

Joint Conference of the GMDC & CEN-IBS 2020

Program

Berlin - September 6 - 11, 2020

Bringing Data to Life



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Prof. Dr. Alfred Winter

Dear Colleagues,

The entire German Association for Medical Informatics, Biometry and Epidemiology (GMDS) is happy to be able to once again conduct scientific discourse at an annual conference even in this particularly challenging year. True to our motto “Researching together for health”, the annual conference once again brings together all topics related to the provision and analysis of data in medicine. We are particularly pleased that this year we are able to conduct the discourse together with our colleagues from the Central European Network of the International Biometric Society (IBS) and thus again on an international level. A warm welcome to our colleagues from Austria, Switzerland and Poland. In the past six months, the Covid-19 pandemic has clearly demonstrated to everyone, even beyond our scientific societies, how important it is to research for health together. Without data about the pandemic, it is impossible to make adequate health policy decisions. The data cannot be collected or provided without medical informatics, documentation and health data management. Without biometrics and without epidemiology, bioinformatics and systems biology, the data cannot be evaluated and turned into decision-making instruments. Unfortunately, however, the pandemic has also meant that this year we have to forego the familiar form of annual meetings. For at least two years, Professor Rauch and her team have put their heart and soul into the preparation of an annual meeting, which was designed to promote personal exchange between scientists from the participating disciplines and scientific societies. Then came Covid-19, and I would like to express my great thanks and respect to Professor Rauch and her team for having managed to set up this fantastic and attractive online conference in just a few weeks. Now we are not able to meet at lunch, in a pub in the evening or at a dinner party. But thanks to the preparation of the Berlin team and the team at the GMDS office, we can now open our discourse further, even across spatial distances, and we can also temporally stretch the conference program. These are opportunities that we should also use wisely in the future.

On behalf of the GMDS Executive Board I wish all participants of the GMDS & CEN-IBS 2020 an exciting conference!

With best regards,

Alfred Winter

Dear Colleagues,

It is a pleasure for me to welcome you as president of the IBS-DR (German Region of the IBS) to the joint conference of the GMDS and the Central European Network (CEN) of the German, Austrian-Swiss and Polish regions of the International Biometric Society. This conference provides an exciting opportunity to bring together the research from the different fields of biostatistics, bioinformatics, epidemiology, medical informatics, and data science with presentations and discussions on current trends within and across the different disciplines. The broad range of this conference is not only represented by the keynote speakers, but also by the contributions that can be found in the abstract volume and special issue as well as by the recorded talks that can be downloaded from the conference webpage. Unfortunately, due to the Corona pandemic, the conference had to be transformed to a virtual meeting and the program had to be reduced. Nevertheless, the program reflects the range of the research in the fields of the involved societies and addresses the common research topics. It also provides the occasion for our young researcher to present and catch some of their most excellent work and to learn about career opportunities. Before I close, I would like to thank the local organizers who did a tremendous job in organizing this conference under very difficult and challenging circumstances. My thanks also go to all others that have contributed to the organization and the program of this conference. I finally wish you all a tantalizing and, as I hope, vital meeting.

Best wishes,

Werner Brannath



Prof. Dr. Werner Brannath

Dean of the Charité - Universitätsmedizin Berlin and Chief Executive Officer of the Berlin Institute of Health



Prof. Dr. Axel Radlach Pries

Dear Researchers,

It is a great honor that the first international joint conference of the GMDS & CEN-IBS 2020 is hosted at the Charité – Universitätsmedizin Berlin with support of the Berlin Institute of Health. The organizing societies of the conference (German Association for Medical Informatics, Biometry and Epidemiology and the Central European Network of the International Biometric Society) cover most of the important disciplines: health data sciences including medical informatics, bioinformatics, biostatistics, epidemiology, public health, and medical documentation. Research in health data sciences is one of the key topics of also the Charité and the Berlin Institute of Health. The Charité is one of the largest and oldest university hospitals in Europe and has around 100 different departments and institutes. The Charité profits in particular from the Berlin Institute of Health (BIH) which is a biomedical research institution focusing on translational research and precision medicine. Both institutions have a strong focus on the topic of digitalization of society and health systems, which imposes both - chances and challenges, for which we need to develop new visions and solutions. These visions can only be realized by combining all relevant sub-disciplines of data sciences. This international conference provides an excellent interdisciplinary and interprofessional platform for scientific exchange and development. Thereby, innovations are only possible within strong collaborations between clinician scientists. This is why holding the conference at our central Campus Charité Mitte provides an even better opportunity to open the dialog between clinical and methodologic researchers from the field of data sciences.

I am happy to welcome you all virtually in Berlin and hope we will all participate in an active and innovative exchange.

Yours sincerely,

Prof. Dr. Axel Radlach-Pries

Conference President Berlin

Dear Colleagues,

On behalf of all organizers, I'm pleased to virtually welcome you in Berlin as the conference president of the first joint conference of the GMDS & CEN-IBS 2020, which takes place at the Charité – Universitätsmedizin Berlin, at the Charité Campus Mitte.

Our slogan Bringing Data to Life takes account of the fact that we are faced with an increasing amount of data in medical research which is naturally related to a fast developing digitalization of the health system. However, to make use of these data and to benefit from these increasing sources of evidence many challenges have to be addressed which can only be faced if all disciplines related to data science work together. Our conference aims at bringing together these different disciplines of data sciences including medical informatics, bioinformatics, biostatistics, epidemiology, public health and medical documentation. Together, we want to discuss a variety of central, innovative key topics, e.g. educating the next generation, evidence and uncertainty, new data sources for evidence generation, deep learning & artificial intelligence, reproducible research, reporting and data sharing. Our key topics cover central themes which are relevant for the society in general and for supporting innovations in medical research in particular.

We started the planning of the conference already two years ago and so many people were involved in designing and implementing a most creative and interesting scientific and social programme. Then, COVID 19 crashed our plan and we discussed the implications for our conference intensively. Finally, we decided for a small online format. Still, we hope that our program is attractive for everyone. I really hope that you enjoy the conference.

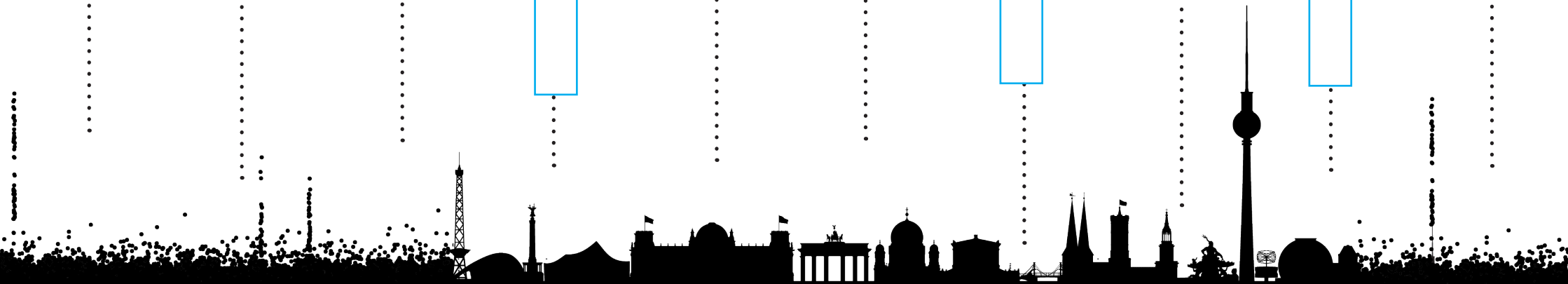
Warm regards,

Geraldine Rauch

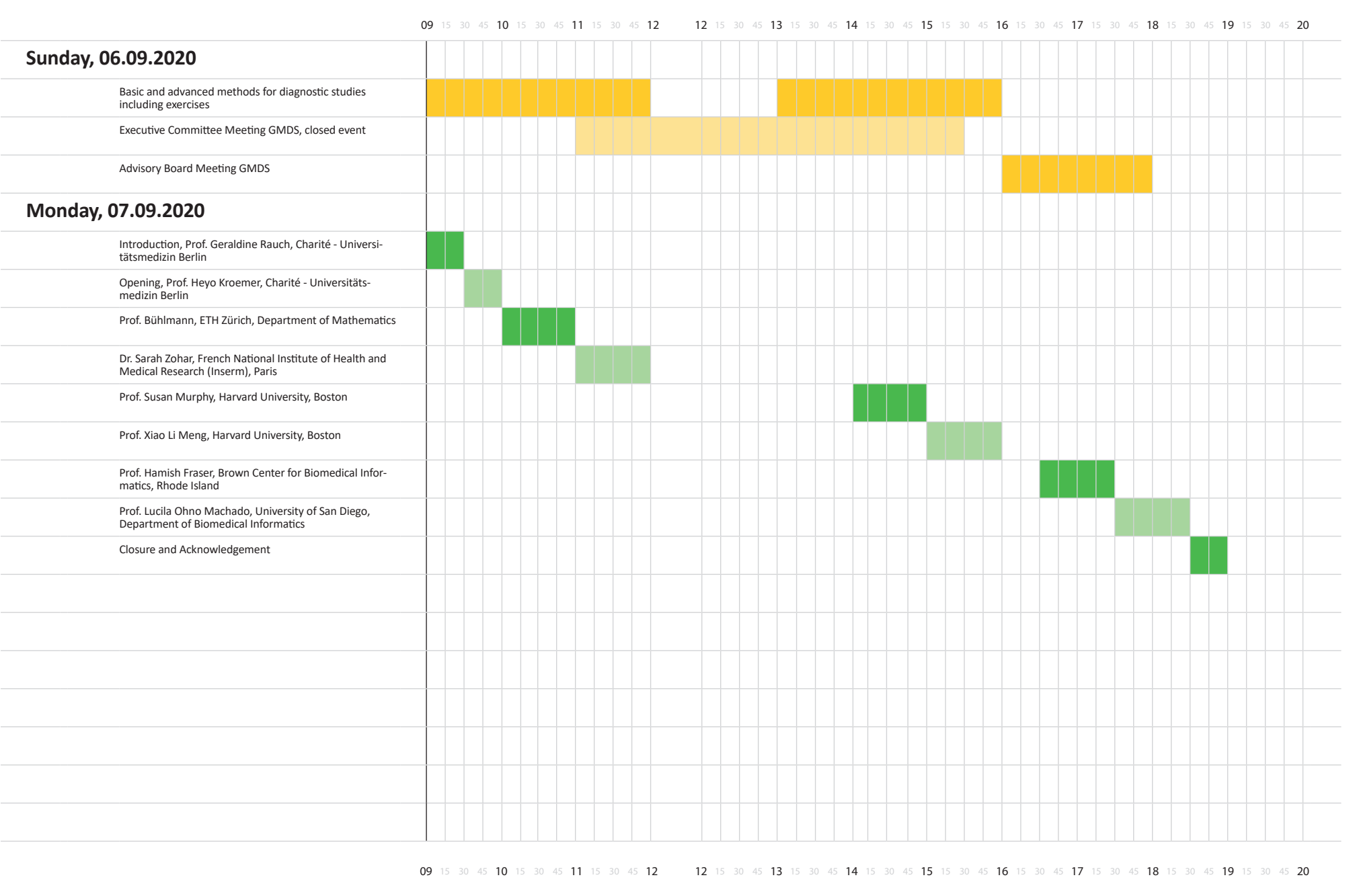


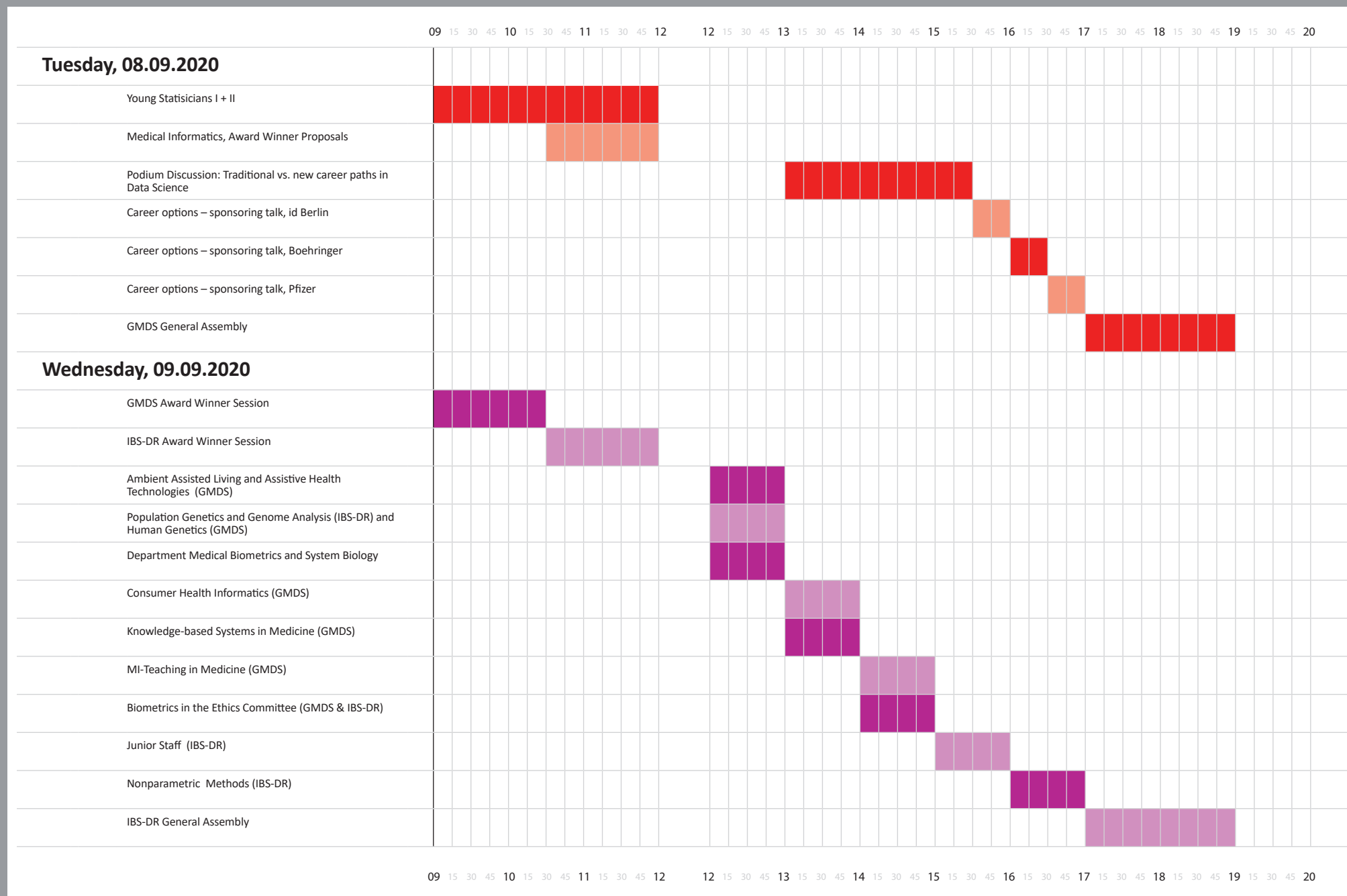
Prof. Dr. Geraldine Rauch

Program

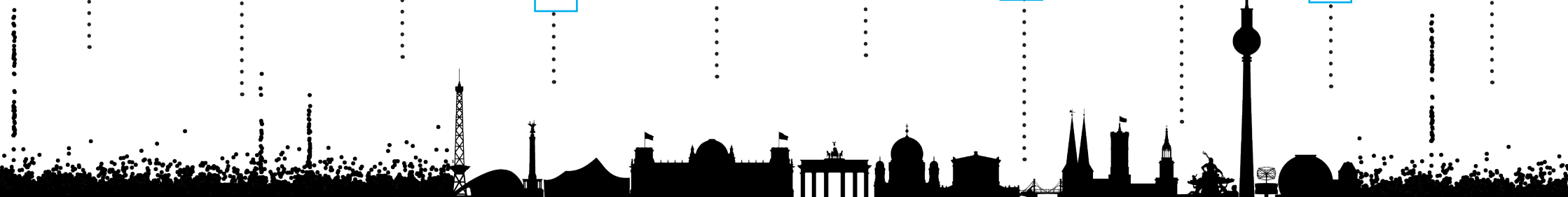


PROGRAM OVERVIEW





Scientific Sessions



Sunday, 06.09.2020

Time	Event	Chair/Lecturer
09:00 am - 4:00 pm	Tutorial - Basic and advanced methods for diagnostic studies including exercises	Antonia Zapf
11:00 am - 03:30 pm	Executive Committee Meeting GMDS	Alfred Winter Beatrix Behrendt
04:00 pm - 06:00 pm	Advisory Board Meeting GMDS	Alfred Winter Beatrix Behrendt

Tutorial

Sunday 06.09.2020
09:00 am – 04:00 pm
CHAIR: Antonia Zapf
University Medical Center
Hamburg-Eppendorf

SO1

Basic and advanced methods for diagnostic studies including exercises

The aim of the tutorial is to give an introduction into the basic and advanced methods of diagnostic studies (development process, study phases, design aspects, measures, advanced analyses methods, ...). The content will be illustrated and practiced using example studies and datasets.

Monday, 07.09.2020

Time	Event	Chair/Lecturer
09:00 am - 10:00 am	Introduction and Opening	Geraldine Rauch Heyo Kroemer
10:00 am - 11:00 am	Keynote Talk: Causal Regularization and Stabilisation for Distributional Robustness and improved Replicability	Peter Bühlmann
11:00 am - 12:00 pm	Keynote Talk: The day after Covid-19 – Sharing the experience of two embedded clinical trials, raising the questions; if, when and how to restart temporarily stopped clinical trials?	Sarah Zohar
02:00 pm - 03:00 pm	Keynote Talk: Clinical Trial Designs for Personalizing Digital Interventions	Susan Murphy
03:00 pm - 04:00 pm	Keynote Talk: COVID-19: A Massive Stress Test with Many Unexpected Opportunities (for Data Science)	Xiao-Li Meng
04:30 pm - 05:30 pm	Keynote Talk: Can electronic health record systems improve patient care, disease surveillance and research in low income countries?	Hamish Fraser
05:30 pm - 06:30 pm	Keynote Talk: Data Sharing and Data Privacy: Distributed Models for International Collaboration	Lucila Ohno Machado
06:30 pm - 07:00 pm	GMDS - Advisory Board Meeting	Alfred Winter Beatrix Behrendt

Keynote Talks

MO1

Causal Regularization and Stabilization for Distributional Robustness and Improved Replicability

Monday 07.09.2020
10:00 – 11:00 am

Prof. Dr. Peter Bühlmann, ETH Zürich

The common notion of replicability of statistical discoveries deals with generalization from a data set or study to a new unobserved population from the same data-generating distribution (and is typically quantified by some statistical uncertainties). We discuss the problem when the new population arises from a somewhat different distribution than the one generating the observed data from the original population. We will present a principled way, so-called Causal Regularization and Stabilization, to achieve replicability in such settings. This can be most useful in many circumstances where we expect heterogeneity across different available and future studies. We provide some illustrations on bio-medical data from the GTEx consortium as well as for a smaller proteomics study.

Biography

Peter Bühlmann is Professor of Mathematics and Statistics, and Director of ETH Foundations of Data Science at ETH Zurich. He studied mathematics at ETH Zurich and received his doctoral degree in 1993. After being postdoctoral research fellow from 1994 - 1995 and Neyman assistant professor from 1995 - 1997 at UC Berkeley, he returned to ETH Zurich. His main research interests are in high-dimensional and computational statistics, machine learning, causal inference and interdisciplinary applications in the bio-medical field. He has guided 27 doctoral students to date. He has been a highly cited researcher in mathematics during the last several years and received various awards, including: Golden Tricycle Award for most family-friendly supervisor at ETH Zurich, Doctor Honoris Causa from the Université Catholique de Louvain, Rothschild fellow and lecturer at the Isaac Newton Institute, Neyman lecturer at the annual meeting of the Institute of Mathematical Statistics, invited speaker at the International Congress of Mathematicians, and recipient of the Guy Medal in Silver from the Royal Statistical Society in 2018.



The day after Covid-19 – Sharing the experience of two embedded clinical trials, raising the questions; if, when and how to restart temporarily stopped clinical trials?

Dr. Sarah Zohar, French National Institute of Health and Medical Research (Inserm)

The Covid-19 pandemic appeared while we were conducting a large randomized trial assessing the effectiveness of corticosteroids in severe community-acquired pneumonia (Cape-Cod trial). Unexpectedly, Covid-19 infected patients were also included in this study. This is why, we took advantage of this ongoing trial to embed a sub-trial assessing in SARS-CoV-2 infected patients. In this presentation, we wish to share our experience about methodological choices impacting both trials; when we needed to make fast and robust decisions and re-designing this study during the Covid-19 pandemic in a two weeks period of time. Moreover, as Cape-Cod trial was temporarily stopped, today, we wonder when and how to restart this trial. Based on this experience, we will address several questions regarding how Covid-19 impacted on-going trials and when to restart (if possible) these studies avoiding scientific research waste.

Biography

Sarah Zohar has made many methodological contributions in Bayesian adaptive designs and methods for early phase clinical trials. These designs were applied to many clinical trials in cancer and pediatrics among other fields. She has collaborated with physicians in the design, planning, conducting and analyzing clinical trials and with international methodological experts from USA, Japan and Europe.



Clinical Trial Designs for Personalizing Digital Interventions

Prof. Susan Murphy, Harvard University

Digital Interventions provide interventions to individuals in their everyday life. Examples of these interventions include suggestions about how to be more active in their current setting, different types of reminders to perform self-care behaviors such as taking prescribed medications, motivational messages and reinforcements for positive behaviors. The interventions may be delivered via a wearable or other smart device. While digital interventions provide much promise in terms of providing support when and where-ever support is needed, these interventions can cause treatment burden resulting in disengagement. Thus it is critical to learn whether and in which settings, it is most effective to deliver the interventions. In this talk we discuss multiple newly completed micro-randomized trials in which each individual is randomized many many times during the study. We discuss how the randomization probabilities are determined by online algorithms. In one online algorithm, trial designers specify an average number of times that the individual should receive an intervention per day at particular risk times (i.e., while stressed); this algorithm uses predictions of risk to determine the randomization probabilities. In a second online algorithm, the randomization probabilities are determined by a “reinforcement learning” algorithm in which the randomization probability is higher in settings in which the individual is predicted to be more responsive and lower in settings in which the individual is less responsive.

Biography

Susan Murphy is Professor of Statistics at Harvard University, Radcliffe Alumnae Professor at the Radcliffe Institute, Harvard University, and Professor of Computer Science at the Harvard John A. Paulson School of Engineering and Applied Sciences. Her current research interests concern clinical trial design and the development of data analytic methods for informing multi-stage decision making in health, particularly in mobile health. She is a 2013 MacArthur Fellow, a member of the National Academy of Sciences and the National Academy of Medicine, both of the US National Academies. She is currently president of the Bernoulli Society and incoming president of the Institute for Mathematical Statistics. She is a man lecturer at the annual meeting of the Institute of Mathematical Statistics, invited speaker at the International Congress of Mathematicians, and recipient of the Guy Medal in Silver from the Royal Statistical Society in 2018.



COVID-19: A Massive Stress Test with Many Unexpected Opportunities (for Data Science)

Prof. Dr. Xiao-Li Meng, Harvard University

The COVID-19 pandemic is a massive stress test virtually on all human ecosystems. It also inadvertently provides a large array of physical, social, and mental experiments on otherwise unimaginable scales. It allows us to examine the impact of human activities on pollution and the effect of social isolation on mental health, probe the ethical boundaries between societal benefit and individual autonomy, and compare and contrast different political, economical and health systems. To maximally harvest the fruits from these very painful and life-costing experiments, data scientists have both an unprecedented opportunity and the professional responsibility to get involved in every step, from designing studies to communicating the findings. The associated meta challenges are induced by, but greater than, the enormity and complexity of these experiments. We need to think deeper and more theoretically to come up with sound and timely results, by reducing trial-and-error computer simulations or machine learning, especially when increasing training samples stem from increasing human suffering. With so much at stake, we need to engage with thrusting hearts but cool heads, by anchoring ourselves as the gardeners and guardians of truth, fact, and science. For example, we will need a firm understanding of [dark data](#) of all forms, because [data quality](#) is at the foundation of all data science. Articles from the special issue on COVID-19 in [Harvard Data Science Review](#) will be used to facilitate these discussions.

Biography



Xiao-Li Meng, Founding Editor-in-Chief of Harvard Data Science Review, is the Whipple V. N. Jones Professor and former chair of Statistics at Harvard, and former Dean of the Harvard University Graduate School of Arts and Sciences (GSAS), is well known for his depth and breadth in research, his innovation and passion in pedagogy, and his vision and effectiveness in administration, as well as for his engaging and entertaining style as a speaker and writer. Meng has received numerous awards and honors for the more than 120 publications he has authored in at least a dozen theoretical and methodological areas, as well as in areas of pedagogy and professional development; he has delivered more than 400 research presentations and public speeches on these topics, and he is the author of “The XL-Files,” a regularly appearing column in the IMS (Institute of Mathematical Statistics) Bulletin. His interests range from the theoretical foundations of sta-

tistical inferences (e.g., the interplay among Bayesian, frequentist, and fiducial perspectives; quantify ignorance via invariance principles; multi-phase and multi-resolution inferences) to statistical methods and computation (e.g., posterior predictive p-value; EM algorithm; Markov chain Monte Carlo; bridge and path sampling) to applications in natural, social, and medical sciences and engineering (e.g., complex statistical modeling in astronomy and astrophysics, assessing disparity in mental health services, and quantifying statistical information in genetic studies). Meng received his BS in mathematics from Fudan University in 1982 and his PhD in statistics from Harvard in 1990. He was on the faculty of the University of Chicago from 1991 to 2001 before returning to Harvard as Professor of Statistics, where he was appointed department chair in 2004 and the Whipple V. N. Jones Professor in 2007. He was appointed GSAS Dean on August 15, 2012.

Can electronic health record systems improve patient care, disease surveillance and research in low income countries?

Monday 07.09.2020
04:30 – 05:30 pm

Prof. Hamish Fraser, Brown University

EHR systems are almost universal in primary care in high income settings, pioneered by many European countries, and use is growing rapidly in most hospitals. Despite challenges of usability, interoperability, high costs and concerns for patient privacy and confidentiality, they form a critical substrate for clinical decision support, longitudinal care, disease surveillance and clinical research. Can EHRs and other digital health tools including mHealth also benefit patients and health systems in low income settings? In this presentation I will discuss evidence of the usability, performance, clinical impact and secondary data use of EHR systems in low income countries such as Rwanda, Kenya and Haiti. I will focus on the OpenMRS open source EHR system, now deployed in more than 44 countries and over 5500 health facilities. OpenMRS is developed and supported by a large international community, with health facilities, ministries of health and NGOs encouraged to take ownership of the system, as well as share designs, code and experience with the community.

I will present recent results from a large implementation science study in Rwanda of 112 clinics running OpenMRS. This includes a user survey, data quality study, costing study and key informant interviews and observa-

optimize EHRs in some of the most challenging environments, and ways to support high quality, complete data collection.

Finally I will describe the emergence of interoperable digital health ecosystems in many low income settings and the potential impact on health systems. OpenMRS as part of such ecosystems is playing a key role in the surveillance and management of COVID-19 related disease in Kenya and use is expanding in Haiti and Nepal. We are working to ensure that countries can use routine health data to manage the current pandemic, and also monitor and manage future outbreaks.

Biography

Dr. Fraser trained in General Medicine, Cardiology and Knowledge Based Systems at Edinburgh University, and completed a fellowship in clinical decision making at MIT. His work has also focused on developing medical informatics tools for some of the most challenging environments in low income countries. As Director of Informatics at the leading Health care NGO Partners In Health, co-founded and co-leads OpenMRS an open source EHR project. He was an Assistant Professor of Medicine at Harvard Medical School from 2006 – 2015, and from 2016-2018 was chair of the Global Health Informatics working group at AMIA. His main academic focus is in the evaluation of medical information systems, and understanding the impact of information and communications on quality of healthcare world wide. His recent work includes evaluation of diagnostic decision support systems for patients, and on evaluation of the usage, costs and impact of decisions support systems in the OpenMRS EHR for HIV care in Rwanda.



Monday 07.09.2020
05:30 – 06:30 pm

MO6

Data Sharing and Data Privacy: Distributed Models for International Collaboration

Dr. Lucila Ohno-Machado, MD, PhD, MBA, University of California, San Diego

In this presentation, I will discuss major barriers and opportunities to utilize data collected from electronic health records to answer questions that matter to clinicians, researchers, public health officials, and the public in general. Using the example of clinical data obtained in the care of COVID-19 patients, I will describe how we established a privacy-preserving clinical data network involving 12 large medical centers in the USA and

abroad. The infrastructure involves data harmonization into a common data model, common terminologies, and common concept definitions. It also involved an agreement on how to perform distributed logistic regression and built other models that can be decomposed for local calculation.

Biography

Lucila Ohno-Machado, MD, MBA, PhD received her medical degree from the University of São Paulo and her doctoral degree in medical information sciences and computer science from Stanford. She is Associate Dean for Informatics and Technology, and the founding chair of the UCSD Health Department of Biomedical Informatics at UCSD, where she leads a group of faculty with diverse backgrounds in medicine, nursing, informatics, and computer science. Also, she is the PI for the California Precision Medicine Consortium for the NIH All of Us Research Program. Prior to her current position, she was faculty at Brigham and Women's Hospital, Harvard Medical School and affiliated with the MIT Division of Health Sciences and Technology. Dr. Ohno-Machado is an elected member of the American College of Medical Informatics, the American Institute for Medical and Biological Engineering, the American Society for Clinical Investigation and the National Academy of Medicine. She served as editor-in-chief for the Journal of the American Medical Informatics Association from 2011 to 2018. She directs the patient-centered Scalable National Network for Effectiveness Research, a large clinical data research network covering more than 30 million patients and 12 health-care systems, and was one of the founders of UC-Research eXchange, a clinical data research network that connected the data warehouses of the five University of California medical centers. She was the director of the NIH-funded National Center for Biomedical Computing iDASH (integrating Data for Analysis, 'anonymization,' and Sharing) based at UCSD with collaborators in multiple institutions, as well as other NIH-funded consortia and research projects. Her research focuses on privacy-preserving distributed analytics for healthcare and biomedical sciences. She has received numerous awards for innovations in biomedical informatics.



Tuesday, 08.09.2020

Time	Event	Chair/Lecturer
09:00 am - 10:30 am	Young Statisticians I	Janine Witte Gerrit Toenges
10:30 am - 12:00 pm	Young Statisticians II	Julia Krzykalla Björn Laabs
10:30 am - 12:00 am	Medical Informatics Award Winner Proposals	Hans Ulrich Prokosch
01:00 pm - 03:30 pm	Podium Discussion: Traditional vs. new career paths in Data Science	Anke Huels
03:30 pm - 04:00 pm	Career Options Sponsoring Talk id Berlin	Geraldine Rauch
04:00 pm - 04:30 pm	Career Options Sponsoring Talk Boehringer Ingelheim	Geraldine Rauch Cornelia Kunz
04:30 pm - 05:00 pm	Career Options Sponsoring Talk Pfizer	Geraldine Rauch
05:00 pm- 07:00 pm	GMDS General Assembly	Alfred Winter Beatrix Behrendt

Career and Education



Young Statisticians

Tuesday 09.09.2020
09:00 am – 10:30 am

CHAIR
Janine Witte, Gerrit Toenges

Annika Jaitner, Bachelorarbeit
Operating Characteristics of Surrogate Endpoint Methods for
Normally Distributed Data

Maren Hackenberg, Masterarbeit
Temporal Dynamics in Generative Models

Lukas Baumann, Masterarbeit
A Simulation Based Approach to Estimating Sample Sizes for
Clinical Trials

Susanne Dandl, PhD
Multi-Objective Counterfactual Explanations

Johann Mattutat, PhD
A New Smoothing Method for Directly Standardized Incidence
Rates

Joachim Hegenauer, Bachelorarbeit
Tumor-growth modelling and Time-to-Event Data

Mariella Gregorich, Masterarbeit
A comparison of methods for causal inference with a rare binary
outcome

Theresa Unseld, Masterarbeit
Landmarking for left-truncated competing risks data

Theresa Ullmann, PhD
Validation and Data Dredging in Cluster Analysis

Charlotte Micheloud, PhD
Power Calculations for Replication Studies with an Interim Analysis

Tuesday 09.09.2020
10:30 am – 12:00 pm

CHAIR
Julia Krzykalla, Björn Laabs

Medical Informatics
Award Winner Proposals

Sven Helfer, Michéle Kümmel, Franziska Bathelt, Martin Sedlmayr:
Generating Enriched Synthetic German Hospital Claims
Data – a Use Case Driven Approach

Cora Drenkhahn, Hannes Ulrich, Josef Ingenerf:
An ontology-based tool to visually compare LOINC subsets

Sven Festag, Cord Spreckelsen: Semantic Anomaly Detection
in Medical Time Series

Kiana Farhadyar, Harald Binder: Adapting Variational
Autoencoders for Realistic Synthetic Data with Skewed and
Bimodal Distributions

Lorena Schall, Sylvia Bochum, Monika Pobiruchin: Merging
Genomics Public Datasets with Clinical Cancer Registry
Data – Lessons Learned

Chantal Zbinden, Moritz Strickler, Murat Sariyar, Thomas Bürkle,
Kathleen Seidel: Digitizing data management for intraoperative
neuromonitoring

Podium Discussion

Academia, industry, self-employment or working in the growing field of data science? What kind of career options do Biostatisticians have and what are the respective advantages and disadvantages? Which steps might be helpful to get there?

These are only some of the questions we would like to discuss with seven invited speakers, who are hand-picked to represent a broad spectrum of career paths in Biostatistics. We invite all early-career statisticians (Bachelor/Master/PhD students and Postdocs), but also more experienced statisticians to join the discussion and ask questions.

With the rapid change of job opportunities, it is often hard to keep track of all the options early-career Biostatisticians have. We want to discuss new as well as traditional job opportunities with our panelists:

In the last couple of years, the German higher education policy has pushed towards the introduction of the tenure-track system and we are proud to have one of the first tenure-track Assistant Professors as one of our panelists. In addition, Anke Huels, who is an Assistant Professor at Emory University (GA, USA) and will lead the panel discussion, will provide some insights about the American version of the tenure-track system which the German tenure-track system is often compared to. Furthermore, we will have panelists from the pharmaceutical industry and from a contract research organization (CRO), who will share with us exciting details of their daily work and how jobs at pharmaceutical companies differ from jobs at CROs. Beside the traditional decision between academia vs. industry, we will also introduce the audience to the life of a self-employed statistical consultant and of a data scientist at a German Data Science Start-up. The panel discussion will be followed by a get-together, where unanswered questions can be answered.

This session will be organized by the Young Statisticians working group (AG Nachwuchs) of the IBS-DR.

Tuesday 09.09.2020
03:30 pm – 04:00 pm

CHAIR
Geraldine Rauch

Sponsoring Talk id Berlin Dr. André Sander

Aus Daten Informationen ableiten und damit Gesundheitsversorgung erfolgreich steuern: Das ist das Versprechen von idBerlin an Führungskräfte und Controller in Krankenhäusern. Als Experte für Software zur Codierung, Qualitätssicherung, für das Controlling und ein sicheres Medikamentenmanagement strukturieren sie sämtlicher Daten, die rund um einen Patientenaufenthalt anfallen und machen diese abrufbereit. Egal in welchem Medium oder mit welchem IT-System Sie und Ihre Mitarbeiter Daten erfassen, id Berlin schafft Ordnung und sortiert so, dass Sie Antworten auf Ihre Fragen erhalten.

ID Information und
Dokumentation im
Gesundheitswesen



Tuesday 09.09.2020
04:00 pm – 04:30 pm

CHAIR
Geraldine Rauch

Sponsoring Talk Boehringer Ingelheim Dr. Cornelia Kunz

Die Gesundheit von Mensch und Tier zu verbessern, ist das Ziel des forschenden Pharmaunternehmens Boehringer Ingelheim. Der Fokus liegt auf Erkrankungen, für die es bislang noch keine zufriedenstellende Behandlungsmöglichkeit gibt. Dabei konzentriert sich das Unternehmen darauf, innovative Therapien zu entwickeln, die das Leben der Patienten verlängern können. In der Tiergesundheit steht Boehringer Ingelheim für fortschrittliche Prävention.



Sponsoring Talk Pfizer Friedhelm Leverkus

Pfizer ist ein forschendes Pharmaunternehmen, dass den medizinischen Fortschritt vorantreibt. Es erforscht und entwickelt neue Therapien und Impfstoffe, um Menschen vor Erkrankungen zu schützen, sie zu heilen oder sie im Leben mit einer schweren Erkrankung zu unterstützen.



Tuesday 09.09.2020
04:30 pm – 05:00 pm

CHAIR
Geraldine Rauch

Wednesday, 09.09.2020

Time	Event	Chair/Lecturer
09:00 am - 10:30 am	Award Winner GMDS	Alfred Winter
10:30 am - 12:00 am	Award Winner Session IBS-DR	Werner Brannath
12:00 pm - 01:00 pm	Working Group Ambient Assisted Living and Assistive Health Technologies (GMDS)	Matthias Giezelt
12:00 pm - 01:00 pm	Working Group Population Genetics and Genome Analysis (IBS-DR) and Human Genetics (GMDS)	Silke Szymczak
12:00 pm - 01:00 pm	Department Medical Bioinformatics and Systems Biology	Tim Beissbarth
01:00 pm - 02:00 pm	Working Group Consumer Health Informatics (GMDS)	Veronika Strotbaum
01:00 pm - 02:00 pm	Working Group Knowledge-based Systems in Medicine (GMDS)	Stefan Kraus
02:00 pm - 03:00 pm	Working Group MI-Teaching in Medicine (GMDS)	Julian Varghese
02:00 pm - 03:00 pm	Project Group Biometrics in the Ethics Committee (GMDS & IBS-DR)	Geraldine Rauch
03:00 pm - 04:00 pm	Working Group Junior Staff (IBS-DR)	Anke Heuls
04:00 - 05:00 pm	Working Group Nonparametric Methods (IBS-DR)	Markus Pauly
05:00 - 07:00 pm	IBS-DR General Assembly	Werner Brannath

Society Sessions



GMDS Award Winner

Wednesday 09.09.2020

09:00 – 10:30 am

CHAIR

Alfred Winter

Medical Informatics, Master Thesis

Jonas Massmann

Kontinuierliche Signalqualitätsschätzung zur robusten Herzratenextraktion aus photoplethysmographischen Signalen“, Masterarbeit, Technische Universität Berlin, Fachgebiet Elektrotechnik und medizinische Signalverarbeitung, Institut für Energie- und Automatisierungstechnik, 10.2019

Medical Informatics, Master Thesis

Matthias Öfelein

“Prototyp-Entwicklung und Evaluation einer webbasierten Einwilligungs- und Patienteninformationsplattform“, Masterarbeit, Friedrich-Alexander-Universität Erlangen Nürnberg, 07.10.2019

Biometry, Master Thesis

Alexandra Bühler

“Comparison of Time-to-First-Event and Recurrent Event Methods in Multiple Sclerosis Trials“, Master Thesis, Ulm University, Faculty of Mathematics and Economics, 18.09.2019

Medical Biometry, Master Thesis

Corinna Kluge

“Optimization of Sample Size Recalculation Using Bootstrapping“, Master Thesis, Humboldt-Universität zu Berlin, Universitätsmedizin Charité, Institut für Biometrie und Klinische Epidemiologie, 17.03.2020

Epidemiology, Master Thesis**Sebastian Binder**

“Socioeconomic status and hypertension in an aging cohort: results from the Heinz Nixdorf RECALL Study”,

Master’s Thesis for the Master of Science Programme in Epidemiology University Medical Center of the Johannes Gutenberg-University Mainz, 30.09.2019

Epidemiology, Master Thesis**Dr. rer. soc. Kathrin Bogner**

“Berufliche Strahlenexposition des Cockpitpersonals kommerzieller Airlines - Validierung der Job-Expositions-Matrix geschätzten Strahlenexposition in einer deutschen historischen Kohortenstudie von Berufspiloten anhand individueller Expositionsdaten des Strahlenschutzregisters”, Masterthese zum Erlangen des Master of Science in Epidemiology der Universitätsmedizin der Johannes Gutenberg-Universität Mainz, 07.07.2019

Epidemiology, Doctoral Thesis**Nicole Rübsamen, PhD**

“Online methods for the investigation of the epidemiology of infectious diseases”, Doctor of Philosophy (PhD), Hannover Medical School, International PhD program “Epidemiology”, Hannover Biomedical Research School (HBRS), Hannover Medical School, 02.07.2018

Medical Bioinformatic and Systems Biology, Master Thesis**Alina Renz**

“Modelling of Potentially Virulence-associated Metabolic Pathways in Pseudomonas aeruginosa PA14 Including Experimental Verification”, Masterarbeit, Eberhard Karls Universität Tübingen, Mathematisch-Naturwissenschaftliche Fakultät, Wilhelm-Schickard-Institut für Informatik, 31. 12.2018

WED2

Award Winner IBS-DR

Wednesday 09.09.2020

10:30 am – 12:00 pm

CHAIR

Werner Brannath

Bernd-Streitberg-Prize**Moritz Herrmann**

Large-scale benchmark study of prediction methods using multi-omics data

Gustav-Adolf-Lienert-Prize/1. Prize**Tobias Bluhmki**

Bootstrapping complex time-to-event data without individual patient data, with a view toward time-dependent exposures

Gustav-Adolf-Lienert-Prize/2. Prize**Dennis Dobler**

Confidence bands for multiplicative hazards models: Flexible resampling approaches



Working Group Meetings

Wednesday 09.09.2020
12:00 pm

WG Ambient Assisted Living and Assistive Health Technologies (GMDS)

CHAIR: Matthias Giezelt

Link: <https://attendee.gotowebinar.com/register/8023565566284662542>

Wednesday 09.09.2020
12:00 pm

Department Medical Bioinformatics and Systems Biology

CHAIR: Tim Beissbarth

Zoom: Meeting ID 948 9709 5160

Wednesday 09.09.2020
12:00 pm

WG Population Genetics and Genome Analysis (IBS-DR) and WG Human Genetics GMDS

CHAIR: Silke Szymczak

Link: <https://global.gotomeeting.com/join/726180677>

Wednesday 09.09.2020
01:00 pm

WG Consumer Health Informatics (GMDS)

CHAIR: Veronika Strotbaum

Link: <https://global.gotomeeting.com/join/596549829>

Wednesday 09.09.2020
01:00 pm

WG Knowledge-based Systems in Medicine (GMDS)

CHAIR: Stefan Kraus

Link: <https://attendee.gotowebinar.com/register/3282518706314563342>

WG MI-Teaching in Medicine (GMDS)

CHAIR: Julian Varghese

Link: <https://global.gotomeeting.com/join/601081789>

Wednesday 09.09.2020
02:00 pm

Biometrics in the Ethics Committee (GMDS & IBS-DR)

CHAIR: Geraldine Rauch

Link: <https://attendee.gotowebinar.com/register/8923488345828653326>

Wednesday 09.09.2020
02:00 pm

WG Junior Staff (IBS-DR)

CHAIR: Anke Huels

Link: <https://global.gotomeeting.com/join/406845541>

Wednesday 09.09.2020
03:00 pm

WG Nonparametric Methods (IBS-DR)

CHAIR: Markus Pauly

Link: <https://global.gotomeeting.com/join/399769557>

Wednesday 09.09.2020
04:00 pm

Instructions

How to find the Videos and the Links to the Sessions

If you have registered to the conference, under the following link you find the information how you can attend the virtual meetings and the prerecorded videos:

Note that prerecorded video sessions will be available during the full conference time. As there are no fixed time slots for the prerecorded videos, there is no option to interact or exchange live about the prerecorded talks. The names of the corresponding authors are provided within each record, so you can contact the authors for questions.

Login to <https://access.online-registry.net/gmdscen2020/>

A page headed **Overview** opens

- in graphic Overview about upcoming events click the yellow bar **(Preliminary) Program**
- a page headed **(Preliminary) Program** opens
 - the list on that page shows all available session sorted by date and time
 - in order to get full access to the sessions, you'll have to click **Add to personal schedule**, which is marked by a white plus symbol in a black circle, **in the respective Session entry**

Sessions, for which videos are provided, are listed as

Topic: Video Session

- for reasons of ordering, these are listed at **time 8pm-10pm, but are available all day!**

Sessions, for which Links to Live Sessions are provided, are listed as either

Topic: Keynote

- **Important NOTE:** Access to a Keynote is a two-step process:
 - the link provided is a mere **Registration Link**. You should click that link well ahead of Session time!
 - you will then undergo a registration process, in which you also have to solve a CATCHA
 - once you finished the registration process, the **real Online Session Link will be sent to you by eMail** to the address you provided in the registration process
 - click the real Online Session Link at the time the session is actually scheduled to attend the Session

Topic: Live GoToWebinar Session

- **Important NOTE:** Access to a Webinar is a two-step process:
 - the Link provided is a mere **Registration Link**. You should click that link well ahead of Session time!
 - you will then undergo a registration process, in which you also have to solve a CATCHA
 - once you finished the registration process, **the real Online Session Link will be sent to you by eMail** to the address you provided in the registration process
 - click the real Online Session Link at the time the session is actually scheduled to attend the Session

Topic: Live GoToMeeting Session

- you may attend the Session by clicking on the Link provided

Topic: Live Zoom Session

- Zoom sessions are held under the responsibility of the individual session's chairman/chairwoman
- see the individual session description whether the link provided is a registration link (two-step process to join) or a direct access link
- the GMDS-CEN hotline does NOT support Zoom sessions; if provided by the chairperson, the helpdesk responsible for this type of session is shown in the individual session description



Satellite Sessions

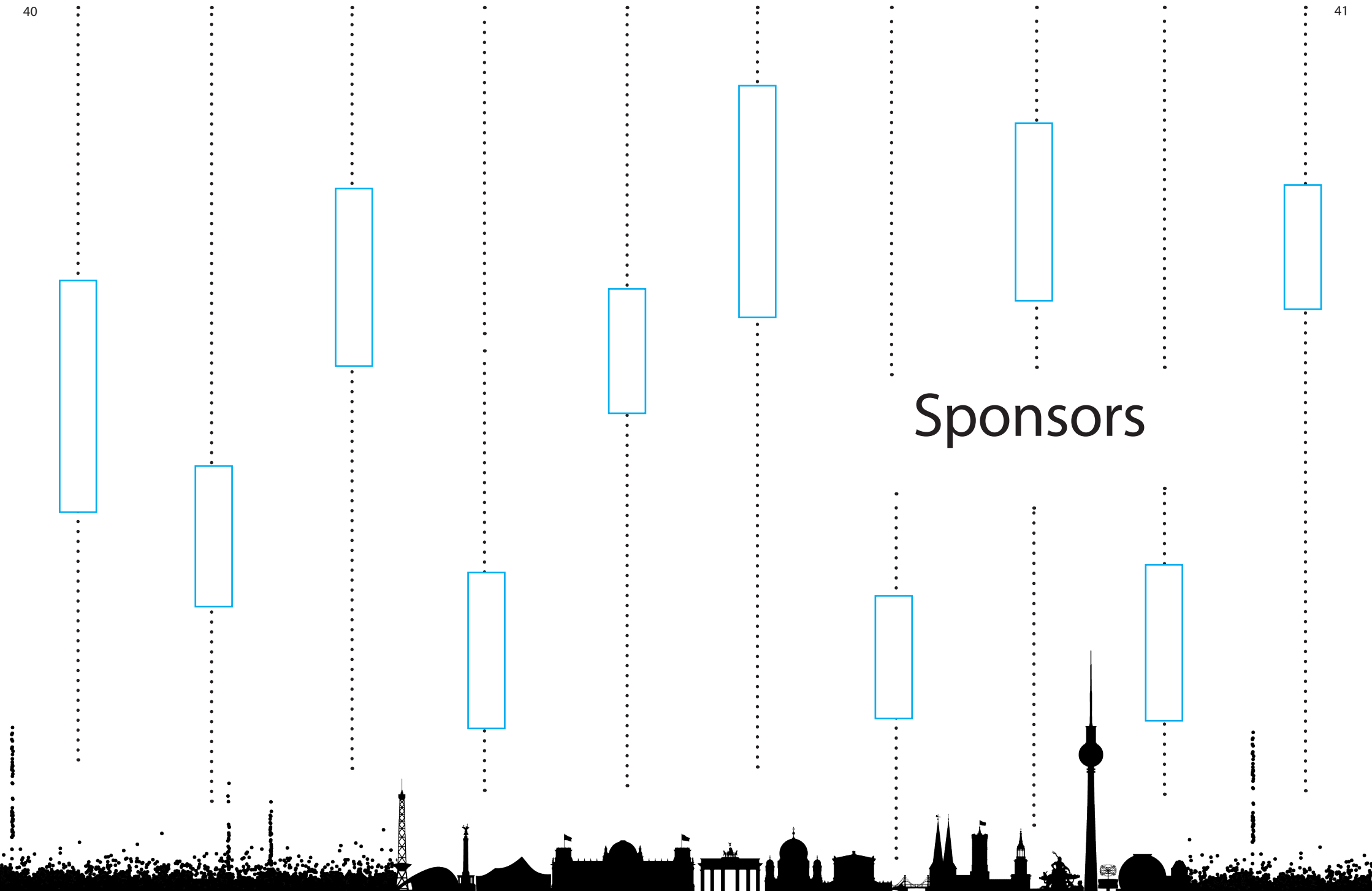
Some of the originally planned sessions take place in so-called satellite sessions outside the official conference programme. Below you will find the dates and organisers of these sessions. Please note that the organisation of the satellite sessions is not the responsibility of the conference organisers.

SESSION	DATE	LINK/CONTACT
Long-run properties of Bayesian procedures CHAIR: Gerhard Nehmiz	16.09.2020 10:00 am	✉ gerhard.nehmiz.ext@boehringer-ingenheim.com
Random Sample Size in Medical Research CHAIR: Adam Lane	03.12.2020	✉ Adam.Lane@cchmc.org
Bio Visualization with Blender and MembraneEditor - An Introduction CHAIR: Björn Sommer	10.09.2020 03:00 pm	✉ bjoern@cellmicrocosmos.org https://rca-ac.zoom.us/webinar/register/WN_ggv0MoQGSQWFVTIWSKjVmg
Advances in Experimental Design: Theory and Applications CHAIR: Sergey Tarima	02.12.2020	✉ starima@mcw.edu
FAIR Data Infrastructures CHAIR: Martin Golebiewski	15.10.2020 09:30 am	✉ gmids-fair@lists.gwdg.de
DIY Digital Health – Helfen wir uns einfach selbst?!	t.b.a.	✉ ag.chi@gmids.de
GMDS Update Sessions CHAIR: Brigitte Strahwald	t.b.a.	✉ strahwald@cognomedic.de
Causal Inference and Machine Learning CHAIR: Vanessa Didelez	28.09.2020 03:00 pm	✉ didelez@leibniz-bips.de
IT Applications and Networks for Biobanks CHAIR: Ann-Kristin Kock-Schoppenhauer	t.b.a.	✉ ann-kristin.kock@uksh.de

SESSION	DATE	LINK/CONTACT
Making Decisions in Biomedical Informatics CHAIR: Benjamin Löhnhardt	10.09.2020 10:00 am	✉ benjamin.loehnhardt@med.uni-göttingen.de
Health IT maturity models CHAIR: Jan Liebe	30.09.2020 09:00 am	✉ J.Liebe@hs-osnabrueck.de
Interprofessional Education in Biomedical and Health Informatics CHAIR: Catherine Chronaki, Alfred Winter	17.09.2020 or 24.09.2020	✉ alfred.winter@imise.uni-leipzig.de
Young Scientist Night CHAIR: Christina Schüttler	14.09.2020 07:00 pm	https://www.imbi.uni-heidelberg.de/ls/index.php/318412 ✉ christina.schuetzler@fau.de



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Donnerstag	11:00 - 19:00 Uhr
Freitag	11:00 - 22:00 Uhr
Samstag	11:00 - 18:00 Uhr

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Sarah Schmitter, Teamlead Health Technology Assessment



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- Verantwortung für die Erstellung und Adaptation von epidemiologischen und gesundheitsökonomischen Modellen
- Verantwortung für die fachliche Beurteilung der vorhandenen Evidenz, insb. hinsichtlich der methodischen und statistischen Herausforderungen, sowie für die Planung, Durchführung und Interpretation statistischer Analysen für die Nutzenbewertung
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