

Biology of the Inner Ear 2024 updated 08_02_2024

		WEEK 1						WEEK 2						WEEK 3						WRAP UP	DEPART				
		WE 7/31/24	TH 8/1/24	FR 8/2/24	SA 8/3/24	SU 8/4/24	MO 8/5/24	TU 8/6/24	WE 8/7/24	TH 8/8/24	FR 8/9/24	SA 8/10/24	SU 8/11/24	MO 8/12/24	TU 8/13/24	WE 8/14/24	TH 8/15/24	FR 8/16/24	SA 8/17/24	SU 8/18/24	MO 8/19/24	TU 8/20/24	WE 8/21/24	TH 8/22/24	
7:00	BREAKFAST																								
9:00	SEMINAR 1	students arrive	introductions & inner ear development				ototoxicity and regeneration	zebrafish lateral line	inner ear physiology				systems					unconventional hair cell models	hearing loss & repair		wrap up				
			Orientation	cochlear & vestibular intros	inner ear development	transduction, transmission and tuning in the inner ear				vestibular system	peripheral encoding		central encoding		Hereditary Hearing Loss & Treatment SMITH	GEMMA Boat Cruise [n=15] meet at MRC 9:00 am	Students present								
			MBL presentation - HYMAN Student Intros	Cochlear structure & function - RUTHERFORD	Inner ear development - GNEDEVA	Ototoxicity - COFFIN			Lateral Line development - KINDT	Tonotopy in cochlea - MANN	Hair cell transduction physiology - RICCI	Vestibular hair cells & synapses - EATOCK	Hair bundle amplification - SOTOMAYOR	Vestibular analysis of head motions - CULLEN			Development of auditory circuitry - BERGLES		Auditory nerve information - HUET	Processing of binaural disparities - JORIS	Auditory cortex - SADAGOPAN	Hair cell evolution - GROVES			
10:00	BREAK																								
10:00	SEMINAR 2	students depart	Sound - JORIS	Intro to Vestibular system - DICKMAN	Neuronal development & afferent innervation of the ear - COATE	Hair cell regeneration - GALE	Lateral Line function - SHEETS	Hair bundle structure-function - JB SHIN	Cochlear hair cell synapses - RUTHERFORD	Hair cell transduction channels and gating - SOTOMAYOR	OHC motility & Cochlear mechanics - VAN DER HEUIDEN	Vestibular disorders - WARD	Behavior - DENT	Structure-function in auditory brainstem - TRUSSELL	Midbrain circuits - APOSTOLIDES	Hearing loss / aging functional perspective - TOLLIN	Cephalopod Hair Cells - McDERMOTT	Gene Therapy - CUNNINGHAM	Stem Cells and Organoids - KOEHLER	Students present					
11:30	LUNCH																								
13:00	TUTORIALS		Chick inner ear - WARCHOL	Ggenetically modified mice - GROVES	Confocal Microscopy - ZEISS	Spiral ganglion - DABDOUB, COATE	Zebrafish labs - TRAPANI	Electron microscopy SEM and TEM - LYSAKOWSKI, GRILLET	CELL EPHYS lab intro - RICCI, VINCENT, ROBERTS	CELL EPHYS data collection, analysis - PENG, REUNTJES, SILVEIRA	CELL EPHYS 2: HC transduction - PENG & RICCI; inner ear transmission - VINCENT & REUNTJES; neuronal properties in auditory brain slice - ROBERTS & SILVEIRA	Vestibular lab tutorial - SADEGHI LB160	Cochlear prostheses - GOLDSWORTHY Loeb 374	Systems labs intro - JORIS	Evoked auditory responses - LAUER	Optical coherence tomography - VAN DER HEUIDEN	Invertebrate Hair Cells - GROVES, McDERMOTT	MRC TOUR 1:30 - 2:15	Seqing your inner ear - HELLER	MRC TOUR 1:30 - 2:15					
14:30	STRUCTURED LABS	Settle in; ID cards	Dissecting, immunostaining chick utricle - WARCHOL, DICKMAN, TAS	Dissecting, immunostaining neonatal mouse cochlea - GNEDEVA	Culturing, immunostaining, vibratome - GNEDEVA	Dissecting, culturing spiral ganglia - DABDOUB, COATE	Lateral Line projects - KINDT, SHEETS, TRAPANI, JIMENEZ	SEM & TEM labs - LYSAKOWSKI, GRILLET	CELL EPHYS 1: HC transduction - PENG & RICCI; inner ear transmission - VINCENT & REUNTJES; neuronal properties in auditory brain slice - ROBERTS & SILVEIRA	CELL EPHYS 2: HC transduction - PENG & RICCI; inner ear transmission - VINCENT & REUNTJES; neuronal properties in auditory brain slice - ROBERTS & SILVEIRA	Vestibular reflexes: labs / demos; SADEGHI, WARD, VERDONE, CULLEN	Cochlear implant - GOLDSWORTHY / OCT demo - VAN DER HEUIDEN	SYSTEMS 3: ABR/DPOAE - LAUER, VICENCO-JIMENEZ; in vivo gerbil nerve/CN - H-W LU; IC/CTX - BREMEN	SYSTEMS 2: ABR/DPOAE - LAUER, VICENCO-JIMENEZ; in vivo gerbil nerve/CN - H-W LU; IC/CTX - BREMEN	SYSTEMS 3: ABR/DPOAE - LAUER, VICENCO-JIMENEZ; in vivo gerbil nerve/CN - H-W LU; IC/CTX - BREMEN	Squid and tunicate Hair cells - GROVES, McDERMOTT	OPEN LAB	OPEN LAB	Students present						
16:00			Paint fills of the inner ear - WU	Paint Fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU	Paint fills of the inner ear - WU
18:00	DINNER	Welcome BBQ																			Student feedback	Farewell Dinner			
20:00	SPECIAL	FACULTY/ TA INTROS 1	FACULTY/ TA INTROS 2	Responsible Conduct of Research (RCR) 1: ANIMALS	DORIS WU - Development of the vestibular inner ear	ALLI COFFIN - Science communication	FACULTY/ TA INTROS 3	EDUARDO PEROZO - Comparative mechano-transduction	GOLDRING - Laser-based photomanipulation technology	MATLAB tutorial - BREMEN & VAN DER HEUIDEN	Career guidance - BREAK RM	DAWN NELSON - Vestibular symptoms and Sickle Cell Disease	PETER TYACK - Communication in whales	FACULTY/ TA INTROS 5	Responsible Conduct of Research (RCR) 2: PUBLISHING	NIK FRANCIS - Auditory cortex & Music	CAREER discussions/ student feedback BREAK Room	ALAIN DABDOUB - Strial development, function and disease							
21:00	OPEN LAB TIME	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	OPEN LAB	Students present	
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