Programme Outline	March 1 Saturday	March 2 Sunday	March 3 Monday	March 4 Tuesday	March 5 Wednesday	March 6 Thursday	March 7 Friday	March 8 Saturday
Breakfast		7:00 - 8:30 am	7:00 - 8:30 am	7:00 - 8:30 am	7:00 - 8:30 am	7:00 - 8:30 am	7:00 - 8:30 am	7:00 - 9:30 am
Symposia	10:00 am -6:00 pm **Registration & Check-In**	8:30 - 12:30 pm Symposium 1 **Biogenesis, Trafficking & Processing of ABC Proteins** ***Chair: S. Michaelis*** Tvrtko Smital Kazumitsu Ueda Emmanuel Wiertz Ronald Wanders John Schuetz	8:30 - 12:30 pm Symposium 2 **Modulation & Regulation of ABC Protein Function** ***Chair: K.Kuchler*** Balasz Sarkadi Bert Poolman Kazufumi Yazaki Lisa Timmons Chris Whitfield	8:30 - 12:30 pm Symposium 3 **ABC Proteins in Multidrug Resistance & Pharmacology** ***Chair: C. Hrycyna*** Alfred Schinkel Susan PC Cole Hiroyuki Kusuhara Hendrik van Veen Bruno Stieger	8:30 - 12:30 pm Symposium 4- Part 1 **ABC Genes in Physiology & Pathology of Disease** ***Chair: V. Ling*** Piet Borst Joseph Bryan Marc Ouellette Michael M. Gottesman Masashi Akiyama	8:30 - 12:30 pm **CFTR/PXE Symposium** **CFTR – From Basic Mechanisms to the Patient** ***Chair: J. Riordan*** David Gadsby Margarida Amaral Phil Thomas Alan Verkman David Sheppard	8:30 – 12.30 pm Symposium 5 **Catalytic Mechanisms & Structure of ABC Proteins** ***Chair: B. Ford*** Amy Davidson Lutz Schmitt John Hunt Richard Callaghan Marwan Al-Shawi	**End of ABC2008** **Check-Out**
Lunch & Break		12:30 - 5:00 pm	12:30 - 5:00 pm	12:30 - 5:00 pm	12:30 - 5:00 pm	12:30 - 4:30 pm	12:30 - 4:30 pm	
Workshop & Short Talks	until 6:00 pm **Registration & Check-In** 6:30 – 7:00 pm **Opening Ceremony**	5:00 – 7:15 pm **Selected Talks** ***Chair: B. Holland*** WS1 - George ST1- Hellmich ST2 - Barthelme WS2 - Tokuda ST3 - Eckford ST4 - Pagant ST5 - Hoelen WS3 - Arias	5:00 – 6:30 pm **Selected Talks** ***Chair: R. Deeley*** ST6 - Dong ST7 - Procko ST8 - Hartz WS4 - Forestier WS5 - Verrier 6:45 - 7:45 pm **Keynote Plenary Lecture** *Robert Tampé*	5:00 – 7:15 pm **Selected Talks** ***Chair: D. Keppler*** WS6 - Dey WS7 - van Eck WS8 - Bates ST9 - McDevitt WS9 - Koenderink ST10 - Rius ST11 - Sassi ST12 – de Wetering	5:00 – 7:15 pm Symposium 4- Part 2 **ABC Genes in Physiology & Pathology of Disease** ***Chair: G. Chimini*** Robert Molday Nobuya Inagaki John Oram	4:00 – 8:00 pm **CFTR – Biology & Pathology** ***Chair: M. Gentzsch*** Karl Kunzelmann Laslo Csanady Andrei Aleksandrov Nikolay Dokholyan **PXE – Mysterious & Multifacetted Disease** ***Chair: P.&S. Terry*** Jouni Uitto Andras Varadi Lionel Bercovitch	4:30 – 5:45 pm **Workshop on the Structure of ABC Proteins** ***Chair: J. Hunt*** Robert Ford Kenneth Linton 6:00 - 7:00 pm **Final Keynote Address** *Lydia Aguilar-Bryan* 7:00 – 7:15 pm **Concluding Remarks**	1:00 pm **Check-Out** **Shuttles Airport & Train Station**
Dinner		7:15 - 8:30 pm	7:45 - 9:00 pm	7:00 - 8:30 pm	7:15 - 8:30 pm	8:00 - 9:00 pm	8:00 – 12:00 am	
Posters Sessions	7:00 - 8:00 pm **Keynote Opening Lecture** *Shinji Yokoyama* 8:00 – 11:30 pm ***Welcome Dinner***	8:30 – 11:00 pm **Poster Session 1** **Posters ODD**	9:00 – 11:00 pm **Poster Session 2** **Posters EVEN**	8:30 – 11:00 pm **Poster Session 3** **Posters ODD**	8:30 – 11:00 pm **Poster Session 4** **Posters EVEN**	**Free Evening** 9:30 – 11:00 pm **ABC2008 SAB Meeting**	8:00 – 8:30 pm **ABC2008 Young Investigator Awards** & 8:30 pm – open end **Dinner & Farewell Party**	

Scientific Program of ABC2008

Saturday — March 1

Meeting Registration & Hotel Check-In — **10:00 am - 5:30 pm**

Opening Ceremony — **6:30 - 7:00 pm**
Karl Kuchler, Susan PC Cole, Susan Michaelis & Kazumitsu Ueda

Keynote Opening Lecture — **7:00 - 8:00 pm**
Shinji Yokoyama (Introduced by Kazumitsu Ueda)
Cholesterol homeostasis and ABCA1

Welcome Dinner — **8:00 pm - 11:30 pm**

Sunday — March 2

Breakfast *7:00 - 8:30 am*

Symposium 1 — **8:30 am - 12:30 pm**

Biogenesis, Trafficking & Processing of ABC Proteins

Chair & Introduction: Susan Michaelis 8:30 - 8:45

Tvrtko Smital 8:45 - 9:25
ABC Transport Proteins in Aquatic Organisms – Identification, Characterization and Ecotoxicological Relevance

Kazumitsu Ueda 9:25 - 10:05
Post-translational regulation of ABCA1 - where does ABCA1 generate HDL and how is ABCA1-mediated cholesterol efflux regulated?

Emmanuel Wiertz 10:05 - 10:45
Virus-mediated inactivation and degradation of the Transporter associated with Antigen Processing, TAP (ABCB2/3)

Coffee & Refreshment Break *10:45 – 11:10 am*

Ronald J.A. Wanders 11:10 - 11:50
Peroxisomal half-ABC transporters and the transport of metabolites across the peroxisomal membrane

John Schuetz 11:50 - 12:30
The role of ABCB6 in porphyrin/heme homeostasis

Lunch & Afternoon Break *12:30 - 5:00 pm*

Afternoon Talks Selected from Abstracts — **5:00 - 7:15 pm**
Chair: Barry Holland

WS1 – Tony M. George 5:00 - 5:20
ATP hydrolysis opens the ABC transporter nucleotide-binding domain active site via rotation of the helical subdomain

ST1 - Ute A. Hellmich 5:20 - 5:35
Investigations of the ABC-transporter LmrA by solid-state NMR and EPR reveal the importance of phospholipids on function and structure

ST2- Dominik Barthelme 5:35 - 5:50
Unique ATP-hydrolysis cycle and function of the ABC-type ATPase ABCE1

WS2 – Hajime Tokuda 5:50 - 6:10
Molecular events involved in a single cycle of ligand transfer from an ATP-binding cassette transporter LolCDE to a molecular chaperone LolA

ST3 – Paul D.W. Eckford 6:10 - 6:25
The reconstituted *E. coli* MsbA protein is a lipid flippase

ST4 - Silvere Pagant 6:25 - 6:40
Folding, assembly and ER export of Yor1p mutants, a yeast ABC transporter homologous to CFTR

ST5 – Hanneke Hoelen 6:40 - 6:55
Folding of CFTR at the ER membrane

WS3 - Irwin M. Arias 6:55 - 7:15
Dynamic microtubules are required for apical trafficking of ABCB11, the bile salt excretory protein, in polarized WIF-B9 cells and provide the "missing link" to the canalicular actin network

Dinner *7:15 - 8:30 pm*

Poster Session 1 **Odd Numbers** **8:30 - 11:00 pm**

Monday March 3

Breakfast *7:00 - 8:30 am*

Symposium 2 **8:30 am - 12:30 pm**

Modulation & Regulation of ABC Protein Function

Chair & Introduction: Karl Kuchler 8:30 - 8:45

Balasz Sarkadi 8:45 - 9:25
High level endogenous expression of the ABCG2 multidrug transporter in human embryonic stem cells

Bert Poolman 9:25 - 10:05
ABC transporters: sensing and transduction of ionic strength

Kazufumi Yazaki 10:05 - 10:45
ABC proteins responsible for the membrane transport of signal molecules in plant roots

Coffee & Refreshment Break *10:45 – 11:10 am*

Lisa Timmons 11:10 - 11:50
ABC transporters are required for efficient RNAi in *Caenorhabditis elegans*

Chris Whitfield 11:50 - 12:30
Substrate recognition and specificity in ABC exporters for bacterial polysaccharides

Lunch & Afternoon Break *12:30 – 5:00 pm*

Afternoon Talks Selected from Abstracts **5:00 – 6:30 pm**

Chair: Roger Deeley

ST6 - Qian Dong 5:00 - 5:15
A mutation in CFTR modifies the effects of the adenylate kinase inhibitor Ap5A on channel gating

ST7 - Erik Procko 5:15 - 5:30
The ABC Transporter associated with Antigen Processing (TAP): ATP-binding, hydrolysis and peptide transport

ST8 - Anika Hartz 5:30 - 5:45
Non-Genomic Regulation of BCRP at the Blood-Brain Barrier by 17-beta-Estradiol

WS4 - Cyrille Forestier 5:45 - 6:05
Heavy metal tolerance conferred by the ABC transporter *HMT1* does not require the metal-chelating peptide phytochelatins

WS5 - Paul J. Verrier 6:05 - 6:25
How many ABCs does a plant need and where do they come from?

Coffee & Refreshment Break *6:25 - 6:40 pm*

ABC2008 Keynote Plenary Lecture

Supported by "The Dr. Josef Steiner Cancer Research Foundation"

Robert Tampé (Introduced by Karl Kuchler) 6:40 - 7:40
The ABC of self-defense: views & news

Dinner *7:45 - 9:00 pm*

Poster Session 2 **Even Numbers** **9:00 - 11:00 pm**

Tuesday March 4

Breakfast *7:00 - 8:30 am*

Symposium 3 **8:30 am - 12:30 pm**

ABC Proteins in Multidrug Resistance & Pharmacology

Chair & Introduction: Christine Hrycyna 8:30 - 8:45

Alfred H. Schinkel 8:45 - 9:25
In vivo functions of ABC multidrug transporters

Susan P.C. Cole 9:25 - 10:05
MRP1 (ABCC1): molecular determinants of its substrate transport and specificity

Hiroyuki Kusuhara 10:05 - 10:45
Role of Bcrp, Mrp3 and Mrp4 in drug disposition

Coffee & Refreshment Break *10:45 – 11:10 am*

Hendrik W. van Veen 11:10 - 11:50
Chemiosmotic coupling in bacterial homologues of the human multidrug resistance P-glycoprotein ABCB1

Bruno Stieger 11:50 - 12:30
The Role of BSEP (ABCB11) in Acquired Forms of Liver disease

Lunch & Afternoon Break *12:30 – 5:00 pm*

Afternoon Talks Selected from Abstracts **5:00 – 7:20 pm**

Chair: Dietrich Keppler

WS6 - Saibal Dey 5:00 - 5:20
Molecular determinants of functional modulation of the human multidrug transporter P-glycoprotein (ABCB1)

WS7 - Miranda Van Eck 5:20 - 5:40
Role of Macrophage ABCA1 and ABCG1 in foam cell formation and atherosclerotic lesion development

WS8 - Susan Bates 5:40 - 6:00
Mutagenesis studies identify residues important in ABCG2 function and biogenesis

ST9 - Christopher McDevitt 6:00 - 6:15
The powerstroke of ABCG2 and the role of nucleotide binding in drug transport

WS9 - Jan B. Koenderink 6:15 - 6:35
Functional role of arginine 375 in transmembrane helix 6 of multidrug resistance protein 4 (MRP4/ABCC4)

ST10 - Maria Rius 6:35 - 6:50
Multidrug resistance protein ABCC4 (MRP4)-mediated transport of leukotrienes B_4 and C_4

ST11 - Yassine Sassi 6:50 - 7:05
MRP4 acts as a regulator of cAMP-dependent signalling pathways and controls smooth muscle cell proliferation

ST12 - Koen van de Wetering 7:05 - 7:20
Using targeted metabolomics to identify novel substrates of Multidrug Resistance Protein 3 *in vivo*

Dinner *7:20 - 8:30 pm*

Poster Session 3 **Odd Numbers** **8:30 - 11:00 pm**

Wednesday March 5

Breakfast *7:00 - 8:30 am*

Symposium 4 **8:30 am - 12:30 pm**

ABC Genes in Physiology & Pathology of Disease – *Part1*

Chair & Introduction: Victor Ling 8:30 - 8:45

Piet Borst 8:45 - 9:25
The contribution of ABC transporters to the cellular efflux of glucuronosyl- and sulphate-conjugates: studies with KO mice

Joseph Bryan 9:25 - 10:05
ABCC8/KCNJ11 potassium channels and disorders of glucose homeostasis

Marc Ouellette 10:05 - 10:45
ABC proteins in the protozoan parasite *Leishmania*

Coffee & Refreshment Break *10:45 – 11:10 am*

Michael M. Gottesman 11:10 - 11:50
New Tricks from an Old ABC Transporter

Masashi Akiyama 11:50 – 12:30
Keratinocyte lipid transporter ABCA12 is a key player of skin barrier formation

Lunch & Afternoon Break *12:30 – 5:00 pm*

ABC Genes in Physiology & Pathology of Disease – *Part2* **5:00 – 7:15 pm**

Chair & Introduction: Giovanna Chimini 5:00 - 5:15

Robert S. Molday 5:15 - 5:55
Role of the ABCA4 Transporter in Vision and Macular Degeneration

Nobuya Inagaki 5:55 - 6:35
ABCA3 as a Lipid Transporter in Pulmonary Surfactant Biogenesis

John F. Oram 6:35 - 7:15
ABCA1: a direct link between the cardioprotective effects of cholesterol export and anti-inflammation

Dinner *7:15 - 8:30 pm*

Poster Session 4 **Even Numbers** **8:30 - 11:00 pm**

Thursday March 6

Breakfast *7:00 - 8:30 am*

Special Satellite Symposium on CFTR/PXE ***8:30 am - 12:30 pm***

CFTR – From Basic Mechanisms to the Patient *(sponsored by CFF & ECFS)*

Chair & Introduction : Jack Riordan - Welcome by Melissa Ashlock, CFF 8:30 - 8:45

David C. Gadsby 8:45 - 9:25
Controlling the gates of CFTR chloride channels, the ABC proteins whose dysfunction causes cystic fibrosis

Margarida D. Amaral 9:25 - 10:05
Mechanisms of rescuing strategies for trafficking mutants of CFTR (ABCC7)

Phil Thomas 10:05 - 10:45
Altered protein folding as a basis of cystic fibrosis

Coffee & Refreshment Break *10:45 – 11:10 am*

Alan S. Verkman 11:10 - 11:50
Lung pathogenesis and small-molecule therapy of cystic fibrosis

David N. Sheppard 11:50 - 12:30
Chimeric constructs endow the human CFTR Cl^- channel with the gating behaviour of murine CFTR

Lunch & Afternoon Break *12:30 – 4:00 pm*

Special Afternoon Workshop **4:00 - 5:55 pm**

CFTR – The Biology & Pathology *(sponsored by CFF & ECFS)*

Chair & Introduction: Martina Gentzsch 4:00 – 4:15

Karl Kunzelmann 4:15 - 4:40
Phosphorylation of CFTR by CK2 and AMP-dependent kinase: A new concept for regulation of secretion?

László Csanády 4:40 - 5:05
Coupling between the nucleotide binding domains and the pore domain of CFTR studied through temperature dependence of transition rates

Andrei A. Aleksandrov 5:05 - 5:30
The CFTR ABC protein from the single channel perspective

Nikolay V. Dokholyan 5:30 – 5:55
Diminished self-chaperoning activity of the ΔF508 mutant of CFTR results in protein misfolding

Coffee & Refreshment Break *5:55 – 6:20 pm*

Special Evening Workshop **6:20 - 7:50 pm**

PXE – Mysterious & Multifacetted Disease *(supported by PXE International)*

Chair & Introduction: Sharon Terry & Pat Terry 6:20 – 6:35

Jouni Uitto 6:35 - 7:00
Pseudoxanthoma Elasticum: Model Systems and Pathomechanisms

Andras Varadi 7:00 - 7:25
ABCC6: recent evolution of the gene and the potential role of the protein in ECM calcification

Lionel Bercovitch 7:25 - 7:50
TBA

Dinner *7:50 – 9:00 pm*

Friday March 7

Breakfast *7:00 - 8:30 am*

Symposium 5 **8:30 am - 12:30 pm**

Catalytic Mechanisms & Structure of ABC Proteins

Chair & Introduction: Robert Ford 8:30 - 8:45

Amy Davidson 8:45 - 9:25
Structure and mechanism of the maltose (ABC) transporter from *E. coli*

Lutz Schmitt 9:25 – 10:05
A “transport triggering” mechanism in the choline binding protein ChoX from *S. meliloti*

John F. Hunt 10:05- 10:45
ABC motors: from mechanochemistry to novel biology

Coffee & Refreshment Break *10:45 – 11:10 am*

Richard Callaghan 11:10 - 11:50
What is the role of transmembrane helices 6 and 12 in P-Glycoprotein?

Marwan Al-Shawi 11:50 - 12:30
A molecular based assessment of the solvation exchange mechanism of drug transport by P-glycoprotein ABCB1

Lunch & Afternoon Break *12:30 – 4:30 pm*

Afternoon Workshop **4:30 – 5:45 pm**
How does Structure of ABC Proteins relate to Function?
Chair & Introduction: John F. Hunt 4:30 - 4:40

Robert Ford 4:40 - 5:10
Structural insights into eukaryotic ABC proteins using an electron microscopy approach

Kenneth J. Linton 5:10 - 5:30
The ABC and "Q" of P-glycoprotein: synergy, redundancy & detergent sensitivity of Q-loop mutants

Final Keynote Address
Lydia Aguilar-Bryan (Introduced by Susan PC Cole) **6:00 - 7:00 pm**
ABCC8/KCNJ11: How does an ABC transporter regulate an ion channel?

Concluding Remarks **7:00 - 7:15 pm**
ABC2008 Organizers

ABC2008 Young Investigator Awards **8:00 – 8:30 pm**

Dinner & Farewell Party **8:30 – open end**

Saturday March 8

Breakfast *7:00 - 9:30 am*

End of ABC2008

Check-out - Shuttles to Airport and **Main Train Station**