

## **PANELIST'S STATEMENT FOR SESSION 7:**

### **USING CE FACILITIES TO DESCRIBE DYNAMIC RESPONSES TO THE ENVIRONMENT**

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CE facilities are well suited to studying the dynamics of responses to natural environmental fluctuation, and wide range of time-series oriented methods exists to assist this objective. Such information would assist development of quantitative models of plant systems and provide useful insights concerning processes and interactions that may not be investigated easily using more conventional experimental techniques. The capability of CE facilities to arbitrarily control the temporal aspect of environmental variability also offers potential to enhance the efficiency with which information about environmental responses is generated, if coupled with more temporally-intensive measurement approaches.

However, successful application of more explicitly temporally oriented approaches to CE experiment design depends on a sound quantitative understanding of CE control performance. This objective highlights a number of issues, including:

- Physical and statistical description of CE performance capability, especially with respect to expected spatial and temporal variability at various time scales, and when conditions change in unusual ways. This issue becomes particularly significant if the experimental design precludes conventional randomisation approaches to dealing with spatial variability.

A need for a comprehensive CE regime specification format that can describe complex time-series oriented designs, and includes explicit information about environmental reporting parameters.