

*\* In the Name of God \**

**Department of Physiology  
The Medical School  
Shiraz University of Medical Sciences**

**ADVANCED NEW TOPICS IN CELL PHYSIOLOGY  
(Ph.D. in Physiology)**

**1<sup>st</sup> Semester (1399-1400)**

**Time & Place = Wednesday 9 – 12; Ph.D. Classroom**

<u>Date</u>	<u>Title</u>	<u>Lecturer</u>
	Diffusion & Osmosis (B&L-92 = 6-13 + S= 113-117 + A= 674-675 + Article)	M.H
	Protein-Mediated Transport (I)	M.V
	Protein-Mediated Transport (II)	M.V
	Resting Membrane Potential (I) (K= 125-135 + S= 121-132)	M.H
	Resting Membrane Potential (II) (S= 132-145 + K=136-139)	M.H
	Cable Properties and Propagation of Action Potential (I)	A.Z
	Cable Properties and Propagation of Action Potential (II)	A.Z
	Electrogenesis of Membrane + Voltage-Gated Ion Channels (I) (K= 105-112, 118-123 + S= 352-55, 388-94, 402-07 + A= 671-674)	M.H
	Electrogenesis of Membrane + Voltage-Gated Ion Channels (II) (S= 359-360, 395-402, + F= 195-207, 208-233)	"
	Electrogenesis of Membrane + Voltage-Gated Ion Channels (III) (S = 345-352 + 355-359, 360-364)	"
	Patch Clamp Techniques (S=364-7, 369-381 + Article)	"

	Ligand-Gated Ion Channels Synaptic Transmission	A.Z "
	Excitation-Secretion Coupling	"
	Muscle Contraction (I)	M.V
	Muscle Contraction (II)	"
	Muscle Contraction (III)	"

**Abbreviations:**

M.V = Dr M. Varedi

A.Z = Dr A. Zarifkar

M.H= Dr M. Haghani

**References:**

S= Cell Physiology Source Book (2012) by N.Sperelakis

K= Principles of Neural Science (2000) by E.R. Kandel, *et al*

B&L= Physiology (2010) by R.M. Berne & M.N. Levy

F= Molecular and Cellular Physiology of Neurons (1999) by G.L. Fain

A= Molecular Biology of the Cell (2008) by B. Alberts, *et al*