## MCC015 - Superconducting devices: fundamentals and applications

## **MPNAT - NANOTECHNOLOGY, MSC PROGR, Y2020-LP4**

Date	Lecture	Contents	Lecturer
	time&place		
Tuesday	1 <sup>st</sup>	Introduction to superconducting	Alexei Kalaboukhov
24/03	10:00-11:45	devices; electrodynamics of	
	MC2 Room C511	superconductors	
Friday	2 <sup>nd</sup>	Josephson effect I	Alexei Kalaboukhov
27/03	10:00-11:45	DC and AC Josephson effects	(1 home exercise)
	MC2 Room C511	1	
Tuesday	3 <sup>rd</sup>	Josephson effect II	Floriana Lombardi
31/03	10:00-11:45	magnetic field dependence,	
	MC2 Room C511	electromagnetic field in a junction	
Friday	4 <sup>th</sup>	Josephson effect III	Floriana Lombardi
03/04	10:00-11:45	magnetic field dependence,	
	MC2 Room C511	electromagnetic field in a junction	
Friday	5 <sup>th</sup>	Josephson effect IV	Floriana Lombardi
17/04	10:00-11:45	RCSJ model	(1 home exercise)
	MC2 Room C511	1000 model	(I HOME CACICISE)
Tuesday	6th	Josephson effect VI	Alexei Kalaboukhov
21/04	10:00-11:45	SFS and Pi-junctions, fabrication	7 Hexer Raidoukilov
	MC2 Room C511	technology	
Friday	7 <sup>th</sup>	SQUIDs I	Alexei Kalaboukhov
24/04	10:00-11:45	SQUIDST	Alexel Kalaboukilov
24/04	MC2 Room C511		
Tuesday	8 <sup>th</sup>	SQUIDs II	Alexei Kalaboukhov
28/04	10:00-11:45	SQUIDS II	(1 Home exercise)
	MC2 Room A820		(1 Home exercise)
Tuesday	9th	Single electron devices	Per Delsing
05/05	10:00-11:45	Single election devices	Ter Beising
	MC2 Room C511		
Friday	10 <sup>th</sup>	Superconducting qubits	Per Delsing
08/05	10:00-11:45	Superconducting quoits	(1 Home exercise)
06/03			(1 Home exercise)
Tuesday	MC2 Room C511	Reserved Slot	
Tuesday 12/05	10:00-11:45	Reserved Slot	
12/03			
Daida	MC2 Room C511	T 1	Dog Windler
Friday 15/05		Josephson effect VII	Dag Winkler
	10:00-11:45	Long junctions, Shapiro steps,	
	MC2 Room C511	flux flow oscillators, Mixers	D W' 11
Tuesday		Josephson effect VIII	Dag Winkler
19/05	10:00-11:45	Long junctions, Shapiro steps,	
T 1 .	MC2 Room C511	flux flow oscillators, Mixers	T1. 1. D1.
Tuesday		Superconducting resonators and	Thilo Bauch
26/05	10:00-11:45	filters	
T . 1	MC2 Room C511		
Friday	15 <sup>th</sup>	Linear electrodynamics, surface	Thilo Bauch
29/05	10:00-11:45	impedance, skin effect	(1 Home exercise)
	MC2 Room C511		
Wednesday	14:00-18:00	Examination	
03/06	$\mathbf{J}$		