



UNIVERSITÀ
DEGLI STUDI
DI MILANO

noMAGIC
Noninvasive Manipulation of Gating in Ion Channels



International Symposium

*Ion channel design using
experimental and computational
inputs*

*Palazzo Feltrinelli, Gargnano del Garda, Italy
10 – 12 September 2018*



MONDAY 10th of SEPTEMBER

14.00 - 17.00	REGISTRATION and COFFEE BREAK
17.00 - 17.15	Welcome Greg Voth, Gerhard Thiel and Anna Moroni
<i>Chairs Anna/Gerhard</i> 17.15 - 17.45	Protein pores as nanoreactors for covalent chemistry Hagan Bayley, U. of Oxford
17.45 - 18.15	Modular Approaches to Engineering Protein Sensors Viktor Stein, TU-Darmstadt
18.15 - 18.45	Engineered nucleotide cyclases for near-infrared light activated control of ion channels in mammals Mark Gomelsky, U. of Wyoming
18.45 - 21.00	Aperitive and DINNER
<i>Chair Mark Gomelsky</i> 21.00 - 21.30	Molecular engineering of light-activated transporters Peter Hegemann, Humboldt U., Berlin
Drinks and posters	

TUESDAY 11th of SEPTEMBER, morning

<p><i>Chair Dan Minor</i> 9.00 - 9.30</p>	<p>Proton Transport in Channels and Transporters: Insights and Surprises from Multiscale Computer Simulation Greg Voth, U. of Chicago</p>
<p>9.30 - 10.00</p>	<p>Integral equation theory for ion channels: dos, don'ts, perspectives Stefan Kast, TU-Dortmund</p>
<p>10.00 - 10.30</p>	<p>Ligand discrimination and gating in CNG channels Crina Nimigean, Weill Cornell, New York City</p>
<p>10.30 - 11.00</p>	<p>COFFEE BREAK</p>
<p><i>Chair Crina Nimigean</i> 11.00 - 11.30</p>	<p>A semi-synthetic approach to engineer ion channels in live cells Stephan Pless, U. of Copenhagen</p>
<p>11.30 - 12.00</p>	<p>Nature utilization of the slow inactivation mechanism in voltage gate K⁺ channels Eitan Reuveny, Weizmann Institute</p>
<p>12.00 - 12.30</p>	<p>Regulation of volume-sensitive LRRC8 channels by oxidation Michael Pusch, CNR-institute of Biophysics, Genoa</p>
<p>12.30 – 12.45</p>	<p>Mechanics of K⁺ channel selectivity filter gating uncovered in viral model proteins Indra Schroeder, TU-Darmstadt</p>
<p>12.45 - 14.30</p>	<p>LUNCH</p>

TUESDAY 11th of SEPTEMBER, afternoon

<i>Chair Kay Hamacher</i> 14.30 - 15.00	Catch me if you can – Immune regulation by large membrane complexes Robert Tampé, Goethe U. Frankfurt
15.00 - 15.30	Structural basis of nucleotide sugar transport across the Golgi membrane Simon Newstead, U. of Oxford
15.30 - 16.00	Computational sculpting of protein channels for DNA sequencing Syma Khalid, U. of Southampton
16.00 - 16.30	COFFEE BREAK
<i>Chair Indra Schroeder</i> 16.30 - 17.00	Molecular mechanisms of phospholipid scrambling Alessio Accardi, Weill Cornell, New York City
17.00 - 17.15	Developing synthetic peptides to regulate native HCN channels Andrea Saponaro, U. of Milan
17.15 - 17.45	High-Speed Atomic Force Microscopy: A new tool to characterize conformational dynamics in ion channels Simon Scheuring, Weill Cornell, New York City
17.45 – 18:00	Neutrons and X-rays insights in the structure of complex membranes Laura Cantù, U. of Milan
18:45 - 21.00	Aperitive and DINNER
<i>Chair Federica Gasparri</i> 21.00 - 21.30	Magnetic Gating of TRP Channels by Genetically Encoded Nanoparticles Jeffrey Friedman, Rockefeller U., New York City
Drinks and posters	

WEDNESDAY 12th of SEPTEMBER, morning

<i>Chair Andrea Saponaro</i>	Chloroviruses a source of channels and transporters
9.00 - 9.30	Jim Van Etten, U. of Nebraska, Lincoln
9.30 - 10.00	New Insights into K2P Channel Regulation by Membrane Stretch and pH Stephen Tucker, U. of Oxford
10.00 - 10.30	Engineering Ion Channel Modulation Henry Colecraft, Columbia U., New York City
10.30 - 11.00	COFFEE BREAK
<i>Chair Greg Voth</i>	The Dual Allosteric Modulation of Pentameric Ligand-Gated Ion Channels
11.00 - 11.30	Erik Lindhal, U. of Stockholm
11.30 - 12.00	Unraveling the mechanism of C-type inactivation in potassium channels Benoit Roux, U. of Chicago
12.00 - 12.30	Coarse-grained models, mechanics, and function of ion channels Kay Hamacher, TU-Darmstadt
12.30 - 14.30	LUNCH

WEDNESDAY 12th of SEPTEMBER, afternoon

<i>Chairs Anna/Gerhard</i>	Ion channel structure and chemical biology
14.30 - 15.00	Dan Minor, UCSF
15.00 - 15.30	Structural basis of voltage dependent gating in K ⁺ channels Eduardo Perozo, U. of Chicago
15.30 - 16.00	The Molecular Mechanisms Underlying Cellular Uptake of Vitamin A Filippo Mancia, Columbia U., New York City
16.00 - 17.00	COFFEE BREAK and DEPARTURE