

# **Seminář odd. 26**

## **Tenkých vrstev a nanostruktur**

*Fyzikální ústav AVČR, Cukrovarnická 10, Praha 6*

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**TÉMA**

## **The role of electrochemistry in semiconductor growth and degradation**

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Electrochemical methods are widely applied to metal film deposition in industrial and high-tech settings, but the market share for semiconductor films produced using electrochemistry is dramatically less. At the same time, a large fraction of semiconductor-based devices rely on applied voltages for their operation, which means that electrochemical processes could occur in these devices wherever there exists an interface between an electron conductor (such as a semiconductor) and an ion conductor (such as water). I will describe the chemistry behind aqueous electrochemical processes that are relevant for both the growth and the ambient degradation of semiconductor materials. Electrochemical degradation is not unique to electrodeposited films, but rather it is a general phenomenon that can occur whenever an electric potential is applied to a material. For this reason, the electrochemical processes I will discuss could be applied to a wide range of semiconductor materials and devices.

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