technische universität
dortmund

61. Biometrisches Kolloquium

Biometrics and Communication: From Statistical Theory to Perception in the Public

Biometrie und Kommunikation: Von statistischer Theorie bis zur Wahrnehmung in der Gesellschaft

Conference Volume

Dortmund, March 15–18, 2015

Sehr geehrte Teilnehmerinnen und Teilnehmer,
liebe Kolleginnen und Kollegen,

ich freue mich sehr, Sie zum 61. Biometrischen Kolloquium in Dortmund begrüßen zu dürfen. Dortmund ist sicher eines der Zentren, das die Entwicklung der Deutschen Region der Internationalen Biometrischen Gesellschaft in den vergangenen Jahren maßgeblich mit geprägt hat. Eine große Zahl unserer inzwischen mehr als 900 Mitglieder hat hier die akademische Ausbildung erhalten und die ersten Verbindungen zu unserer Gesellschaft geknüpft.

Die Mitglieder unserer Deutschen Region haben sich längst einen hervorragenden Ruf in der internationalen Forschungslandschaft erworben. Dies spiegelt sich auch in diesem Jahr durch eine große Zahl etablierter Vortragender wider. Hervorheben möchte ich eine Session, die durch das Central European Network (CEN) organisiert worden ist, und die ich Ihnen besonders ans Herz lege. Mit diesem Ansatz möchten wir das Konzept der Netzwerke stärken, indem wir es zu einem festen Bestandteil unserer Veranstaltungen machen und damit die CEN-Tagung ergänzen, die wir regelmäßig gemeinsam mit der Polnischen Region und der Region Österreich-Schweiz durchführen.

Mein persönlicher Dank gilt zunächst dem wissenschaftlichen Programmkomitee, das dieses attraktive und vielfältige Programm konzipiert und ausgestaltet hat. Bei der lokalen Organisation dieser Veranstaltung haben wir uns auf das gewohnt professionell arbeitende Team der Fakultät Statistik der TU Dortmund verlassen können.

In dem wissenschaftlichen Programm möchte ich Sie besonders auf die Veranstaltungen hinweisen, die unseren wissenschaftlichen Nachwuchs in den Mittelpunkt stellen. Da ist zunächst die Young Statisticians Session zu nennen. Und natürlich wollen wir unseren wissenschaftlichen Nachwuchs auch bei der Verleihung des Bernd Streitberg Preises und des Gustav Adolf Lienert Preises feiern.

Ich hoffe, dieses Biometrische Kolloquium wird Ihnen den Rahmen für einen regen wissenschaftlichen Erfahrungsaustausch und die Möglichkeit für fachliche Weiterbildung bieten. Wir haben uns aber auch das Ziel gesetzt, über unsere wissenschaftliche Gesellschaft hinaus zu wirken und die Kommunikation zu einem zentralen Thema gemacht. In diesem Sinne wünsche ich uns und allen Teilnehmerinnen und Teilnehmern einen erfolgreichen Verlauf bei der Diskussion und Vermittlung von statistischer Theorie bis zur Wahrnehmung in der Gesellschaft.

Ihr

Jürgen Kübler
Präsident der Deutschen Region
der Internationalen Biometrischen Gesellschaft

Dear colleagues and students, dear guests,

we warmly welcome you to the Biom2015 conference, the 61st Biometric Colloquium of the German Region of the International Biometric Society (IBS-DR), according to the motto "Biometrics and Communication: From Statistical Theory to Perception in the Public". We are looking forward to an interesting meeting with more than 300 participants and more than 150 talks. These will be presented in 50 sessions that touch a great variety of relevant topics in modern biometrics research. Highlights are the talks of 16 invited speakers from 11 countries. Three of the speakers come from Poland and are invited by the International Biometric Society to present their work in two sessions of the Central European Network (CEN) of the IBS. The program also features two tutorials covering the hot topics Reproducible Research and Analysis of Sequencing Data.

"Statistics in Practice" is by now an established feature of the Biometric Colloquium. The "life long learning session" presents recent theoretical research put into practice. This time the methodically challenging topic of "Causal Inference" is addressed by Els Goetgebeur from Belgium with the application of how to measure quality of care across centers.

A highlight is the public event "Krank sein im Internetzeitalter: Wie finde ich zuverlässige Gesundheitsinformationen?" (Being sick in the internet era: How do I find reliable health information?). In a panel discussion open to the public experts for medicine and health information discuss the benefits and risks of new information resources in the internet from different perspectives. Questions from the audience are welcome! This event fits particularly well into the motto of the conference "Biometrics and Communication: From Statistical Theory to Perception in the Public" which is also reflected by two scientific sessions devoted to statistics in the public.

Dortmund is the biggest city of the Ruhr area and a lovely place to spend a scientific life or at least some days during the 61st Biometric Colloquium. We wish you a very pleasant stay at Dortmund and a stimulating conference.

Jörg Rahnenführer, Katja Ickstadt, Roland Fried, Lars Koppers
Local Organizers of Biom2015

Scientific committee

Committee:

Roland Fried
Technische Universität Dortmund

Ekkehard Glimm
Novartis Pharma AG

Katja Ickstadt
Technische Universität Dortmund

Jürgen Kübler
CSL Behring

Jörg Rahnenführer
Technische Universität Dortmund

Stephanie Roll
Charité-Universitätsmedizin Berlin

Hans-Peter Piepho
Universität Hohenheim

Richardus Vonk
Bayer Schering Pharma AG

Andreas Ziegler
Universität zu Lübeck

Local organizing committee

Katja Ickstadt • Jörg Rahnenführer • Roland Fried • Lars Koppers • Sermad Abbas • Simone Hermann • Sabrina Herrmann • André König • Katrin Linßen • Katrin Madjar • Sebastian Szugat • Gábor B. Uhrin • Ieva Zelo

Sessions and their organizers

Bayesian statistics and use of additional information
Katja Ickstadt (TU Dortmund)

Benefit assessment of drugs and medical devices
Dieter Hauschke (Albert-Ludwigs-Universität Freiburg)
Ralf Bender (IQWiG Köln)

Biostatistics in public
Jörg Rahnenführer (TU Dortmund)

Design and analysis of experiments in agriculture, ecology and biology
Hans-Peter Piepho (Universität Hohenheim)

Design of experiments in medicine
Joachim Kunert (TU Dortmund)

Education for Statistics in Practice
Stephanie Roll (Charité Berlin)

Machine learning
Andreas Ziegler (Universität zu Lübeck)

Meta-analysis
Guido Knapp (TU Dortmund)

Spatial-temporal statistics
Thomas Kneib (Georg-August-Universität Göttingen)

Statistical methods in bioinformatics
Harald Binder (Universitätsmedizin der Johannes Gutenberg-Universität Mainz)

Statistical methods in clinical trials
Richardus Vonk (Bayer)
Jürgen Kübler (CSL Behring)

Statistical methods in epidemiology
Iris Pigeot-Kübler (Leibniz-Institut für Präventionsforschung und Epidemiologie - BIPS)

Surveillance
Roland Fried (TU Dortmund)

Survival analysis
Jan Beyersmann (Universität Ulm)

Teaching and didactics
Geraldine Rauch (Universitätsklinikum Heidelberg)

Chairs:

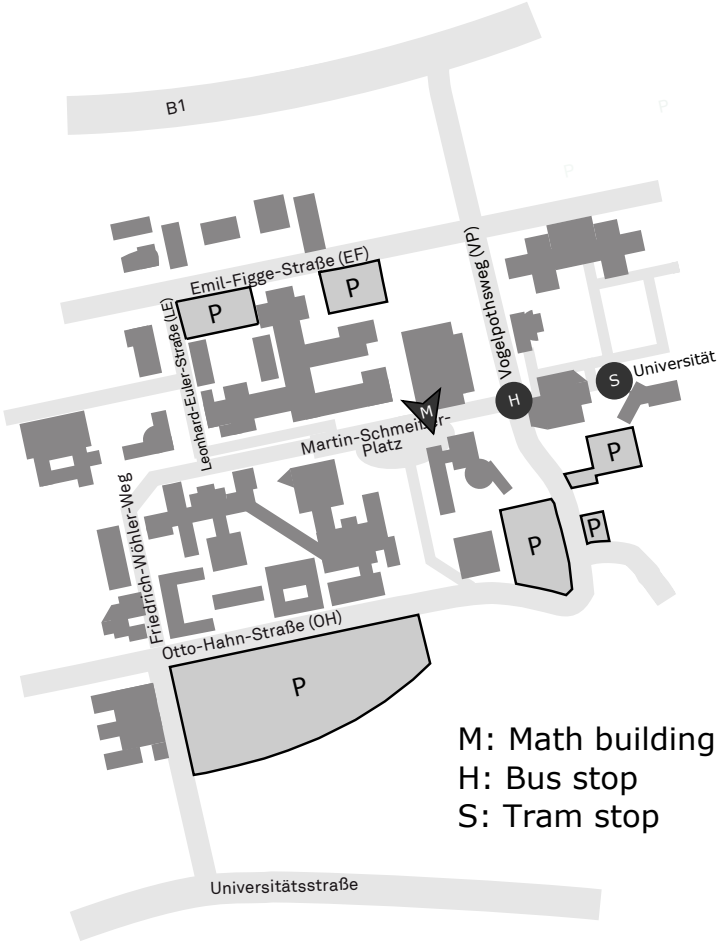
BA1: Prior Information in (Clinical) Trials	Gerhard Nehmiz *Boehringer Ingelheim Pharma GmbH & Co.KG*
BA2: Bayes Regression	Katja Ickstadt *TU Dortmund*
BA3: Bayesian statistics and use of additional information	Arno Fritsch *Bayer Pharma AG*
BI1: Bioinformatics I	Harald Binder *Universitätsmedizin Mainz*
BI2: Bioinformatics II	Johanna Mazur *Universitätsmedizin Mainz*
BI3: Bioinformatics III	Kai Kammers *Johns Hopkins University*
BK: Biocybernetics	Jochen Mau *iqmeth Privates Institut für Quantitative Methodik*
CD: Count Data and Surveillance	Matthias Borowski *Universität Münster*
CEN1: CEN-Session	Hans-Peter Piepho *Universität Hohenheim* Karl Moder *Universität für Bodenkultur, H851*
CEN2: CEN-Session	Hans-Peter Piepho *Universität Hohenheim* Karl Moder *Universität für Bodenkultur, H851*
EP1: New methodological approaches in epidemiology	Iris Pigeot *Leibniz-Institut für Präventionsforschung und Epidemiologie - BIPS*
EP2: Genetic Epidemiology	André Scherag *Universitätsklinikum Jena*
EP3: Application of new statistical approaches in epidemiology	Heiko Becher *Universitätsklinikum Hamburg Eppendorf*
EP4: Epidemiological models of diseases	Ronja Foraita *Leibniz-Institut für Präventionsforschung und Epidemiologie – BIPS*

KS1: Enrichment Designs	Michael Kunz *Bayer Pharma AG*
KS2: Response Assessments	Meinhard Kieser *Institut für Medizinische Biometrie und Informatik, Universität Heidelberg*
KS3: Considerations about Studies	Armin Koch *Institut für Biometrie, Medizinische Hochschule Hannover*
KS4: Subgroups, treatment selection	Katja Ickstadt *TU Dortmund*
KS5: Miscellaneous	Stefan Klein *Bayer Pharma AG*
LD1: Biometrie unterrichten in unterschiedlichen Studiengängen	Reinhard Vontheim *Universität zu Lübeck* Hubert Merkel *HAWK Hildesheim/Holzminden/Göttingen*
LD2: Anschaulich unterrichten: Diagramme und p-Werte	Geraldine Rauch *Universität Heidelberg* Ramona Zeimet *Stiftung Tierärztliche Hochschule Hannover*
ME1: Diagnostic accuracy studies and non-inferiority trials	Carsten Schwenke *SCO:SSiS*
ME2: Random effects and network meta-analyses	Gerta Rücker *Universitätsklinikum Freiburg*
ME3: Network meta-analysis	Guido Knapp *TU Dortmund*
ML1: Machine learning I	Inke König *Universität zu Lübeck*
ML2: Machine learning II	Matthias Schmid *Universität Bonn*
ML3: Machine learning III	Andreas Ziegler *Universität zu Lübeck*
NP: Nonparametrics	David Ellenberger *Universitätsmedizin Göttingen*
NU1: Benefit-Risk Assessment	Frank Langer *Lilly Deutschland GmbH* Claudia Schmoor *Universitätsklinikum Freiburg*
NU2: Meta-Analysis and Subgroups	Ralf Bender *IQWiG*
NU3: Special Topics of Benefit Assessment	Dieter Hauschke *Universitätsklinikum Freiburg*

NW: Nachwuchspreise	Jürgen Kübler *CSL Behring GmbH* Tim Friede *Universitätsmedizin Göttingen*
OE1: Biostatistics in public I	Gerd Antes *Universitätsklinik Freiburg*
OE2: Biostatistics in public II	Jörg Rahnenführer *TU Dortmund*
PL1: Design and analysis of blocked field experiments	Christel Richter *Humboldt-Universität zu Berlin*
PL2: Marker-based genetic modelling for animal and plant breeding experiments	Hans-Georg Schön *Hochschule Osnabrück*
PL3: Case studies using linear and non-linear models in biological research	Hans-Peter Piepho *Universität Hohenheim*
RZ1: Spatial-temporal statistics	Thomas Kneib *Georg-August-Universität Göttingen*
RZ2: Spatial-temporal statistics	Thomas Kneib *Georg-August-Universität Göttingen*
SV1: Surveillance I	Sylvie Charbonnier *ENSE3*
SV2: Surveillance II	Roland Fried *TU Dortmund*
UE1: Prediction	Jan Beyersmann *Universität Ulm*
UE2: Competing Risks	Martin Wolkewitz *Department für Medizinische Biometrie und Medizinische Informatik*
UE3: Multistate Models	Thomas Gerds *University of Copenhagen*
UE4: Complex Event Histories	Arthur Allignol *Universität Ulm*
UE5: Advanced Sampling and Planning	Antje Jahn-Eimermacher *Universitätsmedizin Mainz*
VM1: Design of experiments I	Joachim Kunert *TU Dortmund*
VM2: Design of experiments II	Rainer Schwabe *Otto-von-Guericke-Universität Magdeburg*
YS: Young Statisticians	Tina Müller *Bayer Pharma AG* Benjamin Hofner *FAU Erlangen-Nürnberg*

Conference venue

The conference takes place in the highest building (Maths building) on the campus.
Address: Vogelpothsweg 87, 44227 Dortmund.



How to get there

By train:
From "Dortmund Hauptbahnhof" (main station) take the S1 (platform 7), direction Düsseldorf, and you arrive at "Dortmund Universität" after 7 minutes. You need a Price Zone A (2.60 EUR) ticket for local transport within Dortmund. Don't forget to stamp it in one of the orange machines (before you board the train!).

By car:
The best motorway exit you find on the A45 is "Dortmund-Eichlinghofen" and on the B1/A40 "Dortmund-Barop". There are signs at both exits leading you to the university. Follow the signs leading to "Campus Nord".

WLAN access and computer labs

WLAN acces is available in the conference buildings

1. Participants of universities that take part at the "eduroam" network can simply access the "eduroam" WLAN with their home university's account.
2. For all other participants or if connect to "eduroam" fails
   - Connect to WLAN "ITMC-Gast" (unencrypted).
   - Open an arbitrary web page in your preferred web browser, you will be redirected to a Web Authentication form.
   - The access information will be handed out at the registration (in Dortmund).

Computer labs are available in the Mathematics building:

- Basement: M/U18
- 7th floor: M 711

Conference Dinner

Dortmund beer is famous, and the city has a fascinating history of industrially brewed beer. Enjoy a dinner with delicious food, wine, and beer at the DAB Brauersaal Dortmund - at the heart of German beer brewing culture.
Bus shuttle at 7 p.m. from the basement exit of the Audimax.

Tue, March 17, 19:30 • Brauersaal, Steigerstraße 20, 44145 Dortmund

Öffentlichkeitsveranstaltung

Krank sein im Internetzeitalter: Wie finde ich zuverlässige Gesundheitsinformationen?

Einladung für Patienten, Angehörige und Gesundheitsinteressierte zur öffentlichen Abendveranstaltung im Rahmen des 61. Biometrischen Kolloquiums in Kooperation mit dem Dortmunder Medien-Doktor

Verdacht auf Diabetes? – Erstmal schauen, was man dazu im Internet findet! Rückenschmerzen? – Da gibt es doch bestimmt die passende Facebookgruppe! Und dann im Fernsehen und der Zeitung diese Berichte über die von Zecken übertragenen Krankheiten – ob ich das wohl auch habe?

Es wird nicht unbedingt leichter, krank zu sein im Zeitalter der digitalen Medien. Wo früher häufig der Arzt die erste Anlaufstelle war, wird heute zunächst „Dr. Google“ konsultiert. Doch wie lassen sie sich auch für Laien einschätzen, die unzähligen Studien und Gesundheitstipps aus dem Internet, aus klassischen wie „sozialen“ Medien? Und welche Chancen und welche Risiken bergen die neuen Informationskanäle?

Drei Experten geben Einblick in ihre Strategien zur Bewertung von Informationen aus Medizin und Gesundheit – und stellen sich auch Fragen aus dem Publikum:

Prof. Dr. Gerd Antes, Leiter des Deutschen Cochrane Zentrums am Universitätsklinikum Freiburg,

Dr. Klaus Koch, Chefredakteur von gesundheitsionformation.de am IQWIG in Köln,

im Gespräch mit

Prof. Holger Wormer, Wissenschaftsjournalist und Leiter des Medien-Doktor an der TU Dortmund.

Mon, March 16, 19:30–21:00 • M/E 29, Mathematics building

Invited Speakers

Plenary Talks:

Jürgen Windeler	Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen, Köln, Deutschland
John Hinde	NUI Galway, Ireland

Invited Speakers of the IBS-DR:

Bayesian statistics and use of additional information
Isadora Antoniano-Villalobos — Università Bocconi, Italy

Benefit assessment of drugs and medical devices
Areti Angeliki Veroniki — Li Ka Shing Knowledge Institute, Canada

Biostatistics in public
Volker Stollorz — Freier Wissenschaftsjournalist, Cologne, Germany

Education for Statistics in Practice
Els Goetghebeur — Ghent University, Belgium

Machine learning
Heping Zhang — Yale Public School of Health, USA

Meta-analysis
Daniel Jackson — Cambridge Institute of Public Health, UK

Spatial-temporal statistics
Marc G. Genton — King Abdullah University of Science and Technology, Saudi Arabia

Statistical Methods in Bioinformatics
Tomasz Burzykowski — Hasselt University, Belgium

Statistical Methods in Epidemiology
Philip H. Kass — Population Health & Reproduction, Davis, USA

Surveillance
Sylvie Charbonnier — gipsa-lab Saint Martin d'Hères, France

Survival analysis
Thomas Gerds — University of Copenhagen, Denmark

Invited Speakers of the IBS (CEN-Session)

Pawel Krajewski	Polish Academy of Sciences, Poznan, Poland
Marcin Kozak	University of Information Technology and Management in Rzeszów, Poland
Stanislaw Mejza	Poznan University of Life Sciences, Poland

Life-Long Learning Session: Statistics in Practice

Causal inference in practice: Methods for the construction and comparison of standardized risks to measure quality of care across centers

In two consecutive 80 minute presentations, we will discuss estimation of the causal effect of discrete (treatment) choice on a binary or failure time outcome from observational data. In the absence of unmeasured confounders, fitting traditional as well as more novel causal effect models has become almost straightforward. It is often less apparent how the distinct approaches target different effects for varying types of exposure in specific (sub) populations. Each method has in addition technical (dis)advantages in terms of its reliance on (untestable) assumptions, the degree of data extrapolation involved and the amount of information drawn from a given data set. Motivated by our work on the evaluation of quality of care over treatment centers we discuss these topics in turn, clarify how they help guide the method choice in practice and show results for a case study on acute stroke care in Sweden. We will present a new R-package (available soon) that implements our method of choice and returns output with supporting evidence for specific treatment choices.

Els Goetghebeur, Ghent University, Belgien

Audimax
Wed, March 18, 8:50 - 12:00

Wahlen und Kommisionen

Abgabe des Wahlbriefumschlages für die Vorstandswahl der IBS-DR — Geraldine Rauch
Until Tue, March 17, 10:00 — Conference office

Tutorials

Tutorial 1:

Reproduzierbare Forschung
Benjamin Hofner, *Institut für Medizininformatik, Biometrie und Epidemiologie, FAU Erlangen-Nürnberg*
Lutz Edler, *Abteilung Biostatistik des Deutschen Krebsforschungszentrums*

Sun, March 15, 12:00–17:30

Tutorial 2:

MiSeq, HiSeq, RNA-Seq, ChiP-Seq, ...-Seq: Was heisst das, und was fange ich damit an?
Tanja Zeller, *Universitäres Herzzentrum Hamburg*
Johanna Mazur, *Institut für Medizinische Biometrie, Epidemiologie und Informatik, Universitätsmedizin Mainz*
Carmen Dering, *Institut für Medizinische Biometrie und Statistik, Universität zu Lübeck*

Sun, March 15, 15:00–17:30 and Mon, March 16, 08:30–10:00

Schülervortrag

Im Kurs werden die Grundlagen der empirischen Forschung in der Medizin vermittelt. Dabei betrachten wir die Schritte einer klinischen Studie, das heißt Hypothesenformulierung, die Planung und Durchführung eines Experiments, sowie die Datenauswertung.
Eine eigene kleine Studie im Rahmen des Kurses lädt zur Diskussion über die Möglichkeiten und Grenzen der klinischen Forschung ein.

Zielgruppe
Der Kurs richtet sich an alle interessierten Schüler der Oberstufe sowohl aus Dortmund und Umgebung als auch aus anderen Regionen.

Zeit
Die Veranstaltung findet am 18.März 2015 von 11:00 bis ca. 15:30 Uhr im Hörsaal M/E 28 im Mathegebäude am Campus Nord der TU Dortmund statt im Rahmen des 61. Biometrischen Kolloquiums.

Ort
Die Veranstaltung findet am Tagungsort der Technischen Universität Dortmund statt. Die Schüler sind somit mitten im Konferenzgeschehen.

Kosten
Die Teilnahme ist kostenlos. Die Unkosten werden von der Deutschen Region der Internationalen Biometrischen Gesellschaft (IBS-DR) übernommen.

Sitzungen der AGs der IBS-DR

Vorstands- und Beiratssitzung — Jürgen Kübler
Sun, March 15, 16:00 — M/E 27

Landwirtschaftliches Versuchswesen — Bärbel Kroschewski
Mon, March 16, 12:00 — M/E 25

Adaptive Designs — Ekkehard Glimm
Mon, March 16, 12:00 — M/E 27

AG-Leitersitzung der IBS-DR — Geraldine Rauch
Mon, March 16, 16:40 — M/E 27

Epidemiologie und Medizin — Irene Schmidtmann und Antje Jahn
Tue, March 17, 12:00 — Audimax

Mitgliederversammlung — Jürgen Kübler
Tue, March 17, 16:30 — Audimax

Bayes — Jochem König
Tue, March 17, 12:50 — M/E 19

Nachwuchs — Tina Müller
Tue, March 17, 12:00 — M/E 25

Ethik — Iris Pigeot
Tue, March 17, 12:00 — M/E 27

Auszählung der Wahlen — Geraldine Rauch
Tue, March 17, 13:30 — M/E 27

Lehre — Geraldine Rauch
Wed, March 18, 12:00 — M/E 25

Nichtparametrik — Markus Pauly
Wed, March 18, 12:00 — M/E 27

Sitzung der AG der GMDS

Therapeutische Forschung — Dieter Hauschke
Mon, March 16, 12:50 — M/E 29

Overview

Monday, March 16th

08:50 Parallel Sessions I

KS1	Enrichment Designs	Audimax
BA1	Prior Information In (clinical) trials	M/E 28
NU1	Benefit-Risk Assessment	M/E 29
Tutorial	Seq-Daten	M/E 21
PL1	Design and analysis of blocked field Experiments	M/E 25

10:10 Break

10:40 Plenary Session I

EV	Opening Talk	Audimax

12:00 Break and Meetings

13:30 Parallel Sessions II

KS2	Response Assessments	Audimax
BA2	Bayes Regression	M/E 28
NU2	Meta-Analysis and Subgroups	M/E 29
OE1	Biostatistics in public I	M/E 21
PL2	Marker-based Genetic Modelling for animal and plant Breeding Experiments	M/E 25

14:50 Break

15:20 Parallel Sessions III

KS3	Considerations About Studies	Audimax
UE1	Prediction	M/E 28
NU3	Special Topics of Benefit Assessment	M/E 29
OE2	Biostatistics in public II	M/E 21
PL3	Case studies using linear and nonlinear models in Biological Research	M/E 25

16:40 Break

17:00 Poster Presentation Maths building

19:30 Öffentlichkeitsvortrag

Tuesday, March 17th

08:50 Parallel Sessions IV

KS4	Subgroups, Treatment selection	Audimax
NW	Nachwuchspreise	M/E 28
CEN1	CEN-Session I	M/E 29
BK	Biokybernetik	M/E 19
ML1	Machine learning I	M/E 21
ME1	Diagnostic Accuracy studies and Non-inferiority Trials	M/E 25

10:10 Break

10:40 Parallel Sessions V

EP1	New Methodological Approaches In Epidemiology	Audimax
UE2	Competing Risks	M/E 28
CEN2	CEN-Session II	M/E 29
KS5	Miscellaneous	M/E 19
ML2	Machine learning II	M/E 21
YS	Young Statisticians	M/E 25

12:00 Break and Meetings

13:30 Parallel Sessions VI

EP2	Genetic Epidemiology	Audimax
UE3	Multistate Models	M/E 28
ML3	Machine learning III	M/E 29
BA3	Bayesian Statistics and use of additional Information	M/E 19
RZ1	Spatialtemporal statistics I	M/E 21
ME2	Random effects and Network Metaanalyses	M/E 25

14:50 Break

15:20 Parallel Sessions VII

ME3	Network Metaanalysis	Audimax
UE4	Complex Event Histories	M/E 28
BI1	Bioinformatics I	M/E 29
SV1	Surveillance I	M/E 19
RZ2	Spatial-temporal statistics II	M/E 21
EP3	Application of new Statistical Approaches In Epidemiology	M/E 25

19:30 Conference Dinner Brauersaal

Wednesday, March 18th

08:50 Parallel Sessions VIII

SiP	Statistics in Practice	Audimax
UE5	Advanced Sampling and Planning	M/E 28
BI2	Bioinformatics II	M/E 29
NP	Nonparametrics	M/E 21
LD1	Biometrie unterrichten in unterschiedlichen Studiengängen	M/E 25

10:10 Break

10:40 Parallel Sessions IX

SiP	Statistics in Practice	Audimax
CD	Count Data and Surveillance	M/E 29
VM1	Design of Experiments I	M/E 21
LD2	Anschaulich unterrichten: Diagramme und p-Werte	M/E 25

12:00 Break and Meetings

13:00 Parallel Sessions X

EP4	Epidemiological models of diseases	Audimax
SV2	Surveillance II	M/E 29
VM2	Design of experiments II	M/E 21
BI3	Bioinformatics III	M/E 25

14:00 Break

14:20 Plenary Session II

AV	Closing Event	Audimax

Scientific Program

Monday, March 16th, 8:50 – 10:10

KS1: Enrichment Designs

Time: Monday, March 16th, 8:50 – 10:10

Session Chair: Michael Kunz **Room:** Audimax

8:50 – 9:10	Optimal Decision Rules for Subgroup Selection for a Targeted Therapy in Oncology *Johannes Krisam and Meinhard Kieser*
9:10 – 9:30	Bias Reduction for Point Estimation of Treatment Effects in Two-Stage Enrichment Designs *Kevin Kunzmann and Meinhard Kieser*
9:30 – 9:50	Utilizing surrogate information in adaptive enrichment designs with time-to-event endpoints *Matthias Brückner and Werner Brannath*
9:50 – 10:10	Blinded sample size reestimation in adaptive enrichment designs with multiple nested subgroups *Marius Placzek, Simon Schneider and Tim Friede*

NU1: Benefit-Risk Assessment

Time: Monday, March 16th, 8:50 – 10:10

Session Chair: Frank Langer and Claudia Schmoor **Room:** M/E 29

8:50 – 9:10	Structured Benefit-risk assessment: A review of key publications and initiatives on frameworks and methodologies *Alexander Schacht*
9:10 – 9:30	Quantitative Methoden zur Risiko-Nutzenbewertung *Martin Gebel*
9:30 – 9:50	Benefit risk assessment in the drug approval process *Norbert Benda*
9:50 – 10:10	MCDM im deutschen HTA Umfeld *Friedhelm Leverkus and Fabian Volz*

BA1: Prior Information in (Clinical) Trials

Time: Monday, March 16th, 8:50 – 10:10

Session Chair: Gerhard Nehmiz **Room:** M/E 28

8:50 – 9:10 Efficiency and Robustness of Bayesian Proof of Concept / Dose Finding Studies with Weakly Informative Priors

Stefan Klein and Harry Mager

9:10 – 9:30 Bayesian Augmented Control Methods for Efficiently Incorporating Historical Information in Clinical Trials

Carl DiCasoli, Michael Kunz and Dan Haverstock

9:30 – 9:50 Adaptive power priors for using co-data in clinical trials

Isaac Gravestock, Małgorzata Roos and Leonhard Held

9:50 – 10:10 Bayes-Methoden für sequentielle Designs bei kleinen Fallzahlen: Eine Simulationsstudie

Konrad Neumann, Ulrike Grittner, Sophie Piper and Ulrich Dirnagl

PL1: Design and analysis of blocked field experiments

Time: Monday, March 16th, 8:50 – 10:10

Session Chair: Christel Richter **Room:** M/E 25

8:50 – 9:10 A new method for testing interaction in different kinds of block designs

Karl Moder

9:10 – 9:30 Analysis of a complex trait with missing data on the component traits

Hans-Peter Piepho, Bettina Müller and Constantin Jansen

9:30 – 9:50 Selecting the block model

Jens Möhring and Hans-Peter Piepho

9:50 – 10:10 Welchen Einfluss hat die korrekte Modellierung des Versuchsdesigns bei Versuchsserien/Projektkooperationen?

Karin Hartung

Monday, March 16th, 10:40 – 12:00

EV: Opening talk

Time: Monday, March 16th, 10:40 – 12:00

Room: Audimax

10:40 – 12:00 „Spielen sie schon oder is' grad piano?" – Zur Wahrnehmung der Medizinischen Biometrie

Jürgen Windeler

Monday, March 16th, 13:30 – 14:50

KS2: Response Assessments

Time: Monday, March 16th, 13:30 – 14:50

Session Chair: Meinhard Kieser **Room:** Audimax

13:30 – 13:50 Dose–response studies: simulation study for the comparison of four methods under design considerations

Jan Rekowski, Björn Bornkamp, Katja Ickstadt, Claudia Köllmann and André Scherag

13:50 – 14:10 Efficient tests for the similarity of dose response curves

Kathrin Möllenhoff and Holger Dette

14:10 – 14:30 Schätzung von Halbwertszeiten in nichtlinearen Daten mit Fractional Polynomials

Benjamin Mayer

14:30 – 14:50 On responder analyses in the framework of within subject comparisons - considerations and two case studies

Michael Kunz

NU2: Meta-Analysis and Subgroups

Time: Monday, March 16th, 13:30 – 14:50

Session Chair: Ralf Bender **Room:** M/E 29

13:30 – 14:10 Methods for statistical inference in random effects meta-analysis for use in systematic reviews of medical interventions

Areti Angeliki Veroniki

14:10 – 14:30 Heterogeneity in multi-regional clinical trials and subgroup analyses

Theodor Framke and Armin Koch

14:30 – 14:50 Subgruppenanalysen in der frühen Nutzenbewertung (AMNOG): Fluch oder Segen?

Carsten Schwenke

BA2: Bayes Regression

Time: Monday, March 16th, 13:30 – 14:50

Session Chair: Katja Ickstadt **Room:** M/E 28

13:30 – 14:10 A Bayesian Nonparametric Regression Model with Normalized Weights: A Study of Hippocampal Atrophy in Alzheimer's Disease

Isadora Antoniano

14:10 – 14:30 Choosing the shrinkage factor in Bayesian logistic regression with variable selection

Manuel Wiesenfarth, Manuela Zucknick and Ana Corberán-Vallet

14:30 – 14:50 Simultaneous Inference in Structured Additive Conditional Copula Regression Models: A Unifying Bayesian Approach

Thomas Kneib and Nadja Klein

PL2: Marker-based genetic modelling for animal and plant breeding experiments

Time: Monday, March 16th, 13:30 – 14:50

Session Chair: Hans-Georg Schön **Room:** M/E 25

13:30 – 13:50 The covariance between genotypic effects and its use for genetic evaluations in large half-sib families

Dörte Wittenburg, Friedrich Teuscher and Norbert Reinsch

13:50 – 14:10 Variable selection in large scale genome wide association studies

Gábor Mészáros, Johann Sölkner and Patrik Waldmann

14:10 – 14:30 Expectile smoothing for big data and visualization of linkage disequilibrium decay

Sabine Schnabel, Fred van Eeuwijk and Paul Eilers

14:30 – 14:50 Samplingstrategien in Bayeschen Methoden zur Schätzung von Markereffekten

Manuela Reichelt, Manfred Mayer, Friedrich Teuscher and Norbert Reinsch

OE1: Biostatistics in public I

Time: Monday, March 16th, 13:30 – 14:50

Session Chair: Gerd Antes **Room:** M/E 21

13:30 – 13:50 Meta-Analysis and the Surgeon General's Report on Smoking and Health

Martin Schumacher, Gerta Rücker and Guido Schwarzer

13:50 – 14:10 Schichtungseffekte bei Neymann-Allokation in den Stichproben nach § 42 Risikostrukturausgleichsverordnung (RSAV)

Thomas Schäfer

14:10 – 14:30 Modellierung von Themenkarrieren in Printmedien

Lars Koppers, Karin Boczek, Gerret von Nordheim, Henrik Müller and Jörg Rahnenführer

Monday, March 16th, 15:20 – 16:40

KS3: Considerations about Studies

Time: Monday, March 16th, 15:20 – 16:40

Session Chair: Armin Koch **Room:** Audimax

15:20 – 15:40 Proper handling of over- and underrunning in phase II designs for oncology trials

Stefan Englert and Meinhard Kieser

15:40 – 16:00 Interaction of treatment with a continuous variable: simulation study of significance level and power for several methods of analysis

Willi Sauerbrei and Patrick Royston

16:00 – 16:20 Exposure density sampling in clinical cohorts

Kristin Ohneberg, Martin Wolkewitz, Jan Beyersmann and Martin Schumacher

16:20 – 16:40 Ein universelles Bayes-Design für einarmige Phase II-Studien mit binärem zeitlich erfasstem Endpunkt

Joachim Gerß

NU3: Special Topics of Benefit Assessment

Time: Monday, March 16th, 15:20 – 16:40

Session Chair: Dieter Hauschke **Room:** M/E 29

15:20 – 15:40 Quantifizierung des Ausmaßes des Zusatznutzens von neuen Arzneimitteln: "gering" – "beträchtlich" – "erheblich"?

Werner Vach

15:40 – 16:00 Bewertung von randomisierten kontrollierten Studien unter Berücksichtigung von Treatment Switching: biometrische Anforderungen aus der Sicht des IQWiGs

Lars Beckmann, Ulrich Grouven, Charlotte Guddat, Michael Köhler, Volker Vervölgyi and Ralf Bender

16:00 – 16:20 Analyse der Machbarkeit der Surrogatvalidierung nach IQWiG-Methodik: Ergebnisse von Simulationsstudien

Johanna Buncke, Ralf Goertz, Ulli Jeratsch and Friedhelm Leverkus

16:20 – 16:40 Regressionsverfahren als Ersatz für bivariate Modelle zur Bestimmung des Surrogatschwellenwerts bei korrelationsbasierten Validierungsverfahren

Christoph Schürmann and Wiebke Sieben

UE1: Prediction

Time: Monday, March 16th, 15:20 – 16:40

Session Chair: Jan Beyersmann **Room:** M/E 28

15:20 – 16:00 Risks of predictive modelling in survival analysis

Thomas Gerds

16:00 – 16:20 Conditional survival as framework to identify factors related to long-term survival

Stefanie Hieke, Martina Kleber, Christine König, Monika Engelhardt and Martin Schumacher

16:20 – 16:40 Abwandlung eines Maßes der Erklärten Variation für Überlebenszeitdaten

Verena Weiß and Martin Hellmich

PL3: Case studies using linear and nonlinear models in biological research

Time: Monday, March 16th, 15:20 – 16:40

Session Chair: Hans-Peter Piepho **Room:** M/E 25

15:20 – 15:40 Functional analysis of high-content high-throughput imaging data

Xiaoqi Jiang, Steven Wink and Annette Kopp-Schneider

15:40 – 16:00 Multiblock redundancy analysis: Recommendations for the number of dimensions in veterinary epidemiological observational studies with small sample sizes

Cornelia Frömke, Lothar Kreienbrock, Amely Campe and Stéphanie Bougeard

16:00 – 16:20 Evaluating two-level data: Comparison of linear mixed model analysis to ANOVA based on averaged replicate measurements

Annette Kopp-Schneider and Mirko Link

16:20 – 16:40 Statistical Analysis of the In Vivo Pig-a Gene Mutation Assay

Bernd-Wolfgang Igl, Andreas Sutter, Stephen Dertinger and Richardus Vonk

OE2: Biostatistics in public II

Time: Monday, March 16th, 15:20 – 16:40

Session Chair: Jörg Rahnenführer **Room:** M/E 21

15:20 – 16:00 Recherchewerkzeug OperationsExplorer: Wie Datenjournalisten mit Daten und Statistik ringen

Volker Stollorz

16:00 – 16:20 Qualitätsveränderungen der Wissenschaftskommunikation am Beispiel medizinischer Themen

Holger Wormer, Marcus Anhäuser and Julia Serong

16:20 – 16:40 Wissenschaftlichkeit in der Medizin und Patientenpräfenzen: ein unüberwindbarer Gegensatz?

Gerd Antes

Tuesday, March 17th, 8:50 – 10:10

KS4: Subgroups, treatment selection

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Katja Ickstadt **Room:** Audimax

8:50 – 9:10 Heterogenität in Subgruppen: Statistische Eigenschaften von Regeln zur Signalgenerierung

Martina Kottas, Andrea Gonnermann and Armin Koch

9:10 – 9:30 Design and Analysis of Adaptive Confirmatory Trials using MCPMod

Tobias Mielke

9:30 – 9:50 From treatment selection studies to treatment selection rules: A comparison of four approaches

Maren Kechel and Werner Vach

9:50 – 10:10 A Dunnett-Type Test for Response-Adaptive Multi-Armed Two-Stage Designs

Georg Gutjahr

CEN1: CEN-Session

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Hans-Peter Piepho and Karl Moder **Room:** M/E 29

8:50 – 9:30 Design and analysis of non-replicated genetic experiments

Stanisław Mejza

9:30 – 10:10 Communication between agricultural scientists and statisticians: a broken bridge?

Marcin Kozak

NW: Nachwuchspreise

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Jürgen Kübler and Tim Friede **Room:** M/E 28

8:50 – 10:10 Awarding of the Bernd Streitberg and Gustav Adolf Lienert prizes.

ME1: Diagnostic accuracy studies and non-inferiority trials

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Carsten Schwenke **Room:** M/E 25

8:50 – 9:10 Modelling biomarker distributions in meta-analysis of diagnostic test accuracy studies

Gerta Rücker and Martin Schumacher

9:10 – 9:30 Nonparametric meta-analysis for diagnostic accuracy studies

Antonia Zapf, Annika Hoyer, Katharina Kramer and Oliver Kuß

9:30 – 9:50 Statistical methods for the meta-analysis of ROC curves – A new approach

Annika Hoyer and Oliver Kuß

9:50 – 10:10 Assessing noninferiority in meta-analyses of clinical trials with binary outcomes

Daniel Saure, Katrin Jensen and Meinhard Kieser

ML1: Machine learning I

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Inke König **Room:** M/E 21

8:50 – 9:10 Automatic model selection for high dimensional survival analysis

Michel Lang, Bernd Bischl and Jörg Rahnenführer

9:10 – 9:30 Improved cross-study prediction through batch effect adjustment

Roman Hornung, David Causeur and Anne-Laure Boulesteix

9:30 – 9:50 A Contribution to Variance Estimation of Resampling Procedures in Classification and Regression

Mathias Fuchs and Norbert Krautenbacher

9:50 – 10:10 Assessing predictive performance in multiply imputed data using resampling strategies

Simone Wahl and Anne-Laure Boulesteix

BK: Biocybernetics

Time: Tuesday, March 17th, 8:50 – 10:10

Session Chair: Jochen Mau **Room:** M/E 19

8:50 – 9:10 Mathematical models for anisotropic glioma invasion: a multiscale approach

Christina Surulescu

9:10 – 9:30 SPINA und SEPIA: Algorithmen für die Differentialdiagnostik und personalisierte Therapieplanung in der Endokrinologie

Johannes W. Dietrich

9:30 – 9:50 Rückgekoppelte medizintechnische Systeme

Berno Misgeld and Steffen Leonhardt

9:50 – 10:10 Analyse und Synthese von sensorgesteuerten Herzschrittmacheralgorithmen

Martin Hexamer

Tuesday, March 17th, 10:40 – 12:00

EP1: New methodological approaches in epidemiology

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Iris Pigeot **Room:** Audimax

10:40 – 11:20 Design and analysis issues in non-traditional epidemiological studies

Philip H. Kass

11:20 – 11:40 On the error of incidence estimation from prevalence data

Ralph Brinks, Annika Hoyer and Sandra Landwehr

11:40 – 12:00 Sequentielle Tests bei Monitoringverfahren zum Nachweis erhöhter Inzidenz – eine Simulationsstudie

Tammo Konstantin Reinders, Antje Timmer, Joachim Kieschke and Verena Jürgens

CEN2: CEN-Session

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Hans-Peter Piepho and Karl Moder **Room:** M/E 29

10:40 – 11:20 On functional data analysis applied to interpretation of next-generation sequencing experimental results

Pawel Krajewski and Pedro Madrigal

UE2: Competing Risks

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Martin Wolkewitz **Room:** M/E 28

10:40 – 11:00 Florence Nightingale, William Farr and competing risks

Jan Beyersmann and Christine Schrade

11:00 – 11:20 Smoothing for pseudo-value regression in competing risks settings

Daniela Zöller, Irene Schmidtmann, Arndt Weinmann, Thomas Gerds and Harald Binder

11:20 – 11:40 The average hazard ratio – a good effect measure for time-to-event endpoints when the proportional hazard assumption is violated?

Geraldine Rauch, Werner Brannath, Mathias Brückner and Meinhard Kieser

11:40 – 12:00 Simulating recurrent event data in the presence of a competing terminal event with an application to cardiovascular disease

Antje Jahn-Eimermacher, Katharina Ingel, Stella Preussler and Harald Binder

YS: Young Statisticians

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Tina Müller and Benjamin Hofner **Room:** M/E 25

10:40 – 11:00 Statistical modeling of high dimensional longitudinal methylation profiles in leukemia patients under DNA demethylating therapy

Pascal Schlosser, Nadja Blagitko-Dorfs, Michael Lübbert and Martin Schumacher

11:00 – 11:20 Estimation of pregnancy outcome probabilities in the presence of heavy left-truncation

Sarah Friedrich, Jan Beyersmann, Ursula Winterfeld and Arthur Allignol

11:20 – 11:40 Relative improvement of lung function in elderly German women after reduction of air pollution: Results from the SALIA cohort study

Anke Hüls, Ursula Krämer, Andrea Vierkötter, Sabine Stolz, Frauke Hennig, Barbara Hoffmann, Katja Ickstadt and Tamara Schikowski

11:40 – 12:00 Der Einfluss verschiedener Verfahren zum Umgang mit fehlenden Werten und zur Variablenselektion auf die Zusammensetzung und Güte logistischer Regressionsmodelle

Annabel Stierlin, Benjamin Mayer and Rainer Muche

ML2: Machine learning II

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Matthias Schmid **Room:** M/E 21

10:40 – 11:00 Random forests for functional covariates

Annette Möller, Gerhard Tutz and Jan Gertheiss

11:00 – 11:20 Ranger: A Fast Implementation of Random Forests for High Dimensional Data

Marvin N. Wright and Andreas Ziegler

11:20 – 11:40 Publication bias in methodological computational research

Anne-Laure Boulesteix, Veronika Stierle and Alexander Hapfelmeier

11:40 – 12:00 The need for a third dimension in the external validation of clinical prediction rules

Werner Vach

KS5: Miscellaneous

Time: Tuesday, March 17th, 10:40 – 12:00

Session Chair: Stefan Klein **Room:** M/E 19

10:40 – 11:00 The cure-death-model – A new approach for a randomised clinical trial design to tackle antimicrobial resistance

Harriet Sommer, Martin Wolkewitz, Jean-Francois Timsit and Martin Schumacher

11:00 – 11:20 Extrapolation of internal pilot estimates for sample size re-assessment with recurrent event data in the presence of non-constant hazards

Katharina Ingel, Simon Schneider, Harald Binder and Antje Jahn-Eimermacher

11:20 – 11:40 Vergleich von co-primären und kombinierten binären Endpunkten in klinischen Studien

Laura Kohlhas, Jörg Zinserling and Norbert Benda

Tuesday, March 17th, 13:30 – 14:50

EP2: Genetic Epidemiology

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: André Scherag **Room:** Audimax

13:30 – 13:50 On the correlation structure of test statistics in genetic case-control association studies

Jens Stange, Thorsten Dickhaus and Haydar Demirhan

13:50 – 14:10 Securing the future: genotype imputation performance between different Affymetrix SNP arrays

George Kanoungi, Peter Nürnberg and Michael Nothnagel

14:10 – 14:30 Detecting interaction effects in imputed datasets

Damian Gola and Inke R. König

14:30 – 14:50 Detecting SNP interactions associated with disease using model-based recursive partitioning

Hanna Birke and Holger Schwender

ML3: Machine learning III

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: Andreas Ziegler **Room:** M/E 29

13:30 – 14:10 Tree and Forest Approaches to Identification of Genetic and Environmental Factors for Complex Diseases

Heping Zhang

14:10 – 14:30 AUC-based splitting criteria for random survival forests

Matthias Schmid, Marvin Wright, Fabian Eifler and Andreas Ziegler

14:30 – 14:50 Boosting in Cox regression: a comparison between likelihood-based and model-based approaches with focus on the R packages CoxBoost and mboost

Riccardo De Bin

UE3: Multistate Models

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: Thomas Gerds **Room:** M/E 28

13:30 – 13:50 Confidence Bands for Nelson-Aalen Estimates in a Multistate Model: The Wild Bootstrap Approach with Applications in Health Services Research

Tobias Bluhmki, Gisela Buechele and Jan Beyersmann

13:50 – 14:10 Comparing multi-state approaches for reducing the bias of relative risk estimates from cohort data with missing information due to death

Nadine Binder, Anne-Sophie Herrnböck and Martin Schumacher

14:10 – 14:30 Adjusted excess length-of-stay in hospital due to hospital-acquired infections

Arthur Allignol, Martin Schumacher, Stephan Harbarth and Jan Beyersmann

14:30 – 14:50 Dealing with recurrent events in the analysis of composite time-to-event endpoints

Svenja Schüler, Meinhard Kieser and Geraldine Rauch

ME2: Random effects and network meta-analyses

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: Gerta Rücker **Room:** M/E 25

13:30 – 13:50 Heterogeneity in random-effects meta-analysis

Christian Röver, Beat Neuenschwander, Simon Wandel and Tim Friede

13:50 – 14:10 An investigation of the type I error rate when testing for subgroup differences in the context of random-effects meta-analyses

Charlotte Guddat

14:10 – 14:30 Comparing different approaches for network meta-analysis – a simulation study

Corinna Kiefer, Sibylle Sturtz, Wiebke Sieben and Ralf Bender

14:30 – 14:50 Facing Uncertainty in Heterogeneity Parameters in Bayesian Network Meta-Analysis

Jochem König, Ulrike Krahn and Harald Binder

RZ1: Spatial-temporal statistics

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: Thomas Kneib **Room:** M/E 21

13:30 – 14:10 Incorporating geostrophic wind information for improved space-time short-term wind speed forecasting and power system dispatch

Marc G. Genton

14:10 – 14:30 Model Selection in Expectile Regression

Elmar Spiegel, Thomas Kneib and Fabian Sobotka

14:30 – 14:50 Nonparametric Mixture Modelling of Dynamic Bayesian Networks Derives the Structure of Protein-Networks in Adhesion Sites

Yessica Fermin, Katja Ickstadt, Malik R. Sheriff, Sarah Imtiaz and Eli Zamir

BA3: Bayesian statistics and use of additional information

Time: Tuesday, March 17th, 13:30 – 14:50

Session Chair: Arno Fritsch **Room:** M/E 19

13:30 – 13:50	Filling the gaps – back-calculation of lung cancer incidence *Verena Jürgens, Silvia Ess, Harish C. Phuleria, Martin Früh, Matthias Schwenkglenks, Harald Frick, Thomas Cerny and Penelope Vounatsou*
13:50 – 14:10	Bayesian modelling of marker effects in backcross experiments by means of their covariance matrix *Manuela Reichelt, Manfred Mayer, Friedrich Teuscher and Norbert Reinsch*
14:10 – 14:30	Integrative analysis of histone ChIP-seq, RNA-seq and copy number data using Bayesian models *Martin Schäfer and Holger Schwender*
14:30 – 14:50	Confounder-selection strategies in (environmental) epidemiology: Classical variable selection approaches vs. a DAG-approach *Frauke Hennig, Katja Ickstadt and Barbara Hoffmann*

Tuesday, March 17th, 15:20 – 16:20

ME3: Network meta-analysis

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Guido Knapp **Room:** Audimax

15:20 – 16:00	Models for network meta-analysis with random inconsistency effects *Daniel Jackson*
16:00 – 16:20	Multiplicative interaction in network meta-analysis *Hans-Peter Piepho, Laurence V. Madden and Emlyn R. Williams*

BI1: Bioinformatics I

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Harald Binder **Room:** M/E 29

15:20 – 16:00 The use of hidden Markov-models to analyze QTL-mapping experiments based on whole-genome next-generation-sequencing data

Tomasz Burzykowski

16:00 – 16:20 Integrative analysis of case-control data on multiple cancer subtypes

Anne-Sophie Stöhlker, Alexandra Nieters, Harald Binder and Martin Schumacher

UE4: Complex Event Histories

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Arthur Allignol **Room:** M/E 28

15:20 – 15:40 How is dynamic prediction affected if measurement patterns of covariates and outcome are dependent?

Irene Schmidtmann, Arndt Weinmann, Anna Schritz, Daniela Zöller and Harald Binder

15:40 – 16:00 Time matters - analyzing prenatal adverse drug reactions under non-continuous exposure

Reinhard Meister, Arthur Allignol and Christo Schaefer

16:00 – 16:20 Investigating the effects of treatment for community-acquired infections on mortality in hospital data: a simulation study for the impact of three types of survival bias

Martin Wolkewitz and Martin Schumacher

EP3: Application of new statistical approaches in epidemiology

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Heiko Becher **Room:** M/E 25

15:20 – 15:40 Kritische Anmerkungen zur Anwendung von Propensity Score Methoden für die Analyse des Auftretens schwerwiegender unerwünschter Ereignisse

Joachim Listing, Adrian Richter and Jens Klotsche

15:40 – 16:00 Propensity score methods to reduce sample selection bias in a large retrospective study on adjuvant therapy in lymph-node positive vulvar cancer (AGO CaRE-1)

Christine Eulenburg, Anna Suling, Petra Neuser, Alexander Reuss, Linn Wölber and Sve Mahner

16:00 – 16:20 Exploration of geriatric mobility scores using semiparametric quantile regression

Fabian Sobotka, Lena Dasenbrock, Jürgen M. Bauer and Antje Timmer

RZ2: Spatial-temporal statistics

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Thomas Kneib **Room:** M/E 21

15:20 – 15:40 A comparison of clustering approaches with application to dual colour data

Sabrina Herrmann, Katja Ickstadt and Peter Verveer

15:40 – 16:00 Detecting time-dependency in live cell-imaging

Nicolai Bissantz

SV1: Surveillance I

Time: Tuesday, March 17th, 15:20 – 16:20

Session Chair: Sylvie Charbonnier **Room:** M/E 19

15:20 – 15:40 Medical Device Alarms – A Clinical Perspective
Michael Imhoff and Roland Fried

15:40 – 16:00 Control charts for biosignals based on robust two-sample tests
Sermad Abbas and Roland Fried

16:00 – 16:20 Biplots: A graphical method for the detection of infectious disease outbreaks
Steffen Unkel

Wednesday, March 18th, 8:50 – 10:10

SiP: Statistics in Practice

Time: Wednesday, March 18th, 8:50 – 10:10

Room: Audimax

8:50 – 10:10 Causal inference in practice: Methods for the construction and comparison of standardized risks to measure quality of care across centers

Els Goetghebeur

UE5: Advanced Sampling and Planning

Time: Wednesday, March 18th, 8:50 – 10:10

Session Chair: Antje Jahn-Eimermacher **Room:** M/E 28

8:50 – 9:10 A case-cohort approach for extended illness-death models in hospital epidemiology

M. von Cube, M. Schumacher, M. Palomar-Martinez, P. Olaechea-Astigarraga, F. Alvarez-Lerma and M. Wolkewitz

9:10 – 9:30 Efficient use of omics data for time to event prediction models: selective sampling and its alternatives

Natalia Becker and Axel Benner

9:30 – 9:50 Non-parametric Bayesian prediction of the time to reach a given number of events, with consideration of prior knowledge on closeness to the exponential distribution

Gerhard Nehmiz and Gaschler-Markefski Birgit

9:50 – 10:10 Sample size planning for recurrent event analyses in heart failure trials – A simulation study

Patrick Schlömer and Arno Fritsch

BI2: Bioinformatics II

Time: Wednesday, March 18th, 8:50 – 10:10

Session Chair: Johanna Mazur **Room:** M/E 29

8:50 – 9:10 Using Prediction Performance as a Measure for optimal Mapping of Methylation and RNA-Seq Data

Aslihan Gerhold-Ay, Johanna Mazur and Harald Binder

9:10 – 9:30 Benefits of an integrative strategy for extracting sparse and non-sparse prognostic information from molecular measurements

Veronika Weyer and Harald Binder

9:30 – 9:50 Statistical analysis of toxicogenomics data

Eugen Rempel, Jan Hengstler and Jörg Rahnenführer

9:50 – 10:10 Detecting Significant Changes in Protein Abundance

Kai Kammers and Ingo Ruczinski

NP: Nonparametrics

Time: Wednesday, March 18th, 8:50 – 10:10

Session Chair: David Ellenberger **Room:** M/E 21

8:50 – 9:10 Stichprobenplanung für allgemeine Rangtests

Edgar Brunner

9:10 – 9:30 Approximation procedures for high-dimensional repeated measures designs

Markus Pauly, David Ellenberger and Edgar Brunner

9:30 – 9:50 Simultaneous statistical inference for epigenetic data

Konstantin Schildknecht, Sven Olek and Thorsten Dickhaus

9:50 – 10:10 A data-dependent multiplier bootstrap applied to transition probability matrices of inhomogeneous Markov processes

Dennis Dobler and Markus Pauly

LD1: Biometrie unterrichten in unterschiedlichen Studiengängen

Time: Wednesday, March 18th, 8:50 – 10:10

Session Chairs: Reinhard Vonthein and Hubert Merkel **Room:** M/E 25

8:50 – 9:10 Didaktische Umstrukturierung der Grundvorlesung Biometrie und Epidemiologie – Erfahrungen aus der Veterinärmedizin

Ramona Zeimet, Marcus G. Doherr and Lothar Kreienbrock

9:10 – 9:30 Entwicklung und Implementierung eines „Prüfarzt-Tracks“ im Studiengang Humanmedizin

Ulrike Braisch, Benjamin Mayer, Marianne Meule, Dietrich Rothenbacher and Rainer Muche

9:30 – 9:50 Consulting Class – Ein Praktikum für Biometrie-Studierende

Rainer Muche, Jens Dreyhaupt, Ulrich Stadtmüller and Hartmut Lanzinger

9:50 – 10:10 Gestaltungsmöglichkeiten und Herausforderungen in der Lehre eines berufsbegleitenden Studiengangs am Beispiel des Masterstudiengangs Medical Biometry/ Biostatistics

Marietta Kirchner, Geraldine Rauch and Meinhard Kieser

Wednesday, March 18th, 10:40 – 12:00

SiP: Statistics in Practice

Time: Wednesday, March 18th, 10:40 – 12:00

Room: Audimax

10:40 – 12:00 Causal inference in practice: Methods for the construction and comparison of standardized risks to measure quality of care across centers

Els Goetghebeur

CD: Count Data and Surveillance

Time: Wednesday, March 18th, 10:40 – 12:00

Session Chair: Matthias Borowski **Room:** M/E 29

10:40 – 11:00 A score-test for testing zero-inflation in Poisson regression models under the identity-link

Maria Oliveira and Jochen Einbeck

11:00 – 11:20 Bayesian Outbreak Detection in the Presence of Reporting Delays

Maëlle Salmon, Dirk Schumacher, Klaus Stark and Michael Höhle

11:20 – 11:40 Combining social contact data with spatio-temporal models for infectious diseases

Sebastian Meyer and Leonhard Held

11:40 – 12:00 Monitoring of count time series following generalized linear models

Tobias Liboschik, Roland Fried and Konstantinos Fokianos

VM1: Design of experiments I

Time: Wednesday, March 18th, 10:40 – 12:00

Session Chair: Joachim Kunert **Room:** M/E 21

10:40 – 11:00 A Linked Optimization Criterion for the Assessment of Selection and Chronological Bias in Randomized Clinical Trials

David Schindler and Ralf-Dieter Hilgers

11:00 – 11:20 Patient-oriented randomisation versus classical block randomisation

Constanze Schulz and Jürgen Timm

11:20 – 11:40 Blinded Sample Size Reestimation for Time Dependent Negative Binomial Observations

Thomas Asendorf, Heinz Schmidli and Tim Friede

11:40 – 12:00 Optimal designs for comparing curves

Kirsten Schorning and Holger Dette

LD2: Anschaulich unterrichten: Diagramme und p-Werte

Time: Wednesday, March 18th, 10:40 – 12:00

Session Chairs: Geraldine Rauch and Ramona Zeimet **Room:** M/E 25

10:40 – 11:00 Punktewolken und Streuungsellipsen als graphische Hilfsmittel bei der biometrischen Beratung

Udo Rempe

11:00 – 11:20 Fortentwicklung von Diagrammen für Fortgeschrittene

Reinhard Vonthein

11:20 – 11:40 Der p-Wert – Eine elementare Herausforderung für die Lehre

Hubert Merkel

11:40 – 12:00 On confidence statements associated to P-values

Lutz Mattner and Todor Dinev

Wednesday, March 18th, 13:00 – 14:00

EP4: Epidemiological models of diseases

Time: Wednesday, March 18th, 13:00 – 14:00

Session Chair: Ronja Foraita **Room:** Audimax

13:00 – 13:20 Ist der gruppenbasierte Trajektorie-Modell-Ansatz übertragbar auf chronische Stoffwechselerkrankungen? Eine Analyse von Patienten mit Typ-1-Diabetes mellitus

Anke Schwandt, Julia M. Hermann, Esther Bollow, Joachim Rosenbauer and Reinhard W. Holl

13:20 – 13:40 Detection and modeling of seasonal variation in blood pressure in patients with diabetes mellitus

Julia M. Hermann, Joachim Rosenbauer, Axel Dost, Claudia Steigleder-Schweiger, Wieland Kiess, Christof Schöfl, Anke Schwandt and Reinhard W. Holl

13:40 – 14:00 Methoden zur Untersuchung der Wechselwirkung von Lebensalter und Multimorbidität auf die körperliche Leistungs- und Koordinationsfähigkeit im Alter

Michael Schneider, Nicole Luksche, Andreas Zehnder, Dominik Lieberoth-Lenden, Franca Genest and Lothar Seefried

SV2: Surveillance II

Time: Wednesday, March 18th, 13:00 – 14:00

Session Chair: Roland Fried **Room:** M/E 29

13:00 – 13:40 Methods to monitor mental fatigue in operators using EEG signals

Sylvie Charbonnier

13:40 – 14:00 Real-time detection of trends in time series of carbon dioxide concentration in exhalation air

Matthias Borowski, Laura Kourelas and Andreas Bohn

VM2: Design of experiments II

Time: Wednesday, March 18th, 13:00 – 14:00

Session Chair: Schwabe, Rainer **Room:** M/E 21

13:00 – 13:20 Determining optimal phase II and phase III programs based on expected utility

Marietta Kirchner, Meinhard Kieser, Heiko Götte and Armin Schüler

13:20 – 13:40 Optimization of dose-finding in phase II/III development programs

Sven Schnaidt and Meinhard Kieser

13:40 – 14:00 Designing dose finding studies with an active control for exponential families

Katrin Kettelhake, Holger Dette and Frank Bretz

BI3: Bioinformatics III

Time: Wednesday, March 18th, 13:00 – 14:00

Session Chair: Kammers, Kai **Room:** M/E 25

13:00 – 13:20 Simulation of Correlated Count Data from Sequencing or Mass Spectrometry Experiments

Jochen Kruppa, Tim Beißbarth and Klaus Jung

13:20 – 13:40 Combining gene expression measurements from different platforms using simultaneous boosting to identify prognostic markers

Johanna Mazur, Isabella Zwiener and Harald Binder

13:40 – 14:00 Unimodal spline regression for detecting peaks in spectral data

Claudia Köllmann, Katja Ickstadt and Roland Fried

Wednesday, March 18th, 14:20 – 15:30

AV: Closing event

Time: Wednesday, March 18th, 14:20 – 15:30

Room: Audimax

14:20 – 15:30 Translational Statistics

John Hinde and John Newell

Poster Presentation

Time: Monday, March 16th 17:00–19:00 **Room:** Mathe Tower

1. Antibiotic Prophylaxis in Inguinal Hernia Repair - Results of the Herniamed Registry
   Daniela Adolf and Ferdinand Köckerling

2. Identification of patient subgroups in high-throughput data
   Maike Ahrens, Michael Turewicz, Katrin Marcus, Helmut E. Meyer, Martin Eisenacher and Jörg Rahnenführer

3. Estimation of Total Cholesterol Level by Kriging Metamodeling
   Olgun Aydin

4. A weighted polygenic risk score to predict relapse-free survival in bladder cancer cases
   Hannah Bürger, Klaus Golka, Meinolf Blaszkewicz, Jan G. Hengstler and Silvia Selinski

5. Variable selection under multiple imputation and bootstrapping – an application to self-reported quality of life in adolescents with cerebral palsy
   Nora Eisemann

6. Impact of a clinical hold with treatment suspension on primary objective evaluation
   Elvira Erhardt, Jan Beyersmann and Anja-Helena Loos

7. Optimizing graphical multiple testing procedures
   Dennis Görlich, Andreas Faldum and Robert Kwiecien

8. Toxicogenomics directory of chemically exposed human hepatocytes
   Marianna Grinberg, Regina Stöber, Eugen Rempel, Jörg Rahnenführer and Jan Hengstler

9. The impact of number of patients lost to follow-up in cardiovascular outcome trials
   Stefan Hantel

10. Classification and diagnosis of diseases based on breath sample analysis
    Salome Horsch, Jörg Ingo Baumbach and Jörg Rahnenführer

11. Integrative analysis of genome-wide gene copy number changes, gene expression and its clinical correlates in human non-small cell lung cancer
    Verena Jabs

12. "Beyond CONSORT" – Illustration von Limitationen des CONSORT Statements aufgrund fehlender Berücksichtigung der methodischen Belastbarkeit von Angaben zu CONSORT-Kriterien am Beispiel einer RCT der zahnärztlichen Implantologie
    Stephanie Knippschild, Jessica Hirsch, Christine Baulig and Frank Krummenauer

13. Gene set analysis in gene expression series
    André König and Jörg Rahnenführer

14. "Beyond Statistical Consulting" – Clusterung von Ursachen des Einschaltens der „Vertrauensstelle für Promotionsbelange" an der Fakultät für Gesundheit der Universität Witten/Herdecke
    Frank Krummenauer

15. „Pricing Biometrical Service“ – Vorschlag einer Kalkulationsmatrix für biometrische Dienstleistungen in regulatorischen Klinischen Prüfungen
    Frank Krummenauer and Jessica Hirsch

16. Subgroup-specific survival analysis in high-dimensional breast and lung cancer datasets
    Katrin Madjar and Jörg Rahnenführer

17. Steuerung und Regelung der Dynamik physiologischer Wirkungsflüsse
    Jochen Mau

18. Kybernetik – Von der Zelle zur Population
    Jochen Mau

19. Statistical Lunch – A Practical Approach to Increase Statistical Awareness
    Tina Müller, Bernd-Wolfgang Igl and Hannes-Friedrich Ulbrich

20. Vergleich der Schätzung der Standardfehler von Tibshirani und Osborne in der Lasso-Regression
    Katja Luisa Näher, Laura Kohlhas and Manfred Berres

21. Zero-inflated models for radiation-induced chromosome aberration data
    Maria Oliveira, Liz Ainsbury, Jochen Einbeck, Kai Rothkamm, Pedro Puig and Manuel Higueras

22. Assessing clinical expertise using information theoretical concepts of evidence and surprise
    Thomas Ostermann, Daniela Rodrigues Recchia and Garcia Jesus Enrique

23. Two-factor experiment with split units constructed cyclic designs and square lattice designs
    Kazuhiro Ozawa and Shinji Kuriki

24. Bestimmung der optimalen Penalisierung im Least Absolute Shrinkage and Selection Operator mittels Kreuzvalidierung und generalisierter Kreuzvalidierung
    Ann-Kathrin Ozga and Manfred Berres

25. Zeitlich-räumliche Modellierung mit der verallgemeinerten Gamma-Poisson Mischung
    Tanja K. Rausch and Christine H. Müller

26. A boosting technique for longitudinal microarray data in multivariable time-to-event models
    Veronika Reiser, Werner Vach, Harald Binder and Martin Schumacher

27. Proteome-wide phylogenetic analysis by similarity search in tandem mass spectra
    Vera Rieder and Jörg Rahnenführer

28. Konzeption und Implementierung einer Standard Operation Procedure (SOP) zur Funktionsvalidierung von statistischer Auswertungs-Software zur GCP-konformen Durchführung von Klinischen Prüfungen
    Katharina Schaper, Jessica Hirsch, Wolfgang Eglmeier, Peter Huber and Frank Krummenauer

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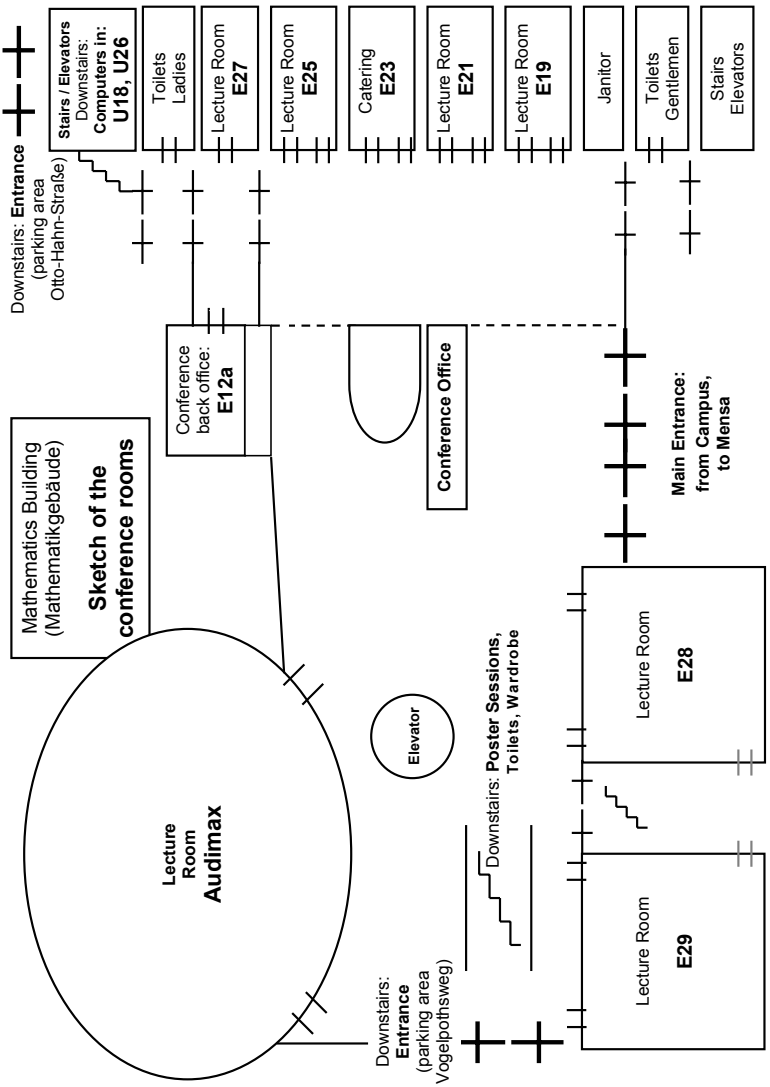
Floor Plan:


Mathematics Building
(Mathematikgebäude)
Sketch of the conference rooms
Lecture Room Audimax
Downstairs: Entrance (parking area Vogelpothsweg)
Downstairs: Poster Sessions, Toilets, Wardrobe
Elevator
Lecture Room E29
Lecture Room E28
Main Entrance: from Campus, to Mensa
Conference back office: E12a
Conference Office
Downstairs: Entrance (parking area Otto-Hahn-Straße)
Stairs / Elevators Downstairs: Computers in: U18, U26
Toilets Ladies
Lecture Room E27
Lecture Room E25
Catering E23
Lecture Room E21
Lecture Room E19
Janitor
Toilets Gentlemen
Stairs Elevators