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HGSC 2023 CASTLE HIRSCHBERG | BEILNGRIES | GERMANY **02–05 DECEMBER 2023**

HELICOBACTER PYLORI GENOMICS, SIGNALING AND CARCINOGENESIS

Programme & General information

www.hgsc-conference.de

Welcome Note

Dear colleagues and friends,

It is our great pleasure to welcome you to the “HGSC - *Helicobacter pylori* genomics, signaling and carcinogenesis” conference from 02 to 05 December 2023 at the lovely Castle Hirschberg in Beilngries (Bavaria, Germany).

After the long COVID 19 pandemic, we are very excited to host this conference as an on-site event. The HGSC conference is a high profile meeting that brings together established researchers and young scientists to share their latest data and vision in the field of *Helicobacter*. We are pleased to organize sessions on the key disciplines of genomics, pathogen evolution, pathogen-host interactions, signal transduction, immuno-oncology as well as translational medicine led by leading scientists. Our aim is to create an interactive and productive environment and relaxed atmosphere, where you can present and discuss your data with colleagues, build new networks for your career and enjoy the beautiful Castle Hirschberg in Bavaria with some exciting social events.

The organizing committee is looking forward to seeing you in Beilngries!

Yours sincerely,

Silja Wessler

Bodo Linz

Steffen Backert



Silja Wessler



Bodo Linz



Steffen Backert

Scientific committee

- Raquel Mejías-Luque (Technische Universität München, Germany)
- Cynthia Sharma (Universität Würzburg, Germany)
- Nicole Tegtmeyer (Universität Erlangen-Nürnberg, Germany)
- Daniel Falush (Institute Pasteur Shanghai, China)
- Markus Gerhard (Technische Universität München, Germany)
- Georg Häcker (Universität Freiburg, Germany)
- Frank Maixner (Institute for Mummy Studies, Bolzano, Italy)

Conference management

- Conventus Congress Management & Marketing GmbH; Ms. Beatrisa Mamiewa, www.conventus.de

Overview - Scientific & Social Program

• Saturday, 2 December

12:00–18:00 Registration and poster set-up

13:00–14:00 Welcome Surprise in the Castle Courtyard

14:00 Opening of the conference by the conference chairs

S. Wessler (Salzburg, Austria); B. Linz (Erlangen, Germany) and S. Backert (Erlangen, Germany)

Keynote lecture

Chair Steffen Backert (Erlangen, Germany)

H. pylori research: Looking backward to look forward
Martin Blaser (Newark, USA)

15:00–15:30 Coffee break

15:30–17:50 Session 1 – *H. pylori* virulence factors

Chair Markus Gerhard (Munich, Germany)

15:30 *H. pylori* evolution and pathogenesis in Asia
Yoshio Yamaoka (Oita, Japan)

15:50 Molecular architecture of the *H. pylori* *cag* type IV secretion system
Timothy Cover (Nashville, USA)

16:10 Structural insights into CagI function in the *H. pylori* *cag* type IV secretion system
Laurent Terradot (Lyon, France)

16:30 The ‘Ins and Outs’ of *H. pylori* DNA transport through the *cag* type IV secretion system
Carrie L. Shaffer (Lexington, USA)

16:50 Rearrangements in the *H. pylori* *cagY* gene associated with gastric cancer
Javier Torres (UMAE, Mexico)

17:10 Multi-*H. pylori* *cagA* genotypes and its gene amplification
Jeong-Heon Cha (Seoul, Korea)

17:30 *H. pylori* CagA functions in immune cells
Silja Wessler (Salzburg, Austria)

18:00–19:00 Get-Together dinner at the castle

19:00-19:20 Session 1 – *H. pylori* virulence factors

Chair Saskia Erttmann/Thomas F. Meyer (Kiel, Germany)

19:00 Defining new molecular pathways in stomach B-cell lymphoma associated with chronic *Helicobacter* infection
Richard Ferrero (Melbourne, Australia)

19:20-19:50 Short talks of session 1 – *H. pylori* virulence factors

Chair Saskia Erttmann/Thomas F. Meyer (Kiel, Germany)

19:20 Role of the CagY antenna projection in *H. pylori* cag type IV secretion system activity
Sirena Tran (Nashville, USA)

19:30 CagA regulates STAT3 signaling in *H. pylori* infected macrophages
Sebastian Diechler (Salzburg, Austria)

19:40 The Rspo3/YAP signaling cascade is activated upon epithelial injury and promotes *H. pylori*-driven pre-malignant epithelial transformation
Anne-Sophie Fischer (Berlin, Germany)

20:00–21:30 Poster session 1

• Sunday, 3 December

09:00 Keynote lecture

Chair Silja Wessler (Salzburg, Austria)

H. pylori CagA, BRCAness, and gastric cancer
Masanori Hatakeyama (Tokyo, Japan)

09:45–11:55 Session 2 – *H. pylori* and carcinogenesis

Chair Cynthia Sharma (Würzburg, Germany)

09:45 Metal and malignancy: How iron influences *H. pylori*-induced gastric carcinogenesis
Richard Peek (Nashville, USA)

10:05–10:35 Coffee Break

Chair Cynthia Sharma (Würzburg, Germany)

10:35 *H. pylori* carcinogenesis: host and bug changes during stomach cancer development
Nina Salama (Seattle, USA)

10:55 Cancer-associated SNPs in bacteria: lessons from *Helicobacter pylori*
Steffen Backert (Erlangen, Germany)

- 11:15 Oncogenic properties of *H. pylori* infection and the USF1 transcription factor: impact in gastric carcinogenesis
Eliette Touati (Paris, France)
- 11:35 Murine gastric organoids as model systems for studying *H. pylori*-induced gastric carcinogenesis
Anne Müller (Zurich, Switzerland)
- 12:00–13:00 Lunch Break**
- 13:00–14:20 Session 2 – *H. pylori* and carcinogenesis**
Chair Georg Häcker (Freiburg, Germany)
- 13:00 Stem-cell driven models to understand epithelial response to infections and cancer initiation
Francesco Boccellato (Oxford, UK)
- 13:20 *H. pylori* and colon cancer – from epidemiologic association to mechanistic insight
Markus Gerhard (Munich, Germany)
- 13:40 Molecular insights into *H. pylori*-induced gastric inflammation and cancer: new strategies for intervention
Keith Wilson (Nashville, USA)
- 14:00 *H. pylori* attachment-blocking antibodies and vaccine in protection against gastric disease and cancer
Thomas Borén (Umea, Sweden)
- 14:20–14:50 Short talks of session 2 – *H. pylori* and carcinogenesis**
Chair Georg Häcker (Freiburg, Germany)
- 14:20 Evaluation of a multi-epitope vaccine candidate against *H. pylori*
Tobias Giese (Munich, Germany)
- 14:30 Orthotopically implanted genetically modified organoids as model systems of gastric carcinogenesis
Jiazhao He (Zürich, Switzerland)
- 14:40 The Le mouse gastric cancer model
Artem Piddubnyi (Umea, Sweden)
- 14:50–15:30 Coffee Break**
- 15:30–17:30 Session 3 – *H. pylori* host adaptation**
Chair Steffen Backert (Erlangen, Germany)
- 15:30 Microbial hideouts in the epithelium link *H. pylori* persistence and pathogenesis
Manuel Amieva (Stanford, USA)

- 15:50 Gastric stem cell responses to *H. pylori* Infection
Michael Sigal (Berlin, Germany)
- 16:10 Host adaptation strategies of *H. pylori*
Hitomi Mimuro (Osaka, Japan)
- 16:30 Inhibition of the oncogenic stress response by *H. pylori*
Elena Zaika (Miami, USA)
- 16:50 *H. pylori* HopQ and CEACAM interaction: more than a binding affair
Raquel Mejías-Luque (Munich, Germany)
- 17:10 The C-terminal region of *H. pylori* SecA – a key domain for fine-tuning protein export
Joanna Skorko-Glonek (Gdansk/Poland)
- 17:30-18:00 Short talks of session 3 – *H. pylori* host adaptation**
Chair Steffen Backert (Erlangen, Germany)
- 17:30 *H. pylori* employs a general protein glycosylation system for the modification of outer membrane adhesins
Mou-Chieh Kao (Hsinchu, Taiwan)
- 17:40 *H. pylori* γ -glutamyltransferase relates to changes in bacterial metabolism important for colonization
Sonja Fuchs (Munich, Germany)
- 17:50 Roles of *H. pylori* heterogeneity in transmission
Sacheera Angulmaduwa (Seoul, Korea)
- 18:00–19:00 Conference Dinner**
- 19:00–21:30 Poster session 2**

• **Monday, 4 December**

- 09:00–10:00 Session 4 – *Helicobacter* genomics / Pathogenomics**
Chair Daniel Falush (Shanghai, China)
- 09:00 Exploring small RNAs and small proteins in *H. pylori*
Cynthia Sharma (Würzburg, Germany)
- 09:20 The *H. pylori* genome project (*HpGP*): highlights of primary findings
Constanza Camargo (Bethesda, USA)
- 09:40 Establishing a global *H. pylori* database: what can we learn from 10,000 genomes?
Kaisa Thorell (Gothenburg, Sweden)

10:00–10:30 Coffee Break

10:30–11:40 Session 4 – *Helicobacter* genomics / Pathogenomics

Chair Michael Sigal (Berlin, Germany)

10:30 An ancient ecospecies of *H. pylori* found in Indigenous populations and animal adapted lineages

Daniel Falush (Shanghai, China)

11:00 Potential selection-driven accumulation of truncation mutations in *H. pylori* core genes
Sujay Chattopadhyay (Kolkata, India)

11:20 Study of the resistome and virulome of *H. pylori* by NGS approach using DNA Capture technology

Philippe Lehours (Bordeaux, France)

11:40–12:00 Short talks Session 4 – *Helicobacter* genomics / Pathogenomics

Chair Michael Sigal (Berlin, Germany)

11:40 Methylome evolution through lineage-dependent selection in *H. pylori*
Florent Ailloud (Munich, Germany)

11:50 *H. pylori* DNA methyltransferases: possible role(s) in pathogenesis and natural transformation

Rao Desirazu (Bengaluru, India)

12:00–13:00 Lunch Break

13:00–15:50 Session 5 – Inflammation and innate immunity

Chair Bodo Linz (Erlangen, Germany)

13:00 Immunopathology of *H. pylori* infection
Mario Milco D'Elia (Siena, Italy)

13:20 Mechanisms underlying inflammation and persistence of *H. pylori* infections
Saskia Erttmann/Thomas F. Meyer (Kiel, Germany)

13:40 Innate immune memory in *H. pylori* infection
Jutta Horejs-Höck (Salzburg, Austria)

14:00 Complement – a major challenge for *H. pylori* colonisation
Karen Ottemann (Santa Cruz, USA)

14:20 Functional evolution of innate immune interactions of *H. pylori*: selection pressure and consequences
Christine Josenhans (Munich, Germany)

14:40 Trefoil Factor 1 and *H. pylori*: a close relationship
Alessandra Tosco (Salerno, Italy)

15:00–15:30 Coffee Break

Chair Wolfgang Fischer (Munich, Germany)

15:30 Bacterial catabolism of host-derived glutathione during *H. pylori* infection
Stavroula Hatzios (Yale, USA)

15:50–16:30 Short talks of session 5 – Inflammation and innate immunity

Chair Wolfgang Fischer (Munich, Germany)

15:50 Role of IgA in immune control of *H. pylori* infection
Mariela Artola (Zürich, Switzerland)

16:00 Microenvironment-dependent stress response signaling in *H. pylori*-infected cells
Behzad Sabbagh Amirkhizi (Magdeburg, Germany)

16:10 Effects of ADP-heptose on human primary dendritic cells
Theresa Neuper (Salzburg, Austria)

16:20 Roles of *oipA* phase variation on *H. pylori*-induced cell elongation
Ashansa Pamodhi Ramanayake Mudiyanse (Seoul, Korea)

**16:30–20:15 Excursion to the Christkindl market in Nuremberg
(Return to Castle Hirschberg at approx. 21:30)**

• Tuesday, 5 December

09:00–11:20 Session 6 – *H. pylori* pathogenicity

Chair Silja Wessler (Salzburg, Austria)

09:00 *H. pylori* vacuolating cytotoxin A and intestinal metaplasia in the human gastric mucus
Karen Robinson (Nottingham, UK)

09:20 The initiation of mitochondrial signals by *H. pylori*
Georg Häcker (Freiburg, Germany)

09:40 Sensing and restoration of mitochondrial function and metabolism within *H. pylori* VacA
intoxicated cells
Steven R. Blanke (Urbana, USA)

10:00–10:30 Coffee Break

Chair Silja Wessler (Salzburg, Austria)

10:30 *H. pylori* VacA hijacks host cell endosomes for intracellular activation
Terry Kwok (Melbourne, Australia)

- 10:50 Beyond cellular vacuolation: *H. pylori* VacA toxin alters host cell taurine metabolism
Mandy Westland (Nashville, USA)
- 11:00 BRD4 regulates glycolysis-dependent Nos2 expression in macrophages upon
H. pylori infection
Lin-Feng Chen (Urbana-Champaign, USA)
- 11:20–12:00 Session 7 – *H. pylori* and microbiota, other Helicobacters**
Chair Raquel Mejías-Luque (Munich, Germany)
- 11:20 *Helicobacter* in ancient human remains
Frank Maixner (Bolzano/Italy)
- 11:40 Deciphering prophages in the genus *Helicobacter*
Filipa Vale (Lisbon, Portugal)
- 12:00–13:00 Lunch Break**
- 13:00–14:00 Session 7 – *H. pylori* and microbiota, other Helicobacters**
Chair Raquel Mejías-Luque (Munich, Germany)
- 13:00 CagA determines the microbiome changes and risk of colorectal cancer elicited by *H. pylori*
infection
Veronika Engelsberger (Munich, Germany)
- 13:15 Dual RNA fluorescent in situ hybridization and immunofluorescence reveals the spatial
distribution of *H. pylori* and non-*H. pylori* in gastric mucosal biopsies during gastric intestinal
metaplasia
Amanda Rossiter (Birmingham, UK)
- 13:30 *Helicobacter sminthopsis* from the Australian fat-tailed dunnart
Bodo Linz (Erlangen, Germany)
- 13:50 *Helicobacter acinonychis* adaptation to the stomach of the large felines
Iryna Tkachenko (Umea, Sweden)
- 14:00 Round-Table for general discussion**, summing up and prospects with all invited speakers
Chairs Martin Blaser (Newark, USA), Anne Müller (Zürich, Switzerland)
- 14:20 Poster and short talk prize presentation**
Chairs S. Wessler (Salzburg, Austria), B. Linz (Erlangen, Germany) and S. Backert (Erlangen,
Germany)
- 14:30 Closing of the conference & departure**

Important information for all speakers

Keynote Talks	40 min + 5 min discussion (45 min total)
Special Guests	26 min + 4 min discussion (30 min total)
Main Talks	17 min + 3 min discussion (20 min total)
Short Talks	8 min + 2 min discussion (10 min total)

Presentation

Please bring your presentation on a USB flash drive to the lecture hall. Prepare your presentation as a PowerPoint file (.ppt or .pptx) in 16:9 (landscape). A laptop (Windows system) will be available and a technical assistant will help you. It is not possible to use your own laptop in order to avoid technical problems.

General information

Certificate of attendance

Will be sent by e-mail after the conference.

Name badge

Please wear your name badge during all conference events, including the networking activities. Participants will receive their name badge at the conference check-in desk.

Check-in/Info counter for conference

The check-in is open at the following times:

Saturday: 12:00–18:00

Sunday: 08:30–17:00

Monday: 08:30–17:00

Tuesday: 08:30–14:30

Hotel reception in the castle

The hotel reception is open daily from 8:00–20:00 (subject to change).

WIFI

WiFi is available for free throughout the castle/hotel. Please ask at the check-in desk or hotel reception for the login data.

Catering

Catering is provided by the castle at fixed times. The meal times/breaks can be found in the program.

Awards for the best posters/short talks by doctoral students

Evaluation for each poster and short talk presentation will be made by selected scientific board members. They fill out a specific form, which includes a number of criteria to be evaluated by the judges. For example, criteria include the design of the presentation, the scientific quality of data, and the presenter's ability to answer questions etc. Each presentation will be graded with marks from 1 to 5. The four best posters and four best short talks by doctoral students will be honored with prizes. Please show your doctoral student ID card (or other proof) to the organizers upon request, in order to fulfil the conditions and receive the prize.

FEMS travel grants

The HGSC meeting has been selected by the Federation of European Microbiological Societies (FEMS) to offer scholarships for young scientists to attend the event. The FEMS scholarship will allow the organizing committee to financially support the best European and non-European young scientists with 250 EUR each. Successful candidates will be informed in the prize award session on Tuesday at 2 pm.

Poster sessions

- All posters will be displayed on poster boards. You will be assigned a poster board according to the number of your abstract given in the abstract book.
- Fixing material will be provided at the venue.
- There will be two poster sessions for the poster exhibition. In both sessions you should be present at your poster:
 - Poster session 1 on 2nd December, 20:00–21:30
 - Poster session 2 on 3rd December, 19:00–21:30

Schlosskeller ("Castle cellar")

The Castle Cellar (Schlosskeller) offers the ambience for a cozy get together with drinks on selfservice.

Drinks/snacks in the Schlosskeller are not included and must be paid absolutely and obligatory into the cash box!

Excursion to Christmas Market Nuremberg (in registration fee included)

If you have registered for the excursion, please note the following schedule:

Monday, 4 December

16:30	Departure at Castle Hirschberg via bus (bus is organised). You can get a lunch box at the check-in desk for the journey
17:30 - 20:15	Individual visit of the Christmas Market
20:30 – 21:30	Departure at Nuremberg Christmas Market and return to Castle Hirschberg via bus (bus is organised)

Final departure on Tuesday, 5 December

Please leave your room not later than 9:00 and give your key to the hotel reception. You can leave your luggage at the wardrobe on the ground floor during the day.

Departure time: 14:30 from Castle Hirschberg to train station Kinding via bus or taxi.

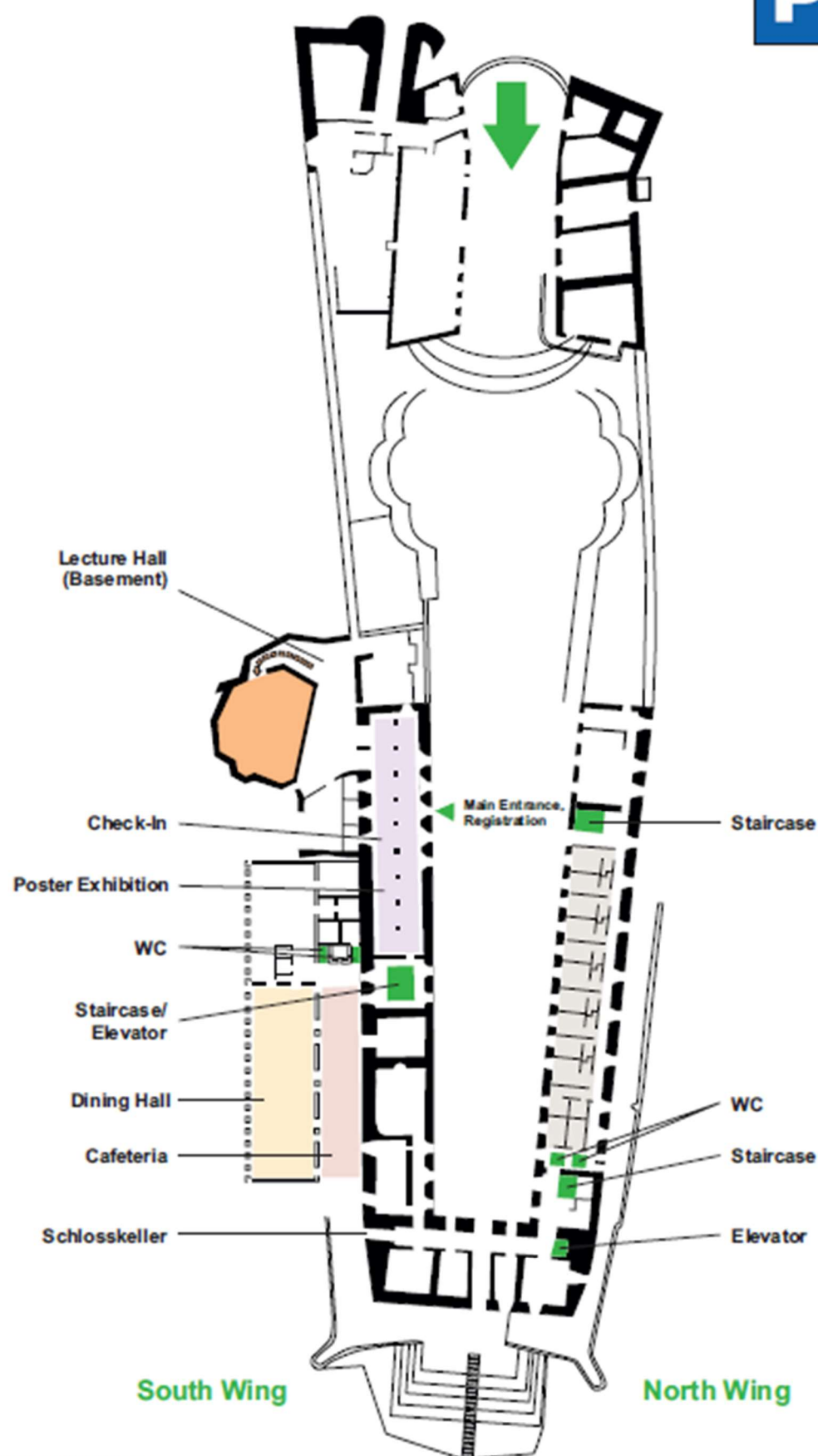
Payment: to be made independently by participants in the taxi or bus. Only cash can be paid on the bus.

For those of you who require a taxi or bus for your departure, please add your name to the list provided at the check-in desk (**please register early as places are limited**).

Wheather forecast

Currently, there is quiet some snow in Beilngries and more snow is expected for Thursday-Saturday. It will be frosty (usually between 1°C and -7°C during the day) and the forecast for the lowest temperature is now -14°C in the night from Sunday to Monday. Sunday and especially Monday will be sunny during the day, otherwise cloudy.

<https://www.wetteronline.de/wettertrend/beilngries>



Sponsors of the conference

