

Control of Cell Differentiation.

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The session on “Control of cell differentiation” included lectures on very diverse aspects and the use of a variety of cell culture systems, overall highlighting the complexity of stem cell programming and the fascinating challenges ahead in understanding progenitor cell plasticity. Issues addressed were related not only to approaches for inducing stem cell differentiation, but also to strategies for inducing multilineage cell differentiation ability by de-differentiation of mature cells.

A general consensus was reached on the fact that systems investigating stem cell differentiation may find important applications in (i) drug discovery and drug safety tests, (ii) understanding of mechanisms of tissue development, and (iii) cell therapy and regenerative medicine. A special emphasis was given on the prospective potential assessment of stem cell properties by integrated analysis of genes of the HOX family.