

**Report:** ORDR/NIH/NIEHS supported conference

**Meeting Title:** The 6th International Human Peroxidase Meeting, Carolina Inn, Chapel Hill, North Carolina, April 19-22, 2009.

**Co-Chairs:** Ronald Mason (NIEHS/NIH), Stanley Hazen (Cleveland Clinic) and William Nauseef (University of Iowa).

**Sponsors:** ORDR/NIH/NIEHS, Cleveland Clinic for Cardiovascular Diagnostic and Prevention, AstraZeneca, Abbott, LEE, MERCK, Prognostix, Avanti, Lilly, ThermoFisher, the University of Iowa.

The International Human Peroxidase Meeting, scheduled every other year, is a premier meeting in the field attended by world leaders in basic and clinical research areas alike involving mammalian heme peroxidases and their role in human health and diseases. In that regard, the 6-th International Human Peroxidase Meeting held in Carolina Inn, Chapel Hill, North Carolina, April 19-22, 2009 was no exception. The oral presentations (36) and posters (60) encompassed many aspects of the evolution, biology, chemistry, biochemistry, and clinical consequences related to members of the peroxidase family. For example, both oral and poster presentations covered new exciting advances in topics including myeloperoxidase-dependent signs of inflammation and their role in vascular diseases as well as the role of peroxidases in the airway and lung disease. Because of the highly varied interests of participants, the meeting provided a unique opportunity for scientists to share information and insights about the peroxidases, their structure, function, biological impact, and significance in animal experimental models, human health, and disease.

**Key topics:** Key topics were divided into 7 Sessions for oral presentations:

Myeloperoxidase-dependent signs of inflammation (Discussion leader S. Hazen, USA);  
Myeloperoxidase: role in vascular disease (Discussion leader C. Winterbourn-Australia);  
Peroxidases and host defense (Discussion leader W. Nauseef-USA); Harnessing

myeloperoxidase clinically: inhibition and application (Discussion leader R. Mason, USA); Myeloperoxidase and the heart (Discussion leader K. Suzuki, Japan); The structure and evolution of heme peroxidases (Discussion leader A. Kettle-Australia), Proinflammatory aspects of peroxidases (Discussion leader H. Rosen-USA). In addition, 60 poster presenters discussed the ongoing research in the myeloperoxidase field and covered numerous topics relevant to Experimental Studies, Internal Medicine, Pediatrics, Cardiovascular, Pulmonary and Acute Care Medicine.

**Accomplishments, future plans, and recommendations:**

Since the presentations covered a broad range of basic and clinical topics including peroxidase chemistry and biochemistry, cell biology, physiology, animal models of disease, and multiple clinical applications to both well studied and rare diseases, the participants were able to comprehend the role of peroxidases in inflammatory diseases, describe new insights into biological roles of eosinophyl-peroxidase in allergic inflammatory diseases and appraise the current state of the art of peroxidase activity in functional imaging of inflammatory disease. Participants voted on the significance of the meeting and the necessity of having the next meeting to be held in Brussels, Belgium, in 2011.