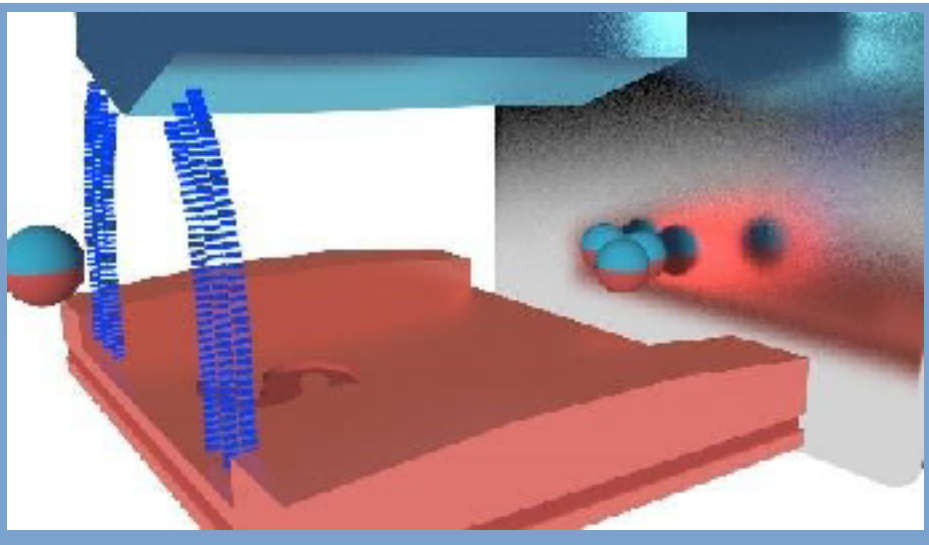


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Sorbonne Université		Introduction to Quantum Mechanics (3P001)			
Course description	This course lays the foundations of quantum mechanics, from wave function to quantum gates.				
Domain	Physic				
Keywords	Schrodinger equation	Spin 1/2	2 level system	Quantum information	
Prerequisites	Linear algebra, wave equation, basic knowledge on Fourier analysis is a plus.				
Level	Bachelor (3rd year)				
Language	French with english subtitles				
Number of credits and workload	6 credits	8 hrs per week		64 hrs in total	
Semester period and Start date course	Semester 1	Start date: 3-Sep-18			
Application deadline	3-Sep-18				
Full course description	After introducing the historical perspectives on quantum mechanics, we will introduce the Schrodinger formalism to describe fascinating phenomenon such as tunnel effect, one particle duality and quantum wells. In the second part we will review the Dirac formalism and the postulates of quantum. Applying this formalism to two-level system and quantum harmonic oscillator, we will study Rabi oscillations and opto-mechanics. Finally we will introduce the spin and Bloch sphere for application in MRI and quantum computing (Bell inequalities).				
Platform and link to course description	Moodle Sciences	https://moodle-sciences.upmc.fr			
Course description in study guide	http://www.licence.physique.upmc.fr/fr/nos_cursus_en_13/les-ue-du-niveau-3.html				
Lecturer(s)	Samuel Deleglise, Quentin Glorieux, Thibaut Jacqmin, Emily Lamour				

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<p>Picture of course</p>			
<p>Final examination date and time / period</p>			<p>7-12 January 2019</p>
<p>Examination registration deadline or drop-out deadline</p>	<p>Examination registration before: N.A Drop- out deadline: N.A</p>		
<p>Type of examination</p>	<p>Written</p>		
<p>Midterm examination?</p>	<p><input checked="" type="checkbox"/> yes <input checked="" type="checkbox"/> no</p>		
<p>Previous exam papers available</p>	<p><input checked="" type="checkbox"/> yes <input type="checkbox"/> no in french</p>		
<p>Resit? and date</p>	<p><input checked="" type="checkbox"/> yes <input type="checkbox"/> no</p>	<p>11-17 June</p>	
<p>Grade release and transcript release</p>	<p>February</p>		