ICCE 2019 Session
Air pollution – chemistry and health risks

Air pollution is a significant health risk in many environments.Ambient particulate matter (PM), in particular, is considered as one of the most important environmental factors for adverse health effects, including respiratory and cardiovascular diseases.PM is a complex, heterogeneous mixture that encompasses many different chemical components and physical characteristics. Ambient PM has several mechanisms to exert biological effects,and thus potential health effects, which depend mainly on particle size and chemical composition. However, there are no cause-effects relationships established yet for specific components of PM.On the other hand, our knowledge of the chemical composition of PM and its various size fractions is still very deficient, in particular with regard to organic matter, and secondary compounds formed under aging processes.Currently, novel analytical techniques and modelling approaches push understanding towards a consistent description across phases, particle sizes and a wide range of molecular masses. This session, in particular, seeks studies on:

- Secondary organics' and higher molecular mass fractions' characteristics
- Homogeneous and heterogeneous photo-oxidant and acid formation processes

- Sources of PM and associated components
- Long-range transport and pollution episodes
- Indoor air pollution and chemistry
- Human exposure to indoor and outdoor air pollutants
- Oxidative potential of ambient PM
- Biological activityof ambient PM and source emissions