

1. Summer Semester 2012 1st Scientific Retreat, Chiemsee



1st IKP Stuttgart Scientific Retreat

Abtei Frauenwörth, Chiemsee, 20.-22.5.2012



First IKP-Retreat on Fraueninsel, Chiemsee

From Sunday, 20th to Tuesday, 22nd of May 2012 we came together at the “Abtei Frauenwörth im Chiemsee” to held the first IKP-Retreat. In total 44 scientists and students currently working at IKP or RBK and five IKP “alumni”, who had spent part of their scientific life or education at the IKP, participated to experience the quietness of the beautiful monastery and seclusion of the island.

The starting session on Sunday evening was dedicated to our five alumni, now in either academic or industrial positions, who vividly presented their professional and personal experiences since they left the IKP. On the following two days a quite tightly structured brainstorming event took place where we presented and discussed new ideas, both about current projects and entirely new projects. In breaks between the sessions we enjoyed meals at the Klosterwirt, discussions with coffee, or walks around the little island. After the sessions we gathered in the awesome “Catacombs” to party and to elucidate our champion (Stefan Winter) in a great quiz. As a memory of our retreat, this booklet contains all abstracts presented, as well as a collection of photos taken during the event.

Finally I would like to thank all persons who made this event come true: Matthias Schwab, for suggesting the venue and for taking financial responsibility; Christina Justenhoven for her enthusiastic support throughout the entire preparation phase; Susi Verhagen and Ursula Hengemühle for secretarial support; Bernd Borstel for graphics and computer support; the session chairs for their passionate engagement in preparing and organizing the sessions; our five alumni Alexandra Eckhoff, Elke Kleideiter, Christoph Ritter, and Monica Istrate and Matjaz Rokavec for sharing their “life after IKP” experiences; last not least all participants, who contributed with their abstracts, ideas and discussions - and finally our two quizmasters Benny and Marcus for the grandiose quiz on Monday evening.

I sincerely hope that this first IKP-Retreat marks the start of a long series of similarly successful and enjoyable events, and that they may become an integral part of the scientific life at our institute.

Uli Zanger

SCIENTIFIC PROGRAM

Monday morning, session 1: 9:00 – 10:20 am

Metabolism – from fundamentals to clinic and back

Chairs: Ute Hofmann and Maria Thomas

- ❖ **Kathrin Klein** - PGRMC – helping hand or what else?
- ❖ **Pilar Saladores** – The potential role of CYP3A5 in combined endocrine and chemotherapy drug treatment outcome of premenopausal breast cancer patients
- ❖ **Maria Thomas** – Humanized mouse models: suitable tool to study regulation of drug metabolism by PPARα?
- ❖ **Werner Schroth** – The role of fatty acid synthase FAS and PPARα on breast cancer cell growth and drug metabolism
- ❖ **Mirjam Kasel** – Neuropsychiatric side effects of mefloquine – enantiomer related or caused by the inactive believed metabolite?
- ❖ **Jana Precht** – Effects of long-term estrogen suppression by AI therapy
- ❖ **Satoko Hirobe-Jahn** – Is chocolate only a sin for Germans?

Monday morning, session 2: 10:40 – 11:50 am

Fulfilling Margarete's desire: Identifying therapeutic strategies

Chairs: Wing-Yee Lo and Björn Schröder

- ❖ **Matthias Gutekunst** – Elevating NOXA protein levels to sensitize tumor cells
- ❖ **Björn Schröder** - A Tale of a Tail: The Carboxy-Terminus of hBD-1 as a Novel Antibiotic Drug?
- ❖ **Robert Küchler** – Characterization of the antimicrobial activity of HMBG2
- ❖ **Benjamin Kandel** - From plant to pill: Developing a stable, non-inducing TRPC6 activator

Monday evening, session 3: 3:30 – 4:30 pm

Biomarker studies - discovery strategies & advances in data generation

Chairs: Werner Schroth and Thomas Mürdter

- ❖ **Christina Justenhoven** - Expression of Known Breast Cancer Genes May Be Impacts Subtypes of Breast Tumors
- ❖ **Jörg Latus** - Fibroblast-like-cells in encapsulating peritoneal sclerosis
- ❖ **Tarek Mohamed** - Pharmacogenomics of 5-Fluorouracil
- ❖ **Annette Staiger** - Gene expression profiling using the NanoString nCounter-technology
- ❖ **Kim Gruber** - Analysis of copy number variations by using the nCounter Custom CNV assay

Monday evening, session 4: 4:50 – 5:45 pm

Novel methods: From molecule to animal

Chairs: Anne Nies and Kathrin Klein

- ❖ **Joanna Achinger** - Identification of suitable endogenous control is a critical step for microRNA expression analyses in human breast cancer tissues.
- ❖ **Rudolf Arlanov** - Functional Characterization of Human Promoter Regions by a Novel Targeted Expression System
- ❖ **Kristin Steuer** - Pathogenesis of atherosclerosis: Using a novel in vitro model for studying macrophage proliferation
- ❖ **Lioba Courth** - Organoids: mini-gut in cell culture
- ❖ **Anne Nies** - Novel imaging techniques in drug transporter research

Tuesday morning, session 5. 8:50 – 10:15 am

Gene regulation – from nuclear actions to inter-organ communication

Chairs: Oliver Burk and Christina Justenhoven

- ❖ **Pascale Fisel** - Overcoming the obstacles of DNA methylation analysis of laser-capture microdissected single cells
- ❖ **Ofure Obazee** - The role of HSD17B1 in hormone-therapy related breast cancer: An epigenetic viewpoint
- ❖ **Roman Tremmel** - Is DNA-methylation a dosage-compensation mechanism in case of CYP2E1 gene duplications?
- ❖ **Barbara van Eijck** - Histone modifications at bile salt transporter genes
- ❖ **Jessica Rieger** - RNAi in combination with over expression as a tool to knock-down and replace important genes in on step
- ❖ **Oliver Burk** - Profiling of ligand-dependent interactions of xenosensors PXR and CAR with co-regulatory proteins
- ❖ **Marcus Klein** - Linking the inflammatory IL-6 signalling pathway to drug response: Janus kinases (Jaks) and Mitogen-activated protein kinases (MAPKs), anything else?
- ❖ **Andreas Bitter** - The link between intestinal microbiota, hepatic PXR and NAFLD

Tuesday morning, session 6: 10:35 – 11:50 am

Omics and beyond

Chairs: Thomas Lang and Reiner Hoppe

- ❖ **Ute Hofmann** - Transportomics – Speeding up transporter substrate screening by a metabolomics approach
- ❖ **Thomas Lang** - Synonymous SNPs in ABC-drug transporters: Should We Care About Them?
- ❖ **Reiner Hoppe** - miRNA profiles of triple negative breast cancer: Scopes of Mission Target ID Library to screen for miRNA targets on a genome-wide level
- ❖ **Wing-Yee Lo** - What is iCOGS?
- ❖ **Thomas Mürdter** - Estrogenomics of Breast Cancer
- ❖ **Stefan Winter** – Establishing & sharing knowledge of public available software tools at IKP
- ❖ **Uli Zanger** - Next-Generation-Pharmacogenomics: how to stay on top of the next wave

2. Winter Semester 2012 / 2013

Focus: Pharmacokinetics, Drug metabolism and Drug Transport

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|------------|-------------|--|
| 17.10.2012 | U. Klotz: | Basic concepts of pharmacokinetics I |
| 24.10.2012 | U. Klotz: | Basic concepts of pharmacokinetics II |
| 31.10.2012 | U. Zanger: | Principles of drug metabolism and drug metabolizing enzymes |
| 07.11.2012 | A. Nies: | Biochemistry & Pharmacology of drug transport |
| 14.11.2012 | O. Burk: | Regulation of drug metabolism & transport, nuclear receptors |
| 21.11.2012 | U. Hofmann: | Analytical concepts and method in clinical pharmacology |
| 29.11.2012 | K. Mörike: | Clinical studies, design and execution |
| 05.12.2012 | S. Winter: | Statistical tests I: Basics |
| 12.12.2012 | R. Kerb: | Drug-drug interactions |
| 16.01.2013 | U. Zanger: | Pharmacogenetics of drug metabolizing enzymes |
| 30.01.2013 | T. Lang: | Pharmacogenetics of drug transporters |
| 13.02.2013 | S. Winter: | Statistical tests II: Tests for clinical studies |

3. Summer Semester 2013

Focus: Oncology, basic and clinical aspects

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|-------------------|---|---|
| 17.04.2013 | W. Aulitzky: | Introduction - Basic and Clinical Aspects |
| 24.04.2013 | G. Ott: | Tumor Pathology |
| 08.05.2013 | H. Horn: | Lymphomas and Leukemias |
| 15.05.2013 | C. Ulmer: | Metastases in the Peritoneum |
| 22.05.2013 | H. Brauch: | Genes and Cancer |
| <u>27.05.2013</u> | T. Mürdter: | Tamoxifen Analytics |
| 05.06.2013 | H. van der Kuip: | Regulation of Cell Cycle |
| 12.06.2013 | W. Schroth: | Pharmacogenomics of Endocrine Breast Cancer Therapy |
| 19.06.2013 | M. Schwarz (Tüb): | Mechanisms of tumor promotion |
| <u>26.06.2013</u> | "Fighting Drug Failure Showcase Event" 9:00-17:00, RBK Lecture Hall | |
| | V.C. Jordan: | Omics to solve the mechanism of estrogen-induced apoptosis in breast cancer to aid women's health |
| 03.07.2013 | S. Winter: | Regression models |
| 10.07.2013 | R. Hoppe: | Epigenetics and Cancer |

4. Winter Semester 2013 / 2014

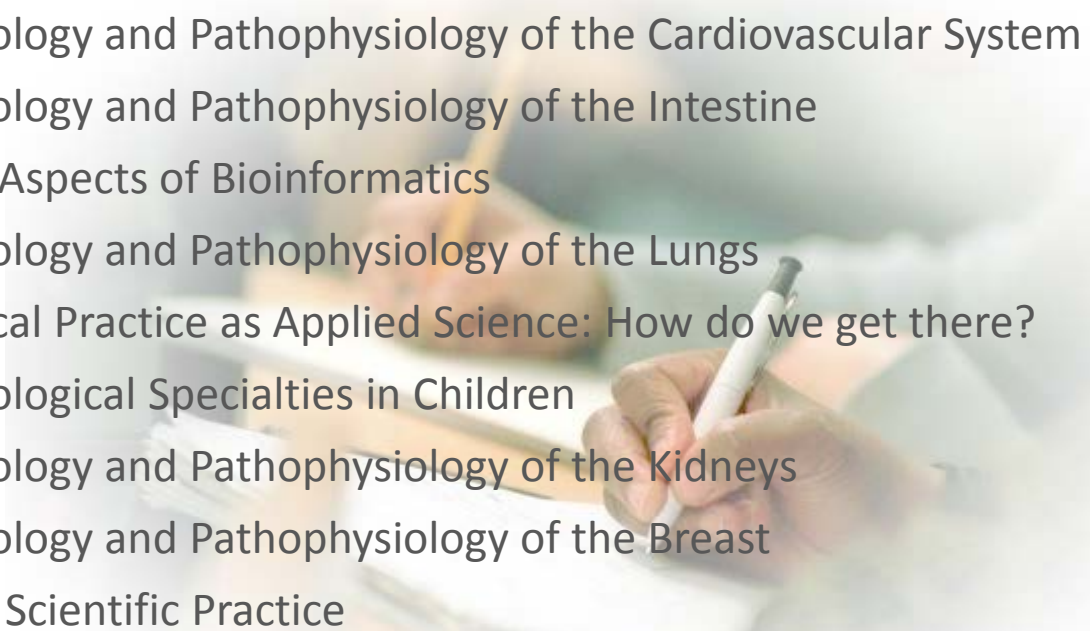
Focus: Molecular and cell-biology technologies and „soft-skills“

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|------------|----------------------------|---|
| 30.10.2013 | U. Zanger: | Introduction to the Human Genome |
| 06.11.2013 | C. Justenhoven: | Analysis of DNA variations |
| 13.11.2013 | K. Klein: | RNA-World: function and analysis |
| 20.11.2013 | O. Burk: | Transcriptional regulation |
| 27.11.2013 | M. Thomas: | Functional genomics I |
| 04.12.2013 | T. Lang / A. Nies: | Functional genomics II |
| 11.12.2013 | U. Hofmann: | Analytical chemistry: from single metabolites to metabolomics |
| 18.12.2013 | H. van der Kuip: | Flow cytometry and cellular imaging |
| 15.01.2014 | S. Winter: | Basic statistics for genome-wide analyses |
| 22.01.2014 | T. Wheeler-Schilling (TÜ): | Soft Skills I: Non-scientific helpful skills for scientists |
| 29.01.2014 | H. Brauch | Soft Skills II: How to write a scientific paper |
| 05.02.2014 | U. Zanger: | Soft skills III: Publication, bibliographic factors and other tools |

5. Summer Semester 2014

Focus: Physiology and Pathophysiology of Organ Systems

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|------------------------|-------------|---|
| 30.04.2014 | S. Winter: | Work-flow for statistical analyses |
| FR: 09.05.2014 | G. Treiber: | Physiology and Pathophysiology of Oesophagus and Stomach |
| 14.05.2014 | C. Schäfer: | Physiology and Pathophysiology of the Liver |
| FR: 23.05.2014 | A. Yilmaz: | Physiology and Pathophysiology of the Cardiovascular System |
| 28.05.2014 | J. Wehkamp: | Physiology and Pathophysiology of the Intestine |
| 04.06.2014 | F. Büttner: | Basic Aspects of Bioinformatics |
| 11.06.2014 | G. Friedel: | Physiology and Pathophysiology of the Lungs |
| 18.06.2014 | D. Zakim: | Medical Practice as Applied Science: How do we get there? |
| 25.06.2014 | M. Schwab: | Physiological Specialties in Children |
| 09.07.2014 | N. Braun: | Physiology and Pathophysiology of the Kidneys |
| TUE: 15.07.2014 | S. Brucker: | Physiology and Pathophysiology of the Breast |
| 23.07.2014 | U. Zanger: | Good Scientific Practice |



6. Winter Semester 2014 / 2015

Focus: Selected Topics in Clinical Pharmacology

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|------------|---------------|--|
| 29.10.2014 | K. Mörike: | Drug Treatment of Cardiac Arrhythmia |
| 05.11.2014 | M. Schwab: | Immunosuppressive Drug Therapy |
| 12.11.2014 | R. Jütte: | The Placebo Effect: Past and Present |
| 19.11.2014 | U. Lauer: | Virotherapie therapiefraktärer Tumorerkrankungen |
| 26.11.2014 | W. Aulitzky: | Anticancer Drugs – Mechanisms and Therapy |
| 03.12.2014 | A. Nies: | Pharmacotherapy of Schizophrenia and Depression |
| 10.12.2014 | R. Kerb: | Drug Therapy of Diabetes, Obesity, Metabolic Syndrome |
| 21.01.2015 | S. Winter: | Data analysis with Genedata Expressionist™ – 1 st part: theoretical aspects |
| 28.01.2015 | S. Winter: | Data analysis with Genedata Expressionist™ – 2 nd part: practical aspects |
| 04.02.2015 | P. Münzel: | Gifte und Vergiftungen |
| 11.02.2015 | K. Mörike: | Drug Therapy in Special Populations: Pregnancy and Old Age |
| 18.02.2015 | C. Harteneck: | Pharmacological Modulation of Ion Channels |