



BACTERIAL ELECTRON TRANSFER PROCESSES & THEIR REGULATION

11-14 March 2018 | Saint-Tropez, France

PROGRAMME

Sunday, 11th of March 2018

13:00 - 15:00 *Bus leaves from Nice airport and arrival at Saint Tropez*

15:00 - 14:45 *Registration opening*

15:45 - 16:00 **Organisers welcome address**

16:00 - 16:50 Opening lecture: title to be communicated

Patricia Kiley (University of Wisconsin, USA)

Session I: Genetic regulation

16:50 - 17:10 Complexation of sensor kinase DcuS of *E. coli* by the transporters DctA, DcuB and DauA: physiological role of free and complexed DcuS in sensing

Gottfried Uden (University of Mainz, Germany)

17:10 - 17:25 The non-coding RNA RyhB controls aminoglycosides resistance by inhibiting respiratory complexes during iron starvation

Sylvia Chareyre (Institut de Microbiologie de la Méditerranée, CNRS, France)

17:25 - 17:45 *Coffee Break*



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Session II: Stress Adaptation

17:45 - 17:50	<i>Chair</i>
17:50 - 18:15	Bacterial cytochrome <i>bd</i> , a multifunctional respiratory oxidase Alessandro Giuffrè (CNR Institute of Molecular Biology and Pathology, Italy)
18:15 - 18:35	Bacterial peroxidases from pathogenic bacteria Sofia Pauleta (UCIBIO, Portugal)
18:35 - 18:50	Hydrogen-dependent carbon dioxide reduction by <i>Escherichia coli</i> Magali Roger (University of Dundee, Scotland)
18:50 - 19:05	Lifestyle change of an anaerobic sulfate reducing bacterium by experimental evolution: from sulfate to oxygen respiratory growth Marine Schoeffler (Aix Marseille Univ, CNRS, France)
19:05 - 19:20	Flash presentations
20:00 - 21:00	<i>Dinner</i>
21:00	<i>Poster and beer/wine session</i>



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Monday, 12th of March 2018

Session III: Structure/function

09:00 - 09:05	<i>Chair</i>
09:05 - 09:30	The multifaceted roles of Fe/S clusters in respiratory complex I Friedrich Thorsten (Albert-Ludwigs-Universität, Germany)
09:30 - 09:50	Flavin-based electron bifurcation in anaerobic bacteria and Archaea. Wolfgang Buckel (Philipps-Universität, Germany)
09:50 - 10:10	Turning a [NiFeSe] hydrogenase into a standard [NiFe] enzyme Ines Pereira Cardoso (Universidade Nova de Lisboa, Portugal)
10:10 - 10:30	<i>Coffee Break</i>
10:30 - 10:45	Electron transfer in the dissimilatory sulfate reduction Americo Duarte (Universidade Nova de Lisboa, Portugal)
10:45 - 11:00	Energy conservation by cytoplasmic proton uptake in qNOR from <i>Neisseria meningitidis</i> Nathalie Gonska (Stockholm University, Sweden)
11:00 - 11:15	Study of the alternative arsenite oxidase: when thermodynamics clarifies phylogeny Barbara Schoepp-Cothenet (CNRS, France)
11:15 - 11:30	Quinone-independent, solely protein-based microbial respiration with halogenated aromatics Adrian Lorenz (Helmholtz Centre for Environmental Research, Germany)



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Session III: Structure/function

- 11:30 - 11:45 Deciphering cupredoxins involvement in the iron respiratory chain of *Acidithiobacillus ferrooxidans*
Marianne Ilbert (Institut de Microbiologie de la Méditerranée, CNRS, France)
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- 12:00 - 13:00 *Lunch*
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- 13:00 - 17:30 *Boat excursion Saint Tropez*

Session IV: Biotechnological aspects

- 17:30 - 17:35 *Chair*
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- 17:35 - 18:00 A new role for an old cofactor: lipoic acid in prokaryotic sulfur oxidation
Christiane Dahl (Universität Bonn, Germany)
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- 18:00 - 18:25 Plug adapters for proteins: activating iron-sulfur enzymes for biosynthesis and Biotechnology
Greg Bokinsky (TU Delft, Netherlands)
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- 18:25 - 18:45 Synthesis and anti-oxidant function of bacterial furan-containing fatty acids
Timothy Donohue (University of Wisconsin-Madison, USA)
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- 18:45 - 19:00 Respiration as key process during the formation of silver nanoparticles catalyzed by *Geobacter sulfurreducens*
Michael Fueg (University of Bern, Switzerland)



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Session IV: Biotechnological aspects

- 19:00 - 19:15 Unveiling the molecular bases for electron transfer performed by Gram-positive bacteria at the electrode-microbe interface in bioelectrochemical systems
Catarina Paquete (Universidade NOVA de Lisboa, Portugal)

Session V: Antimicrobials

- 19:15 - 19:20 *Chair*
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- 19:20 - 19:45 *Staphylococcus aureus*: survival strategies of a human Pathogen
Ligia Saraiva (Instituto de Tecnologia Química e Biológica, Portugal)
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- 19:45 - 20:00 What use are co-releasing molecules? Respiratory inhibitors or antimicrobial agents?
Hannah Southam (The University of Sheffield, UK)
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- 20:00 - 20:15 **Flash presentations**
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- 20:15 - 21:15 *Dinner*
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- 21:15 *Poster and beer/wine session*



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Session VI: Respiratory Metabolism (Part I)

09:00 - 09:05	<i>Chair</i>
09:05 - 09:30	title to be communicated John Coates (University of California, USA)
09:30 - 09:55	Exploring bacterial respiratory chains Manuela Pereira (Universidade Nova de Lisboa, Portugal)
09:55 - 10:20	Respiratory nitrate reduction in spores of <i>Streptomyces coelicolor</i> is dependent on the cytochrome <i>bc1</i> complex Gary Sawers (Martin-Luther University, Germany)
10:20 - 10:45	<i>Coffee Break</i>
10:45 - 11:10	title to be communicated Wolfgang Nitschke
11:10 - 11:30	Energy conserving ETF: methylmenaquinone oxidoreductase: the missing energetic coupling during syntrophic biogas formation from fatty acids Matthias Boll (Universität Freiburg, Germany)
11:30 - 11:50	Respiratory processes in haloarchaea Rosa Martinez-Espinosa (University of Alicante, Spain)
11:50 - 12:05	New insights in the formate dehydrogenases family: lessons from <i>Bacillus subtilis</i> Rodrigo Arias-Cartin (Aix Marseille Université, CNRS, France)
12:05 - 12:20	Functional and biochemical characterization of the electron bifurcating FeFe Hnd hydrogenase from the sulfate reducing bacterium <i>Desulfovibrio fructosovorans</i> Myriam Brugna (Laboratoire de Bioénergétique et Ingénierie des protéines, CNRS, France)
12-20 - 14:00	<i>Lunch</i>



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Session VII: Maturation

- 14:00 - 14:05 *Chair*
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- 14:05 - 15:30 The heme chaperone HemW inserts heme into the respiratory nitrate reductase NarGHI
Jahn Dieter (University Braunschweig, Germany,)
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- 14:30 - 14:55 Biogenesis of cytochrome *c* complexes: cofactors, subunits, complexes and supercomplexes
Fevzi Daldal (University of Pennsylvania, USA)
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- 14:55 - 15:15 The ErpA/NfuA complex builds an oxidative resistant Fe-S cluster delivery pathway
Béatrice Py (CNRS, Aix Marseille Université, Marseille, France)
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- 15:15 - 15:30 Copper and heme *a* insertion chaperones involved in the assembly of the cytochrome *bc1-aa3* supercomplex of Actinobacteria
Cédric Davoudi (Biotechnology, Institute of Bio- and Geosciences, Germany)
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- 15:30 - 15:45 Evidence of a Fe-S carrier activity for an unknown function protein of the *Desulfovibrio* ORP complex
Corinne Aubert (Aix Marseille Univ, CNRS, France)



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Session VIII Host Pathogen Interaction

- 15:45 - 15:50 *Chair*
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- 15:50 - 16:15 Function, assembly and regulation of the electron transport chains of the microaerophilic food-borne pathogen *Campylobacter jejuni*
David Kelly (The University of Sheffield, UK)
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- 16:15 - 16:40 Respiration-dependent programmed cell lysis drives biofilm formation in *Staphylococcus aureus*.
Jeff Boyd (Rutgers University, USA)
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- 16:40 - 17:00 *Coffee break*
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- 17:00 - 17:25 Precision editing of the gut microbiota
Sebastian Winter (UT Southwestern Medical Center, USA)
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- 17:25 - 17:45 Oxygen depletion induced by *Shigella* is essential for infection
Benoit Marteyn (Institut Pasteur, France)

Session IX Cell biology of respiration

- 17:45 - 17:50 *Chair*
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- 17:50 - 18:15 Localised vs delocalised organisation of bacterial electron transport chains
Conrad Mullineaux (Queen Mary University of London, U.K.)
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- 18:15 - 18:35 The how and why of cellular organization of electron transport chains in bacteria
Axel Magalon (Aix-Marseille Univ & CNRS)
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- 18:35 - 20:00 *Time Discussion & Poster*
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- 20:00 - 21:00 *Gala dinner*
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- 21:00 *Farewell party*



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Session X: Respiratory Metabolism (*Part II*)

09:30 - 09:35	<i>Chair</i>
09:35 - 10:00	Composition and function of electron transport proteins involved in nitrous oxide respiration Jörg Simon (Technische Universität Darmstadt, Germany)
10:00 - 10:25	UbiJ chaperones isoprenoid lipids to a soluble multiprotein complex that synthesizes ubiquinone Fabien Pierrel (Univ. Grenoble Alpes-CNRS, France)
10:25 - 10:40	Two dedicated class C radical SAM methyltransferases synthesize the low-potential redox mediators 8-methylmenaquinone and 7,8-dimethylmenaquinone Sascha Hein (Technische Universität Darmstadt, Germany)
10:40 - 11:00	Coffee break

Closing lecture

11:00 - 11:05	<i>Chair</i>
11:05 - 11:50	title to be communicated Arthur Grossman (University of Stanford, USA)
11:50 - 12:15	<i>Closure of the meeting</i>
12:15 - 13:30	<i>Lunch</i>
13:30	<i>Bus leave to Nice Airport</i>