

Scientific Report of the URPP „Integrative Human Physiology“

1 Management Summary

The University Research Priority Program (URPP) „Integrative Human Physiology“ (IHP) is now in its third and final four-year-period (2013 – 2016). Since its establishment in 2005, the URPP IHP is strongly linked with the Zurich Center for Integrative Human Physiology (ZIHP), a center of competence of the University of Zurich. The URPP IHP fully finances the activities of the ZIHP. In the period of 2013 – 2016 the ZIHP was run with around 50% of the financial resources of the previous period. The name “ZIHP” is by now very well-established, thus it is used in this document to report on the activities of the URPP IHP.

The main goal of the ZIHP continues to be the promotion of research activities combining investigations at the levels of molecules, cells, organs and the whole organism, thereby bringing the complex functions of the human body into main focus. A second goal is to establish and strengthen long lasting connections between basic and clinically oriented research. Finally, the ZIHP promotes the dialog between science and society and makes the research performed within the ZIHP visible and understandable to the public.

During the last years the ZIHP has successfully developed into a unique and excellent instrument to connect scientists beyond institutional or faculty borders. Several successful activities and programs were established to accomplish these goals. The funding of cooperative projects promotes scientific collaborations as well as network activities among the members of the ZIHP, in particular between basic and clinical scientists. Several of the completed cooperative projects paved the ways to larger cooperations at a national and international level and for external funding. These networks demonstrate that the ZIHP provides an attractive platform for extending interactions to prestigious cooperations in science and industry.

The ZIHP is proud to host two outstanding young scientists in the positions of assistant professors and to be able to offer them a springboard for their academic career. Prof. Ian Frew is interested in the genetic mechanisms underlying the development of epithelial cancers. Prof. Lundby's research focuses adaptation of the human organism to exercise and to special environmental conditions at the systemic and the cellular level.

The PhD Program in Integrative Molecular Medicine (imMed) was established within the ZIHP in 2005. The program hosts a great number of students and offers attractive activities such as graduate courses and an annual retreat. The Zurich Integrative Rodent Physiology (ZIRP) Facility, which is run jointly by the ZIHP, the Institute of Physiology and the NCCR Kidney.CH, has continued to grow with respect to available equipment as well as number of users, and successfully applied to become the first “Integrated Technology Platform” of the University of Zurich. Many events were organized, such as the annual ZIHP symposium, scientific seminars and the very successful public *Wissen-schaf(f)t Wissen* series.

The ZIHP webpage contains information on events, research activities, and other news. Additionally, the regularly appearing newsletter (*ZIHP News*) is sent to more than 1800 subscribers. The ZIHP had again a very strong presence in the media within and outside the University of Zurich in 2015. Six reports on events of the *Wissen-schaf(f)t Wissen* series were published on the online portal *UZH News*. Several reports on research performed by ZIHP members appeared in the national press.

2 Objectives

2.1 Objectives for the reporting year

- Promotion of research activities that combine investigations at the levels of molecules, cells, organs and the whole organism
- Strengthening of long lasting connections between basic and clinically oriented research in health and disease
- Promotion of young researchers at the postgraduate level (PhD Program in Integrative Molecular Medicine *imMed*) and continuation of the two established assistant professorships
- Making the ZIHP well known in the scientific community and making the research done within the ZIHP visible to the public
- Organization of seminars and symposia
- Increase of the research efficiency by continuing to provide the Zurich Integrative Rodent Physiology (ZIRP) Facility.
- Application of the ZIRP Facility to become a technology platform of the UZH.
- Acquisition of additional funds for the time-period after 2016. Beyond 2016 the ZIHP plans to focus on topics around *Hypoxia – Movement – Exercise Physiology – Lung* since Zurich is home to excellent research groups in this area that however are not yet linked through a research network.

2.2 Which objectives and milestones were achieved, which not?

- Scientific collaborations and networking were enabled by financing 10 cooperative projects in the reporting period.
- Several of the completed cooperative projects paved the ways to larger cooperations at a national and international level and for external funding. These networks demonstrate that the ZIHP provides an attractive platform for extending interactions to prestigious cooperations in science and industry.
- The promotion of young researchers was achieved by the continuation of the PhD Program in Integrative Molecular Medicine *imMed* (see 4.1) and by funding a total of 14 PhD positions within the cooperative project grants and the ZIHP assistant professorships. Moreover, fellowships were awarded to 4 advanced PhD Students. The students work in a research group of a ZIHP member and will receive funds during 6 to 12 months in 2016.
- Both ZIHP assistant professors, Prof. Ian Frew and Prof. Carsten Lundby, successfully continued their research activities, resulting in numerous publications as senior authors, but also as co-authors together with other researcher of the ZIHP and the University Hospital Zurich, underlining the collaborative nature of the ZIHP. Both professors will continue to be fully funded until the end of 2016, as the ZIHP successfully prolonged their positions.
- Research performed within the ZIHP was made visible through the public event series *Wissen-schafft Wissen*. A report on six of the seven events was published on the public online portal of the University of Zurich *UZH News*. This exposure helped to further increase the popularity of the series.
- Many researchers of the ZIHP and other research institutions were brought together at the annual symposium in August 2015, at the 7 seminars within the Seminar Series in Integrative Human Physiology and at the five ZIHP Special Seminars which hosted internationally renowned speakers.
- The ZIHP is well known in the scientific community, since a total of 185 scientific publications mentioning the ZIHP in the affiliations section of the authors appeared in the reporting period.

- Research efficiency was increased by continuing to provide the Zurich Integrative Rodent Physiology (ZIRP) Facility. The ZIRP Facility successfully applied to become the first “Integrated Technology Platform” at the UZH.
- With the electronic newsletter *ZIHP News*, a communication channel was pursued that allows keeping up-to-date with the activities of the ZIHP and its members. Furthermore, it allows a broader audience to understand the aims and activities of the ZIHP.
- The acquisition of further substantial third-party funding for the future financing of the ZIHP proved to be very difficult. Considering the current financial situation, the ZIHP would be able to continue to exist as a competence center if the medical faculty contributes to the funding, e.g. by co-financing the coordinating office. However, financing research projects or even assistant professorships as done within the URRP will not be possible in the future unless external funding is established.

2.3 Updated project planning: Which are the objectives for the next year?

In general, the objectives for the next year remain the same. Since the URPP IHP is ending this year, the following goals were identified:

- The ZIRP Facility will be an “Integrated Technology Platform” at the UZH. During this last year of the URPP, all the necessary steps towards a complete financial and organizational independency of the platform from the ZIHP beyond 2016 will be undertaken.
- The very successful *imMed* PhD Program will be continued within the framework of the Life Science Zurich Graduate School LSZGS beyond 2016. Already from 2016 on it is financially independent due to resources of the Bologna II/III program of the UZH and of the SUK - Program *Doktoratsprogramme*. Efforts towards a complete financial and organizational independency from the ZIHP beyond 2016 are made.
- Beyond 2016, the ZIHP plans to focus on the coordination and organization of events for the public and for researchers. Research seminars and networking events for scientists will focus on topics around *Hypoxia – Movement – Exercise Physiology – Lung* as described above.

3 Research

3.1 Overview of the activities of the URPP in research: research projects, discussion of research projects within broader context of the URPP, new insights, indication of problems, etc.

The ZIHP competitively funds research in integrative human physiology. ZIHP members design cooperative projects that are integrative on several levels: from molecules to cells, organs and organisms as well as across disciplines and from basic to clinically oriented research. Furthermore, the combined expertise of the consortium represents an „added value“ in the sense that the outcome is more than the sum of its parts. Within these projects there is a strong focus on the education of young researchers: Funding can only be used for positions of PhD or MD-PhD students and for consumables. Four of the projects funded in 2015 are so-called *ZIHP Cooperative Sprint Projects* that started by midyear 2014. These are smaller projects with at least two ZIHP full or junior members. All projects are reviewed and discussed by the Scientific Advisory Board as well as by the Steering Committee. Abstracts of the projects are available on the website of the ZIHP: Research > Cooperative Projects.

All ZIHP full and junior members are entitled to apply for cooperative project grants. Eligibility criteria for full membership are a position as an independent research group leader with a running grant by the SNF or the EU or equivalent. The junior membership is a successful tool to promote young researchers who are already partially independent. Currently, the ZIHP counts 153 members.

List of cooperative projects mainly funded by the ZIHP / the URPP IHP

Funding period	Members of the project consortium	Title of the cooperative project
01.01.2013-31.12.2015	Battegay E, Grimm C, Lindenblatt N, Frew I, Clavien PA	Endothelial mTORC2 in mice and man: A target to normalize vascular malignant stress responses?
01.01.2013-31.12.2015	Boyman O, Reichenbach J, Rogler G	Modulation of innate and adaptive immune responses in inflammatory bowel disease
01.01.2014-31.12.2015	Beck Schimmer B, Keller E, Ogunshola L	Impairment of the blood-brain barrier: Evaluation of the effect of pharmacological postconditioning. A study from in vitro to in vivo to the patient
01.01.2014-31.12.2015	Frey-Wagner I, Scharl M, Konrad D, Fontana A	Gene x „Invironment“ interactions in chronic inflammatory disorders
01.07.2014-31.12.2015	Asarian L, Leeners B, Tobler P	Translational studies of endocrine and brain controls of eating in rats and pre and postmenopausal women
01.07.2014-31.12.2015	Gassmann M, Maggiorini M	Erythropoietin regulates erythroferron regulates hepcidin regulates iron uptake: testing this hypothesis in man and mouse
01.07.2014-31.12.2015	Lutz T, Hornemann T	Role of islet amyloid polypeptide (IAPP) derived deposits in vascular dysfunction in diabetes
01.07.2014-31.12.2015	Matter C, Hottiger M, Schüpbach R	A protective role of SIRT6 in arterial thrombosis? – From mice to men
01.01.2014-31.12.2016	Hennet T, Rogler G, Borsig L	Immune regulatory functions of milk oligo-saccharides
01.01.2014-31.12.2016	Seifritz E, Quednow B, Henning A	Glutamate homeostasis in brain's reward centers, its disturbances in cocaine addiction, and novel treatment strategies targeting at the restoration of the physiological state

The scientific output of these and in recent years completed cooperative projects resulted in 38 publications in 2015, see section 5. Publications.

ZIHP cooperative projects as catalysts for larger cooperation

Several of the completed cooperative projects paved the ways to larger cooperation at a national and international level and to external funding. All these larger cooperation are led by ZIHP members, with a number of additional ZIHP members as consortium participants. These networks demonstrate that the ZIHP provides an attractive platform for extending interactions to prestigious cooperations in science and industry. Examples are the following:

- NCCR Kidney.CH
- HDL: From biological understanding to clinical exploitation (COST Action)
- HypoxiaNet: Hypoxia sensing, signalling and adaptation (COST Action)
- High-density lipoprotein dysfunction in the development of cardiovascular disease and as a therapeutic target, a Transatlantic Network of Excellence funded by the Fondation Leducq
- Inflammation and acute coronary syndromes, a collaboration within the Special Program University Medicine of the Swiss National Science Foundation
- radiz - Rare Disease Initiative Zurich (Clinical Research Priority Programs of the UZH)
- Sleep and Health (Clinical Research Priority Programs of the UZH)

- RESOLVE: A systems biology approach to RESOLVE the molecular pathology of two hallmarks of patients with metabolic syndrome and its co-morbidities; hypertriglyceridemia and low HDL-cholesterol (FP7 action)
- EpoCan: Understanding the role of erythropoietin and its receptor in different pathologies apart from red blood cell production (FP7 action)

With its two assistant professors, Prof. Ian Frew and Prof. Carsten Lundby, the ZIHP is proud to promote translational research in the field of epithelial cancer and integrative human physiology from the molecule to the whole organism, respectively. Prof. Frew holds an SNSF professorship and an ERC Starting Grant. Prof. Lundby attracted considerable third party funding from the SNSF.

The ZIHP is one of the three stakeholders of Zurich Integrative Rodent Physiology (ZIRP), so that a short report on its activities is given here.

Since the financial support from the ZIHP is running out by the end of 2016, ZIRP started to seek alternative sources for funding its staff. At the end of 2015, ZIRP was approved as the first “Integrated Technology Platform (ITP)” of the University of Zurich, and the University leadership decided to support the ZIRP with CHF 100'000 per year starting in 2017. Although being very grateful for this support, additional funds need to be secured, since this will not sufficiently cover the current salaries or even increase staff's activity level.

Also in 2015, Petra Seebeck, ZIRP's managing director successfully passed the certifying exam of the European College of Laboratory Animal Medicine (ECLAM). She is now one of only five Diplomates (DipECLAM) in Switzerland, and we hope this further strengthens the visibility of ZIRP's expertise.

ZIRP's application for its fourth investment credit resulted in financial support with a total volume of CHF 50'000. Additional anaesthesia devices will be installed and the laminar flow bench for the surgical microscope will be replaced.

A quarantine period of more than 3 months was imposed on all housing facilities, including ZIRP, due to a Parvovirus infection which was imported via a commercial breeder. During this period, only little experimental work could be performed and this significantly reduced ZIRP's output in 2015. However, the number of requests for ZIRP's services seems to further increase despite of the quarantine:

- 220 surgical interventions were performed in 2015 - compared to 290 in 2014
- about 400 hours of imaging took place in 2015 - compared to around 350 hours in 2014

ZIRP is still operated by one full-time equivalent (60 + 40%) staff position, whilst the number of inquiries for technically demanding and time-consuming services increases. The services offered by ZIRP increasingly attract new users from outside the Physiological Institute and ZIRP's staff is more frequently assisting with project planning or organizing entire projects. It proves to be challenging for the ZIRP to cover the growing request for services and the respective administrative effort with its current financial situation. Additionally, the degree of capacity utilization/the number of users needs to be further increased especially for the imaging platform, since the available funds are not sufficient to cover a service contract. As a result, ZIRP would need to source further financial support, re-structure its services and/or increase its fees to be able to finance its staff and increase its activity level in order to fulfill all demands.

3.2 Scientific activities: Congresses, symposia, seminars, trainings and other events organized by the URPP

The 11th **annual main symposium** took place on August 21, 2015 at the lecture hall Haldeliweg at the University of Zurich with about 200 participants and more than 60 poster contributions. It was – as in previous years – a well-frequented opportunity for a get-together of basic researchers and clinicians. Keynote lectures were given by renowned international experts.

Prof. Sir Peter Ratcliffe, Nuffield Department of Medicine, University of Oxford, UK
Elucidation of oxygen sensing pathways: Implications for physiology and medicine

Prof. Dr. Dr. Thomas Thum, Institute of Molecular and Translational Therapeutic Strategies (IMTTS), Hannover Medical School, Germany
NoncodingRNAs in cardiac (patho)physiology

Prof. Dr. Fabrizio Benedetti, National Institute of Neuroscience, University of Turin, Italy
Drugs and placebos: What's the difference?

Prof. Dr. Florian Lang, Institute of Physiology, University of Tubingen, Germany
Klotho: Calcium-phosphate metabolism and aging

Short presentations were given by junior researchers of the ZIHP. The award for the best presentation was given to Irina Alecu, Institute of Clinical Chemistry, USZ. Awards for the best posters were given to Tasneem Arsiwala, Center for Molecular Cardiology, USZ, Iliana Karipidis, University Clinic for Child and Adolescent Psychiatry, UZH, Magda Langiewicz, Division of Visceral and Transplantation Surgery, USZ, and Elisa Randi, Institute of Physiology, UZH.

As in previous years, the plenary meeting took place within the symposium.

A report on the symposium appeared in the September 2015 issue of the *ZIHP News* («As integrative as it gets: Impressions from the 11th ZIHP Symposium», C. Giger, [http://www.zihp.uzh.ch/static/cms/newsletter cms/ZIHP_News_Sep15.pdf](http://www.zihp.uzh.ch/static/cms/newsletter/cms/ZIHP_News_Sep15.pdf)). In addition, a photo gallery was published on the ZIHP website, see <http://www.zihp.uzh.ch/services/pastEvents/symposium2015.html>.

The ZIHP **supported the first Swiss parabolic flight**, which took place on September 22, 2015. Thanks to these flights, experiments can be carried out in a situation of microgravity. The event was very successful and attracted big media coverage.

The bi-weekly **Seminar Series in Integrative Human Physiology** was continued during the spring semester. External speakers alternating with ZIHP members talked about their research. To maintain high attendance and easy accessibility also for clinicians, the seminar series was held as a lunch seminar at the University Hospital Zurich.

February 24, 2015: Mitochondrial control of vascular inflammation
PD Dr. Stefan Freigang, Institute of Pathology, University of Bern

March 10, 2015: OH, the places you'll go! Hydroxylases target the protein synthesis machinery
Dr. Mathew Coleman, School of Cancer Sciences, University of Birmingham, UK

March 24, 2015: Dietary Potassium and the Renal Control of Salt Balance and Blood Pressure
Prof. Dr. Johannes Loffing, Institute of Anatomy, UZH

April 14, 2015: Multimodal monitoring of cerebral hemo-dynamics, metabolism and oxygenation in neurointensive care
Prof. Dr. Emanuela Keller, Department of Neurosurgery, USZ

April 28, 2015: Adipose tissue formation and function and the development of metabolic disorders
Prof. Dr. Christian Wolfrum, Institute of Food Nutrition and Health, ETH Zurich

May 12, 2015: Monoclonal light chain-associated renal disorders
Prof. Dr. Frank Bridoux, Nephrology, Centre Hospitalier Universitaire de Poitiers (CHU), France

May 26, 2015: Non-invasive EEG recordings of human neocortical population spikes
Prof. Dr. Gabriel Curio, Neurophysics Group, Department of Neurology with Experimental Neurology, Charité – Universitätsmedizin Berlin, Germany

Apart from the regular seminar series, several **Special Seminars** were organized.

January 20, 2015: Iron homeostasis – a balancing act
Prof. Dr. Martina Muckenthaler, Center of Molecular Medicine, University Clinic of Heidelberg, Germany

February 26, 2015: Why “less is more”: biology and application of the stress tolerance in hypometabolic critters
Dr. Thomas A. Gorr, Institute of Veterinary Physiology, University of Zurich

May 8, 2015: microRNAs: The missing link between hypoxia and CD4+ T helper cells?
Dr. Yogesh Singh, Institute of Physiology I, Eberhard Karls University Tübingen, Germany

June 8, 2015: Erythropoietin and Metabolism: Looking beyond red blood cells
Dr. Constance Tom Noguchi, Chief, Molecular Cell Biology Section, Molecular Medicine Branch, NIDDK National Institutes of Health, USA

November 19, 2015: The interaction between air pollution and exercise in humans
Prof. Michael Koehle, School of Kinesiology, University of British Columbia, Vancouver, Canada

The *Wissen-schaf(f)t Wissen* series was continued in the 8th year of its existence. Within the series, ZIHP members and invited speakers present "hot" topics, followed by lively discussions with the audience. The aim is to present science performed within the ZIHP to the public and to attract the attention of potential sponsors. The series is becoming more and more popular over time, and the already high attendance from previous years further increased this year. These talks usually have full-house attendance (up to 200 attendees).

23. Februar 2015: Lungentransplantation; Pioniergeist mit langem Atem
Dr. Walter Weder, Direktor der Klinik für Thoraxchirurgie am UniversitätsSpital Zürich. Er führte die erste erfolgreiche Lungentransplantation in der Schweiz durch.

23. März 2015: Ein zurückgewonnenes Lächeln dank Wiederherstellungschirurgie
Prof. Pietro Giovanoli, Direktor der Klinik für Plastische Chirurgie am UniversitätsSpital Zürich

20. April 2015: Mit dem Skalpell am ungeborenen Kind

Prof. Martin Meuli, Direktor der Klinik für Kinderchirurgie am Kinderspital Zürich. Er operierte als einer der weltweit Ersten ein ungeborenes Kind im Mutterleib, das an einem offenen Rücken litt.

18. Mai 2015: Neurochirurgie: Höchste Präzision durch innovative Technologie

Prof. Luca Regli, Direktor der Klinik für Neurochirurgie am UniversitätsSpital Zürich

19. Oktober 2015: Keine Zeit zum Schlafen

Prof. Christian Baumann, Leitender Arzt an der Klinik für Neurologie am UniversitätsSpital Zürich

2. November 2015: Reagieren Frauen anders auf Stress als Männer?

Prof. Dr. Ulrike Ehler, Leiterin des Instituts für Klinische Psychologie und Psychotherapie an der Universität Zürich

30. November 2015: Wenn Stress unter die Haut geht

Dr. Siegfried Borelli, Leitender Arzt am Dermatologischen Ambulatorium des Zürcher Stadtsitals Triemli

On six of the seven events a report was published on the public online portal of the University of Zurich *UZH News*

<http://www.news.uzh.ch/de/articles/2015/pionier-mit-langem-atem.html>

<http://www.news.uzh.ch/de/articles/2015/das-zurueckgewonnene-laecheln.html>

<http://www.news.uzh.ch/de/articles/2015/operation-im-mutterleib.html>

<http://www.news.uzh.ch/de/articles/2015/praezisionsarbeit-am-nervenzentrum.html>

<http://www.news.uzh.ch/de/articles/2015/schlafmittel-sind-keine-loesung.html>

<http://www.news.uzh.ch/de/articles/2015/frauen-und-stress.html>

The 10th **retreat of the *imMed* PhD Program** took place on June 1/2, 2015 at the Youth Hostel in Solothurn. During the first day PhD students presented their ongoing thesis projects. Additionally, guest speaker Roger Gfrörer, Head of Career Services UZH, gave an inspiring talk on “How to push luck” to find an exciting job after the PhD. Networking and testing one’s own limits was the motto of the second day at the Seilpark Balmberg. A report on the retreat was published in the July issue of the ZIHP News («The 10th *imMed* retreat: Science, Sports and Socializing in Solothurn», (Marta Bombardó and Gladys Filliat, PhD Students),

http://www.zihp.uzh.ch/static/cms/news/cms/ZIHP_News_Jul15.pdf).

A variety of **graduate courses** of the *imMed* PhD Program were held with the involvement of many ZIHP members as lecturers or coordinators.

January 6/7, 2015

Flow Cytometry

February 4/5, 2015

Electrophysiology

June 8/9, 2015

Introduction to human physiology: Membrane transport/Signal transduction

July 11/12, 2015

Mouse physiology and pathophysiology

September 14/15/16, 2015
Muscle plasticity

September 22 & 24, 2015
Introduction to human physiology: Respiration and blood

November 13 - December 18, 2015
Aspects of sensory motor transformation: Balance, eye movement control, motion perception

The **seminar series *Vision 2020 - a personal perspective*** – organized by a committee of PhD students from the *imMed* PhD program – was continued with two more seminars on the topic *Synthetic Biology* and subsequently with some seminars on the topic *A trillion Microbes & Me*. Prominent speakers, national and international, shared their «Vision 2020» on multidisciplinary topics of general interest through different perspectives, such as economic, ethical, and social aspects. The seminar series is very well established within the Life Science events at UZH and ETHZ, has an attendance of 25-65 participants and is supported by the SUK program *Doktoratsprogramme* from 2012 to 2016.

Synthetic Biology

January 22, 2015: Synthetic biology and smart therapeutic nanosystems
Guillermo de la Cueva Méndez, Andalusian Centre for Nanomedicine and Biotechnology (BIONAND), Málaga, Spain

February 5, 2015: Alumni imMed PhD Program
Christian Caprara, Swiss Stem Cell Foundation, Gentilino/TI and Micha Häuptle, GlycoVaxyn AG, Schlieren

A trillion Microbes & Me

July 2, 2015: Probiotics: from myth to molecular modes of action
Dr. Patrick Veiga, Senior Scientist - Danone Nutricia Research, Life Science Department, Visiting Scientist - Harvard School of Public Health, Dept. of Immunology and Infectious Diseases

July 16, 2015: Gut Microbiota confers protection against Malaria
Miguel Soares, Instituto Gulbenkian de Ciência Oeiras, Portugal

December 3, 2015: Back to the Future of Human Milk Oligosaccharides
Lars Bode, School of Medicine, Department of Pediatrics, University of California, San Diego

The series on *A trillion Microbes & Me* will continue with one more talk in January 2016. The new topic from spring 2016 on will be *Genetic testing*. The seminar series will end in December 2016.

A report on the series on *Synthetic Biology* was published in the *ZIHP News* April 2015. (“Synthetic Biology: Engineering meets Biology” (Marek Whitehead, PhD Student), http://www.zihp.uzh.ch/static/cms/newsletter/cms/ZIHP_News_Apr15.pdf).

4 Academic Career Development

4.1 Activities in academic career development

To promote young researchers, the PhD Program in Integrative Molecular Medicine (*imMed*) was established in 2005. The program offers students a scientific environment that combines basic and clinical research and offers a broad range of advanced training opportunities. In 2015, 30 new students were accepted to the program, resulting in a total of 122 (2014: 128) students participating in the program. 29 (2014: 22) students finished their theses during the reporting period, resulting in a total of 138 *imMed* alumni. Most of the students involved in the ZIHP funded cooperative projects are enrolled in the *imMed* PhD Program.

The PhD program commission goes to great lengths to ensure the optimal supervision of students and to provide advice if necessary. Both the PhD program commission and the students of the *imMed* PhD Program constantly evaluate the catalogue of graduate courses and adapt it to the needs of the students. The annual retreats are highly successful for both scientific and social exchange and will be continued.

The Master Program in Human Biology, which promotes young researchers on the undergraduate level, has been completely independent from the ZIHP since 2009. The program is well-established within the Biology curriculum of the Faculty of Science of the University of Zurich.

Two assistant professorships in Integrative Human Physiology are funded (Prof. Ian Frew, Prof. Carsten Lundby).

Within the cooperative projects of the ZIHP and the ZIHP assistant professorships (see 3 Research), 14 PhD positions were funded.

4.2 Documentation of activities in gender equality development

Within the students of the PhD Program in Integrative Molecular Medicine (*imMed*), the proportion of women was 67%. Within the funded PhD / MD-PhD positions of the cooperative projects the proportion of women was 65%. The ZIHP Coordinating Office was run by 2 coordinators with scientific background and by 1 administrative assistant. All of them are women working part-time.

5 Publications

List of publications that evolved from ZIHP-funded **cooperative projects**. The list contains only publications in which the URPP is mentioned in the acknowledgements. Consortium participants are underlined. PhD Students involved in the URPP-funded projects are in bold.

Aimi F, Georgiopolou S, Kalus I, Lehner F, Hegglin A, Limani P, Gomes de Lima V, A Rüegg M, Hall MN, Lindenblatt N, Haas E, Battegay EJ, Humar R: Endothelial Rictor is crucial for midgestational development and sustained and extensive FGF2-induced neovascularization in the adult. *Sci Rep* 5: 17705, 2015

Becker PP, Rau M, Schmitt J, Malsch C, Hammer C, Bantel H, Müllhaupt B, Geier A: Performance of Serum microRNAs -122, -192 and -21 as Biomarkers in Patients with Non-Alcoholic Steatohepatitis. *PLoS One* 10(11): e0142661, 2015

Bollmann S, **Ghisleni C**, Poil SS, Martin E, Ball J, Eich-Höchli D, Edden RA, Klaver P, Michels L, Brandeis D, O’Gorman RL: Developmental changes in gamma-aminobutyric acid levels in attention-deficit/hyperactivity disorder. *Transl Psychiatry* 5: e589, 2015

Bollmann S, **Ghisleni C**, Poil SS, Martin E, Ball J, Eich-Höchli D, Klaver P, O’Gorman R, Michels L, Brandeis D: Age-dependent and independent changes in attention-deficit/hyperactivity disorder (ADHD) during spatial working memory performance. *World J Biol Psychiatry*: [Epub ahead of print], 2015

Chowdhury FA, O’Gorman RL, Nashef L, Elwes RD, Edden RA, Murdoch JB, Barker GJ, Richardson MP: Investigation of glutamine and GABA levels in patients with idiopathic generalized epilepsy using MEGAPRESS. *J Magn Reson Imaging* 41(3): 694-9, 2015

Dauvilliers Y, Tafti M, Landolt HP: Catechol-O-methyltransferase, dopamine, and sleep-wake regulation. *Sleep Med Rev* 22: 47-53, 2015

Di Chiara M, Glaudemans B, Loffing-Cueni D, Odermatt A, Al-Hasani H, Devuyst O, Faresse N, Loffing J: Rab-GAP TBC1D4 (AS160) is dispensable for the renal control of sodium and water homeostasis but regulates GLUT4 in mouse kidney. *Am J Physiol Renal Physiol* 309(9): F779-F790, 2015

Díaz V, Peinado AB, Barba-Moreno L, Altamura S, Butragueño J, González-Gross M, Altheld B, Stehle P, Zapico AG, Muckenthaler MU, Gassmann M: Elevated hepcidin serum level in response to inflammatory and iron signals in exercising athletes is independent of moderate supplementation with vitamin C and E. *Physiological Reports* 3(8): e12475, 2015

Dohrn MF, **Othman A**, Hirshman SK, Bode H, Alecu I, Fähndrich E, Karges W, Weis J, Schulz JB, Hornemann T, Claeys KG: Elevation of plasma 1-deoxy-sphingolipids in type 2 diabetes mellitus: a susceptibility to neuropathy? *Eur J Neurol*: [Epub ahead of print], 2015

Ernst D, Murphy SM, Sathiyandan K, Wie Y, **Othman A**, Laurá M, Liu Y, Penno A, Blake J, Donaghy M, Houlden H, Reilly MM, Hornemann T: Novel HSAN1 Mutation in Serine Palmitoyltransferase Resides at a Putative Phosphorylation Site That Is Involved in Regulating Substrate Specificity. *Neuromolecular Med* 17(1): 47-57, 2015

Flück D, Siebenmann C, Keiser S, Cathomen A, Lundby C: Cerebrovascular reactivity is increased with acclimatization to 3454 m altitude. *J Cereb Blood Flow Metab* 35(8): 1323-30, 2015

Ghisleni C, Bollmann S, BIASON-Laubert A, Poil SS, Brandeis D, Martin E, Michels L, Hersberger M, Suckling J, Klaver P, O'Gorman RL: Effects of Steroid Hormones on Sex Differences in Cerebral Perfusion. *PLoS One* 10(9): e0135827, 2015

Ghisleni C, Bollmann S, Poil SS, Brandeis D, Martin E, Michels L, O'Gorman RL, Klaver P: Subcortical glutamate mediates the reduction of short-range functional connectivity with age in a developmental cohort. *J Neurosci* 35(22): 8433-41, 2015

Hanggi P, Telezhkin V, Kemp PJ, Schmutz M, Gassmann M, Goede JS, Speer O, Bogdanova A: Functional plasticity of the N-methyl-D-aspartate receptor in differentiating human erythroid precursor cells. *Am J Physiol Cell Physiol* 308(12): C993-C1007, 2015

Hornemann T: Palmitoylation and depalmitoylation defects. *J Inher Metab Dis* 38(1): 179-86, 2015

Keiser S, Flück D, Hüppin F, Stravs A, Hilty MP, Lundby C: Heat training increases exercise capacity in hot but not in temperate conditions: a mechanistic counter-balanced cross-over study. *Am J Physiol Heart Circ Physiol* 309(5): H750-61, 2015

Keiser S, Flück D, Stravs A, Hüppin F, Lundby C: Restoring heat stress-associated reduction in middle cerebral artery velocity does not reduce fatigue in the heat. *Scand J Med Sci Sports* 25 Suppl 1: 145-53, 2015

Klingenberg R, Brokopp CE, Grivès A, Courtier A, Jaguszewski M, Pasqual N, Vlaskou Badra E, Lewandowski A, Gaemperli O, Hoerstrup SP, Maier W, Landmesser U, Lüscher TF, Matter CM: Clonal restriction and predominance of regulatory T cells in coronary thrombi of patients with acute coronary syndromes. *Eur Heart J* 36(17): 1041-1048, 2015

Maurer U, Brem S, Liechti M, Maurizio S, Michels L, Brandeis D: Frontal Midline Theta Reflects Individual Task Performance in a Working Memory Task. *Brain Topogr* 28(1): 127-34, 2015

Metz AJ, Wolf M, Achermann P, Scholkmann F: A New Approach for Automatic Removal of Movement Artifacts in Near-Infrared Spectroscopy Time Series by Means of Acceleration Data. *Algorithms* 8(4): 1052-1075, 2015

Miranda MX, van Tits LJ, Lohmann C, Arsiwala T, Winnik S, Tailleux A, Stein S, Gomes AP, Suri V, Ellis JL, Lutz TA, Hottiger MO, Sinclair DA, Auwerx J, Schoonjans K, Staels B, Lüscher TF, Matter CM: The Sirt1 activator SRT3025 provides atheroprotection in Apoe^{-/-} mice by reducing hepatic Pcsk9 secretion and enhancing Ldlr expression. *Eur Heart J* 36(1): 51-9, 2015

Osto E, Doycheva P, Corteville C, Bueter M, Doerig C, Stivala S, Buhmann H, Colin S, Rohrer L, Hasballa R, Tailleux A, Wolfrum C, Tona F, Manz J, Vetter D, Spliethoff K, Vanhoutte PM, Landmesser U, Pattou F, Staels B, Matter CM, Lutz TA, Luescher TF: Rapid and body weight-independent improvement of endothelial function and HDL properties after Roux-en-Y gastric bypass: role of glucagon-like peptide-1. *Circulation*: [Epub ahead of print], 2015

Othman A, Benghozi R, Alecu I, Wei Y, Niesor E, von Eckardstein A, Hornemann T: Fenofibrate lowers atypical sphingolipids in plasma of dyslipidemic patients: A novel approach for treating diabetic neuropathy?. *J Clin Lipidol* 9(4): 568-75, 2015

Othman A, Bianchi R, Alecu I, Wei Y, Porretta-Serapiglia C, Lombardi R, Chiorazzi A, Meregalli C, Oggioni N, Cavaletti G, Lauria G, von Eckardstein A, Hornemann T: Lowering Plasma 1-Deoxysphingolipids Improves Neuropathy in Diabetic Rats. *Diabetes* 64(3): 1035-45, 2015

Othman A, Saely CH, Muendlein A, Vonbank A, Drexel H, von Eckardstein A, Hornemann T: Plasma 1-deoxysphingolipids are predictive biomarkers for type 2 diabetes mellitus. *BMJ Open Diabetes Res Care* 3(1): e000073, 2015

Othman A, Saely CH, Muendlein A, Vonbank A, Drexel H, von Eckardstein A, Hornemann T: Plasma C20-Sphingolipids predict cardiovascular events independently from conventional cardiovascular risk factors in patients undergoing coronary angiography. *Atherosclerosis*: [Epub ahead of print], 2015

Pugin F, **Metz AJ**, Stauffer M, Achermann P, Wolf M, Jenni OG, Huber R: Local Increase of Sleep SWA after Three Weeks of Working Memory Training in Children and Adolescents. *Sleep* 38: 607-614, 2015

Rosengren SM, Colebatch JG, Straumann D, Weber KP: Single motor unit responses underlying cervical vestibular evoked myogenic potentials produced by bone-conducted stimuli. *Clin Neurophysiol* 126 (6): 1234–1245, 2015

Späti J, Chumbley J, Doerig N, Brakowski J, Grosse Holtforth M, Seifritz E, Spinelli S: Valence and agency influence striatal response to feedback in patients with major depressive disorder. *J Psychiatry Neurosci* 40(4): 140225, 2015

Stadelmann K, Latshang TD, Lo Cascio CM, Clark RA, Huber R, Kohler M, Achermann P, Bloch KE: Impaired postural control in healthy men at moderate altitude (1630 m and 2590 m): data from a randomized trial. *PLoS One* 10(2): e0116695, 2015

Sugano Y, Lindenmeyer MT, **Auberger I**, Ziegler U, Segerer S, Cohen CD, Neuhauss SC, Loffing J: The Rho-GTPase binding protein IQGAP2 is required for the glomerular filtration barrier. *Kidney Int* 88(5): 1047-56, 2015

Sutter I, Velagapudi S, Othman A, Riwanto M, Manz J, Rohrer L, Rentsch K, Hornemann T, Landmesser U, von Eckardstein A: Plasmalogens of high-density lipoproteins (HDL) are associated with coronary artery disease and anti-apoptotic activity of HDL. *Atherosclerosis* 241(2): 539-46, 2015

Tesler N, Latshang TD, Lo Cascio CM, **Stadelmann K**, Stoewhas AC, Kohler M, Bloch KE, Achermann P, Huber R: Ascent to moderate altitude impairs overnight memory improvements. *Physiol Behav* 139: 121-6, 2015

Todkar A, Picard N, Loffing-Cueni D, Sorensen MV, Mihailova M, Nesterov V, Makhanova N, Korbmayer C, Wagner CA, Loffing J: Mechanisms of Renal Control of Potassium Homeostasis in Complete Aldosterone Deficiency. *J Am Soc Nephrol* 26(2): 425-38, 2015

Vallelian F, **Deuel JW**, Opitz L, Schaer CA, Puglia M, Lönn M, Engelsberger W, Schauer S, Karnaukhova E, Spahn DR, Stocker R, Buehler PW, Schaer DJ: Proteasome inhibition and oxidative reactions disrupt cellular homeostasis during heme stress. *Cell Death Differ* 22(4): 597-611, 2015

Vuille-Dit-Bille RN, Camargo SM, Emmenegger L, Sasse T, Kummer E, Jando J, Hamie QM, Meier CF, Hunziker S, Forras-Kaufmann Z, Kuyumcu S, Fox M, Schwizer W, Fried M, Lindenmeyer M, Götze O, Verrey F: Human intestine luminal ACE2 and amino acid transporter expression increased by ACE-inhibitors. *Amino Acids* 47(4): 693-705, 2015

Wojtal KA, Cee A, Lang S, Götze O, Frühauf H, Geier A, Pastor-Anglada M, Torres-Torronteras J, Martí R, Fried M, Lutz TA, Maggiorini M, Gassmann M, Rogler G, Vavricka SR: Downregulation of duodenal SLC transporters and activation of proinflammatory signaling constitute the early response to high altitude in humans. *Am J Physiol Gastrointest Liver Physiol* 307(7): G673-88, 2015

Zahnleiter D, Hauer NN, Kessler K, Uebe S, **Sugano Y**, Neuhauss SC, Giessel A, Ekici AB, Blessing H, Sticht H, Dörr HG, Reis A, Thiel CT: MAP4-dependent regulation of microtubule formation affects centrosome, cilia, and Golgi architecture as a central mechanism in growth regulation. *Hum Mutat* 36(1): 87-97, 2015

Finished PhD theses 2015 within the imMed PhD Program

Aimi F (2015): The Role of Endothelial RICTOR (mTORC2) in Angiogenesis in Vivo and in Vitro. Department of Internal Medicine, USZ.

Bahrenberg G (2015): HTRA1 as a Novel Regulator of Human Mesenchymal Stem Cell Adipogenesis. CABMM, UZH

Becker F (2015): The Role of MicroRNAs in the Pathophysiology and Diagnosis of Non-alcoholic Fatty Liver Disease. Division of Gastroenterology and Hepatology, USZ

Bode H (2015): Serine Palmitoyltransferase and Peripheral Neuropathy - Studies on Neuropathy-causing Mutations and their Biochemical Hallmarks. Institute of Clinical Chemistry, USZ

Cabalzar J (2015): Biomedical Significance of Collagen Glycosylation - With Focus on the Collagen Glucosyltransferase, Institute of Physiology, UZH

Deuel J (2015): Mechanisms of Endothelial Hemoglobin Toxicity. Department of Internal Medicine, USZ

Dolgodilina E (2015): Regulation of amino acid homeostasis in the brain interstitial fluid. Institute of Physiology, UZH

Dräger K (2015): Impact of Rictor Deletion in Adipocytes and Brain on Gene Expression in Perivascular Adipose Tissue and Blood Pressure Regulation. Department of Internal Medicine, USZ

Engler-Löffler A (2015): Regulation of Epigenetic Mechanisms in Rheumatoid Arthritis Synovial Fibroblasts. Department of Rheumatology, USZ

Flück D (2015): Regulation of Cerebral Blood Flow with Emphasis on Age and Environment. Institute of Physiology, UZH

Gehrig S (2015): Skeletal Muscle Mitochondrial Function in Human Health and Disease. Institute of Physiology, UZH

Georgiopoulou S (2015): Assessment of the Role of Endothelial mTORC2 in FGF2-induced Angiogenesis in vivo. Department of Internal Medicine, USZ

Glanz S (2015): Role of Serine Protease HTRA1 in the Regulation of Mouse Adipose-Derived Stromal Cell Osteogenesis. CABMM, UZH

Grabliauskaite K (2015): Molecular Mechanisms of Acinar-to-Ductal Metaplasia Formation During Pancreatitis. Division of Visceral and Transplantation Surgery, USZ

Hänggi P (2015): Keep Dementia in Mind, but Forget Memory Formation: Plasticity of the N-methyl-D-aspartate Receptor in Erythroid Cells and its Potential for the Treatment of Sickle Cell Anemia. Division of Haematology, USZ

Haralampieva D (2015): The Impact of PGC-1 α on Engineered Muscle Tissue and the Use of PET-Scan for Cell Tracking and Functional Analyses. Department of Urology, USZ

Hasballa R (2015): Endothelial Inactivation of ATP Binding Cassette Transporter A1 in Mice Decreases the Entry of Apolipoprotein A-I into the Arterial Wall and Increases Atherosclerosis. Institute of Clinical Chemistry, USZ

Huang Y (2015): Regulatory Functions of Sialylated Glycans and Gut Microbiota in Mucosal Immunity. Institute of Physiology, UZH

Iannaccone R (2015): Executive Functions in the Brain: Discrimination and Multivariate Pattern Recognition Classification of Attention-Deficit/Hyperactivity Disorder and Healthy Controls, Department of Child and Adolescent Psychiatry, UZH

Kasper S (2015): The Role of PTPN2 in Intestinal Epithelial Cells in the Pathogenesis of Inflammatory Bowel Disease. Division of Gastroenterology and Hepatology, USZ

Leonardi I (2015): Trichuris suis ova in the Treatment of Inflammatory Bowel Diseases. Division of Gastroenterology and Hepatology, USZ

Meienberg J (2015): Molecular Basis of Aortic Diseases. Center for Cardiovascular Genetics

Petzold K (2015): Biomarkers in Autosomal Dominant Polycystic Kidney Disease. Institute of Physiology, UZH

Ruangasawadi N (2015): Cell homing during dental pulp regeneration in rodent. Center for Dental Medicine, UZH

Schmid M (2015): The Role of FPR1 and GPR32 in Human Inflammation. Division of Clinical Chemistry and Biochemistry, Children's University Hospital Zurich

Spichtig D (2015): The Regulation of Fibroblast Growth Factor 23 in Autosomal Dominant Polycystic Kidney Disease. Institute of Physiology, UZH

Storti F (2015): Modulation of Oxygen-Regulated Erythropoietin Expression. Institute of Physiology, UZH

Sugano Y (2015): Renal function and disease in zebrafish. Institute of Molecular Life Sciences, UZH

Wang Y (2015): Role of pH-Sensing (or Proton-Activated) Receptor - GPR4 and OGR1 in Intestinal Inflammation. Institute of Physiology, UZH

Publications of the assistant professors funded by the URPP (Prof. Dr. Ian Frew, Prof. Dr. Carsten Lundby)

Assistant professors are underlined.

Albers J, Danzer C, Rechsteiner M, Lehmann H, Brandt LP, Hejhal T, Catalano A, Busenhardt P, Gonçalves AF, Brandt S, Bode PK, Bode-Lesniewska B, Wild PJ, Frew IJ: A versatile modular vector system for rapid combinatorial mammalian genetics. *J Clin Invest* 125(4): 1603-19, 2015

Bonne TC, Lundby C, Lundby AK, Sander M, Bejder J, Nordsborg NB: Altitude training causes haematological fluctuations with relevance for the Athlete Biological Passport. *Drug Test Anal* 7(8): 655-62, 2015

Calbet JA, Losa-Reyna J, Torres-Peralta R, Rasmussen P, Ponce-González JG, Sheel AW, de la Calle-Herrero J, Guadalupe-Grau A, Morales-Alamo D, Fuentes T, Rodríguez-García L, Siebenmann C, Boushel R, Lundby C: Limitations to oxygen transport and utilization during sprint exercise in humans: evidence for a functional reserve in muscle O₂ diffusing capacity. *J Physiol* 593(20): 4649-64, 2015

Flück D, Siebenmann C, Keiser S, Cathomen A, Lundby C: Cerebrovascular reactivity is increased with acclimatization to 3454 m altitude. *J Cereb Blood Flow Metab* 35(8): 1323-30, 2015

Frew IJ, Moch H: A clearer view of the molecular complexity of clear cell renal cell carcinoma. *Annu Rev Pathol* 10: 263-89, 2015

Frew IJ: Tumour modelling using viral vectors. *Oncotarget* 6(16): 13854-5, 2015

Kalathur M, Toso A, Chen J, Revandkar A, Danzer-Baltzer C, Guccini I, Alajati A, Sarti M, Pinton S, Brambilla L, Di Mitri D, Carbone G, Garcia-Escudero R, Padova A, Magnoni L, Tarditi A, Maccari L, Malusa F, Kalathur RK, A Pinna L, Cozza G, Ruzzene M, Delaleu N, Catapano CV, Frew IJ, Alimonti A: A chemogenomic screening identifies CK2 as a target for pro-senescence therapy in PTEN-deficient tumours. *Nat Commun* 6: 7227, 2015

Keiser S, Flück D, Hüppin F, Stravs A, Hilty MP, Lundby C: Heat training increases exercise capacity in hot but not in temperate conditions: a mechanistic counter-balanced cross-over study. *Am J Physiol Heart Circ Physiol* 309(5): H750-61, 2015

Keiser S, Flück D, Stravs A, Hüppin F, Lundby C: Restoring heat stress-associated reduction in middle cerebral artery velocity does not reduce fatigue in the heat. *Scand J Med Sci Sports* 25 Suppl 1: 145-53, 2015

Lehmann H, Vicari D, Wild PJ, Frew IJ: Combined Deletion of Vhl and Kif3a Accelerates Renal Cyst Formation. *J Am Soc Nephrol* 26(11): 2778-88, 2015

Lundby C, Robach P: Performance Enhancement: What Are the Physiological Limits?. *Physiology (Bethesda)* 30(4): 282-92, 2015

Montero D, Cathomen A, Jacobs RA, Flück D, de Leur J, Keiser S, Bonne T, Kirk N, Lundby AK, Lundby C: Haematological rather than skeletal muscle adaptations contribute to the increase in peak oxygen uptake induced by moderate endurance training. *J Physiol* 593(20): 4677-88, 2015

Montero D, Diaz-Cañestro C, Lundby C: Endurance Training and VO₂max: Role of Maximal Cardiac Output and Oxygen Extraction. *Med Sci Sports Exerc* 47(10): 2024-33, 2015

Montero D, Lundby C: Enhanced Performance after Repeated Sprint Training in Hypoxia: False or Reality?. *Med Sci Sports Exerc* 47(11): 2483, 2015

Montero D, Lundby C: The Effect of Exercise Training on the Energetic Cost of Cycling. *Sports Med* 45(11): 1603-18, 2015

Nordsborg NB, Robach P, Boushel R, Calbet JA, Lundby C: Erythropoietin does not reduce plasma lactate, H⁺, and K⁺ during intense exercise. *Scand J Med Sci Sports* 25(6): e566-75, 2015

Otsuka A, Dreier J, Cheng PF, Nägeli M, Lehmann H, Felderer L, Frew JI, Matsushita S, Levesque MP, Dummer R: Hedgehog pathway inhibitors promote adaptive immune responses in basal cell carcinoma. *Clin Cancer Res* 21(6): 1289-97, 2015

Siebenmann C, Cathomen A, Hug M, Keiser S, Lundby AK, Hilty MP, Goetze JP, Rasmussen P, Lundby C: Hemoglobin mass and intravascular volume kinetics during and after exposure to 3,454 m altitude. *J Appl Physiol* 119(10): 1194-201, 2015

Siebenmann C, Lundby C: Regulation of cardiac output in hypoxia. *Scand J Med Sci Sports* 25 Suppl 4: 53-9, 2015

Siebenmann C, Rasmussen P, Sørensen H, Bonne TC, Zaar M, Aachmann-Andersen NJ, Nordsborg NB, Secher NH, Lundby C: Hypoxia increases exercise heart rate despite combined inhibition of β -adrenergic and muscarinic receptors. *Am J Physiol Heart Circ Physiol* 308(12): H1540-6, 2015

Siebenmann C, Rasmussen P, Sørensen H, Zaar M, Hvidtfeldt M, Pichon A, Secher NH, Lundby C: Cardiac output during exercise: A comparison of four methods. *Scand J Med Sci Sports* 25(1): e20-7, 2015

Sørensen H, Rasmussen P, Siebenmann C, Zaar M, Hvidtfeldt M, Ogoh S, Sato K, Kohl-Bareis M, Secher NH, Lundby C: Extra-cerebral oxygenation influence on near-infrared-spectroscopy-determined frontal lobe oxygenation in healthy volunteers: a comparison between INVOS-4100 and NIRO-200NX. *Clin Physiol Funct Imaging* 35(3): 177-84, 2015

Non-scientific publications

ZIHP News / Feb. 2015

ZIHP News / Apr. 2015

ZIHP News / July 2015

ZIHP News / Sep. 2015

ZIHP News / Dec. 2015

See <http://www.zihp.uzh.ch/services/newsletter.html>

Reports on events of the *Wissen-schaff(t) Wissen* series on the public online portal of the University of Zurich *UZH News*:

«Pionier mit langem Atem» (C. Frey)

«Das zurückgewonnene Lächeln» (C. Frey)

«Griff in die Schöpfungskammer» (M. Seebauer)

«Präzisionsarbeit am Nervenzentrum» (M. Seebauer)

«Schlafmittel sind keine Lösung » (C. Giger)

«Warum Männer manchmal schweigen sollten» (M. Seebauer)

See <http://www.zihp.uzh.ch/wissen-schafft-wissen/bisherige-veranstaltungen.html>

A report on ZIHP-funded cooperative projects in sleep research appeared in the magazine «Lifesciences plus» (2/2015, pages 14-16).

«Sound asleep for research» (C. Giger)

https://issuu.com/hk-gt/docs/lifesciences_02_2015_low_c3de93e4914990

Press review

Several reports on research performed by ZIHP members appeared in the national and international media:

«[Das Bett bleibt zu lange leer](#)», Tages-Anzeiger, 14. Januar 2015

Report on research performed by ZIHP member Christian Baumann.

«[Das Vermächtnis des Spätzünder](#)», Tages-Anzeiger, 21. Januar 2015

Report on research performed by ZIHP member Anita Rauch.

«[Der Tiefschlaf als Spiegel der Hirnreifung](#)», NZZ, 28. Januar 2015

Report on research performed by ZIHP member Reto Huber.

«[Marc Donath und das Geheimnis der Beta-Zellen](#)», NZZ, 19. März 2015

Report on research performed by Marc Donath, former member of the ZIHP Steering Committee.

«[Schlafen macht schlau](#)», NZZ am Sonntag, 5. April 2015

Report on research performed by ZIHP member Reto Huber

«[Catch me if you can](#)», BBC, June 3, 2015

BBC reporter Mark Daly interviews ZIHP assistant professor Carsten Lundby on doping in athletics and erythropoietin.

«[Die Schweiz im Weltall](#)», SRF – Schweiz aktuell, 22. September 2015

Television program on the first swiss parabolic flight, which was supported by the ZIHP.

«[Von Dübendorf in die Schwerelosigkeit](#)», NZZ, 22. September 2015

Report on the first swiss parabolic flight.

«[Uni Zürich forscht schwerelos](#)», Tages-Anzeiger, 23. September 2015

Report on the first swiss parabolic flight.