

## Time Table

Summer School 18-22 August 2014

### Electrochemistry & Bio-electrochemistry: Fundamentals and Applications

Time \ Day	Monday Electrochemistry: Basics	Tuesday Electrochemistry: Advanced	Wednesday Bio-electrochemistry	Thursday Applications 1	Friday Applications 2
Lecturer	Dirk Heering		Dirk Heering	Jose Paulo Pinheiro	Dirk Heering
09:45 - 10:00	Welcome and coffee	Coffee	Coffee	Coffee	Coffee
10:00 - 12:00	<ul style="list-style-type: none"> <li>- Introduction</li> <li>- Redox chemistry</li> <li>- Electrochemical cells</li> </ul>	<ul style="list-style-type: none"> <li>- Electron transfer (ET) kinetics</li> <li>- Electrocatalysis</li> </ul>	<ul style="list-style-type: none"> <li>- Redox biochemistry, ET thermodynamics, kinetics</li> </ul>	<ul style="list-style-type: none"> <li>- Trace metal dynamic speciation: Fundamentals &amp; Applications</li> </ul>	<ul style="list-style-type: none"> <li>- (Bio)electrocatalysis</li> <li>- Electro-enzymology</li> </ul>
12:00 - 13:00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
13:00 - 14:30	<ul style="list-style-type: none"> <li>- Ions in water</li> <li>- Electrode   water interface</li> </ul>	<ul style="list-style-type: none"> <li>- Other kinetics: gating/coupling, mass transport</li> <li>- Measuring techniques</li> </ul>	<ul style="list-style-type: none"> <li>- Protein electrochemistry Mediators / Facilitators / Surface Modifications / Wiring</li> </ul>	<ul style="list-style-type: none"> <li>- Speciation-oriented electroanalytical techniques: SSCP and AGNES</li> </ul>	<ul style="list-style-type: none"> <li>- (Bio)nano-electrochemistry</li> <li>- (Bio) sensors</li> <li>- (Bio) Fuel cells / Batteries</li> </ul>
14:30 - 15:00	Coffee break	Coffee break	Coffee break	Coffee break	
15:00 - 16:30	Discussion / Assignments / Lab	Discussion / Assignments / Lab	Discussion / Assignments / Lab	Dynamic speciation and lability calculations	