ISN Forefronts Symposium on Renal and Extrarenal Control of Acid-Base Homeostasis in Health and Disease
September 17-20, 2009
Florence, Italy

Thursday, September 17, 2009

16:45 – 17:00  Welcome and Opening Remarks
Carsten A Wagner, University of Zurich, Switzerland
Reto Krapf, University of Basel, Switzerland
Giovambattista Capasso, University of Naples, Italy
Orson W. Moe, University of Dallas, USA

17:00 – 18:00  Opening Plenary Lecture
Chair: Carsten Wagner, University of Zurich, Switzerland

Proton-activated receptors
Klaus Seuwen, Novartis Institutes for Biomedical Research, Switzerland

20:00 – 21:30  Welcome reception

Friday, September 18, 2009

08:45 – 09:00  Welcome address
Antonio Dal Canton, President of the Italian Society of Nephrology

09:00 – 10:30  Session 1: (Renal) acid-base transport proteins I
Chair: Orson Moe, University of Dallas, USA

The Na/H exchangers
Peter Aronson, Yale School of Medicine, USA

Anion exchangers of the SLC4 and SLC26 families
Seth Alper, Beth Israel Deaconess Medical Center, USA

V-ATPase proton pumps
Dennis Brown, Harvard Medical School, USA

10:30 – 11:00  Coffee and Networking Break

11:00 – 12:30  Session 2: (Renal) acid-base transport proteins II
Chair: Carsten Wagner, University of Zurich, Switzerland

CIC Chloride/proton exchangers
Thomas Jentsch, FMP Berlin, Germany

Sodium-dependent bicarbonate transporters
Ira Kurtz, UCLA, USA

Interactions of carbonic anhydrase and transporters
Joseph Casey, *University of Alberta*, Canada

12:30 – 14:00 Lunch

14:00 – 14:30 Poster Session & Discussion

14:30 – 16:00 Session 3: Ammoniagenesis and ammonium excretion  
*Chair: Mark Knepper, NIH, USA*

- **Regulation of proximal tubule ammoniagenesis**  
  Norman Curthoys, *Colorado State University, USA*

- **Structure and function of Rhesus proteins**  
  Fritz K Winkler, *Paul Scherrer Institute, Switzerland*

- **Role of Rhcg in renal ammonium excretion**  
  Olivier Devuyst, *University of Louvain Medical School, Belgium*

16:00 – 16:30 Coffee & Networking Break

16:30 – 18:00 Session 4: Sensors and regulators  
*Chair: Robert Alpern, xx, USA*

- **CO2 sensors**  
  Walter Boron, *Case Western Reserve University, USA*

- **Intracellular pH sensing**  
  Patricia Preisig, *Yale University, USA*

- **CO2/HCO3 regulated adenylyl cyclases**  
  Lonny Levin, *Weill Cornell Medical College, USA*

18:00 – 19:00 Evening Plenary Lecture

Ocean acidification  
Victoria J Fabry, *California State University, USA*

20:00 – 21:30 Dinner

Saturday, September 19, 2009

09:00 – 10:30 Session 5: Adaptive responses and regulation  
*Chair: Dennis Brown, xx, USA*

- **The Hensin pathway and intercalated cell plasticity**  
  Qais Al-Awqati, *Columbia University, USA*

- **Modulation of TRP channels by protons**  
  Shmuel Muallem, *University of Texas Southwestern Medical Center, USA*

- **Pendrin and chloride regulation**  
  Dominique Eladari, *INSERM, France*
10:30 – 11:00  Coffee & Networking Break

11:00 – 12:30  Session 6: Disorders of Renal Acid Excretion
Chair: Giovambattista Capasso, University of Naples, Italy

H-ATPases and dRTA
Daniel Fuster, University of Berne, Switzerland

AE1 and dRTA
Ashley Toye, University of Bristol, UK

Diagnosis and Treatment of dRTA
Robert Unwin, University College London, UK

12:30 – 14:00  Lunch

14:00 – 15:30  Session 7: Clinical aspects of acid-base homeostasis
Chair: Reto Krapf, University of Basel, Switzerland

The metabolic syndrome and renal acidification: Mechanisms and consequences
Khashayar Sakhaee, UT Southwestern Medical Center, USA

Regulation of renal acid excretion by protons and CO2: The maladaptive renal response revisited ...and reminded
Nicolaos E. Madias, Caritas St. Elizabeth's Medical Center, USA

Intra- and extracellular pH regulation in tumor growth and invasion
Richard Vaughan-Jones, University of Oxford, UK

15:30 – 16:30  Poster Session & Discussion

16:30 – 18:00  Social Activity (TBC)

18:00 – 20:00  Dinner

Sunday, September 20, 2009

09:00 – 10:30  Session 8: Extrarenal control of acid-base homeostasis
Chair: Henry N. Hulter, Genentech Inc., USA

Physicochemical and cellular effects of metabolic acidosis in bone
David Bushinsky, University of Rochester School of Medicine, USA

CO₂ chemoreception and respiratory control
Robert Putnam, Wright State University Boonshoft School of Medicine, USA
The gut and acid-base transport/homeostasis
John Geibel, Yale University School of Medicine, USA

10:30 – 11:00 Coffee & Networking Break

11:00 – 12:30 Session 9: Acid-base in model organisms
Chair: TBC

Protons as neurotransmitter in C. elegans
Eric M Jorgensen, xx, USA

Acid-Base Homeostasis in the Diving Turtle
Donald C Jackson, Brown University, USA

CO₂ detection in insects
Leslie B Vosshall, The Rockefeller University, USA

12:30 – 12:45 Concluding Remarks
Carsten A Wagner, University of Zurich, Switzerland
Reto Krapf, University of Basel, Switzerland
Giovambattista Capasso, University of Naples, Italy
Orson W. Moe, University of Dallas, USA