Sunday 5 May 2019

Educational Day, Keynote Lecture and Welcome Reception

08:00 - 09:00  Arrival and Registration for Educational Day with light refreshments
   ATC Registration Desk

09:00 - 18:00  Introductory Course: Iron Essentials for Clinicians and Scientists
   Coordinated by Jodie Babitt, Ioav Cabanchik and Hal Drakesmith
   ATC Auditorium

09:00 - 09:05  Introductory Remarks
   Ioav Cabanchik, President IBIS - Hebrew University of Jerusalem, Israel
   ATC Auditorium

09:05 - 12:30  Session 1: Basic Properties and Methodologies
   Chairs: Greg Anderson and Robert Fleming
   ATC Auditorium

09:05 - 09:45  BioIron: Origin, chemical properties and evolution
   Kostas Pantopoulos
   *McGill University, Canada*

09:45 - 10:30  Iron transport proteins: Gateways of cellular and systemic iron homeostasis
   Mitchell Knutson
   *University of Florida, United States of America*

10:30 - 11:00  Coffee Break
   ATC Auditorium Foyer

11:00 - 12:30  Session 1: Basic Properties and Methodologies (continued)
   Chairs: Greg Anderson and Robert Fleming
   ATC Auditorium
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>11:00 - 11:45</td>
<td><strong>Mechanisms controlling cellular iron homeostasis in mammals</strong></td>
<td>Rick Eisenstein</td>
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<td><em>University of Wisconsin-Madison, United States of America</em></td>
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<td>11:45 - 12:30</td>
<td><strong>Systemic iron homeostasis</strong></td>
<td>Jodie Babitt</td>
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<td><em>Massachusetts General Hospital; Harvard Medical School, United States of America</em></td>
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<td>12:30 - 13:30</td>
<td>Lunch</td>
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<td><em>EMBL Canteen</em></td>
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<td>13:30 - 15:30</td>
<td><strong>Session 2: Genetic and Acquired Iron Disorders</strong></td>
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<td><strong>Chairs: Clara Camaschella and Günter Weiss</strong></td>
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<td><em>ATC Auditorium</em></td>
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<td>13:30 - 14:00</td>
<td><strong>Genetic diseases causing iron deficiency and iron overload: Two faces of the same coin</strong></td>
<td>Laura Silvestri</td>
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<td><em>San Raffaele Scientific Institute, Italy</em></td>
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<tr>
<td>14:00 - 14:30</td>
<td><strong>Erythropoiesis and iron metabolism: Crosstalk, implications, and therapeutic options in iron loading anemias</strong></td>
<td>Yelena Ginzburg</td>
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<td><em>Icahn School of Medicine at Mount Sinai, United States of America</em></td>
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<tr>
<td>14:30 - 15:30</td>
<td><strong>Iron in cancer, infection, kidney and liver diseases: Innocent bystander or therapeutic target?</strong></td>
<td>Igor Theurl and Heinz Zoller</td>
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<td><em>Medical University of Innsbruck, Austria</em></td>
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<td>15:30 - 16:00</td>
<td><strong>Coffee Break</strong></td>
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<td><em>ATC Auditorium Foyer</em></td>
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<td>16:00 - 17:30</td>
<td><strong>Session 3: Global Issues</strong></td>
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<td><strong>Chairs: Domenico Girelli and Dorine Swinkels</strong></td>
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<td><em>ATC Auditorium</em></td>
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</table>
16:00 - 16:45  The pathophysiology and diagnosis of iron deficiency and anaemia in populations and patients  
Sant-Rayn Pasricha  
Walter and Eliza Hall Institute of Medical Research, Australia

16:45 - 17:30  Nutritional (dietary) and "functional" deficiencies in the first and third world  
Michael Zimmermann  
ETH Zürich, Switzerland

17:30 - 18:00  Session 4: The Future of BioIron  
Chair: Hal Drakesmith  
ATC Auditorium

17:30 - 18:00  Open questions in basic and clinical iron research  
"It is hard to make predictions, especially about the future." -- Yogi Berra  
Tomas Ganz and Elizabeta Nemeth  
University of California, Los Angeles, United States of America

17:30 - 18:30  Arrival and Registration for Keynote Lecture and Welcome Reception  
with light refreshments  
ATC Registration Desk

18:30 - 19:30  Keynote Lecture: Analyzing microbiomes in us and on our planet  
Peer Bork  
EMBL Heidelberg, Germany  
ATC Auditorium

19:30 - 21:30  Welcome Reception  
with nibbles and refreshments  
ATC Auditorium Foyer
**Monday 6 May 2019**

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<tr>
<td>08:45 - 09:00</td>
<td>Welcome Remarks</td>
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<td>by organisers Ioav Cabantchik, Matthias Hentze and Martina Muckenthaler</td>
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<td>ATC Auditorium</td>
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<tr>
<td>09:00 - 12:30</td>
<td>Plenary 1: Cell Biology of Iron Metabolism</td>
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<td>Chairs: Bruno Galy and Matthias Hentze</td>
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<td>09:00 - 09:30</td>
<td>Mechanisms of ferroptosis</td>
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<td>Marcus Conrad</td>
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<td><em>Helmholtz Zentrum München, Germany</em></td>
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<tr>
<td>09:30 - 09:45</td>
<td>Mechanisms, pathways and regulation of mammalian ferritin secretion</td>
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<td>Lior Spektor</td>
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<td><em>Technion - Israel Institute of Technology, Israel</em></td>
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<td>09:45 - 10:00</td>
<td>Novel mechanistic insights into the regulation of</td>
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<td>BMP-SMAD pathway and hepcidin expression by FKBP12</td>
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<td>Alessandro Dulja</td>
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<td><em>San Raffaele Scientific Institute, Italy</em></td>
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<td>10:00 - 10:15</td>
<td>A novel role for peroxisomal proteins in iron homeostasis</td>
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<td>Nathan Subramaniam</td>
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<td><em>Queensland University of Technology, Australia</em></td>
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<td>10:15 - 10:30</td>
<td>A systems genetics approach to identify genes and</td>
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<td>pathways involved in liver iron overload and pathology</td>
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<td>Brie Fuqua</td>
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<td><em>University of California, Los Angeles, United States of America</em></td>
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</table>
10:30 - 11:00  **Coffee Break**  
ATC Auditorium Foyer

11:00 - 12:30  **Plenary 1: Cell Biology of Iron Metabolism (continued)**  
Chairs: Mitchell Knutson and Marie-Paule Roth  
ATC Auditorium

11:00 - 11:30  **Transferrin receptor 2 controls bone mass and pathological bone formation via BMP and Wnt signaling**  
Martina Rauner  
*TU Dresden Medical Center, Germany*

11:30 - 12:00  **Regulation of transferrin receptor via S-acylation**  
Aurelio Teleman  
*German Cancer Research Center, Germany*

12:00 - 12:15  **Ncoa4-mediated ferritinophagy maintains murine erythropoiesis via cell autonomous and non-autonomous mechanisms**  
Joseph Mancias  
*Dana-Farber Cancer Institute, United States of America*

12:15 - 12:30  **PCBP1-mediated iron binding and delivery in the cytosol: mechanisms and impacts**  
Caroline Philpott  
*National Institutes of Health, United States of America*

12:30 - 14:00  **Lunch**  
ATC Auditorium Foyer

14:00 - 15:30  **Concurrent Session 1: Iron Deficiency in Cancer Patients: A Clinical Perspective**  
Chairs: Max Gassmann and Andrea Steinbicker  
ATC Auditorium

14:00 - 14:20  **Iron deficiency in cancer patients: An emerging issue but difficult to define**  
Domenico Girelli  
*University of Verona, Italy*
14:20 - 14:40  Management of anaemia and iron deficiency in cancer patients: What guidelines say?
Manuel Muñoz
University of Málaga, Spain

14:40 - 15:00  Perioperative anemia and iron deficiency in oncological surgery
Donat R. Spahn
University Hospital Zürich, Switzerland

15:00 - 15:30  Round Table Discussion
ATC Auditorium

14:00 - 15:30  Concurrent Session 2: Erythropoiesis and Iron
Chairs: Robert Fleming and Antonella Nai
Large Operon

14:00 - 14:30  Gene therapy to cure hemoglobinopathies
Marina Cavazzana
Hôpital Necker - Enfants Malades, France

14:30 - 14:45  Combining Tfr2-haploinsufficiency with TMPRSS6-antisense oligonucleotides strongly ameliorates the hematological phenotype of thalassemic mice
Antonella Nai
San Raffaele Scientific Institute, Italy

14:45 - 15:00  The regulation of ferroportin and iron regulatory protein 2 on erythropoiesis
Deliang Zhang
National Institutes of Health, United States of America

15:00 - 15:15  The role of glutathione peroxidase 4 and vitamin E in reticulocyte maturation and iron homeostasis
Georg W. Bornkamm
Helmholtz Zentrum München, Germany
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<tr>
<td>15:15 - 15:30</td>
<td>AMPK regulates the expression of the Fe-S cluster assembly enzyme (ISCU) and ALAS2, modulating cellular iron metabolism and increasing hemoglobin synthesis</td>
<td>Ping La</td>
<td>Children's Hospital of Philadelphia, United States of America</td>
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<td>14:00 - 15:30</td>
<td>Concurrent Session 3: Heme Physiology and Pathophysiology</td>
<td>Chairs: Iqbal Hamza and Emanuela Tolosano</td>
<td>ATC Courtyard Room A &amp; B</td>
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<td>14:00 - 14:15</td>
<td>The safe coordinated trafficking of heme and iron after heme-hemopexin endocytosis requires copper for cell homeostasis</td>
<td>Ann Smith</td>
<td>University of Missouri, United States of America</td>
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<td>14:15 - 14:30</td>
<td>Heme cytotoxicity in the brain: Microglia polarization and neuronal damage</td>
<td>Illyane Lima</td>
<td>NOVA University of Lisbon, Portugal</td>
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<td>14:30 - 14:45</td>
<td>Iron deposition associated to vascular damage and hemolysis causes senescence and fibrosis</td>
<td>Mate Maus</td>
<td>IRB Barcelona, Barcelona Institute of Science and Technology, Spain</td>
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<td>14:45 - 15:00</td>
<td>Modulating heme biosynthesis alters Toxoplasma sensitivity to antimalarials</td>
<td>Clare Harding</td>
<td>University of Glasgow, United Kingdom</td>
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<td>15:00 - 15:15</td>
<td>Metabolic adaptation in colorectal cancer: Heme export is required for the modulation of the tricarboxylic acid cycle</td>
<td>Veronica Fiorito</td>
<td>University of Turin, Italy</td>
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15:15 - 15:30  **Heme synthesis/Heme export axis as a novel regulator of cellular oxidative metabolism**
Emanuela Tolosano
*University of Turin, Italy*

15:30 - 16:00  **Coffee Break**
ATC Auditorium Foyer

16:00 - 17:30  **Concurrent Session 4: Infection and Inflammation**
Chairs: Caroline Philpott and Günter Weiss
ATC Auditorium

16:00 - 16:15  **Non-transferrin-bound iron in hematopoietic stem cell transplanted patients serves as iron source for Aspergillus fumigatus outgrowth**
Verena Petzer
*Medical University of Innsbruck, Austria*

16:15 - 16:30  **Reduction in erythrocyte life span as a key component of mycobacteria induced anemia**
Maria Salomé Gomes
*University of Porto, Portugal*

16:30 - 16:45  **The role of TNFa and IFNg in anemia of inflammation, immunity and stress erythropoiesis**
Stefano Rivella
*Children's Hospital of Philadelphia, United States of America*

16:45 - 17:00  **Hepcidin-mediated hypoferremic response to acute inflammation requires a threshold of Bmp6/Hjv/Smad signaling**
Edouard Charlebois
*McGill University, Canada*

17:00 - 17:15  **Hemolysis and intracellular heme confer protection against anti-CD40-triggered macrophage activation syndrome and vaso-occlusive inflammatory liver disease**
Giada Ingoglia
*University of Zurich, Switzerland*
17:15 - 17:30  Anemia in infants at age 10-24 weeks predicts reduced long-term efficacy of diphtheria vaccine: a 2-year prospective observational study in rural Kenya

Nicole Stoffel
ETH Zürich, Switzerland

16:00 - 17:30  Concurrent Session 5: Liver Iron-Sensing and Control of the Hepcidin/Ferroportin Regulatory System
Chairs: Laura Silvestri and Jodie Babitt

Large Operon

16:00 - 16:30  New modes of hepcidin regulation
Hal Drakesmith
University of Oxford, United Kingdom

16:30 - 16:45  Endothelial Bmp2 knockout exacerbates hemochromatosis in Hfe knockout mice but not Bmp6 knockout mice
Xia Xiao
Massachusetts General Hospital; Harvard Medical School, United States of America

16:45 - 17:00  The hemochromatosis proteins are dispensable for acute BMP2-mediated hepcidin upregulation in mice
Alessia Pagani
San Raffaele Scientific Institute, Italy

17:00 - 17:15  MyD88 regulates the expression of SMAD4 and the iron regulatory hormone hepcidin
Macha Samba Mondonga
University of Montreal, Canada

17:15 - 17:30  Spatial zonation of hepcidin in the liver is patterned by testosterone
Hélène Coppin
INSERM, France

16:00 - 17:30  Concurrent Session 6: Iron and Neurodegeneration
Chairs: Ashley Bush and Raffaella Gozzelino
ATC Courtyard Room A & B
16:00 - 16:30  Is ferroptosis, a newly characterized iron-dependent form of cell death, a clue for neuroprotection in Parkinson's disease?
David Devos
University of Lille, France

16:30 - 16:45  Evidence for communication between systemic iron status and cerebrospinal fluid: Clinical implications for therapeutic strategy
James Connor
Pennsylvania State University, United States of America

16:45 - 17:00  Mitochondrial ferritin attenuates ferroptosis and ER-stress induced apoptosis in an experimental model of ischemic stroke
Peina Wang
Hebei Normal University, China

17:00 - 17:15  How and why does iron storage fail with age?
Gawain McColl
University of Melbourne, Australia

17:15 - 17:30  Changes in gut microbiota: An early event in Parkinson's disease
Raffaella Gozzelino
NOVA University of Lisbon, Portugal

16:00 - 17:30  Concurrent Session 7: Iron Deficiency Disorders and Their Treatment
Chairs: Diego Moretti and Heinz Zoller
Small Operon

16:00 - 16:15  The effect of genetic variation in TMPRSS6 (SNP rs855791) on iron metabolism and oral iron absorption: a stable iron isotope study in Taiwanese women
Sung-Nan Pei
Chia-Yi Chang Gung Memorial Hospital, Taiwan
16:15 - 16:30  
Tmprss6/− mice show plasma FGF23 elevation that is influenced by Fgf23 gene dosage  
Xiuqi Li  
*Yale School of Medicine, United States of America*

16:30 - 16:45  
Generation and development of KY1070, a fully human anti-BMP6 antibody for treatment of Anemia of Chronic Disease  
Volker Germaschewski  
*Kymab, United Kingdom*

16:45 - 17:00  
Iron deficiency and a genetic risk score derived from GWAS are associated with Restless Legs Syndrome and its severity in 20,000 blood donors  
David J. Roberts  
*University of Oxford, United Kingdom*

17:00 - 17:15  
Novel formulations to fortify rice with iron: Evidence and public health potential  
Diego Moretti  
*Swiss Distance University of Applied Sciences, Switzerland*

17:15 - 17:30  
Fecal microbiota as a biomarker to predict the tissue iron accumulation in intestine epithelial cells and liver  
Liwei Xie  
*Guangdong Institute of Microbiology, China*

17:30 - 18:00  
Meet the Master with refreshments  
Interview with Maria de Sousa  
ATC Auditorium Foyer

18:00 - 19:30  
Dinner  
EMBL Canteen

19:30 - 20:30  
Open Debate: Controversies in Bioiron  
Topic: Intravenous Iron Supplementation in Chronic Cardiac Failure  
Moderator: Tomas Ganz  
In Favor: Iain Macdougall - King's College Hospital, UK  
Against: Hossein Ardehali - Northwestern University, USA  
ATC Courtyard Room A & B
19:30 - 22:00  Poster Session I (odd numbers)
with drinks and snacks

ATC Helix A & B
# Programme

**Tuesday 7 May 2019**

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<tr>
<th>Time</th>
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<tr>
<td>07:45 - 08:45</td>
<td><strong>Meet the Expert 1: Gene Therapy for Iron Disorders</strong>&lt;br&gt;with Stefano Rivella - University of Pennsylvania, USA&lt;br&gt;ATC Helix Seminar Room A</td>
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<td>07:45 - 08:45</td>
<td><strong>Meet the Expert 2: Tracing the Intracellular Dynamics of Iron and Heme</strong>&lt;br&gt;with Iqbal Hamza - University of Maryland, USA&lt;br&gt;ATC Helix Seminar Room B</td>
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<td>09:00 - 12:30</td>
<td><strong>Plenary 2: Disorders of Iron Metabolism</strong>&lt;br&gt;Chairs: Clara Camaschella and Antonello Pietrangelo</td>
<td>ATC Auditorium</td>
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<td>09:00 - 09:30</td>
<td><strong>The battle for iron between pathogens, the host, and the microbiota in the inflamed gut</strong>&lt;br&gt;Manuela Raffatellu&lt;br&gt;<em>University of California, San Diego, United States of America</em></td>
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<td>09:30 - 10:00</td>
<td><strong>Ferritinophagy and cell cycle control</strong>&lt;br&gt;Francesca Carlomagno&lt;br&gt;<em>University of Naples Federico II, Italy</em></td>
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<td>10:00 - 10:15</td>
<td><strong>The natural history of ferroportin disease – first results of the international, multicenter non-HFE registry</strong>&lt;br&gt;Benedikt Schaefer&lt;br&gt;<em>Medical University of Innsbruck, Austria</em></td>
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<td>10:15 - 10:30</td>
<td><strong>New insights into the molecular mechanisms underlying the pro-atherosclerotic effect of non-transferrin-bound iron</strong>&lt;br&gt;Francesca Vinchi&lt;br&gt;<em>New York Blood Center, United States of America</em></td>
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<td>10:30 - 11:00</td>
<td><strong>Coffee Break</strong>&lt;br&gt;ATC Auditorium Foyer</td>
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11:00 - 12:30 Plenary 2: Disorders of Iron Metabolism (continued)
Chairs: Tomas Ganz and Stefano Rivella
ATC Auditorium

11:00 - 11:30 Treating leukemia with oxidative ferrotherapy
Monica Guzman
Cornell University, United States of America

11:30 - 12:00 Iron, ferroptosis, aging and Alzheimer’s disease
Ashley Bush
Florey Institute of Neuroscience and Mental Health, Australia

12:00 - 12:15 Differential effects of IRP1 deficiency versus HIF-2a IRE deletion on postnatal erythropoiesis in mice
Rick Eisenstein
University of Wisconsin-Madison, United States of America

12:15 - 12:30 Absence of iron-responsive element-binding protein 2 causes a novel neurodegenerative syndrome
Nunziata Maio
National Institutes of Health, United States of America

12:30 Packed Lunch
ATC Auditorium Foyer

From 12:30 Free Afternoon

19:00 - 20:30 Drinks Reception with Live Music Blue Note Jazz Trio
Ticketed event
Heidelberg Castle
Wednesday 8 May 2019

07:45 - 08:45  Meet the Expert 3: Translating Biologic Discoveries to Clinical Practice with Tomas Ganz - University of California, Los Angeles, USA and Elizabeta Nemeth - University of California, Los Angeles, USA
ATC Helix Seminar Room A

07:45 - 08:45  Meet the Expert 4: Biophysical Approaches to Iron Speciation in Cells and Organ Development with Robert Hider - King's College London, UK and Paul Lindahl - Texas A&M University, USA
ATC Helix Seminar Room B

ATC Auditorium

09:00 - 09:30  Iron homeostasis regulates facultative heterochromatin assembly in adaptive genome control
Shiv Grewal
National Institutes of Health, United States of America

09:30 - 10:00  Irp2 Regulates Insulin Production Through Iron-Mediated Cdkal1-Catalyzed tRNA Modification
Elizabeth Leibold
University of Utah, United States of America

10:00 - 10:30  Friedreich ataxia: role of frataxin and pathophysiological consequences
Hélène Puccio
INSERM, France

10:30 - 11:00  Coffee Break
ATC Auditorium Foyer
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<td>11:00 - 11:30</td>
<td>Cytosolic and nuclear iron-sulfur protein assembly</td>
<td>Oliver Stehling</td>
<td>Philipps-University Marburg, Germany</td>
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<td>11:30 - 12:00</td>
<td>The lability of the NEET proteins' iron sulphur cluster: Biomedical implication</td>
<td>Rachel Nechushtai</td>
<td>The Hebrew University of Jerusalem, Israel</td>
<td>69</td>
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<td>12:00 - 12:15</td>
<td>Fe-S cluster biogenesis in DNA repair proteins: Structural studies of the CiA machinery</td>
<td>Susanne Kassube</td>
<td>Friedrich Miescher Institute for Biomedical Research, Switzerland</td>
<td>70</td>
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<tr>
<td>12:15 - 12:30</td>
<td>Dimeric ferrochelatase bridges ABCB7 and ABCB10 homodimers in an architecturally defined molecular complex required for heme biosynthesis</td>
<td>Nunziata Maio</td>
<td>National Institutes of Health, United States of America</td>
<td>71</td>
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<tr>
<td>12:30 - 14:15</td>
<td>Lunch</td>
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<td>ATC Auditorium Foyer</td>
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<tr>
<td>14:15 - 15:15</td>
<td>Concurrent Session 8: Cardiovascular Disease</td>
<td>Hossein Ardehali and Samira Lakhal-Littleton</td>
<td>ATC Auditorium</td>
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<tr>
<td>14:15 - 14:30</td>
<td>Unexpected differences in cardiac iron metabolism and survival in Hepcidin-ko and FpnC326S mice</td>
<td>Sandro Altamura</td>
<td>Heidelberg University, Germany</td>
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<td>Time</td>
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<td>Speaker</td>
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<tr>
<td>14:30 - 14:45</td>
<td>Role of mTOR-TTP Pathway in cardiac response to iron deficiency</td>
<td>Hossein Ardehali</td>
<td>Northwestern University, United States of America</td>
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<td>14:45 - 15:00</td>
<td>Smooth muscle cell iron retention contributes to the pathology of abdominal aortic aneurysm</td>
<td>Paul Loick</td>
<td>University of Oxford, Germany</td>
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<td>15:00 - 15:15</td>
<td>Interfering with endothelial heme metabolism to control the angiogenic process</td>
<td>Sara Petrillo</td>
<td>University of Turin, Italy</td>
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<td>14:15 - 15:15</td>
<td>Concurrent Session 9: Macrophage and Iron Metabolism</td>
<td>Large Operon</td>
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<tr>
<td>14:15 - 14:30</td>
<td>Systemic dysfunction in Lysinuric Protein Intolerance drives immune complications</td>
<td>Susanna Bodoy</td>
<td>IRB Barcelona, Spain</td>
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<td>14:30 - 14:45</td>
<td>Myeloid heavy chain ferritin mitigates ischemic acute kidney injury</td>
<td>Laurence Black</td>
<td>University of Alabama at Birmingham, United States of America</td>
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<td>14:45 - 15:00</td>
<td>The macrophage iron phenotype – a novel target in cancer therapy?</td>
<td>Christina Mertens</td>
<td>Heidelberg University Hospital, Germany</td>
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<tr>
<td>Time</td>
<td>Session Description</td>
<td>Speaker</td>
<td>Institution</td>
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<td>15:00 - 15:15</td>
<td>Transfusion-induced impairment of macrophage responses is partially restored by the iron chelator deferasirox</td>
<td>Francesca Vinchi</td>
<td>New York Blood Center, United States of America</td>
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<td>14:15 - 15:15</td>
<td>Concurrent Session 10: Iron Biology and Disease Chairs: Sonia Levi and Mayka Sanchez</td>
<td>ATC Courtyard Room A &amp; B</td>
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<td>14:15 - 14:30</td>
<td>Induction of erythroferrone in healthy humans by microdose recombinant erythropoietin or high altitude exposure</td>
<td>Elena Gammella</td>
<td>University of Milan, Italy</td>
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<td>14:30 - 14:45</td>
<td>Iron Regulatory Protein 1 requires glycogen branching enzyme and mitoNEET to remain functional as an iron-regulatory holo-form</td>
<td>Kirst King-Jones</td>
<td>University of Alberta, Canada</td>
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<td>14:45 - 15:00</td>
<td>TGFβ regulates BMP2 in liver sinusoidal endothelial cells: A possible link between chronic liver disease and iron overload</td>
<td>Silvia Colucci</td>
<td>Heidelberg University, Germany</td>
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<td>15:00 - 15:15</td>
<td>PIGA germline mutations may cause a novel subtype of hereditary hemochromatosis</td>
<td>Lena Muckenthaler</td>
<td>Heidelberg University, Germany</td>
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<td>15:15 - 16:00</td>
<td>Coffee Break</td>
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<td>16:00 - 17:30</td>
<td>Concurrent Session 11: Iron Overload, Iron Chelation and Targeted Therapies Chairs: Robert Hider and Dorine Swinkels</td>
<td>ATC Auditorium</td>
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<td>16:00 - 16:15</td>
<td>A new orally active iron chelator: CN128</td>
<td>Robert Hider</td>
<td>King's College London, United Kingdom</td>
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</tbody>
</table>
16:15 - 16:30  Applications of nanotechnology to the delivery of iron chelators
Greg Anderson
QIMR Berghofer Medical Research Institute, Australia

16:30 - 16:45  Orally-delivered ginger nanoparticle-derived lipid vectors target functional Dmt1 siRNAs to duodenal enterocytes and Mitigate Iron Loading in Hepcidin KO Mice
Xiaoyu Wang
University of Florida, United States of America

16:45 - 17:00  Gastrointestinal iron excretion and reversal of iron excess in a mouse model of inherited iron excess
Thomas Bartnikas
Brown University, United States of America

17:00 - 17:15  Novel third-generation ferrostatins protect against acute iron poisoning-induced organ injury
Samya Van Coillie
VIB-UGent, Belgium

17:15 - 17:30  Double knockout of ZIP14 and ZIP8 in mice reveals novel roles for ZIP8 in tissue iron accumulation in iron overload
Mitchell Knutson
University of Florida, United States of America

16:00 - 17:30  Concurrent Session 12: Cancer and Ferroptosis
Chairs: Marcus Conrad and Monica Guzman
Large Operon

16:00 - 16:30  MYCN mediates cysteine addiction and sensitizes to ferroptosis
Frank Westermann
German Cancer Research Center, Heidelberg, Germany

16:30 - 16:45  Iron induces cell death and synergizes with anti-androgen therapy in prostate cancer pre-clinical models
Alessandro Campanella
San Raffaele Scientific Institute, Italy
16:45 - 17:00  Amyloid precursor protein (APP) supports tumorigenesis by counteracting iron-mediated oxidative stress and p38MAPK-dependent DNA damage  
Vivek Venkataramani  
University Medical Center Göttingen, Germany

17:00 - 17:15  NCOA4 expression regulates ferritin accumulation and has differential effects on RSL3- and erastin-induced ferroptosis in HeLa cells  
Magdalena Gryzik  
University of Brescia, Italy

17:15 - 17:30  Pro-tumor characteristics of macrophage-derived lipocalin-2 (Lcn-2) are determined by its iron-load  
Michaela Jung  
Goethe University Frankfurt, Germany

16:00 - 17:30  Concurrent Session 13: Tissue-Specific Regulation of Iron Metabolism  
Chairs: Yelena Ginzburg and Katarzyna Mleczko-Sanecka

16:00 - 16:15  Intracellular iron deficiency in pulmonary arterial smooth muscle cells induces pulmonary arterial hypertension through endothelin-1  
Samira Lakhal-Littleton  
University of Oxford, United Kingdom

16:15 - 16:30  Mitoferrin 1/2 deficiency in type 2 Alveolar epithelial cells aggravates pulmonary fibrosis  
Suzanne M. Cloonan  
Weill Cornell Medical College, United States of America

16:30 - 16:45  Iron regulatory protein 2 (IRP2) mediates resistive breathing-induced pulmonary inflammation  
Kostas Pantopoulos  
McGill University, Canada
<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
<th>Location</th>
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<tbody>
<tr>
<td>16:45 - 17:00</td>
<td>A novel role for iron regulatory proteins in hematopoiesis</td>
<td>Michael Bonadonna</td>
<td>German Cancer Research Center (DKFZ), Germany</td>
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<tr>
<td>17:00 - 17:15</td>
<td>The role of hepatic transferrin in erythropoiesis</td>
<td>Yingying Yu</td>
<td>Zhejiang University School of Medicine, China</td>
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<tr>
<td>17:15 - 17:30</td>
<td>The iron-sensing receptor Tfr2 regulates osteoclastogenesis</td>
<td>Ulrike Baschant</td>
<td>TU Dresden, Germany</td>
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<td>17:30 - 18:00</td>
<td>Meet the Master with refreshments</td>
<td>Interview with Lawrie Powell</td>
<td>ATC Auditorium Foyer</td>
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<td>18:00 - 19:30</td>
<td>Dinner</td>
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<td>EMBL Canteen</td>
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<td>19:30 - 22:00</td>
<td>Poster Session II (even numbers) with drinks and snacks</td>
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<td>ATC Helix A &amp; B</td>
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Thursday 9 May 2019

07:45 - 08:45  Meet the Expert 5: DNA Biomarkers of Iron Disorders with Domenico Girelli - University of Verona, Italy and Dorine Swinkels - Radboud University, The Netherlands

ATC Helix Seminar Room A

09:00 - 11:00  Plenary 4: Presidential Plenary Session with Top-Scoring Abstracts
Chairs: Ioav Cabantchik and Martina Muckenthaler
ATC Auditorium

09:00 - 09:20  Iron powers adaptive immune responses to immunisations and influenza virus
Joe Frost
University of Oxford, United Kingdom

09:20 - 09:40  A novel iron chaperone complex delivers iron to the cytosolic [2Fe-2S] cluster distribution system
Sarju Patel
National Institutes of Health, United States of America

09:40 - 10:00  IRP mediated iron homeostasis in gut epithelial cells limits intestinal tumorigenesis
Bruno Galy
German Cancer Research Center (DKFZ), Germany

10:00 - 10:20  Steroyl-CoA Desaturase 1 protects ovarian cancer cells from ferroptotic cell death
Suzy Torti
University of Connecticut Health Center, United States of America

10:20 - 10:40  Delineating heme transport using HRG1-deficient mouse models
Iqbal Hamza
University of Maryland, United States of America
10:40 - 11:00  Ablation of hepatocyte Smad1, Smad5 and Smad8 causes severe tissue iron loading and liver fibrosis in mice

Chia-Yu Wang  
Massachusetts General Hospital, United States of America

11:00 - 11:30  Coffee Break  
ATC Auditorium Foyer

11:30 - 13:00  Concurrent Session 14: Hereditary Hemochromatosis  
Chairs: Pierre Brissot and Graça Porto

ATC Auditorium

11:30 - 12:00  Ancient genomics and the origins of the European genome  
Daniel Bradley  
Trinity College Dublin, Ireland

12:00 - 12:15  The structure-function analysis of ferroportin 1 (FPN1) gating residues sheds new light on the pathogenic mechanisms involved in haemochromatosis type 4A (HC 4A)  
Marlène Le Tertre  
University Hospital Brest, France

12:15 - 12:30  Iron overload associated osteoporosis could be favored by a low level of hepcidin and/or by an alteration of Mn or Mo metabolisms  
Olivier Loréal  
INSERM, France

12:30 - 12:45  Penetration of hereditary hemochromatosis mutations in 450,000 people of European ancestry  
David Melzer  
University of Exeter Medical School, United Kingdom
12:45 - 13:00 **Hemochromatosis: A lower illness with higher implications.** A rare opportunity of following the natural history of an age related disease

Graça Porto  
*University of Porto, Portugal*

11:30 - 13:15 **Concurrent Session 15: Therapeutic Approaches**  
**Chairs:** Kostas Pantopoulos and Michael Zimmermann

11:30 - 11:45 **The evolution of intravenous iron therapy**
Carlo Gaillard  
*University of Utrecht, The Netherlands*

11:45 - 12:00 **Evaluation of the Intrinsic Hepcidin IDx™ to detect iron deficiency (ID) in adolescents and young adults**
Mark Fleming  
*Boston Children’s Hospital, United States of America*

12:00 - 12:15 **Oral iron therapy in predialysis Chronic Kidney Disease (CKD) patients has no adverse effects on the gut microbiome and circulating uremic toxin concentrations**
Dorine Swinkels  
*Radboud University Medical Center, The Netherlands*

12:15 - 12:30 **Nanostructured iron compounds for nutrition: Isotope studies in DMT1-knockout mice and Thai women**
Hans Winkler  
*ETH Zürich, Switzerland*

12:30 - 12:45 An antisense Oligonucleotide (IONIS-TMPRSS6-LRX) targeting transmembrane protease, Serine 6 (TMPRSS6) induces hepcidin and reduces serum iron and transferrin saturation in healthy volunteers
Y Paul Goldberg  
*Ionis Pharmaceuticals, United States of America*
12:45 - 13:00  SLN124, a GalNAc siRNA conjugate targeting TMPRSS6, for the treatment of iron overload and ineffective erythropoiesis such as in beta thalassemia

Ute Schaeper  
*Silence Therapeutics GmbH, Germany*

13:00 - 13:15  Characterization of hepcidin and microglia in an Alzheimer mouse model

Andreas Popp  
*Abbvie Deutschland GmbH & Co. KG, Germany*

11:30 - 13:00  Concurrent Session 16: Iron and Development  
Chairs: Elizabeta Nemeth and Nathan Subramaniam  
ATC Courtyard Room A & B

11:30 - 11:45  Universal applicable serum hepcidin pediatric reference ranges: set point relative to body iron parameters changes during human growth and development

Albertine Donker  
*Radboud University Medical Center, The Netherlands*

11:45 - 12:00  Iron transport to the fetus is controlled by a ‘selfish’ placenta

Veena Sangkhae  
*University of California, Los Angeles, United States of America*

12:00 - 12:15  Maternal iron excess and inflammation during pregnancy synergize to cause embryotoxicity

Allison Fisher  
*University of California, Los Angeles, United States of America*

12:15 - 12:30  Iron and n-3 fatty acid depletion, alone and in combination, during early development provoke anxiety, hedonic and social dysfunction in rats

Jeannine Baumgartner  
*ETH Zürich, Switzerland*
12:30 - 12:45  Behavioral effects of excess ferrous sulfate or ferrous bisglycinate chelate supplementation on suckling rat pups  
Shasta McMillen  
University of California, Davis, United States of America

12:45 - 13:00  The regulation of cellular heme metabolism is crucial for neurodevelopment  
Deborah Chiabrando  
University of Turin, Italy

13:00 - 14:30  Lunch  
ATC Auditorium Foyer

14:30 - 15:30  Business Meeting for members of the International BioIron Society  
ATC Auditorium

15:30 - 16:30  Hemochromatosis Nomenclature Meeting  
ATC Courtyard Room A & B

16:30 - 18:00  Joint European Federation of Associations of Patients with Haemochromatosis (EFAPH) and Haemochromatosis International (HI) Annual General Meeting  
Large Operon

16:30 - 18:30  Free Time

18:30 - 19:30  Social Hour with refreshments  
ATC Auditorium Foyer

19:30 - 21:30  Farewell Dinner with Award Ceremony  
EMBL Canteen

21:30 - 01:00  Party with Live Bands  
Opening Act: The Iron-Balls  
Headliner: The Wright Thing  
ATC Auditorium Foyer
Poster removal: Please remember to collect your poster. Posters which have not been collected will be disposed of after the meeting.

Feedback questionnaire: Check your inbox when the meeting ends. You will find an email with the link to the online feedback questionnaire. Please take time to complete it.

Friday 10 May 2019

08:30 - 16:30  International Haemochromatosis Patients Meeting
              ATC Courtyard Room A & B