



HGSC - Scientific program (as of 15th November 2023)

Scientific program • Saturday, 2 December

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

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 in the modern and post-modern ages
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 Structure and *in vivo* actions of the *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)
- 19:20-20:00 **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 *H. pylori* γ -glutamyltransferase relates to changes in bacterial metabolism important for colonization
Sonja Fuchs (Munich, Germany)
- 19:50 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

Scientific program • Sunday, 3 December

- 09:00 **Keynote lecture**
Chair Silja Wessler (Salzburg, Austria)
- H. pylori* CagA, BRCAness, and gastric cancer
Masanori Hatakeyama (Tokyo, Japan)
- 09:45–12:00 **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 A single SNP in *H. pylori* promotes gastric cancer development
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**
- 13:00-15:00 Session 2 – *H. pylori* and carcinogenesis**
Chair Bodo Linz (Erlangen, 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)
- 14:30-15:00 Short talks of session 2 – *H. pylori* and carcinogenesis**
Chair Bodo Linz (Erlangen, Germany)
- 14:30 Evaluation of a multi-epitope vaccine candidate against *H. pylori*
Tobias Giese (Munich, Germany)
- 14:40 Orthotopically implanted genetically modified organoids as model systems of gastric carcinogenesis
Jiazhao He (Zürich, Switzerland)
- 14:50 The Le mouse gastric cancer model
Artem Piddubnyi (Umea, Sweden)
- 15:00–15:30 Coffee Break**
- 15:30–18:00 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 *Helicobacter pylori* HopQ and CEACAM interaction: more than a binding affair
Raquel Mejías-Luque (Munich, Germany)
- 17:10 The C-terminal region of *Helicobacter 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 Georg Häcker (Freiburg, Germany)
- 17:30 Roles of *H. pylori* heterogeneity in transmission
Sacheera Angulmaduwa (Seoul, Korea)
- 17:40 *H. pylori* employs a general protein glycosylation system for the modification of outer membrane adhesins
Mou-Chieh Kao (Hsinchu, Taiwan)
- 18:00–19:00 **Conference Dinner**
- 19:00–21:30 **Poster session 2**

Scientific program • Monday, 4 December

- 09:00–10:20 **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: 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**
- 10:30–12:00 **Session 4 – *Helicobacter* genomics / Pathogenomics**
Chair Michael Sigal (Berlin, Germany)



- 10:30 Ecotypes and pathotypes of *H. pylori*
Daniel Falush (Shanghai, China)
- 11:00 Convergent mutations, truncation mutations, and *H. pylori* pathoadaptation
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*
Sebastian Suerbaum (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**
- 13:00–15:00 Session 5 – Inflammation and innate immunity**
Chair Anne Müller (Zürich, Switzerland)
- 13:00 Immune pathology 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 Unexpected effects of *H. pylori*-derived PAMPs on innate immune cells
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 Mudiyansele (Seoul, Korea)

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

Scientific program • Tuesday, 5 December

09:00–10:30 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

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

10:50–11:00 Short talks session 6 – *H. pylori* pathogenicity

Chair Silja Wessler (Salzburg, Austria)

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)
- 11:15–12:00 **Session 7 – *H. pylori* and microbiota, other Helicobacters**
Chair Bodo Linz (Erlangen, Germany)
- 11:15 CagA determines the microbiome changes and risk of colorectal cancer elicited by *H. pylori* infection
Veronika Engelsberger (Munich, Germany)
- 11:30 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)
- 12:00–13:00 **Lunch Break**
- 13:00–13:20 **Session 8 – non-pylori Helicobacter**
Chair Raquel Mejías-Luque (Munich, Germany)
- 13:00 Deciphering prophages in the genus *Helicobacter*
Filipa Vale (Lisbon, Portugal)
- 13:20 *Helicobacter sminthopsis* from the Australian fat-tailed dunnart
Bodo Linz (Erlangen, Germany)
- 13:40–13:50 **Short talk session 8 – non-pylori Helicobacter**
Chair Raquel Mejías-Luque (Munich, Germany)
- 13:40 *Helicobacter acinonychis* adaptation to the stomach of the large felines
Iryna Tkachenko (Umea, Sweden)
- 13:50 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 **Departure**

Important information for all speakers:

Keynote Talks 35 min + 10 min discussion (45 min total)

Special Guests 25 min + 5 min discussion (30 min total)

Main Talks 16 min + 4 min discussion (20 min total)

Short Talks 7 min + 3 min discussion (10 min total)