

**Title:**

**NMR Studies of Meat and Meat Products**

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Consumers' awareness of food quality has never been more pronounced. Meat forms a substantial part of the food consumption, and accordingly techniques to control the quality of meat are needed. In addition, a better understanding of how basic biochemical and biophysical factors influence the final meat quality is also required for optimization of the quality.

Nuclear Magnetic Resonance (NMR) has during recent years gained increasing use within different areas of muscle physiology and meat science. NMR <sup>1</sup>H relaxation methodologies enable detection of the mobility of protons in heterogeneous materials and thereby provide possibilities for a characterization of properties of water, which is the main constituent of muscle-based foods and of significance for the over-all texture and structure and for the sensory attributes of these food items. NMR spectroscopy allows detection of different nuclei, which can be used to identify various metabolites in the muscles of significance for the subsequent quality development. Accordingly, NMR spectroscopy is a powerful tool in improving the understanding of the relationship between fundamental biochemical factors and the meat quality.

In this presentation an overview of present applications of NMR in the determination of various meat quality attributes will be given, and also the use of NMR methodologies to improve the understanding of basic biochemical and biophysical mechanisms substantial for quality development is described. Recently developed magic angle turning techniques, which further enhance the potential of NMR spectroscopy for characterization of meat quality, are also considered.