

8.00 h **Registration** at Aurubis AG, Hoovestraße 50, 20539 Hamburg, Germany , and **delivery of course material**

8.30 h Welcome: Dipl.-Ing. *Michael Kopke*, Dipl.-Ing. *Norbert L. Piret*, *Paykan Safe*, Prof. *Peter Paschen*

Sulphuric Acid Production Technologies

Organized by: Dipl.-Ing. *Norbert L. Piret*

8.45 h *M. J. King*, Hatch Associated Pty., Perth, W.A., Australia

Recent Developments and Future Directions in Sulphuric Acid Manufacture

9.45 h *Doug Louie*, WorleyParsons M&M, Mississauga, Ont., Canada

Design Considerations for Sulphuric Acid Plants

10.45 h Coffee Break

11.15 h *Bastian Mahr*, *Martin Kürten*, Bayer Technology Services (BTS), Leverkusen, Germany

Simulation for Sulphuric Acid Plants

12.15 h *Karl-Heinz Daum*, Outotec GmbH, Oberursel, Germany

Manufacturing of Sulphuric Acid from Copper Smelter Gases

13.15 h Lunch

14.15 h *Daniel Freeman*, SNC-Lavalin Fenco, Canada

Maturing Metallurgical Acid Plants and Capacity Creep

15.15 h *Andrew Kelleher*, Bayer Technology Services (BTS), Leverkusen, Germany

Materials Selection and Design for Sulphuric Acid Production Plants

16.15 h Coffee Break

16.45 h *Alain Strickroth*, CPPE Carbon Process & Plant Engineering GmbH, Frankfurt, Germany

Sulfacid Technology: Theory and Application

Copper Smelter Gas Handling

Organized by: *Miguel Palacios*

Held by: *Paykan Safe* and *Matt Russell*

8.45 h Copper Smelter Process Gas Characteristics

9.30 h Process Gas Conditioning Design Considerations

10.15 h Coffee Break

11.00 h Process Gas Cleaning System Design Considerations

11.45 h Smelter Fugitive Emissions Control

12.30 h Examples of Recent Smelter Gas Handling and Fugitive Emissions Control Projects

13.45 h Lunch

14.30 h Sulfur Fixation

15.30 h Gas Cleaning Technologies for Specific Pollutants

16.00 h Coffee Break

16.30 h Smelter Gas Heat Recovery and Energy Optimization

17.45 h Panel discussion on Recent Global Activities in Smelter Emissions and Energy Intensity Reduction

Event for all short courses

18.50 h Metallurgical Evening at Aurubis, "Alte Schlosserei"

Slag Cleaning

Organized by: Prof. *Peter Paschen*

8.45 h *Michael Stelter*, TU Bergakademie Freiberg/Germany

Slag Cleaning in Copper Metallurgy

9.30 h *Hector Henao*, *Baojun Zhao*, *Peter Hayes*, *Eugene Jak*, University of Queensland, Brisbane St. Lucia/Australia

Chemical and Physical Properties of Cleaning Slags

10.45 h Coffee Break

11.15 h *Mario Sánchez*, Universidad de Concepción, Chile

Valuation of Copper Slags and Recovery of Valuable Metals and Materials

12.15 h *Robert Hansson*, *Theo Lehner*, Boliden Mineral AB, Skelleftehamn/Sweden

Slag Cleaning at the Rönnskär Smelter

13.15 h Lunch

14.15 h *Patricio Rojas*, *Gilberto Raimann*, ENAMI Paipote Smelter, Copiapó/Chile

Improvements in Copper Slag Treatment in an Electric Furnace

15.00 h *Marcin Kacperski*, KGHM Polska Miedz S.A., Głogów/Poland

KGHM Slag Cleaning Process

15.45 h Coffee Break

16.15 h *Katsunori Yamaguchi*, Iwate University, Faculty of Engineering

Thermodynamic Properties of Copper Slag and their Application to Slag Cleaning

17.00 h *Josef Pesl*, Montanwerke Brixlegg AG, Brixlegg/Austria

State of Slag Cleaning in Secondary Copper Smelting