

**FEBS/EMBO Lecture Course**  
**Biophysics of channels and transporters**  
Ettore Majorana Foundation and Centre, Erice Sicily  
11-17 May 2014

**May 11**                    **Arrival and registration**  
20.30                    Welcome words by organisers in the Lecture theatre  
20.45                    Welcome party in Marsala Room: cookies and Marsala  
                             Posters to be put up

**Scientific Programme**

*Each Lecturer will give a 30-min lecture/tutorial on background and methodology, followed by a 15 min discussion. They will then give a 35-min state-of-the-art lecture, followed by 10 min discussion.*

**May 12**                    **Anion channels and transporters**  
**Chair am:**    Csnady                    **Chair pm:**    Pusch  
**Moderator:** Stühmer

09.00                    Michael Pusch: Small is beautiful - what can we learn from fluctuation analysis of (anion) channels and transporters?  
10.30                    *Coffee break and posters*  
11.00                    Alessio Accardi: Lipid transport mediated by a reconstituted TMEM16 ion channel  
12.30                    *Lunch*  
14.00                    Raül Estévez: Study of myelin genetic diseases allow identifying ClC-2 Cl<sup>-</sup> channel function in glia  
15.30                    *Tea and posters*  
16.00                    Chris Miller: Weird Ion ... weird ion channel  
17.30                    *Discussion Group (30min) all speakers and moderator:*  
                             *the negative side of life*  
18.10                    *EMBO Women in Science lecture:* Blanche Schwappach:  
                             Juggling world-class science with life outside the lab: different paths for different people  
19.00                    *Dinner*  
20.30                    Poster Session

**May 13**                    **Chair am:** Gadsby                    **Chair pm:**    Kobertz  
**Moderator:** Miller

**Transport and Trafficking**  
09.00                    Robert Tampé: INs and OUTs of adaptive immunity – The ABC of antigen translocation and virus escape

10.30 *Coffee break and posters*  
 11.00 Blanche Schwappach: Trafficking mechanisms in the physiological regulation of ion channels  
 12.30 *Lunch*  
**Voltage-gated channels**  
 14.00 Pancho Benzanilla: How voltage gates membrane proteins  
 15.30 *Tea and posters*  
 16.00 Eduardo Perozo (by Skype) Ion channel permeation  
 17.30 *Discussion Group (30min) all speakers and moderator: transport and trafficking*  
 18.10 Data Blitz  
 19.10 *Dinner*  
 20.30 Poster Session

**May 14** **Glutamate channels/transporters (and cancer)**  
**Chair am: Tampé** **Chair pm: Liman**  
**Moderator: Nissen**

09.00 Andrew Plested: Structure and mechanisms of glutamate receptor activation  
 10.30 *Coffee break and posters*  
 11.00 Michael Kavanaugh: Glutamate transporters  
 12.30 *Lunch*  
 14.00 Olga Boudker (by Skype): Mechanism of a glutamate transporter homologue: from crystal structures to protein dynamics and energetics  
 15.30 *Tea and posters*  
 16.00 Walter Stühmer: Ion channels in cancer  
 17.30 *Discussion group (30 min). All speakers and moderator: glutamate and disease*  
 18.10 *EMBO Science and society lecture: Frances Ashcroft: Communicating science to the general public*  
 19.00 *Dinner*  
 20.30 Poster Session

**May 15** **Tools and Transporters**  
**Chair am: De Felice** **Chair pm: Forrest**  
**Moderator: Kavanaugh**

09.00 Lucy Forrest: Using computational tools to understand secondary transport  
 10.30 *Coffee break*  
 11.00 William Kobertz: Developing chemical tools to probe ion channel structure and function  
 12.30 *Lunch*

14.00	Baruch Kanner: Molecular mechanism of sodium-coupled neurotransmitter transport
15.30	<i>Tea and posters</i>
16.00	Louis De Felice: Dopamine transporters as ion channels: Methamphetamine, Cocaine, and Bath Salts
17.30	<i>Discussion group (30 min). All speakers and moderator: understanding transport</i>
18.10	Nanion: Live demonstrations on the Port-a-Patch and a lecture on the SURFE2R-technology will be given by Dr. Alessandro Marabelli.
18.30	<i>Dinner</i>
20.30	Data Blitz
21.30	Poster session

<b>May 16</b>	<b>Channels and Disease</b>	
	<b>Chair am: Accardi</b>	<b>Chair pm: Pledsted</b>
	<b>Moderator: Bezanilla</b>	

09.00	Emily Liman: TRP ion channels in sensation: Sour taste transduction
10.30	<i>Coffee break</i>
11.00	Frances Ashcroft: ATP-sensitive potassium channels, diabetes and neurological disease
12.00	<i>Lunch</i>
14.00	László Csanády: The molecular background of cystic fibrosis: Structure-function of CFTR, an ion channel evolved from an ABC transporter
15.30	<i>Tea and posters</i>
16.00	David Gadsby: Mechanisms of function and dysfunction of the Na/K pump, a model P-type ATPase
17.30	<i>Discussion Group (30min) all speakers and moderator: from the lab bench to the clinic</i>
18.10	Poster session
19.00	<i>Dinner</i>
20.30	<i>EMBO LECTURE:</i> Poul Nissen: How do membrane transporters switch side?

<b>May 17</b>	<b>End of Meeting: depart</b>
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## SPONSORS

We thank FEBS, EMBO, CNR-DSFTM, Nanion, Ebsa and the Ettore Majorana Foundation and Centre for Scientific Culture for generously sponsoring this course.