



BMSR
Short Course

University of Southern California
Biomedical Simulations
Resource (BMSR)

Integrative Models of Respiration



Short Course on
**Integrative Models
of Respiration**

June 10-11, 2001

Organized by
Michael C.K. Khoo, Ph. D.

supported by



**National Center for
Research Resources**

Marina Beach Marriott
4100 Admiralty Way
Marina Del Rey, CA 90292



June 10-11,2001

**THE
BMSR**

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Short Course Schedule

Sunday- June 10, 2001

8:00–8:30 *Registration*

8:30–8:45 *Introduction and Overview (M.C.K. Khoo)*

MORNING SESSION

MODELS OF VENTILATORY CONTROL -PAST, PRESENT AND FUTURE

8:45-9:35 *Modeling Chemoreflex Responses: Cerebral Blood Flow Effects*
(Z. Topor)

9:35-10:25 *Modeling State & Behavioral Effects on Respiration*
(G. Longobardo & N. Cherniack)

10:25-10:45 *Coffee Break*

10:45-11:35 *Modeling Complex Systems: The Upper Airway*
(J. E. Remmers)

11:35-12:00 *Discussion*

12:00–1:30 *Lunch*

AFTERNOON SESSION

MODELS OF BREATH PATTERN GENERATION

1:30-2:20 *Hypercapnia, Hypoxia, and the Respiratory Pattern*
(P. Robbins)

2:20-3:10 *Models of the Respiratory Rhythm Generating Kernel*
(R. Butera)

3:10-3:30 *Coffee Break*

3:30-4:20 *The Hybrid Pacemaker-Network Model for Respiratory Rhythm and Pattern Generation in Mammals*
(J.C. Smith)

4:20-5:10 *Modeling Plasticity in Respiratory Control*
(C.-S. Poon)

5:10-5:35 *Discussion*

6:00-7:30 *Reception*

Short Course Schedule

Monday- June 11, 2001

MORNING SESSION

SIMULATION ISSUES

- 8:30-9:20** *PNEUMA: A Simulink-Based Toolbox Approach*
(M.C.K. Khoo & H. Fan)
- 9:20-10:10** *Simulation of Respiratory Control Using LabVIEW*
(J. Duffin)
- 10:10-10:30** *Coffee Break*
- 10:30-11:30** *Large Scale Simulation: The Cardiome and Proposed Lung Physiome*
(P. Hunter & M. Tawhai)
- 11:30-1:00** *Lunch*

AFTERNOON SESSION

- 1:00-4:00** *Simulation Demos & Hands-On Computer Modeling Session*
- 4:00-5:00** *General Discussion: Where do we go from here? (M.C.K. Khoo)*

Biomedical Simulations Resource (BMSR)
University of Southern California

Annual Short Course

Integrative Models of Respiration

June 10-11, 2001
Marina Beach Marriott
Marina del Rey, California

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