

---

**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 Cabantchik and Hal Drakesmith**  
ATC Auditorium
- 09:00 - 09:05 **Introductory Remarks**  
**Ioav Cabantchik, 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 **Biolron: Origin, chemical properties and evolution** 1  
Kostas Pantopoulos  
*McGill University, Canada*
- 09:45 - 10:30 **Iron transport proteins: Gateways of cellular and systemic iron homeostasis** 2  
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

**EMBL Conference: 8th Congress of the International BioIron Society**

11:00 - 11:45	<b>Mechanisms controlling cellular iron homeostasis in mammals</b> Rick Eisenstein <i>University of Wisconsin-Madison, United States of America</i>	3
11:45 - 12:30	<b>Systemic iron homeostasis</b> Jodie Babitt <i>Massachusetts General Hospital; Harvard Medical School, United States of America</i>	4
12:30 - 13:30	<b>Lunch</b> EMBL Canteen	
13:30 - 15:30	<b>Session 2: Genetic and Acquired Iron Disorders</b> <b>Chairs: Clara Camaschella and Günter Weiss</b> ATC Auditorium	
13:30 - 14:00	<b>Genetic diseases causing iron deficiency and iron overload: Two faces of the same coin</b> Laura Silvestri <i>San Raffaele Scientific Institute, Italy</i>	5
14:00 - 14:30	<b>Erythropoiesis and iron metabolism: Crosstalk, implications, and therapeutic options in iron loading anemias</b> Yelena Ginzburg <i>Icahn School of Medicine at Mount Sinai, United States of America</i>	6
14:30 - 15:30	<b>Iron in cancer, infection, kidney and liver diseases: Innocent bystander or therapeutic target?</b> Igor Theurl and Heinz Zoller <i>Medical University of Innsbruck, Austria</i>	7
15:30 - 16:00	<b>Coffee Break</b> ATC Auditorium Foyer	
16:00 - 17:30	<b>Session 3: Global Issues</b> <b>Chairs: Domenico Girelli and Dorine Swinkels</b> ATC Auditorium	

- 16:00 - 16:45 **The pathophysiology and diagnosis of iron deficiency and anaemia in populations and patients** 8  
 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** 9  
 Michael Zimmermann  
*ETH Zürich, Switzerland*
- 17:30 - 18:00 **Session 4: The Future of Biolon**  
**Chair: Hal Drakesmith**  
 ATC Auditorium
- 17:30 - 18:00 **Open questions in basic and clinical iron research** 10  
**"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** 11  
 Peer Bork  
*EMBL Heidelberg, Germany*  
 ATC Auditorium
- 19:30 - 21:30 **Welcome Reception with nibbles and refreshments**  
 ATC Auditorium Foyer

---

## Monday 6 May 2019

---

- 08:00 - 08:45 **Arrival and Registration with light refreshments**  
ATC Registration Desk
- 08:45 - 09:00 **Welcome Remarks**  
**by organisers Ioav Cabantchik, Matthias Hentze and**  
**Martina Muckenthaler**  
ATC Auditorium
- 09:00 - 12:30 **Plenary 1: Cell Biology of Iron Metabolism**  
**Chairs: Bruno Galy and Matthias Hentze**  
ATC Auditorium
- 09:00 - 09:30 **Mechanisms of ferroptosis** 12  
Marcus Conrad  
*Helmholtz Zentrum München, Germany*
- 09:30 - 09:45 **Mechanisms, pathways and regulation of mammalian** 13  
**ferritin secretion**  
Lior Spektor  
*Technion - Israel Institute of Technology, Israel*
- 09:45 - 10:00 **Novel mechanistic insights into the regulation of** 14  
**BMP-SMAD pathway and hepcidin expression by FKBP12**  
  
Alessandro Dulja  
*San Raffaele Scientific Institute, Italy*
- 10:00 - 10:15 **A novel role for peroxisomal proteins in iron homeostasis** 15  
  
Nathan Subramaniam  
*Queensland University of Technology, Australia*
- 10:15 - 10:30 **A systems genetics approach to identify genes and** 16  
**pathways involved in liver iron overload and pathology**  
  
Brie Fuqua  
*University of California, Los Angeles, United States of America*

- 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** 17  
  
Martina Rauner  
*TU Dresden Medical Center, Germany*
- 11:30 - 12:00 **Regulation of transferrin receptor via S-acylation** 18  
Aurelio Teleman  
*German Cancer Research Center, Germany*
- 12:00 - 12:15 **Ncoa4-mediated ferritinophagy maintains murine erythropoiesis via cell autonomous and non-autonomous mechanisms** 19  
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** 20  
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** 21  
Domenico Girelli  
*University of Verona, Italy*

EMBL Conference: 8th Congress of the International BiIron Society

- 14:20 - 14:40 **Management of anaemia and iron deficiency in cancer patients: What guidelines say?** 22  
Manuel Muñoz  
*University of Málaga, Spain*
- 14:40 - 15:00 **Perioperative anemia and iron deficiency in oncological surgery** 23  
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** 24  
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** 25  
  
Antonella Nai  
*San Raffaele Scientific Institute, Italy*
- 14:45 - 15:00 **The regulation of ferroportin and iron regulatory protein 2 on erythropoiesis** 26  
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** 27  
Georg W. Bornkamm  
*Helmholtz Zentrum München, Germany*

- 15:15 - 15:30 **AMPK regulates the expression of the Fe-S cluster assembly enzyme (ISCU) and ALAS2, modulating cellular iron metabolism and increasing hemoglobin synthesis** 28  
 Ping La  
*Children's Hospital of Philadelphia, United States of America*
- 14:00 - 15:30 **Concurrent Session 3: Heme Physiology and Pathophysiology**  
**Chairs: Iqbal Hamza and Emanuela Tolosano**  
 ATC Courtyard Room A & B
- 14:00 - 14:15 **The safe coordinated trafficking of heme and iron after heme-hemopexin endocytosis requires copper for cell homeostasis** 29  
 Ann Smith  
*University of Missouri, United States of America*
- 14:15 - 14:30 **Heme cytotoxicity in the brain: Microglia polarization and neuronal damage** 30  
 Illyane Lima  
*NOVA University of Lisbon, Portugal*
- 14:30 - 14:45 **Iron deposition associated to vascular damage and hemolysis causes senescence and fibrosis** 31  
 Mate Maus  
*IRB Barcelona, Barcelona Institute of Science and Technology, Spain*
- 14:45 - 15:00 **Modulating heme biosynthesis alters Toxoplasma sensitivity to antimalarials** 32  
 Clare Harding  
*University of Glasgow, United Kingdom*
- 15:00 - 15:15 **Metabolic adaptation in colorectal cancer: Heme export is required for the modulation of the tricarboxylic acid cycle** 33  
 Veronica Fiorito  
*University of Turin, Italy*

EMBL Conference: 8th Congress of the International Biolon Society

- 15:15 - 15:30 **Heme synthesis/Heme export axis as a novel regulator of cellular oxidative metabolism** 34  
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** 35  
Verena Petzer  
*Medical University of Innsbruck, Austria*
- 16:15 - 16:30 **Reduction in erythrocyte life span as a key component of mycobacteria induced anemia** 36  
Maria Salomé Gomes  
*University of Porto, Portugal*
- 16:30 - 16:45 **The role of TNF $\alpha$  and IFN $\gamma$  in anemia of inflammation, immunity and stress erythropoiesis** 37  
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** 38  
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** 39  
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** 40  
 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** 41  
 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** 42  
 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** 43  
 Alessia Pagani  
*San Raffaele Scientific Institute, Italy*
- 17:00 - 17:15 **MyD88 regulates the expression of SMAD4 and the iron regulatory hormone hepcidin** 44  
 Macha Samba Mondonga  
*University of Montreal, Canada*
- 17:15 - 17:30 **Spatial zonation of hepcidin in the liver is patterned by testosterone** 45  
 H el ene 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?** 46  
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** 47  
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** 48  
Peina Wang  
*Hebei Normal University, China*
- 17:00 - 17:15 **How and why does iron storage fail with age?** 49  
Gawain McColl  
*University of Melbourne, Australia*
- 17:15 - 17:30 **Changes in gut microbiota: An early event in Parkinson's disease** 50  
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** 51  
Sung-Nan Pei  
*Chia-Yi Chang Gung Memorial Hospital, Taiwan*

- 16:15 - 16:30 **Tmprss6<sup>-/-</sup> mice show plasma FGF23 elevation that is influenced by Fgf23 gene dosage** 52  
 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** 53  
 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** 54  
 David J. Roberts  
*University of Oxford, United Kingdom*
- 17:00 - 17:15 **Novel formulations to fortify rice with iron: Evidence and public health potential** 55  
 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** 56  
 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

EMBL Conference: 8th Congress of the International Biolron Society

19:30 - 22:00 **Poster Session I (odd numbers)**  
**with drinks and snacks**

ATC Helix A & B

---

**Tuesday 7 May 2019**

---

- 07:45 - 08:45 **Meet the Expert 1: Gene Therapy for Iron Disorders with Stefano Rivella - University of Pennsylvania, USA**  
ATC Helix Seminar Room A
- 07:45 - 08:45 **Meet the Expert 2: Tracing the Intracellular Dynamics of Iron and Heme with Iqbal Hamza - University of Maryland, USA**  
ATC Helix Seminar Room B
- 09:00 - 12:30 **Plenary 2: Disorders of Iron Metabolism**  
**Chairs: Clara Camaschella and Antonello Pietrangelo**  
  
ATC Auditorium
- 09:00 - 09:30 **The battle for iron between pathogens, the host, and the microbiota in the inflamed gut** 57  
Manuela Raffatellu  
*University of California, San Diego, United States of America*
- 09:30 - 10:00 **Ferritinophagy and cell cycle control** 58  
Francesca Carlomagno  
*University of Naples Federico II, Italy*
- 10:00 - 10:15 **The natural history of ferroportin disease – first results of the international, multicenter non-HFE registry** 59  
  
Benedikt Schaefer  
*Medical University of Innsbruck, Austria*
- 10:15 - 10:30 **New insights into the molecular mechanisms underlying the pro-atherosclerotic effect of non-transferrin-bound iron** 60  
  
Francesca Vinchi  
*New York Blood Center, United States of America*
- 10:30 - 11:00 **Coffee Break**  
ATC Auditorium Foyer

**EMBL Conference: 8th Congress of the International Biolron Society**

- 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** 61  
Monica Guzman  
*Cornell University, United States of America*
- 11:30 - 12:00 **Iron, ferroptosis, aging and Alzheimer's disease** 62  
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** 63  
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** 64  
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
- 09:00 - 12:30 **Plenary 3: Biology of Iron-Sulfur Proteins**  
Chairs: Ioan Cabantchik and Roland Lill\*  
(\* COST Action 15133 "The Biogenesis of Iron-sulfur Proteins: from Cellular Biology to Molecular Aspects (FeSBioNet))  
ATC Auditorium
- 09:00 - 09:30 **Iron homeostasis regulates facultative heterochromatin assembly in adaptive genome control** 65  
  
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** 66  
Elizabeth Leibold  
*University of Utah, United States of America*
- 10:00 - 10:30 **Friedreich ataxia: role of frataxin and pathophysiological consequences** 67  
Hélène Puccio  
*INSERM, France*
- 10:30 - 11:00 **Coffee Break**  
ATC Auditorium Foyer

EMBL Conference: 8th Congress of the International Biolron Society

- 11:00 - 12:30 **Plenary 3: Biology of Iron-Sulfur Proteins (continued)**  
**Chairs: Tracey Rouault and Caroline Enns**  
**(\* COST Action 15133 "The Biogenesis of Iron-sulfur Proteins: from Cellular Biology to Molecular Aspects (FeSBioNet))**  
ATC Auditorium
- 11:00 - 11:30 **Cytosolic and nuclear iron-sulfur protein assembly** 68  
Oliver Stehling  
*Philipps-University Marburg, Germany*
- 11:30 - 12:00 **The lability of the NEET proteins' iron sulphur cluster: Biomedical implication** 69  
Rachel Nechushtai  
*The Hebrew University of Jerusalem, Israel*
- 12:00 - 12:15 **Fe-S cluster biogenesis in DNA repair proteins: Structural studies of the CIA machinery** 70  
Susanne Kassube  
*Friedrich Miescher Institute for Biomedical Research, Switzerland*
- 12:15 - 12:30 **Dimeric ferrochelatase bridges ABCB7 and ABCB10 homodimers in an architecturally defined molecular complex required for heme biosynthesis** 71  
Nunziata Maio  
*National Institutes of Health, United States of America*
- 12:30 - 14:15 **Lunch**  
ATC Auditorium Foyer
- 14:15 - 15:15 **Concurrent Session 8: Cardiovascular Disease**  
**Chairs: Hossein Ardehali and Samira Lakhal-Littleton**  
  
ATC Auditorium
- 14:15 - 14:30 **Unexpected differences in cardiac iron metabolism and survival in Hpcidin-ko and FpnC326S mice** 72  
Sandro Altamura  
*Heidelberg University, Germany*



14:30 - 14:45	<b>Role of mTOR-TTP Pathway in cardiac response to iron deficiency</b> Hossein Ardehali <i>Northwestern University, United States of America</i>	73
14:45 - 15:00	<b>Smooth muscle cell iron retention contributes to the pathology of abdominal aortic aneurysm</b> Paul Loick <i>University of Oxford, Germany</i>	74
15:00 - 15:15	<b>Interfering with endothelial heme metabolism to control the angiogenic process</b> Sara Petrillo <i>University of Turin, Italy</i>	75
14:15 - 15:15	<b>Concurrent Session 9: Macrophage and Iron Metabolism Chairs: Igor Theurl and Francesca Vinchi</b>  Large Operon	
14:15 - 14:30	<b>Systemic dysfunction in Lysinuric Protein Intolerance drives immune complications</b> Susanna Bodoy <i>IRB Barcelona, Spain</i>	76
14:30 - 14:45	<b>Myeloid heavy chain ferritin mitigates ischemic acute kidney injury</b> Laurence Black <i>University of Alabama at Birmingham, United States of America</i>	77
14:45 - 15:00	<b>The macrophage iron phenotype – a novel target in cancer therapy?</b> Christina Mertens <i>Heidelberg University Hospital, Germany</i>	78

- 15:00 - 15:15 **Transfusion-induced impairment of macrophage responses is partially restored by the iron chelator deferasirox** 79  
Francesca Vinchi  
*New York Blood Center, United States of America*
- 14:15 - 15:15 **Concurrent Session 10: Iron Biology and Disease**  
**Chairs: Sonia Levi and Mayka Sanchez**  
ATC Courtyard Room A & B
- 14:15 - 14:30 **Induction of erythroferrone in healthy humans by microdose recombinant erythropoietin or high altitude exposure** 80  
Elena Gammella  
*University of Milan, Italy*
- 14:30 - 14:45 **Iron Regulatory Protein 1 requires glycogen branching enzyme and mitoNEET to remain functional as an iron-regulatory holo-form** 81  
Kirst King-Jones  
*University of Alberta, Canada*
- 14:45 - 15:00 **TGF $\beta$  regulates BMP2 in liver sinusoidal endothelial cells: A possible link between chronic liver disease and iron overload** 175  
Silvia Colucci  
*Heidelberg University, Germany*
- 15:00 - 15:15 **PIGA germline mutations may cause a novel subtype of hereditary hemochromatosis** 82  
Lena Muckenthaler  
*Heidelberg University, Germany*
- 15:15 - 16:00 **Coffee Break**  
ATC Auditorium Foyer
- 16:00 - 17:30 **Concurrent Session 11: Iron Overload, Iron Chelation and Targeted Therapies**  
**Chairs: Robert Hider and Dorine Swinkels**  
ATC Auditorium
- 16:00 - 16:15 **A new orally active iron chelator: CN128** 83  
Robert Hider  
*King's College London, United Kingdom*

16:15 - 16:30	<b>Applications of nanotechnology to the delivery of iron chelators</b> Greg Anderson <i>QIMR Berghofer Medical Research Institute, Australia</i>	84
16:30 - 16:45	<b>Orally-delivered ginger nanoparticle-derived lipid vectors target functional Dmt1 siRNAs to duodenal enterocytes and Mitigate Iron Loading in Hepcidin KO Mice</b> Xiaoyu Wang <i>University of Florida, United States of America</i>	85
16:45 - 17:00	<b>Gastrointestinal iron excretion and reversal of iron excess in a mouse model of inherited iron excess</b> Thomas Bartrikas <i>Brown University, United States of America</i>	139
17:00 - 17:15	<b>Novel third-generation ferrostatins protect against acute iron poisoning-induced organ injury</b> Samya Van Coillie <i>VIB-UGent, Belgium</i>	86
17:15 - 17:30	<b>Double knockout of ZIP14 and ZIP8 in mice reveals novel roles for ZIP8 in tissue iron accumulation in iron overload</b>  Mitchell Knutson <i>University of Florida, United States of America</i>	87
16:00 - 17:30	<b>Concurrent Session 12: Cancer and Ferroptosis Chairs: Marcus Conrad and Monica Guzman</b> Large Operon	
16:00 - 16:30	<b>MYCN mediates cysteine addiction and sensitizes to ferroptosis</b> Frank Westermann <i>German Cancer Research Center, Heidelberg, Germany</i>	88
16:30 - 16:45	<b>Iron induces cell death and synergizes with anti-androgen therapy in prostate cancer pre-clinical models</b>  Alessandro Campanella <i>San Raffaele Scientific Institute, Italy</i>	89

- 16:45 - 17:00 **Amyloid precursor protein (APP) supports tumorigenesis by counteracting iron-mediated oxidative stress and p38MAPK-dependent DNA damage** 90  
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** 91  
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** 92  
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**  
  
ATC Courtyard Room A & B
- 16:00 - 16:15 **Intracellular iron deficiency in pulmonary arterial smooth muscle cells induces pulmonary arterial hypertension through endothelin-1** 93  
Samira Lakhali-Littleton  
*University of Oxford, United Kingdom*
- 16:15 - 16:30 **Mitoferrin 1/2 deficiency in type 2 Alveolar epithelial cells aggravates pulmonary fibrosis** 94  
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** 95  
Kostas Pantopoulos  
*McGill University, Canada*

- 16:45 - 17:00 **A novel role for iron regulatory proteins in hematopoiesis** 96  
 Michael Bonadonna  
*German Cancer Research Center (DKFZ), Germany*
- 17:00 - 17:15 **The role of hepatic transferrin in erythropoiesis** 97  
 Yingying Yu  
*Zhejiang University School of Medicine, China*
- 17:15 - 17:30 **The iron-sensing receptor Tfr2 regulates osteoclastogenesis** 98  
 Ulrike Baschant  
*TU Dresden, Germany*
- 17:30 - 18:00 **Meet the Master with refreshments**  
**Interview with Lawrie Powell**  
 ATC Auditorium Foyer
- 18:00 - 19:30 **Dinner**  
 EMBL Canteen
- 19:30 - 22:00 **Poster Session II (even numbers) with drinks and snacks**  
 ATC Helix A & B

---

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** 99  
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** 100  
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** 101  
Bruno Galy  
*German Cancer Research Center (DKFZ), Germany*
- 10:00 - 10:20 **Steroyl-CoA Desaturase 1 protects ovarian cancer cells from ferroptotic cell death** 102  
Suzy Torti  
*University of Connecticut Health Center, United States of America*
- 10:20 - 10:40 **Delineating heme transport using HRG1-deficient mouse models** 103  
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** 104  
 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** 105  
 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)** 106  
 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** 107  
 Olivier Loréal  
*INSERM, France*
- 12:30 - 12:45 **Penetrance of hereditary hemochromatosis mutations in 450,000 people of European ancestry** 108  
 David Melzer  
*University of Exeter Medical School, United Kingdom*

- 12:45 - 13:00 **Hemochromatosis: A lower illness with higher implications. 109**  
**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**
- Large Operon
- 11:30 - 11:45 **The evolution of intravenous iron therapy 110**
- Carlo Gaillard  
*University of Utrecht, The Netherlands*
- 11:45 - 12:00 **Evaluation of the Intrinsic Hepcidin IDx™ to detect iron 111**  
**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 112**  
**(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 113**  
**studies in DMT1-knockout mice and Thai women**
- Hans Winkler  
*ETH Zürich, Switzerland*
- 12:30 - 12:45 **An antisense Oligonucleotide (IONIS-TMPRSS6-LRX) 114**  
**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** 115  
 Ute Schaeper  
*Silence Therapeutics GmbH, Germany*
- 13:00 - 13:15 **Characterization of hepcidin and microglia in an Alzheimer mouse model** 116  
 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** 117  
 Albertine Donker  
*Radboud University Medical Center, The Netherlands*
- 11:45 - 12:00 **Iron transport to the fetus is controlled by a 'selfish' placenta** 118  
 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** 119  
 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** 120  
 Jeannine Baumgartner  
*ETH Zürich, Switzerland*

**EMBL Conference: 8th Congress of the International Biolon Society**

- 12:30 - 12:45 **Behavioral effects of excess ferrous sulfate or ferrous bisglycinate chelate supplementation on suckling rat pups** 121  
Shasta McMillen  
*University of California, Davis, United States of America*
- 12:45 - 13:00 **The regulation of cellular heme metabolism is crucial for neurodevelopment** 122  
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 Biolon 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