



**1. Title**

Biochar Soil Amendment for Environmental and Agronomic Benefits

**2. Type**

Inter-Divisional Symposium

**3. Organizer(s) & Convener**

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#### 4. Rationale

In recent years, the production of biochar (including 'hydrochar') has been proposed as means of restoring or sequestering carbon within soil. The suitability of biochar for C sequestration depends on the overall C content of the biochar upon production, as well as its long-term stability in soils. The proposed, but undocumented benefits of biochar applications include decreases in greenhouse gas (GHG) emissions, increases in nutrient and water retention of soils, stabilization of native soil organic matter, and decreases in the bioavailability of a range of contaminants within soils. Biochar-induced immobilization of toxic metals in contaminated soils has recently received considerable attention. Despite the apparent benefits of biochar towards a variety of soil parameters, a fundamental knowledge of soil-biochar interactions is still lacking. Considerations of the long-term ecological sustainability of newly proposed remediation measures, including the application of biochar to soil for agriculture or remediation, should be the first priority.

#### 5. Objectives

The primary aim of this symposium is to elucidate the validity of each proposed role of biochar within the field of soil and environmental sciences. Hence, the symposium will focus on various issues related to biochar applications to soil. Major successes, challenges, limitations and opportunities within biochar research will be explored. This symposium will bring together leading research experts and professionals from around the world in order to share knowledge and expertise, and to propose the future of biochar research and application.

#### 6. Description

The symposium will offer an opportunity for critical and valuable discussion about biochar as soil amendment, in terms of fundamental knowledge as well as practical application. Innovative concepts of biochar research will be shared extensively between experts and those new to the field. New strategies of biochar use will be outlined to enable sustainable mitigation of a number of environmental problems, particularly in soil remediation. The symposium will also provide a networking opportunity for domestic/early-career soil scientists as well as established international soil scientists.

