



The ZIHP acts as a catalyst for large international cooperations: The example of HDL

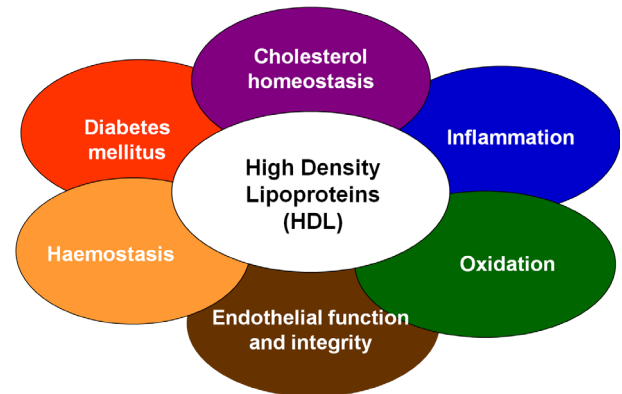
One of the largest ZIHP cooperative projects on ► **Metabolism, function and regulation of high density lipoproteins** was coordinated by Arnold von Eckardstein and involved thirteen scientists and five PhD students from seven clinics and institutes. After its completion in December 2011 the network has continued to collaborate within the University of Zurich as well as on the international level: Arnold von Eckardstein and Thomas Lüscher have become the vice chairman and chairman, respectively, of two European and transatlantic networks devoted to the research of high density lipoproteins (HDL).

New scientific networks

The COST action ► **HDL: from biological understanding to clinical exploitation** aims to create a scientific network of leading European investigators working on epidemiology, clinical aspects, genetics, structure, function, metabolism and regulation of HDL in order to foster multidisciplinary and collaborative HDL research. The Fondation LeDucq project ► **High-density lipoprotein dysfunction in development of cardiovascular disease and as a therapeutic target** involves four European and three US-American laboratories.

The multiple functions of HDL

Low plasma levels of HDL cholesterol are associated with increased risks of coronary heart disease, diabetes mellitus, various cancers as well as neurodegenerative diseases. Traditionally, this has been thought to reflect the reverse transport of cholesterol from peripheral cells to the liver. Recently, however, more comprehensive analyses revealed that HDL molecules form a heterogeneous class of supramolecular complexes that carry dozens of protein and lipid species and even microRNAs. The latter play an important role in the complex regulation of gene expression. Several of these molecules cannot be seen as passive cargo, but exert diverse biological effects in vitro and in vivo.



The multiple functions of HDL

These effects help to protect the organism from a broad spectrum of potentially harmful chemical or biological attacks and may explain the inverse associations of HDL cholesterol with the multiple disease risks. Increasing evidence also suggests that several chronic inflammatory diseases such as coronary heart disease, diabetes mellitus, chronic kidney disease, and rheumatoid arthritis modify the composition and integrity of proteins and lipids and thereby the functionality of HDL.

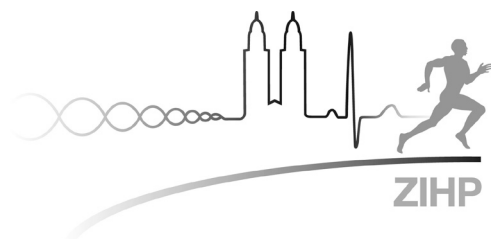
HDL links many disciplines

By its structural and functional diversity, HDL is extremely interesting as a target for the development of diagnostic biomarkers and therapeutic interventions for different diseases. Aside from that it is also an ideal topic for collaboration since it concerns various disciplines. One visible result of the ZIHP project and its collaborations with research groups from Athens, Los Angeles and Seattle is a ► **recent publication** in the Journal of Clinical Investigation. Ulf Landmesser, the senior author of this publication, will be awarded with the ► **Georg-Friedrich-Götz-Preis 2012** on April 19, 2012. Congratulations!

Prof. Arnold von Eckardstein

Imprint

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Wie man Elefanten das Fieber misst



Professor Jean-Michel Hatt, Direktor der Klinik für Zoo-, Heim- und Wildtiere der Vetsuisse-Fakultät der Universität Zürich, verbrachte ein ungewöhnliches Forschungssemester an der Universität von Banda Aceh auf Sumatra. Im tropischen Regenwald unterrichtete er angehende Tierärztinnen und Tierärzte. Über seine Erfahrungen berichtete im Rahmen der Reihe «Wissen-schaf(f)t Wissen».

► **Lesen Sie den Artikel auf UZH News.**

Nächste Veranstaltungen

WISSEN-SCHAFFT WISSEN

Montag, 7. Mai 2012, 18:00 - 19:30 Uhr

► **Nicht nur die Liebe geht durch den Magen ...**

Prof. Michael Fried, Direktor der Klinik für Gastroenterologie und Hepatologie des USZ

Montag, 4. Juni 2012, 18:00 - 19:30 Uhr

► **«Denn sie können nichts dafür»:**

Hirnreifung beim Kind und Jugendlichen

Prof. Lutz Jäncke, Neuropsychologe an der UZH

Careum, Gloriestrasse 16, 8006 Zürich

New member of the ZIHP Scientific Advisory Board

► **Derk-Jan Dijk** is new member of the ► **ZIHP Scientific Advisory Board**. He is Professor of Sleep and Physiology at the Sleep Research Centre at the University of Surrey, Guildford, UK. His research interests span from human sleep and biological rhythms and its disorders to aging, hypnotics and the monitoring of rest-activity and waking performance. His research is characterized by a strong translational approach.

Many thanks to the leaving board member Laurence R. Young, Professor at the Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, Cambridge, USA who accompanied the ZIHP from the early stages of its development!

From the editor's desk

A very warm welcome to our new Scientific Coordinator, ► **Dr. Christina Lange**, who used to be herself a former PhD student of the imMed PhD Program!

Events

April 17, 2012

► **Interaction of nanoparticles with the vascular compartment**

Mélanie Jacobson and Lukas Bircher, Institute of Physiology, UZH

April 17, 2012

► **The endocrinology behind bariatric surgery**

Prof. Dr. Thomas Lutz, Institute of Veterinary Physiology, UZH

April 18, 2012

► **Ovarian toxicity of sirolimus**

PD Dr. Andreas Serra, Clinic for Nephrology, USZ

19. April 2012

► **Organtransplantation – Wer darf auf die Liste?**

Psychiatrische und ethische Aspekte

April 23, 2012

► **Milk oligosaccharides, gut microbiota and mucosal immunity**

Prof. Dr. Thierry Hennet, Institute of Physiology, UZH

April 24, 2012 – ZIHP Lunch Seminar

► **Physiological and clinical relevance of thiazide-sensitive renal distal tubule**

Prof. Dr. Johannes Loffing, Institute of Anatomy, UZH

26. April 2012

► **Morbidität und Mortalität bei kardio-renalen Erkrankungen – aktuelle therapeutische Ansätze**

26. April 2012

► **Symposium Meningeome**

April 27, 2012

► **Mouse genetic approaches to understand renal cell carcinoma**

Prof. Dr. Ian Frew, Institute of Physiology, UZH

3. Mai 2012

► **2. Symposium Männergesundheit: ABC der modernen Männerheilkunde**

May 4, 2012 – ZIHP Special Seminar

► **Would doping at the SOLA be possible?**

Prof. Dr. Carsten Lundby, Inst. of Physiology, UZH

May 7, 2012

► **RNA Drugs and Targets**

Prof. Dr. Jonathan Hall, Institute of Pharmaceutical Sciences, ETHZ

May 7, 2012

► **Congenital nephrotic syndrome: insights and perspectives**

Prof. Dr. Corinne Antignac, INSERM U983, Hôpital Necker Enfants Malades, Paris, France

May 8, 2012

► **Tumor cell-induced endothelial activation requires CCL2 signaling for efficient monocyte recruitment that facilitates extravasation**

Alexandra Hoos, Institute of Physiology, UZH

May 9, 2012

► **The forkhead transcription factor Fox11 is crucial for proton transport in the inner ear, kidney and epididymis**

Prof. Sven Enerbäck, Göteborg University, Department of Medical Genetics, Göteborg, Schweden

May 10, 2012

► **Serotonin mediates pancreatic acinar cell secretion and cytoskeletal remodeling in mice – consequences for pancreatitis?**

Enrica Saponara, Department of Visceral & Transplantation Surgery, USZ

May 10, 2012

► **HLA antibodies in solid organ transplantation**

Symposium of the HLA Laboratory and Transplant Centre Zurich

10. Mai 2012

► **Ernährungskonzept 2012: Klinische Ernährung**

10. Mai 2012

► **Notfallsituationen in der Praxis: Theorie und Workshops**

Mai-Juni 2012

► **Neurologie-Fortbildung**

12. Mai 2012

► **18. Praktischer Echokardiographiekurs**

Erkrankungen von Aortenklappe & Aorta ascendens

May 14, 2012

► **Molecular function and dysfunction of lysosomal membrane transporters**

Dr. Bruno Gasnier, National Center for Scientific Research, University of Paris Descartes, France

May 14, 2012

► **Vasopressin dependent and independent regulation of water and solute homeostasis**

Prof. Dr. Robert A. Fenton, Institute for Biomedicine, University of Aarhus, Aarhus, Denmark

May 15, 2012 – ZIHP Lunch Seminar

► **How muscle fatigue originates in the brain**

Dr. Kai Lutz, Division of Neuropsychology, Institute of Psychology, University of Zurich

New ZIHP members

► **Prof. Dr. Onur Boyman**, Department of Dermatology, USZ as full member

► **PD Dr. Edna Grünblatt**, Neurobiochemistry Laboratory, Clinic for Child and Adolescent Psychiatry, UZH as junior member

► **Prof. Dr. Johannes Häberle**, Division of Metabolism, University Children's Hospital Zurich as full member

► **PD Dr. Yinghua Tian**, Department of Visceral & Transplantation Surgery, USZ as full member

Press review

► **Grosse Lebertumoren elegant entfernen**

Metastasen siedeln sich häufig in der Leber an. Dank einem neuen Verfahren, das seit kurzem von ZIHP-Mitglied Pierre-Alain Clavien, Direktor der Klinik für Viszeral- und Transplantationschirurgie des USZ, angewandt wird, können Patienten geheilt werden, die bisher als nicht behandelbar galten.

NZZ am Sonntag, 1. April 2012

► **Raucher könnten anfälliger für eine Schizophrenie sein**

Rauchen verändert die Wirkung eines Schizophrenie-Risikogens. Wissenschaftler der Universität Zürich um das ZIHP-Mitglied Boris Quednow und der Universität Köln zeigen: Gesunde Menschen, die dieses Risikogen tragen und rauchen, verarbeiten akustische Reize ähnlich defizient wie Patienten mit einer Schizophrenie. Dabei ist der Effekt um so stärker, je mehr die Betroffenen rauchen.

Medienmitteilung der UZH, 26. März 2012

► **Investigating the motivation for amputation**

The desire to have a healthy limb amputated is often dismissed as an unusual psychological impulse, but a comprehensive new study indicates it may be caused by anomalies in the architecture of the brain. ZIHP member Peter Brugger shares his work.

International Innovation, March 27, 2012

Recent publications

Brock M, Samillan VJ, Trenkmann M, Schwarzwald C, Ulrich S, Gay RE, Gassmann M, Ostergaard L, Gay S, Speich R, Huber LC.: [AntagomiR directed against miR-20a restores functional BMPR2 signalling and prevents vascular remodelling in hypoxia-induced pulmonary hypertension](#). Eur Heart J [Epub ahead of print], 2012

Eloranta JJ, Hiller C, Juttner M, Kullak-Ublick GA: [The SLC01A2 Gene, Encoding the Human Organic Anion Transporting Polypeptide 1A2 \(OATP1A2\), is Transactivated by the Vitamin D Receptor \(VDR\)](#). Mol Pharmacol [Epub ahead of print], 2012

Geiger A, Huber R, Kurth S, Ringli M, Achermann P, Jenni OG: [Sleep electroencephalography topography and children's intellectual ability](#). Neuroreport 23(2): 93-7, 2012

Heynen SR, Ogunshola OO, Grimm C: [A brief account of rho GTPases in retinal physiology and pathophysiology](#). Adv Exp Med Biol 723:581-7, 2012

Hoogewijs D, Dewilde S, Vierstraete A, Moens L, Vinogradov SN: [A phylogenetic analysis of the globins in fungi](#). PLoS One 7(2): e31856, 2012

Jia Y, Suzuki N, Yamamoto M, Gassmann M, Noguchi CT: [Endogenous erythropoietin signaling facilitates skeletal muscle repair and recovery following pharmacologically induced damage](#). FASEB J [Epub ahead of print], 2012

Lutz TA: [Effects of amylin on eating and adiposity](#). Handb Exp Pharmacol (209):231-50, 2012

Maurer K, Bostock H, Koltzenburg M: [Protons regulate the excitability properties of rat myelinated sensory axons in vitro through block of persistent sodium currents](#). J Peripher Nerv Syst. 17(1):102-11, 2012

Wuertz K, Vo N, Kleitsas D, Boos N: [Inflammatory and catabolic signalling in intervertebral discs: the roles of NF-κB and MAP kinases](#). Eur Cell Mater 23: 103-19, 2012