

ICM6012: Cellular and Molecular Neuroscience

Academic year 2015-2016

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38 items

SELECTED REFERENCES (mainly for the first segment of the module) (24 items)

From neuron to brain - John G. Nicholls, c2012

[Book](#) | Cellular & Molecular References 2015-2016

Introduction to membrane biophysics and the molecular basis of excitability

From neuron to brain - John G. Nicholls, 2001

[Book](#) | Cellular & Molecular References 2015-2016 Introduction to membrane biophysics and the molecular basis of excitability

Principles of neural science - Eric R. Kandel, James H. Schwartz, Thomas M. Jessell, c2000

[Book](#) | Cellular & Molecular References 2015-2016 Chapters on ion channels, membrane potentials and action potentials.

Principles of neural science - Eric R. Kandel, James H. Schwartz, Thomas M. Jessell, c2000

[Book](#) | Cellular & Molecular References 2015-2016 Chapters on ion channels, membrane potentials and action potentials.

The neuron: cell and molecular biology - Irwin B. Levitan, Leonard K. Kaczmarek, 2002

[Book](#) | Cellular & Molecular References 2015-2016 Chapters on ion channels, membrane potentials and action potentials.

Neuroscience - Dale Purves, J Augustine, George, David Fitzpatrick, C Hall, William, Anthony-Samuel LaMantia, E White, Leonard, c2012

[Book](#) | Cellular & Molecular References 2015-2016

Ion channels, and the electrical properties of excitable cells

Ion channels of excitable membranes - Bertil Hille, c2001

[Book](#) | Cellular & Molecular References 2015-2016

For a detailed look at ion channel function. see chapter 2, classical biophysics of the squid giant axon. Also, chapter 3 the superfamily of voltage-gated channels

The synaptic organization of the brain - Gordon M. Shepherd, 1998

[Book](#) | Cellular & Molecular References 2015-2016

For a more detailed look at the synapse, functional architecture in the nervous system and circuitry

Neurons & glia seminar (10 items)

The discovery of the neuron | Mo Costandi

[Webpage](#) | ICM6012 Cellular & Molecular

Neurons & Glia seminar

Nociceptive and thermoreceptive lamina I neurons are anatomically distinct

[Webpage](#) | ICM6012 Cellular & Molecular

Neurons & glia seminar

Sabbatini, R.M.E.: Neurons and Synapses: The History

[Webpage](#) | ICM6012 Cellular & Neuroscience

Neurons & Glia seminar

Buhl, Halasy & Somogyi (1994) Diverse sources of hippocampal unitary inhibitory postsynaptic potentials and the number of synaptic release sites. Nature 368: 823-828

[Article](#) | ICM6012 Cellular & Molecular Neuroscience

Neurons & Glia seminar

Nicoll, RA (1994) Cajal's rational psychology. Nature 368: 808 (View on Buhl et al paper)

[Article](#) | ICM6012 Cellular & Molecular Neuroscience

Neurons & glia seminar

Neuroscience thinks big (and collaboratively) - Eric R. Kandel, Henry Markram, Paul M. Matthews, Rafael Yuste, Christof Koch, 2013-8-20

[Article](#) | ICM6012 Cellular & Molecular

Neurons & glia seminar

A technicolour approach to the connectome.

[Article](#) | ICM6012 Cellular & Molecular

Neurons & Glia seminar

The Neuron Doctrine, Redux - Theodore H. Bullock, Michael V. L. Bennett, Daniel Johnston, Robert Josephson, Eve Marder and R. Douglas Fields, 2005

[Article](#) | ICM6012 Cellular & Molecular

Neurons & glia seminar

Targeting glia cells: novel perspectives for the treatment of neuropsychiatric diseases

[Document](#) | ICM6012 Cellular & Molecular

Neurons & glia seminar

Integrated Brain Circuits: Astrocytic networks modulate neuronal activity and behavior

[Webpage](#) | ICM6012 Cellular & Molecular

Neurons & glia seminar

Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas (6 items)

Endoplasmic Reticulum, Protein Synthesis and Translocation Machinery - Nicchitta, Christopher, 2007

Article | ICM6012 Cellular & Molecular

Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

From molecules to networks: an introduction to cellular and molecular neuroscience - John H. Byrne, James Lewis Roberts, c2009

Book | ICM6012 Cellular & Molecular

Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

Role of Axonal Transport in Neurodegenerative Diseases -
[annurev.neuro.31.061307.090711](https://doi.org/10.1196/annurev.neuro.31.061307.090711)

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Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

Endoplasmic Reticulum, Protein Synthesis and Translocation Machinery - Nicchitta, Christopher, 2007

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Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

Synaptic Vesicle Exocytosis

Document | ICM6012 Cellular & Molecular

Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

Axonal transport deficits and neurodegenerative diseases - [nrn3380.pdf](#)

Document | ICM6012 Cellular & Molecular

Subcellular organisation in the nervous system - Dr. Joanna Riddoch-Contreas

ORINGINAL PAPERS - Some intriguing examples of voltage-gated ion channel function: (2 items)

Prediction of repetitive firing behaviour from voltage clamp data on an isolated neurone soma - J.A. Connor, C.F Stevens, February 1971

Article | Cellular & Molecular References 2015-2016 Some intriguing examples of voltage-gated ion channel function.

GTP-induced tetrodotoxin-resistant Na⁺ current regulates excitability in mouse and rat small diameter sensory neurones - Mark D. Baker, Sonia Y. Chandra, Yanning Ding, Stephen G. Waxman, John N. Wood, 2003-04

Article | Cellular & Molecular References 2015-2016 Some intriguing examples of

voltage-gated ion channel function.

ORINGINAL PAPERS - Some ion channel/cellular and network properties we will talk about on the course: (4 items)

Nociceptor-specific gene deletion reveals a major role for Nav1.7 (PN1) in acute and inflammatory pain - M. A. Nassar, L. C. Stirling, G. Forlani, M. D. Baker, E. A. Matthews, A. H. Dickenson, J. N. Wood, 2004-08-24

[Article](#) | Cellular & Molecular References 2015-2016 Some intriguing examples of voltage-gated ion channel function.

SCN9A Mutations in Paroxysmal Extreme Pain Disorder: Allelic Variants Underlie Distinct Channel Defects and Phenotypes - Caroline R. Fertleman, Mark D. Baker, Keith A. Parker, Sarah Moffatt, Frances V. Elmslie, Bjarke Abrahamsen, Johan Ostman, Norbert Klugbauer, John N. Wood, R. Mark Gardiner, Michele Rees, 2006-12

[Article](#) | Cellular & Molecular References 2015-2016 Some ion channel/cellular and network properties we will talk about on the course.

Painful Channels - William A. Catterall, Frank H. Yu, 2006-12

[Article](#) | Cellular & Molecular References 2015-2016 Some ion channel/cellular and network properties we will talk about on the course.

An SCN9A channelopathy causes congenital inability to experience pain - James J. Cox, Frank Reimann, Adeline K. Nicholas, Gemma Thornton, Emma Roberts, Kelly Springell, Gulshan Karbani, Hussain Jafri, Jovaria Mannan, Yasmin Raashid, Lihadh Al-Gazali, Henan Hamamy, Enza Maria Valente, Shaun Gorman, Richard Williams, Duncan P. McHale, John N. Wood, Fiona M. Gribble, C. Geoffrey Woods, 2006-12-14

[Article](#) | Cellular & Molecular References 2015-2016 Some ion channel/cellular and network properties we will talk about on the course.

ORINGINAL PAPERS - The entorhinal cortex/hippocampus involvement in allocentric spatial mapping: (3 items)

The hippocampus as a spatial map. Preliminary evidence from unit activity in the freely-moving rat - J. O'Keefe, J. Dostrovsky, 1971-11

[Article](#) | Cellular & Molecular References 2015-2016 The entorhinal cortex/hippocampus involvement in allocentric spatial mapping

Place units in the hippocampus of the freely moving rat - John O'Keefe, 1976-1

[Article](#) | Cellular & Molecular References 2015-2016 The entorhinal cortex/hippocampus involvement in allocentric spatial mapping

Spatial Representation in the Entorhinal Cortex - Marianne Fyhn, Sturla Molden, Menno P. Witter, Edvard I. Moser and May-Britt Moser, 2004

[Article](#) | Cellular & Molecular References 2015-2016 The entorhinal cortex/hippocampus involvement in allocentric spatial mapping

ORINGINAL PAPERS - Insights into the role of a partial cue in memory

retrieval: (1 items)

NMDA receptors, place cells and hippocampal spatial memory - Kazu Nakazawa, Thomas J. McHugh, Matthew A. Wilson, Susumu Tonegawa, 2004-5
[Article](#) | Cellular & Molecular References 2015-2016
Insights into the role of a partial cue in memory retrieval

ORINGINAL PAPERS - STEM CELLS (4 items)

Constitutive and induced neurogenesis in the adult mammalian brain: manipulation of endogenous precursors toward CNS repair. - PubMed - NCBI
[Article](#) | Cellular & Molecular References 2015-2016
Stem Cells

Neural Stem Cells: Progenitors or Panacea? - Corinna Klein, Gord Fishell, 2004
[Article](#) | Cellular & Molecular References 2015-2016
Stem Cells

Origins of Spinal Cord Oligodendrocytes: Possible Developmental and Evolutionary Relationships with Motor Neurons - W.D.D. Richardson, N.P. Pringle, W.-P. Yu, A.C. Hall, 1997
[Article](#) | Cellular & Molecular References 2015-2016
Stem Cells

Neural induction: old problem, new findings, yet more questions - C. D. Stern, 2005-03-23
[Article](#) | Cellular & Molecular References 2015-2016
Stem Cells