Nitric oxide, hydrogen sulfide and carbon monoxide are all very toxic molecules, and yet they belong to the gasotransmitter family of signaling molecules with importance on par with that of neurotransmitters and hormone molecules. Studies have shown that these endogenously produced molecules have a wide range of physiological roles and therapeutic potentials. Specific functions of these molecules are of course unique for each of them. While the use of NO-producing molecules as therapeutics has long been established, the exploration of using hydrogen sulfide and carbon monoxide as therapeutics is still at its infancy at best. One key issue in developing therapeutics based on these gasotransmitters is the difficulty in delivery. While the delivery of NO has been partially resolved for selected applications in using glyceryl trinitrate (commonly as nitroglycerin or Nitro) for the treatment of heart attack and related conditions, the delivery of carbon monoxide in a form suitable for therapeutic applications is still an unresolved challenge. This presentation will discuss the issues this field faces and our work in this area.

**Host: Christian Melander**