

**Workshop Abstract:**

## What matters in cell culture ?

The success or failure of cell based science depends on carefully controlling a large number of variables that include the media choice, cell types, basic techniques, and the surface to which the cells attach.

During this workshop we will discuss some of the basic principles of cell adhesion, describe some of the technologies to improve cell adhesion using modified surfaces, including energy modification for general cell culture, extracellular matrix coating for enhanced cell attachment, and some specialty Nunc surfaces that are designed for unique cell culture applications. Factors such as the cell culture surface, media, and the nature of the cells interact to influence cell adhesion: first principles do not exist that allow one to predict which combination of media, cells and surface chemistry will produce the best result. Some cells have the versatility for adaption to a variety of situations, whereas others have narrowly defined preferences. While it is possible to design surfaces (e.g. Nunclon Delta™) that provide good conditions for most cells, some cells may require specialized surfaces (e.g. Nunclon Vita™, Nunc HydroCell™) for optimal growth, or for optimized harvest using an innovative non enzymatic technology (Nunc UpCell™ Surface).

We will share information on best practice and illustrate the major factors influencing the cultivation of adherent, as well as non-adherent cells and will give you recommendations how to select the optimal culture surface for your application.

Close attention to sterile technique can reduce the chance of inadvertent contamination of cell culture media and other solutions but cannot provide complete protection. We will discuss how final filtration of your culture media, serum and buffers provides a last line of defense against bacteria and mycoplasma contamination of your culture. We will also present Nalgene Rapid-Flow™ filters with a unique multi-column membrane support design that provides consistent performance for faster flow and more throughput than other filters.

Finally the workshop will guide you through every stage of the cell culture workflow: From cell isolation through growth, passage, expansion, differentiation, characterization, storage and transport. We will provide additional insight into scaleable platforms for cell culture in bioproduction including a practical demonstration of a closed system and an overview of considerations to validation and regulatory support. In summary we hope to highlight proven solutions in Thermo Scientific's extensive portfolio of instruments, equipment, consumables, media, sera, reagents, software and services - all designed to make you more productive.

Speaker:

**Dr. Thomas Stelzer**

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