IPPW-12 at DLR in Cologne

Ali Gülhan
German Aerospace Center (DLR)

Layout

- Why DLR?
- Why Cologne?
- Conference Hotel
- Final remarks

The **DLR**

German Aerospace Research Center &
Space Agency of the Federal Republic of Germany

Aeronautics **Space** **Transport** **Energy**

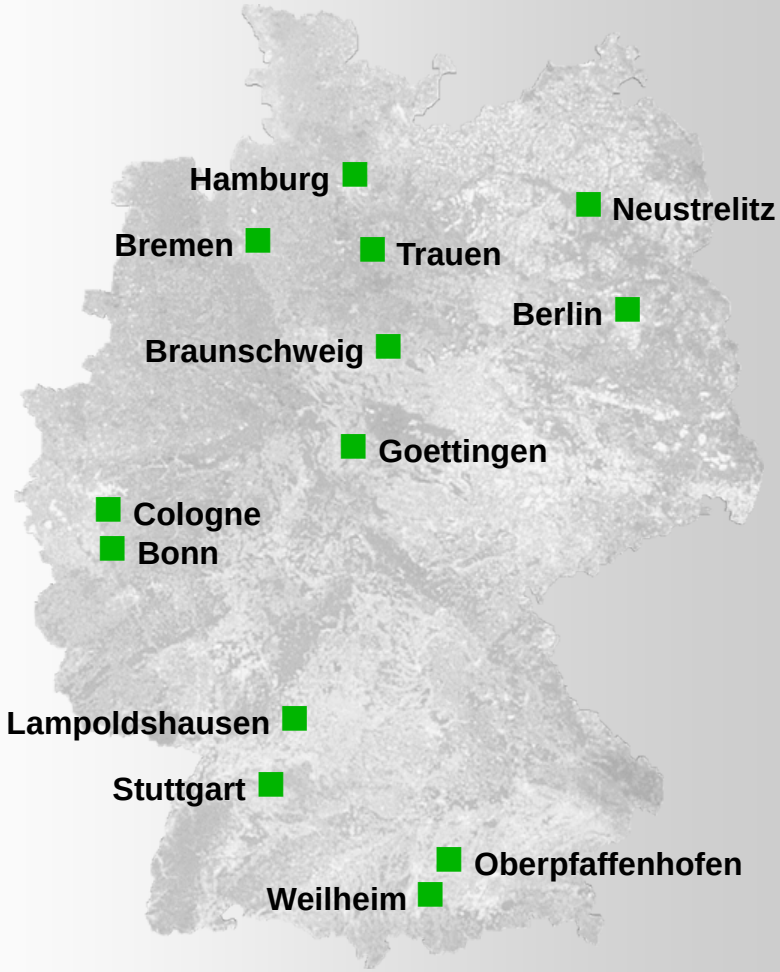
Space Administration **Space R&T**

Locations and employees

7300 employees across
33 institutes and facilities at
- 16 sites.

Offices in Brussels,
Paris, Washington and Tokyo.

Research facilities in Qatar (in progress) and in Almeria (Spain)



DLR Executive Board

Prof. Dr-Ing. Johann-Dietrich Wörner

Chairman

- Overall strategy and development
- External relations
- Corporate Communication
- ESA Council

Klaus Hamacher

Vice Chairman

- Human Resources, Finance, Corporate Org.
- Quality Assurance and Infrastructure
- Technology Marketing
- Information technology

Dr. Gerd Gruppe

- Project Management Agency
- Space Administration
- National/ESA program

Prof. Hans-Jörg Dittus

- Space Research and Technology

research, programs, projects, technology transfer

Prof. Dipl.-Ing. Rolf Henke

- Aeronautics:

research, programs, projects, technology transfer

- Approved Design Organisation

Prof. Dr-Ing. Ulrich Wagner

- Energy and Transporation:

research, programs, projects, technology transfer

DLR

Cologne

- Cologne soccer team is back to the first German league
- Cologne is the Rio den Janeiro of Germany
  (Karneval is the most important event of each year)
- Cologne is a nicer city than Düsseldorf

Cologne

- Cologne is the fourth largest city of Germany
  (population is apprx. 1 million)
- Cologne Cathedral (*Kölner Dom*) is the seat of the Catholic Archbishop of Cologne
- Cologne is a major cultural center and home to more than thirty museums and hundreds of galleries
- Exhibitions range from local ancient Roman archeological sites to contemporary graphics and sculpture
- Around Cologne there are three top universities in Germany,
  i.e. RWTH Aachen University, Cologne University, Bonn University

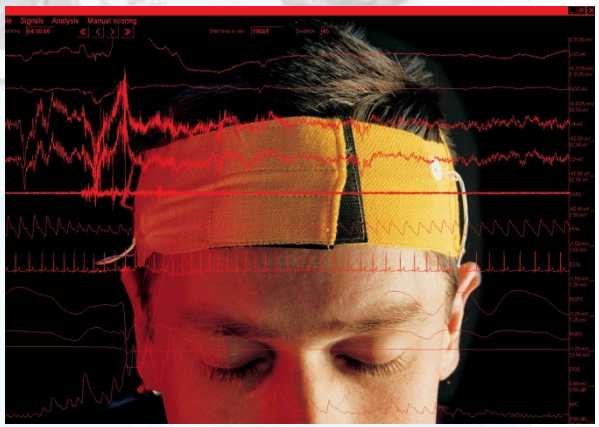
DLR Cologne site from the ISS

Bild: ESA / Nespoli

Institute of Aerospace Medicine

Prof. Dr. Rupert Gerzer

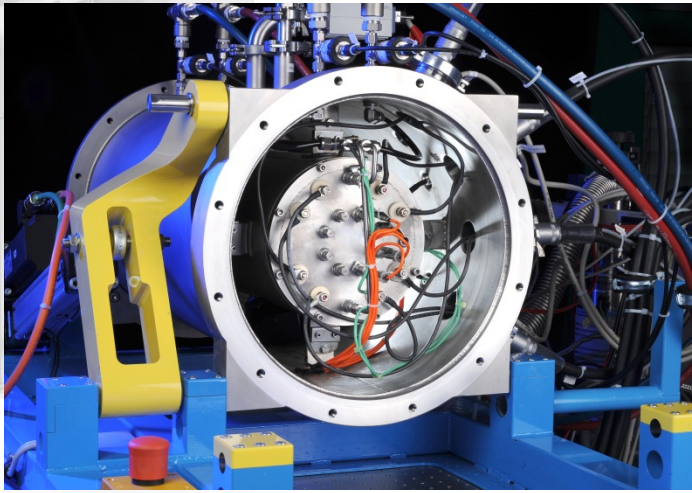
- Research on human health and performance in the mobile society.
- Impact of micogravity on the human health
- Medical consultancy for European Astonauts (in cooperation with the ESA)
- Medical and psychological check and selection of aeronautic employees
- Impact of aeronautics and transport on human behaviour
- Impact of radiation
- Adjustement of the life to severe environments
- Search of life in space

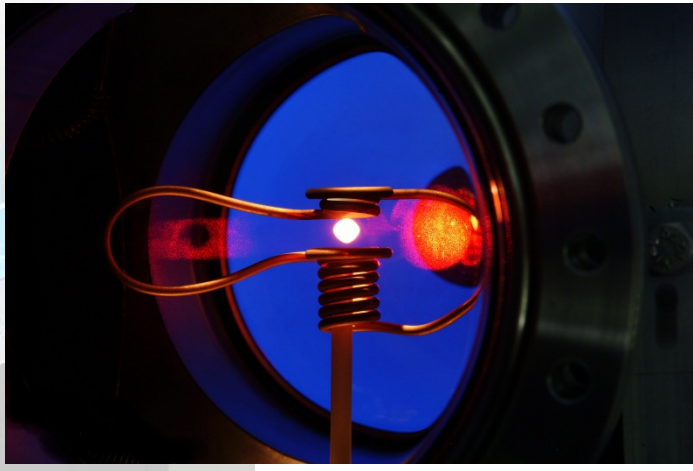


Institute of Material Physics in Space

Prof. Dr. Andreas Meyer

- Research on liquid properties and solidification processes
- Objective: Prediction of material properties
- Experiments in the absence of gravitationally driven phenomena such as convection and sedimentation, invertigations in weightlessness providing well-defined experimential conditions needed for accurate measurements

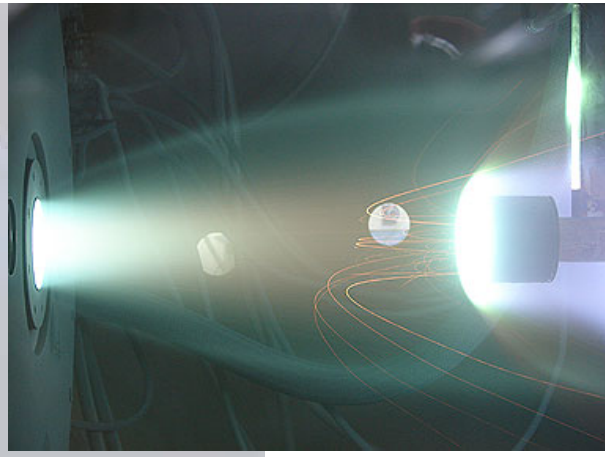


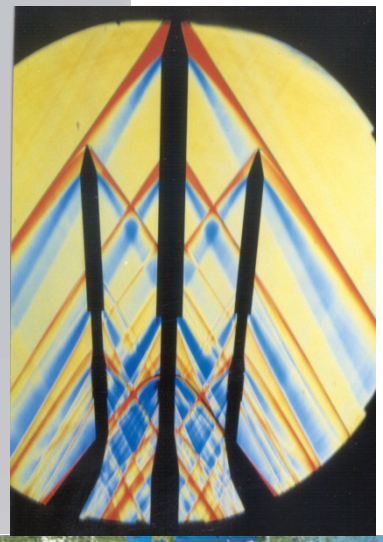


Institute of Aerodynamics and Flow Technology
Supersonic and Hypersonic Technology Department

Dr. Ali Gülhan

- Health Monitoring Instrumentation for Spacecraft and high speed flight demonstrators
- Aerothermal design, qualification of spacecraft and high speed flight vehicles
- Qualification of thermal protection systems in high enthlapy facilities
- Thermal management systems
- Research on launcher base flow plume flow interactions and resulting thermomechanical problems
- Optical diagnostics for high enthalpy flows

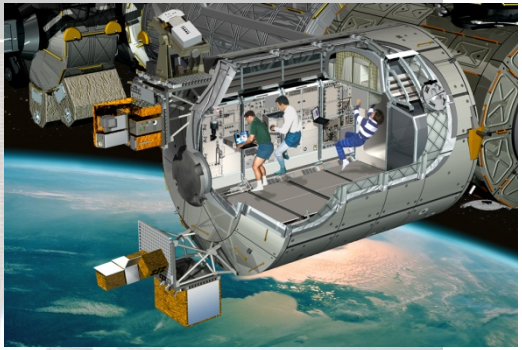




Microgravity User Support Center (MUSC)

Prof. Dr. Rainer Willnecker

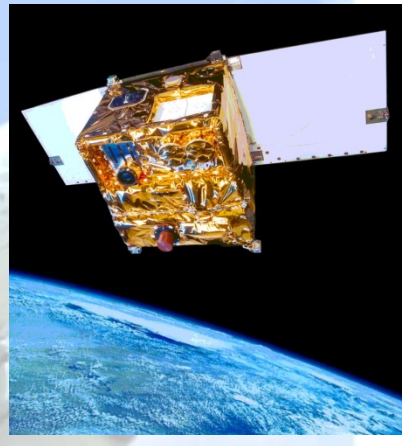
- Operation of ground control units for monitoring and control of space experiments
- Certification of soace experiments with respect to flight readiness
- Coordination of space missions
- Use of European experimental facilities on the ISS
- Operation of comete lander Philae in the frame of ESA mission Rosetta.
- Preparation of experiments or missions for microgravity environmenst und development of new experiments and measurement methods



Simulation und Software Technology (SISTEC)

Rolf Hempel

- Participation on software development in the frame of national and international.
- Integration of simulation applications for virtuall product development
- Visualisation and management of scientific data
- High-Performance-Computing
- Onboard Software for satellite attitude control.
- Development of software engineering methods
- Tools and techniques for software development
- Courses for users



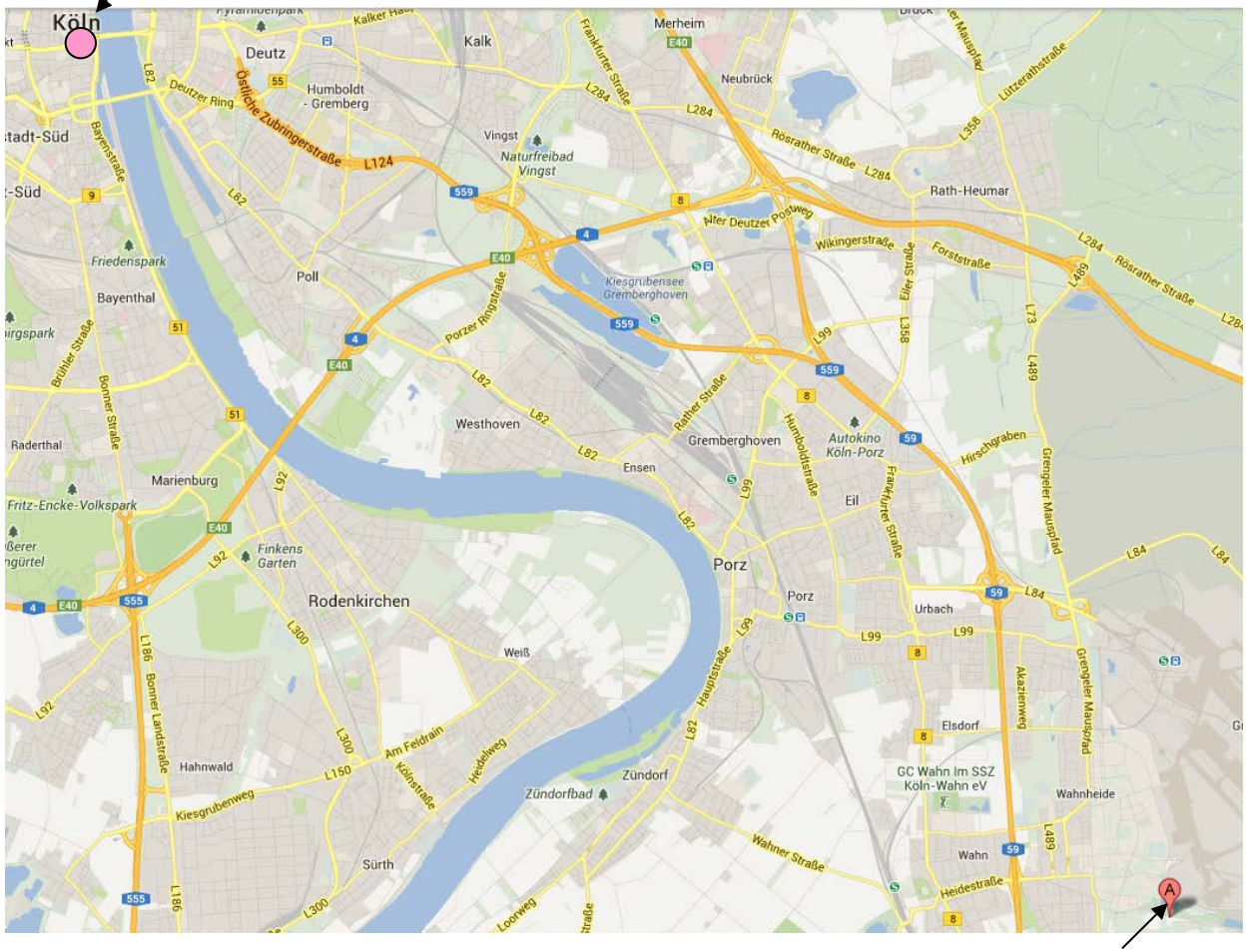
European Astronaut Centre (EAC)

Since 1990 the European Space Agency ESA has been training European Astronauts for future missions at its center EAC on the DLR site in Cologne

- 110 employees from 19 ESA member states
- Place of European astronaut corps
- Responsible for ESA astronauts before, during and after each mission
- Education of non-european astronauts in european modules of Internationalen Space Station (Columbus, ATV)

Bilder: ESA

Köln, City center



DLR, Köln-Porz

German Aerospace Center (DLR)
DLR Cologne, Headquarters

Linder Höhe
51147 Cologne

Telephone: +49 2203 601-0
Fax: +49 2203 673-10
http://www.dlr.de/

Hyatt Regency Cologne

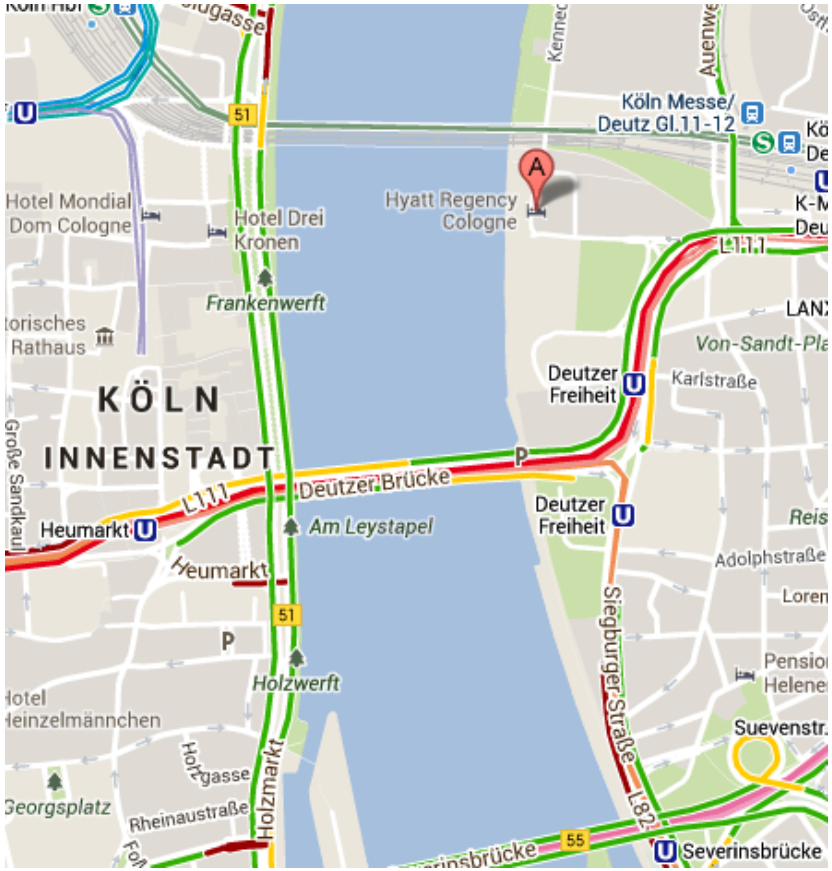
Kennedy-Ufer 2A

Cologne, Germany, 50679

Tel: +49 221 828 1234

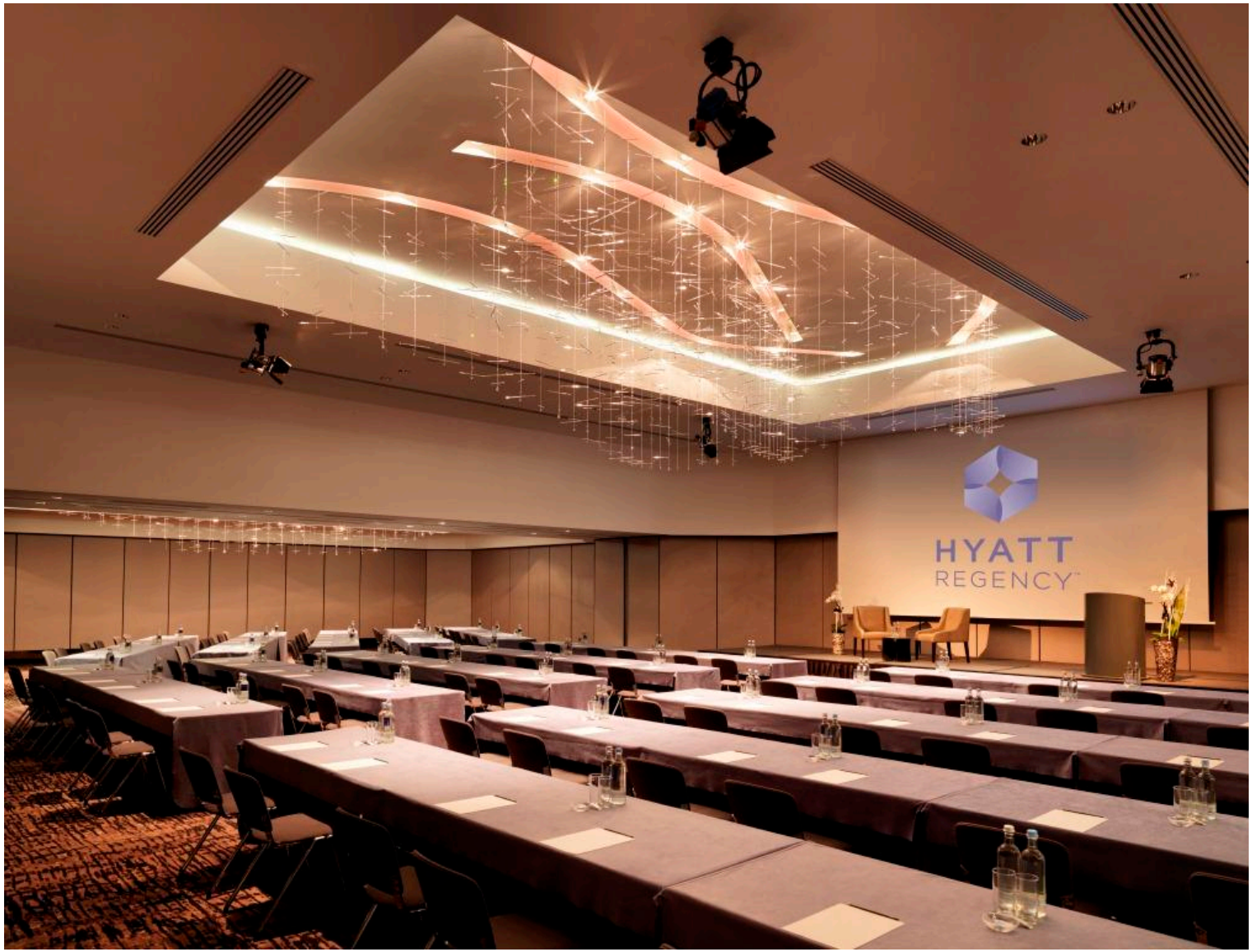
Fax: +49 221 828 1370

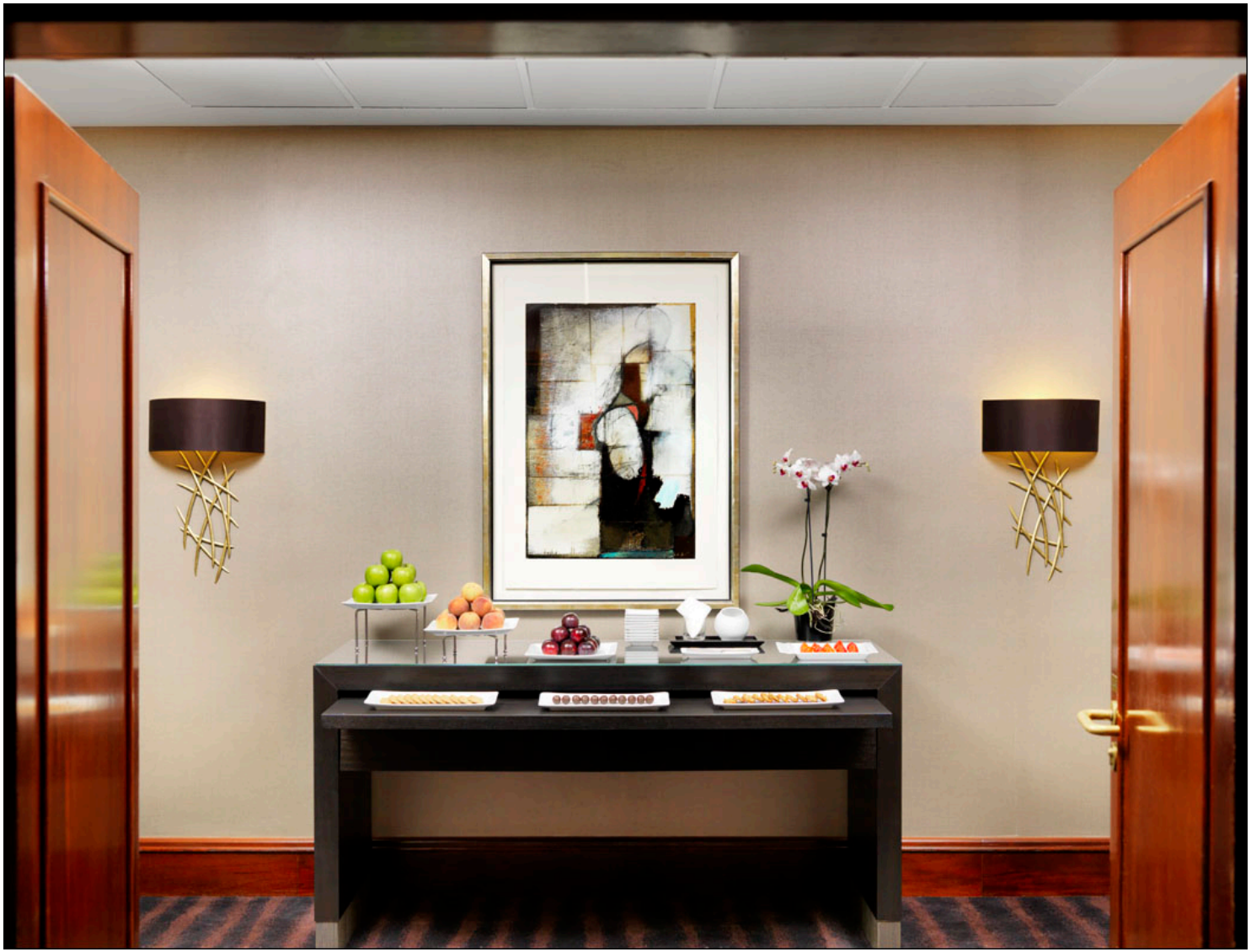
Email: cologne.regency@hyatt.com



HYATT

HYATT


HYATT
REGENCY



Final remarks

- We need to finalize the contract with the hotel asap.
- Actual proposal assumes no parallel sessions
- Separate poster room is recommended (with coffee and cake)
- 35 rooms will be reserved for the IPPW-12
- A tour to DLR and EAC is considered