



**University at Buffalo**  
The State University of New York

School of Pharmacy and Pharmaceutical Sciences  
Faculty of Health Sciences

## *Neuropharmacokinetics / Neuropharmacodynamics* *A Day Long Workshop: May 12, 2003* **Concepts and Applications**

### COURSE OUTLINE

The 1990's were named "The Decade of the Brain" in recognition of the advances in central nervous system (CNS) research. Population demographics, better health care and longevity have promoted increased research and development efforts to identify new treatments for central nervous system disorders. Recent advances in understanding the mechanisms of drug distribution into and out of the central nervous system has redefined concepts of the blood-brain and blood-cerebrospinal fluid barrier. Moreover, significant progress has been made in the techniques to measure central nervous system drug distribution and neuropharmacological effects. The application of pharmacokinetic – pharmacodynamic concepts to neuroactive drugs can provide useful information for drug therapeutics and drug development. This workshop will deal with the experimental techniques and applications of neuropharmacokinetic / neuropharmacodynamic approaches, with an emphasis on those approaches that are widely used for drug discovery and development.

**Who should attend:** Students, faculty, industrial scientists who have little or some basic knowledge of the CNS and/or those who wish to learn about neuropharmacokinetic / neuropharmacodynamic drug development approaches for CNS drugs.

**Subjects that will be discussed include:**

**Overview of the Barriers of the Central Nervous System: Why drug delivery to the CNS can be challenging**

**Experimental Preclinical Approaches to Assess Drug Distribution into the Central Nervous System**

**Part I: In Vitro Techniques**

**Part II: In Vivo Techniques**

**Neuropharmacokinetic – Neuropharmacodynamic Approaches: Integrated Preclinical Systems**

**Clinical CNS Imaging Approaches: Neuropharmacokinetic - Neuropharmacodynamic Tools**

### Workshop Leaders

**Kathleen MK Boje, Ph.D.**

Dr. Boje is Associate Professor, Vice Chair and Director of the Pharmaceutical Sciences Undergraduate Program at the School of Pharmacy and Pharmaceutical Sciences, University at Buffalo. Her research interests include the mechanisms and therapy of neuroinflammatory diseases; blood-brain barrier transport of drugs; the neuropharmacology, pharmacokinetics and pharmacodynamics of drugs acting central nervous system; and the pedagogical effectiveness of emerging educational technologies. She has received research funding from the National Institutes of Health and curriculum development funding from The Procter & Gamble Foundation. She has authored 32 papers, 8 book chapters and 2 educational case studies. She currently serves as a member of the NIH SBIR Brain Diseases and Clinical Neurosciences Study Section.

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**Jean-Michel Scherrmann, Pharm. D., Ph.D.**

Dr. Scherrmann is Professor and Chair, Dept. Clinical Pharmacy & Pharmacokinetics, Faculty of Pharmacy, The University of Paris 5. He currently leads the Neuropharmacokinetic Unit at the French Institute of Health and Medical Research (INSERM). Dr Scherrmann has made major contributions in the development of drug radioimmunoassay, drug detoxification by immunotherapy and drug redistribution concepts in pharmacokinetics. His current research is on the role of drug transporters in drug delivery strategies to the brain. He has published over 270 papers, 35 book chapters and holds 2 patents. He is a recipient of the 1999 French National Academy of Medicine Achievement Award and the 2002 Fellow Award of the American Association of Pharmaceutical Scientists.

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**Edward M. Bednarczyk, Pharm.D.**

Dr. Bednarczyk is Clinical Associate Professor of the Dept of Pharmacy Practice, School of Pharmacy and Pharmaceutical Sciences, and Research Assistant Professor, Dept. of Nuclear Medicine, School of Medicine & Biomedical Sciences, University at Buffalo. He is a Positron Emission Tomography (PET) Pharmacologist for the Center for Positron Emission Tomography. He is the Director of Division of Research and Development for the Dept of Nuclear Medicine. His research is focussed on nuclear pharmacy with an emphasis on the use of PET as a clinical and research tool. He has authored over 18 clinical and scientific papers. He currently teaches the concepts and applications of PET pharmacokinetics and clinical medical imaging.

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# REGISTRATION INFORMATION

**Course location:** The course will be held at the University at Buffalo, 508 Cooke Hall, North (Amherst) Campus.

**Hotels:** University Inn & Conference Center, 2401 N. Forest Road, Amherst, New York 14226-0823, U.S.A. Phone: (716) 636-7500. Fax: (716) 636-8296. The Conference Center is 10 min from Buffalo International Airport and adjacent to the campus. The room rate is ~\$68/day.

**Fee:** Individual fee: No charge for UB students, faculty and staff; \$75 for Non-UB students; \$150 for faculty, industry and government employees. This includes course handouts and light refreshments. Lunch can be purchased from the various campus food courts.

**Registration:** Please register ASAP in view of the limited course capacity of 25 participants. Confirmation of registration will be returned upon receipt, together with an invoice for the course fee. Registration will not be final until payment is received. (NOTE: UB affiliated attendees must register even though the fee is waived).

**Cancellations:** Cancellations with a full refund may be made until May 1, 2003. No refund is possible on cancellations received after this date. Substitutions may be made at any time. The organization reserves the right to cancel the course should the number of registrations be lower than 10.

**Payment:** University at Buffalo Foundation Inc. Checks and credit card payments are accepted.



## Course Outline

### Monday, May 12

8:30- 10:00	Overview of the Barriers of the Central Nervous System: Why drug delivery to the CNS can be challenging. (Dr. Boje)
10:00-10:20	Break
10:20-12:00	Experimental Preclinical Approaches to Assess Drug Distribution into the CNS: Part I: In Vitro Techniques (Dr.Scherrmann)
12:00- 1:00	Lunch
1:00- 2:30	Experimental Preclinical Approaches to Assess Drug Distribution into the CNS: Part II: In Vivo Techniques (Dr.Scherrmann)
2:30-2:50	Break
2:50-4:00	Neuropharmacokinetic – Neuropharmacodynamic Approaches: Integrated Preclinical Systems (Dr. Boje)
4:00-5:30	Clinical CNS Imaging Approaches (Dr. Bednarczyk)
5:30 - ????	Happy Hour - To Be Announced

### REGISTRATION FORM: Neuropharmacokinetic-Neurpharmacodynamic Workshop, May 12, 2003.

Name \_\_\_\_\_ Title \_\_\_\_\_ Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Country \_\_\_\_\_ Postal Code \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Please return to: NPK/NPD Workshop, H519 Hochstetter Hall, Department of Pharmaceutical Sciences, School of Pharmacy, University at Buffalo, Buffalo, NY 14260, Phone: 716 645 2842, ext. 241; Fax: 716 645 3693. Email: boje@buffalo.edu