

580.625: Structure and Function of the Auditory and Vestibular Systems

Organizing Faculty: B.J. May, P.A. Fuchs

Summary: This course will cover a broad range of topics in hearing and balance. Faculty will give lectures and students will take turns leading a discussion on related research papers. Grades will be based on participation in discussions, a mock grant submission, and a take-home final examination.

Meeting Times: Tuesday and Thursday, 9:00 - 10:15 a.m. in 529 Ross Research Bldg. at the School of Medicine. An organizational meeting will be held at this location on Thursday, Sept. 3 at 9:00AM.

Course Materials: Most lectures will be given in the form of PowerPoint presentations. Annotated versions of these files will be posted on the webpage of the Center for Hearing and Balance on the afternoon of the lecture.

This course website can be accessed at: <http://www.strucfunc.com>

Course materials on the website are freely available to the public but have been downsampled to prevent their misuse. If you would like to incorporate any of this material in your own presentations, contact the responsible faculty member for permission and access to high-quality images.

For further information regarding the course contact Brad May at 614-1878 (email: bmay@jhu.edu)

Schedule of Lectures, Fall 2009

Sept. 3	Organizational meeting (May)
Sept. 8	Overview of the Auditory Periphery (Fuchs)
Sept. 10	Hair Cell Structure and Transduction (Glowatzki)
Sept. 15	Adaptation of Mechanotransduction, Feedback, and Tuning (Fuchs)
Sept. 17	Hair Cell Synaptic Transmission (Glowatzki)
Sept. 22	Structural Organization of the Ear (Deans)
Sept. 24	Mechanisms of Hair Cell Differentiation (Doetzlhofer)
Sept. 29	Cochlear Mechanics (Spector)
Oct. 1	Outer Hair Cell Electromotility and Active Force Production (Spector)
Oct. 6	Anatomy and Physiology of the Auditory Nerve (May)
Oct. 8	Anatomy and Physiology of the Ventral Cochlear Nucleus (Ryugo)
Oct. 13	Cochlear Anatomy Lab (Hiel, Francis)
Oct. 15	Anatomy and Physiology of the Dorsal Cochlear Nucleus (Ryugo)

Oct. 16	APAN (Chicago, IL)
Oct. 17 - 21	Society for Neuroscience (Chicago, IL)
Oct. 22	Sound Coding and Information Theory (Young)
Oct. 27	Physiology of Hearing Loss 1 (Young)
Oct. 29	Physiology of Hearing Loss 2 (Young)
Oct. 30	First grant submission due
Nov. 3	Clinical Perspectives on Hearing Loss (Niparko)
Nov. 5	Peripheral Vestibular System 1 (Carey)
Nov. 10	Peripheral Vestibular System 2 (Carey)
Nov. 12	Peripheral Vestibular System 3 (Della Santina)
Nov. 17	Common Vestibular Problems (Carey)
Nov. 19	Vestibular Efferents (Sadeghi)
Nov. 24	No Class
Nov. 25 – Nov. 29	Thanksgiving Vacation
Dec. 1	Effects of Olivocochlear Efferents on Cochlear Transduction (Fuchs)
Dec. 3	Effects of Olivocochlear Efferents on Hearing (May)
Dec. 7	Last Day of Classes
Dec. 8 - 10	Reading Period
Dec. 11	Revised grant submission due
Dec. 12 - 19	Final Examination Period Exams will be distributed on Friday, Dec. 11 and must be returned on Monday, Dec. 14