behavior, Geography, and Social and Preventive Medicine.

Mrs. Carol Golyski will address the audience about how alcohol and drugs of abuse are detected in the clinical laboratory. She will highlight the role of the medical technologist in determining if the patient is using drugs of abuse. She will also describe different methods of drug and adulterant detection. Dr. Kate Rittenhouse-Olson will describe the pluses and minuses of a cutting edge application of biotechnology to the problems of drug abuse- vaccines to block the function of the drug. After this type of vaccination the drug use would no longer make the addict high.

Wednesday 5/22/13: Dr. Kenneth Leonard from RIA will address students on how we study the etiology of substance abuse and the effectiveness of substance abuse treatment approaches. Students will observe recordings of experimental and developmental studies focusing on the causes of substance use. Additionally they will see a demonstration of human neuropsychological research.

Thursday, 5/23/13: Smoking and the use of Central Nervous System (CNS) medications in HIV-infected patients with substance-related disorders, presented by Dr. Qing Ma, Translational Pharmacology Research Core. Dr. Ma will discuss the common substance-related disorders including smoking that occur in individuals with HIV infection. Dr. Ma will also present an undergraduate research project that was completed at the CoE investigated cigarette smoking effects on CNS medication use in HIV-infected patients with substance-related disorders.

Friday 5/24/13: A panel discussion will be held for students focusing on different career paths to the professions. UB Student Advising Services staff will discuss practical steps to selecting relevant majors for the careers discussed. Additionally, UB Career Services staff will administer the StrengthsQuest assessment and discuss how it applies to major, and career exploration.

Post-Experience Discovery Seminar Want to Learn More?

Professor Leonard will teach a Discovery Seminar in the fall of 2013. This seminar focuses on what social and biomedical research tells us about alcohol and other drug use and addiction, and will help students identify the myths, the realities, and the unknowns with respect to the use of these substances. The team of faculty at RIA includes neuroscientists, psychologists, and sociologists with active research in alcohol/drug use and its impact on individual health and behavior, as well as on society as a whole.

Professor Gene Morse and Qing Ma will lead a Discovery Seminar in spring 2014 titled Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches. Gain an appreciation for common diseases, diagnostic tests and medical treatments. Discuss limitations to certain diagnostic tests and new genomic tests and biomarkers that provide more individualized treatment. Discuss drug discovery and the process that leads to widespread availability of new medications. Identify methods of using information from the human genome project to develop new diagnostic tests, discover new medicines and genomic tests that are used with medications.

Who should participate:

Rising sophomores, juniors and seniors with a minimum GPA of 2.8. No pre-requisites or special skills are necessary. Students in the following majors may be interested in this program: biochemistry, biomedical science, pharmacology & toxicology, biotechnology, nuclear medical technology, nursing, exercise science, and other health science or biomedical fields. Students who are intended toward pre-health programs or organizations would also benefit from this program.

Registration Process:

Students will be able to participate by paying the program fee. Students may elect to receive academic credit for the experience subject to additional tuition & fees associated with summer tuition. All students will receive a letter and certificate of completion.

Application Due Date: May 1, 2013
Program Fee: \$ 590.00

For More Information:

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