

**Neurokemi med Molekylär Neurobiologi
(Neurochemistry with Molecular Neurobiology)**

31/8 - 2/11, 2020

KN7001

Lärare (teachers):

AU Anders Unden
A-LS Anna-Lena Ström
HN Henrietta Nielsen
AF Anna Forsby

Assistenter (Assistants):

AI Aram Ismail
AG Andreas Giannisis
FN Frida Niss
DT Dan Twohig
YJ Ylva Johansson

Lokaler (Place):

Zoom
C458: Heilbronnsalen
K340: KÖL Lab

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Day	Date	Time	Activity	Teacher	Place
W1					
Mån	31/8	9.30-12.00	Roll call and presentation of the course and course participants (obligatory)	All teachers and assistants	Zoom
		13.00-15.00	Introduction for students on the master's programme in neurochemistry	ALS	Zoom
Tis	1/9	9.30-12.00	Lecture 1: Neurons and glia cells	AU	Zoom
		13.00-15.00	Introduction to group exercises, labs, journal club and literature seminar (obligatory)	ALS/course assistants	Zoom
			Start of statistical analysis exercise assignment (obligatory for all)		
Ons KSB	2/9	9.30-12.00	Lecture 2: Organization of the nervous system	ALS	Zoom
		13.00-17.00	Neuroanatomy LAB, all groups (obligatory); introduction and handout of assignments	ALS	Zoom
Tor	3/9	9.30-12.00	Neuroanatomy LAB, all groups (obligatory); jigsaw group discussions	ALS	Zoom
		13.00-17.00	Neuroanatomy LAB, all groups (obligatory); Jigsaw group discussions	ALS	Zoom
Fre	4/9	9.30-12.00	Lecture 3: Electrical properties of membranes	AU	Zoom
		15.00	Outdoor picnic on campus (if weather allows)	ALS	Campus lawn
W2					
Mån	7/9	9.30-12.00	Lecture 4: Action potential	AU	Zoom

		13.00-17.00	MetaNeuron LAB; all groups (obligatory); introduction and hand-out of assignments	AF	Zoom
Tis	8/9	9.30-12.00	Lecture 5: Ion channels I	AU	Zoom
		13.00-17.00	MetaNeuron LAB; independent work with assignments		
Ons	9/9	9.30-12.00	Lecture 6: Ion channels II	AU	Zoom
		13.00-17.00	MetaNeuron LAB; independent work with assignments		
Tor	10/9	9.30-12.00	Lecture 7: Ion channels III	AU	Zoom
		13.00-17.00	MetaNeuron LAB; Group 1 and Group 2 (obligatory); Discussion of assignment results	AF	Zoom
Fre	11/9	9.30-12.00	Lecture 8: Release of neurotransmitters	AU	Zoom
		13.00-17.00	MetaNeuron LAB; Group 3 and Group 4 (obligatory); Discussion of assignment results	AF	Zoom
		17.00	Hand-out of short test I (Dugga I)		
W3					
Mån	14/9	9.30-12.00	MetaNeuron LAB; Group 5 and Group 6 (obligatory); Discussion of assignment results	AF	Zoom
		13.00-17.00	Complete and hand-in short test I (Dugga I)		
Tis	15/9	9.30-17.00	Receptor binding LAB; Group 1 (obligatory)	AI/AG/FN	C458/ K340
		9.30-12.00	Calcium LAB; Group 3, Group 5 and Group 6 (obligatory), introduction and hand-out of assignments	DT	Zoom
Ons	16/9	9.30-12.00	Lecture 9: Ligand-regulated ion channels	AU	Zoom
		13.00-17.00	Receptor binding LAB; Group 1	AI/AG/FN	Zoom

			(obligatory)		
Tor	17/9	9.30-17.00	Receptor binding LAB; Group 2 (obligatory)	AI/AG/FN	C458/ K340
Fre	18/9	9.30-12.00	Lecture 10: Ligand-regulated ion channels II	AU	Zoom
		13.00-17.00	Receptor binding LAB; Group 2 (obligatory)	AI/AG/FN	Zoom
W4					
Mån	21/9	9.30-12.00	Lecture 11: Ligand-regulated ion channels III	AU	Zoom
		13.00-17.00	Calcium LAB; Group 3 (obligatory), Discussion of assignment results	DT	Zoom
Tis	22/9	9.30-17.00	Receptor binding LAB; Group 4 (obligatory)	AI/AG/FN	C458/ K340
		9.30-12.00	Calcium LAB; Group 5 (obligatory), Discussion of assignment results	DT	
Ons SR	23/9	9.30-12.00	Lecture 12: Receptor kinetics	AU	Zoom
		13.00-17.00	Receptor binding LAB; Group 4 (obligatory)	AI/AG/FN	Zoom
		13.00-17.00	Calcium LAB; Group 6 (obligatory), Discussion of assignment results	DT	Zoom
Tor IS	24/9	9.30-17.00	Receptor binding LAB; Group 3 (obligatory)	AI/AG/FN	C458/ K340
		9.30-12.00	Calcium LAB; Group 1, Group 2 and Group 4 (obligatory), introduction and hand-out of assignments	DT	Zoom
Fre	25/9	9.30-12.00	Lecture 13: GPCRs and G-proteins	HN	Zoom
		12.00	Deadline to hand in statistical analysis exercise assignment (obligatory for all)		

		13.00-17.00	Receptor binding LAB; Group 3 (obligatory)	AI/AG/FN	Zoom
W5					
Mån	28/9	9.30-17.00	Receptor binding LAB; Group 5 (obligatory)	AI/AG/FN	C458/ K340
Tis	29/9	9.30-12.00	Lecture 14: Second messengers I	HN	Zoom
		13.00-17.00	Receptor binding LAB; Group 5 (obligatory)	AI/AG/FN	Zoom
Ons	30/9	9.30-17.00	Receptor binding LAB; Group 6 (obligatory)	AI/AG/FN	C458/ K340
		9.30-12.00	Calcium LAB; Group 1 (obligatory), Discussion of assignment results	DT	Zoom
		13.00-17.00	Calcium LAB; Group 2 (obligatory), Discussion of assignment results	DT	Zoom
Tor	1/10	9.30-11.00	Lecture 15: Second messengers II	HN	Zoom
		11.00-12.00	Statistical analysis exercise; discussion of assignment (obligatory for all)	HN	Zoom
		13.00-17.00	Receptor binding; Group 6 (obligatory)	AI/AG/FN	Zoom
		13.00-17.00	Calcium LAB; Group 4, Discussion of assignment results	DT	Zoom
Fre	2/10	9.30-12.00	Lecture 16: Protein kinases and phosphatases	ALS	Zoom
		13.00-17.00	Journal club introduction and article assignments, obligatory for all	ALS	Zoom
W6					
Mån	5/10	9.30-17.00	Prepare for Journal club		

Tis	6/10	9.30-12.00	Journal club, obligatory for all	ALS	Zoom
		13.00-17.00	Prepare for short test 2		
Ons	7/10	9.30-17.00	Prepare for short test 2		
Tor	8/10	9.30-12.00	Short-test 2	ALS	Zoom
		13.00-15.30	Lecture 17: Monoamines I	AU	Zoom
Fre	9/10	9.30-12.00	Lecture 18: Monoamines II	AU	Zoom
		13.00-17.00	IP3 inhibition LAB, groups 1 and 2 (obligatory)	YJ	Zoom
W7					
Mån	12/10	9.30-12.00	Lecture 19: Neuropharmacology and pathology I	AU	Zoom
		13.00-17.00	IP3 inhibition LAB, groups 3 and 4 (obligatory)	YJ	Zoom
Tis	13/10	9.30-12.00	Lecture 20: Neuropharmacology and pathology II	AU	Zoom
		13.00-17.00	IP3 inhibition LAB, groups 5 and 6 (obligatory)	YJ	Zoom
Ons	14/10	9.30-12.00	Lecture 21: LTP and Neurochemical aspects of pain	AU	Zoom
KSB		13.00-16.00	IP3 inhibition LAB, groups 1 and 2 (obligatory)	YJ	Zoom
Tor	15/10	9.30-12.00	IP3 inhibition LAB, groups 3 and 4 (obligatory)	YJ	Zoom
		13.00-17.00	Preparation of literature seminar		
Fre	16/10	9.30-12.00	Preparation of literature seminar		
		13.00-16.00	IP3 inhibition LAB, groups 5 and 6 (obligatory)	YJ	Zoom
W8					
Mån	19/10	9.30-12.00	Summary and discussion of all labs	AU/ALS/AF/	Zoom

		13.00-17.00	(obligatory) Preparation of literature seminar Abstract to Athena latest 16.00	AI/YJ	
Tis	20/10	9.30-16.00	Literature seminar preparation		
Ons	21/10	9.30-17.00	Literature seminars, group 1, 2, 3 (obligatory)	AU/ALS	Zoom
Tor	22/10	9.30-17.00	Literature seminars, groups 4, 5,6 (obligatory)	AU/ALS	Zoom
Fre	23/10		Self-tuition – preparation for exam		
W9					
Mån	26/10		Self-tuition – preparation for exam		
Tis	27/10	9.30-12.00	Q and A, review of previous exams Self-tuition – preparation for exam	AU/ALS	Zoom
Ons	28/10		Self-tuition – preparation for exam		
Tor IS	29/10		Self-tuition – preparation for exam		
Fre	30/10	9.30-14.00	Written exam		Zoom
Mån	2/11	9.30-12.00	Exam discussion and course evaluation (obligatory)	AU/ALS	Zoom